R-Map

MAPPING THE EFFECTS OF REMOTE WORKING ARRANGEMENTS IN URBAN AND RURAL AREAS

D4.1

Use case areas' profiles

Q-PLAN INTERNATIONAL ADVISORS PC

23/12/2025

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PROJECT OVERVIEW	R-Map aims to analyze the impact of remote working arrangements (RWA) on the disparities between urban and rural regions in Europe. An Integrated Impact Assessment Framework (powered by the R-Map model) will be produced for the assessment of individual, social, economic, environmental and spatial impacts of RWA. It will also allow decision-makers to monitor and assess how remote work arrangements affect people, communities, space, economy, and environment in urban and rural regions. Furthermore, R-Map will formulate policy recommendations on how to create environments conducive to remote work, that are tailored to the needs of local governments in both urban and rural settings.

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Abbreviations

Table 1. Abbreviations

CATI	Computer-Assisted Telephone Interviewing
CAWI	Computer-Assisted Web Interviewing
CBD	Central Business District
CBS	Centraal Bureau voor de Statistiek
Covid	Coronavirus Disease
DE	Deutschland (Germany)
DEGURBA	DEGree of URBAnisation
GDP	Gross Domestic Product
HEU	Horizon Europe

HR	Human Resources
LAU	Local Administrative Unit
MATH	Metropolitan Area of Thessaloniki
M	Million
NL	Netherlands
NRW	North Rhine-Westphalia
NUTS	Nomenclature des unités territoriales statistiques (Nomenclature of Territorial Units for Statistics)
OECD	Organisation for Economic Co-operation and Development
PBL	Planbureau voor de Leefomgeving
RU	Regional Unit
RWA	Remote Working Arrangements
SMEs	Small and Medium-sized Enterprises
STOMP	Stappen (Walking), Trappen (Cycling), Openbaar vervoer (Public transport), Mobility as a Service (MaaS), Private cars
WFH	Work From Home
WP	Work Package
WTC	World Trade Centre

Executive Summary

Deliverable D4.1, *Use Case Areas' Profiles*, was undertaken to **diagnose key remote working phenomena** in six diverse European areas and to **identify the local factors shaping these trends**. It provides a comprehensive profile of each R-Map use case area, from urban-rural dynamics to socio-economic conditions and policy environment in the context of post-pandemic Remote Working Arrangements (RWA).

The research employed a **multi-method approach** to capture both quantitative and qualitative dimensions of remote work's impact. Each use case leader first conducted extensive desk research to map the area's spatial and socio-economic profile and to review the status of Remote Work Arrangements (RWA) and related policies. Next, **38 expert interviews (more than 5 in each use case area)** with local stakeholders (planners, real estate professionals, public officials) provided additional qualitative insights on housing, land use, economic changes, etc. Shortly after that, **6,636 survey respondents (more than 1,000 in each use case area) -of which almost 4,000 work remotely at least once a week**- captured citizens' and remote workers' experiences and perspectives on remote work. Regarding sampling, most use case surveys were first piloted and improved internally, and then they were administered applying rigorous internal sampling procedures and combining different methods to reach the desired audience. Finally, a comparative analysis synthesized the findings across all six cases to distill common patterns and critical differences.

The main findings vary, but commonalities can also be discerned. Milan (IT) & Surrey (UK) are leaders in remote work adoption, and they were able to quickly normalize remote and hybrid work. Both saw reduced commuting pressures and are adapting urban spaces (e.g. offices repurposed for flexible use). **Thessaloniki (GR) & Istanbul (TR)** lag in remote work uptake due to digital infrastructure gaps and traditional workplace cultures. Even so, Thessaloniki has begun attracting skilled professionals back to the region via remote jobs (a modest "brain gain"), and both cities are seeing nascent co-working hubs and interest from digital nomads. Finally, in **Twente - Münsterland (NL/DE) and Rheintal-Bodensee (AT/CH),** which are cross-border regions, remote work enabled **transnational employment** (people living in one country while working for companies in another), highlighting persistent challenges around cross-border taxation and labor regulations which hinder remote work uptake, despite the otherwise excellent connectivity through rail and road transport.

Comparing the six cases, several overarching findings emerge: i) remote work adoption was highest in use case areas with strong digital capacity and supportive work cultures (e.g. Milan / Lombardy, Surrey / Southeast England) and lowest where infrastructure or organizational barriers persist; ii) all use case areas underwent some decentralization of population and activity. City centers generally saw lighter rush-hour traffic and slight shifts in office and housing demand, while suburbs and smaller towns attracted increased interest. However, the shift is incremental and is manifested only in a gradual move toward suburban areas (the "doughnut" effect) and more polycentric settlement patterns; iii) new service market opportunities for co-working spaces and co-working hubs emerge, both within city centers and in suburban areas, as demand for such kinds of spaces is on the rise; iv) policy frameworks have not fully caught up with remote work's rapid rise. While some measures exist (e.g. national telework laws, local broadband investments), sometimes they are not enforced (Thessaloniki) and comprehensive strategies to manage remote work's spatial and social effects are still lacking.

A series of **policy insights** emerge:

- Governments need to update regulations to support remote and hybrid workers. For example, they should clarify tax and social security rules for cross-border remote employees and ensure remote workers have adequate labour protections and rights. It is not enough for regulations to exist; they also need to be actively promoted and applied in practice.

- Local and regional authorities can play an important role in creating and supporting remote worker communities, preventing social isolation, and enhancing community cohesion. This can be achieved primarily through developing or subsidising regional co-working hubs, providing skills development programmes, and organising local meetups.
- High-quality digital infrastructure and reliable broadband connectivity are cornerstones of remote work. Regional and local governments seeking to attract and develop remote worker communities need to prioritise investment in this area.
- Changes in mobility patterns - more local daytime activity and reduced demand for public transport between suburbs and city centres on certain days (e.g., Mondays and Fridays) - mean that public transport services need to be rethought and adjusted to meet these new needs. Local and regional transport authorities should revise schedules and routes to accommodate increased local travel and less frequent commuting into city centres on those specific days.
- Likewise, urban planning should ensure that daily amenities are available within walking distance in local neighbourhoods (for example, within a 15-minute walk). Increased local movement during the day and remote workers' calls for more nearby social services (such as childcare) should be addressed by expanding local facilities and services, so that essential amenities are accessible within communities.
- Remote work has not fundamentally altered regional housing markets or urban form, but it has led to modifications of existing homes (e.g., converting attics and garages into home offices). This means that hygienic and ergonomic conditions in home workspaces, along with managing energy consumption when working from home, should be addressed through new standards. Policymakers might also consider providing subsidies or incentives to help workers set up safer, more ergonomic, and energy-efficient home offices.

Overall, an integrated approach - coordinating urban planning, infrastructure, labour regulations, and cross-border agreements - is needed to maximise benefits and mitigate downsides.

1. Introduction

Deliverable D4.1 (Use Case Areas' Profiles) describes the activities and the results from the implementation of Task 4.1 in the R-Map project. The primary objective of D4.1 is to provide a comprehensive *diagnosis* of remote working phenomena in six diverse European use case areas. In practice, this means examining how remote work is taking shape in various contexts - looking at factors like changes in office space use, shifts in urban-rural mobility patterns, cross-border work dynamics, and other socio-economic conditions - and assessing what these trends mean for local communities. By profiling each use case region and comparing them, this deliverable lays the groundwork for the project's subsequent steps and feeds into R-Map's broader aim to inform evidence-based social, economic and spatial policies in the context of remote work.

The document is organized into four main sections, as outlined below:

- **Section 2: Methodology.** This section describes the methodology followed for the completion of this deliverable. It describes how the desk research for the diagnosis of framework and existing conditions in each use case area was conducted and enriched through interview findings to experts with local knowledge, as well as regional citizen survey findings to citizens and remote workers in each use case area.
- **Section 3: Use case areas' profiles.** This section presents the detailed profiles of the six use case regions. Each profile integrates data and insights (from desk research, local expert interviews, and surveys to citizens and remote workers) to highlight how remote work is unfolding in that area. Specifically for each use case area, local and national policies and initiatives related to remote work are described, followed by the identification and description of spatial and socioeconomic phenomena observed in the use case area due to remote work. Each use case area description finishes with the analysis of the factors influencing how spatial and socioeconomic phenomena in the context of remote work were shaped.
- **Section 4: Comparative analysis:** This section draws together findings from all use case areas to identify common patterns and differences. In this cross-case analysis, the deliverable compares how and why the impacts of remote work vary between the use case areas. The section discusses overarching themes, including shared challenges or differences, providing a broader perspective on remote work's effects across different territorial contexts.
- **Section 5: Conclusions and way forward:** This section concludes the deliverable with a summary of key insights and their implications. It describes what the findings mean for the R-Map project's next steps and the wider discussion on remote work, and outlines policy implications. It also highlights how the lessons learned will inform upcoming activities (such as scenario development in Task 4.2 and policy co-creation in Task 4.3).

The annexes at the end of this deliverable compile key supporting materials. These include the interview template used for expert interviews, the aggregate interviews' results, the full regional survey questionnaire, detailed lists of the Local Administrative Units (LAUs) included in the regional survey within each use case area, and selected highlights from the citizen surveys conducted in each use case area.

Note regarding the use of the terms “Remote Working Arrangements” (RWA) and other related terms:

In this deliverable, “Remote Working Arrangements” (RWA) refer to the broad framework of conditions that enable remote work, including formal agreements (such as employment contracts and HR policies) as well as supportive measures (like tax incentives and subsidies for home-office equipment) that facilitate working outside the traditional workplace. Following the same vein, “remote work” is used in all sections of the deliverable, referring to the practice of working away from the employer’s premises for at least part of the week (e.g. one or more days weekly).

However, when it comes to section “3. Use Case Areas profiles”, variations in terminology (e.g. *remote work*, *telework, hybrid work*, and *Work From Home* (WFH)) have been retained as original in their local language, as they reflect the local or national policy terminology used in the six profiled use case areas. This was deemed as optimal for maintaining alignment with each area’s context and enhancing comprehensibility for national reader audiences interested in the specific use cases. As a result, in section 3 these terms are used interchangeably to describe the practice of working away from the employer’s premises for at least part of the week (e.g. one or more days weekly).

2. Methodology

2.1 Diagnosis of framework and existing conditions in use case areas

The first stage of the research focused on conducting a structured diagnosis of the spatial and socio-economic profile of the six R-Map use case areas: Thessaloniki (Greece), Twente (Netherlands), Milan (Italy), Istanbul (Turkey), Surrey & Southeast England (United Kingdom)[1] and Vorarlberg (Austria). Two use case areas represent cross-border regions: Twente in the Netherlands with the following German bordering regions: Münster; Borken; Coesfeld; Steinfurt; Grafschaft Bentheim; and Vorarlberg in Austria with the following bordering regions: Bodenseeregion[2]. The objective was to define the developmental profile of each area in the context of remote work. To this end, use case leaders compiled background information on the location, demographic composition, economic and employment characteristics, and spatial structure of their respective regions, as well as an overall description of the status of remote work, Remote Work Arrangements (RWA) and related policies at urban, regional and national level.

As part of this process, each use case specified the exact spatial focus by identifying the Local Administrative Units (LAUs) to be included in the analysis, following Eurostat guidance. LAUs were selected because they represent a harmonised and administratively meaningful spatial unit across the European Union and associated countries. LAUs refer to low-level administrative divisions below the level of provinces or regions - such as municipalities, communes, or wards - depending on national administrative structures. They are used to support the production of local-level statistics and the classification of territories along key typologies, including:

- Degree of urbanisation (DEGURBA)
- Functional urban areas (cities and commuting zones)
- Coastal/non-coastal areas

In particular, the DEGURBA classification was applied to capture the level of urbanisation of each LAU. This typology classifies areas into:

- Cities (DEGURBA Class 1 - densely populated areas)
- Towns and suburbs (DEGURBA Class 2 - intermediate density areas)
- Rural areas (DEGURBA Class 3 - thinly populated areas)

Use case leaders were encouraged to select a diverse mix of LAUs, ideally covering different levels of urbanisation, in order to reflect the spatial heterogeneity of the use case areas and to capture the interactions between urban, suburban, and rural dynamics in the context of remote working arrangements. In sequence, information was provided on the characteristics of each use case, based on the typologies of T2.3.

The collection of baseline information for each area was based on both quantitative and qualitative data. Quantitative sources included demographic indicators, labour force data, property market trends, commuting

[1] For Surrey (United Kingdom), the geographical scope was expanded to cover Southeast England in order to meet the survey requirement of 1,000 respondents (more information in section 2.3). Still, where possible, information is provided specifically on Surrey, as the initial analysis and interviews were conducted with Surrey experts, and more than half of the survey sample in that use case was based in Surrey.

[2] "For cross-border cases, partners were instructed to prioritize analysis on their own side of the border, while also incorporating relevant insights from the neighbouring side. In practice, this was implemented flexibly: for example, the Rheintal-Bodenseegebiet profile (RIM) focuses more heavily on the Austrian side, whereas the Twente-Münsterland profile (UT) offers a more balanced analysis of both the Dutch and German sides.

statistics, and regional development metrics. These were complemented by qualitative insights derived from local policies and developmental studies at national, regional and urban level.

The diagnosis addressed three main dimensions:

- **Spatial phenomena** observed due to remote work in each use case (e.g. changes in land and building use, urban-rural mobility, impacts on housing, transport, energy, and spatial structure);
- **Socio-economic phenomena**, such as shifts in the social fabric, cross-border employment, and changes in labour and property markets;[3]
- **Key influencing factors**, including policy frameworks, housing affordability, demographic trends, sectoral composition, quality of life, environmental conditions, and infrastructure (e.g. transport, green spaces, digital connectivity, commuting patterns).

The analysis drew upon findings from earlier R-Map deliverables (**D1.1, D1.2, D1.3, D1.4, D2.1 and D2.2**) and was further contextualised for each use case through **targeted literature research and interviews** (see Section 2.2). To ensure comprehensive coverage, data were sourced from both **academic literature** (e.g. peer-reviewed articles, institutional research) and **grey literature**, including municipal reports, regional development strategies, government documents, statistical portals, and reputable media sources. This mixed-source approach enabled use case leaders to combine general trends with local realities, forming a robust foundation for the analysis of how remote work is reshaping spatial and socio-economic conditions across Europe.

2.2 Interviews

To complement the desk-based analysis of the diagnosis of framework and existing conditions in the use case areas, each use case leader conducted at least 5 exploratory semi-structured interviews with local experts (some achieved more). The purpose of the interviews was to deepen understanding of how Remote Work Arrangements (RWA) have manifested at the local level, and to identify key phenomena and contextual factors shaping these developments. The interviews aimed to validate and expand on the trends identified through the literature review, and to gather place-based insights that are often absent from official studies and statistics.

Interviews were conducted by the use case leaders and targeted a diverse group of **local experts knowledge of specific aspects of RWA, including:**

- **real estate agents** with a knowledge of how the housing market is affected by the advent of remote workers in the city
- **municipal authority representatives** working on remote work policy
- **urban policy and/or planning professionals** with a knowledge of how the use of the urban space is affected by the settlement of remote workers' community in the city
- **local advisors** (e.g. tax advisor, lawyer) supporting remote workers to relocate in the city
- **local providers of working facilities** (e.g. co-working spaces) for remote workers in the city
- **providers of local networking services** for remote workers

[3] Social and economic phenomena were grouped as "socio-economic phenomena", as in a developmental context, there are deeply interlinked. For example, labor market shifts (economic) affect family life, education choices, and community cohesion (social), while property market changes (economic) influence patterns of residential segregation, migration, and social diversity (social). In addition, real-world phenomena related with remote work are hybrid; cross-border work and digital nomadism can't be easily classified as purely economic or social. Finally, grouping social and economic phenomena as "socio-economic phenomena" sets the ground for the policy relevance of the next stages of our research, as typically policy design and implementation in an urban development context does not distinguish between the two.

- **HR managers or business owners** offering hybrid work
- **representatives of a remote workers' community** or digital nomad group in the city
- **cross-border employment advisors or mobility experts**

A shared interview questionnaire was developed by Q-PLAN, to ensure consistency across use cases while allowing flexibility for interviewers to explore locally specific topics in greater depth, and it is available in Annex 6.1. All interviews followed a semi-structured format. Questions focused on the three main dimensions tackled by the diagnosis of framework and existing conditions (explained in section 2.1).

Interviews were typically conducted in the local language, either in person or online, depending on local conditions and expert availability. Notes or transcripts were anonymised and analysed by each use case team.

A table with the interviewee profiles per use case is provided below. Due to the difficulty of identifying and interviewing the appropriate experts (they should have both good knowledge of spatial and socio-economic phenomena in the use case area and the status/habits of remote workers in the use case area), the use case leaders prioritised achieving a variety of expertise areas. Gender balance (achieved in several cases) was deemed as desirable but optional.

Table 2. Interviewee profiles per use case

Use Case	Use Case leader	N. of interviews	Interviewee Expertise
Thessaloniki (Greece)	**AUTh**	**5**	1. Urban Policy and Planning Professional 2. Regional Authority Representative 3. Real Estate Expert 4. Local creative NGO co-founder 5. Community Leader - Digital Nomad Event Organizer
Twente (the Netherlands)	**UT**	**6**	1. Representative from the Scientific Board of Twente 2. Representative from the Province of Overijssel 3. HR of UT 4. Two staff members of the AGRAVIS Raiffeisen AG, a big agricultural and energy trading company in Muenster, North-Rhine Westfalia, Germany. 5. Two employees of the regional planning agency of the Muensterland 6. Two staff of EUREGIO, advisory office for cross-border commuting and working
Milan (Italy)	**UB**	**8**	1. Urban policy and planning professor 2. HR Director of Municipality of Milan 3. Vice-director of Municipality of Milan 4. Director of urban regeneration of Municipality of Milan 5. Real estate data analyst 6. Real estate expert 7. Offices and commercial spaces architect 8. Offices and commercial spaces expert
Istanbul (Turkey)	**KU**	**9**	1. Local service provider offering workspaces for remote workers in the city (e.g., co-working space operator). 2. Real estate agent with knowledge of how remote workers are affecting the local housing market.

Use Case	Use Case leader	N. of interviews	Interviewee Expertise
			3. Two urban policy and/or planning experts familiar with changes in urban space usage resulting from the settlement of remote worker communities in the city. 4. Two HR managers /or business owners who offer remote working arrangements (and who have the opinion employees should not work 100% remotely and should visit the city regularly). 5. Business owner offering remote working opportunities 6. HR consultant who recruits for international organizations offering remote work 7. Representative of a remote worker or digital nomad community based in the city.
Surrey (United Kingdom)	**SURREY**	**5**	1. Regional authority Manager 2. General Manager of a Town transport provider 3. CEO of a rural transport partnership provider 4. Professor of HR and Research Centre Director 5. Innovation Director of a regional Business Park and Innovation District
Rheintal-Bodenseegebiet, Vorarlberg (Austria)	**RIM**	**5**	1. Two real estate agents with a knowledge of how the housing market is affected by the advent of re-mote workers in the city 2. Two municipal authority representatives working on remote work policy 3. Two local advisors (e.g. tax advisor, lawyer) supporting remote workers to relocate in the city 4. Two representatives of a remote workers' community or digital nomad group in the city

A summary of the interview results can be found in Annex 6.2 of this deliverable.

2.3 Citizen surveys

The third methodological component of this task consisted of six regional surveys to citizens, each carried out in one of the R-Map use case areas: Thessaloniki (Greece), Twente (Netherlands), Milan (Italy), Istanbul (Turkey), Surrey and Southeast England (United Kingdom), and Vorarlberg (Austria). The aim of the survey was dual:

- Collect data about citizens' perceptions (be they remote workers or not) with respect to the socioeconomic and spatial phenomena in their city, as well as the factors that have influenced these changes, in order to verify/refute/enrich the phenomena and factors use cases have already identified in the case study analysis they conducted.
- Collect data about citizens' own circumstances (be they remote workers or not) with regards to their problems encountered, needs and future plans.

The survey was georeferenced by means of collecting information about the LAUs and DEGURBA class of the respondent's place of residence, which informed a more nuanced interpretation of citizens' perceptions and

needs residing in central, suburban and rural areas. The survey design targeted a minimum of 1,000 respondents per use case, with basic quotas applied to ensure representation across gender, urbanisation levels (using DEGURBA classes), and remote work status. Specifically, regarding the targeted population:

- 50% of respondents were to be female, and 50% male;
- At least 10% of respondents were to reside in each DEGURBA class: Cities (Class 1), Towns and Suburbs (Class 2), and Rural Areas (Class 3). A list of selected LAUs with the corresponding DEGURBAs was provided to the survey providers (Annex 6.4);
- At least 20% were to be remote or hybrid workers, working from home at least one day per week.
- For cross-border cases: at least 10% of the respondents should answer positively that they engage in cross-border work

Considering the diversity of the use case contexts (some use cases such as Milan are densely populated, and other use cases such as Twente are thinly populated), no other requirements regarding representation of LAUs were set. Also, considering that remote workers may include retirees working part-time (formal and informal) consulting jobs[4], no age representation requirements were set, beyond being an adult (i.e. above 18 years of age). In addition, no restrictions were set regarding the type of employment (e.g. public or private sector, self-employed, etc.).

The survey questionnaire was developed by Q-PLAN with input from all supporting partners (over two rounds of reviews) and was informed by the prior diagnosis of local conditions (Section 2.1) and expert interviews (Section 2.2). Most use case surveys were administered by a professional regional survey agency applying rigorous internal sampling procedures aligned with industry best practices; notably, these agencies sought clarifications for any questions respondents found unclear to ensure all survey concepts were fully understood. The questionnaire can be found in Annex 6.3 of the deliverable. Altogether, it comprises 19 questions (14 closed and 5 open ones), divided into three main sections:

- Section 1: Background filters, including demographic and remote work status questions (questions 1-8);
- Section 2: Thematic content (questions 9-18);
- Section 3: Closing remarks (question 19).

The survey questionnaire was translated and administered by the use case leaders in their local language.

The survey was conducted across the six regions and adhered to established ethical standards. Participation was entirely voluntary, and respondents provided informed consent before completing the questionnaire. All responses were collected anonymously, and no personally identifying information was retained. Ethical oversight was ensured by each responsible applicant, who followed the regulations and procedures of their respective institutions.

The survey duration was estimated to be an average of 18 minutes. A mix of Computer-Assisted Telephone Interviewing (CATI) and Computer-Assisted Web Interviewing (CAWI) methods was used, depending on local partner capacity, population behaviour, and cost-efficiency. In some cases, a combination of both was applied to ensure adequate coverage, particularly in rural or digitally underserved areas. Use case leaders were encouraged to work with professional survey providers, using their allocated budget to ensure methodological rigour and representative sampling. Before the launch of the survey, each professional survey provider applied their own sampling procedures and methods and improvements were made accordingly.

The data collection for the survey was conducted between 1 September - 31 October 2025, following a coordinated procurement and questionnaire finalisation phase over the summer of 2025. Raw survey data were

[4] See for example: https://crr.bc.edu/has-remote-work-extended-workers-careers/

delivered in standardised Excel format, containing only anonymised responses, in full compliance with data protection rules.

Use case leaders were responsible for the analysis of their regional survey data during late October and early November 2025. Each leader was requested to i) conduct a basic descriptive statistical analysis; ii) fill in common reporting templates to ensure consistency and comparability across cases; and iii) update relevant sections in the diagnosis of the framework and existing conditions in the use case areas' profiles. Summary results from the surveys for each use case, developed by the use case leaders, can be found in Annex 6.5.

It was collectively decided with the R-Map consortium partners to make datasets open only toward the end of the project, in order to allow use case leaders to develop scientific publications describing the research conducted with respect to each use case.

A summary table of respondents per use case, including disaggregation by urbanisation level and remote work status, is provided hereunder:

Table 3. Survey respondents and data collection methods per use case

Use Case	Use Case leader	N. of survey respondents						Data collection method (s)
		Total	Residing in cities	Residing in towns and sub-urbs	Residing in rural areas	Remote workers	On the other side of the border (only cross-border cases)	
Thessaloniki (Greece)	AUTh	**1001**	763	139	99	401	-	CATI: 299 CAWI: 702
Twente (the Netherlands)	UT	**1012**	383	565	64	499	299	CAWI
Milan (Italy)	UB	**1005**	804	191	10	603	-	CAWI: 955 CATI: 50
Istanbul (Turkey)	KU	**1570**	1264	168	138	845	-	CAWI
Surrey & Southeast England (United Kingdom)	SURREY	**1021**	148	724	149	809	-	CAWI
Rheintal-Bodenseegebiet, Vorarlberg (Austria)	RIM	**1027**	473	272	173	790	164	CAWI

While increased efforts took place to avoid potential respondent biases by applying quotas for the targeted population and ensuring representation of both urban, suburban and rural regions, some potential biases identified by the use case leaders, and how they tried to mitigate them, include:

- **In the use case of Thessaloniki,** it seems that citizens are not very familiar with remote work, which suggests that the culture surrounding it is not well-established. In order to mitigate this, during the survey, attempts were made to explain to the respondents the concepts related to remote work. Overall, the gender balance of the survey was excellent, with an equal number of men and women responding (50% each). There was also a very good balance between remote/hybrid and non-remote workers (41% and 59%, respectively). Despite the quotas for the survey sample being met, it should be noted that this sample of 1,000 survey respondents must be examined carefully and should not be generalised, as there is no harmonised population weighting.
- **For the use case of Istanbul,** it is important to stress that the data are specific to the **Istanbul use case** and **cannot be generalised** either to **the whole of Istanbul** or to **each of the districts represented in the survey**. Likewise, the results should not be assumed to apply directly to the **entire TR10 region** or to **other European regions**. A potential interpretation bias arises from the reliance on a customised DEGURBA grouping based on limited and self-reported sample data. Consequently, the insights pertain solely to this specific respondent group and must be interpreted in light of Istanbul's distinctive metropolitan morphology, administrative boundaries and heterogeneous settlement patterns. The recoded categories do not correspond to harmonised population-weighted territorial classifications used across EU regions and therefore cannot be considered comparable with DEGURBA 3 or DEGURBA 6 distributions elsewhere. As a result, territorial patterns observed in the use case may reflect sample composition and classification choices rather than underlying spatial realities, requiring cautious interpretation and avoiding causal inference. Accordingly, indicators relating to **remote work adoption**, **digital skills**, **infrastructure quality** and **socio-spatial impacts** should be regarded not as standardised regional benchmarks, but as **locally grounded, context-specific information**. This limitation does not undermine the validity of the phenomena observed within the **use case survey**; However, it does mean that **comparisons with other regions do not reflect the factual situation**, as the underlying data are **not comparable**. Any compared figures should therefore be interpreted **only as reflections of the specific use-case respondent group**, rather than as population-representative evidence. Consequently, **broader generalisations should be avoided**, and **causal inferences should not be drawn up**. Maintaining this **contextual sensitivity** is essential for accurate interpretation of the data.

In terms of geographical scope, two of the use cases needed to be expanded in order to be able to meet the target of engaging at least 1,000 citizens:

- For **Surrey** (United Kingdom), the geographical scope was expanded to Southeast England in order to meet the T4.1 requirement of having a sample of 1,000 respondents, because of the use case's decision to use Prolific. Prolific only had 500 eligible users in Surrey and only 300 completed the project survey. The Southeast of England included more respondents registered on Prolific, which provided a broader overview of challenges across a wider geographical region. Overall, more than half of the survey sample in that use case was based on Surrey, which was the initial objective.
- For **Vorarlberg** (Austria), a cross-border use case initially planned to perform an analysis with respect to Switzerland's neighbouring regions, the scope had to be expanded to include German cross-border regions as well, in order to ensure a sufficient sample size, as the Lake Constance region alone is relatively small.

2.4 Comparative analysis

The comparative analysis builds on the six use case areas' profiles (Thessaloniki, Twente-Münsterland, Milan, Istanbul, Surrey and Southeast England, Rheintal-Bodenseegebiet) and synthesises them across the eight thematic dimensions defined in Section 4: (1) developmental profile, (2) policy mix, (3) socio-economic phenomena, (4) spatial phenomena, (5) factors influencing how phenomena were shaped, (6) remote workers' problems and needs, (7) citizens' future intentions and (8) the overall assessment of how urban - rural dynamics are affected by remote work. The objective is to identify common patterns, divergences and emerging "types" of remote-work geographies, grounded in a structured comparison of qualitative and quantitative evidence.

Methodologically, the comparative analysis followed 'multiple case study analysis' approach[5], allowing to systematically compare findings across the use cases and discern whether there are similarities, differences, patterns, or extreme observations.

More specifically:

- First, for each use case, the desk research, interview material and survey findings were synthesised into a standardised profile following the common outline agreed in the consortium. This ensured that each case was described using the same information sources (for developmental context, policies applied, spatial and socio-economic phenomena related to remote work, factors affecting those phenomena), arranged across the above thematic dimensions. Both qualitative and quantitative data were included. Each use case area's data was computed in cells within comparative tables.
- Then, the cells were analysed horizontally in search of commonalities, divergences and outliers amongst the use cases. The outcomes were described in a narrative text form. Throughout the comparative analysis, particular attention was paid to the limitations and biases already discussed in Section 2.3 (e.g. non-probabilistic samples, differences in survey administration, varying maturity of remote work in each region). Quantitative indicators were therefore interpreted as supportive evidence rather than directly comparable as such and triangulated with interview insights and desk research before drawing conclusions. No causal inference or formal statistical testing was attempted; instead, the focus is on identifying plausible associations and mechanisms (e.g. how housing affordability interacts with remote-work options, or how digital connectivity conditions urban-rural patterns).

[5] Eisenhardt, K. M. (1989), "Building theories from case study research", *Academy of Management Review*, 14:4, 532-550.
Miles, M., Huberman, M., and Saldaña, J. (2013). *Qualitative data analysis: A methods sourcebook*: SAGE Publications.
Yin, R. (2003). *Case Study Research: Design and Methods* (3rd edition ed.). London: SAGE Publications.

3. Use Case Areas' profiles

3.1 Thessaloniki (Greece)

3.1.1 Developmental profile

The Regional (Metropolitan) Unit of Thessaloniki (NUTS 3 - EL522), located in northern Greece, is part of the Region of Central Macedonia (NUTS 2 - EL52), and its capital is the city of Thessaloniki (European Commission 2024b). The Regional Unit, comprising 14 Municipalities, stretches from the Thermaikos Gulf in the southwest to the Strymonikos Gulf in the east and is situated at the center of the other six Regional Units of the Region. In general, it is a flat, partly semi-mountainous area with two large plains of agricultural crops (rice fields, vineyards, etc.).

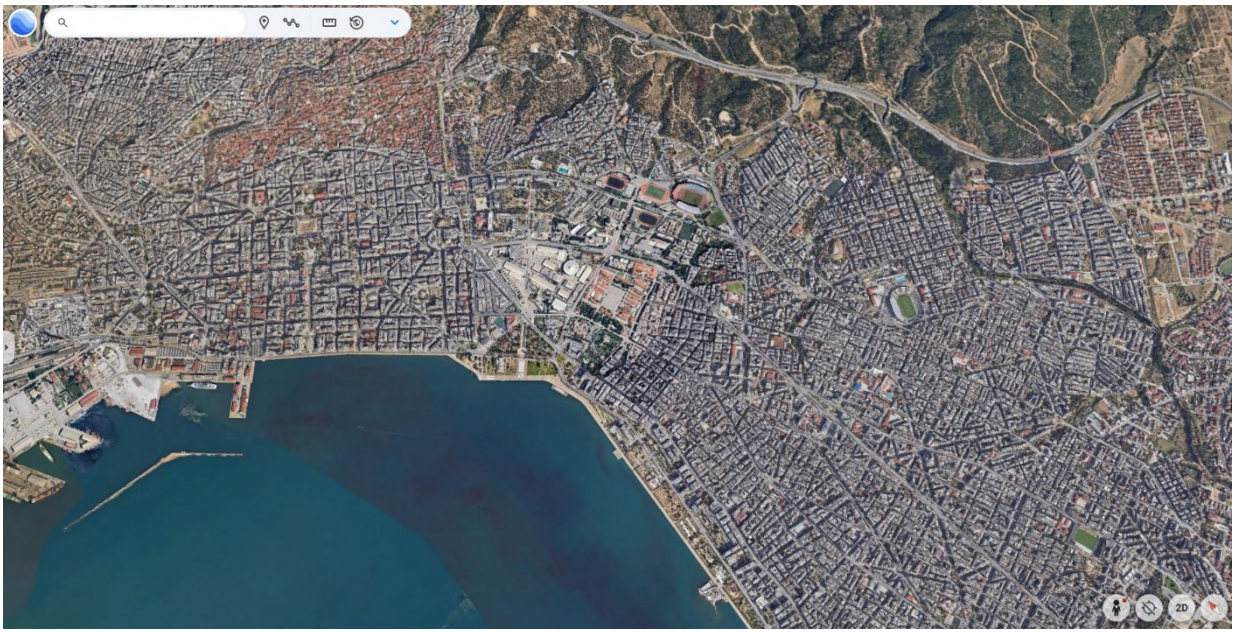


Figure 1. Overview of Urban agglomeration of Thessaloniki - Google Earth

The Regional Unit (RU) of Thessaloniki is Greece's second most populous and economically significant area after Athens. It serves as a major metropolitan, industrial, commercial, and logistics hub for Northern Greece and the Balkans, with a population of 1,091,424 (ELSTAT 2021) and a strong urban concentration around the urban complex of Thessaloniki (SUWANU 2021). While the majority of the RU is classified as rural (68.5% of its LAUs), approximately 11% of the population resides in the rural part of the RU. The Metropolitan Area of Thessaloniki (MATH), extending along the coastline, hosts the majority of the Regional Unit's population and plays a pivotal role in shaping its overall profile.

Thessaloniki's population has grown substantially over the past few decades, with a notable trend toward suburbanization as residents have moved from the city center to surrounding municipalities. According to the latest data, between 2011 and 2021, the population has remained stagnant, with a slight decrease (≤-1%) (ELSTAT 2021). An interesting feature of the RU is its strong academic profile, as it hosts three universities, including AUTh, the largest in Greece, which covers all disciplines. Altogether, the RU hosts a vibrant academic community of around 120,000 students, contributing to a youthful and dynamic demographic profile.

The RU displays an economic profile focused on the tertiary sector, with activity in services, trade, education, healthcare, transport, and tourism (ELSTAT 2025b). The region retains a substantial industrial base, with organized industrial zones such as the Industrial Area of Thessaloniki and research and innovation hubs such as the Alexander Innovation Zone, and the under development Thess INTEC. Agriculture, while significant, accounts for less than 2% of RU's Gross Value Added (ELSTAT 2025b). The RU hosts Thessaloniki's International Airport and Thessaloniki Port, the country's second-largest port, serving as major hubs for freight, cruises across Southeastern, Central, and Eastern Europe via trans-European motorway and railway networks, and passenger transport in the summer months (Thessaloniki Port Authority 2023).

RU GDP is about 8.8% of the country's total (ELSTAT 2025a) and the Region of Central Macedonia is having the second higher GDP growth from 2019 among Greece's Regions (OECD 2024b). The Region historically faces high unemployment rates, with a substantial proportion of long-term unemployed. According to the latest data (2023), the unemployment rate for the Region of Central Macedonia is 14.1% (OECD 2024b).

The RU exhibits a unipolar urban structure dominated by the metropolitan area of Thessaloniki, which is surrounded by smaller towns and villages. It is characterized by a dense urban centre surrounded by a ring of expanding suburbs and satellite municipalities. The low-density residential development and the outward expansion of economic activities of the last 40 years have led to challenges such as traffic congestion, infrastructure strain, and environmental degradation (Ministry of the Environment and Energy 2020; SUWANU 2021).

Use case characteristics based on T2.3 typology[6]
The remote work adoption of the NUTS2 region of Central Macedonia, to which Thessaloniki belongs, places it among the regions with low to medium adoption levels. This indicates a moderate overall integration of remote working practices. The NUTS2 typology, developed across European NUTS2 regions, assessed the impact of RWA using a range of spatial, economic, and social indicators. This process resulted in the creation of a six-cluster model capable of capturing the diversity of remote work integration across EU regions. When it comes to Thessaloniki, it belongs in the broader cluster 3 characterized as 'structurally deprived and pressured regions'. This typology has a stark and unmistakable geography, concentrated in Southeastern Europe, including all regions of Greece and Albania and most of Bulgaria. Their profile is one of multifaceted deprivation, scoring in the lowest quartile (Q1) on nearly all structural indicators: GDP per capita, internet access, tertiary education levels, infrastructure quality, and computer use. This points to a deep and persistent development gap. The most alarming feature of this cluster, however, is the paradoxical combination of these disadvantages with the highest quartile (Q4) of housing cost overburden. These are regions where low-income populations face a severe and immediate affordability crisis. Further confounding a simple narrative of disadvantage, they exhibit the highest quartile (Q4) for enterprise birth rates, suggesting a vibrant, possibly necessity-driven, entrepreneurial scene that exists despite the lack of structural support. They are caught in a difficult bind of low development and high living costs, punctuated by a resilient but fragile entrepreneurial spirit.

The map below shows the geographical distribution of citizen survey responses in Thessaloniki:

[6] For more information you may visit Deliverable 2.2 Typology of EU regions based on the effects of remote working on their urban-rural divide, available here https://r-map.eu/deliverables/

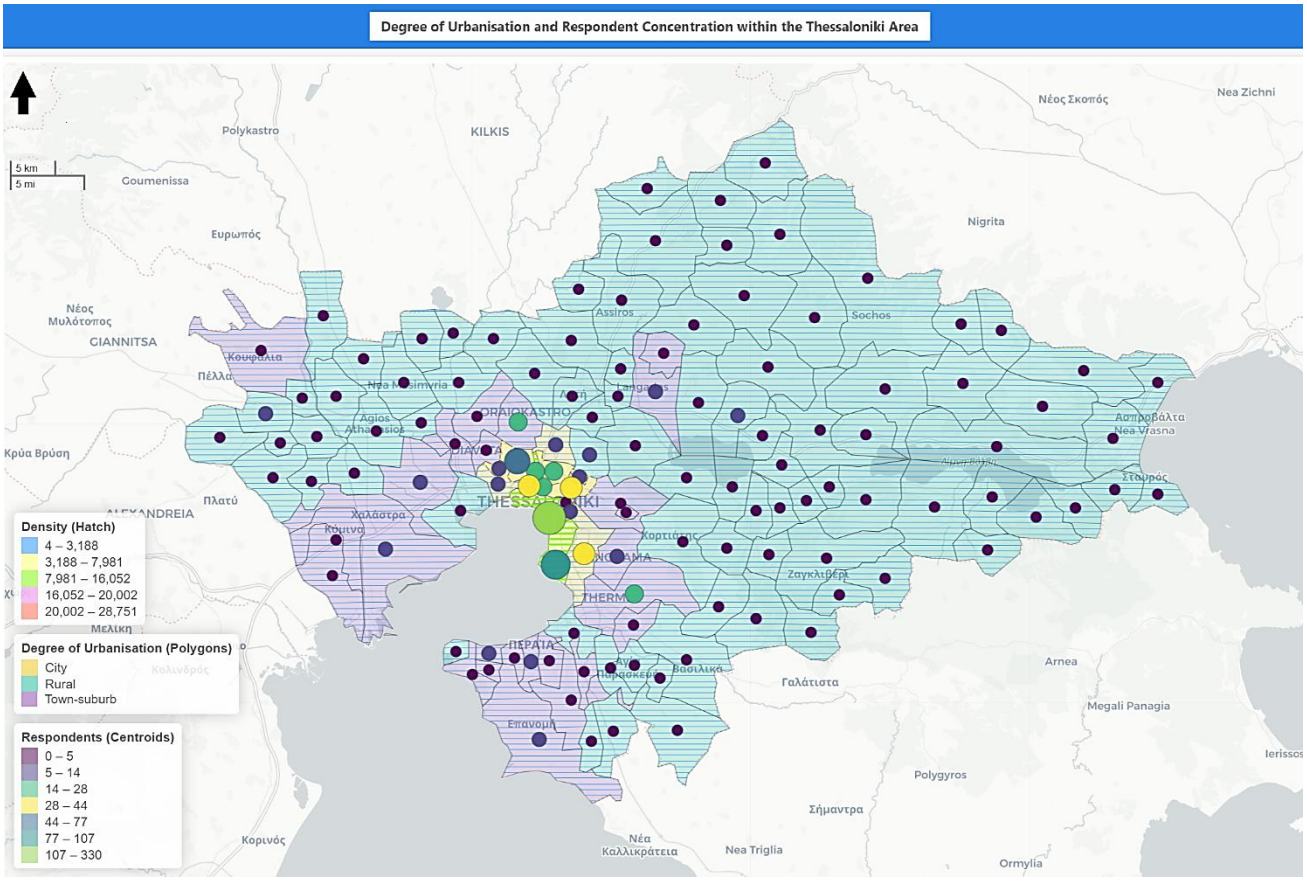


Figure 2. Geographical distribution of citizen survey responses in the use case area of Thessaloniki, by Local Administrative Unit selected for inclusion in the use case area analysis (source: G. Gkologkinas, LabGeo AUTh)

3.1.2 Brief description of Remote Work Arrangements and related policies

In the Central Macedonia region, like in other parts of Greece, remote work policies are governed by national laws and company-specific guidelines. There is no specific regional strategy, but the national law No.4808/2021 Art.67 on labor and teleworking/remote working, along with company policies, guides remote work practices (Government Gazzete of the Hellenic Republic 2021). According to article 67 of Law 4808/2021, remote working is now recognized as a modern form of employment in Greece. Specifically, remote work involves the remote performance of the employee's duties using technology, under the employment contract of full-time, part-time, rotational, or other employment forms, which can also be carried out from the employer's premises. The existing regulatory framework for remote work and digital nomads has significant limitations. Notably, regarding digital nomads, some efforts are being noticed, although they have not yet been translated into policies (except for tourism) for attracting digital nomads, in line with the national program "Work from Greece" managed by the Ministry of Immigration. Furthermore, the framework for digital nomads primarily focuses on non-EU nationals, individuals outside the Schengen Zone, and imposes a minimum monthly income of 3,500 euros (Nikolaidou & Kostopoulou, 2024), whereas the actual digital nomads in Thessaloniki are EU citizens. Additionally, they fall under the jurisdiction of the Ministry of Immigration rather than the Ministry of Tourism, which would be more logical.

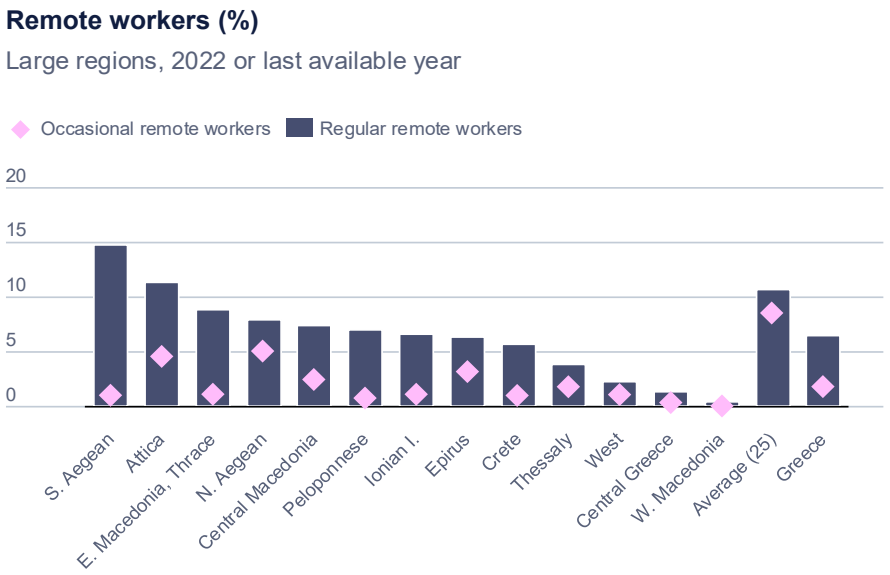
At the local level, Thessaloniki exhibits a notable absence of specific remote work policies, with practices largely implemented ad hoc. A small number of initiatives, for instance, from the Alexander Innovation Zone, encourage local digital nomad networks and start-ups to familiarise themselves with Thessaloniki and provide

resources to support their operations. These efforts have not translated into formal, coordinated policies. This lack of local regulation has led to uncoordinated development, insufficient infrastructure outside the city center, and growing concerns about spatial inequalities in the surrounding areas.

In Greece, remote work is not widespread due to cultural attitudes and inadequate internet infrastructure to support remote workers. Regarding the public sector, remote work is less common because there is a notion that it is linked to avoiding work and reduced productivity. Although public sector employees engaged in extensive remote work during the pandemic (with support from digitalisation initiatives and IT training) the return to office-based work has become the norm once restrictions eased. In the private sector, decisions about remote work depend on each company, including how many days it is permitted. The hybrid model, combining days in the office and remote work, is the most common form of RW. Both desk research and interviews reveal a prevailing Greek mindset that negatively correlates remote work with lower productivity, leading to resistance from both employers and employees. This cultural view has limited the long-term adoption of remote arrangements, even after the digital transition encouraged by the Covid-19 pandemic.

There are no official regional statistics in Thessaloniki or the Regional Unit, or Central Macedonia, regarding remote work; if available, these are fragmented, and so are the small efforts to create mid-term policies for the city. Additionally, they are not connected and overlook the potential outcomes and implications of remote work. According to the OECD (2024b) 7.3% of workers in the Central Macedonia region were regular remote workers, a figure slightly higher than the average of 6.4%. in Greece.

Diagram 1. Percentage of Remote workers by region in 2022 (source: OECD Regions, cities and local areas database http://oe.cd/geo-stats)



In order to accelerate the country's digital transformation, Greece has introduced its National Broadband Plan for 2021-2027 and the Digital Transformation Strategy 2020-2025. These plans outline strategies to promote the use of high-capacity fixed and 5G networks (European Commission 2024a). Greece exceeded the EU average in fixed broadband coverage at 99.4% (national) and 96.1% (rural). With no cable networks in the country, broadband services depended on slow FTTP deployment, which is concentrated mainly in cities. Especially in rural areas, the internet speed remains very low, with 32.8 (Mb/s) in 2024, while the 5G coverage covers only 17.3% of the rural areas in 2021 (European Commission 2022; 'Rural Observatory', n.d.). By mid-2021, 19.8% of households had FTTP, while rural coverage was 0% (European Commission 2022). It should also be noted that Greece is a country with unique characteristics. Special attention may therefore be advisable with regard to the penetration of the internet in rural areas, in order to increase the productivity of the agri-food sector,

to better support small and micro businesses in tourism, and to make the country more attractive to "digital nomads" (Region of Central Macedonia 2021).

3.1.3 Spatial phenomena observed due to remote work

Given the limited adoption of remote work practices, no significant spatial transformations have been observed in the Regional Unit. Instead, remote work appears to play a partial role in shaping a few emerging spatial trends.

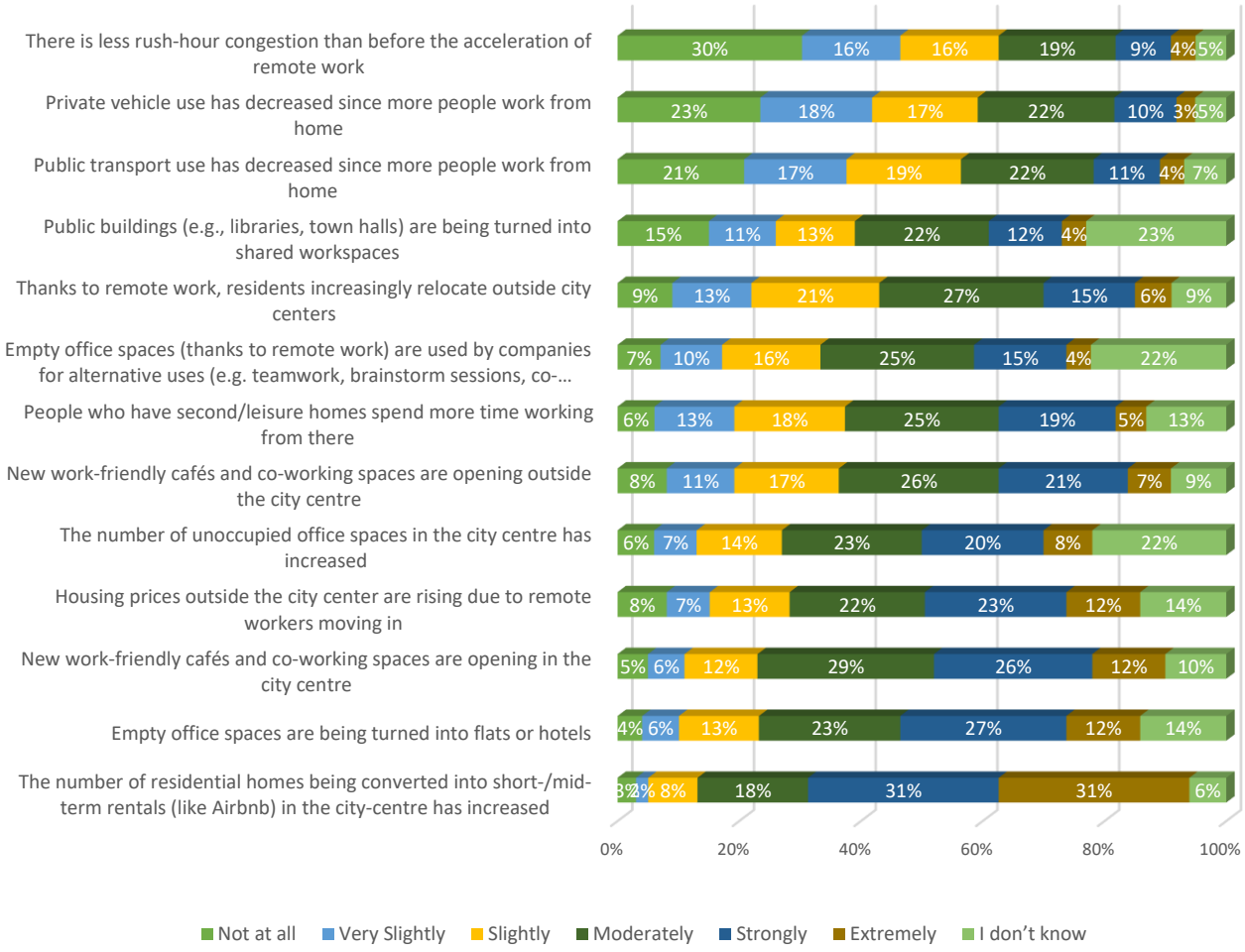
1. **Development of co-working spaces**

Co-working spaces first emerged in Thessaloniki during the 2010s, but their presence and use gained recognition following the Covid-19 pandemic. One of the goals outlined in the Resilient Thessaloniki Strategy for 2030 proposes expanding a network of physical spaces dedicated to entrepreneurship, creativity, and collaboration. The strategy emphasizes the city's commitment to supporting and developing its emerging ecosystem of co-working, maker, and hacking spaces; however, it is unclear if any formal action has been undertaken since (City of Thessaloniki and Metropolitan Development Agency of Thessaloniki S.A. 2017).

Only a limited number of co-working spaces are currently in operation, but their number is increasing, reflecting a broader shift toward flexible workspaces for remote workers. The emergence and expansion of co-working spaces in Thessaloniki are most evident in the city center and extend towards the eastern and western parts of the urban complex, including municipalities such as Kalamaria. Along with co-working spaces, third places, such as remote work-friendly cafés, are also gaining traction. The trend has accelerated in recent years due to the growing demand for flexible work environments that cater to remote workers and university students. Moreover, professionals who might have previously rented small private offices are now increasingly opting for meeting rooms or flexible office arrangements, further fuelling demand for adaptable workspaces.

However, only a few of these spaces are specifically designed to attract digital nomads. Despite this, there is a noticeable rise in nomad-friendly cafés, and discussions are emerging around the decentralization of remote work infrastructure to urban areas in the east and west as a strategy to avoid tourism-related pressure existing in the historic centre. Thessaloniki still lacks a dedicated hub for digital nomads, representing a potential area for development. The existing co-working infrastructure remains insufficient to meet current demand and is heavily concentrated in the city center. This shortage highlights the potential need to formally recognize co-working spaces as a distinct land-use category and integrate them into urban planning frameworks.

Diagram 2. Rating of spatial phenomena observed on a scale from 'Not at all' to 'Extremely' (source: R-Map Use Case Thessaloniki Citizen Survey, 2025)



2. Changing patterns in office space demand and development

Over the last few years, Thessaloniki has become an increasingly attractive destination for multinational companies, driving a surge in demand for office space and prompting new construction and renovation projects. The most popular locations remain the city center and the eastern part of the city, while the western side is also gaining attention due to improved accessibility and proximity to the centre. Demand from international companies focuses on areas close to the city center, referring to office spaces ranging from 1,000 to 2,000 sqm, with good access by public transportation and adequate parking (Danos 2023).

New developments in large office complexes are underway at the western entrance and the eastern periphery of the city, aiming to address the infrastructure needs of companies operating under hybrid work models (Danos 2023). However, these investments primarily respond to specific corporate requirements rather than addressing the broader shortage of modern office infrastructure.

Overall, the office market in suburban areas of Thessaloniki has seen an increase in rental prices, particularly in eastern municipalities such as Thermi. In contrast, demand in the city center has declined and is now concentrated on larger office units. Demand for small offices has significantly shrunk, with many being replaced

by flexible or co-working spaces, while startups, businesses, and freelancers prefer using a "flexible office space" for their tax residence.

An emerging, though not yet fully documented, trend suggests some companies are downsizing and relocating from suburban areas back to the city center, influenced by hybrid work arrangements. Additionally, older office buildings and industrial properties are being increasingly converted into short-term rentals or hotels, while many outdated office spaces in the centre remain vacant.

3. Increased Demand for Digital Infrastructure and public transport coverage and options

The lack of adequate infrastructure to support remote workers and digital nomads outside Thessaloniki's city center is evident and contributes to spatial inequalities and distributional injustice between urban, suburban, and rural areas. Key deficiencies include limited access to high-speed internet, an essential requirement for remote work, as well as poor transport connectivity to and from suburban, peri-urban, and rural areas in the Regional Unit, intensifying spatial inequality. Internet speed and reliability issues emerged as key problems by the survey participants, with 49% of respondents identifying connectivity problems when working remotely (source: Citizen Survey,2025).

Public transport connectivity in the RU of Thessaloniki is primarily based on the bus network, which remains the main mode of public transit. While a new metro line is under development, its reach is currently limited, serving mainly the central districts of the Municipality of Thessaloniki. This restricted coverage poses significant challenges for residents in more peripheral areas, especially those in search of affordable housing, making commuting difficult for individuals who work remotely but still need to travel to their workplace occasionally.

4. Rising housing prices and movement to suburban/peri urban areas

Between 2023 and 2024, average asking prices for residential properties in Thessaloniki's RU rose by 13.5% (Spitogatos 2025). Since 2019, prices increased by 85.1% in the Municipality of Thessaloniki and 60.1% in the suburbs. Rental prices followed suit, rising 9.9% in 2024 alone. Over five years, rents rose by 41.2% in the suburbs, 26.2% in the Municipality of Thessaloniki, and 29.6% in the rest of the RU (Spitogatos 2025). This phenomenon is connected to the rising number of short-term and mid-term rentals and increased investment in such properties. Consequently, an outward residential shift is observed, with individuals relocating to suburban and peri-urban areas in search of more affordable housing options. For those who can work remotely and do not own property, relocating away from the city center becomes a viable strategy to reduce living costs and improve quality of life. However, this is not feasible for workers who must regularly commute to a traditional office setting. Additional factors influencing relocation include access to quality social services, particularly schools and healthcare, and the adequacy of transport infrastructure, especially road and rail connectivity to the city. Despite these developments, there is currently no substantial evidence that remote work has significantly reshaped the urban-rural dynamics within Thessaloniki's RU.

5. Rise in short and mid-term rentals

Short-term rentals in Thessaloniki have expanded rapidly and without regulation or plan, with some companies now offering combined accommodation and workspaces aimed at digital nomads. While rising real estate prices are not directly driven by remote work, the widespread spread of short-term rentals, often through the conversion of ground-floor spaces into small apartments, has intensified housing pressures. This is an issue that has been identified by the Regional Survey as well. Respondents pointed to a rise in residential units converted into short- and mid-term rentals, including former ground-floor shops, alongside the re-purposing of vacant office spaces into flats or hotels (source: Citizen Survey). Participants observed that *"many ground-floor shops have been converted into apartments for long- or short-term rental, with most being short-term"* while "m*any office spaces are being converted into Airbnb properties*" (source: Citizen Survey).

The city center is becoming gentrified and increasingly unaffordable. Tourism-led gentrification, driven by the revaluation of the built environment, has led to tenant displacement, rising rents, and limited long-term rental options, posing a significant threat to housing affordability (Katsinas 2021).

3.1.4 Socio-economic phenomena observed due to remote work

1. **Remote work as a gateway for cross-border employment**

Thessaloniki generally lacks sufficient infrastructure to support remote workers, especially in terms of co-working spaces. However, a combination of other factors makes the city appealing to remote workers from other cities or those employed by foreign companies. The internet speed in the city is adequate, and the cost of living is relatively low compared to other European cities. The quality of life is good, English is widely spoken, and the food, culture, and nightlife are attractive too. Recently, a trend has emerged where younger Greeks working in sectors like IT, engineering, consulting, and others have returned to the country while maintaining their salaries and jobs abroad (in Europe and the USA) through remote work. With the gradual wider adoption of remote work, there is an opportunity for the "brain gain" phenomenon, as many Greeks continue working for foreign companies and return to Thessaloniki. Findings from the Regional Survey reveal a mixed picture: 31% of respondents moderately or strongly agreed that remote work is encouraging skilled workers who had left the area to return, while 42% agreed that remote work is also enabling skilled workers to relocate elsewhere, since they are no longer tied to a single place of employment (source: Citizen Survey).

2. **Growth in remote job opportunities for small businesses and startups**

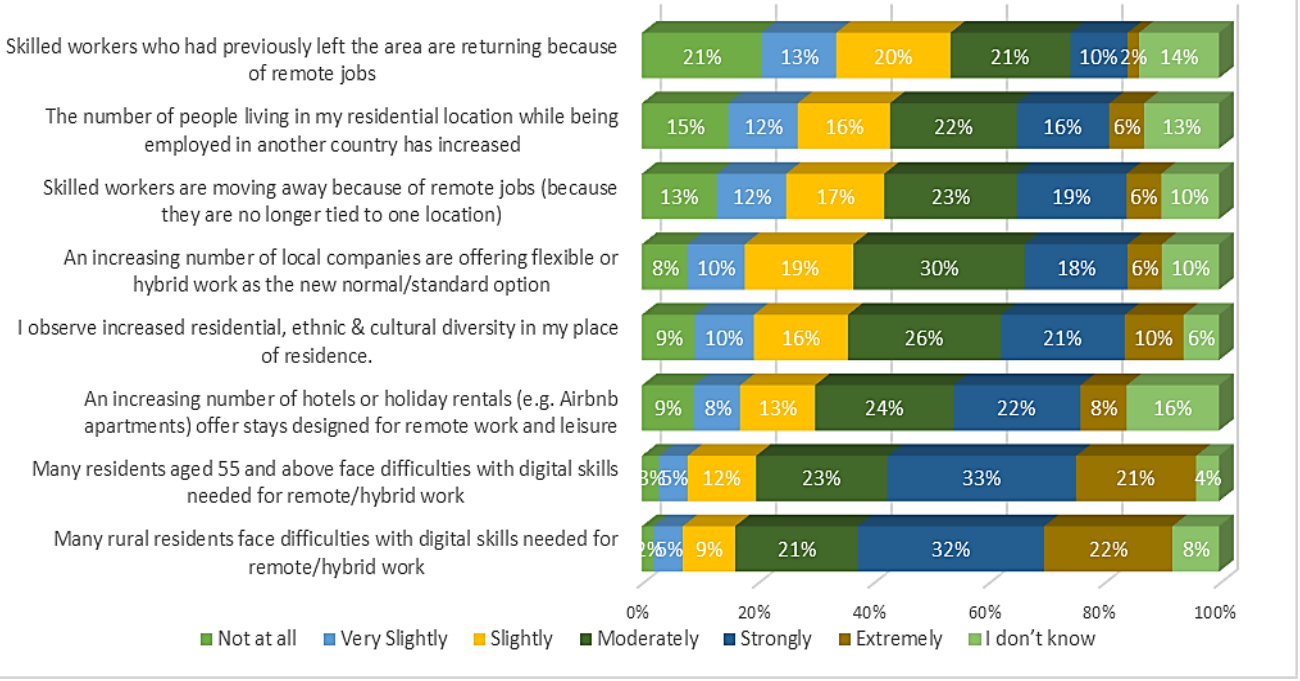
The predominant job sectors performed remotely are consulting services, creative-related jobs, event organizers, marketing as well as IT-related fields like web developers, whose start-ups are located in Thessaloniki but work with clients abroad or from other Greek cities. Thessaloniki, as the large city center of the region, is considered an emerging innovation hub for the wider region of Southeastern Europe (Region of Central Macedonia 2015). However, SMEs in Greece are behind in adopting and innovating with digital technologies, especially in small towns and rural areas. The OECD Economic Survey (2024a) report highlights significant investment gaps and slow digital diffusion, especially among smaller firms. Over half of SMEs have very low digital engagement, the highest share in the EU. While larger firms perform better in digital technology use, 13% of firms with at least 250 employees still have very low digital intensity, making Greece second in the EU for lagging firms. This slow adoption and innovation are evident in fewer companies having websites, using cloud services, or deploying artificial intelligence (OECD 2024a).

3. **Opportunity for attracting digital nomads**

There has not yet been a clear transformation in Thessaloniki's socio-economic fabric due to digital nomadism, and any impacts may still be too early to observe rather than measure. There is an influx of foreign citizens that is gradually changing the social fabric and culture of the city centre. Focusing on digital nomads, their presence is deemed limited to having produced notable socio-economic phenomena. There are sporadic incomers in the city centre, and the concept of digital nomadism has garnered attention generally in Greece. However, based on their self-enumeration in the Nomad List, a notable increase is revealed in the number of digital nomads who have included Thessaloniki on their travel itineraries during the period from 2016 to 2023 (Nikolaidou & Kostopoulou, 2024). The total number of arrivals rises to 550 during the same period, with an average of a very short stay. Most come from European countries and stay in the city only for a few weeks or months. Thessaloniki has become a desired destination for digital nomads because of the gastronomy, hospitality, the cost of living, safety, connectivity, and the growing multitude of remote working-friendly spaces. Digital nomads are generally an open-minded group with environmentally friendly and resiliency mindsets

that can leave a positive impression. The city of Thessaloniki already has a brand name for its unique aesthetic and its characteristics; it also has the potential to become a pole of attraction for digital nomads and has peripheral capacity in land for the creation of corresponding infrastructure for a digital nomad's hub. However, such development needs a related strategy, while there is no substantial interest from developers and investors in Thessaloniki. A digital nomad community is forming, although not on a large scale and not very organised. There are also discussions about digital nomad festivals as an effort to unite and integrate scattered initiatives.

Diagram 3. Rating of social and economic phenomena observed on a scale from 'Not at all' to 'Extremely' (source: R-Map Use Case Thessaloniki Citizen Survey, 2025)



4. Expansion of flexible working spaces as a business model

The city's culture is evolving to support flexible work, a business trend that was previously uncommon. These spaces include traditional co-working spots and other "third places" such as cafes suitable for remote work. This trend has grown significantly in recent years due to the rising demand for flexible office environments that serve remote workers and university students. Most of these spaces are located in the city centre and extend to the eastern parts of the urban area, reaching nearby municipalities, i.e. Kalamaria. Participants in the Regional Survey highlighted as a trend the opening of new work-friendly cafés and co-working spaces both in the city centre and, to a lesser extent, in surrounding areas (source: Citizen Survey, 2025). Overall, the flexible office spaces present a growing potential as an investment model in the real estate market.

3.1.5 Factors influencing how phenomena were shaped

1. Limited and fragmented regulatory framework and policies

In Greece, the EU Framework Agreement on remote work operates through non-binding, cross-sectoral agreements that offer guidelines without legal enforcement. No sectoral collective agreements exist, and company-level remote work arrangements remain underdeveloped (Eurofound 2022). Nationally, Law No. 4808/2021 officially recognizes remote work across employment contracts but has significant limitations for digital nomads. The "Work from Greece" program, managed by the Ministry of Immigration, targets non-EU nationals with high income requirements (€3,500), excluding most EU citizen digital nomads in Thessaloniki.

In the survey, the importance of transparent employer policies specifying who can work remotely and under which conditions was underlined. As one participant noted, "*there should be very clear rules regarding the framework more generally,"* while others highlighted the need for agreements with employers to cover additional expenses such as electricity or internet costs (source: Citizen Survey 2025).

2. Cultural barriers to remote work adoption

Remote work adoption in Thessaloniki and Greece is limited by strong cultural resistance, especially within the public sector and traditional businesses. Both employers and employees often see remote work as less productive, and despite increased digitalization during the Covid-19 pandemic, most have reverted to office-based routines. Deep-seated beliefs link workplace presence with responsibility and effectiveness, while concerns about cybersecurity and inadequate home setups persist. Although frameworks like Law 4808/2021 exist and new co-working spaces are emerging, fully remote models remain rare. Remote work mostly appeals to niche groups, with mainstream acceptance hindered by traditional work culture and preferences for hybrid arrangements. Greece's historically low remote work adoption compounds this resistance. While regulatory frameworks exist, work culture remains sceptical of fully remote models, preferring hybrid arrangements. Emerging co-working spaces serve niche groups, but mainstream workforce segments remain conventionally embedded, limiting transformative potential.

3. Inadequate Digital Nomad and golden Visa policies

The adoption of remote work in Thessaloniki and Greece is only marginally influenced by digital nomad visa policies. While Greece's digital nomad visa primarily targets non-EU nationals outside the Schengen Zone with a minimum income requirement, actual digital nomads in Thessaloniki tend to be EU citizens, thus largely unaffected by these provisions. On the other hand, golden visa policies, aimed at attracting real estate investment, does not directly foster remote work culture or infrastructure. Overall, these visa policies have not significantly boosted remote work adoption, as cultural attitudes, company policies, and infrastructure remain the main shaping factors.

4. Tourism - led economy and housing pressures

Thessaloniki's tourism-driven economy has significantly shaped how remote work influences the city's socio-economic and spatial landscape, particularly through the rapid, largely unregulated expansion of short-term rentals, that promote integrated living and working solutions for digital nomads. Short-term rental growth has heightened housing market pressures, not just from remote workers but primarily from increased tourism demand. Even ground-floor commercial spaces are being converted into tourist apartments, reshaping the urban environment. This trend intensifies competition between locals and tourists for housing, leading to "tourism-led gentrification".

As a result, the city center is becoming unaffordable for many local residents, with rents resembling those in larger European capitals. Additionally, the conversion of office buildings and light industrial properties into accommodations or hotels (while traditional offices remain empty) illustrates how tourism is redirecting real estate development. Ultimately, the overlap between remote work flexibility and tourism infrastructure is accelerating displacement and transforming Thessaloniki's social fabric.

5. **Transport infrastructure and accessibility**

Remote work adoption in Thessaloniki and smaller cities across the region of Central Macedonia is strongly shaped by transportation connectivity and the region's mobility infrastructure. Thessaloniki's relatively well-connected city center contrasts sharply with its poorly served suburban, peri-urban, and rural areas, intensifying spatial inequality. Those seeking affordable housing on the city's outskirts face significant challenges, as limited and infrequent public transit make commuting difficult, particularly for remote workers who must occasionally travel to the office. Meanwhile, smaller towns lag behind in both digital and transport infrastructure, resulting in concentrated economic activity within Thessaloniki and hindering the potential for remote work to drive balanced regional development. This infrastructure gap perpetuates the urban-rural divide, restricting the benefits that remote work arrangements could bring. Thus, while remote work promises greater flexibility and improved quality of life, its wider adoption remains contingent on substantial improvements to transport and mobility networks, which in Greece tend to be outdated and limited beyond major metropolitan areas.

Interestingly, remote workers in the survey expressed clear intentions to reduce their reliance on private vehicles (54% strongly or extremely agreed) and public transport (48% strongly or extremely agreed), should they continue working remotely or in hybrid arrangements (source: Citizen Survey, 2025).

6. **Internet infrastructure and cybersecurity**

Remote work in Thessaloniki is shaped by the quality of internet infrastructure, with urban areas offering adequate speeds suitable for digital nomads and professionals with foreign employers. However, significant infrastructure gaps remain, particularly in rural areas and in the availability of high-speed connections and co-working spaces, hindering broader remote work adoption. Better internet connectivity at one's place of residence was identified as a key requirement for remote work, with 22% of respondents considering it extremely important (source: Citizen Survey, 2025). Looking at the spatial dimension, strong agreement with problems of internet speed and reliability was expressed by 8% of respondents in urban areas, 13% in suburban areas, and 20% in rural areas of the Regional Unit (source: Citizen Survey, 2025).

Nationally, Greece trails in digital technology investment and use, especially among small businesses, with over half of SMEs showing low digital engagement. This slows remote work expansion and highlights a pressing need for better and more widely available digital infrastructure. Additionally, the shift to remote work during the pandemic exposed concerns about cybersecurity and revealed gaps in digital protection, especially in the public sector. These factors (limited infrastructure, low digital adoption among SMEs, and cybersecurity issues) collectively restrict Thessaloniki's and Greece's ability to fully capitalize on the benefits of remote work.

7. **Digital skills and technical readiness**

The adoption of remote work in Thessaloniki and Greece is significantly influenced by digital skills and technical readiness. While efforts during the Covid-19 pandemic, such as digital skills seminars and support from IT departments, increased employees' ability to work remotely, overall digital literacy and readiness remain varied. Technical limitations, such as insufficient in-house equipment and concerns about cyber security, have hindered long-term remote work adoption, particularly in the public sector. Furthermore, smaller towns and rural areas lag in digital infrastructure and expertise, limiting remote work opportunities. As a result, the overall up-take of remote work in Greece remains relatively low compared to other European countries.

3.1.6 Summary of the main findings

The key spatial phenomena observed due to remote work in the use case area are:

- ***Development of co-working spaces.*** *A limited number of co-working spaces are currently in operation, but their number is increasing, reflecting a broader shift toward flexible workspaces for remote workers. The emergence and expansion of co-working spaces in Thessaloniki are most evident in the city center and extends towards the eastern and western parts of the urban complex. Third places, such as remote work-friendly cafés, are also becoming popular.*
- ***Changing patterns in office space demand and development.*** *New office developments in Thessaloniki primarily focus on meeting hybrid work needs but mainly serve corporate demands. While rents in suburban areas are rising, demand in the city center has declined, focusing on larger spaces. Small offices are being replaced by flexible spaces, while some companies downsize and return to the centre. Meanwhile, older buildings are converted into rentals or hotels.*
- ***Increased Demand for Digital Infrastructure and public transport coverage and options****. The lack of adequate infrastructure to support remote workers and digital nomads outside Thessaloniki's city center is evident and contributes to spatial inequalities and distributional injustice between urban, suburban, and rural areas. Key deficiencies include limited access to high-speed internet, an essential requirement for remote work, as well as poor transport connectivity to and from areas within a 20-minute radius of the city center.*
- ***Rising housing prices and movement to suburban/peri urban areas****. Residential prices in Thessaloniki's RU continue to rise following an upward trend since 2019. The growth of short- and mid-term rental investments contributes to the rising prices and leads residents toward suburban and peri-urban areas. While remote work enables some to relocate, limited transport and service infrastructure remain barriers. Still, no apparent shift in urban-rural dynamics has been observed.*
- ***Rise in short and mid-term rentals.*** *Short/mid-term rentals in Thessaloniki have expanded rapidly and without regulation or plan, with some companies now offering combined accommodation and workspaces aimed at digital nomads. While rising real estate prices are not directly driven by remote work, the widespread expansion of short-term rentals has intensified housing pressures and contribute to gentrification.*

The key socio-economic phenomena observed due to remote work in the use case area are:

- ***Remote work as a gateway for cross-border employment.*** *Despite limited co-working infrastructure, Thessaloniki's affordable living and quality of life attract remote workers (including young Greeks employed by foreign companies) creating opportunities for brain gain through cross-border employment.*
- ***Remote job opportunities for small businesses and startups are increasing.*** *Thessaloniki is becoming an innovation hub with many remote workers in consulting, creative marketing, and IT sectors. However, Greece overall lags in digital adoption, especially among small and rural businesses, exposing significant gaps in technology use and investment.*
- ***Opportunity to attract digital nomads.*** *Thessaloniki is drawing more digital nomads and has strong potential to become a hub, but their numbers remain small and require a regional strategy, support, and investment from local decision-makers.*
- ***Growth of flexible working spaces as a business model.*** *Flexible workspaces are expanding rapidly in Thessaloniki, driven by increasing demand from remote workers and students. They are becoming a promising business and real estate investment, particularly in the city center and nearby urban areas.*

The key local factors that influenced how phenomena were shaped in the use case area are:

- ***Limited and Fragmented Regulatory Framework and Policies.*** *Fragmented remote work policies lack enforcement and coordination, offering minimal support for digital nomads. In Thessaloniki, absent local planning fuels uneven infrastructure, reinforcing spatial inequality and limiting remote work beyond urban centers.*

- ***Cultural Barriers to Remote Work Adoption.*** *Traditional views link productivity to physical presence, limiting remote work adoption. Despite Covid-19 shifts, skepticism persists. Co-working remains niche, while hybrid models gain wider acceptance over fully remote setups.*
- ***Inadequate Digital Nomad and Golden Visa Policies.*** *Greece's digital nomad and golden visa policies exclude most EU workers and prioritize investment over infrastructure. Their impact is limited, with cultural norms, employer practices, and poor infrastructure posing greater barriers.*
- ***Tourism-Led Economy and Housing Pressures.*** *The tourism boom fuels housing demand and short-term rentals, displacing residents and inflating rents. Real estate shifts favor visitors and digital nomads, converting offices and deepening gentrification and socio-economic divides.*
- ***Transport Infrastructure and Accessibility****. Transport network centers on the urban core, limiting access from suburbs and rural areas. Poor connectivity restricts affordable housing choices and hinders remote work's potential to reduce regional inequality.*
- ***Internet Infrastructure and Cybersecurity.*** *High speed internet in the center city supports remote work, but rural areas lack connectivity and co-working spaces. Underinvestment, low SMEs tech adoption, and cybersecurity concerns hinder broader remote work adoption beyond major cities.*
- ***Digital Skills and Technical Readiness.*** *Digital skills across Greece remain uneven, with rural areas and the public sector lagging. Despite some progress during the pandemic, limited training, equipment, and tech access hinder widespread remote work adoption.*

3.1.7 References

City of Thessaloniki, and Metropolitan Development Agency of Thessaloniki S.A. 2017. 'Resilient Thessaloniki: A Strategy for 2030'. City of Thessaloniki. https://resilientcitiesnetwork.org/downloadable_resources/Network/Thessaloniki-Resilience-Strategy-English.pdf.

Danos. 2023. 'Thessaloniki Market Report'. Danos, International Property Consultants. https://danos.gr/wp-content/uploads/2023/08/MIB-THESSALONIKI-S1-2023.pdf.

ELSTAT. 2021. 'Resident Population 2021'. ELSTAT. https://www.statistics.gr/2021-census-res-pop-results.

---. 2025a. 'Gross Domesti Product - 2022'. 2025. https://www.statistics.gr/el/statistics/-/publication/SEL48/-.

---. 2025b. 'Gross Value Added per Sector - 2022'. 2025. https://www.statistics.gr/el/statistics/-/publication/SEL45/-.

Eurofound. 2022. 'Telework in the EU: Regulatory Frameworks and Recent Updates'. Luxembourg: Publications Office of the European Union. https://data.europa.eu/doi/10.2806/42974.

European Commission. 2022. 'Broadband Connectivity in the Digital Economy and Society Index | Shaping Europe's Digital Future'. 2022. https://digital-strategy.ec.europa.eu/en/policies/desi-connectivity.

---. 2024a. 'European Innovation Scoreboard 2024 Country Profile Greece'. https://ec.europa.eu/assets/rtd/eis/2024/ec_rtd_eis-country-profile-el.pdf.

---. 2024b. 'Eurostat - Statistical Atlas NUTS and Territorial Typologies'. 2024. https://ec.europa.eu/statistical-atlas/viewer/?config=typologies.json&mids=BKGCNT,NUTS2024L3,CNTOVL&o=1,1,0.7&ch=NUTS&center=40.36738,23.26023,7&lcis=NUTS2024L3&.

Government Gazzete of the Hellenic Republic. 2021. 'Law 4808/2021 "Protection of Labour"'. In *Government Gazzete of the Hellenic Republic*, 84. https://ypergasias.gov.gr/wp-content/uploads/2021/09/%CE%BD.-4808-2021-%CE%A6%CE%95%CE%9A-%CE%91-101.pdf.

Katsinas, Philipp. 2021. 'Professionalisation of Short-Term Rentals and Emergent Tourism Gentrification in Post-Crisis Thessaloniki'. *Environment and Planning A: Economy and Space* 53 (7): 1652-70. https://doi.org/10.1177/0308518X21988940.

Ministry of the Environment and Energy. 2020. 'Spatial Plan of the Region of Central Macedonia'. Greek Government Gazette No. 485-D'/20-8-2020. https://ypen.gov.gr/wp-content/uploads/2020/11/FEK485%CE%94_2020_PKM.pdf.

OECD. 2024a. 'OECD Economic Surveys: Greece 2024'. OECD. 5 December 2024. https://www.oecd.org/en/publications/oecd-economic-surveys-greece-2024_a35a56b6-en.html.

---. 2024b. 'OECD Regions and Cities at a Glance 2024: Greece'. OECD. 5 December 2024. https://www.oecd.org/en/publications/oecd-regions-and-cities-at-a-glance-2024_23b366ee-en/greece_dfb7f427-en.html.

Region of Central Macedonia. 2015. 'Analysis of Labour Market Needs in Occupations and Skills in the Region of Central Macedonia and Proposed Interventions'. Region of Central Macedonia. https://2014-2020.pepkm.gr/attachments/stratigikes/anagkes_agoras_ergasias.pdf.

---. 2015. 'Research & Innovation Strategy (RIS3) of Central Macedonia 2014-2020'. Region of Central Macedonia. https://www.mou.gr/elibrary/RIS3_%20%CE%9A%CE%B5%CE%BD%CF%84%CF%81%CE%B9%CE%BA%CE%AE%20%CE%9C%CE%B1%CE%BA%CE%B5%CE%B4%CE%BF%CE%BD%CE%AF%CE%B1_%2020150315.pdf.

---. 2021. '2nd Annual Survey of Secondary Data & Processing of Secondary Data'. Region of Central Macedonia - Regional Mechanism for the diagnosis of labour market needs. https://pmdaae-pkm.gr/wp-content/uploads/2021/12/%CE%A032_print.pdf.

'Rural Observatory'. n.d. Accessed 8 July 2025. https://observatory.rural-vision.europa.eu/?lng=en&ctx=RUROBS.

Spitogatos. 2025. 'Thessaloniki Real Estate Market 2024 | Rising Prices, Key Trends & Investment Hotspots'. Spitogatos Blog. 1 April 2025. https://en.spitogatos.gr/blog/thessaloniki-real-estate-market-2024-rising-prices-key-trends-and-investment-hotspots.

SUWANU. 2021. 'State of Play Analyses for Thessaloniki, Greece'. SUWANU, Europe. https://suwanu-europe.eu/wp-content/uploads/2021/05/State-of-play_Thessaloniki-Greece.pdf.

Thessaloniki Port Authority. 2023. 'Information - ThPA S.A.' 9 May 2023. https://www.thpa.gr/the-port/.

3.2 Twente - Münsterland (the Netherlands / Germany)

3.2.1 Developmental profile

The Twente-Münsterland cross-border region lies in the eastern Netherlands and northwestern Germany, forming a dynamic and historically connected European area characterised by rural landscapes, mid-sized urban centres, and well-preserved natural areas. Twente's textile heritage and Münsterland's agribusiness roots still echo in present-day firm structures, but the trajectory is unmistakably toward a knowledge and innovation hub anchored by the University of Twente and the University of Münster. Kennispark Twente serves as the flagship high-tech business environment with 400 plus companies[1], while region-wide programmes, most visibly the TECH.LAND initiative[2] led by partners such as IHK Nord Westfalen, Oost NL and Twente Board, explicitly target cross-border innovation spaces. These sit alongside Interreg Germany-Netherlands investments that fund joint mobility (e.g., EuregioRail), sustainability and digitalisation efforts. Ambitions to grow Twente's population, often reported around 100 thousand until 2050 in regional visioning, contrast with near-term demographic trends. UWV's "Regio in Beeld" for Twente projects working-age declines after 2025 even as the wider urban system remains attractive to students and early-career talent. This "ambition vs. demography" tension is precisely what cross-border collaboration seeks to reconcile by improving transport links, sustainability and labour mobility so the functional region can scale its innovation economy despite ageing pressures.

On the Dutch side, the functional area encompasses NL211 Noord-Overijssel (Zwolle), NL212 Zuidwest-Overijssel (Deventer and surroundings), NL213 Twente (Enschede-Hengelo-Almelo), NL225 Achterhoek, NL226 Arnhem/Nijmegen, and NL132 Zuidoost-Drenthe (Emmen-Coevorden). Spatially, it is stitched together by the A1/A35, A28, A12, and A37/E233 corridors and by rail junctions at Zwolle, Deventer, Enschede, Arnhem, Nijmegen, and Emmen that connect north-south, east-west, and cross-border flows. Zuidoost-Drenthe links northern Dutch markets to Lower Saxony through a compact set of towns with strong logistics. The broader Dutch side remains a classic polycentric region stitched together by the A1/A35 and A28 corridors, the IJssel and Vecht river valleys, and junctions at Zwolle, Deventer, Enschede, Arnhem, and Nijmegen that connect north-south and cross-border rail flows. CBS StatLine's regional series underline a mixed demographic picture: faster growth in and around Zwolle and Deventer, steadier growth or mild ageing headwinds in Twente and Achterhoek, and urban cores with high densities surrounded by lower-density rural belts. The degree-of-urbanisation typology captures this pattern well. Strongly and moderately urbanised municipalities form an arc from Zwolle and Deventer through the Twente triangle and down to Arnhem/Nijmegen, while adjoining countryside is "hardly" or "not" urbanised, enabling short commutes and tight city-town labour-market linkages. Economically, CBS regional and labor statistics show a diversified structure. Zwolle concentrates provincial government, healthcare, logistics, and business services; Deventer adds professional services and manufacturing along the IJssel corridor; Twente remains the technology-manufacturing heart of the east with mechatronics, materials, photonics, and med-tech anchored by the University of Twente and Kennispark; Arnhem/Nijmegen contributes a strong health-and-knowledge complex and energy/logistics roles on the Rhine-Waal corridor; and Zuidoost-Drenthe adds chemicals, manufacturing, and logistics with cross-border ties to Lower Saxony. Spatially, this side is a mosaic of compact cities, business parks, and green wedges-Zwolle's rail hub and logistics node, the Enschede-Hengelo-Almelo tech triangle, Arnhem/Nijmegen's twin-city core, and a ring of medium and small towns (Kampen, Hardenberg, Raalte, Doetinchem, Winterswijk, Emmen, Coevorden) that host SMEs suppliers and agro-food firms. This structure supports a resilient SMEs base, dense apprenticeship pipelines, and cross-border supplier ties that run into Münsterland and Grafschaft Bentheim. In short, the Dutch side couples a service-rich provincial capital zone (Zwolle), a high-tech advanced-manufacturing pole in Twente, a health-and-knowledge node in Arnhem/Nijmegen, and SMEs-intensive rural manufacturing and agro-food hinterlands in Zuidwest-Overijssel, Achterhoek, and Zuidoost-Drenthe, all within a commuter-sized geography that naturally spills across the border.

Enschede is the largest city in Twente, immediately adjacent to the German border near Gronau. As of 2025, population stood at roughly 162 thousand according to CBS, which is under 1 percent of the Dutch total but significant within the east-Netherlands urban system. While the city's demographics reflect a relatively young profile for a university city and a diverse international component, the income and net labour participation still lags behind the big-city Dutch averages. The national life satisfaction score, at 7.7/10, exceeds the EU27 average (DISCE, 2022)[3]. In terms of higher education, as of 2022 (Wijk- en buurtkaart, 2022)[4], Enschede has 22% of adults that have completed a higher professional education, which is close to the average in the Netherlands but ,lags behind other cities. Net labour participation for the same year stands at 60 percent that also lags behind other cities in the Netherlands, which display an average of approximately 66 percent (Wijk- en buurtkaart, 2022). Income per capita also forms a similar trend, lagging behind most cities in the Netherlands. Four higher-education institutions-University of Twente, Saxion University of Applied Sciences, ArtEZ University of the Arts and ROC van Twente collectively serve around 30 thousand students and anchor specialisations in technology, creativity and applied sciences, with spillovers into med-tech and photonics. On spatial structure and mobility, Enschede's TOD approach aims to harmonize land use, transport, and urban design, supporting a transition toward walkable, transit-accessible, and inclusive urban environments. Enschede is well connected by train and road infrastructure, with the average distance to a train station being 2.8 km while that to the main road being 2.1 km (Wijk- en buurtkaart, 2022). Enschede prioritizes the STOMP mobility hierarchy: prioritising walking, cycling, public transport, mobility as a service, private car in that order (Bakker, n.d.)[5], aiming to reduce car dependency and support compact urban form. The approach seems to be working given the car ownership of 43% (in the year 2022) falls much below the average for other cities in the Netherlands.

On the German side, the focus is Münster (DEA33) and the Münsterland districts of Borken (DEA34), Coesfeld (DEA35) and Steinfurt (DEA37), extended west to the Lower Rhine districts of Kleve (DEA1B) and Wesel (DEA1F) and north to Lower Saxony's Grafschaft Bentheim (DE94B). Münster acts as the cultural, administrative and higher-education core, with the city statistics office reporting 322,259 residents at the end of Q3 2025. The surrounding Münsterland is a belt of medium sized companies where mechanical engineering, plastics/chemicals, agro-food and logistics remain pillars, complemented by knowledge-intensive services and health anchored in Münster. Regional organisations (Münsterland e.V.) identify clusters in Food, Health, Innovative Materials/Resource Efficiency/Logistics, Mechanical Engineering and Knowledge-Intensive Services, with broadly stable to rising populations in recent years across the districts. To the north-west, Grafschaft Bentheim is a compact logistics/manufacturing district tightly connected to Twente via the A30/E233 and rail, with current population of around 144 thousand. Spatially, the German side mirrors the Dutch polycentric pattern: one medium-large university city for higher services, a ring of mid-sized towns (Bocholt, Rheine, Coesfeld, Nordhorn, Kleve, Wesel) along motorway/rail corridors, and a dense web of business parks at the Dutch-German interface that facilitate daily cross-border commuting and supplier flows.

Figure 3. The city of Enschede (source: https://www.visit-enschede.com/blog-overview/48-hour-in-enschede)

The map below shows the geographical distribution of citizen survey responses in Twente - Münsterland:

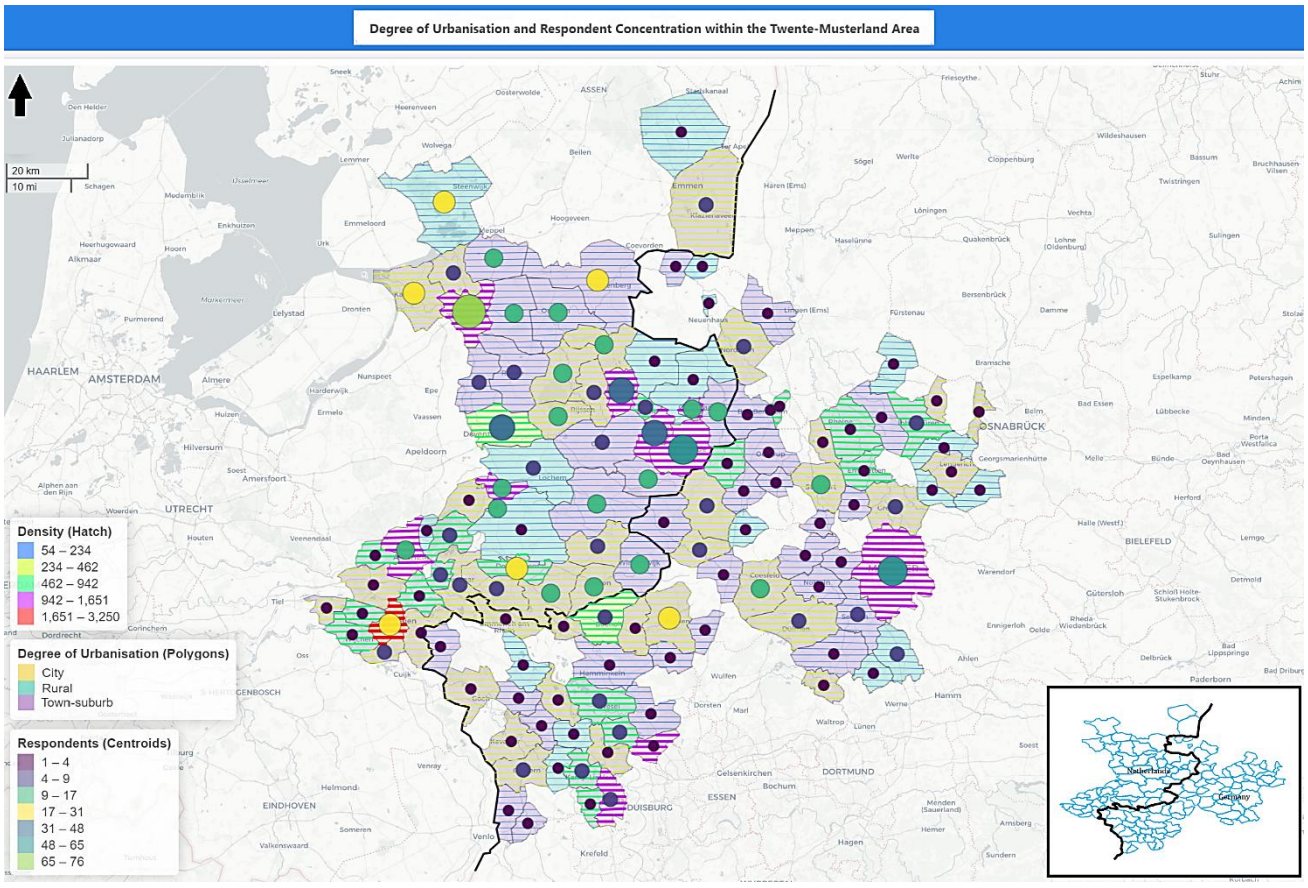


Figure 4. Geographical distribution of citizen survey responses in the use case area of Twente - Münsterland, by Local Administrative Unit selected for inclusion in the use case area analysis (source: G. Gkologkinas, LabGeo AUTh).

Use case area characteristics based on T2.3 typology[7]
The Remote work adoption of the cross-border area of Twente-Münsterland, which includes the NUTS2 regions of Overijssel (NL21) and Münster (DEA3), places it among the regions with medium to high adoption levels, indicating a relatively high integration of remote working across this transnational zone. When it comes to its NUTS2 typology, Twente-Münsterland, belongs in the broader cluster 2 characterised by a contrast between current economic strength and indicators related to future growth. On one hand, they show top-quartile (Q4) performance in GDP per capita, quality of life, and remote work adoption, reflecting high levels of development and digital infrastructure. On the other hand, the low-quartile (Q1) scores for the proportion of young people and new enterprise birth rates, suggesting limited demographic renewal and entrepreneurial activity. While population growth remains high (Q4), it appears to be primarily driven by in-migration for existing employment opportunities rather than natural increase or new business formation. These patterns indicate a potential need to address long-term sustainability in demographic and economic terms. However, as observed by the use case leader, in the specific use case areas selected for analysis it is possible that the local situation may have slight nuances when compared with the overall findings for the whole cluster.

3.2.2 Brief description of Remote Work Arrangements and related policies

On the Dutch side (Zwolle-Twente-Achterhoek), Remote Work Arrangements (RWA) have consolidated into a broadly hybrid norm, anchored in national rules that make flexibility easy to request and financially straightforward for employers. At the national level, the Flexible Working Act (Wet flexibel werken) lets employees with sufficient tenure ask to change hours, schedule, or place of work; employers must consider the request and reply in time, though they may still refuse with reasons. There is, however, not yet a statutory "right to WFH." Financially, employers commonly combine a commuting allowance for office days with the indexed home-working allowance of €2.40/day in 2025 under the work-related costs scheme (WKR). Regionally and in cities (e.g., Enschede, Zwolle), RWA are implemented through company policies and sectoral agreements rather than municipal bylaws. Guidance from social partners has focused on safe, ergonomic home offices, hybrid schedules, and facility reconfiguration. In 2023, the Netherlands led the EU for home working, with 52% of workers doing it "at least sometimes," a pattern that persisted into 2024-2025 as hybrid became the default in knowledge and business services. Strong digital infrastructure and the university/tech ecosystem raised the uptake of hybrid work in knowledge-intensive sectors, while cross-border collaboration is actively fostered (e.g., TECH.LAND) even if not codified in law. Where spatial practice is relevant for RWA, the Dutch evidence base (Buitelaar et al., 2021) shows that hybrid work primarily flattens peaks and re-times trips rather than reducing the total commuting distance.

Germany traditionally has a more office-based work culture. Across the border (Münster city and the Münsterland/Lower Rhine districts plus Grafschaft Bentheim), RWA are widespread but more firm- and sector-specific, reflecting Germany's legal setup. Nationally, there is no general legal right to work from home. Employees may request mobile work, but arrangements rest on employer consent and works-council (Betriebsrat) agreements. Federal discussions on a Mobile-Work Act have not produced a statutory right. Fiscal treatment supports hybrid usage via the permanent Homeoffice-Pauschale (tax deduction of €6/day, up to €1,260/year), complementing commuting allowances for office days. At the regional/urban scale, NRW (North Rhine-Westphalia; the larger region along with Lower Saxony under which the cross-border German area falls)

[7] For more information you may visit Deliverable 2.2 Typology of EU regions based on the effects of remote working on their urban-rural divide, available here https://r-map.eu/deliverables/

statistics indicate hybrid has stabilised. In 2023 about 23% of workers in NRW used home office at least sometimes (near Germany's 23.5% national share), with higher adoption in large organisations and services around Münster than in manufacturing belts. City governments and regional agencies promote digital infrastructure and flexible workplace guidance, but RWA are chiefly negotiated inside firms and public institutions. Adoption in Münsterland has been more cautious but growing in administrative and service sectors, consistent with the Mittelstand profile and the prevalence of factory-bound roles.

For cross-border remote work between the Dutch and German sides, the framework has improved but remains administratively layered. Since 1 July 2023, a multilateral Framework Agreement allows cross-border remote workers to perform up to 49.9% of their work from their state of residence without switching social-security affiliation (via coordinated Article 16 procedures). In April 2025, the Netherlands and Germany agreed a tax-treaty change letting eligible cross-border workers work from home up to 34 days/year without triggering double taxation on those days. While the EU promotes cross-border labour mobility through frameworks like EURES, practical barriers persist. Cross-border remote work remains administratively complex due to differing tax, social security, and labour laws. Regional initiatives, such as INTERREG programmes and the *Grenzhoppers* network[6] , are working to harmonise conditions and promote digital cross-border collaboration and remote work across Twente and Münsterland. The EUREGIO office[7] aims to promote cooperation between Dutch and German partners in order to strengthen the integration of the border region and increase the economic power and quality of life of the entire region.

Diagram 4. Respondents by DEGURBA classification and by remote work status in Germany and the Netherlands (source: R-Map Use Case Twente-Münsterland Citizen Survey, 2025)

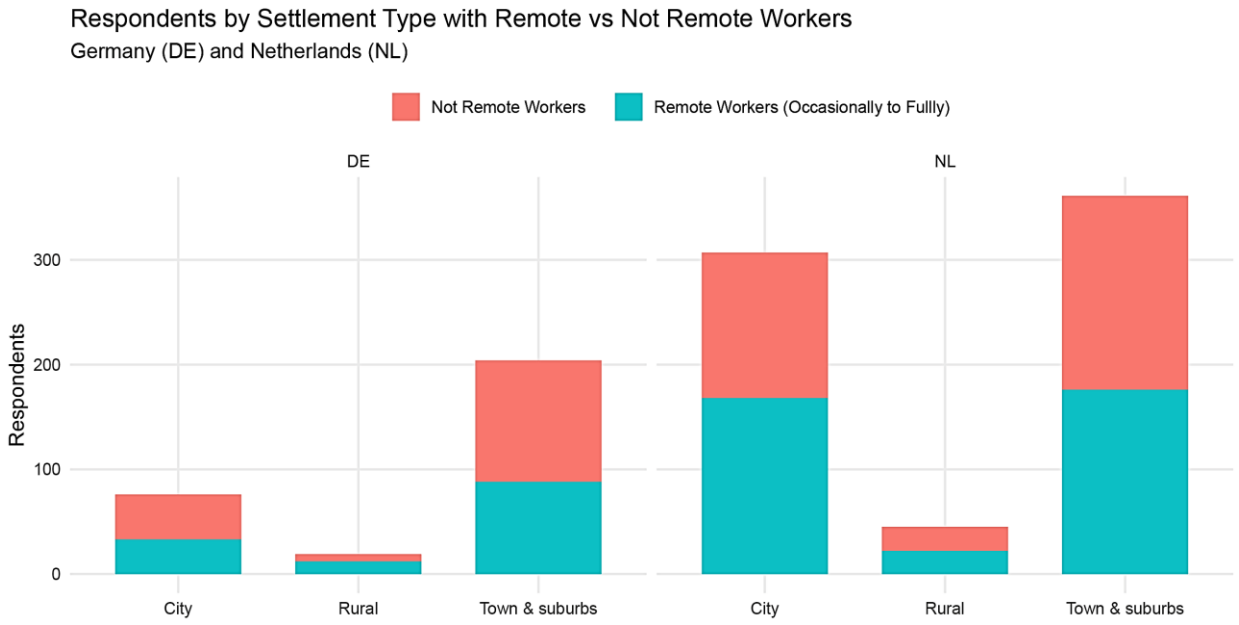
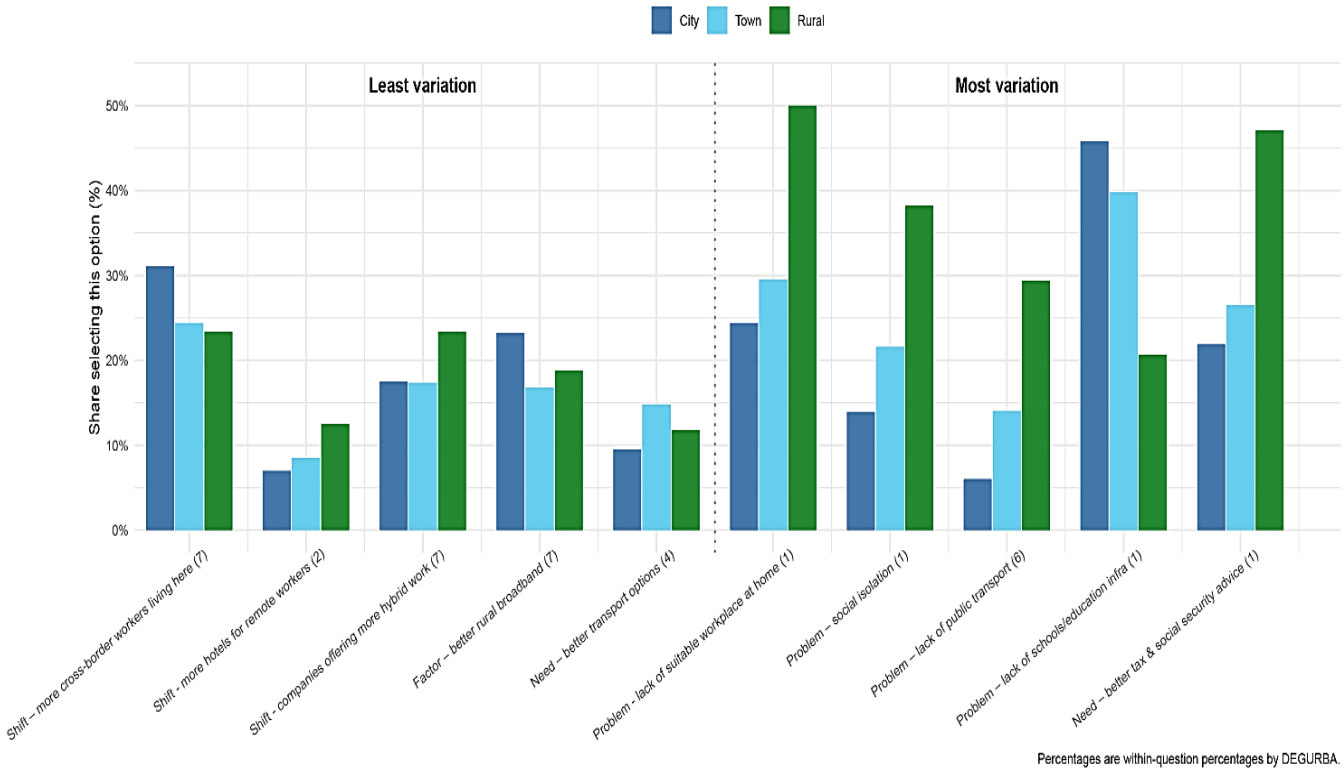


Diagram 5. Response variations in terms of changes observed, needs, problems and factors by DEGURBA classification. The left panel shows the questions with least variation and the right panel ones with the most variation. Options are mentioned in the bracket from 1 to 7 corresponding to 'not at all' to 'don't know' (source: R-Map Use Case Twente-Münsterland Citizen Survey, 2025)



3.2.3 Spatial phenomena observed due to remote work

The first and most robust phenomenon is a **change in travel behaviour** rather than a wholesale reduction of it. In both the Dutch and German parts of the corridor, work trips have fallen on remote days, but these are largely substituted by trips for shopping, leisure and social purposes, so total distance travelled and overall time on the move remain surprisingly stable. This "trip substitution" pattern is a central finding of the PBL (Planbureau voor de Leefomgeving) analysis (Buitelaar et al., 2021), and it matches what Enschede officials told under interviews in T1.2: less CBD commuting is offset by more local, off-peak movements, including to green spaces and recreation hubs. Practically, this means one city in a cluster (e.g., within the Twente triangle) can act as the recreational magnet on certain days, drawing visitors for culture, sport or retail while the strict AM/PM work peaks soften.

A second, closely related phenomenon is **peak spreading and weekday patterning on public transport and roads**. With hybrid attendance norms, mobility is flatter on Mondays and Fridays and conspicuously higher mid-week; multiple interviewees converged on Tuesdays and Thursdays as visibly busy days, with occupancy targets and team rhythms aligning around those anchors. This re-timing strains systems designed for sharp, twice-daily peaks, even when total demand isn't higher. PBL's synthesis anticipates exactly this: small reductions in peak commuting can yield disproportionate congestion relief, but operators must adjust service patterns for a world where demand is more "all-day, mid-week-heavy" and less radial-peak. For planners on both sides, the spatial implication is to prioritise reliable, evenly spaced service and cross-town connectors over exclusively peak-express capacity.

Third, the **office geography is shifting via reconfiguration and selective downsizing** more than through mass vacancy or land-use conversion. On the Dutch side, PBL's scenarios long before Covid already suggested office demand could track high-employment growth but with a lower "office quotient" (fewer square metres per office job) if hybrid sticks; the post-2020 market indeed shows historic dips in take-up and a pivot toward collaboration space rather than rows of fixed desks. Interviews add two local textures: some Twente firms are subletting part of their footprint to cut costs under hybrid, and in Münsterland we heard of a notable decline in new office development applications, partly macroeconomy (prices, rates), partly long-term adaptation to hybrid. In spatial terms, this reorients activity to campus districts and renovated inner-city buildings while keeping CBDs in play, rather than triggering large-scale office-to-residential conversions.

Fourth, **residential dynamics show continuity with pre-pandemic trends rather than a remote-work-led reshuffle**. Housing prices in the east of the Netherlands have risen for years, but the PBL econometric work is clear: the price convergence between strongly urban and less urban areas was already underway before Covid and did not accelerate because of home working. Likewise, net migration does not show a mass move from cities to the countryside; if anything, the "positive rural balance" owes more to reduced out-migration from rural municipalities than to a flood of urban arrivals. Your interview evidence complements this: relocations remain tethered to job location and rail access; people working in the Randstad may look east but usually not beyond Deventer if in-office days remain. Infill and vertical additions in town centres (nudged by national affordability policy and farmland protection) continue to dominate over greenfield sprawl in Twente.

A fifth phenomenon is a **subtle enlargement of functional labour sheds,** what we might call "distance elasticity". Because workers travel fewer days to the office, some accept longer commutes for a better home or job match, extending the plausible catchment of the Twente and Münster cores along rail and motorway axes. PBL flags this mechanism explicitly: teleworkers are more willing to live farther if they commute less often, which alters the geometry of opportunity without flipping urban-rural balances. In the cross-border setting, that elasticity plays out as a thicker seam of cross-border job matches that can operate in hybrid mode, even as the majority still prefers residential proximity to services and frequent rail.

A sixth phenomenon is the **re-localisation of everyday activity on home-working days**, which supports small centres and "third places" but has not so far led to a thriving co-working ecosystem. Our interviews in Twente and Münsterland suggest most remote workers still choose the home over co-working options; study halls, cafés and facilities like WTC Hengelo remain under-used for everyday remote work, limiting their ability to drive a persistent footfall lift. Nevertheless, the substitution of local short trips for some CBD-oriented ones adds incremental demand to neighbourhood retail and services in towns such as Hardenberg, Raalte, Bocholt or Coesfeld. For municipalities, this validates investments in 15-minute amenities, cycling networks and high-street maintenance in smaller centres to capture the diffuse spending that hybrid releases.

Seventh, **the combined mobility-energy-environment ledger looks nuanced rather than uniformly green**. PBL's systems view finds that while fewer peak commute kilometres cut congestion sharply and improve reliability, added discretionary trips and the willingness to live slightly farther from work can dampen net reductions in vehicle-kilometres. Safety effects also concentrate on the network mix: reductions skew toward the (safer) trunk network, with less change on local roads where most casualties occur. The planning takeaway, highly relevant to both Overijssel/Gelderland and NRW/Lower Saxony, is to stress-test highway and rail expansions against hybrid scenarios and prioritise operational measures (e.g., off-peak frequency, incident resilience) over capacity designed for yesterday's peaks.

Eighth, we see **policy-driven containment of sprawl aligned with hybrid work's "soft" spatial effects**. National Dutch housing directives push smaller, affordable and especially social units within existing envelopes; this, combined with STOMP-style mobility hierarchies and agricultural land protection, keeps growth compact even

as some households chase an extra room for working from home. In Münsterland, cautious office development and Mittelstand production footprints temper big spatial swings; employers adopt hybrid in white-collar functions while factory-bound roles fix activity in established industrial estates. The net picture across the border is not a leap to exurban living or dispersed employment land.

3.2.4 Socio-economic phenomena observed due to remote work

We list here the main socio-economic phenomena linked to remote/hybrid work across the Zwolle-Twente-Achterhoek / Münster-Münsterland-Lower Rhine-Grafschaft Bentheim corridor.

First, **travel substitution is reshaping when and where money is spent rather than shrinking total mobility.** Remote days reduce commute trips, but people compensate with shopping, leisure and social trips closer to home. Interviewees in Enschede stressed that this produces "recreational magnets" within the city cluster on specific days, with overall distance and time travelled staying roughly level. The spending pattern shifts away from CBD lunch peaks toward more diffuse, off-peak neighbourhood demand, favourable for local cafés, services and parks, but less active Mondays and Fridays for city-centre retail.

Second, **mid-week pulses reorganise workplace attendance and urban rhythms**. Across both sides of the border, Tuesdays and Thursdays have become visibly busy "anchor" days, while Mondays and Fridays are lighter. Organisations time meetings during those days, pulling more mid-week spending into central areas and campus districts. Event organisers, caterers, childcare providers and after-work venues increasingly plan for these pulses rather than the old five-day steady state.

Third, **cross-border employment remains limited and is mostly not driven by remote work**. Despite proximity, practical, fiscal and legal frictions still discourage many Dutch-German contracts. Interviews highlighted isolated cases of Dutch workers living just across the border in Germany for cheaper housing, but these are exceptions rather than a remote-work trend, and data on their commuting frequency are scarce. Even with recent social-security and tax tweaks that make hybrid cross-border work easier on paper, employers and workers still perceive administrative overheads that dampen uptake.

Fourth, **labour-market reach widens, and flexibility aids recruitment and retention, within limits**. Hybrid work lets firms (such as AGRAVIS and regional agencies) hire beyond traditional commuting sheds, broadening candidate pools and helping retain staff who need flexibility, including caregivers and long-distance commuters. Managers report that shifting from place-based to function-based coordination raises satisfaction and stabilises teams. The binding constraint is attendance expectations. If one to three office days remain standard, travel time still limits relocations, so most workers keep living near employment cores and rail.

Fifth, **work-life balance improves, but social cohesion needs active maintenance**. Employees consistently value flexibility for caregiving and personal well-being, and satisfaction rises when hybrid is predictable and trust based. At the same time, younger or single staff are more likely to return to the office for social contact. Several organisations have responded with sensitivity training, clearer norms (for example, team anchor days) and deliberate in-person rituals to reduce isolation and preserve culture.

Sixth, **office markets pivot from expansion to optimisation, with service contracts adjusting accordingly**. Interviews on the Dutch side (Twente) point to subletting and space trimming as cost measures under lower daily occupancy. In Münsterland, fewer new office applications reflect macro headwinds (rates and construction costs) and a structural hybrid turn: less need for large, centralised floors and more demand for flexible fit-

outs (collaboration rooms, hot-desking and focused workspaces). This ripples through cleaning, catering, security and facility-management contracts and nudges weekday footfall toward campuses and mixed-use inner-city buildings rather than purely CBD towers.

Seventh, **housing and relocation patterns show continuity, not upheaval**. Prices have risen steadily in the east of the Netherlands for years, but interviews and local evidence agree that remote work has not triggered a mass urban-to-rural shift. Moves are still governed by job location, rail connectivity and amenities. Randstad workers who keep office days rarely move beyond Deventer. Policy and planning drive the physical response: infill and vertical additions in town centres, protection of farmland and compact-growth principles (such as STOMP) over exurban sprawl. Demand does tilt toward dwellings with an extra room or balcony/garden for hybrid work, but there is no wholesale "new remote-work typology."

Eighth, **household and employer cost-sharing differ across the border, and co-working underwhelms**. On remote days, some costs, such as energy, shift to households. Dutch employers commonly offset this with a standard home-working allowance, while in Germany the tax-deduction model smooths costs over time, producing subtle differences in take-home pay and day choice. Despite early hopes, co-working and "third places" (study halls, cafés) remain underused by everyday remote workers in Twente and Münsterland, and home is still the dominant venue. That limits co-working's ability to drive urban revitalisation, even as neighbourhood high streets benefit from the broader re-timing of daytime activity.

3.2.5 Factors influencing how phenomena were shaped

First, the **legal and fiscal baseline for remote-work arrangements** diverges across the border in ways that strongly shape practice. On the Dutch side, the right-to-request flexible work (including location) plus a widely used, tax-free home-working allowance make hybrid easy to formalise in HR policies and to sustain day-to-day. In Germany there is no general statutory right to home office; arrangements are typically negotiated through employer policies and works-council agreements, with a personal tax deduction (the Homeoffice-Pauschale) rather than a universal employer allowance. This asymmetry explains why hybrid norms diffused faster and more uniformly in Twente/Zwolle than in Münsterland, where adoption is solid but patchier and more firm-specific.

Second, **cross-border administrative friction remains a persistent brake on transformation**. Interviews consistently flagged limited cross-border employment despite proximity. Even with recent social-security and tax clarifications for remote work, practical hurdles, such as A1 certificates, "tax days," social-security coordination, and payroll administration, still feel heavy to both workers and HR, deterring location-agnostic hiring as a mainstream strategy. A few Dutch workers do live just across the border in Germany for cheaper housing, but these are exceptions and not driven by remote work; commuting frequency data are scarce, and employers still prefer contracts contained within a single jurisdiction.

Third, **sector mix and job content set a hard ceiling on the remote share**. Service-oriented sectors, academia and public administration, which are strong in Enschede, Zwolle and the city of Münster, adopt remote work readily, while manufacturing, logistics and care, which are prominent across Twente/Achterhoek and Münsterland's Mittelstand, remain site-dependent. The resulting pattern is visible on the ground: office reconfiguration and selective downsizing in administrative/service hubs, steady on-site rhythms in production zones, and limited spillover from white-collar hybrid to the broader regional land-use fabric.

Fourth, **quality of life interacts with job agglomeration to explain why "attractiveness" has not become in-migration**. Twente's quality of life, with green space, a balanced urban-rural setting, relatively affordable housing in smaller municipalities, makes it a pleasant place to live, but it has not produced a measurable influx of new residents motivated by remote work. The decisive variable is still the portfolio of diverse, high-quality jobs. Urban centres like Enschede and Almelo face social headwinds (poverty, unemployment, lower educational attainment) that depress some QoL indicators. Regional planners are working to strengthen agglomeration forces with denser innovation networks, thicker services, more HQ functions, but as long as opportunity concentrates in the western metros, remote work alone will not trigger a large eastward demographic shift.

Fifth, **housing markets and the planning regime constrain mobility while keeping growth compact**. High prices and shortages limit moves even when remote work would allow longer commutes. In Twente, policy steers growth to infill and vertical additions, and farmland protection restricts sprawl. Hybrid therefore does not spill into new exurban subdivisions. In Münsterland, rising land prices track general shortage and public-transport access more than work-from-home itself. The net effect is that households may seek an extra room or small garden for hybrid work, but the spatial footprint remains compact, and relocation decisions stay anchored to job access and rail.

Sixth, **digital and workplace infrastructure enable scale but depend on organisational follow-through**. Both sides benefit from strong broadband coverage, even in rural belts, removing a major technical barrier. Yet interviews surfaced organisational gaps that shape quality and inclusiveness. These include uneven provision of ergonomic furniture, dual screens and secure remote-access tools, variable digital readiness and IT support, and inconsistent home-office safety practices. Where employers standardised these inputs and offered small stipends, hybrid routines proved more durable and equitable.

Seventh, **organisational culture and people management determine whether benefits are captured without eroding cohesion**. Teams with clear norms (for example, mid-week anchor days), outcome-based management and psychologically safe expectations report higher satisfaction and retention, especially among staff with caregiving duties. Where culture is weak or managers equate presence with productivity, younger or single staff tend to return for social contact while others stay home, producing fragmented rhythms and weaker cohesion. Several organisations have responded with sensitivity training and deliberate on-site rituals to rebuild social fabric and reduce isolation.

Eighth, **the mobility system's design explains why behaviour changed in time more than in space**. Strong cycling networks (notably Twente's high-quality corridors) and solid regional rail make longer-but-fewer commutes tolerable, while land-use and public-transport policy continue to prioritise compact, transit-oriented growth. This mix produces the interview-backed weekday pulses (busy Tuesdays/Thursdays, softer Mondays/Fridays), peak spreading and trip substitution (fewer work trips, more local leisure/shopping), re-timing where and when money is spent without triggering mass relocation or new land take. Because public transport and office provisioning were built around five-day peaks, operators and facilities managers are now optimising for all-day, mid-week-heavy demand rather than expanding physical capacity.

3.2.6 Summary of the main findings

The key spatial phenomena observed due to remote work in the use case area are:

- ***Office Downsizing and Hybrid Spaces.*** *Companies like AGRAVIS and several agencies in Münsterland are reducing office footprints by up to 20%, shifting to flexible, hybrid-use layouts. This supports cost efficiency and reflects decreased daily occupancy due to RWA.*

- ***Reduced Construction of Office Space.*** *In Münsterland, economic factors like inflation and interest rates compound this trend. RW is cited as a contributing, though not the sole factor.*
- ***Stable Urban-Rural Residential Dynamics.*** *Despite theoretical potential, neither region has seen major shifts in population from urban to rural areas due to RWA. Travel time constraints and persistent workplace attendance requirements deter long-distance relocation.*
- ***Changing Commuting Patterns****. Workplace attendance is now concentrated mid-week (e.g., Tuesdays, Thursdays), with lower travel volumes on Mondays and Fridays. This is confirmed by the survey conducted in the cross-border regions. Bicycle infrastructure, especially in Twente, has further transformed mobility, making non-car commuting more viable. People make longer trips for shopping and recreation, compensating for the less time spent commuting for work, thereby keeping the total travel time similar.*
- ***Limited Use of Co-working and Third Spaces****. Home remains the dominant remote working location. Even in urban centers with co-working hubs or cafes, these spaces are underutilized. This limits their role in revitalizing urban economies.*
- ***Infill Development over Urban Sprawl****. In Twente, urban densification is prioritized over sprawl. Despite RW offering flexibility, farmland protection and spatial planning principles (e.g., STOMP) limit residential expansion into rural areas.*
- ***Increased housing prices in the east of the Netherlands.*** *There has been a long-term trend of housing prices increasing in the east of the Netherlands. However, this cannot be entirely attributed to increase in remote work.*
- ***Relocation pattern informed by job location.*** *While remote work has slightly decoupled the home and work location, relocations are still governed by job location with a slight increase in travel time affording a slightly farther distance from work location.*

The key socio-economic phenomena observed due to remote work in the use case area are:

- ***Reduced Commuting and Cost Savings.*** *In Muensterland, remote work has significantly reduced weekly commuting, lowering fuel costs and time demands. This increased job accessibility for people living further from urban centers, supporting both employment retention and recruitment in competitive labour markets.*
- ***Improved Work-Life Balance and Family Integration.*** *Remote work enhances flexibility for employees with caregiving duties. Employers in both regions observed higher job satisfaction, particularly among staff with young children or eldercare responsibilities. However, managing work-life boundaries remains a challenge for some employees. This is validated by the survey conducted in the cross-border region.*
- ***Rise in Loneliness and Social Isolation.*** *Single and younger employees sometimes experience social isolation due to prolonged home-based RW. This has prompted employers in both Münsterland and Twente to increase sensitivity training for managers and promote in-office days to rebuild team cohesion. This is also validated by the survey conducted in the cross-border region.*
- ***Labor Market Flexibility.*** *RW supports more dynamic labour markets. In Muensterland, the decoupling of job location and residence allows staff to live in less expensive areas, while companies like AGRAVIS attract candidates beyond commuting range.*
- ***Cross-Border Employment Constraints.*** *Although Twente is near the German border, RW has not notably boosted cross-border employment due to complex tax and insurance implications. Administrative barriers outweigh spatial advantages, despite strong digital infrastructure and more affordable housing on the German side of the border.*

- ***Mixed Impact on Housing Demand**. Although expectations of RW-driven migration existed post-pandemic, interviewees observed that housing trends are more strongly influenced by demographics (e.g., aging population, household size), agglomeration forces and affordability, rather than RW per se.*
- ***Changes in Office Use**. Firms sublet or reduce office space in response to decreased physical occupancy. While this optimizes cost, it also alters demand in commercial property markets. Hybrid policies like desk sharing are common now. This is also validated by the survey conducted in the cross-border region.*

The key local factors that influenced how phenomena were shaped in the use case area are:

- ***Lack of National RW Policy.** Germany and the Netherlands both lack top-down remote work mandates. Decisions are decentralized, shaped by internal organizational culture, type of work and practicalities like IT infrastructure, leading to varied implementation across sectors and regions. The Netherlands does combine a formal right to request flexible location with a tax-free home-working allowance. Respondents in the survey conducted in the cross-border region also highlighted the need for greater support from both employers as well as the government.*
- ***Quality of Life and Access to Amenities**. Both factors are important in attracting high-skilled workers to a region, including remote workers.*
- ***Housing Prices and Shortages**. Increased housing demand, particularly for affordable units, shapes residential choices more than RWA. In both regions, densification and smaller housing typologies are prioritized, partly due to land prices and demographic shifts.*
- ***Strong Transport Connectivity**. Transport access (especially rail) strongly influences planning decisions. Towns like Enschede, Almelo, and Hengelo in Twente are favoured for development due to connectivity. In Münsterland, reduced commuting supports decentralization for some professionals. However, few respondents in the survey conducted in the cross-border region in the rural areas highlighted that public transport could be made more accessible.*
- ***Demographics and Work Culture.** Part-time work, particularly among women, and generational preferences (e.g., 4-day weeks) shape RW uptake. Younger workers in Twente increasingly prioritize flexibility, which intersects with long-standing Dutch norms around work-life balance.*
- ***Job Sector Characteristics**. Service-based sectors, government offices, and academia have higher remote work potential. Conversely, manufacturing or field-based roles are less adaptable, creating spatial and sectoral divides in remote work accessibility.*
- ***Robust Digital Infrastructure**. Both regions report excellent broadband coverage, even in rural areas. This enables RW and supports future flexibility. However, gaps in digital tools (e.g., digital signatures for contracts) still hinder full adoption.*
- ***Desk Sharing and Equipment Gaps**. Policies like desk-sharing and lack of quality equipment (e.g., screens, chairs) affect where and how staff choose to work. These micro-level factors shape remote work experiences and satisfaction. **Agglomeration Externalities.** Agglomeration externalities (concentration of similar or diverse firms) still act as the most important lever to attract high-skilled workers to a region and feature as one of the highest priorities for the Twente region, despite the remote working paradigm.*
- ***Caring Responsibilities**. Caring responsibilities also affect the adoption of remote work. This was also pointed out by several respondents in the survey conducted in the cross-border region.*

3.2.7 References

1. https://www.welcome-to-nl.nl/about-nl/twente

2. https://techland.org
2. https://disce.eu/wp-content/uploads/2022/05/Regional-Case-Study-Report_Enschede.pdf
3. https://www.cbs.nl/nl-nl/dossier/nederland-regionaal/geografische-data/wijk-en-buurtkaart-2022
4. https://www.witteveenbos.com/projects/green-mobility-stomp#:~:text=In%20prioritising%20sustainable%20mobility%20in,mobility)%2C%20and%20private%20cars.
5. https://www.uu.nl/sites/default/files/BWI%202023.pdf
6. https://interkommunales.nrw/projekt/grenzhoppers-initiative/
7. https://www.euregio.eu

Buitelaar, E., Bastiaanssen, J., Hilbers, H., t Hoen, M., Husby, T., Christian, L., van der Staak, M., Snellen, D., & Weterings, A. (2021). *Thuiswerken en de gevolgen voor wonen, werken en mobiliteit: Op zoek naar trends, trendbreuken en kansen als gevolg van corona*.

3.3 Milan (Italy)

3.3.1 Developmental profile

Figure 6. Aerial view of Milan

The 133 municipalities that make up the Metropolitan City of Milan span 1,575 square kilometres. More than three million people live there, making it the third most populous region in Europe after Paris and London. It is an infrastructure-rich region that is set up as a single, progressively larger, and more interconnected metropolitan area (Città Metropolitana di Milan, 2025). The Olona, Lambro, and Seveso rivers, the Milanese Navigli network (Naviglio Grande, Naviglio Martesana, and Naviglio Pavese), and numerous streams (Lura, Bozzente, Molgora, and Arno) all cross it. It is situated in central-western Lombardy, in a richly irrigated section of the upper Po Valley, between the Ticino river to the west and the Adda river to the east (Città Metropolitana di Milan, 2025).

As of January 1, 2021, the resident population of the Metropolitan City of Milan stood at 3,214,630. Of this total, 42.1% resided within the Municipality of Milan. Compared to 2019, the metropolitan area registered a decrease of 1.2% of residents primarily due to the decline in the municipal population. Indeed, over the past two years, demographic trends have experienced yet another significant contraction, driven primarily (though not exclusively) by a continued and steady decline in birth rates, alongside a pronounced excess of deaths over births. Milan remains the major urban hub where migratory flows are most concentrated, serving as a key destination for individuals from other regions of Italy, and especially from abroad (Città Metropolitana di Milan, 2025). The demographic weight of the Metropolitan City of Milan within the Lombardy region remained steady in 2022, representing 32.4% of the regional population. On a national scale, it accounted for 5.5% of Italy's total population. The female population in the metropolitan area made up 51.3% in 2022. This proportion is slightly below that of the city of Milan itself, where women represented 51.6% of residents, a modest decline compared to 2019 and 2018. This trend reflects the increasing share of older age groups, particularly the "fourth age," in which women are markedly predominant (Città Metropolitana di Milan, 2025).

Milan is the country's main financial center and home to the Italian Stock, and it is recognized as one of the most important economic hubs in both Italy and Europe. With a gross domestic product of 367 billion dollars, the Milan metropolitan area ranked in 2012 first in Italy and eleventh globally. It is also the leading destination for foreign investment in the country and ranks sixth in Europe, following London, Paris, Dublin, Madrid, and Munich (Dobbs et al., 2011). Approximately 2,000 foreign multinational companies are based in Milan, representing 45% of all such firms operating in Italy. The urban region accounts for 10.3% of the national GDP, hosts over 45% of all businesses in Lombardy, and more than 8% of those across the entire country. Milan features a solid and highly diversified economy (industry, trade, services, and finance). The territory is home to the main Italian research centers, 19 Institutes for Treatment and Research, and 13 universities. Lombardy is the top manufacturing region in Italy and second in Europe, following Southern Ireland. Milan is recognized as a global financial hub, hosting the Italian stock exchange and numerous national and international banks. Milan is a leading manufacturing center and is recognized as one of the four fashion capitals in the world, hosting fashion weeks.

The metropolitan city of Milan continues to perform excellently compared to the pre-Covid period: its GDP grew by 9.9% between 2019 and 2024, a growth rate nearly twice that of Italy (+5.2%) and significantly higher than that of Lombardy (+5.9%) (Assolobarda, 2025).

The following chapters are based on research made within the R-Map project and by interviewing a total of 8 experts in the Municipality of Milan: Professor Marco Percoco, expert in urban policy and economics; 3 representatives from the Municipality of Milan (HR Director, urban planning director and vice-director general); 2 representatives from a leading firm in residential real estate in Italy; and 2 representatives from a leading group in the Italian commercial and office architecture and engineering sector.

The map below shows the geographical distribution of citizen survey responses in Milan:

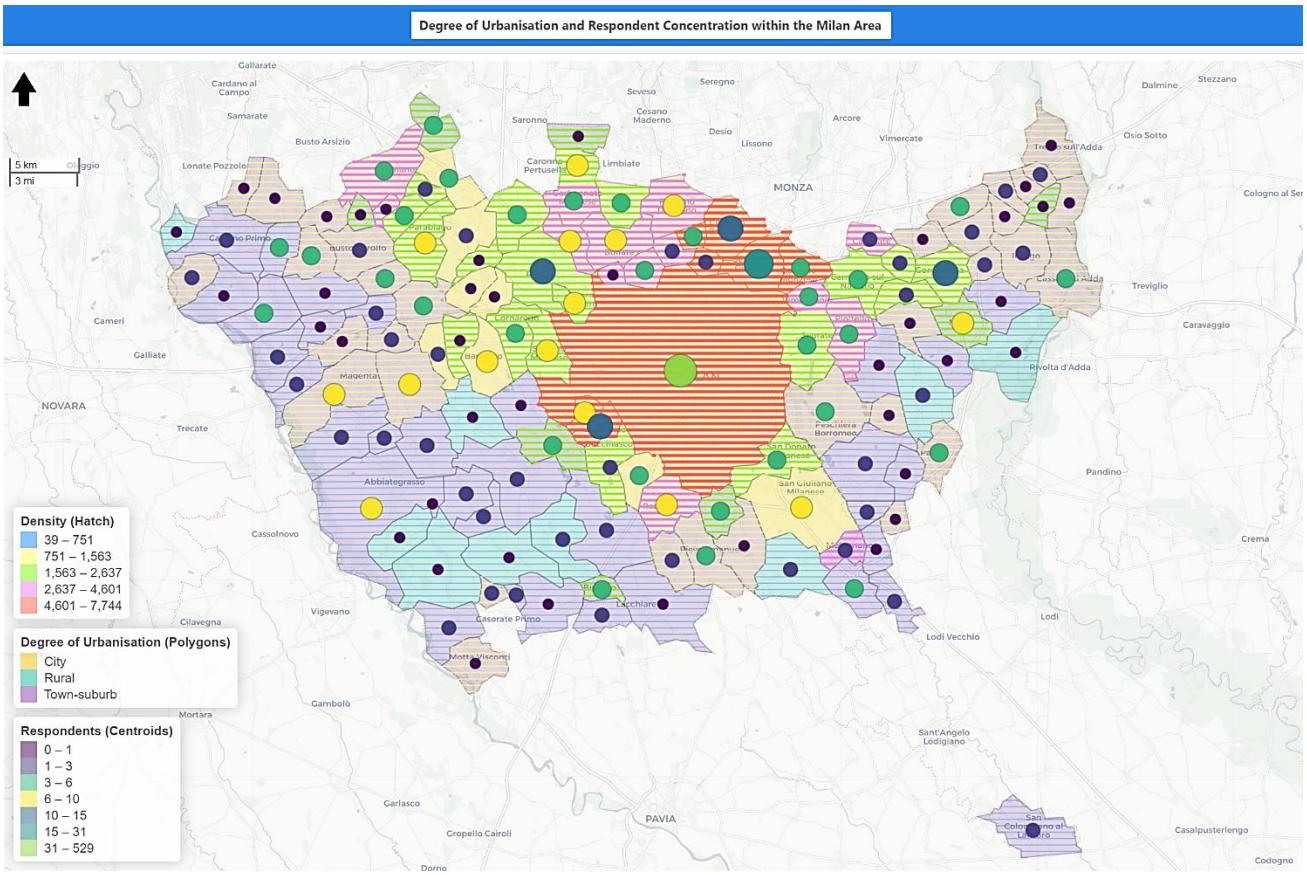


Figure 7. Geographical distribution of citizen survey responses in the use case area of Milan, by Local Administrative Unit selected for inclusion in the use case area analysis (source: G. Gkologkinas, LabGeo AUTh)

Use case area characteristics based on T2.3 typology[8]

The remote work adoption of the NUTS2 region of Milan (ITC4) places it among the regions with the highest adoption levels, indicating a strong integration of remote working practices. When it comes to its NUTS2 typology, ITC4 (Città Metropolitana di Milan), belongs in the broader cluster 1 belonging in the group of high-capacity regions. This cluster represents Europe's hyper-connected economic and political regions. Geographically, it includes dominant capital city regions such as Île-de-France (FR10), Madrid

[8] For more information you may visit Deliverable 2.2 Typology of EU regions based on the effects of remote working on their urban-rural divide, available here https://r-map.eu/deliverables/

(ES30), and Brussels (BE10), along with areas in Denmark and Ireland, and the economic centres of Germany and Switzerland. Their defining characteristic is top-quartile (Q4) performance across a variety of indicators. This includes not only core economic metrics like GDP per capita but also key digital enablers such as internet access, remote work adoption, and computer use by employees. This economic and digital strength is matched by social development, as shown by top-quartile rankings in tertiary education attainment, quality of life, and positive population change. As a result, they offer an attractive environment for skilled populations. Even in indicators where they do not reach the top quartile, they show solid, "mid-high" (Q3) performance, maintaining high levels of economic and social quality. However, the strong overall performance of Cluster 1 regions also places pressure on housing costs due to high population concentration.

3.3.2 Brief description of Remote Work Arrangements and related policies

In 2019, only 4.8% of workers in Italy regularly or occasionally worked from home, one of the lowest rates in Europe (Assolombarda, 2021). However, the Covid-19 health emergency significantly accelerated the adoption of remote work. According to the Smart Working Observatory of the Politecnico di Milan, over 6.6 million people were working remotely by March 2020 in Italy. Although that number dropped to 5 million by September - representing 33.8% of employees - it is expected to stabilize around 5.3 million in the post-pandemic 'new normal'.

A survey conducted by Assolombarda (association of companies operating in the Metropolitan City of Milan and in the provinces of Lodi, Monza and Brianza, Pavia) among 1,000 Lombardy companies found that the average share of remote workers before the pandemic was 17%. By September 2020, this had surged to 50%. The percentage of companies engaging in smart working jumped from 28% pre-Covid to a peak of 93% during lockdown, later settling at 72% by September, with long-term projections indicating a stabilization around 59%, effectively doubling pre-pandemic levels (Diagram 6).

Diagram 6. Share of remote workers in Lombardy region (Assolombarda, 2021)

Assolombarda also saw that in 2021, among the companies registered under their jurisdiction, 28% reported using smart working practices even before the pandemic. This figure surged to 93% during the lockdown and settled at 72% by September, remaining virtually unchanged in November at 71%. Looking ahead, in a post-Covid 'new normal', 59% of companies indicated they intend to continue using remote work practices, effectively double the pre-pandemic level.

For more up to date data, we can look at Italy, where in 2024, the number of remote workers remains largely unchanged, totaling 3.55 million compared to 3.58 million in 2023. Remote work continues to expand within

large companies, involving nearly 1.91 million employees, a 1.6% increase over the previous year, bringing the total close to the levels seen during the pandemic. Notably, 96% of large organizations have now established stable remote working practices. However, adoption is declining among small and medium-sized enterprises, with the number of remote workers falling from 570,000 in 2023 to 520,000 in 2024. In micro-enterprises, the figures are relatively stable (625,000 in 2024 vs. 620,000 in 2023), as they are in the public sector, where remote workers number 500,000 this year, slightly down from 515,000 last year.

By talking to experts, we have noticed that in the post-pandemic period, remote work trends are diverging across sectors. In high-value service industries like retail and banking, there is a marked shift back to in-office work, driven by the belief that in-person interactions enhance productivity, collaboration, and innovation, benefits that digital tools struggle to fully replicate (Interview with expert in urbanization, Milan, June 2025). Conversely, public administrations like the Municipality of Milan maintain a regulated remote work system, shaped by national legislation and union agreements. Four types of arrangements exist, ranging from occasional to fully remote work, depending on specific needs. However, remote work is capped at 10 days per month, reflecting a policy preference for in-person presence. Both sectors aim to balance flexibility with the advantages of physical workplace engagement (Interview with local representative, Milan, September 2025).

In Italy, remote work operates on a voluntary basis through written agreements between employers and employees, as outlined in Articles 19 and 21 of Law No. 81/2017. These “smart working” agreements are submitted through the Ministry of Labour and Social Policies’ online platform and must define elements such as duration, place of work, performance monitoring, and data protection measures. During the Covid-19 emergency, remote work was prioritized for vulnerable employees, mothers returning from maternity leave, and parents of children with disabilities or under the age of 14, when compatible with their roles. Employers are required to supply appropriate technological equipment that meets security standards, such as encryption, authentication, and VPN use, and to provide training and awareness activities to prevent data breaches. When workers use their own devices, minimum security standards must be set, and related costs reimbursed. In the public sector, administrations must prepare detailed telework plans that specify eligibility criteria, respect collective agreements, and ensure compliance with privacy, data protection, health and safety, and training obligations. They are also encouraged to define annual targets and pilot agile work models that safeguard employees’ rights both remotely and on-site.

3.3.3 Spatial phenomena observed due to remote work

Milan’s spatial structure is distinctly polycentric, with emerging business districts such as Garibaldi-Repubblica and CityLife reinforcing its multi-nodal character. The spread of remote work, intensified by the Covid-19 pandemic, has reshaped the city’s real estate dynamics, stimulating the rise of co-working spaces and prompting discussions about converting offices into housing (an option complicated by high property prices and risks of gentrification). The “15-minute city” model, aimed at reducing commuting by ensuring access to essential services within walking distance, is gaining traction and could support more sustainable urban adaptation to remote work realities. Regional strategies promoting “near-working” are also being tested, though they depend heavily on improved local public transport.

Remote work has further influenced Milan’s property market through new trends in co-working and residential development. Tech startups are introducing digital solutions that provide flexible workstations across locations, including rural villages. The phenomenon of multilocality, people working from multiple residences, is expanding, though smaller areas still face challenges with digital infrastructure. This shift offers potential for revitalizing rural and medium-sized towns by attracting investment, even as real estate operators remain cautious about profitability and risk in remote settings. A Confesercenti report (2022) indicates that around 20%

of non-resident workers in Italy relocated thanks to remote work opportunities, while property transactions in small municipalities rose by 30.9% in late 2021 compared to 2019. If consolidated, this structural shift toward smart working could narrow the price gap between central and peripheral zones by up to 10%, improving accessibility and living conditions for many workers.

Insights from experts in real estate planning confirm that companies are downsizing their office footprints while improving quality (Interview with expert in real estate, Milan, September 2025). Microsoft reduced its Milan office space from 20,000 to 7,000 sqm, and Oracle relocated from a peripheral site to a central, high-value urban district. Such moves reflect a wider trend of centralizing offices into more compact but collaborative and experiential environments, with roughly half of the floor area now dedicated to shared functions. Outdoor spaces, terraces, and accessible greenery (once rare in corporate real estate) are increasingly incorporated, making offices not only functional but also competitive with home comfort. This “less space, more quality” strategy underscores how remote work is reshaping the design and purpose of office buildings.

Also the experts in real estate that we interviewed showed housing market data which further reveal a spatial rebalancing. Between 2019 and 2025, the historical gap in demand between Milan’s municipality and the rest of Lombardy narrowed significantly for property purchases, while rental demand shifted even more strongly toward provincial areas such as Lodi Interview with expert in real estate, Milan, September 2025). Rising housing prices in Milan and increasing rents have driven this decentralization, supported by improved connectivity that allows workers to commute only two or three times a week. The effect is an expanding metropolitan footprint, where Milan’s functional reach extends across the entire Lombard region and even into neighboring provinces. These findings are confirmed by the regional survey, which shows that 57% of respondents observe residents increasingly relocating outside city centers, while 53% confirm that housing prices in these areas are rising also due to remote workers moving in. Qualitative evidence from the survey also reinforces this, with “many people moving to cheaper small town areas” and “a growing need for larger homes to have space to work.” Similarly, 60% note that people with second or leisure homes spend more time working from there.

Diagram 7. Responses to the survey question regarding relocation outside the city center thanks to remote work (source: R-Map Use Case Milan Citizen Survey, 2025)

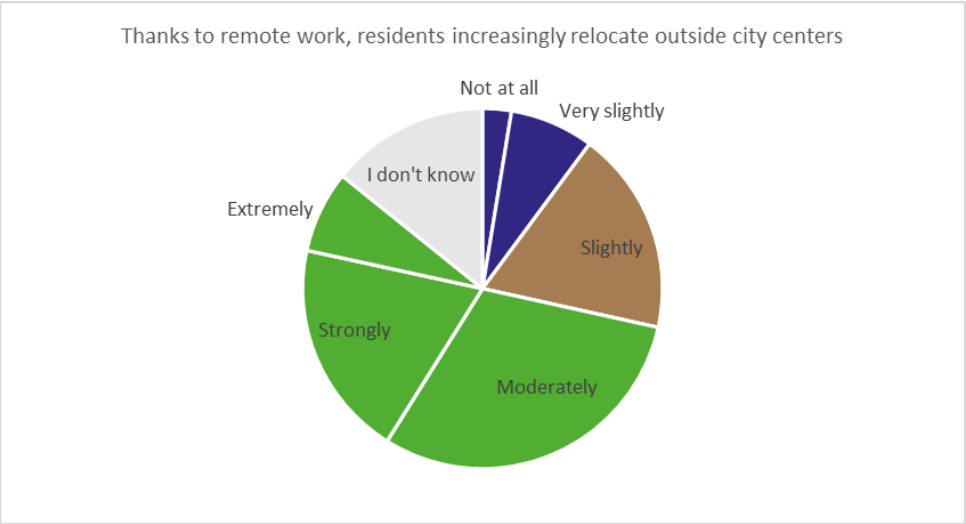
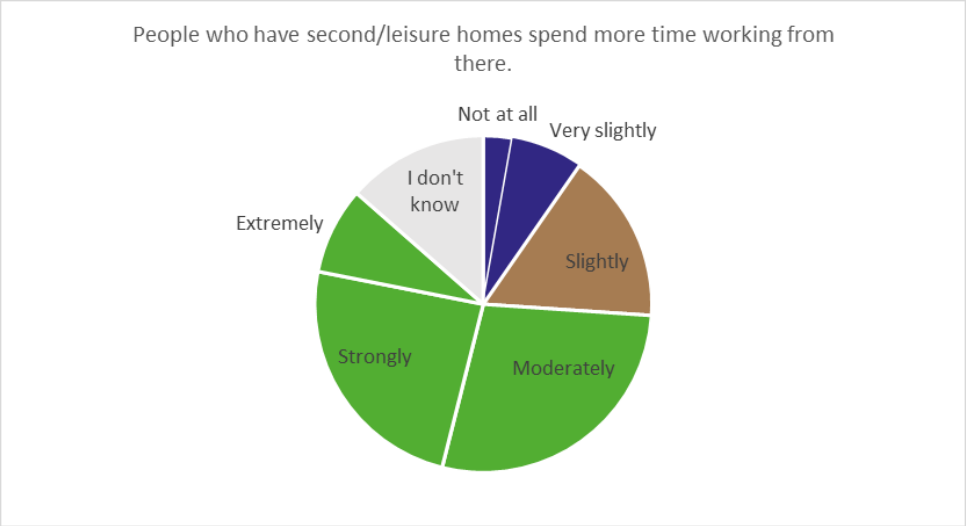


Diagram 8. Responses to the survey question regarding whether more people work from second/leisure homes thanks to remote work (source: R-Map Use Case Milan Citizen Survey, 2025)



Innovative housing solutions are also emerging. For instance, the City Pop project, which transforms residential complexes into microliving spaces: compact units with shared amenities (co-working, fitness, lounge areas) and smart digital services (Interview with expert in real estate, Milan, September 2025). These formats respond to the needs of young professionals and temporary workers, integrating living and working in flexible ways.

It is becoming clear that post-pandemic spatial dynamics in Milan reveal early signs of change, particularly in the office real estate sector, though large-scale transformation remains limited. As one of the interviewee highlights, Milan's commercial property market is under increasing pressure, with vacancy rates reaching nearly 30% in central areas. This trend reflects a broader shift, as companies downsize their office footprints in response to changing work patterns. The decline in demand and property values may indicate an emerging structural reorganization of urban space, potentially reshaping investment priorities and prompting the repurposing of unused buildings. At the same time, medium-sized cities in Milan's hinterland are gaining appeal, offering lower housing costs and a decent quality of life. While these areas present an alternative to the urban

core, their potential is constrained by insufficient transport infrastructure. Improved regional connectivity could enhance their competitiveness and contribute to a more balanced regional development.

From the perspective of the Municipality of Milan, remote work has not significantly altered urban-rural dynamics or triggered substantial relocation trends (Interview with local representative, Milan, September 2025). Population distribution remains stable, and large-scale residential shifts are not evident. Nevertheless, office space underutilization is a growing issue. While some movement toward flexible, modular office layouts and residential redevelopment is underway, these changes are gradual and not yet transformative. Overall, spatial impacts remain modest, with structural shifts still in their early stages.

By consequence, we can say that spatially, Milan has not experienced major reconfigurations. The city's core structure and residential distribution remain largely intact, with no evident decentralization attributable to remote work. However, one clear effect has been observed in public transport usage. With fewer commuters, especially on Mondays and Fridays, season ticket sales have dropped in favor of occasional travel (Interview with local representative, Milan, September 2025). This shift poses challenges for the financial stability of local transport services and their long-term planning. Indeed, the survey respondents report a reduction and reorganization of mobility - "less commuting, especially on Fridays," "on Mondays and Fridays, city center roads are less congested," and "fewer people on public transport and fewer cars" - though some still note that "car traffic is still very heavy."

3.3.4 Socio-economic phenomena observed due to remote work

The Smart Working Observatory, through surveys and case studies involving over 200 large Italian companies, 500 SMEs and over 400 public administrations has provided some interesting insights of the socio-economic phenomena observed in Italy. The research has shown that RW has increased the well-being and satisfaction levels of employees. Indeed, survey respondents express a strongly positive perception of remote work, praising its benefits for quality of life and balance between personal and professional spheres ("Working from home has improved my quality of life"). Moreover, less time spent commuting between home and the workplace allows for an improvement in terms of work-life balance, which could help to reduce the gender gap.

The possibility of working flexibly has also implications from an economic point of view. If the savings allowed by the avoided travel is evident, on other dimensions of expenditure the result may also depend on the choices and policies of the company - for meals, for connectivity, for technological devices and household utilities. Not going to the office every day is also making some people choose to live outside big cities, saving on housing costs and contributing to a 10% reduction in the average price differential between the city center and the suburbs and, in the medium to long term, it could lead to a repopulation of small towns and suburbs. Indeed, Millan survey respondents claim that "Prices have skyrocketed" and "no one can afford to rent or buy a house anymore," in the city. Moreover, nearly 44% of remote work respondents report paying excess home energy or utility costs. Additionally, 41% note a lack of nearby co-working or flexible offices, reinforcing inequalities between those with conducive home environments and those struggling to maintain healthy, sustainable work conditions.

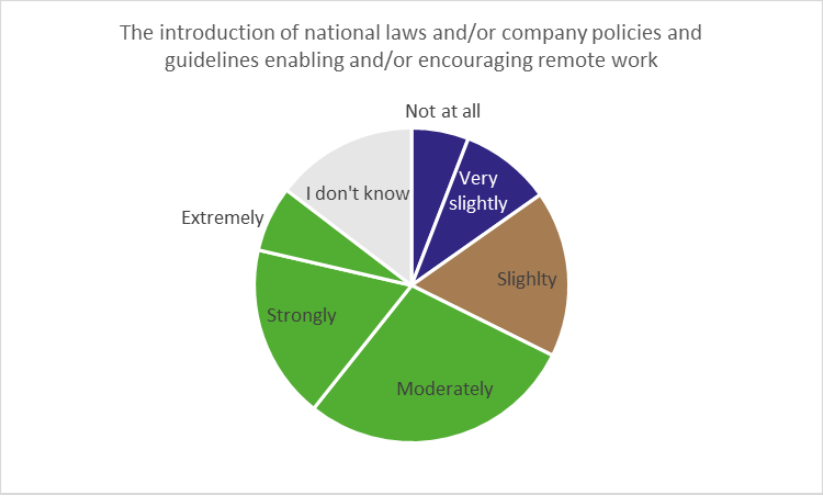
In terms of sustainability, reducing commute to work has led to an improvement in the quality of urban life, with less traffic, which translates into a reduction in CO_2 emissions. Data on this collected by the Smart Working Observatory estimates a potential saving in terms of CO_2 produced of 1.8 million tonnes per year, which corresponds to the carbon dioxide absorbed by 51 million trees.

By talking to experts, it has been highlighted that in Milan, the impact of remote work on its urban and socio-economic landscape appears limited and largely non-structural. According to the interviewees, there is a modest rise in preferences for housing with green spaces, terraces, and outdoor areas, especially among families (Interview with expert in urbanization, Milan, June 2025). However, these shifts reflect temporary lifestyle adjustments rather than a fundamental change in residential patterns. Similarly, occasional weekend relocations to more natural settings have increased but do not signal a deeper transformation of the city's urban structure. The interviewed representatives from the Municipality of Milan confirm that remote work has not significantly altered socio-economic dynamics in the public sector (Interview with local representative, Milan, September 2025). Residential and employment mobility continues to be primarily driven by the high cost of living in Milan, rather than by new work arrangements. While remote work offers flexibility for specific groups, such as parents or individuals with mobility challenges, it has not substantially impacted labor market trends or housing choices. However, 46% of survey respondents report that skilled workers are relocating due to new geographic freedom.

3.3.5 Factors influencing how phenomena were shaped

The transformation of work patterns in the Metropolitan City of Milan, particularly the shift toward remote and flexible work, has been shaped by a combination of structural, regulatory, economic, and socio-demographic factors. Among the most significant is the **national and regional policy framework**, which provided the legal basis for remote work through Law No. 81/2017. This legislation, reinforced during the Covid-19 pandemic, enabled the rapid scaling of smart working by mandating formal agreements and safeguarding worker rights, particularly for vulnerable groups and public sector employees. Indeed, 53% of survey respondents view the introduction of national laws and company guidelines as having moderately to strongly influenced adoption. However, the same respondents call for "clear regulations and education about remote work" and "more incentives for companies to allow it." Furthermore, a strong demand emerges among the remote workers who participated in the survey for clearer rules and formal policies defining eligibility and conditions for remote work, with 44% of respondents rating this need as moderate to strong. Participants stress that "it should be real *smart working*, not telework," reflecting a desire for genuine autonomy and flexibility in scheduling and work modes.

Diagram 9. Responses to the survey question regarding whether national laws and/or company policies and guidelines enabled or encouraged remote work (source: R-Map Use Case Milan Citizen Survey, 2025)



Housing prices and real estate dynamics have also played a central role. The **high cost of living and limited affordable housing in central Milan prompted many workers to relocate to suburban or rural areas** once daily commuting was no longer required. This shift led to a 30.9% increase in property sales in smaller municipalities by late 2021 compared to 2019 and contributed to a 10% reduction in the average price differential between urban centers and their peripheries. The resulting demographic redistribution is reshaping both residential and commercial land use. This has also been seen in the survey results where shift to RW is sustained by cost-saving incentives for both firms and workers (“companies save on rent, heating, and cleaning costs,” while “the cost of living in Milan is impossible so people move to smaller towns”).

Demographic trends, particularly **population ageing and international migration**, further influenced these dynamics. Although the overall population of the metropolitan area has declined slightly due to low birth rates and a surplus of deaths over births, Milan remains a magnet for international migrants and younger talent, sustaining demand for flexible housing and working arrangements.

The region’s economic structure has also been a major driver. Milan is **Italy’s financial and business capital**, hosting a large concentration of multinational firms, advanced service providers, research institutions, and fashion and manufacturing hubs. Large companies, which are more likely to have the resources and technological infrastructure to support remote work, have led the way in institutionalizing smart working practices. As of 2024, 96% of large enterprises had adopted stable remote work arrangements, compared to a declining trend among small and medium-sized enterprises (SMEs).

Urban form and land use patterns have further shaped the response to remote work. **Milan's polycentric structure**, with the emergence of business hubs such as Garibaldi-Repubblica and City Life, has facilitated the growth of co-working spaces and mixed-use developments. However, the repurposing of office spaces for residential use raises challenges related to gentrification and affordability, especially in central districts.

Transportation and commuting patterns have undergone profound changes. The **drastic reduction in daily commuting** has improved urban mobility and quality of life, supporting the broader adoption of the **“15-minute city” model**. Near-working strategies and calls for increased investment in local public transportation reflect a growing recognition of the need to localize economic activity and improve access to services.

Investments in **regional transport**, particularly high-speed rail links with Turin and Genoa, have enhanced Milan’s connectivity and made hybrid mobility both feasible and attractive. This improved accessibility allows workers to live in more affordable provincial areas while commuting only a few days per week, expanding the city’s functional reach to the wider Lombard region and beyond. At the same time, Milan’s urban services, its concentration of amenities, infrastructure, and branding opportunities continue to draw companies to central locations despite higher operating costs. This reinforces Milan’s dual role as both a symbolic hub and a practical center for business activity.

Cultural and generational shifts amplify these dynamics: younger cohorts, especially Generation Z, increasingly demand flexibility, sustainability, and workplaces that align with personal values. These expectations are driving firms to redesign office environments around well-being, collaboration, and aesthetics, and are encouraging new housing models that integrate work and living in flexible ways.

3.3.6 Summary of the main findings

The key spatial phenomena observed due to remote work in the use case area are:

- ***Emergence and expansion of co-working spaces****: Remote work adoption has reduced demand for traditional office use, fuelling the growth of co-working environments. This trend is particularly visible in*

new business hubs such as Garibaldi-Repubblica and City Life, which are becoming focal points of Milan's polycentric urban structure.

- ***Real estate reconfiguration**: Many organizations have downsized their office footprints. While interest exists in converting unused offices into residential housing, high real estate prices and risks of gentrification limit large-scale transformations in central areas.*
- ***Adoption of the 15-minute city concept**: Remote work has accelerated urban interest in models that emphasize proximity to essential services within walking or cycling distance. The 15-minute city framework is increasingly guiding Milan's planning strategies, aligning with reduced commuting and more selective office attendance.*
- ***Increased residential demand in peripheral and rural areas**: Remote work has contributed to a redistribution of demand beyond Milan's center. Property sales in smaller municipalities rose in 2025 compared to 2019. Rising housing costs in Milan and improved regional transport links have further expanded the metropolitan footprint, extending Milan's influence across Lombardy and even into neighboring provinces. This decentralization has already contributed to a narrowing of the price gap between city centers and suburban areas, and in the longer term could support a repopulation of smaller municipalities.*
- ***Innovative housing formats**: New models such as microliving (e.g., the City Pop project in Viale Monza) are emerging to meet the needs of students, young professionals, and temporary workers. These compact units combine private apartments with shared amenities (co-working, fitness, lounge areas) and digital services, reflecting the convergence of living and working spaces in Milan's evolving urban fabric.*

The key socio-economic phenomena observed due to remote work in the use case area are:

- *Remote work has contributed to a noticeable **increase in individual well-being**, primarily by eliminating daily commuting and allowing workers to better reconcile professional and personal commitments. This improved time sovereignty is frequently cited as a decisive gain for quality of life.*
- *The **relocation of costs from the employer to the household** has introduced new economic dynamics, where workers save on transport and meals but simultaneously face higher expenses for energy, connectivity, and home equipment. These effects are not evenly distributed and depend heavily on company policies and household conditions.*
- ***Environmental and urban externalities** are also socio-economic in nature, as reduced commuting lowers congestion and emissions, which in turn improves urban liveability and may influence local public spending priorities over time.*
- *However, in Milan the **transformation remains partial and non-structural**: mobility choices are still primarily driven by the high cost of living rather than by remote work itself. Lifestyle adjustments are visible (such as a preference for homes with outdoor space) but they have not yet translated into deeper changes in the city's socio-economic structure.*

The key local factors that influenced how phenomena were shaped in the use case area are:

- ***National legal framework for smart working**: Italy's Law No. 81/2017 formalized remote work practices, requiring written agreements that regulate performance monitoring, location, data protection, and technological support. Public administrations were also mandated to adopt structured telework plans.*
- ***Housing costs and real estate dynamics**: the high cost of living and limited affordability in central Milan prompted workers to seek housing in more affordable suburban and rural areas. The price gap reduction between city centers and peripheral areas incentivized relocation.*

- ***Economic structure dominated by large enterprises****: Milan's economy is characterized by a high concentration of large firms in finance, fashion, research, and manufacturing, sectors well-positioned to adopt and institutionalize remote work.*
- ***Polycentric Urban Structure and Emerging Business Districts****: Milan's development of multiple business hubs supported spatial dispersion of economic activity. Areas like City Life and Garibaldi-Repubblica illustrate how decentralization is physically manifesting in urban development.*
- ***Shift in commuting patterns****: the reduction in commuting during the pandemic accelerated the adoption of 15-minute city principles and near-working strategies.*
- ***Demographic trends and migration flows****: despite an overall population decline, Milan remains an attractive hub for international migrants and young professionals, which sustains demand for flexible work models and innovative urban living solutions.*

3.3.7 References

1. Assolombarda. "Lo Smart Working in Numeri," 2021.
2. ---. (2025, January 24). *Booklet Economia - Forecasts N° 1/January 2025: Lombardy in comparison with Italian and European benchmarks* (Assolombarda Research Department). https://www.assolombarda.it/centro-studi/booklet-economia-forecasts-ndeg-1-january-2025-english-version
3. Città Metropolitana di Milan. "Popolazione Residente." Popolazione residente, 2025. https://www.cittametropolitana.mi.it/statistica/osservatorio_metropolitano/statistiche_demografiche/popolazione_residente.html.
4. ---. "Territorio E Comuni." Città Metropolitana di Milan, 2023. https://www.cittametropolitana.mi.it/portale/territorio/.
5. Confraesercenti. "Cambia il lavoro, Cambiano le città", 2022. https://www.confesercenti.it/wp-content/uploads/2022/05/Smart-Working-Dossier-Confesercenti-Maggio-2022.pdf
6. Politecnico di Milan. "L'IMPATTO DELLO SMART WORKING SULLA SOSTENIBILITÀ." Osservatori Digital Innovation del Politecnico di Milan, October 30, 2022. https://www.osservatori.net/insight/smart-working/impatto-smart-working-sostenibilita/.
7. ---. "La Ricerca Dell'Osservatorio Smart Working." Osservatori Digital Innovation del Politecnico di Milan, 2024. https://www.osservatori.net/smart-working/.
8. ---. "Lo Smart Working Non Si Ferma: 3,55 Milioni Di Lavoratori Nel 2024." Osservatori Digital Innovation del Politecnico di Milan, October 29, 2024. https://www.osservatori.net/comunicato/smart-working/smart-working-italia-numeri-trend/.
9. Dobbs, R., Smit, S., Remes, J., Manyika, J., Roxburgh, C., & Restrepo, A. (2011, March 1). *Urban world: Mapping the economic power of cities*. McKinsey Global Institute. https://www.mckinsey.com/featured-insights/urbanization/urban-world-mapping-the-economic-power-of-cities
10. Provincia di Milan. "Il Sistema Economico." Archive.org, 2025. https://web.archive.org/web/20120108231105/http://www.provincia.Milan.it/economia/it/sapere/Milan_cifre/sistema_economico/index.html.
11. Redazione Sky TG24. "Pil, Milan Sotto La Media Lombarda E Nazionale." Tg24.sky.it. Sky TG24, January 24, 2025. https://tg24.sky.it/economia/2025/01/24/pil-Milan-province-lombardia-dati.
12. R-MAP, "Deliverable 1.1: Current status and emerging trends of remote working arrangements in Europe and beyond", European Commission, 2025
13. R-MAP, "Deliverable 1.2: Spatial implications of remote working arrangements across Europe and beyond", European Commission, 2024

3.4 Istanbul (Turkey)

3.4.1 Developmental profile

Istanbul metropolitan area, spanning 5,343 km², is a global city comprising 39 districts (25 on the European side, 14 on the Asian side), and serves as Turkey's primary economic, cultural, and historical centre. The city is characterized by multi-layered developmental dynamics.

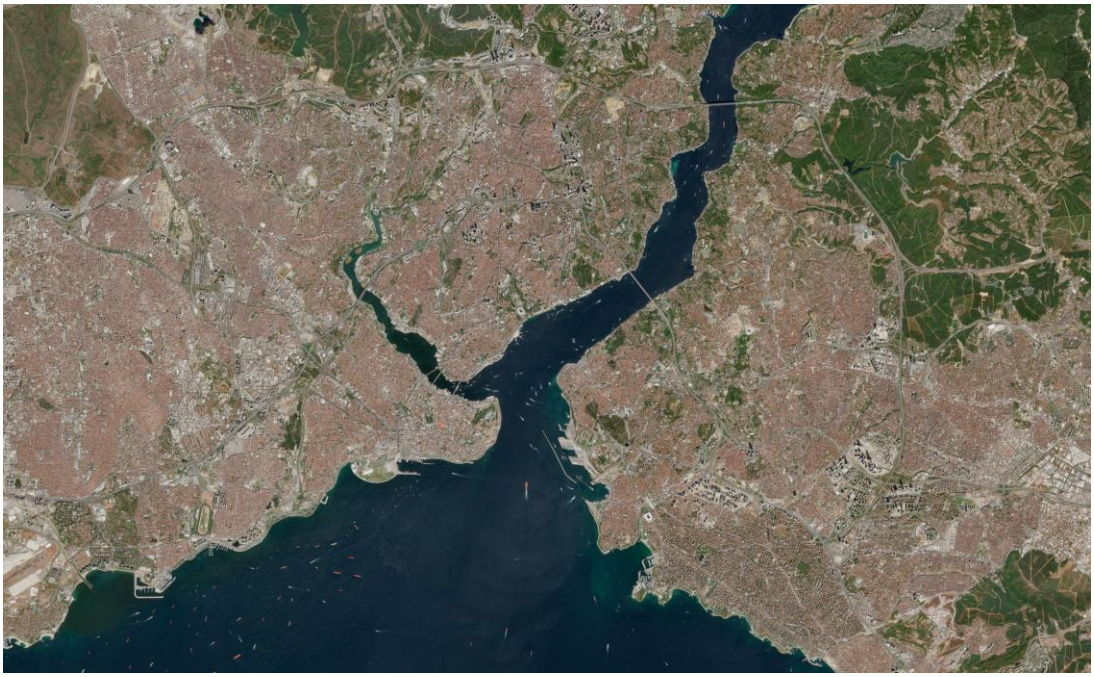


Figure 8. Urban agglomeration of Istanbul (source: Sentinel-2, Copernicus Programme, 2023)

Demographically, Istanbul is Turkey's most populous city. Nonetheless, following years of sustained growth, the population of Istanbul province (the metropolitan area) experienced a reduction of 252,027 persons (a 1.6% decrease) at the end of 2023, declining to 15,655,924 (Turkish Statistical Institute 2024). This notable demographic transition necessitates a reassessment of the city's attractiveness and cost-of-living balance. This still represents 18.3% of Turkey's total population, with a density of approximately 3,000 people per square kilometre - considerably above the national average. While the city remains a primary destination for national and international migration, outward migration trends are also being observed.

Economically, Istanbul generates approximately 30-31% of Turkey’s GDP and hosts a diversified structure spanning finance, advanced services, manufacturing, logistics, technology and tourism (OECD 2022, Cushman and Wakefield 2024). The city serves as the headquarters of major domestic and international companies and hosts the country's main financial markets, acting as Turkey’s principal financial and commercial gateway. However, labour market data indicate persistent structural mismatches: employers report skill shortages in key sectors, while unemployment among youth and highly educated women remains above national averages (IPA & BETAM 2022). Rising costs of living, combined with wage stagnation, have contributed to underemployment and limited social mobility.

Significant socio-spatial disparities characterise the metropolitan area. Districts such as Kadıköy and Beşiktaş exhibit high levels of accessibility, service provision and socio-economic well-being, while peripheral districts including Sultangazi and Arnavutköy face more limited access to infrastructure and employment opportunities (Şeker et al. 2022). Housing affordability has become a major challenge: rapid increases in rental and purchase

prices, combined with insufficient affordable housing supply, pushing lower- and middle-income households toward outer districts and reinforcing spatial segregation (Endeksa 2024).

Istanbul's location in a high seismic risk zone represents a significant developmental constraint. A considerable share of the existing building stock remains vulnerable to earthquakes, necessitating extensive and complex urban renewal interventions (Istanbul Metropolitan Municipality 2020). These renewal processes are shaped by financial constraints, ownership structures, and risks of displacement. Environmental pressure also remains considerable. PM2.5 and PM10 concentrations frequently exceed WHO guidelines (European Environment Agency, 2024; IQAir, 2024). In addition, the uneven distribution of green space exacerbates heat stress in densely built districts (Hüseyinli et al., 2016).

The map below shows the geographical distribution of citizen survey responses in the case of Istanbul:

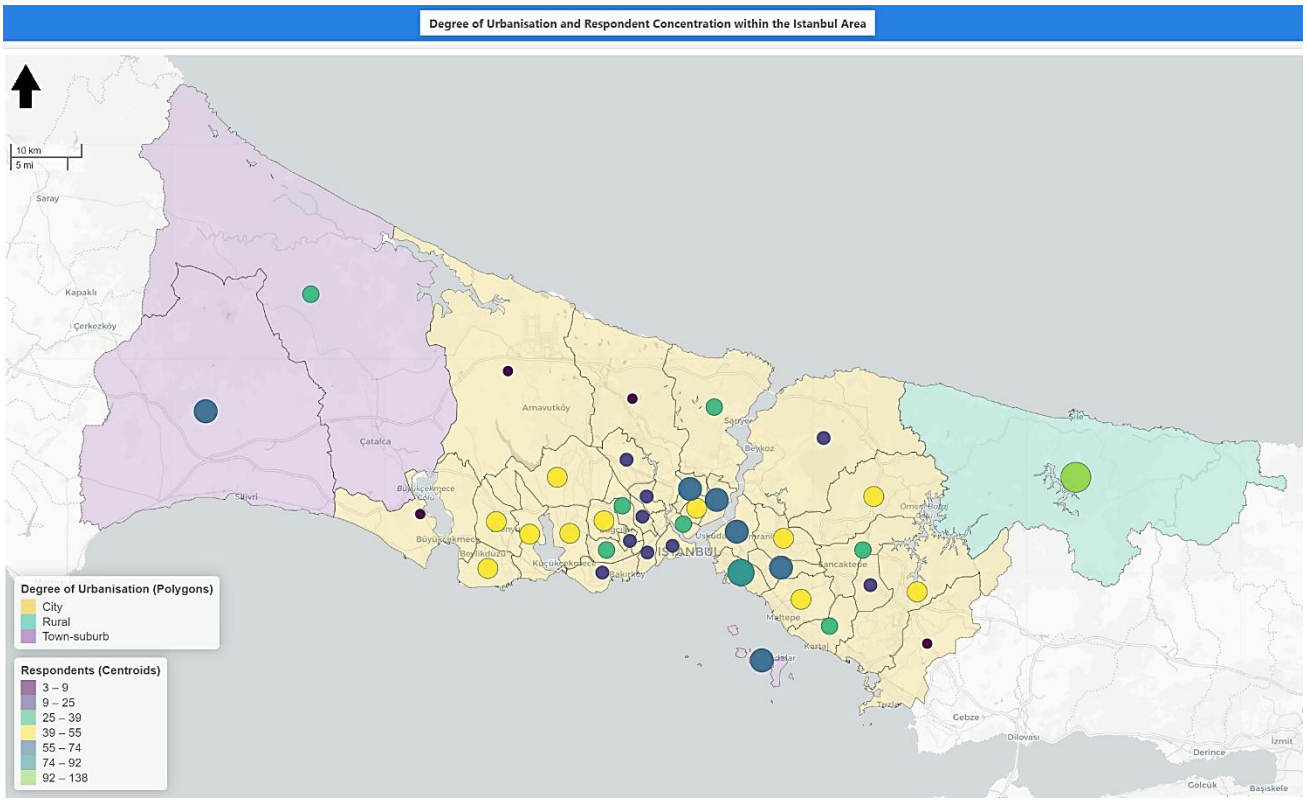


Figure 9. Geographical distribution of citizen survey responses in the use case area of Istanbul, by Local Administrative Unit selected for inclusion in the use case area analysis (source: LabGeo AUTh, Map prepared by Georgios Gkologkinas)

Use case area characteristics based on T2.3 typology[9]

When it comes to its NUTS2 typology, TR10 is classified within Cluster 1, a group of high-capacity regions. This cluster represents Europe's hyper-connected economic and political regions. Geographically, it includes dominant capital city regions such as Île-de-France (FR10), Madrid (ES30), and Brussels (BE10), along with areas in Denmark and Ireland, and the economic centres of Germany and Switzerland. Their defining characteristic is top-quartile (Q4) performance across a variety of indicators. This includes not only core economic metrics like GDP per capita but also key digital enablers such as internet access, remote work adoption, and computer use by employees. This economic and digital strength is matched by social development,

[9] For more information you may visit Deliverable 2.2 Typology of EU regions based on the effects of remote working on their urban-rural divide, available here https://r-map.eu/deliverables/

as shown by top-quartile rankings in tertiary education attainment, quality of life, and positive population change. As a result, they offer an attractive environment for skilled populations. Even for indicators where they do not reach the top quartile, they show solid “mid-high" (Q3) performance, maintaining high levels of economic and social quality. However, the strong overall performance of Cluster 1 regions also places pressure on housing costs due to high population concentration. Given these characteristics, regions like Istanbul (TR10) within Cluster 1 are typically expected to demonstrate high levels of digital integration and remote work adoption.

However, Istanbul exhibits a paradoxical profile within this cluster. Despite possessing the structural prerequisites for remote work - including robust digital infrastructure, an educated workforce, and a service-oriented economy- its Remote work adoption rate remains among the lowest within Cluster 1.

3.4.2 Brief description of Remote Work Arrangements and related policies

Remote work was first formally recognized in Turkey in 2016 with the inclusion of Article 14 in Labour Law No. 4857, which defines it as work performed outside the workplace via digital communication technologies. However, the limitations of this provision became apparent during Covid-19 pandemic, leading to the adoption of the Remote Work Regulation 2021 (Republic of Turkey Ministry of Labour and Social Security 2021). This regulation implemented the legal framework for remote work by clarifying contract conditions, employer and employee responsibilities, occupational health and safety requirements, and data protection rules, thereby formalising the remote and hybrid working arrangements.

Prior to the pandemic, remote work in Turkey was primarily concentrated in information technologies, finance, professional services (consultancy), media and higher education (Eurofound 2020, Dingel and Neiman 2020). With the onset of Covid-19 pandemic, adoption accelerated, particularly in Istanbul due to its service-oriented economy and concentration of knowledge-intensive employment (IPA & BETAM, 2022, OECD, 2021). Evidence on impacts remains mixed: studies report heterogeneous effects on productivity and work-life balance across sectors and occupations, with well-being outcomes varying by job design and household conditions (OECD 2021, Eurofound 2024). However, systematic monitoring of RWA outcomes in Turkey remains limited; existing indicators primarily measure digital access and subscriptions rather than work-organisation practices (BTK 2024; Istanbul Metropolitan Municipality 2021).

3.4.3 Spatial phenomena observed due to remote work

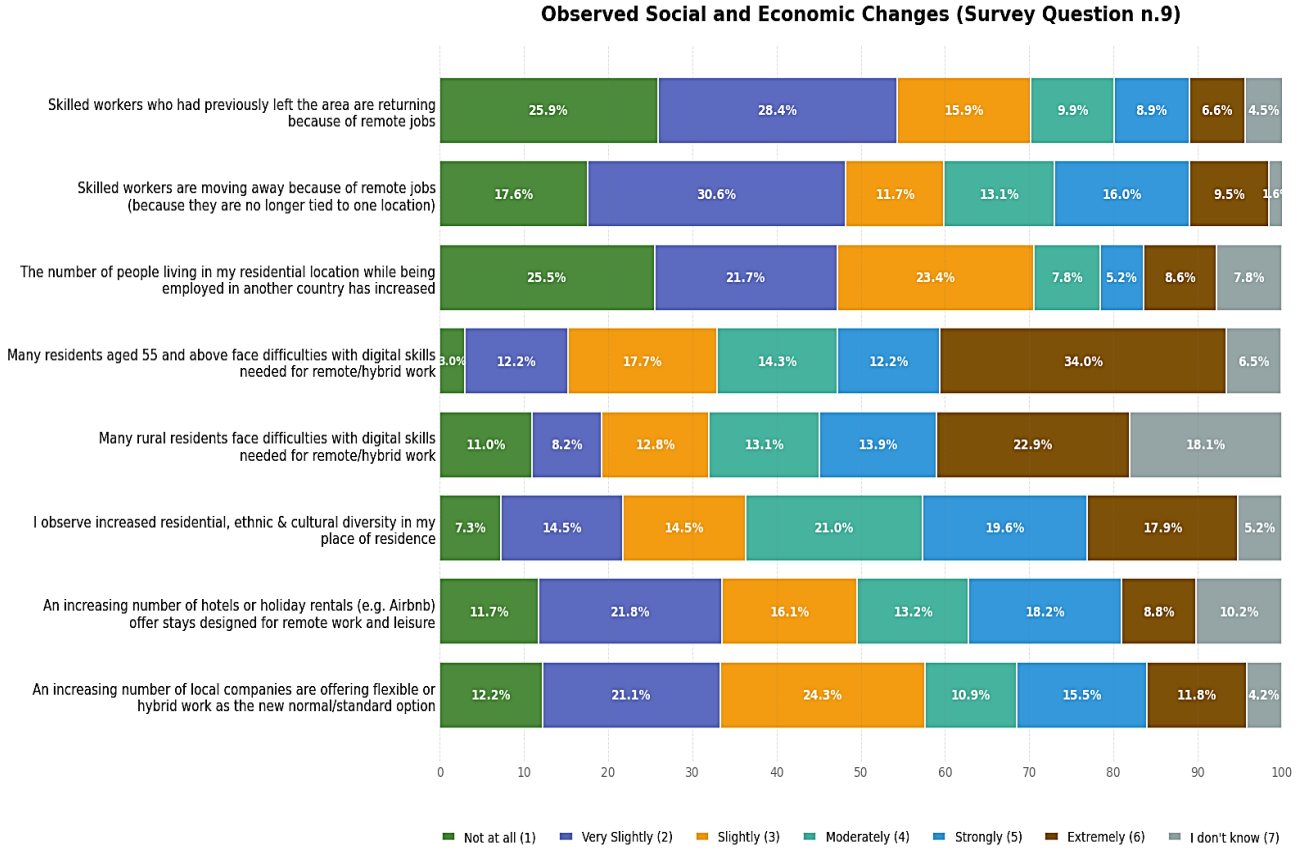
In Istanbul, the widespread adoption of remote work, particularly since the Covid-19 pandemic, drives significant transformations in urban space. Interview data reveals a marked shift toward residential neighbourhoods offering better quality of life and larger living spaces suitable for home offices, rather than proximity to central business districts. Commuting patterns have shifted dramatically, with reduced peak-hour congestion and increased daytime activity in residential neighbourhoods. Survey data corroborates this spatial restructuring: 34.1% of respondents observed a moderate-to-extreme decrease in rush-hour congestion, while 33.1% noted reduced public transport use and 36.2% reported decreased private vehicle usage (source: Citizen Survey 2025) Perceptions of increased residential, ethnic and cultural diversity were predominantly positive, with 57.5% of respondents selecting values above 4 (“moderately”, “strongly”, “extremely”) and only 11.7% rating the change below 2, indicating a clear sense of growing diversity in local areas. By contrast, the perceived rise in hotels or holiday rentals designed for remote work was more muted: although 34.3% rated the increase above 4, a comparable 27.7% placed their response below 2, suggesting limited but unevenly distributed

awareness of such developments. A more pronounced pattern appears in relation to working from second or leisure homes, where 55.9% selected above 4, signalling a strong perception that remote work is increasingly taking place across multiple residential locations.

More than half (55.9%) observed strong-to-extreme increases in working from second or leisure homes. Basic educational infrastructure was not seen as a major issue, with 82.3% rating the lack of nearby schools below 2, whereas 65.3% reported moderate-to-extreme problems with access to nearby health services. By contrast, a substantial share (52.0%) rated the lack of local co-working or flexible office spaces above 4, marking it as the most significant spatial accessibility constraint.

The Rise of Shared and Co-working Spaces

Diagram 10. Rating of Spatial Phenomena Observed (source: R-Map Use Case Istanbul Citizen Survey, 2025)



The co-working sector in Istanbul diversifies into three main typologies: community-oriented, service-oriented, and chain operators (Parlak Mavitan and Baycan 2023). This diversification aligns with broader shifts in Istanbul's labour market dynamics (IPA & BETAM 2022) and reflects the growing demand for flexible work environments. Expert interviews indicate that this shift is particularly strong among startups and self-employed professionals, who describe these environments as "cost-effective, time-flexible, and conducive to social interaction." Co-working spaces located in shopping malls also become increasingly appealing to white-collar workers expressing dissatisfaction with long-term remote work from home (Use case Interviews, 2025). Survey data substantiate this growing demand. When asked about observed changes in city space (Question n.10), respondents observed new work-friendly cafés opening both outside the city centre (27.0% strongly/extremely) and in the city centre (27.3% strongly/extremely).

Changing Patterns in Office Space Demand and Development

Contrary to initial predictions of widespread vacancy, Istanbul's prime office market shows resilience. Vacancy rates in central business districts such as Levent and Maslak decrease, and rents rise (Hürriyet Daily News, 2024; Cushman & Wakefield, 2024). However, qualitative findings indicate that the nature of office utilization transforms substantially. Firms optimize their spatial footprint by downsizing or repurposing spaces into hot desks, meeting rooms, or event venues. Some permanently close physical offices to reduce rental costs, while others restructure entirely to accommodate hybrid work models (R-Map Use case Istanbul Interviews, 2025). As shown in Diagram 10, 44.3% observed moderate-to-extreme increases (ratings 4-6) in unoccupied office space in city centres, representing one of the most pronounced spatial shifts associated with remote work adoption in Istanbul. Notably, a portion of these vacated office spaces has been converted into short-term rental properties, mirroring trends observed in other European cities experiencing tourism-led pressures on housing stock

Rising Housing Prices and the Move to the Periphery

The expansion of short-term rental markets further exacerbates housing affordability pressures in Istanbul, reflecting patterns of "tourism-led gentrification" trends documented elsewhere (Katsinas 2021). Concurrent -quality-of-life concerns including deteriorating air quality (IQAir 2024), noise pollution, and limited access to green spaces are driving employees toward more liveable yet accessible peripheral areas. Interview participants consistently emphasize that districts such as Çekmeköy, Zekeriyaköy, Beylikdüzü, and Tuzla, along with digitally connected "satellite towns" like Sapanca, nearby cities such as Edirne, and Balikesir, offer quiet, spacious, and nature-integrated living environments suitable for home-office arrangements (R-Map Use case Istanbul Interviews, 2025).

When asked about observed changes in city space, 51.2% of respondents reported moderate-to-extreme observations (ratings 4-6) of housing price increases outside the city centre attributed to remote worker relocation. This shift is supported by 49.7% observing new work-friendly cafés and co-working spaces opening outside the city centre (compared to 47.0% in the city centre), and 35.4% noting residents increasingly relocating outward due to remote work opportunities. Additionally, 45.8% reported moderate-to-extreme increases (ratings 4-6) in residential homes being converted into short-term rentals in the city centre, further intensifying housing pressures (source: Citizen Survey, 2025). Open-ended responses reflect this transformation: "Previously, living close to work was important; now people are looking for homes closer to nature," documenting how remote work adoption enables a fundamental shift in residential location preferences, with accessibility-particularly via the TEM highway or Marmaray system emerging as a critical determinant alongside digital connectivity and quality-of-life considerations (source: Citizen Survey 2025).

Shifting Demands on Infrastructure

Istanbul's severe traffic congestion remains a key structural challenge identified in recent reports (INRIX, 2024, ITU Foundation 2023), with chronic commuting times and overcrowded public transport systems historically defining urban mobility. Expert interviews confirm that traffic congestion is a "key driver encouraging the adoption of remote work" and that the strain on transport and energy infrastructure in central districts has eased. However, peripheral zones experience a sharp rise in demand for digital infrastructure, with fibre-optic internet availability evolving into a key determinant of residential preference (R-Map Use case Istanbul Interviews 2025).

Survey data (source: Citizen Survey Question n.12, 2025) reveals how these infrastructure priorities are perceived by residents: 15.1% indicated a strong or extreme need (ratings 5-6) for improved broadband infrastructure in rural parts of the region, representing the highest priority among infrastructure factors. This was followed by 14.3% emphasizing the importance of national laws and policies enabling and encouraging remote work, and 9.7% highlighting the need for visa programs to attract remote workers and digital nomads. Notably,

demand for improved commuting infrastructure such as trains or roads enabling cross-border work received relatively low priority (2.4% ratings 5-6), as did short-term rental property regulations set by national or local government (2.4% ratings 5-6). These findings suggest a fundamental shift in infrastructure priorities: digital connectivity has superseded physical mobility as the critical factor enabling distributed work patterns.

Open-ended responses reinforce these priorities: "Technical infrastructure gaps, especially audio and video issues, create serious problems in remote work," documenting how infrastructure deficiencies in rural and peripheral areas remain a major obstacle for those seeking to relocate outside the city centre, intensifying the digital divide between well-connected urban zones and underserved peripheral locations (source: Citizen Survey 2025).

3.4.4 Socio-economic phenomena observed due to remote work

The socio-economic results underscore a pronounced digital divide and differing experiences of remote work. Respondents perceived severe digital skill difficulties among specific groups: (residents aged 55+) and (rural residents) were most frequently rated *"Extremely"*, indicating strong agreement that these populations face significant barriers to participating effectively in remote and hybrid work (Diagram 11). These competence gaps are mirrored in workplace experiences: asking whether respondents have trouble reaching or communicating with colleagues when working remotely, showed a polarised distribution, with many selecting *"Strongly"* but a substantial fraction choosing *"Not at all"*, highlighting unequal adaptation to remote working environments. The socio-economic evidence reveals a layered digital inequality (concentrated among older and rural residents) coupled with strong personal motivation to engage in digital upskilling, even as remote collaboration remains uneven across the workforce. While the city leads nationally in employment and educational attainment, the socio-economic impacts of remote work have been uneven. They have created new opportunities while simultaneously reinforcing existing inequalities. Qualitative interviews and desk research pinpoint five key phenomena:

Cross-Border Employment and New Income Strata

Istanbul's appeal as a destination for international remote workers grows, though infrastructure support remains limited. Since April 2024, Turkey operates a Digital Nomad Visa program for remote workers aged 21-55 with a minimum monthly income of $3,000, enabling one-year residency with renewal options. However, similar to Greece's "Work from Greece" program, this policy primarily targets non-EU nationals and imposes income thresholds that may exclude younger professionals. Critically, the program does not address EU citizens who constitute a significant portion of Istanbul's digital nomad population, nor does it provide infrastructure support such as co-working hubs or dedicated zones (Turkey Digital Nomad Visa Program 2024).

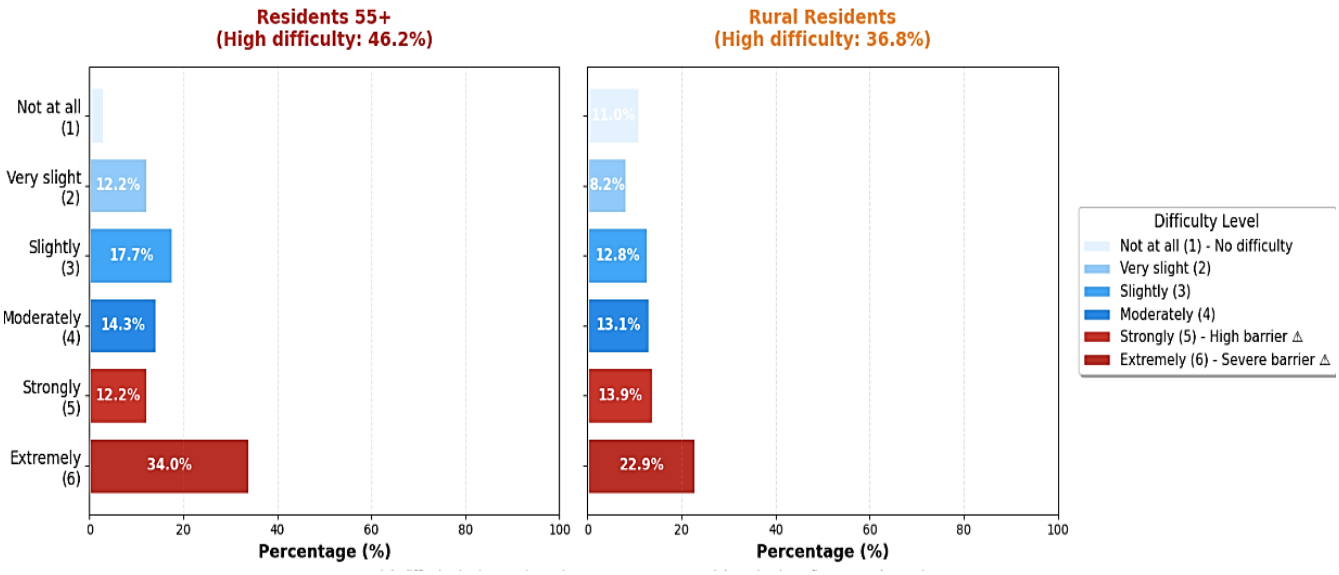
A notable trend emerges where Istanbul-based professionals offer digital services to international clients, particularly in high-value sectors such as software, design, and consultancy. These professionals earn in foreign currency, creating a distinct professional class with significantly higher living standards compared to locally employed workers. Regulatory implementation challenges persist, including bureaucratic hurdles and limited awareness among immigration officials (Use case Istanbul Interviews, 2025). Survey findings reveal a mixed picture. When asked about observed social and economic changes (Question n.9), only 13.8% of respondents reported strong-to-extreme observations (ratings 5-6) of people living in Istanbul while employed in another country, suggesting this phenomenon remains concentrated within specific professional networks rather than widely distributed across the city's labour market (source: Citizen Survey 2025).

Labour Market Dualization and Sectoral Disparities

Remote work adoption reinforces a structural divide within Istanbul's economy. Technology, finance, and consultancy sectors embrace flexible work arrangements, while manufacturing, retail, and logistics remain tied to physical presence though digital platforms serving mobile services (e.g., delivery systems like Getir and their supporting digital infrastructure) fall within the remote-enabled category. This dualization creates a two-tier labour market where access to remote work correlates strongly with sector, education level, and digital literacy (IPA & BETAM 2022). When asked about observed social and economic changes (Question n.9), 27.3% of respondents observe that local companies are increasingly offering flexible or hybrid work as the new standard (combining 15.5% strongly and 11.8% extremely ratings), with this phenomenon concentrated in technology, finance, and professional services sectors (source: Citizen Survey 2025). Interviews confirm this pattern, with remote work adoption substantially higher in technology and media sectors while remaining inaccessible to populations with limited digital literacy.

Istanbul-based startups now recruit talent from Anatolian cities without requiring relocation, enhancing spatial equity in access to employment - though this opportunity remains contingent on adequate digital skills, documenting how remote work simultaneously creates new opportunities while reinforcing existing inequalities based on digital literacy and sectoral employment patterns (Use case Istanbul Interviews 2025).

Diagram 11. Lack of Digital Skill Competencies in Different Demographic Groups (source: R-Map Use Case Istanbul Citizen Survey, 2025)



Transformational Impact on Women's Labour Force Participation

Remote work creates opportunities for improved work-life balance, particularly for women with caregiving responsibilities. International research demonstrates that flexible work arrangements support female career continuity by enabling better integration of childcare and professional commitments (Eurofound 2020). Women with school-age children emphasize remote work's transformative potential in interviews, noting that the flexibility to adjust schedules around childcare needs serves as a critical enabler of sustained workforce engagement, especially valued among white-collar female employees (Use Case Istanbul Interviews 2025). However, childcare infrastructure remains a persistent aspiration for remote workers seeking optimal conditions. Survey data reveals that 56.9% of respondents express moderate-to-extreme intentions (combining 34.5% moderately, 14.5% strongly, and 7.9% extremely) to relocate to areas with better childcare, schools, and educational infrastructure nearby (source: Citizen Survey, Intention 2025). While current problems with childcare infrastructure are relatively limited, 14.9% of respondents report moderate-to-extreme difficulties with reliable public transport access nearby (combining 7.8% moderately, 3.2% strongly, and 3.9% extremely)

(source: Citizen Survey 2025), which indirectly affects caregivers' ability to manage childcare logistics. As one respondent noted: "Childcare and work responsibilities conflict when working from home" (source: Citizen Survey 2025), indicating that proactive improvements in both childcare and transport infrastructure would further enable sustained female workforce participation.

Institutional and Corporate Cultural Shifts

A cultural tension emerges in Istanbul's organizations between traditional management practices and flexible work demands. Many male managers continue associating office presence with leadership, productivity, and control, clashing with calls for flexibility, particularly from female employees. This creates organizational policies that lack gender-sensitive frameworks and internal cultures that resist genuine flexibility (Use case Istanbul Interviews, 2025). Survey results show clear institutional polarisation: while 38.2% observed moderate-to-extreme adoption of flexible or hybrid work (ratings 4-6), a larger share-57.6%-reported little to no uptake (“not at all” to “slightly”), indicating that traditional work arrangements still dominate Istanbul’s corporate landscape despite rising demand for flexibility. Findings from the Survey show that 28.5% of respondents “strongly” and 13.0% “extremely” experience communication difficulties when working remotely, signalling that workplace communication challenges are a significant pressure point driving the need for deeper corporate cultural change and more inclusive hybrid-work practices.

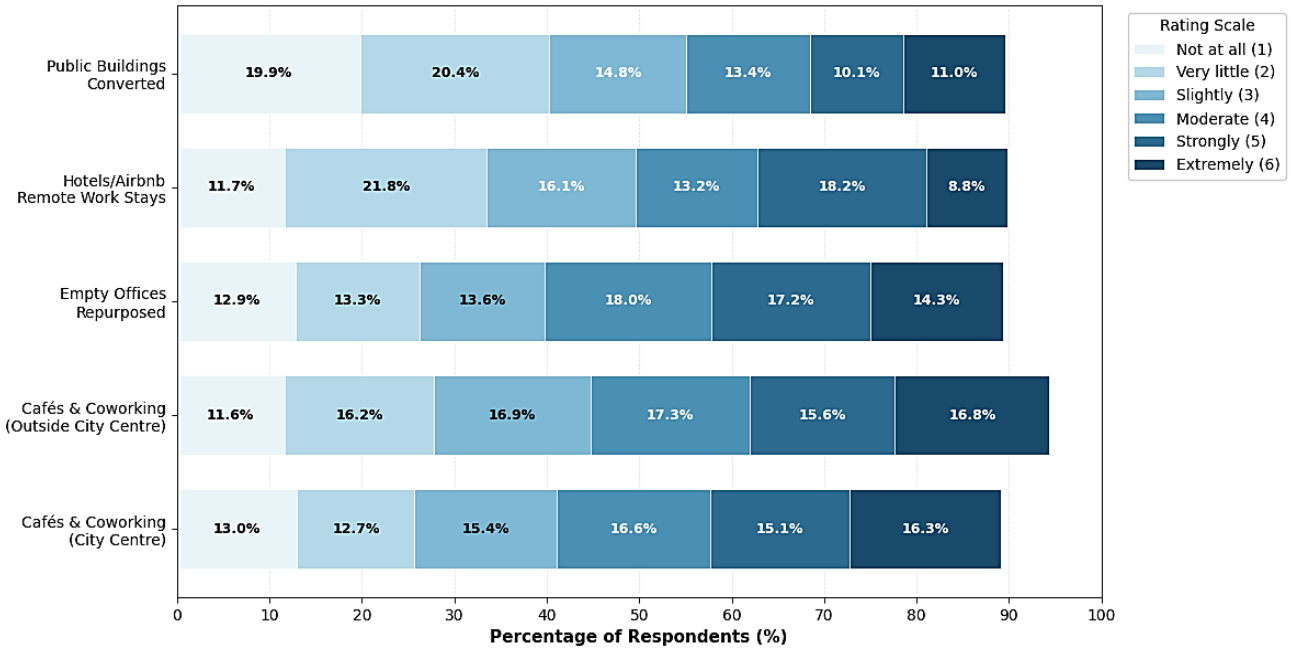
This institutional ambiguity is further reflected in employee experiences. Survey comments capture workplace tensions: "Employees in hybrid mode feel excluded from the team in the office" and "Flexible working hours lead to lack of discipline for some employees," suggesting that even organizations implementing hybrid models struggle with integration challenges, indicating that policy adoption does not automatically translate into cultural acceptance or operational effectiveness (source: Citizen Survey, 2025).

The Rise of Flexible Workspaces as a Business Model

The city's culture evolves to support flexible work, a business trend that was previously uncommon. Istanbul's co-working sector now includes three main typologies: community-oriented spaces emphasizing member interaction, service-oriented facilities providing professional amenities, and chain operators offering standardized solutions (Parlak Mavitan and Baycan 2023). These spaces also include "third places" such as cafes suitable for remote work. Startups and self-employed professionals have particularly embraced these environments, describing them as cost-effective, time-flexible, and conducive to social interaction. Co-working spaces in shopping malls have become increasingly appealing to white-collar workers seeking alternatives to home-based work (Use case Istanbul Interviews, 2025).

Survey data indicate a strong expansion of flexible workspaces: around half of respondents observed moderate-to-extreme growth in work-friendly cafés and co-working spaces both outside (49.7%) and within the city centre (48.0%), as well as repurposed office spaces (49.5%) serving teamwork and co-working functions. Beyond dedicated co-working infrastructure, 40.2% of respondents observed moderate-to-extreme increases (ratings 4-6) in hotels and holiday rentals offering stays designed for remote work and leisure, while 34.5% noted public buildings such as libraries and town halls being converted into shared workspaces, documenting how remote work adoption drives visible business model innovations across diverse location types and building typologies in Istanbul (source: Citizen Survey, 2025).

Diagram 12. Observed Growth of Flexible Workspace Infrastructure in Istanbul Distribution of Response Rating by Workspace Type (source: R-Map Use Case Istanbul Citizen Survey, 2025)



Source: R-Map Use Case Survey, 2025 (Questions n.9 and n.10).
Respondents rated observed changes on a scale from 1 (not at all) to 6 (extremely).
Moderate-to-extreme observations (ratings 4-6) highlighted in darker shades.

Socio-Spatial Digital Inequality

Istanbul leads Turkey in digital infrastructure, yet access to stable, high-speed connectivity remains uneven across districts. While the city ranks highest nationally for fixed internet speeds, data from the Istanbul Metropolitan Municipality reveal significant variations in infrastructure quality, particularly affecting peripheral or lower-income neighborhoods (OECD 2022, Istanbul Metropolitan Municipality 2021). Interviews reveal that infrastructure deficiencies in peripheral districts remain a major obstacle for residents seeking remote work opportunities. This digital divide exacerbates existing inequalities, concentrating economic opportunities in well-connected central areas (Use case Istanbul Interviews, 2025). Survey findings confirm infrastructure and digital skills as critical barriers intersecting with age, geography, and connectivity. When asked about problems encountered with remote work, 40.4% of respondents reported strong-to-extreme problems (ratings 5-6) with poor internet connection speed and reliability. Furthermore, when evaluating local factors influencing remote work adoption, only 20.8% rated the increase in broadband rollout in rural parts of the region as moderate to extreme (ratings 4-6), with the majority (76.0% rating it as "not at all" to "slightly") indicating minimal infrastructure development in underserved areas. As one respondent noted: "Technical infrastructure deficiencies, especially audio and video issues, create serious problems in remote work," documenting how digital inequality manifested through both skills gaps and infrastructure deficiencies reinforces spatial inequality in remote work accessibility (source: Citizen Survey, 2025).

3.4.5 Factors influencing how phenomena were shaped

The spatial and socio-economic phenomena observed in Istanbul were not uniform; they were shaped by a distinct set of local factors. These include pre-existing structural pressures, deep-seated cultural norms, and significant infrastructure gaps. Understanding these factors is essential for contextualizing the uneven adoption and impacts of remote work across the city.

Institutional and regulatory frameworks were widely reported as weak: national laws and company policies had limited influence, and local government incentives were rated almost entirely absent. Respondents expressed a clear need for improved cross-border tax and social security rules and, even more strongly, for clearer employer policies defining remote work eligibility. Insufficient local co-working provision was another major constraint. Together, these factors indicate that unclear regulations and inadequate local infrastructure significantly shape remote work adoption in the use case.

Tension Between Housing Prices and Quality of Life

High property prices, elevated inflation, and concerns about quality of life prompt employees to seek more liveable yet still accessible peripheral areas. Turkey's annual consumer price inflation rate reached 75.45% in May 2024 (Turkish Statistical Institute 2024), severely eroding purchasing power and intensifying economic pressures on urban households. This inflationary environment compounds housing affordability challenges, making peripheral relocation not merely a lifestyle preference but an economic necessity for many workers. Qualitative findings suggest that this shift leads to increased property values in suburban zones while triggering stagnation in the central housing market. Istanbul reports PM2.5 levels of approximately 19 µg/m³ in 2023, exceeding WHO guidelines (IQAir 2024; European Environment Agency 2024). Interviews consistently highlight noise pollution and lack of green spaces in central districts as major push factors (Use case Istanbul Interviews, 2025). Supporting this trend, official migration statistics indicate that 85,230 individuals left Istanbul in 2024, specifically citing "better housing and living conditions" as their motivation (Turkish Statistical Institute 2024). The flexibility of remote work allows employees to seek peripheral areas closer to nature, bringing quality-of-life considerations to the forefront of housing decisions. Survey findings quantify these residential preferences and mobility patterns. When asked about intentions if given the option to work remotely/hybrid, 64.2% of respondents expressed moderate-to-extreme interest (ratings 4-6) in relocating to a more suburban area, while 56.7% indicated similar interest (ratings 4-6) in moving towards areas with more childcare, schools, and educational infrastructures nearby, documenting how remote work flexibility enables employees to prioritize quality-of-life factors over proximity to central business districts (source: Citizen Survey 2025). The OECD Regional Well-Being framework confirms these challenges, revealing Istanbul's environmental quality issues relative to other OECD regions (OECD 2022).

The Transformational Role of Transport Infrastructure

Istanbul's transport infrastructure plays a unique, dual role in shaping remote work phenomena. Chronic traffic congestion, lengthy commute times, and overcrowded public transport emerge as common themes in interviews and are cited as key drivers encouraging the adoption of remote work. Istanbul experiences some of the world's most intense traffic delays, with commuters losing an average of 105 hours annually to congestion, ranking Istanbul as the most congested city globally (INRIX 2024). During peak hours, commuting times between residential areas and workplaces can exceed two hours (ITU Foundation 2023). As remote work reduces the need for daily commuting, traditional transport nodes become less critical. This makes neighbourhoods with limited public transport but strong digital connectivity increasingly attractive (Use case Interviews, 2025). However, for those maintaining occasional office attendance, accessibility to major transport arteries such as the TEM highway or Marmaray rail system remains a critical determinant in location choice. Survey findings reveal tangible shifts in mobility patterns. When asked about observed changes in city space, 34.1% of respondents reported moderate-to-extreme observations (ratings 4-6) of reduced rush-hour congestion since the acceleration of remote work, while 36.2% observed moderate-to-extreme decreases (ratings 4-6) in private vehicle use, and 33.1% noted similar reductions (ratings 4-6) in public transport usage as more people work from home (source: Citizen Survey, 2025). These patterns indicate a measurable transformation in urban mobility, documenting how remote work adoption reshapes not only residential location preferences but also the fundamental dynamics of Istanbul's transportation systems, with implications for infrastructure planning and investment priorities.

Gender Dynamics and Organisational Decision-Making

Cultural barriers to flexible work remain significant, particularly in relation to gender. Qualitative data reveal that women's expectations regarding remote work flexibility often do not align with the perceptions of male decision-makers. This misalignment leads to conflicts between flexible work policies and internal institutional cultures, with negative effects on employee retention and gender equity (Use case Istanbul Interviews, 2025). This gender gap aligns with broader findings on gendered labor dynamics during the pandemic, which highlights how traditional gender norms influence flexibility adoption (Alon et al. 2020). Many managers continue to associate physical presence with productivity and leadership, creating organizational resistance to genuine flexibility that disproportionately affects women's access to remote work opportunities.

Survey data quantify this institutional ambiguity. When asked about local factors influencing remote work adoption, only 25.3% of respondents rated the introduction of national laws and company policies enabling remote work as moderate to extreme (ratings 4-6), with the majority (71.7% rating it as "not at all" to "slightly") indicating insufficient policy frameworks (source: Citizen Survey, 2025). This policy gap perpetuates organizational uncertainty about remote work eligibility and conditions, leaving workers particularly women vulnerable to inconsistent and potentially discriminatory implementation. As qualitative interviews revealed, the absence of clear regulatory frameworks allows gender biases in management decision-making to go unchecked, documenting how policy fragmentation compounds gender inequalities in remote work access (Use case Istanbul Interviews, 2025).

Organizational Disparities in Remote Work Adoption

Remote work adoption varies significantly across Istanbul's corporate landscape, with knowledge-intensive organizations embracing flexibility while traditional firms maintain conventional workplace arrangements. This disparity, rooted in differences in digital infrastructure, management culture, and workforce composition, directly shapes the uneven socio-economic impacts observed across different employee segments (Use case Istanbul Interviews 2025). Qualitative data reveals that organizational culture and management perceptions play a critical role in determining remote work policies. Many managers continue to associate physical presence with productivity and leadership, creating organizational resistance to genuine flexibility, particularly in traditional sectors such as manufacturing, retail, and construction where remote work feasibility remains limited (Use case Istanbul Interviews, 2025). While international research estimates that a substantial share of jobs can be performed remotely (Dingel and Neiman 2020), Turkish data show that institutional willingness to adopt flexible arrangements remains a major constraint.

Survey findings quantify this organizational polarization. When asked about observed social and economic changes (Question n.9), only 38.2% of respondents reported moderate-to-extreme observations (ratings 4-6) of local companies offering flexible or hybrid work as standard practice, with the majority (57.6%) observing minimal adoption (source: Citizen Survey, 2025). This stark divide between progressive and traditional organizations suggests remote work benefits have largely accrued employees in forward-thinking companies, limiting its transformative potential across the broader labor market. The concentration of flexible work opportunities in specific organizational contexts exacerbates existing inequalities in work-life balance, job satisfaction, and retention, particularly affecting workers in sectors where institutional resistance remains high. As qualitative interviews revealed, employees in traditional sectors often lack access to remote work options despite expressing strong interest, documenting how organizational capacity constraints compound spatial and digital inequalities in shaping Istanbul's remote work landscape (Use case Interviews, 2025).

Digital Infrastructure Gaps

Digital connectivity inconsistencies emerged as a key barrier to inclusive remote work adoption despite acting as a pull factor for new suburban areas. Turkey's urban centers generally report high connectivity, with Istanbul leading in fixed internet speeds (OECD 2022). However, data from the Istanbul Metropolitan Municipality

reveals significant variations in infrastructure quality across districts, particularly affecting peripheral or lower-income neighborhoods (Istanbul Metropolitan Municipality 2021). Fibre-optic availability was often cited as a key determinant of relocation in interviews, whereas infrastructure deficiencies in rural and peripheral areas remained a major obstacle (Use case Istanbul Interviews, 2025). Survey findings confirm that infrastructure is a critical barrier. When asked about problems encountered with remote work, 40.4% of respondents reported strong-to-extreme problems (ratings 5-6) with poor internet connection speed and reliability when working remotely. Additionally, when evaluating local factors influencing remote work adoption, only 20.8% rated the increase in broadband rollout in rural parts of the region as moderate to extreme (ratings 4-6), with the majority (75.0% rating it as "not at all" to "slightly") indicating minimal infrastructure development in underserved areas (source: Citizen Survey, 2025).
These infrastructure deficiencies compound spatial inequalities in remote work accessibility. As one respondent noted: "Technical infrastructure deficiencies, especially audio and video issues, create serious problems in remote work" (source: Citizen survey, 2025).

Fragmented Regulatory Framework and Absence of Coordinated Strategy Policy and Planning Context
The Istanbul Metropolitan Municipality's Strategic Plan (2020-2024) acknowledges digital transformation but lacks explicit strategies for remote work or its spatial implications (Istanbul Metropolitan Municipality 2020). This absence, in contrast with initiatives in cities like Lisbon or Tallinn, results in market-driven developments rather than coordinated planning. Turkey introduced the Digital Nomad Visa in April 2024, targeting non-EU nationals earning over $3,000 per month. However, qualitative interviews highlight uneven implementation, bureaucratic hurdles, and limited awareness among officials (Use case Istanbul Interviews, 2025). The policy primarily targets non-EU nationals while imposing income thresholds that may exclude younger professionals. Critically, it does not address EU citizens who constitute a significant portion of Istanbul's digital nomad population, nor does it provide infrastructure support such as co-working hubs.
Survey data reveals the importance of transparent regulatory frameworks. When asked about needs with respect to remote/hybrid work, 60.5% of respondents reported moderate-to-extreme need (ratings 4-6) for clearer rules or formal policies about who can work remotely and under what conditions from employers. Additionally, 73.9% identified moderate-to-extreme need (ratings 4-6) for clearer regulations on tax or social security when working across borders (source: Citizen survey, 2025). As one participant noted in open responses, the lack of clear regulatory frameworks creates uncertainty for both employers and employees, thereby hindering broader adoption of remote work. The limited policy support is further evidenced by survey findings on local factors influencing remote work adoption. Only 25.3% of respondents rated the introduction of national laws and/or company policies enabling remote work as moderate to extreme (ratings 4-6), with the majority (56.8% rating it as "not at all" to "slightly") indicating minimal policy influence. Visa programs to attract remote workers scored even lower, with only 16.5% reporting moderate-to-extreme influence (ratings 4-6), documenting how fragmented regulatory approaches limit Istanbul's capacity to fully capitalize on remote work opportunities (source: Citizen Survey, 2025). This regulatory gap acts as a key barrier, preventing coordinated planning and creating uneven conditions for remote work adoption across different professional groups.

3.4.6 Summary of the main findings

The key spatial phenomena observed due to remote work in the use case area are:

- ***Growth of Shared and Co-working Spaces****: Remote work has driven substantial diversification in Istanbul's co-working market, now comprising community-oriented, service-oriented, and chain-operated models. These facilities increasingly appear in shopping malls and mixed-use zones, attracting*

startups, self-employed professionals, and white-collar workers. Survey data indicate a strong perceived need for expanded access, whether in the form of more local co-working options or work-friendly cafés. These patterns reflect the decentralisation of work activities and the emergence of new neighbourhood-level work hubs.

- ***Changing Patterns in Office Space Demand and Development.*** *Despite initial expectations of widespread vacancy, prime office districts such as Levent and Maslak remain resilient, characterised by declining vacancy rates and increasing rents. The usage pattern has shifted from traditional offices to co-working spaces, residences, or temporary accommodations. Firms increasingly employ downsizing strategies, hot-desking, or full office closures to optimise operational costs, representing a structural reconfiguration of corporate real estate demand.*
- ***Housing Market Dynamics and Peripheral Relocation****: Concerns over air quality, noise, congestion, and affordability have accelerated movement towards peripheral districts, as well as nearby cities and towns. Survey findings show that the majority perceived rising housing prices in peripheral areas driven by remote-worker relocation, with a strong drive to move to suburban zones. Housing costs remain highly diverged: average prices in central urban zones are approximately three times those in suburbs. Accessibility via the TEM motorway and Marmaray rail line continues to be essential for hybrid workers who attend offices occasionally.*
- ***Shifting Demands on Infrastructure.*** *While one third of the respondents' report reduced rush-hour congestion, persistent digital infrastructure gaps have become the primary constraint on remote work. Internet connectivity problems persist. Rural residents demand improved broadband access significantly more than their urban and semi-urban counterparts. Limited broadband rollout outside urban centres intensifies spatial inequalities, limited access to nearby health services, communication difficulties at work, and lack of broadband reinforce pre-existing spatial inequalities and continue to shape patterns of relocation and economic opportunity.*

The key socio-economic phenomena observed due to remote work in the use case area are:

- ***Cross-Border Employment and New Income group.*** *An increasing number of Istanbul-based professionals offer digital services - particularly in software, design, and consultancy - to international clients, generating new foreign-currency income streams. Turkey recently introduced a Digital Nomad Visa program for non-EU nationals, which remains limited due to bureaucratic hurdles and the exclusion of EU citizens. Cross-border employment is scarce, indicating concentration within specific high-skilled networks. Turkey's Digital Nomad Visa (April 2024) targets non-EU nationals earning $3,000+ monthly but faces implementation challenges and excludes EU citizens. This phenomenon remains concentrated in specific professional networks.*
- ***Labour Market Dualization and Sectoral Disparities.*** *Technology, finance, and consultancy embrace flexible arrangements, while manufacturing, retail, and logistics remain tied to physical presence, creating a two-tier labour market. Remote work access correlates strongly with sector, education, and digital literacy. Residents aged 55+ and rural populations face significant digital skill difficulties. Positively, Istanbul startups now recruit Anatolian talent without relocation requirements.*
- ***Care responsibilities, Labour Force Participation, work-life balance.*** *Remote work has created new opportunities for women, particularly those with caregiving responsibilities. However, most respondents highlight the need for improved childcare support. Cultural and organisational norms remain restrictive: many male managers continue to equate physical presence with productivity, which impedes the development of gender-sensitive hybrid work policies and affects both retention and equality outcomes.*

- ***Institutional and Corporate Cultural Adjustments****: Organisational adaptation remains incomplete. Respondents report a need for clearer institutional policies on remote work; hybrid work being offered as a standard arrangement remains uncommon. Traditional management practices, combined with unclear regulatory guidance, perpetuate institutional ambiguity and uneven access to flexible work models.*

The key local factors that influenced how phenomena were shaped in the use case area are:

- ***Growth of Flexible Workspaces as a Business Model.*** *Co-working sector encompasses community spaces, service-oriented facilities, and chain operators, plus "third places" like remote-friendly cafés. Empty office spaces are being repurposed for co-working and teamwork facilities. Hotels and holiday rentals increasingly offer remote work stays, while public buildings are converted into shared workspaces.*
- ***Socio-Spatial Digital Inequality.*** *Despite leading nationally in digital infrastructure, access remains uneven across districts. Significant digital skills difficulties observed among residents aged 55+ and rural populations. Infrastructure deficiencies particularly affect peripheral and lower-income neighbourhoods, concentrating opportunities in well-connected areas. Relatively limited access to nearby health services, combined with lower remote-work uptake among older and rural residents, further reinforces socio-spatial digital inequality by constraining these groups' ability or willingness to participate in remote and hybrid work.*
- ***Tension Between Housing Prices and Quality of Life.*** *Significant housing price disparities and deteriorating environmental indicators (PM2.5 at 19 µg/m³ exceeds WHO guidelines) are key drivers of outward migration. Istanbul's population decreased by 1.6% in 2023. These trends illustrate how remote work interacts with broader lifestyle and affordability pressures.*
- ***Transport Infrastructure and Shifting Mobility Patterns****: Severe congestion, historically among the world's worst, was a significant impetus for remote work adoption. As the need for daily commuting decreases, areas with limited public transport but adequate digital connectivity have become more appealing.*
- ***Gendered Dynamics in Organisational Decision-Making****: The divergence between women's expectations for flexibility and managerial perceptions continues to create friction within organizations. The lack of formal criteria for remote work eligibility contributes to policy stagnation and unequal access to workplace benefits, thereby undermining diversity and inclusion objectives.*
- ***Organizational Disparities in Remote Work Adoption.*** *Adoption concentrated in technology, media, and consultancy, while limited in manufacturing and retail. This divide shaped uneven impacts, with benefits accruing primarily to high-skilled segments while traditional sectors lag behind.*
- ***Digital Infrastructure Inequality****: Despite Istanbul's national leadership in digital infrastructure, significant disparities persist across districts, with connectivity issues being particularly prevalent in disadvantaged peripheral and lower-income areas. Fibre-optic availability has become a key determinant of residential relocation among remote workers.*
- ***Fragmented Regulatory Framework and Absence of Coordinated Strategy.****: The Istanbul Metropolitan Strategic Plan (2020-2024) lacks a comprehensive remote-work framework. Likewise, the Digital Nomad Visa has had a limited impact so far. Fragmented regulation and a lack of metropolitan-level coordination hinder the capacity to harness remote work for inclusive urban development. Respondents highlight the need for clearer employer policies and improved clarity in cross-border tax regimes.*

3.4.7 References

Alon, Titan, Matthias Doepke, Jane Olmstead-Rumsey, and Michèle Tertilt. 2020. *The Impact of Covid-19 on Gender Equality*. NBER Working Paper No. 26947. Cambridge, MA: National Bureau of Economic Research. https://www.nber.org/papers/w26947.

Copernicus Data Space Ecosystem. 2024. *Sentinel-2 Data Collection*. https://dataspace.copernicus.eu.

Cushman and Wakefield. 2024. *Türkiye Real Estate Market Overview (H1 2024)*. https://cw-tr.com/en/research-detail/1787/turkiye-real-estate-market-overview-half-year-2024.

Dingel, Jonathan I., and Brent Neiman. 2020. "How Many Jobs Can Be Done at Home?" *Journal of Public Economics* 189: 104235. https://www.sciencedirect.com/science/article/pii/S0047272720300992.

Endeksa. 2024. *İstanbul Bölge Raporu 2024 (Satılık ve Kiralık Konut) / Istanbul Regional Report 2024 (Residential for Sale & Rent)*. Accessed July 11, 2024. https://www.endeksa.com/tr/analiz/istanbul-bolge-raporu-2024-satilik-konut.

Eurofound. 2020. *Telework and ICT-Based Mobile Work: Flexible Working in the Digital Age*. Dublin: Eurofound. https://www.eurofound.europa.eu/en/publications/all/telework-and-ict-based-mobile-work-flexible-working-digital-age.

European Environment Agency. 2024. *Europe's Air Quality Status 2024*. Luxembourg: Publications Office of the European Union. https://op.europa.eu/en/publication-detail/-/publication/7ebc2d59-2ebe-11ef-a61b-01aa75ed71a1/language-en.

Hürriyet Daily News. 2024. "Vacancy Rate in Istanbul Office Market Falls Significantly." April 28, 2024. https://www.hurriyetdailynews.com/vacancy-rate-in-istanbul-office-market-falls-significantly-192884.

Istanbul Metropolitan Municipality (IMM). 2020. *Stratejik Plan 2020-2024 [Strategic Plan 2020-2024].* Istanbul: Istanbul Metropolitan Municipality. https://ipa.istanbul/stratejik-plan.

Istanbul Metropolitan Municipality (IMM). 2021. *Dijital Uçurum Haritası Verileri [Digital Divide Map Data].* IMM Open Data Portal. https://data.ibb.gov.tr/dataset/dijital-ucurum-haritasi-verileri.

INRIX. 2024. *2024 Global Traffic Scorecard.* https://inrix.com/scorecard/.

IPA (Istanbul Planning Agency) and BETAM. 2022. *Istanbul Labor Market: Structural Characteristics and Problems Report.* Istanbul Metropolitan Municipality Publication, March 2022. https://ipa.istanbul/pdf-flipbook-main/index.html?key=/images/Calismalar/istanbul-isgucu-piyasasi-yapisal-ozellikler-ve-sorunlar-arastirma-raporu-25076.pdf.

IQAir. 2024. *Istanbul Air Quality Index (AQI) and Turkey Air Pollution (2023 Data).* Accessed July 11, 2024. https://www.iqair.com/turkey/istanbul.

İTÜ Vakfı (ITU Foundation). 2023. *İstanbul'un Ulaşım ve Trafik Sorunu Üzerine Bazı Düşünce ve Öneriler [Some Thoughts and Suggestions on Istanbul's Transportation and Traffic Problem].* Istanbul: ITU Foundation Publications. https://www.ituvakif.org.tr/yayinlarimiz.

Katsinas, Giorgos. 2021. "Tourism-Led Gentrification in the 'Sharing' Era: A Comparison of Athens, Lisbon and Thessaloniki." In *The Routledge Handbook of Tourism and Gentrification*, edited by Maria Gravari-Barbas and Sébastien Guinand, 67-80. Routledge.

OECD (Organisation for Economic Co-operation and Development). 2021. *Remote Working and the Platform Economy. OECD Employment Outlook 2021.* Paris: OECD Publishing. https://www.oecd.org/en/publications/oecd-employment-outlook-2021_5a700c4b-en.html.

OECD (Organisation for Economic Co-operation and Development). 2022. *OECD Regional Well-Being Index: Istanbul (TR10).* Paris: OECD Publishing. https://www.oecdregionalwellbeing.org/TR10.html.

Parlak Mavitan, Melis, and Tuba Baycan. 2023. "Types of Co-Working Spaces in Istanbul." *Cidades* 46. https://journals.openedition.org/cidades/7210.

R-Map Use Case Expert Interviews. 2025. *R-Map Project Internal Data.* Istanbul, 2025.

R-Map Use Case Citizen Survey. 2025. *R-Map Project Internal Data.* Istanbul, 2025.

Republic of Türkiye Ministry of Labour and Social Security. 2021. *Remote Work Regulation (Resmî Gazete No. 31419, 10 March 2021).*

Şeker, Murat, M. B. Baypınar, Gökhan Çelikbiçak, and B. K. Özbay. 2022. "Quality of Life Level Analysis of Istanbul Districts." *Istanbul Journal of Economics* 72 (2): 543-68. https://iupress.istanbul.edu.tr/journal/ije/article/quality-of-life-index-istanbul-2020.

Turkey Digital Nomad Visa Program. 2024. *Digital Nomads Go Türkiye.* Ministry of Culture and Tourism. https://goturkiye.com/digital-nomads.

Turkish Statistical Institute. 2024. *Consumer Price Index, May 2024.* https://data.tuik.gov.tr/Bulten/Index?p=Consumer-Price-Index-May-2024-53615.

3.5 Surrey & Southeast England (United Kingdom)

3.5.1 Developmental profile

Southeast[10] England is characterized by a dynamic mix of urban, suburban and rural areas. Its strategic location, stretching from the Thames Estuary across the English Channel coast and bordering Greater London, supports a highly interlinked metropolitan system. With one of the highest population densities outside London (506 people per km² in 2024), it is the third largest region of England covering approximately 19,072 sq.km. with a population of 9,642,942 in 2024, combining affluent commuter belts with peri-urban and rural zones (ONS, 2022a; ONS, 2024a). It includes 63 Local Administrative Units (LAUs), served by an extensive strategic road network, including major motorways such as the M25, M20, M23 and M3, as well as key roads including the A3, A2 and A21. Equally, there are frequent rail connections to London from various towns and cities of the Southeast. This integrated network supports both the region's strong commuter flow to and from London, as well as the region's independent regional economic dynamism. Surrey constitutes one of the core regions at the west part of the Southeast of England.

Figure 10. Guildford city, Surrey aerial (source: https://en.wikipedia.org/wiki/Guildford)

Figure 11. Map of Southeast England region (source: https://www.varbes.com/economy/south-east-economy)

The 2021 ONS Rural-Urban Classification for LAUs in Southeast England (ONS, 2021) demonstrates the region's mixed and highly varied settlement structure, combining extensive rural landscapes with a concentration of population in large urban centres and commuter belts. A substantial number of districts are predominantly rural land areas, but most of the population is concentrated in urban or peri-urban districts. Approximately 16% of the Southeast region lies within the Green Belt, and when combined with Areas of Outstanding Natural Beauty (AONB), National Parks, and Sites of Special Scientific Interest, much of the Southeast becomes effectively restricted from residential development. A large block of LAUs fall into the rural categories (e.g., West Oxfordshire, South Oxfordshire, East Hampshire, Rother) and intermediate rural areas (e.g., Isle of Wight, West Berkshire, Wealden, East Hampshire). These areas represent the geographically dominant parts of the region,

[10] The Surrey (United Kingdom) use case focus expanded its geographical scope in order to meet the T4.1 requirement of having a sample of 1,000 respondents in the regional survey. This was conducted due to the use case's decision to use Prolific, since Prolific only had 500 eligible users in Surrey, and only 300 out of them completed the project survey. The Southeast of the UK included more respondents registered on Prolific, which provided a broader overview of challenges across a wider geographical region. To that end, the use case area profile analysis was also expanded to cover Southeast England, and where information specific to Surrey was found, special mentions were made.

reflecting the Southeast's extensive agricultural land and protected landscapes (e.g., South Downs National Park, Kent Downs AONB). Despite their large geographical footprint, these districts tend to have lower population densities and often serve as commuter areas for larger employment hubs of the Southeast, such as London, Oxford, Southampton, or Brighton. A majority of LAUs fall under urban and intermediate urban areas. This group includes nearly all the region's major cities and urban zones: Brighton and Hove, Portsmouth, Southampton, Reading, Slough, Bracknell Forest, Windsor and Maidenhead, Oxford, Crawley, Eastbourne, Hastings and most Surrey districts (e.g. Guildford, Woking, Elmbridge, Epsom & Ewell). The proximity of much of the region to London has contributed to decades of strong suburbanisation, with population movements from London and inner boroughs toward neighboring counties. Many Surrey, Berkshire, Buckinghamshire, and north Hampshire LAUs are classified as urban majority and close to major towns or cities, corresponding with the Greater London commuter zone, which indicates that the urbanization level of the Southeast is structurally tied to London's metropolitan influence. A distinct coastal urban corridor (e.g. Brighton and Hove, Portsmouth, Southampton, Eastbourne, Hastings) forms a chain of urbanised coastal settlements with historical development based on ports, tourism, maritime industries, and post-industrial regeneration. Overall, the South est exhibits a polycentric urban network which includes multiple major regional cities, satellite towns, interlinked urban corridors and rural land.

The Southeast is the second largest regional economy in the UK (after London), having contributed approximately £336 billion to the UK economy in 2021, representing around 14-15% of the total national GDP (ONS, 2025a). The region is also a major contributor to UK trade performance, having been for several consecutive years among the top exporting regions of the UK, particularly in services such as professional, scientific, technical and financial activities (ONS, 2025b). The region also maintains a robust business base, hosting more than 432,000 businesses, supported by strong rates of business formation and above-average inward investment (ONS, 2025a). The Oxford-Cambridge-Southeast corridor hosts one of the world's most advanced life-science hubs, driving major economic growth and fostering leading expertise in the health and biotech fields. This network brings together world leading research centers, universities, businesses, and healthcare organisations, creating a strong environment for innovation and collaboration. Despite its overall prosperity, official indices reveal significant local variation. Several coastal and former industrial areas within the region, such as Hastings and Thanet, are among the most deprived areas nationally, highlighting the uneven distribution of economic opportunity even within a high-performing region (Ministry of Housing, Communities and Local Government, 2019).

Its demographic structure is broadly aligned with national patterns, though with a slightly older population on average, with a median age of 41 years and 19.8% of residents aged 65 and over, compared with 18.7% nationally. Between 2023 and 2024, population change across the Southeast has been moderate but positive (+1.1%), driven largely by internal migration, student populations, and international mobility (ONS, 2024). Labour market outcomes outperform UK averages: the region records an employment rate of 79.3% (against 76% nationally) and a modelled unemployment rate of just 2.9% (against 3.7% nationally). These strong outcomes are supported by high living standards. Gross disposable household income per capita reaches £28,187- the highest in England - and is well above (>10%) the national figure of £25,425. Productivity levels remain among the strongest in the UK, with a Gross Value Added per hour worked of £45.20 and GDP per capita of £41,319, both outperforming national averages.

Surrey is a county in the Southeast that comprises both urban and semi-rural characteristics, strategically located just outside Greater London. It includes 11 LAUs, such as Guildford, Woking, and Reigate and Banstead, forming part of the high-performing Southeast (UKJ) NUTS2 region. Surrey is well-connected via key transport corridors, including the M25, M3, and A3, and it functions as a commuter belt for London, while maintaining its own economic dynamism. In terms of demographic and socio-economic profile, Surrey has a population

exceeding 1.2 million, with relatively high income levels, educational attainment, and employment rates compared to national averages. The county's economic structure is dominated by high-skilled service sectors, professional and scientific activities, education, and health.

Use case area characteristics based on T2.3 typology[11]
The remote work adoption of the Southeast of England places it among the regions with the highest adoption levels, indicating a maximum integration of remote working practices compared to the other use cases. When it comes to the NUTS2 typology across the Southeast, UKJ2 belongs in the broader cluster 2 characterised by a contrast between current economic strength and indicators related to future growth. It consistently records the highest levels (Q4) in education, employment, economic output, and digital engagement, reflecting high levels of development and digital infrastructure. On the other hand, it records low-quartile (Q1) scores about the proportion of young people in the regional population, suggesting limited demographic renewal. While population growth remains high (Q4), it appears to be primarily driven by immigration to benefit by existing employment opportunities rather than by natural population increase or by new business formation.

The map below shows the geographical distribution of citizen survey responses in Southeast England, where Surrey is located on its west part:

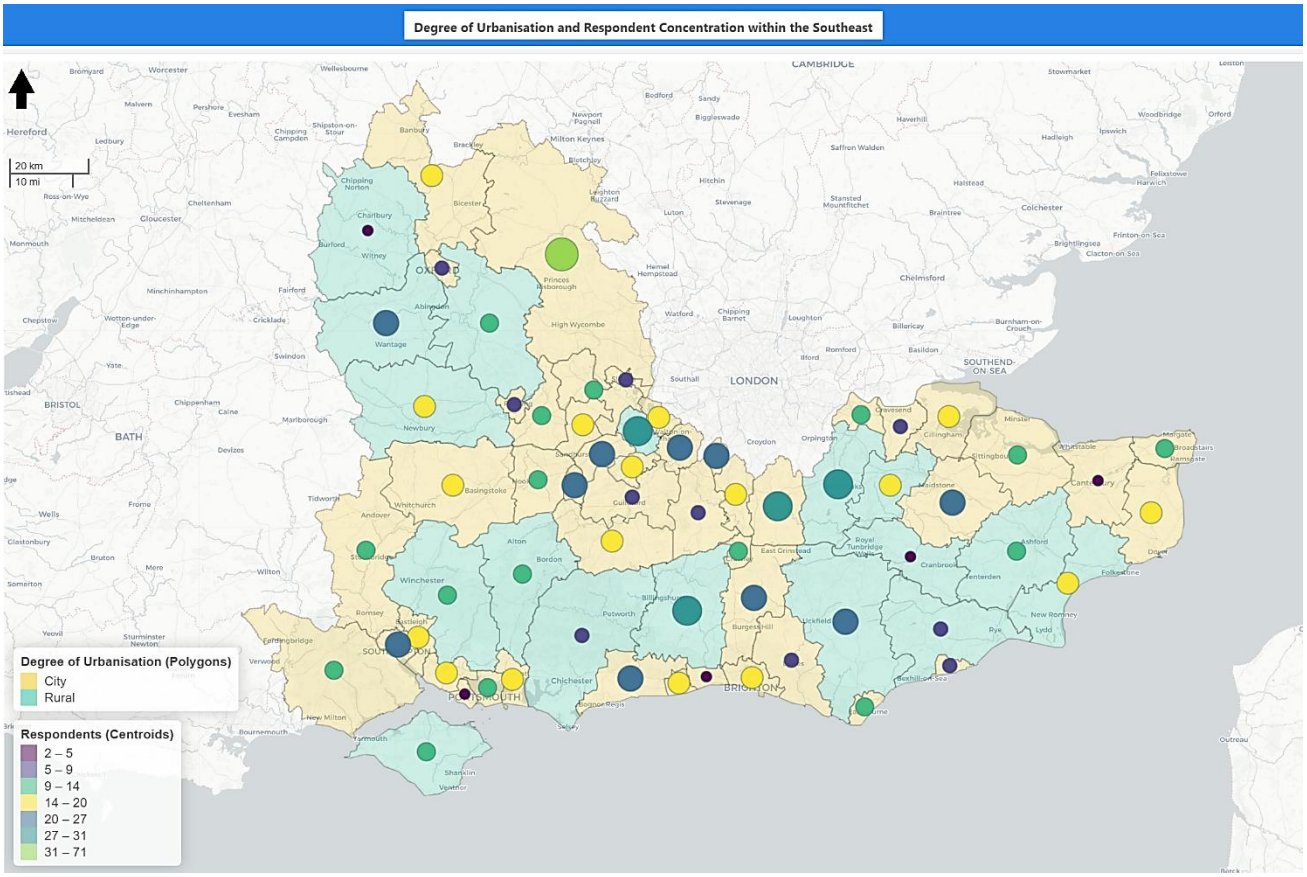


Figure 12. Geographical distribution of citizen survey responses in the use case area of Surrey and South - East England, by Local Administrative Unit selected for inclusion in the use case area analysis (source: LabGeo AUTh, Map prepared by Georgios Gkologkinas).

[11] For more information you may visit Deliverable 2.2 Typology of EU regions based on the effects of remote working on their urban-rural divide, available here https://r-map.eu/deliverables/

3.5.2 Brief description of Remote Work Arrangements and related policies

In the broader UK context, remote and hybrid work have become deeply embedded in employment structures since the Covid-19 pandemic. In the Southeast England, 15% of workers reported working from home in September 2025, with an additional 25% working in hybrid format i.e. both from home and by travelling to their workplace (ONS, 2023). The UK government has acknowledged this shift through its Digital Strategy (UK Government, 2022) and workplace flexibility policies such as the Employment Relations (Flexible Working) Act 2023 (GOV.UK, 2023a), which grants employees the legal right to request flexible arrangements from their first day of employment. Additionally, national infrastructure investments such as the Project Gigabit (GOV.UK, 2022), aim to deliver gigabit broadband to 85% of premises by 2025, facilitating equitable access to digital work opportunities across urban and rural areas.

The Southeast (UKJ) stands out as one of the most digitally mature regions, with high broadband coverage, skilled workforce, and a service-oriented economic base, but also experiences intra-regional disparities, particularly in rural broadband access and digital literacy. Local policy responses, such as Surrey County Council's Agile Programme and the Digital Inclusion Strategy, Hampshire Council Digital Skills Bootcamps, Isle of Wight Council: Gigabit & Digital Connectivity Plans and Oxfordshire County Council's 5G Innovation Region: England's Connected Heartland, have all proactively addressed these gaps by investing in hybrid work infrastructure, public Wi-Fi expansion, and community digital skills training.

At the regional level, the labour market of the Southeast of England is well-suited for remote work, due to its concentration of professional and knowledge-based occupations. However, spatial disparities remain. While urban and suburban areas have relatively strong digital infrastructure, rural and semi-rural districts experience inconsistent broadband coverage and digital skills gaps.

3.5.3 Spatial phenomena observed due to remote work

1. **Migration to Suburban and Coastal Cities (the 'Donut Effect') and Expansion of Co-working spaces**

Co-working and flexible workspace use in Southeast England has expanded significantly since the Covid-19 pandemic. Remote and hybrid work have accelerated the development of decentralised co-working hubs across the Southeast, expanding beyond established centers such as Brighton, Oxford and Reading into market towns, coastal settlements and suburban districts. This diversification reflects broader relocation dynamics: over 40% of workers in the Southeast now work from home (Office for National Statistics, 2022), while Londoners purchased 7.9% of all homes sold outside the M25 ring road around London in 2022, namely 19% above pre-pandemic levels (Beveridge, 2022). The Southeast was the most popular destination region, accounting for 35% of all moves out of London in 2022, with Reading, Brighton, and Woking emerging as particularly favored destinations ("London's Mass Exodus", 2023). This pattern has created a suburban 'donut' around central London, with economic activity dispersing to surrounding areas. Families moving out of London particularly preferred non-urban parts of the Southeast, with the 'race for space' most intense in locations south and west of London (Centre for Cities, 2024). Surrey Citizen Survey (2025) results show good awareness of decentralisation dynamics: 63% of respondents observed increased unoccupied office spaces in town and city centers, and 58% observed residents relocating outside city centers. Market towns such as Reading, Tonbridge, Farnham and Worthing, well represented in that survey, had the highest proportion of respondents who felt strongly or extremely strongly about these relocation patterns, although, there does not seem to be any major change in Surrey and the Southeast due to a large influx of remote workers who are employed abroad. Although 36% of respondents reported no need for co-working facilities, the observed emergence of new cafés and flexible spaces both inside (48%) and outside (48%) city centers, suggest diversification of local working

environments (source: Citizen Survey, 2025). Rural areas, however, continue to face gaps in digital reliability and co-working availability, reinforcing rural-urban differences in remote work infrastructure. One respondent highlighted that *"There have been more flats being built in the town center next to mine (my family's hometown) and these are somewhat affordable. It seems almost impossible this would be doable if it wasn't for offices being able to heavily reduce their physical footprint due to remote [or] hybrid work."*

2. Rising House Prices in Commuter Towns

The spatial redistribution of remote workers has created significant upward pressure on house prices across commuter towns in the Southeast during the Covid-19 pandemic, with the median house price in the South-east having increased by 10% to £402,466 between November 2021 and November 2022 (Why developing brownfield land may be easier than you think | LandTech', 2024). Elmbridge maintained the highest absolute prices in the region at £740,435, reflecting its proximity to London and abundance of green spaces. Worst housing affordability crises outside London are concentrated in areas flanking the capital, including Chichester, Waverley, Tandridge, Epsom and Ewell, Elmbridge, Tunbridge Wells, Windsor and Maidenhead, and Brent-wood (Bright & Lavin, 2022). These affordability issues have been particularly acute in areas popular with re-mote workers seeking the 'race for space'. The Citizen Survey Surrey (2025) shows that 42% of respondents agree that housing prices outside city centers are rising due to remote workers moving in and 23% strongly agree with this trend. As one respondent observes, "*More houses are being built in my area, and the house prices have increased dramatically - due to the remote working options and high-speed train services to Lon-don*".

3. Transformation of Commuting Patterns and Extended Travel-to-Work Areas

Hybrid working has fundamentally transformed commuting patterns across the Southeast, enabling workers to accept longer commutes on fewer days. Remote workers commute an average of 27 minutes compared to 21 minutes for non-remote workers (How Remote Working is Changing Mobility in the UK - RSA Main, 2024; Ravalet & Rerat, 2019). However, Citizen Survey Surrey (2025) shows more mixed results. 38% of respondents note that public transport use has decreased, 30% agree that private vehicle use has decreased, but only 4% of respondents have observed extreme congestion reduction due to remote work, also possibly due to con-gestion having been a major rush hour concern in Surrey and the Southeast of the UK for years, which is exac-erbated by the high car ownership levels in the country. While many respondents reported less commuting overall, especially on Mondays and Fridays, leading to quieter roads and public transport systems at the start and end of the week, Tuesdays to Thursdays were frequently described as the new peak commuting days. One respondent noted "*Wednesdays are busy in terms of traffic because that seems to be the 'in office' day*" and another stated "*Commuting on Mondays and Fridays is a lot easier as there are less people. There is less of a rush hour as people are travelling home from the office at different times*", confirming that hybrid patterns have shifted when people commute rather than eliminated it entirely. Several noted that the traditional 7-9am and 4-6pm rush hours have become less pronounced, with travel more spread throughout the day.

4. Changing Use of Homes and Buildings

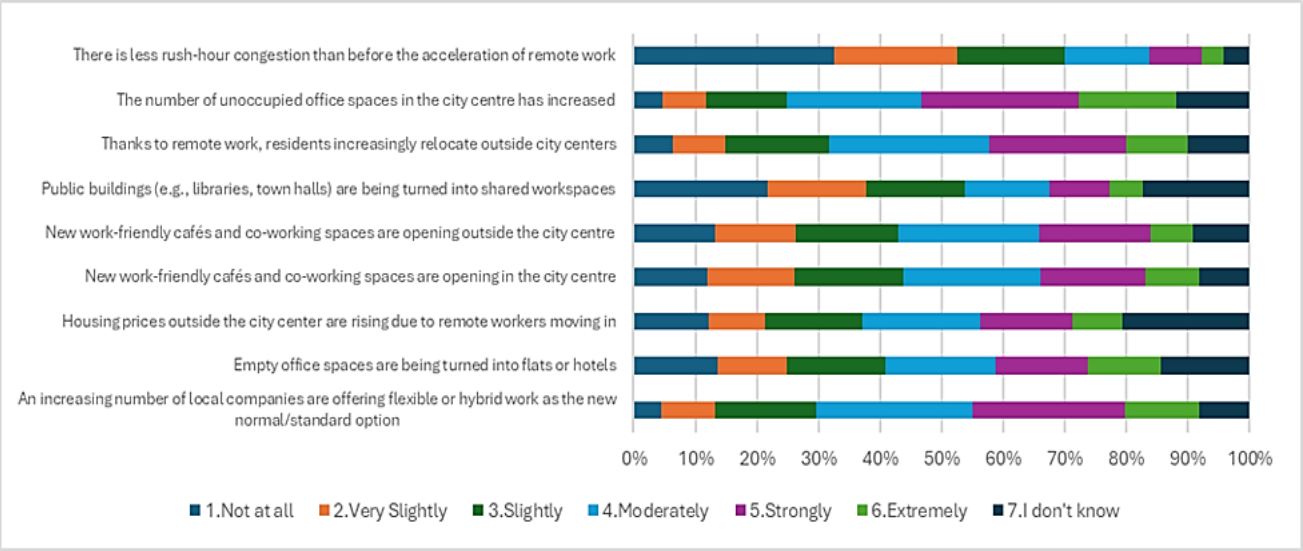
The Southeast has experienced particularly pronounced shifts in how residential and commercial buildings are used since the adoption of hybrid working. The Southeast, the most populous region in England with over 9.2 million residents (ONS Census 2021), faces significant planning constraints, with 16% of its land designated as Green Belt, the largest share of any English region (Ministry of Housing, Communities & Local Government, 2025). This adds to the region's acute housing pressures and limited scope for outward expansion, driving homeowners to convert garages, lofts, and spare rooms into dedicated workspaces. It is therefore unsurprising that Brighton is the UK's number one home improvement hotspot - with more jobs carried out there in Q3 2024 than any other place in the UK outside of London, followed by Guildford and Portsmouth (Checkatrade, 2025). In the commercial sector, the impact has been even more dramatic. Nearly 13 million square feet of

Southeast office space has been earmarked for residential conversion, reflecting the 'flight to quality' by occupiers, fleeing to new buildings with more amenities and better ESG credentials, and fueled by the recent Government relaxation of Permitted Development Rights, so that commercial buildings of any size can be converted into new homes (CoStar, 2024). Citizen Survey Surrey (2025) confirms this trend, with 64% of respondents agreeing that the number of unoccupied office spaces in the city center have increased and 45% stating that empty office spaces are being turned into flats or hotels. Some respondents mention that *"People are extending their houses or putting up cabin/office space in their gardens"* and that *"More people are carrying extensions to their properties since remote working became widespread during the pandemic."*

5. The 'Hub-and-Spoke' Effect and the Redistribution of Local Service Spending

Hybrid working has triggered a redistribution of consumer spending from city centers to suburban areas, with the Southeast experiencing particularly significant effects. The Centre for Economics and Business Research (2024) reports that London's economy is overstated by around £8 billion because many staff who work for London-based companies no longer sit in the city and that the Southeast's economy would be around £4.0 billion (1.1%) larger if remote work was appropriately accounted for. Some businesses are adapting through 'hub-and-spoke' models, combining a primary headquarters in a city center with local satellite offices closer to where employees live (spokes), providing access to office amenities but with the flexibility of being closer to home. Citizen Survey Surrey (2025) respondents similarly highlighted reduced demand for central cafés, restaurants, and sandwich shops, closure or reduced hours of business once reliant on weekday office workers and perceived shift from 'commuter town' dynamics to more localized working patterns. 48% confirmed that new work-friendly cafés and co-working spaces opened outside the city center with respondents noting that "*some adverts on Facebook from local pubs and cafes, offering their spaces for remote workers (often for a fixed fee which includes e.g. lunch, tea, coffee)*" or that *"local cafes are busier; shorter queues in shops as custom is more spread out,"* and that *" more people of a working age walk on the beach promenade during the day and more people in restaurants with laptops and tablets working"*.

Diagram 13. Responses on perceived spatial changes in Southeast England due to remote work (source: R-Map Use Case Surrey Citizen Survey, 2025)



3.5.4 Socio-economic phenomena observed due to remote work

1. **Standardisation of Flexible Work Arrangements**

Southeast England has emerged as the UK's leading region for home-based work adoption outside London, with 36.9% of homeworkers (Office for National Statistic, 2022b). Surrey included 44.1% homeworkers in 2021 (Surrey County Council, 2025). Citizen Survey Surrey (2025) evidence confirms that 62% of respondents agree that local companies now offer flexible or hybrid work as standard, signalling a fundamental shift in workplace expectations across the region. Cities show 86.5% adoption, towns/suburbs 78.5%, and rural areas 75.8%, reflecting different levels of access to knowledge-economy employment.

2. **Digital Inequality and Workforce Exclusion Risks**

Despite the Southeast's leading position in digital connectivity with only 5% of the population having zero digital skills compared to for example 19% in Wales (Office for National Statistics, 2019), significant disparities persist among specific demographic groups. Overall, 42% of respondents seem to be confident about their digital skills and feel well equipped to meet their remote work requirements (source: Citizen Survey, 2025). However, this contrasts with certain open ended question responses received, where respondents highlighted low level digital skills as one of the barriers to expanding remote work. Moreover, Citizen Survey Surrey (2025) data reveals that 50% of respondents agree that residents aged 55+ face difficulties with digital skills needed for remote or hybrid work, with 28 % of respondents strongly or extremely agreeing. Rural residents face compounded challenges: 40% of survey respondents acknowledge that rural residents face digital skill difficulties. While only 22% of remote workers report experiencing poor internet connectivity, the need remains significant in specific localities. National data confirms that 17% of rural residential premises and 30% of rural commercial premises still lack access to superfast broadband (Ofcom, 2021). These disparities create two-tier access to flexible working opportunities, with higher-paid professional roles disproportionately concentrated among those with both digital skills and reliable connectivity. Survey respondents confirmed this: "*Work is becoming more reliant on digital skills*".

3. **Social Isolation, Mental Health, and Work-Life Boundary Challenges**

National research has identified that 67% of home workers nationally feel less connected to colleagues, while 56% report difficulty switching off from work (RSPH, 2021). Remote working appears to introduce major well-being trade-offs. In the Southeast of England, 32% of remote workers experience social isolation, with 19% reporting strong or extreme isolation (source: Citizen Survey, 2025). Qualitative responses reveal recurring socio-economic issues (see D1.4 for more details): "*Loneliness and isolation*", "*Energy bill going up considerably, feeling of isolation*" and "*I think working remotely can increase mental health issues*". However, perspectives are mixed with some respondents reporting that remote work is "*the best thing that could have ever happened for work-life balance*". Similarly, views are split regarding social interaction. While some respondents mention that "*More social activity as a result of people not being tied to an office and having to commute.*", others report that "*people are staying inside more and are less social*". Only 15% report reduced productivity when working remotely, and 13% experience communication difficulties with colleagues, suggesting adaptation to new working patterns (source: Citizen Survey, 2025).

4. **Gendered Dimensions of Remote Work in Childcare Responsibilities**

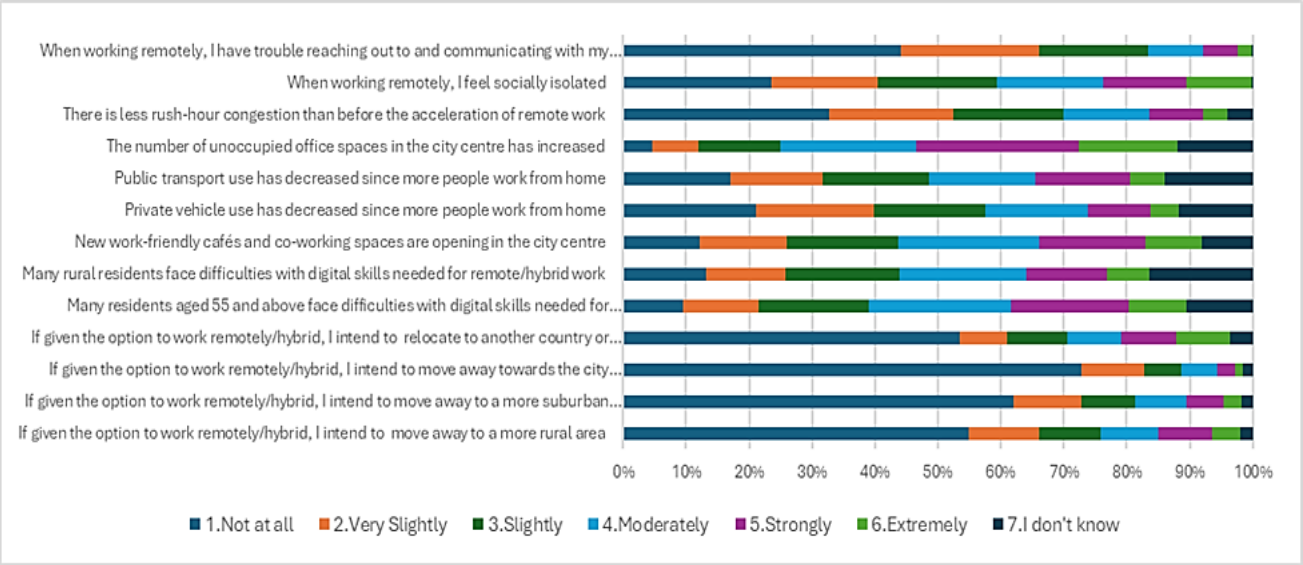
Research demonstrates that when women work flexibly, they undertake significantly more housework and childcare, whereas domestic contributions by men remain largely unchanged regardless of any flexible working arrangements (Wang and Cheng, 2024). In the Citizen Survey Surrey (2025), 19% of respondents require better childcare support to enable remote work, with nearly identical rates between genders (24.9% male, 24.6% female). Qualitative survey comments state that remote work has transformed childcare dynamics, enabling parents-particularly fathers-to participate more in school runs and daily routines, reducing reliance on formal childcare and wrap-around services, allowing previously unemployed parents to enter the workforce,

providing greater availability for emergencies and appointments, and facilitating more equitable sharing of parenting responsibilities, though often at the cost of extended working hours. However, most open-ended survey responses relating to childcare came from female respondents, suggesting that caring responsibilities may still weigh more heavily on women in practice. This supports the evidence of homeworking mothers having increased their time spent on domestic work, and doing a larger share of routine childcare, compared to mothers going into work in UK, signalling that homeworking has the potential to further exacerbate gender inequality patterns (Chung et al., 2022). Qualitative survey comments mention that: "*More people use flexible hours while working remotely, to save on childcare. Some parents at my child's school who were previously unemployed have been able to start working, as they are in remote roles so can work from home around childcare which wouldn't have been possible for them to have*" and "*Flexible working has meant more parents, particularly fathers doing the school run rather than using wrap around care.*"

5. Counter-urbanisation

Survey findings reveal a pattern of counter-urbanisation preferences among residents in the Southeast of England. The vast majority (73%) show little appetite for relocating toward central urban areas, with future relocation intentions instead favouring rural (22%) and suburban (17%) locations over city centres (10%), if given remote working options (source: Citizen Survey, 2025). A notable 26% express intends to relocate internationally, citing quality of life, affordability, or tax benefits-demonstrating the geographic flexibility that remote work enables (source: Citizen Survey, 2025). This residential contentment likely reflects the favourable housing conditions in Surrey and the Southeast compared to other UK regions. Traditional pull factors for relocation appear to hold limited influence: 64% indicate that public transport options would not prompt a move, which may be unsurprising given the high car ownership levels in the region and the prohibitive cost of commuting: "*The price of commuting is extortionate*". Similarly, 63% report that co-working space availability would not influence relocation decisions, possibly due to adequate home workspace provision. Cross-border and policy-related factors have had minimal impact on remote work patterns in the region. Over a third (35%) confirm that commuting infrastructure has not influenced cross-border work, largely due to the limited number of cross-border commuters, with Covid-19, visa regulations, and Brexit potentially contributing to this trend. The absence of government-led remote work incentives means 55% have observed no significant changes from such policies.

Diagram 14. Responses on perceived socio-economic changes in Southeast England due to remote work (source: R-Map Use Case Surrey Citizen Survey, 2025)



3.5.5 Factors influencing how phenomena were shaped

1. Covid-19 Pandemic as a Catalyst for Accelerated Digital Transformation

The Covid-19 pandemic served as an unprecedented catalyst that compressed previously required years of digital transformation into months. Before March 2020, only approximately 5% of UK workers worked mainly from home; by the first lockdown, this surged to over 40% (Hobbs and Mutebi, 2022). This forced experiment demonstrated that many knowledge-economy jobs could be performed effectively from home, fundamentally challenging traditional assumptions about productivity and workplace presence. Survey respondents confirm this transformation, with 62% agreeing that companies now offer hybrid working arrangements as standard policy. Respondents note "*Covid was a major factor*", "*I had commuted by rail every day for 25 years. Post Covid this basically stopped, and I only visited the office 1 or 2 times a week*" and "*I had to work remotely during Covid and would never do it by choice*." (source: Citizen Survey, 2025)

2. Flexible Working Legislation: Employment Relations (Flexible Working) Act 2023

On a National level, the UK has established a comprehensive legislative framework supporting flexible working through the Employment Relations (Flexible Working) Act 2023, which came into force on 6 April 2024 and extended day-one rights for all employees to request flexible working arrangements (GOV.UK, 2023b). However, only 23% of Southeast England survey respondents report that local government incentives (such as subsidised accommodation for remote workers) have enabled or encouraged remote work (source: Citizen Survey, 2025). This distinction reflects the difference between national-level employment rights and local-level financial incentives. The 2023 Act grants employees the *right to request* flexible working but does not mandate employer acceptance, nor does it provide direct financial support for remote workers. The House of Lords Home-based Working Committee recommended that the Government *"promote and incentivise employer investment in management training to support effective remote and hybrid working"* indicating that such incentives are not yet in place (UK Parliament, 2025). As one survey respondent noted: "*companies and government are now pushing back to the office*". (source: Citizen Survey, 2025)

3. Public Transport Infrastructure and Commuter Connectivity

The bulk of the UK's transport network is concentrated in London and the Southeast, a legacy of Victorian-era development that enabled the phenomenon of commuting and created the functional commuter belt (Department for Transport, 2025). This infrastructure has paradoxically both enabled and been transformed by remote work. The network serves over 1 million daily commuters, with lines connecting London to destinations across Kent, Surrey, Sussex, Hampshire, Berkshire, Buckinghamshire, and beyond (Department for Transport, 2025). The Elizabeth line (Crossrail), opened in May 2022, providing a high-frequency east-west rail service linking suburbs such as Reading and Shenfield to central London and Heathrow, further extending the effective commuting range. Citizen Survey Surrey (2025) data support this with only 16% of respondents indicating needing better transport options to enable remote work. However, respondents now note that transport related challenges: "*The frequency of public transport has reduced since 2020*" and that the "*The price of commuting has increased a lot due to less people using the public transport system.*"

4. Digital Infrastructure Investment: Project Gigabit and Broadband Coverage

The UK government's £5 billion Project Gigabit programme has substantially improved digital infrastructure, with gigabit-capable broadband coverage reaching 81% nationally, up from just 6% in 2019 (GOV.UK, 2022). The Southeast has particularly benefited, with Project Gigabit contracts signed for Kent, Sussex, Buckinghamshire, Hertfordshire, and East Berkshire. This infrastructure investment has removed a critical barrier to remote work adoption. Further regional initiatives include the Surrey County Council Digital Infrastructure, Hampshire County Council - Digital Hampshire, West Sussex County Council Digital infrastructure strategy (2023-2030) and Digital Kent. However, significant gaps remain with rural coastal districts, such as Arun and

Chichester, showing significantly lower broadband coverage than nearby urban areas with 48.7% and respectively 59.4% coverage, Hastings with 65.4% coverage, albeit among the lowest for urban locations. In Surrey, rural Tandridge achieves 68.1%, compared with Reading's 96.4% urban coverage. Citizen Survey Surrey (2025) data confirm this digital divide, with 28% of remote workers needing better internet connectivity to enable them to work remotely. As respondents note: "*In Oxfordshire, several factors influence the adoption of remote work. Reliable broadband access is essential, especially as rural areas can still face connectivity challenges.*" and *"The current speed of broad band discourages remote work, additionally this area has no mobile signal all this adds to the ability and [how] easy [it is] to remote work".*

5. **Housing Affordability Crisis**

The Southeast experiences a severe and persistent housing affordability crisis that has both motivated and been exacerbated by remote work-enabled relocation. In 2024, the median house price of £290,000 in England was 7.7 times the median earnings (Office for National Statistics, 2025c), with the Southeast above this average. London commuter areas such as Hertsmere (9.6x), Three Rivers, and Chichester (8.5x) show particularly stretched affordability. Since 2002, homes in England and Wales have not been affordable on average (defined as less than 5x earnings). This crisis has created powerful incentives for workers to relocate to more affordable areas once remote work removed the requirement for daily commuting. One Citizen Survey Surrey (2025) respondent notes that: "*My area is deprived, but it was me who moved here because I work remote and housing is much cheaper than in the city where I was living. Many of my colleagues moved up north in the last three years because of [the] housing situation.*", while another noted the rising property costs in the area: "*Housing costs more expensive*".

6. **Concentration of Knowledge Economy in the Southeast**

Remote working has become geographically concentrated in affluent areas of the Southeast, creating distinct working-from-home hotspots. Research from the University of St Andrews notes that remote workers are already more likely to be higher-paid knowledge workers, and the rise of remote work extends these advantages through greater spatial and temporal flexibility (McCollum, 2025). The regional analysis confirms that southern English regions exhibit the strongest trends in remote work-related mobility. However, non-remote workers in lower-paid roles requiring physical presence remain tied to fixed locations, potentially deepening existing occupational and income divides across the region. Citizen Survey Surrey (2025) reports an overwhelming majority of 79% of respondents working remotely and 68% agree that their local companies are offering flexible or hybrid work options as standard. Top areas represented include Waverley, Wokingham, Surrey Heath, Winchester, Reading, which are the affluent commuter belt hotspots.

3.5.6 Summary of the main findings

The key spatial phenomena observed due to remote work in the use case area are:

- ***Migration to Suburban and Coastal Cities (the 'Donut Effect') and Expansion of Co-working Spaces.*** *Remote work has created a suburban 'donut' around London, with the Southeast accounting for 35% of all moves out of London in 2022 and 63% of respondents observing increased unoccupied office spaces in city centers.*
- ***Rising House Prices in Commuter Towns.*** *The spatial redistribution of remote workers has created significant upward pressure on house prices, with 42% of respondents agreeing that prices outside city centers are rising due to remote workers moving in.*
- ***Transformation of Commuting Patterns and Extended Travel-to-Work Areas.*** *Hybrid working has shifted when people commute rather than eliminating it, with Mondays and Fridays becoming quieter while Tuesdays to Thursdays emerge as new peak commuting days.*

- ***Changing Use of Homes and Buildings.*** *Homeowners are converting garages, lofts, and spare rooms into dedicated workspaces, while nearly 13 million square feet of Southeast office space has been earmarked for residential conversion.*
- ***The 'Hub-and-Spoke' Effect and Redistribution of Local Service Spending.*** *Consumer spending has shifted from city centers to suburban areas, with the Southeast's economy estimated to be £4.0 billion larger if remote working patterns were appropriately accounted for.*

The key socio-economic phenomena observed due to remote work in the use case area are:

- ***Standardization of Flexible Work Arrangements and Regional Differentiation****. Southeast England has emerged as the UK's leading region for home-based work outside London.*
- ***Digital Inequality and Two-Tier Workforce Access****. Rural areas face compounded challenges with rural residential and commercial premises lacking superfast broadband, creating spatially uneven access to flexible working opportunities.*
- ***Social Isolation and the Reconfiguration of Social Space****. Remote working has reconfigured social interactions, with workers experiencing isolation and mental health issues.*
- ***Gendered Dynamics of Home-Based Work****. The home as a workspace has transformed childcare geographies, enabling greater parental participation in school runs and local routines, though potentially reinforcing domestic labor inequalities.*
- ***Counter-Urbanization and Residential Decentralization****. Remote work has enabled residential preferences favoring rural and suburban locations over city centers, with some expressing intentions for international relocation citing quality of life and affordability.*

The key local factors that influenced how phenomena were shaped in the use case area are:

- ***Covid-19 Pandemic as a Catalyst for Accelerated Digital Transformation****. The pandemic compressed years of digital transformation into months, with UK home-based workers surging from 5% to 62% of respondents now confirming that companies offer hybrid working as standard.*
- ***Flexible Working Legislation: Employment Relations (Flexible Working) Act 2023****. National legislation grants day-one rights to request flexible working, though only 23% of respondents report that local government incentives have enabled or encouraged remote work.*
- ***Public Transport Infrastructure and Commuter Connectivity****. The extensive transport network serving over 1 million daily commuters has both enabled and been transformed by remote work, with respondents noting reduced frequency and increased travel costs since 2020.*
- ***Digital Infrastructure Investment****:* ***Project Gigabit and Broadband Coverage.*** *Government investment has increased gigabit-capable broadband coverage from 6% to 81% nationally, though significant rural-urban gaps persist, with 28% of remote workers still needing better connectivity.*
- ***Housing Affordability Crisis****. Severe affordability pressures have created powerful incentives for workers to relocate to more affordable areas once remote work removed the requirement for daily commuting.*
- ***Concentration of Knowledge Economy in the Southeast****. Remote working has become geographically concentrated in affluent areas, with 79% of survey respondents working remotely and top-represented areas including Waverley, Wokingham, Surrey Heath, Winchester, and Reading.*

3.5.7 References

Beveridge, A. 2022. "London Exodus Continues into the First Half of 2022." Hamptons. https://www.hamptons.co.uk/articles/london-exodus-continues-into-the-first-half-of-2022#/.

Bright, S., and S. Lavin. 2022. "The Great Escape: How a City Exodus is Creating New Housing Crises in Satellite Towns." *Byline Times*, May 19, 2022. https://bylinetimes.com/2022/05/19/the-great-escape-how-a-city-exodus-is-creating-new-housing-crises-in-satellite-towns/.

Centre for Cities. 2024. "During Covid, People Leaving London Chose Non-Urban Areas over Big Cities." Centre for Cities Blog. https://www.centreforcities.org/blog/.

Centre for Economics and Business Research. 2024. "Remote Working Artificially Boosts London's Economy by £8 Billion, at the Expense of the East and Southeast." CEBR. https://cebr.com/blogs/remote-working-artificially-boosts-londons-economy-by-8-billion-at-the-expense-of-the-east-and-south-east/.

Checkatrade. 2025. "Checkatrade Launches First-Ever UK Home Improvement Index." Checkatrade.com. https://www.checkatrade.com/blog/news/checkatrade-launches-first-ever-uk-home-improvement-index/.

Chung, H., Birkett H., Forbes S., and Seo H. 2022. "Working from Home and the Division of Childcare and Housework among Dual-Earner Parents during the Pandemic in the UK." *Merits* 2 (4): 270-292. https://doi.org/10.3390/merits2040019.

CoStar. 2024. "Southeast Sees New Legislation Unlock Wave of Office-to-Resi Investment." CoStar.com. https://www.costar.com/article/791861138/south-east-sees-new-legislation-unlock-wave-of-office-to-resi-investment.

De Fraja, G., J. Matheson, P. Mizen, J. Rockey, and S. Taneja. 2025. "Remote Working and the New Geography of Local Service Spending." *Economica*.

Department for Transport. 2025. "Rail Factsheet: 2024." GOV.UK. https://www.gov.uk/government/statistics/rail-factsheet-2024/rail-factsheet-2024.

GOV.UK. 2022. "Project Gigabit (UK Gigabit Programme)." https://www.gov.uk/guidance/project-gigabit-uk-gigabit-programme.

GOV.UK. 2023. "Employment Relations (Flexible Working) Act 2023." Legislation.gov.uk. https://www.legislation.gov.uk/ukpga/2023/33.

GOV.UK (2023b). Employment Relations (Flexible Working) Act 2023. Available at: https://www.legislation.gov.uk/ukpga/2023/33.

Hobbs, A., and N. Mutebi. 2022. "The Impact of Remote and Hybrid Working on Workers and Organisations." UK Parliament POST. https://post.parliament.uk/research-briefings/post-pb-0049/.

LandTech. 2024. "Why Developing Brownfield Land May Be Easier Than You Think." Land.tech. https://land.tech/.

McCollum, D. 2025. "Post-Pandemic Geographies of Working from Home." *Geography Directions*.

Ministry of Housing, Communities and Local Government. 2019. *The English Indices of Deprivation 2019 (IoD2019): Statistical Release*. London: MHCLG. https://assets.publishing.service.gov.uk/media/5d8e26f6ed915d5570c6cc55/IoD2019_Statistical_Release.pdf.

Ministry of Housing, Communities and Local Government. 2025. "Local Authority Green Belt: England 2024-25 - Statistical Release." GOV.UK. https://www.gov.uk/government/statistics/local-authority-green-belt-statistics-for-england-2024-to-2025/local-authority-green-belt-england-2024-25-statistical-release.

Office for National Statistics. 2019. "Exploring the UK's Digital Divide." https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/articles/exploringtheuksdigitaldivide/2019-03-04.

Office for National Statistics. 2021. "2021 ONS Rural-Urban Classification for Local Authority Districts (LADs)." https://www.ons.gov.uk/methodology/geography/geographicalproducts/ruralurbanclassifications/2021ruralurbanclassification.

Office for National Statistics. 2022a. "Standard Area Measurements for Administrative Areas (December 2022) in the UK (V2)." https://geoportal.statistics.gov.uk/datasets/235c70d40c494361bd6b0ddaebdf0bad/about.

Office for National Statistics. 2022b. "Homeworking in the UK - Regional Patterns." https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/homeworkingintheukregionalpatterns/2019to2022.

Office for National Statistics. 2023. "Characteristics of Homeworkers, Great Britain."

Office for National Statistics. 2024. "Population Estimates for England and Wales: Mid-2024." https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/populationestimatesforenglandandwales/mid2024.

Office for National Statistics. 2025a. "Regional Economic Activity by Gross Domestic Product, UK: 1998 to 2023." https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/regionaleconomicactivitybygrossdomesticproductuk/1998to2023.

Office for National Statistics. 2025b. "International Trade in UK Nations, Regions and Cities: 2023." https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/bulletins/internationaltradeinuknationsregionsandcities/2023.

Office for National Statistics. 2025c. "Housing Affordability in England and Wales." https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housingaffordabilityinenglandandwales/2024.

Property Reporter. 2023. "London's Mass Exodus: Where Are They All Going?" https://www.propertyreporter.co.uk/londons-mass-exodus-where-are-they-all-going.html.

Ravalet, E., and P. Rerat. 2019. "Teleworking: Decreasing Mobility or Increasing Tolerance of Commuting Distances?" *Built Environment* 45 (4): 582-602. https://doi.org/10.2307/45237778.

Regional Studies Association. 2024. "How Remote Working is Changing Mobility in the UK." RSA Blog. https://www.regionalstudies.org/rsa-blog/sssblog2024how-remote-working-is-changing-mobility-in-the-uk/.

Royal Society for Public Health. 2021. "Survey Reveals Mental and Physical Health Impacts of Home Working." https://www.rsph.org.uk/news/survey-reveals-the-mental-and-physical-health-impacts-of-home-working-during-covid-19/.

Surrey County Council. 2025. "Travel to Work from the 2021 Census." Surrey-i. https://www.surreyi.gov.uk/census-2021/travel-to-work/.

UK Government. 2022. "UK Digital Strategy." https://www.gov.uk/government/publications/uks-digital-strategy/uk-digital-strategy.

UK Parliament. 2025. "Working from Home Could Get People Back into Work." Committees. https://committees.parliament.uk/committee/771/homebased-working-committee/news/210300/working-from-home-could-get-people-back-into-work/.

Wang, S., and C. Cheng. 2024. "Opportunity or Exploitation? A Longitudinal Dyadic Analysis of Flexible Working Arrangements and Gender Household Labor Inequality." Understanding Society. https://www.understandingsociety.ac.uk/research/publications/publication-567990/.

3.6 Rheintal-Bodenseegebiet, Vorarlberg (Region Austria, Germany and Switzerland)

3.6.1 Developmental profile

Figure 13. Overview of the Rhine Valley with the Alps in the background and lake Constance in the foreground (source: https://de.wikipedia.org/wiki/Alpenrheintal)

The Rheintal-Bodenseegebiet[12] is located in western Austria and shares borders with Switzerland, Germany, and Liechtenstein. It forms part of a broader cross-border urban agglomeration surrounding Lake Constance (Bodensee), which enhances its strategic and economic relevance in the region. Despite its predominantly rural character, the area features a diverse landscape of alpine and pre-alpine terrain, interspersed with river valleys and scenic lakeshores. The region is marked by a polycentric urban structure, with several key municipalities contributing to its development. Notable urban centers include Bregenz (the state capital), Dornbirn, Feldkirch, Lustenau, and Götzis. Although classified as largely rural, the area is highly urbanized in terms of population distribution, with approximately 92.3% of residents living in urban areas (Agglomeration Rheintal, 2025).

The Rheintal-Bodenseegebiet is located within NUTS 2 region Vorarlberg, Austria (country order: 20, region code: 1303), specifically in the NUTS 3 region Rheintal-Bodenseegebiet (country order: 20, region code: 1271) (Eurostat, 2021).

The region displays a diversified industrial economy, with contributions from the manufacturing sector and the service sector. Overall, there is a strong industrial base especially in precision engineering and textiles complemented by health services, tourism, and increasingly, remote work and digital services. The region's strategic location facilitates cross-border employment, with many residents commuting to neighboring countries like Switzerland and Liechtenstein (Arbeitsmarktservice Österreich, 2025). In this regard, the region benefits from a well-developed infrastructure network, including major highways and rail connections, enhancing its accessibility and economic integration with these neighboring regions (Amt der Vorarlberger Landesregierung, 2022; Regio-V, 2022).

In summary, with a population of 274,352 (2022) and a population density of 378 inhabitants/km², the area is characterized by a mix of small urban nodes and rural hinterlands. It is predominantly rural, featuring mountainous terrain and lakeside zones along the Bodensee, with strong industrial and service sectors. Due to its alpine geography and strategic location, it is a key transit and economic corridor in the Alpine Rhine Valley (Eurostat, 2023; Regio-V, 2022).

[12] -For Vorarlberg (Austria), the cross-border use case initially planned to perform an analysis with respect to Switzerland's neighbouring regions, the scope had to be expanded to include German cross-border regions as well, in order to ensure a sufficient sample size for the regional survey, as the Lake Constance region alone is relatively small. To that end, the use case area profile analysis was also expanded.

As this is a small and sparsely populated area, located near multiple borders(Liechtenstein, Switzerland, and Germany) the research scope has been expanded to include the regions of Bavaria and Baden-Württemberg. The decision was taken after rejections received from nine leading survey companies in Switzerland and Austria due to the infeasibility of surveying at least 1,000 participants in the Bodensee region. These areas are relevant as they also include remote workers engaged in cross-border employment. The regions of **Bayern** and **Baden-Württemberg**, located in southern Germany, are among the most prosperous and populous federal states in the country. Both regions exhibit a **polycentric spatial structure**, combining vibrant metropolitan areas such as **Munich**, **Stuttgart**, **Nuremberg**, and **Augsburg** with a network of medium-sized towns and rural municipalities. Geographically, the regions span from the Alpine foothills to the river plains of the Danube and Rhine, bordering **Austria**, **Switzerland**, **Liechtenstein**, and **France**. This strategic location supports strong cross-border interaction, particularly in the **Lake Constance (Bodensee)** area and along the **Upper Rhine Valley**, which are recognized EU cross-border cooperation zones under **Interreg programs** (Interreg Alpine Space, 2022; Interreg DACH, 2023).

Economically, both regions are characterized by a **diversified and high-performing economy**, with strong industrial, technological, and service sectors. **Baden-Württemberg** has a particular focus on advanced manufacturing and automotive industries, led by global firms such as Daimler and Bosch, while **Bayern** hosts a booming tech and media sector alongside traditional industries (Statistisches Landesamt Baden-Württemberg, 2023; Bayerisches Landesamt für Statistik, 2023). The regions also exhibit high levels of **research and innovation**, with numerous universities and research institutions (e.g., Universität Stuttgart, LMU München, Fraunhofer-Gesellschaft) and benefit from a highly skilled workforce.

In terms of urbanization, despite large rural areas, both states show **significant urban concentration**: over 80% of the population live in areas classified as DEGURBA categories 1 or 2 (Eurostat, 2024). The rural hinterlands are characterized by small towns and villages integrated into regional economies via efficient transport infrastructure, including high-speed rail links and dense motorway networks (Bundesinstitut für Bau-, Stadt- und Raumforschung, 2023).

Together, **Bayern** (approx. 13.3 million inhabitants) and **Baden-Württemberg** (approx. 11.3 million) account for over 30% of Germany's GDP and population. Their strategic role in **cross-border labor markets**, especially in border-adjacent districts such as **Lindau**, **Konstanz**, and **Oberallgäu**, is underpinned by commuter flows into **Austria** and **Switzerland**, enabled by freedom of movement within the **Schengen Area** and supported by EU-funded transport and labor mobility programs (Destatis, 2024; Eurostat, 2023; Bundesagentur für Arbeit, 2023).

In summary, the southern German regions of Bayern and Baden-Württemberg are crucial economic and infrastructural corridors within the broader Alpine space. Their **combination of urban and rural landscapes**, **industrial power**, and **cross-border integration** renders them key actors in the European strategy for regional development and transnational cooperation (European Commission - ESPON, 2023).

Use case area characteristics based on T2.3 typology[13]
The remote work adoption of the NUTS2 region including Rheintal-Bodenseegebiet (AT34 - Vorarlberg) places it among the regions with low adoption, indicating a limited integration of remote working practices compared to the other case studies. When it comes to its NUTS2 typology, Vorarlberg (AT34) belongs to the broader Cluster 2, characterised by a contrast between current economic strength and indicators related to future growth. On the one hand, regions in this cluster show top-quartile (Q4) performance in GDP per

[13] For more information you may visit Deliverable 2.2 Typology of EU regions based on the effects of remote working on their urban-rural divide, available here https://r-map.eu/deliverables/

capita, quality of life, and digital readiness, reflecting high levels of development and strong infrastructure. On the other hand, they record low-quartile (Q1) scores for the proportion of young people and new enterprise birth rates, suggesting limited demographic renewal and entrepreneurial activity. While population change remains positive (Q4), it appears to be primarily driven by in-migration rather than natural increase or new business formation. These patterns indicate a potential need to address long-term sustainability in demographic and economic terms.

The maps below show the geographical distribution of citizen survey responses in the broader Rheintal-Bodenseegebiet region:

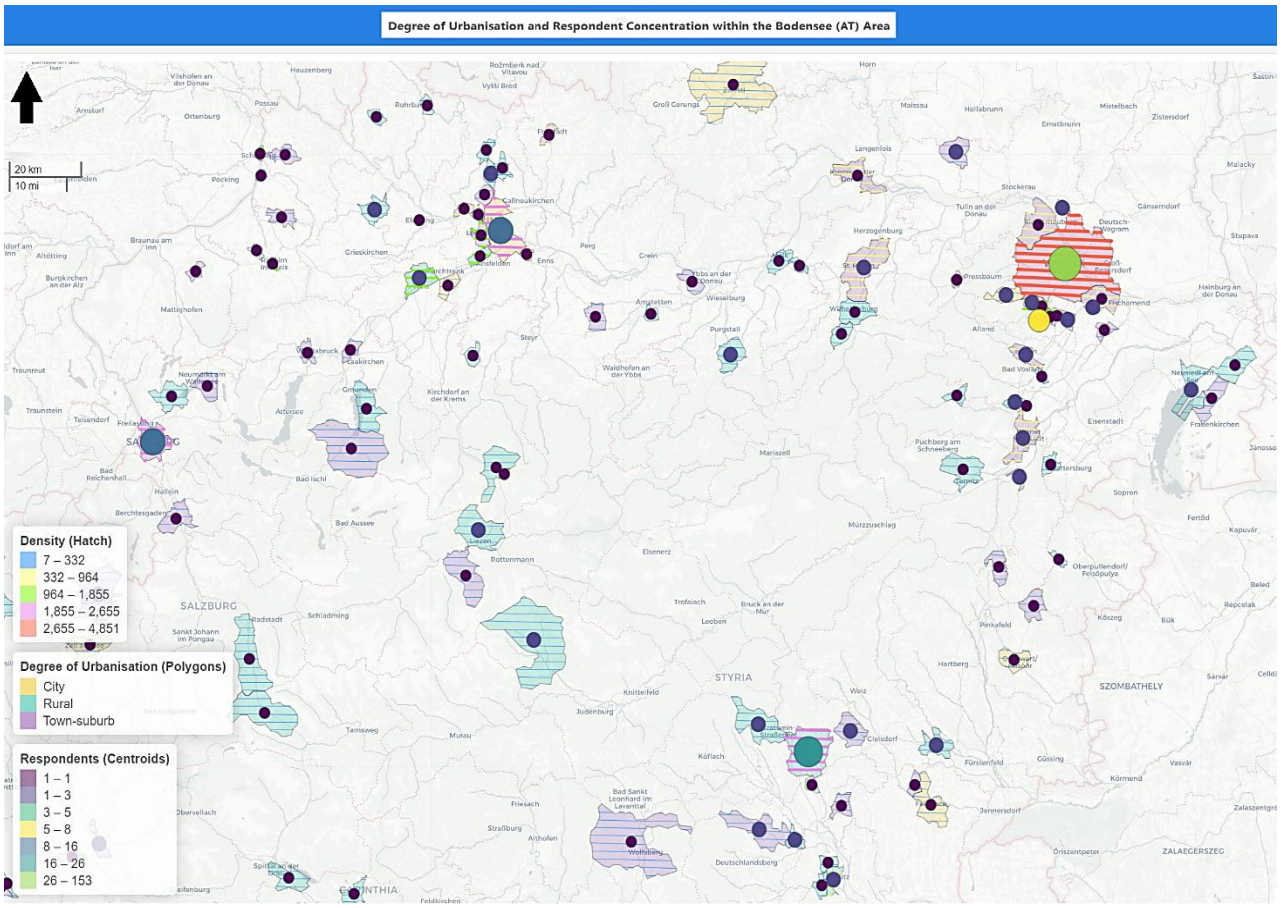


Figure 14. Geographical distribution of citizen survey responses in the use case area of Rheintal-Bodenseegebiet region (inside Austrian border), by Local Administrative Unit selected for inclusion in the use case area analysis (source: LabGeo AUTh, Map prepared by Georgios Gkologkinas).

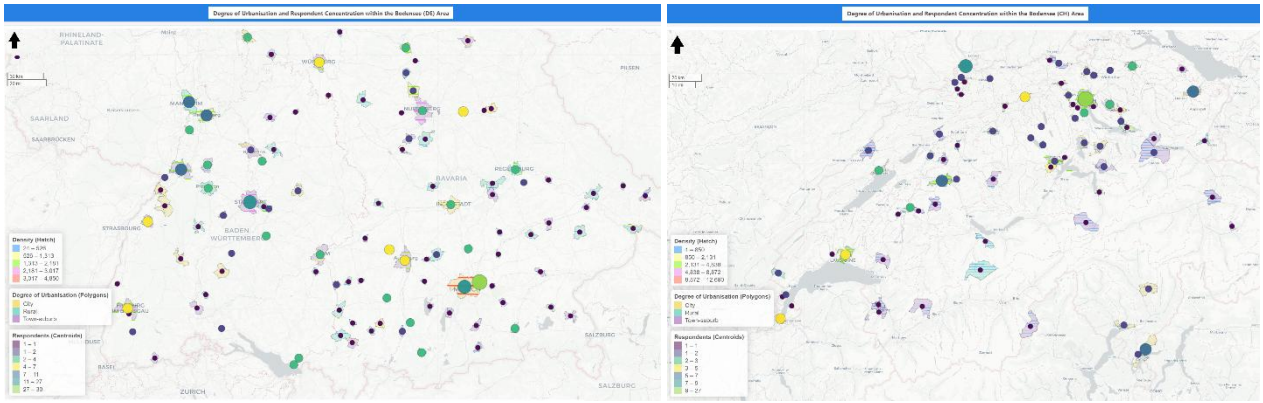


Figure 15. Geographical distribution of citizen survey responses in the use case area of Rheintal-Bodenseegebiet region region (across the German border on the left, and across the Swiss border on the right), by Local Administrative Unit selected for inclusion in the use case area analysis (source: LabGeo AUTh).

3.6.2 Brief description of Remote Work Arrangements and related policies

In **Vorarlberg, Austria**, there is a dedicated regional strategy supporting remote and hybrid work. The government actively encourages employers to accommodate digital work arrangements and mandates that employers cover costs for home office equipment. The region has adopted its own digitalization strategy (*Amt Der Vorarlberger Landesregierung*, 2025). At the other side of the boarder in **St. Gallen, Switzerland**, remote work is promoted through national initiatives such as the **Hybrid Work Compass** developed by the University of St. Gallen (Berger, S., Weber, F., & Buser, 2021; Mercer, 2025).

In **Vorarlberg**, several national and regional measures support remote work. These include legal requirements for employers to provide proper working conditions, investments in broadband and energy infrastructure, co-working spaces, training vouchers, and the introduction of remote work in public administration. The Homeoffice-Maßnahmenpaket 2021 introduced legal requirements for employers to provide proper working conditions for remote work. This includes ensuring appropriate workplace safety measures and clear agreements between employers and employees. National and regional investments have been made to enhance broadband and energy infrastructure, facilitating remote work capabilities. Furthermore, initiatives such as the development of co-working spaces, provision of training vouchers, and the integration of remote work in public administration have been implemented to support remote work adoption (Bundesministerium für Arbeit und Wirtschaft, 2023). In **Vorarlberg**, there are no official regional statistics directly measuring the impact of remote work. General indicators on the effects of digitalization exist but lack detail.

In **Vorarlberg** observed impacts of remote work include the development of co-working and shared business spaces, increased home energy usage, and more flexible business practices. Remote work has supported company creation in rural areas and influenced gender roles, intensifying work-family conflicts. Most experts question the productivity of working from home. The region has always offered excellent infrastructure with well-developed public transportation. Therefore, remote work has neither significantly impacted nor been significantly impacted by the region. However, remote work is an additional attractive factor for employers and is important to employees. That said, no detailed impact analysis has yet been conducted in this region.

National and Regional Policies. Austria has implemented legal frameworks to support remote work. As of January 1, 2025, the concept of "telework" has been formally recognized, allowing employees to work from various locations, including home, provided there's an agreement with the employer. Employers are man-

dated to cover costs related to home office setups, such as equipment and internet expenses (Bundesministerium für Arbeit und Wirtschaft, 2023). However, remote work is a highly unique practice for organizations, with each organization having considerable flexibility in how they implement it.

While remote work saw a significant uptick during the pandemic, recent data indicates a gradual return to office settings. For instance, the number of employees working from home in Austria decreased from approximately 848,000 in 2021 to about 743,000 in 2023 (Austria, 2023). The same is experienced by local experts.

In the German federal states of Bavaria and Baden-Württemberg, remote and hybrid work are supported through a combination of national regulations and state-level digitalization strategies. While Germany does not mandate remote work in all sectors, the country's updated legislation under the *Mobile Work Act* (*Mobile Arbeit Gesetz*) and the *Occupational Safety and Health Act* provide frameworks for employers to enable telework where feasible (Bundesministerium für Arbeit und Soziales, 2023). These states have taken proactive steps to support the structural conditions for remote work, particularly in rural and semi-urban areas. Investments in broadband coverage, subsidies for digital infrastructure in businesses, and the expansion of digital skills training have improved the adoption of remote work, especially among SMEs and public administration. According to the *ifo Institute* (2023), more than 20% of workers in Baden-Württemberg and Bavaria work remotely at least once a week, with higher shares in urban regions like Munich, Stuttgart, and Nuremberg. However, there are no official regional statistics that provide comprehensive impact assessments at the NUTS 3 level. Observed regional trends include an increased use of co-working spaces in smaller towns, enhanced work-life balance for families, and reduced commuting volumes. Despite positive developments, challenges remain, such as cross-border remote work, particularly among knowledge workers and employees in cross-border regions near Austria and Switzerland.

3.6.3 Spatial phenomena observed due to remote work

1. Increase in Unoccupied Office Spaces and Rise of Co-Working Environments

The shift towards remote and hybrid work models has significantly reduced the demand for traditional office spaces, especially in central business districts. As a result, vacancy rates have increased, prompting property owners to reconsider the use of commercial buildings. In response, many regions, including those closer to employees' residences, have seen a growth in co-working spaces. While the long-term usage patterns of these new spaces remain unclear, they reflect a growing preference for flexibility, especially among freelancers and remote teams seeking local, professional environments outside of corporate offices.

2. Conversion of Residential Properties and Changing Housing Patterns

With the rise of remote work, property owners are increasingly converting residential units into short-term, furnished rentals catering to digital nomads and temporary professionals. This trend mirrors a broader relocation dynamic where individuals, freed from daily commutes, move from urban to suburban or rural areas in search of better living conditions and lower housing costs. In Vorarlberg, although the region is predominantly rural, this shift has led to increased pressure on housing availability and a change in demand towards high-quality, flexible living arrangements.

3. Tax and Social Security Complexity

Remote work across borders, particularly within the DACH region, has introduced significant administrative challenges for both employers and employees. Differences in tax codes, social security obligations, and reporting requirements across Austria, Switzerland, and Germany create legal ambiguities and increase bureaucratic

burdens. Small and medium-sized enterprises (SMEs) are particularly affected, often lacking the legal expertise to navigate these complex compliance landscapes, which can hinder the broader adoption of cross-border remote work and SMEs' competitiveness.

4. Increased Demand for Digital Infrastructure and Local Mobility in Rural Areas

As more remote workers settle in less densely populated areas of Vorarlberg, the demand for reliable high-speed internet and improved public transportation has risen. While the region is generally well-equipped with infrastructure, ongoing digital expansion is essential to ensure consistent quality of service. Public investment and regulatory initiatives have supported these improvements, yet uneven access in certain areas still poses a barrier to full regional participation in the digital economy.

5. Emerging Disparities in Access to Remote Work Opportunities

Remote work is not equally accessible across all demographic or occupational groups. Higher-educated, white-collar professionals benefit disproportionately from flexible work arrangements, whereas employees in service, production, and care sectors often remain bound to physical workplaces. This divide may reinforce existing social inequalities and limit the economic resilience of certain communities in rural areas. Addressing this issue requires policy interventions that promote equitable access to digital tools, training, and remote-friendly roles.

According to our the regional survey with 1027 participants distributed in September 2025 changes to the urban fabric are visible but uneven: people observe more empty offices (and some conversions), higher housing demand outside city centres, and new work-friendly cafés/co-working spaces both centrally and in the suburbs; transport effects are mixed, with only a minority reporting clear declines in public/private travel or rush-hour congestion (source: Citizen Survey, 2025).

3.6.4 Socio-economic phenomena observed due to remote work

1. Enhanced Ethnic and Cultural Diversity

The influx of remote workers and their families has contributed to greater ethnic and cultural diversity in Vorarlberg. International companies in the region regularly attract and train employees from around the world, many of whom settle in the area. This trend is further supported by remote work opportunities, which allow globally mobile professionals to live in Vorarlberg while working for employers elsewhere. Relocation and integration services have also become more prevalent to assist with this demographic shift.

2. Increase in Cross-Border Employment

Remote and hybrid work models have enabled more individuals to reside in Vorarlberg while being employed by organizations based in neighboring countries such as Switzerland and Germany. This development is facilitated by Vorarlberg's well-developed cross-border transport infrastructure. However, tax and social security regulations remain fragmented and complex, often resulting in legal uncertainty and bureaucratic burdens for both employees and employers. Despite growing demand, no standardized solution has been implemented across borders.

3. Growth in Remote Job Opportunities and Flexibility Expectations

The number of job postings offering remote or hybrid options has increased noticeably in Vorarlberg, particularly in knowledge-intensive and creative sectors. The younger workforce, in particular, is increasingly demanding flexibility, making remote work a key factor in talent attraction and retention. For employers, offering

flexible work arrangements has become a competitive necessity in the current labor market, especially in the face of skills shortages and heightened competition for talent.

4. Increased Demand for Relocation and Integration Services

The rise in remote work has driven higher demand for relocation services, as professionals moving to Vorarlberg for remote roles often require assistance with housing, legal paperwork, and integration into the local community. This has led to the growth of niche service providers and public-private partnerships aimed at smoothing the transition for new residents, further underlining the socio-economic impact of remote work.

5. Shifts in Community Involvement and Social Cohesion

While remote work allows greater geographic flexibility, it can also lead to decreased day-to-day interaction with local communities, potentially weakening traditional social bonds. In regions like Vorarlberg, where local identity and community ties are strong, this shift presents both challenges and opportunities: there is a need for initiatives that encourage remote workers to engage in civic life and community-building activities to sustain social cohesion over time.

These factors have been also mirrored in the regional survey with 1027 participants distributed in September 2025. Remote/hybrid work is widely perceived to have shifted local demographics and labour patterns: more respondents notice skilled workers moving away than returning, a rise in cross-border living/working, strong growth in hybrid as the "new normal," more remote-oriented tourist stays, greater residential/ethnic diversity, and sizable digital-skills gaps, especially among 55+ and rural residents (source: Citizen Survey, 2025).

3.6.5 Factors influencing how phenomena were shaped

1. Regional Planning and Zoning Regulations

Vorarlberg's spatial development is heavily influenced by long-standing zoning laws and land use restrictions. Limited availability of commercial and residential development land, particularly in areas close to public infrastructure, has constrained responses to changing spatial needs.

2. Public Transport and Cross-Border Mobility

A dense and reliable public transportation network, including rail and bus links, facilitates cross-border commuting between Austria, Switzerland, and Germany. This infrastructure enables remote workers to live in Vorarlberg while maintaining jobs in neighboring countries. However, this increased spatial flexibility also heightens the complexity of daily commuting and residence choices, particularly when employers begin reducing the frequency of required office presence.

3. Digital Infrastructure and Broadband Access

The expansion of remote work is dependent on the availability of high-speed internet, which varies across the region. While most of Vorarlberg is well-connected, disparities still exist in some rural or mountainous areas. Public investments and EU-supported digitalization programs have sought to bridge this gap, but localized deficiencies can restrict the spatial distribution of remote workers and affect property attractiveness.

4. Real Estate Market Dynamics

Rising demand for flexible living and working spaces has led to new investment patterns. High-quality, well-connected housing is increasingly in demand, especially from mobile professionals and digital nomads. However, due to limited available land and long planning timelines, supply has not always kept pace. This has

triggered a rise in prices and a growing interest in the conversion of existing properties, particularly older buildings, into co-working or short-term rental units.

5. Labor Market Composition and Sectoral Distribution

The spatial impact of remote work varies by industry. Vorarlberg's economy is rooted in manufacturing and export-oriented sectors, which still require on-site work. In contrast, knowledge-intensive firms, tech companies, and parts of the service sector have embraced remote and hybrid models. This uneven adoption has created a spatial divide, with some towns and districts attracting more remote-capable professionals due to their job structure and employer flexibility.

6. Employer Policies and Organizational Cultures

The spatial reorganization of workspaces has been influenced by how individual organizations interpret and implement remote work. Some employers encourage full remote setups and downsize physical offices, while others promote hybrid models. These decisions shape demand for office space, co-working hubs, and the geographic distribution of the workforce.

7. Taxation and Social Security Frameworks

Legal and administrative frameworks, especially for cross-border employment, introduce significant spatial rigidity. Differences in tax liabilities, social insurance contributions, and employment law across Austria, Switzerland, and Germany can deter remote work arrangements that might otherwise support spatial decentralization. The lack of harmonization has become a structural barrier to more fluid labor and housing markets.

8. Socio-Cultural Preferences and Quality of Life

Remote workers often prioritize quality of life factors when choosing where to live. Vorarlberg's clean environment, strong healthcare system, and proximity to nature make it attractive to both domestic and international professionals. These preferences contribute to the spatial redistribution of populations, toward areas that offer amenities, public services, and lifestyle value.

According to our the regional survey with 1027 participants distributed in September 2025 key enablers cited are national/company remote-work policies, better broadband (notably in rural areas), and good commuting links; the most common pain points are social isolation, higher home energy costs and workspace/internet shortcomings, which translate into needs for clearer tax/social-security rules (especially cross-border), employer policies, and improved connectivity, while many intend to invest in a quality home office, upgrade digital skills, make more local trips, and commute less overall (source: Citizen Survey, 2025).

3.6.6 Summary of the main findings

The key spatial phenomena observed due to remote work in the use case area are:

- ***Increase in Unoccupied Office Spaces and Rise of Co-Working Environments***
  The transition to remote and hybrid work has led to reduced demand for traditional office spaces. This has resulted in higher vacancy rates and a repurposing trend toward co-working spaces, especially in areas closer to where workers live.
- ***Conversion of Residential Properties and Changing Housing Patterns***
  Remote work has enabled professionals to relocate in search of better living conditions. In Vorarlberg, this trend has increased demand for high-quality, flexible housing and contributed to the conversion of residential units into short-term rentals for remote workers.

- ***Tax and Social Security Complexity***
  Cross-border remote work within the DACH region has highlighted inconsistencies in tax, social security, and labor regulations. The resulting legal uncertainty creates administrative burdens for both employers and employees, especially in SMEs, and hampers the spatial flexibility remote work could offer.
- ***Increased Demand for Digital Infrastructure and Local Mobility in Rural Areas***
  The decentralization of work has raised expectations for reliable digital connectivity and better local transportation options in less urbanized parts of Vorarlberg. Although infrastructure is generally robust, gaps remain in rural zones, limiting regional equity in remote work adoption.
- ***Emerging Disparities in Access to Remote Work Opportunities***
  Remote work benefits are unevenly distributed across the population. White-collar, highly educated professionals are more likely to access remote jobs, while those in manual or service roles remain bound to physical workplaces, reinforcing spatial and social inequalities in the region.

The key socio-economic phenomena observed due to remote work in the use case area are:

- ***Enhanced Ethnic and Cultural Diversity***
  Remote work has attracted international professionals and their families to Vorarlberg, increasing the region's ethnic and cultural diversity. This is particularly evident in communities with strong links to global companies and international schools, supported by enhanced relocation services.
- ***Increase in Cross-Border Employment***
  The ability to work remotely has led more residents of Vorarlberg to take jobs in Switzerland or Germany while continuing to live in Austria. This is facilitated by strong transport links but complicated by fragmented cross-border legal frameworks.
- ***Growth in Remote Job Opportunities and Flexibility Expectations***
  There has been a marked increase in remote or hybrid job offerings, especially in tech and knowledge-intensive sectors. Younger workers increasingly view flexibility as a key employment condition, influencing organizational policies and regional talent attraction.
- ***Increased Demand for Relocation and Integration Services***
  The influx of remote workers-both domestic and international-has led to a rise in relocation service providers helping newcomers with housing, administration, and social integration, further contributing to local economic diversification.
- ***Shifts in Community Involvement and Social Cohesion***
  While remote work allows geographic flexibility, it can reduce spontaneous, everyday social interaction. In a region like Vorarlberg, known for its strong local identity and community structures, this shift may challenge social cohesion unless counterbalanced by active integration efforts.

The key local factors that influenced how phenomena were shaped in the use case area are:

- ***Regional Planning and Zoning Regulations***
  Longstanding spatial planning policies in Vorarlberg limit the development of new residential or commercial space in certain areas, affecting how quickly the region can adapt to new spatial demands created by remote work.
- ***Public Transport and Cross-Border Mobility***
  Vorarlberg's integrated transport system enables daily commuting and residential flexibility across Austria, Germany, and Switzerland. However, increased cross-border mobility adds complexity in workforce planning and taxation.
- ***Digital Infrastructure and Broadband Access***

While much of Vorarlberg has access to high-speed internet, remaining digital gaps in rural zones create uneven opportunities for remote work adoption and limit spatial redistribution.

- ***Real Estate Market Dynamics***
  High demand for flexible, modern housing from remote professionals and limited land availability have led to rising real estate prices and a shift in investment toward the conversion of existing properties, including co-working setups.
- ***Labor Market Composition and Sectoral Distribution***
  Remote work opportunities are more prevalent in the region's knowledge-based sectors. In contrast, traditional manufacturing and service roles offer fewer remote options, leading to spatial and occupational divides in who benefits from digital flexibility.
- ***Employer Policies and Organizational Cultures***
  Organizational approaches to remote work vary. While some embrace full flexibility, others mandate hybrid models. These differences significantly affect regional workspace demands and where people choose to live and work.
- ***Taxation and Social Security Frameworks***
  Inconsistent legal and administrative requirements across borders create obstacles to seamless remote work in the DACH region. This legal rigidity restricts spatial flexibility and hampers the scalability of cross-border remote employment models.
- ***Socio-Cultural Preferences and Quality of Life***
  High environmental quality, strong public services, and access to nature make Vorarlberg attractive to remote workers. Lifestyle considerations increasingly influence settlement patterns, reinforcing trends toward semi-urban and rural relocation.

3.6.7 References

Agglomeration Rheintal. (2025). (n.d.).

Amt der Vorarlberger Landesregierung. (2022). *Verkehrskonzept Vorarlberg 2022: Mobilitätsstrategie für eine nachhaltige Zukunft. Retrieved from https://vorarlberg.at*.

Amt der Vorarlberger Landesregierung. (2025).

Arbeitsmarktservice Österreich. (2025).

Austria, S. (2023). *Arbeitsmarktstatistiken 2023. Retrieved from https://www.statistik.at/fileadmin/user_upload/Arbeitsmarktstatistiken_2023_Webversion-barrierefrei.pdf STATISTIK AUSTRIA*.

Bayerisches Landesamt für Statistik. (2023). *Statistische Berichte und Regionaldaten Bayern*. https://www.statistik.bayern.de

Berger, S., Weber, F., & Buser, A. (2021). *Hybrid Work Compass: Navigating the future of how we work*.

Bonin, H., & Rinne, U. (2020). The impact of the Covid-19 crisis on the labor market in Austria: Evidence from the IZA Covid-19 Crisis Monitoring. *IZA Institute of Labor Economics.*

Bundesagentur für Arbeit. (2023). *Pendlerstatistik 2023*. https://statistik.arbeitsagentur.de

Bundesinstitut für Bau-, Stadt- und Raumforschung. (2023). *Raumordnungsbericht 2023*. https://www.bbsr.bund.de

Bundesministerium für Arbeit und Wirtschaft. (2023). *Evaluierung der Regelungen zum Thema Homeoffice (Homeoffice- Maßnahmenpaket 2021)*. file:///C:/Users/Katharina Fellnhofer/Downloads/L&R Sozialforschung_Evaluierung Homeoffice_Endbericht2023.cleaned-2.pdf

Bundesministerium für Arbeit und Soziales. (2023). *Mobile Arbeit Gesetz und Arbeitsschutzgesetz 2023*. https://www.bmas.de

Destatis - Statistisches Bundesamt. (2024). *Bevölkerung nach Bundesländern*. https://www.destatis.de

ESPON. (2023). *European Territorial Observatory Reports*. https://www.espon.eu

Eurostat. (2023). *Degree of Urbanisation (DEGURBA)*. https://ec.europa.eu/eurostat/web/degree-of-urbanisation

Eurostat. (2021). *NUTS - Nomenclature of territorial units for statistics: NUTS maps and correspondence tables. European Commission*.

Eurostat. (2023). *Regional Yearbook 2023 - NUTS 3 regions. European Commission. Retrieved from https://ec.europa.eu/eurostat*.

ifo Institut. (2023). *ifo Beschäftigungsbarometer: Homeoffice bleibt stabil*. https://www.ifo.de

Innsbruck, U. (2025). *Tirol Atlas: Region Rheintal*.

Interreg Alpine Space. (2022). *Programme Area Overview*. https://www.alpine-space.eu

Interreg Deutschland-Österreich-Schweiz. (2023). *Cross-border Cooperation Projects*. https://www.interreg.org

Mercer (2025). *New shape of work*.

Regio-V, V. (2022). *Räumliches Entwicklungskonzept Rheintal-Bodenseegebiet. Retrieved from https://www.regio-v.at*.

Statistisches Landesamt Baden-Württemberg. (2023). *Statistik und Regionaldaten Baden-Württemberg*. https://www.statistik-bw.de

Vogt, K., Hagemann, V., & Schank, C. (2021). Gender differences in perceived work-related stress during the Covid-19 pandemic: A cross-sectional study. *Frontiers in Psychology*, *12*, *648395*.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of section 3.6 the author(s) used ChatGPT 5 in order to improve language and grammar. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

4. Comparative Analysis

Following the individual profiles, this section introduces a multiple-case comparative analysis that compares all six use case areas (Thessaloniki, Twente-Münsterland, Milan, Istanbul, Surrey and Southeast England, and Rheintal-Bodenseegebiet) along several critical dimensions. Each region's developmental profile and policy context is examined side by side, alongside the socio-economic and spatial phenomena emerging under increased remote work. The analysis also identifies the factors influencing these phenomena in each area, maps the common challenges and needs of remote workers, and contrasts the future intentions expressed by citizens. Finally, it assesses the broader urban-rural dynamics in the context of remote work in each area, providing an integrated view of how remote work is affecting urban - rural relationships.

4.1 Developmental profile

Below follows the comparative table of findings in terms of developmental profile of each use case area, grouped under emerging themes (geographic and demographic context, economic structure and employment base, remote work adoption and trends). The comparative analysis findings are described after the table.

	Thessaloniki	**Twente - Münsterland**	**Milan**	**Istanbul**	**Surrey & Southeast England**	**Rheintal-Bodenseegebiet**
Geographic and demographic context	Greece's 2nd-largest metro, ~1.09 M in 2021 with 14 municipalities. 68.5% of LAUs are rural but only ~11% of people live in rural areas. Population stagnant 2011-2021 (~−1%) amid urbanisation; ~120k university students sustain a youthful profile level.	Cross-border region (East NL-West DE) of rural landscapes and mid-sized cities. Polycentric settlement with major hubs Enschede (~162k) and Münster (~322k), as well as many towns. Some areas growing (Zwolle/Deventer) while others face mild decline and aging.	Metropolitan City of Milan (133 municipalities, ~1,575 km²) has ~3.21 M residents (2021, ~5.5% of Italy), 42% within Milan city. Population fell ~1.2% since 2019 (low births, Covid-19 deaths), but still attractive in terms of domestic and international migration.	Sprawling transcontinental city (39 districts, ~5,343 km²) with ~15.66 M people (2023, 18.3% of Turkey). Extremely dense (~3,000/km²). After decades of growth, Istanbul's population dropped 1.6% in 2023 (−252k) as high costs drove	Southeast England (incl. Surrey) - a large region (~9.64 M in 2024, ~19,000 km²) mixing affluent London commuter belts, coastal cities and extensive rural greenbelts. Highly urbanized corridors (London fringe, coastal) alongside protected areas.	Western Vorarlberg region at Lake Constance (borders CH/DE/LI). Alpine rural character, but polycentric towns (Bregenz, Dornbirn, Feldkirch, etc.) house ~92% of ~274k inhabitants in urban areas. Moderate density (~378/km²); a key cross-border

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
				some residents to leave.	Slightly older age profile (median 41); +1.1% population growth in 2023-24 via in-migration.	corridor in the Alpine Rhine valley.
Economic structure and employment base	**Service-driven economy** (trade, education, health, transport, tourism) with significant industry (industrial zones, innovation hubs like Thess INTEC). Agriculture <2% of GVA. Contributes ~8.8% of Greece's GDP but faces persistently high unemployment (~14% in 2023).	**Diversified economy.** NL side: Zwolle (government, logistics), Twente (high-tech manufacturing: photonics, med-tech), Arnhem/ Nijmegen (health, energy), plus agro-food SMEs in rural areas. DE side: Münsterland's Mittelstand industries (machinery, chemicals, agro-food, logistics) with Münster city as a service/education hub. Strong cross-border commuting ties integrate the labor market.	**Italy's economic powerhouse with a broad, innovation-driven base**. Milan produces ~10.3% of national GDP and hosts ~45% of Lombardy's businesses (≈2,000 multinationals). Leading financial center (stock exchange, major banks) and manufacturing hub (Lombardy #1 in Italy, #2 in EU). Post-Covid, GDP grew +9.9% (2019-24).	**Generates ~30-31% of Turkey's GDP with a multi-sector economy** (finance, services, manufacturing, logistics, tech, tourism). Hosts most corporate headquarters and financial markets (Turkey's commercial hub). However, talent shortages co-exist with above-average youth and female unemployment, and increasing housing costs push middle-income families outward.	**UK's 2nd-largest regional economy** (~£336 B, 14-15% of GDP in 2021). Top exporting region (professional and financial services) with ~432k businesses and high startup & FDI rates. Hosts world-class high-tech and life-science clusters (Oxford-Cambridge-London corridor). High employment (79.3%) and incomes (GDHI ~£28k), but some coastal districts are deprived.	**Robust industrial base** (precision engineering, textiles) plus health, tourism and growing digital services. Many residents commute to high-wage jobs in Switzerland or Liechtenstein, enabled by strong road/rail links. Strategic Alpine location connects it to Southern Germany's advanced manufacturing and tech hubs.
Remote work adoption and trends	**Low-to-moderate remote work uptake.** Only ~7.3% of Central Macedonia's workers were regular remote workers in 2022 (vs 6.4% nationally). The region's cluster ("structurally	**Medium-to-high remote work adoption.** Dutch side embraced hybrid work (~52% of NL workers WFH at least sometimes, 2023). German side more cautious (~23% in NRW used home office,	**Among Europe's highest remote work rates.** Milan's region is top-tier for digital readiness and remote-work integration. Italy's share of remote workers jumped from 4.8% (2019) to ~34% in	**Remote work uptake lags** despite Istanbul's high-capacity profile. It sits in Europe's hyper-connected top tier but has a low remote-work rate for that group. Pre-2020 remote work was	**Remote/hybrid work is highly prevalent.** The Southeast is a "maximum integration" WFH region post-pandemic. Hybrid work is now standard across sectors,	**Moderate remote work integration.** Vorarlberg supports remote work via regional strategies (incentives, co-working spaces, broadband upgrades), but no detailed

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	deprived") has low digital indicators (Q1 internet access, computer use), which limits widespread remote work integration.	2023) but rising. New 2023-25 NL-DE accords allow ~50% cross-border remote work without tax/social-security penalties.	2020. In Lombardy, it surged from 17% pre-pandemic to ~50% in 2020, stabilizing ~59% post-pandemic.	minimal outside IT/finance; Covid-19 spurred some increase in services, but cultural norms limit hybrid work. Still, ~34% observed less rush-hour traffic as WFH grew.	enabled by top digital infrastructure. Many ex-London commuters work from home part-time, flattening peak congestion.	remote work metrics. Uptake is uneven. Knowledge industries use hybrid models, manufacturing/ tourism mostly on-site. Some professionals live in Vorarlberg while working remotely for Swiss/German firms, aided by good infrastructure but hindered by tax/social complexities.

Table 4. Comparative analysis of findings in terms of developmental profile of each use case area

The six R-Map use cases cover distinct developmental profiles, yet some common patterns emerge. **Geographically**, all cases feature a mix of urban cores and peripheral areas, but scale and form vary widely. Istanbul and Milan are expansive metropolitan hubs (15.7 M and 3.2 M people respectively), whereas Rheintal-Bodenseegebiet is a small alpine region (~274k residents) with a cross-border polycentric structure. Twente-Münsterland and Rheintal share a cross-border character, integrating municipalities across national boundaries. Suburbanization and peri-urban growth are noted in several areas (e.g. Thessaloniki, Southeast England) as people decentralize from core cities, though recent demographic trends differ. For example, Milan and Istanbul saw slight population declines (partly due to low birth rates and affordability pressures), while Surrey's region continues modest growth via in-migration.

Economically, all regions have diversified bases with strong service sectors, but their strengths reflect local context. Milan and Istanbul stand out as national financial and commercial centers, significantly contributing to their country's GDP. TheSoutheast region, including Surrey, and Twente-Münsterland are high-performing economies in their countries, hosting knowledge-intensive industries and export-oriented manufacturing. In contrast, Thessaloniki - while a major hub for northern Greece - faces structural economic challenges, including persistent high unemployment. Several use cases have a developmental profile combining industrial heritage with innovation: Twente's transition from textiles to high-tech manufacturing, Rheintal's precision engineering cluster, and Milan's blend of manufacturing with tech and creative industries. Most regions benefit from connectivity and strategic location (e.g. Istanbul bridging continents, Rheintal at a tri-national crossroads), which facilitates trade and commuting. Socio-economic disparities within regions are noted: Istanbul and Surrey

within the Southeast of England, for example, both contain affluent areas alongside pockets of deprivation, underscoring uneven development even in strong economies.

Remote Work Adoption has been highly uneven across the cases, reflecting differing digital capacities and cultural attitudes. Milan and Surrey emerged as leaders in post-pandemic remote work uptake, quickly normalizing hybrid arrangements across many sectors (Milan's remote work rates roughly doubling pre-pandemic levels to ~50+%, and Southeast England seeing work-from-home become a standard practice for companies based in and around London). Twente-Münsterland also reports relatively high adoption, especially on the Dutch side where flexible work laws and digital readiness led to majority-hybrid workforces. By contrast, Thessaloniki and Istanbul exhibit more limited remote work integration: Thessaloniki's region, hampered by weaker digital infrastructure and resistant work culture, had only ~7% regular remote workers in 2022; Istanbul, despite its advanced economy, has seen surprisingly low remote-work levels for a global city, due in part to organizational norms and policy gaps. Cross-border institutional factors also play a role: in Twente and Rheintal, international remote workers navigate tax and social security complexities, though recent agreements (in the NL-DE case) and regional strategies (in Vorarlberg) are beginning to address these barriers. Overall, the pandemic universally accelerated remote work, but its lasting prevalence correlates with each region's socio-economic readiness: regions with robust digital ecosystems and flexible work cultures (e.g. Milan, Surrey, Twente) have embraced remote work to a greater degree than those facing infrastructural or cultural constraints (e.g. Thessaloniki, Istanbul). The divergence in remote work uptake is shaping new spatial and economic dynamics, for instance high-uptake regions report reduced commuting and demand for flexible workspaces, whereas lower-uptake regions see more modest changes. All these highlight how developmental profiles influence the capacity to adapt to the remote work era.

4.2 Policy mix

Below follows the comparative table of findings in terms of policy mix with relation to RWA with application in each use case area, grouped under emerging themes (national policy framework for remote work, local and regional initiatives for remote work, digital infrastructure investments, governance and multi-stakeholder collaboration). The comparative analysis findings are described after the table.

	Thessaloniki	**Twente - Münsterland**	**Milan**	**Istanbul**	**Surrey & Southeast England**	**Rheintal-Bodenseegebiet**
National policy framework for remote work	**Greece:** Law 4808/2021 formally recognizes remote work, but cultural resistance limits uptake. Digital nomad visa program	**Netherlands:** No mandate but strong support. The Flexible Working Act gives right to request remote/hybrid work;	**Italy:** Pioneering framework - Law 81/2017 ("smart working") requires formal remote-work agreements, protecting	**Turkey:** Labor Law 4857 (Art.14) defines remote work; a 2021 regulation further outlined employer/employee	**United Kingdom:** No specific remote-work law beyond a "right to request" flexible work for employees. Pandemic guidance	**Austria:** Supportive approach. National regulations require employers to cover home-office equipment costs and

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	exists ("Work from Greece") targeting non-EU high-earners, not addressing most Greek remote workers.	tax-free home-office allowance (€2.40/day) is common. **Germany:** remote work depends on employer consent. A tax deduction (Homeoffice-Pauschale) incentivizes hybrid work.	worker rights. Strengthened during Covid-19, it enabled rapid expansion of remote work in both private and public sectors (public agencies mandated to adopt remote work plans).	obligations. However, no comprehensive national strategy or inclusive digital nomad program. Policies are limited, leaving many remote work aspects to ad-hoc company decisions.	normalized working from home, but post-pandemic adoption is employer-driven. Government encourages flexibility but no national mandate. Hybrid work has become standard practice largely through company policies.	ensure proper working conditions. The Vorarlberg regional government actively promotes remote/hybrid work, as well. **Switzerland:** In adjacent St. Gallen, national initiatives (e.g. Hybrid Work Compass) support remote work uptake.
Local and regional initiatives for remote work	**Largely absent:** No specific city/region policy for remote work in Thessaloniki. Implementation is ad-hoc and left to employers. A few small initiatives (e.g. Alexander Innovation Zone networking for digital nomads) exist, but without formal coordination.	**Cross-border coordination:** INTERREG and networks (e.g. Grenzhoppers) are working to harmonize cross-border remote work conditions. Recent NL-DE agreements allow up to ~50% cross-border remote work without changing social security or tax status. Locally, remote work policies are set by employers; municipalities focus on facilitative roles, not direct mandates.	**City initiatives:** Milan municipality follows national laws (e.g. internal policy allows city employees ~10 days remote/month via union agreements). Rather than standalone incentives, Milan's strategy integrates remote work into urban planning through promoting the establishment of co-working hubs and the 15-minute city concept to support flexible work patterns (e.g. new business districts with co-working spaces).	**None formal:** Istanbul has no explicit local or regional remote-work incentives. The Metropolitan Strategic Plan (2020-2024) acknowledges digital transformation but lacks any strategy for remote work. Remote work adoption in the city is thus market-driven and uneven, with little municipal support or guidance.	**Local programs:** Surrey County Council's *Agile Working Programme* modernized its workforce practices toward hybrid work. Surrounding councils run digital inclusion and skills initiatives (e.g. digital skills bootcamps) to help residents adapt. Overall, regional economic strategies encourage flexible working, though primary implementation is by local businesses rather than through	**Proactive region:** Vorarlberg has a dedicated regional strategy for remote work, including support for co-working spaces, digital skills training vouchers, and integrating remote work in public administration. Incoming remote workers are assisted with housing, legal paperwork, and community integration.

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
					direct government incentives.	
Digital infrastructure investments	**Infrastructure gaps:** National Broadband Plan 2021-2027 and Digital Transformation Strategy aim to expand high-speed internet. Greece has near 99% broadband coverage, but rural connectivity lags (rural 5G ~17% in 2021; very low fiber uptake). Slow internet outside urban core hampers remote work in Thessaloniki's suburban and rural areas (49% of remote workers in survey cite connectivity problems when working from home).	**Excellent connectivity:** Both Twente and Münsterland enjoy robust broadband, even in rural areas. Ongoing cross-border digitalization projects (e.g. *Euregio* initiatives) continue to upgrade infrastructure. Digital tools are largely in place, though minor gaps (like e-signature adoption) remain.	**Advanced networks:** The Milan metropolitan area is highly connected (as a major tech and business hub). Continuous investments (national and EU-funded) in ultra-broadband and 5G ensure urban coverage. Remaining challenges are more organizational (SMEs lacking IT resources) than backbone infrastructure ones. Overall, digital connectivity is not a limiting factor for remote work in Milan.	**Digital divide:** Central Istanbul has modern digital infrastructure (fiber-optic in business districts), but peripheral areas suffer from poor internet access. Limited broadband in outer districts constrains remote work, reinforcing social and economic inequalities. The city has mapped this "digital divide", and national telecom authorities are working to extend high-speed networks - still, progress is uneven.	**High-capacity networks:** Surrey benefits from the UK's accelerated rollout of high-speed broadband and 5G. Most urban/suburban areas have fast internet, enabling 44% of people to work from home already since 2021. Some rural pockets still face reliability issues, spurring local plans (e.g. Gigabit Surrey, 5G testbeds) to close remaining gaps and improve digital connectivity.	**Broadband expansion:** Vorarlberg is well-equipped with broadband; even small villages have high-speed internet. Ongoing investments (with EU support) target remaining rural and alpine zones to ensure uniform service quality. The region's digitalization strategy also upgrades energy infrastructure to support increased home-office use. Overall, digital infrastructure is an important regional strength.
Governance and multi-stakeholder collaboration	**Fragmented approach:** No formal multi-level governance for remote work. Efforts in Thessaloniki are uncoordinated. The lack of collaboration between city, regional authority, and national bodies results in piecemeal actions. Few	**Cross-border governance:** Strong cooperation via EUREGIO and other bodies helps align Dutch - German policies and support remote cross-border work. Regional stakeholders (e.g. Twente Board, municipalities,	**Public-private coordination:** Implementation of remote work in Milan is largely negotiated between employers, employees, and unions (ensuring worker protections). The municipality coordinates with	**Limited collaboration:** Neither national nor Istanbul local authorities have convened stakeholders specifically to discuss remote work policy. Companies act independently, leading to inconsistent	**Regional partnerships:** Surrey's local government collaborates with neighboring counties on digital and economic development strategies, promoting remote work (e.g. joint initiatives on	**Multi-level collaboration:** Vorarlberg's government actively engages employers and communities in shaping remote work conditions. The region has nurtured public-private partnerships to help integrate

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	stakeholders (e.g. innovation hubs) promote remote work, but no integrated platform exists. This governance gap raises concerns about unmanaged spatial effects and inequalities.	universities) work together on innovation and talent retention, viewing remote work as part of a broader economic strategy. Still, differences in national laws require ongoing collaboration to navigate compliance and benefits.	businesses on urban planning - related initiatives (e.g. transport improvements) but there's no need for a separate remote-work taskforce due to strong national policy. Stakeholders align implicitly on promoting remote work and work flexibility as a competitiveness and quality-of-life factor.	practices (e.g. who can work remotely, under what conditions). The absence of a coordinated strategy (unlike some EU cities) means issues like gender equity and worker rights in remote settings are not systematically addressed. Formal mechanisms are yet to develop.	broadband, digital skills). Employers across the region share best practices, often in consultation with government programs on flexible work. The pandemic fostered closer stakeholder communication to manage changes such as reduced commuting. Overall, governance is decentralized but bolstered by cooperative efforts to support the transition to remote work.	remote workers socially and economically. There's also a focus on community-building initiatives so that incoming remote professionals participate in local life, contributing to social cohesion in Vorarlberg.

Table 5. Comparative analysis of findings in terms of policy mix in each use case area

Policy frameworks and initiatives around remote work vary widely across the use cases, shaping disparate outcomes. When it comes to **national policies,** some use case areas benefit from robust national legislation. For instance, Italy's comprehensive *"smart working"* law and Austria's supportive labor regulations provide clear structures and protections for remote work, applicable to the city of **Milan** and the **Voralberg** area. By contrast, countries like the Netherlands, Germany, and the UK rely on more decentralized or indirect measures (e.g. the right to request flexible work or tax incentives). Greece and Turkey have introduced basic legal recognition of remote work, but cultural attitudes (in Greece) and limited enforcement or strategy (in Turkey) blunt their impact**.** **In terms of local and regional Initiatives**, there are clear disparities. Regions like **Vorarlberg** have crafted dedicated strategies and programs (e.g. service and infrastructure digitalization plans, co-working spaces support) to capitalize on remote work trends, effectively filling gaps left by national policy. Similarly, **Surrey** and surrounding UK counties, though lacking formal remote-work policies, implement complementary initiatives -from agile working programs in local government to joint digital skills and infrastructure projects- creating an enabling environment. In contrast, **Thessaloniki** and **Istanbul** show very limited to

no local action. This laissez-faire approach in large metropolitan areas can lead to uncoordinated development, reinforcing inequalities (e.g. well-connected urban cores pull ahead of poorly connected peripheries).

In all cases, the availability and accessibility to **high quality digital infrastructure** is closely connected with the flourishing or remote work. Areas such as Milan, Twente-Münsterland, Surrey and Vorarlberg have high broadband coverage and promote ongoing upgrades, which in turn have enabled widespread hybrid work adoption. Even rural parts of Twente, Vorarlberg, Surrey and the Southeast of England enjoy relatively strong internet access, though each is pushing further investments to close remaining gaps. On the other hand, regions in Southeastern Europe are still catching up: Greece's broadband rollout has improved coverage but not quality in rural areas (e.g. Thessaloniki's hinterland), and Istanbul faces a stark digital divide between its fiber-connected business districts and outlying neighborhoods.

When it comes to governance and multi-stakeholder collaboration, differences in governance structures influence how smoothly remote work is integrated. In the cross-border contexts of **Twente-Münsterland** and **Rheintal-Bodenseegebiet**, multi-level and international collaboration is crucial. Twente is supporting bilateral agreements and Euregio coordination for mitigating legal barriers for cross-border remote workers. Vorarlberg similarly leverages regional partnerships, though it still contends with complex tax and social security misalignments with Switzerland/Germany. Within single-country use case areas, a coordinated multi-stakeholder approach can accelerate adaptation: for example, public-private cooperation in Vorarlberg and the general alignment of Milan's business community and government have helped mainstream remote work practices in those areas. Conversely, the lack of government-stakeholder collaboration in places like Istanbul leaves companies and workers to navigate remote arrangements independently, often leading to inconsistent practices and unmet needs (as reflected by Istanbul survey respondents calling for clearer rules and support).

4.3 Socio-economic phenomena observed due to remote work

Below follows the comparative table of findings in terms of socio-economic phenomena observed due to remote work in each use case area, grouped under emerging themes (local economic and business impacts, labor market and employment shifts (including cross-border work), housing market impacts, and community and social dynamics). The comparative analysis findings are described after the table.

	Thessaloniki	**Twente - Münsterland**	**Milan**	**Istanbul**	**Surrey & Southeast England**	**Rheintal-Bodenseegebiet**
Local economic and business impacts	Rapid expansion of co-working spaces and remote-friendly cafés, especially in	Office space downsizing: Many firms are subletting or reducing office	Reduced daily commuting has improved urban conditions (less	Underutilized offices are being repurposed into co-working hubs and "third places"	Consumer spending was redistributed from central London to suburban/rural	Influx of remote workers spurs growth of relocation and integration

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	Thessaloniki's center, reflecting rising demand and emerging as a promising real estate business model. While efforts have been made to attract digital nomads, their current economic impact remains modest.	occupation areas due to hybrid work, increasing office vacancies and altering commercial real estate demand. For retail, 'recreational magnets' were observed, where a primary city in a cluster of cities becomes the main retail and recreational hub, so changing consumption patterns, also due to changing commuting patterns.	congestion/pollution), which may gradually influence public spending priorities. However, no major changes in Milan's local business landscape are clearly linked to remote work.	(cafés, etc.), and even hotels offer remote-work stay packages, indicating businesses pivoting to cater to remote workers. Outside of co-working and hospitality adaptations, no large-scale shift in local commerce due to remote work was observed.	areas. The Southeast's economy is estimated to be ~£4 billion larger due to remote work-driven local spending, benefiting local shops and services. ~13 million sq. ft. of office space in the region is slated for residential conversion as businesses reduce office needs.	consultants / service providers. Beyond the services noted, the region's economy, being more industrial and dispersed, shows limited change due to remote work.
Labor market and employment shifts (including cross-border work)	Remote work enables some young professionals to come back to live in Thessaloniki while working for foreign companies ("brain gain" phenomenon). Consulting, IT, and marketing startups in Thessaloniki increasingly work with international clients, leveraging remote work.	Reduced commuting costs/time broadened hiring and retention. Companies can recruit employees from beyond immediate commuting range, and employees can live farther out without changing jobs. Despite the NL-DE border proximity, remote work hasn't greatly boosted cross-border employment; complex tax and social-security	Remote/hybrid work has been adopted in many large Milanese firms (facilitated by Italy's "smart working" law), but this hasn't fundamentally altered Milan's labor market structure. There's little evidence of cross-border employment or significant sectoral employment changes due solely to remote work.	A niche of high-skilled Istanbul professionals now offers digital services to overseas clients, earning foreign income and creating a new well-paid segment in the labor force. Remote work is prevalent in tech, finance, and consultancy, while manufacturing, retail, and logistics jobs remain on-site, yielding a stark divide where remote-work	The Southeast leads the UK in adopting flexible work and remote/hybrid arrangements have become standard for many employers. 79% of surveyed workers in affluent Southeast areas work remotely, revealing a regional concentration of remote-friendly jobs.	More Vorarlberg residents are taking advantage of remote work to hold jobs in neighboring Switzerland or Germany while living in Austria. Remote/hybrid job offers have increased (especially in tech/knowledge sectors), and younger workers now expect flexibility as a standard employment condition, influencing

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
		rules deter working from the other country.		access correlates with education and digital skills.		recruitment and organizational policies across the region.
Housing market impacts (price and demand changes)	**Short-term rental surge:** Unregulated growth of short- and mid-term rentals (targeting remote workers and digital nomads) is tightening housing supply and contributing to gentrification in Thessaloniki's center. While general real estate prices are rising, this is not attributed primarily to local remote workers, but the rental trend amplifies affordability pressures. Remote work in itself hasn't yet triggered massive relocations in the region (few residents moved specifically due to remote/hybrid work).	Post-pandemic expectations of a remote work exodus did not really materialize. Housing demand trends in Twente - Münsterland are shaped more by demographics (aging, household size) and affordability than by remote work. Any effect of remote work on where people live is minor.	Remote work enabled more people to live outside Milan's city center. Property sales in smaller towns surged in 2025 vs. 2019, narrowing the price gap between central Milan and peripheral areas. This suggests remote workers are contributing to suburban/rural housing demand, potentially revitalizing smaller communities. Innovative housing formats (e.g. "microliving" apartments with shared co-working and amenities) are emerging to cater to students, young professionals and remote workers, reflecting a blend of living and remote work needs.	Sky-high housing costs and environmental concerns (e.g. poor air quality) in Istanbul, combined with remote work flexibility, have driven some residents to move to more affordable areas. Istanbul's population fell by ~1.6% in 2023, partly reflecting remote workers choosing better quality of life outside the metropolis. That said, remote work's role is secondary to these broader cost-of-living pressures, which are broader and have been existing for many years.	The pandemic-era "race for space" continues, and 42% of local survey respondents observed rising house prices in towns/villages as remote workers move out of London and other cities. Remote work has made suburban and rural living more feasible, sharply increasing demand (and prices) for homes with space and amenities outside city centers. Large volumes of Southeast office real estate are being converted into housing, reflecting company space downsizing and responding to the increasing demand for housing.	Remote professionals drawn to Vorarlberg seek high-quality, flexible housing. Their influx has driven up real estate prices and prompted conversion of some properties into short-term rentals to accommodate remote workers. Affordable housing remains a concern as remote work draws more people to the region's attractive semi-urban areas, but all in all the housing stock remains limited and regulated though zoning, further tightening the housing market.

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
Community and social dynamics	• **Cultural diversity:** A modest influx of digital nomads and other foreign remote workers is slowly diversifying Thessaloniki's social fabric and downtown culture. A nascent digital nomad community is forming, bringing new ideas and international links, though still small in scale. • **Work-life vs. tradition:** Remote work has not deeply altered local social patterns yet. Many Greek organizations reverted to office-centric habits post-Covid, reflecting a traditional mindset that values physical presence. Thus, while individuals enjoy flexibility, broader community routines remain largely unchanged (no widespread "village revival" or similar phenomena observed).	• **Improved family balance:** Remote work significantly helped employees (especially parents and caregivers) balance work with family duties, increasing job satisfaction and quality of life. This aligns with the Dutch culture valuing work-life balance. • **Isolation concerns:** Conversely, prolonged home-working led to feelings of loneliness for some younger and single workers. Employers in Twente-Münsterland noted these social downsides and responded with measures (e.g. training managers to support remote teams, encouraging team office days) to maintain cohesion.	• **Quality-of-life gains:** Milan's remote workers report higher personal well-being by saving commute time and having more autonomy over daily schedules. Many appreciate lifestyle adjustments (e.g. valuing homes with a balcony or garden for downtime) as a social shift. • **Incremental change only:** Remote work has not fundamentally changed community dynamics in Milan. People still cluster near jobs due to high living costs, and there's no marked change in social interaction patterns or urban life beyond more flexibility in individual routines. Social life in neighborhoods and the city remains much as before, with only minor adaptations.	• **Gender and inclusion:** RWA opened new possibilities for women with caregiving roles to participate in the workforce (e.g. mothers can work from home). However, cultural norms in Turkey - many managers equate being on-site with productivity - limit acceptance of remote arrangements, which can undermine these gains. Without broader mindset shifts and childcare support, remote work's positive impact on gender equity remains muted. • **Digital divide in society:** Older adults and rural communities face digital skill and access gaps, meaning they benefit less from remote work opportunities. This exacerbates social	• **Social isolation and mental health:** Widespread remote working has "reconfigured" social life - many workers feel less connected, reporting isolation and mental health strains due to less in-person interaction. This calls for community and employer interventions to support social well-being of remote staff. • **Changing household roles:** Home-based work has enabled more equal sharing of parental duties (e.g. more parents doing school runs). Yet it can also reinforce traditional gender roles in the home, as women may shoulder more domestic tasks when work and home spheres blend. Communities are adapting as daytime populations in	• **Richer diversity vs. cohesion challenge:** The arrival of international remote workers (and their families) is making local communities more ethnically and culturally diverse, especially in areas tied to global firms and schools. This cosmopolitan influx brings fresh perspectives and networks. • **Erosion of everyday interactions:** With more people working remotely, there are fewer casual meet-ups in offices or town, potentially weakening the strong local social cohesion Vorarlberg is known for. There's concern that if residents engage less in community life day-to-day, social bonds could fray unless proactive integration and community-

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
				inequalities: tech-savvy groups adapt and prosper, while vulnerable groups risk exclusion from the remote-work trend.	suburbs grow, but long-term social impacts are still unfolding.	building efforts keep pace.

Table 6. Comparative analysis of findings in terms of socio-economic phenomena observed due to remote work in each use case area

Across the six use case areas, remote work has introduced notable socio-economic shifts, though often **incremental and unevenly distributed**. A **widespread positive** is improved individual well-being and work-life balance for many remote workers (e.g. in Milan, Twente, Surrey and the Southeast of England) thanks to eliminated commutes and greater time flexibility. Several regions report **new opportunities for professionals' retention and attraction**: remote work allows skilled professionals to live in one region while working for employers elsewhere, potentially reversing "brain drain" (as seen in Thessaloniki's **brain-gain** of returning diaspora). Everywhere, remote work uptake has been highest in **knowledge-intensive sectors** (tech, finance, consulting), while **manual and frontline jobs remain largely unaffected** - creating a common pattern of a **"two-tier" labor market** segmented by occupation and digital skills.

Another cross-cutting theme is **changes in housing preferences.** Remote work enabled many families and workers to reconsider where they live. In high-cost urban areas (Milan, Istanbul, London region), some have relocated to suburbs or smaller cities in search of space and affordability, boosting peri-urban housing demand. **Suburban and rural communities** are thus seeing an influx of remote workers (Surrey's case is an extreme case), alongside **pressure on housing prices** in those areas. Meanwhile, city centers face **lower weekday foot traffic**, prompting trends like office-to-residential conversions (notably in Surrey) and a rise of local co-working hubs instead of traditional offices (noted in multiple cases from Thessaloniki to Istanbul). Socially, a **sense of isolation** among remote workers emerged as a **common pain point** (confirmed through survey responses across cases), leading to calls for initiatives to maintain social connections (e.g. organized office days, community events).

The magnitude and nature of impacts vary by regional context. **Cross-border remote work** is a salient issue only in the designated border regions (Twente-Münsterland and Rheintal - Bodenseegebiet) - these areas see residents working for employers across national borders, yet face legal/tax hurdles that the other use cases don't experience. **Housing market impacts** have been strongest in use case areas with pre-existing severe pre-pandemic housing pressures: for instance, London's commuter belt (Surrey) and metropolitan Milan saw significant shifts, whereas use case areas that were more affordable (Twente, Thessaloniki) did not report major remote work-driven moves or price spikes. **Local economic effects** also diverge: Surrey's economy visibly benefited from a **"hub-and-spoke" spending redistribution**, with remote workers spending locally rather than in London, whereas other regions (e.g. Milan, Istanbul) have yet to see such pronounced shifts in local retail or service economies. Culturally, regions differ in how readily they embraced remote work: the UK and Netherlands

normalized hybrid work as a standard, whereas in Greece and Turkey traditional workplace culture and weaker formal support made fully remote arrangements less common. Consequently, **gender and social outcomes** vary: Istanbul and Surrey both noted changes in gender dynamics at home (with remote work enabling more women to work or parents to share duties), but the net impact on gender equality depends on local norms (Turkey's cultural resistance tempered progress, while the UK's policy environment may better support it). Lastly, a unique benefit seen in some cases is the **increase in cultural diversity**: regions like Vorarlberg and Thessaloniki have started attracting international remote professionals, enriching the community mix, a phenomenon less evident in the other cases.

4.4 Spatial phenomena observed due to remote work

Below follows the comparative table of findings in terms of spatial phenomena observed due to remote work in each use case area, grouped under emerging themes (population redistribution and migration, land use and housing changes, transportation and mobility shifts). The comparative analysis findings are described after the table.

	Thessaloniki	**Twente - Münsterland**	**Milan**	**Istanbul**	**Surrey & Southeast England**	**Rheintal-Bodenseegebiet**
Population redistribution and migration	Outward moves to suburbs for affordable housing by some remote workers, but overall no major urban-to-rural shift due to remote work.	Stable urban - rural distribution; remote work hasn't caused noticeable migration as travel time (already on the higher end due to less dense urbanisation) and required office presence (e.g. 2-3 times/week) do not encourage moving further away. People still prefer to live within a manageable commute distance.	Population distribution remains largely unchanged; remote work did not trigger major relocation from the city. Some suburban relocation happened (e.g. +30% small-town home sales after 2019), slightly narrowing the city - suburb housing price gap, but this is not necessarily attributable to remote work.	Significant shift of residents from central Istanbul to peripheral, greener districts as remote work enables escaping high costs and congestion. ~35% of survey respondents noticed more people relocating outward thanks to remote work opportunities.	"Race for space" suburbanisation accelerated: 58% of survey respondents observed more people relocating out of town/city centers in Surrey. Outer commuter towns see surging housing demand; 42% agree (23% strongly) that remote workers are driving up non-urban house prices.	More people are living in Vorarlberg but working remotely for employers in Switzerland/Germany, enabled by strong cross-border transit (despite complex tax/social security rules). While there's no large-scale outmigration to rural areas, there is some in-migration to smaller towns and rural municipalities closer to the border (e.g. Dornbirn, Feldkirch).

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
Land use and housing changes	Emergence of co-working spaces and flexible offices (small private offices declining); some older office buildings repurposed into hotels or rentals amid hybrid work trends. Housing prices have soared (e.g. +85% in central Thessaloniki since 2019), and unregulated short-term rentals intensify pressure, prompting many remote workers to seek affordable homes in suburbs.	Many companies downsized offices (~20% footprint reduction) and new office construction slowed, partly due to hybrid work. No remote work-driven suburban sprawl: policy favors urban infill and farmland preservation, and high housing costs deter long-distance moves. Housing demand shifts (like need for extra room) owe more to demographics than remote work.	Office space market is under strain: there is ~30% vacancy in central Milan as many firms downsize their space needs. There have been some early moves to convert or upgrade offices (e.g. into housing) but they limited so far. In terms of housing, remote work enabled more relocation to suburbs/smaller towns (property sales there increased by +30% vs 2019), which narrowed the city - periphery price gap ~10%.	Housing pressures in central Istanbul (high rents, tourism-led gentrification) are pushing remote-working residents to peripheral areas. 51% of survey respondents observed housing prices climbing outside the city core due to this relocation. New remote-work hubs are sprouting: nearly half of surveyed residents saw co-working cafés opening in suburban districts. In the city center, many former residential units and offices are being converted into short-term rentals (e.g. Airbnb).	Downtown areas are emptier: 63% of Surrey respondents report more vacant offices in town centers, and 45% see these being converted to flats or hotels. By contrast, there is surging demand in the suburbs: 65% of survey respondents (42% agree, 23% strongly) believe remote influx is driving up house prices outside city centers. Many residents are also expanding homes (loft/garage conversions, garden offices) to accommodate working from home.	Co-working hubs and shared offices are developing to serve remote and cross-border workers in the region. Strict zoning regulations limit sprawl: there is very little new land available near major transport hubs due to the compact urban development model already applied in Voralberg. So, while demand from remote workers for suburban/rural housing has risen, municipal plans allow only for limited land for development. Some housing is being converted into furnished short-term rentals for these newcomers.
Transportation and mobility shifts (commuting patterns and energy use)	Minimal impact on travel: with low remote work uptake, Thessaloniki hasn't seen notable changes in commuting patterns. Public transport is still weak in suburbs/rural	Commuting patterns changed rather than reduced: office attendance now clusters mid-week (Tuesdays -Thursdays), with lighter traffic on Mondays and Fridays.	Hybrid work cut rush-hour travel: public transport usage fell as many skip commuting on Mon/Fri, leaving those days much less congested. Peak crowds shifted to mid-	Chronic congestion in Istanbul has marginally eased as remote work reduced some commuter flows - indeed, escaping traffic was a key motivator for	38% of Surrey residents noticed reduced public transport use and 30% observed less car commuting since widespread hybrid work. However, only	Excellent cross-border transit (rail and buses) allows many Vorarlberg residents to hold jobs in Switzerland or Germany, commuting occasionally as needed. More remote workers

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	areas, making occasional office trips difficult for those who moved outward.	Total travel distance/time remains roughly unchanged as workers replace some commute trips with longer leisure or errand trips on remote days. Investments in sustainable transport (extensive cycling networks and regional rail) support these hybrid mobility habits, making non-car commuting easier.	week. Overall, fewer commutes improved urban air quality - estimated CO_2 emissions fell by ~1.8 million tonnes/year. Remote work transferred important energy costs to individuals: nearly 44% of Milan's remote workers reported higher home energy bills due to working from home.	adopting work from home. Still, only ~2.4% of survey respondents saw improving commute infrastructure as urgent, versus 15% prioritizing rural internet upgrades.	4% saw a major drop in road congestion (owing to persistently high car dependence). Mondays and Fridays are now far quieter travel days, while Tuesday-Thursday have become the new peak commute days (a shift in rush-hour patterns rather than an elimination).	living in rural villages drive higher demand for local transit. Overall impacts on mobility are modest: surveys show only a minority of survey respondents perceived significant drops in travel or congestion, as many jobs still require on-site presence and commuting has become more flexible rather than vanished.

Table 7. Comparative analysis of findings in terms of spatial phenomena observed due to remote work in each use case area

Across all six use cases, remote work has introduced **new spatial dynamics**, though the magnitude and nature of changes vary by region. A common thread is a *partial decentralization* of housing, co-working spaces and other activities. In high-cost metropolitan regions like **Milan, Istanbul, and Surrey**, many workers took advantage of remote arrangements to move outward in search of larger or more affordable housing, contributing to suburban population growth and housing demand. For instance, in Istanbul there was a migration of residents to peripheral districts with better quality of life was observed; and Surrey's survey to citizens recorded 58% observing relocation away from Surrey city center. By contrast, in **Twente - Münsterland** and **Thessaloniki**, there has been little to no remote work-induced migration; population distribution remained stable, largely because traditional job location still dictates residence and because the change in remote work adoption (compared with the pre-Covid era) in those areas was lower. Notably, the cross-border regions present a unique dimension: **Rheintal-Bodenseegebiet** experienced an influx of international and spatially distributed workers (across smaller settlements close to the border) and more cross-border living, thanks to very good transport links to Switzerland and Germany. In **Twente - Münsterland**, however, administrative frictions impeded cross-border remote work despite proximity, so no major east - west migration from the Netherlands was triggered.

Land use and housing patterns have shifted toward greater flexibility in all regions. A very common phenomenon is the **under-utilization of office space** in city centers. Surveys across cases report increases in empty offices and downsizing of corporate offices. For example, ~64% of respondents in Surrey saw more vacant offices downtown, and Milan's observed central office vacancy neared 30%. In response, in many areas real estate is repurposed: In **Surrey** and

Milan office spaces have begun to be converted in housing or mixed-use spaces (with 45% of survey respondents in Surrey noting that offices turn into flats/hotels), and in **Thessaloniki** and **Istanbul** citizens report informal conversions of outdated offices or shops into short-term rental apartments. **Co-working spaces** and remote work hubs have emerged as a new land use in every region -even if at different scales- from Thessaloniki's small cluster of co-working sites to Istanbul's proliferation of work-friendly cafés in its periphery.

Housing markets have been **strained and reconfigured** by remote work. Most regions witnessed increased demand for suburban or rural housing, in some cases enough to drive up prices in those areas. In Surrey, for example, 65% of surveyed residents agreed that house prices outside urban centers are climbing due to incoming remote workers, and similar pressure is noted in Istanbul's outer districts. Meanwhile, central neighborhoods in tourist-attractive cities (Istanbul, Thessaloniki) face *"Airbnb-ification"*, as remote workers often chose to stay in short-term rentals for which they make an extended stay agreement. This exacerbates housing and commercial affordability issues for locals. Areas with **strict land-use and compact city development controls** (Twente, Rheintal) have largely avoided sprawl despite the pressures - in these areas, growth is funneled into existing urban areas due to zoning and greenbelt policies. Such policies helped contain the spatial footprint of remote work-driven relocation, but in some cases drove up housing prices as well, due to the constrained housing supply. In cities where this is allowed by construction law, homes are expanded or refurbished to accommodate working from home (loft/garage conversions, garden offices).

In terms of **transportation and mobility**, the impact of remote work has been more on *timing and mode shifts* than about eliminating travel. All use case areas report a **drop in daily commuting frequency**, with many employees no longer traveling every day. This has led to a **flattening of peak traffic**: Mondays and Fridays became much quieter mobility-wise, while mid-week days (Tuesday, Thursday) concentrate most office commutes. Traditional rush-hour periods have spread out, as noted in Surrey where people travel at more varied times and rush hours are less pronounced. Importantly, the total distance traveled has not fallen as sharply as one might expect. Studies in Twente indicate that fewer commutes are partly offset by more personal trips (shopping, leisure) on remote days. Thus, **congestion relief has been limited**. For instance, only 4% of Surrey respondents observed a strong reduction in traffic despite fewer commuters, because high car ownership and long distances still generate traffic jams. Public transport systems are feeling the pinch of lost ridership on remote days (Milan saw transit pass sales drop, affecting revenue), forcing transit agencies to rethink service models for a hybrid work era. On a positive note, fewer commute trips *have* meant lower transport emissions - Milan's data suggest an annual CO_2 reduction equivalent to ~1.8 million tons - contributing to environmental goals. However, **energy use has partially shifted to homes**: a significant share of remote workers report higher household energy consumption for heating/cooling and electronics (e.g. 44% in Milan noted higher utility bills). This implies that some emissions and costs are being transferred from public/office settings to private homes, a trade-off that policy makers and employers will need to consider.

4.5 Factors influencing how phenomena were shaped

Below follows the comparative table of findings in terms of factors influencing how socio-economic and spatial phenomena were shaped in each use case area, grouped under emerging themes (policy & taxation related factors, geographical, proximity and transport-related factors, digital infrastructure and connectivity, housing affordability and availability, culture - related factors). The comparative analysis findings are described after the table.

	Thessaloniki	**Twente - Münsterland**	**Milan**	**Istanbul**	**Surrey & Southeast England**	**Rheintal-Bodenseegebiet**
Policy & taxation related factors	• Weak national remote work law enforcement; no local policy leads to fragmented remote work uptake. • No targeted tax breaks; digital nomad visa (non-EU high-earners) resulted in limited attraction of remote workers.	• Absent national remote work mandates; companies set their own policies, resulting in uneven practices. • No specific tax incentives or nomad programs; cross-border remote work is hampered by differing national rules.	• Comprehensive "smart working" law in place, yet public-sector rules and culture limit fully remote uptake. • Companies set their own policies • No major local incentives or special tax regimes for remote work.	• Lack of a formal remote work policy; reliance on employer-driven practices limits broader adoption. • No tax incentives; new digital nomad visa (non-EU high-earners) has limited impact on remote worker inflows.	• No dedicated remote work policy in the UK; flexible work left to employers, leading to local office downsizing. • No special incentives for remote workers; the regional economy adjusts via market forces rather than policy.	• Cross-border tax and social-security mismatches deter remote work mobility in the border region. • Rigid planning and lack of proactive policy limit adaptation to remote work's spatial demands (e.g. housing and co-working development).
Geographical, proximity and transport-related factors	• Limited hinterland transport makes remote work attractive for residents that already live far from the dense metropolitan core. • Suburban proximity to amenities drives	• Polycentric settlement reduces long commutes; remote work spreads activity across towns rather than centralising it. • Infrequent buses make total travel time burdensome,	• Strong rail links enable relocation to cheaper peri-urban areas while maintaining occasional office presence. • Desire for proximity to daily amenities increases demand	• Extreme congestion incentivises remote work, especially for long-distance cross-Bosphorus commutes. • Suburban areas gain attractiveness as proximity (to public services and	• Long London commutes make hybrid or remote work essential for maintaining work-life balance. • Preference for proximity to local amenities increases spending and activity	• Dense cross-border transport network supports dispersed living and less frequent long-distance commuting. • Scenic, accessible towns attract remote workers seeking accessible

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	moderate decentralisation, reinforcing demand for local services and co-working options.	pushing workers to rely more on home-based work.	for walkable suburban centres with local services.	amenities) needs rise when commuting becomes occasional.	within towns rather than the metropolitan core.	amenities and high environmental quality.
Digital infrastructure and connectivity	• Poor rural internet reliability discourages relocation outside the metropolitan area and reinforces preference for suburban zones. • Urban residents with stable connectivity show greater ability to sustain remote work within the urban core.	• Connectivity gaps in rural areas reduce attractiveness for relocation among remote workers, limiting outward movement.	• Strong urban and peri-urban connectivity supports outward relocation to suburban municipalities while maintaining hybrid work arrangements. • Connectivity is not cited as a barrier for moving to rural areas; relocation driven mainly by housing affordability, not digital access.	• Frequent internet reliability problems discourage remote workers from moving to outer districts with weaker digital infrastructure. • Moderately urbanized areas remain preferred due to more stable connectivity, despite suburban lifestyle preferences.	• Residential stability remains high; connectivity was not found to be a relocation driver (it is already of good quality).	• Unstable rural internet reduces attractiveness of peripheral Alpine areas for remote workers. • Well-connected towns become preferred locations, supporting dispersed but connectivity-dependent decisions on where to live.
Housing affordability and availability	• Rising city-centre rents push some remote workers toward more affordable suburban and peri-urban areas. • Airbnb conversions reduce central housing supply, reinforcing outward relocation trends	• Housing shortages and strict planning kept Twente's remote workers from moving far, with many only seeking an extra room or home office instead of relocating. • A few Dutch remote workers live just across the German	• Increasing Milan housing costs drove many remote workers to move to cheaper suburban and rural areas once daily commuting was unnecessary.	• High housing costs and inflation in Istanbul push remote workers toward more affordable, livable suburban areas, leveraging remote work flexibility to prioritize better living conditions	• Remote workers' post-pandemic "race for space" has fueled rising house prices in Surrey's suburban commuter towns, as many left city centers (especially London) in search of larger, more affordable homes.	• In Vorarlberg's Lake Constance region, remote workers' demand for high-quality housing outpaced the limited supply, driving up prices and prompting conversions of existing properties into rentals and

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	among remote workers.	border for cheaper housing, but these are rare exceptions rather than a widespread trend.		over central location.		work-friendly spaces.
Culture - related factors	• Many employers see on-site presence as a productivity driver, resisting remote work.	• Dutch side's flexible, trust-based work norms make hybrid work common, while the German side's more office-centric culture and lack of legal right to work remotely slows remote work adoption.	• Many Italian companies are skeptical of "smart working," viewing hybrid work as a special favor rather than a standard practice.	• Traditional managers link office presence with control and productivity, so they resist flexibility and continue to favor in-person presence and supervision.	• Post-pandemic work culture has shifted even closer to enabling remote work. Over half of survey respondents say local employers now offer remote, flexible, and hybrid work as a standard practice.	• Leadership trust and openness produce diverging outcomes. Companies with a trusting culture readily embrace remote work, whereas some low-trust managers remain reluctant and call staff back to the office.

Table 8. Comparative analysis of findings in terms of factors influencing how socio-economic and spatial phenomena due to remote work were shaped in each use case area

Policy and taxation factors affecting social, economic and spatial phenomena related to remote work vary greatly across the use case areas. Italy and Austria benefit from robust national frameworks (e.g. Italy's and Austria's supportive regulations), while the Netherlands, Germany, and the UK rely on decentralized measures like flexible - work requests or minor tax deductions. In Greece and Turkey, basic remote work laws exist, but their weak enforcement and strategy, coupled with a traditional work culture had a limited effect. Likewise, dedicated local initiatives are uneven: local and regional authorities such as Vorarlberg (Rheintal) and some UK counties proactively support remote work (investing in digital infrastructure and co-working programs), whereas limited policies in Thessaloniki and Istanbul have resulted in uncoordinated changes. Explicit tax incentives for remote work are generally absent; instead, tax and social-security issues emerge as barriers primarily in cross-border contexts (e.g. complex Austria-Switzerland rules or NL-DE arrangements hindering remote employment). National digital nomad visa schemes introduced in countries like Greece and Turkey target high-earning non-residents, but these have had negligible influence on local remote work. Overall, the social, economic, and spatial effects of remote work in all cases have been shaped more by existing market forces and infrastructure quality than by direct policy guidance, often amplifying pre-existing inequalities between well-connected urban hubs and less supported peripheral areas.

Across all use cases, **geographical structure and transport connectivity** are central to shaping how remote work manifests socially and spatially. In regions with *long or congested commutes* (Istanbul, Surrey and the Southeast of England, Thessaloniki) remote work is adopted as a practical necessity, leading to reduced dependence from the urban core and growing attraction or remote workers in suburban areas. Conversely, in *polycentric regions with good transport links* (Twente - Münsterland, Milan, Rheintal - Bodesee), strong rail and road networks allow workers to live farther from job centres with occasional commuting. In all use case areas, proximity to amenities within walking or biking distance becomes more important, influencing relocation toward suburban areas with better local services. These geographical and proximity conditions together affect local spending in suburban areas, promote neighbourhood-based daily life, and induce only moderate decentralisation (in areas which still offer rather dense public services and amenities while providing access to more and more qualitative green and open environments) rather than large-scale rural migration, demonstrating that remote work reinforces each region's underlying geographic logic rather than overriding it.

Across the use cases, **digital infrastructure explicitly shapes the decision on where to establish one's home, only in areas where connectivity gaps are visible and consequential**. In Thessaloniki, Twente - Münsterland, Istanbul, and the Rheintal -Bodensee region, weaker rural broadband **actively discourages remote workers from relocating to rural areas**, reinforcing suburban or small town settlement patterns. In Milan, by contrast, **good regional connectivity means location choices are shaped more by housing cost than digital connectivity**, enabling more outward migration. In Surrey, **no explicit evidence** was found that digital infrastructure influences relocation, despite rural broadband complaints. Overall, connectivity acts as a **threshold condition**: strong digital networks enable flexible relocation, while weak ones restrict residential mobility.

Across these diverse use cases, **housing affordability and availability emerge as significant factors influencing remote workers' relocation decisions**. In many regions, remote work opened the door for workers to move to places with cheaper or more spacious housing, leading to noticeable shifts: people moving from city centers to suburbs/rural areas (Milan, Istanbul, Surrey) and increased housing demand (and prices) in traditionally "affordable" areas. However, the impact varies. In some cases, long-standing housing market trends continued largely unchanged by remote work (Twente - Münsterland), or relocation was constrained by infrastructure and supply limits (Thessaloniki, Rheintal). What is consistent is that **the option to work remotely empowered individuals to prioritize housing needs** in their choice of where to live, whether that means finding an extra room for a home office, a greener environment, or simply a home they can afford. Remote work **magnifies the importance of housing - related factors** in location decisions, but it operates in tandem with other factors (infrastructure, job opportunities, policies) to shape phenomena observed in each use case area.

Employers in use case areas with more **flexible, trust-oriented work cultures** (e.g. Twente, Surrey, and post-Covid Milan) have generally **embraced remote and hybrid work**, quickly normalizing these arrangements from an organisational point of view. In contrast, employers in use case areas characterized by **traditional or presenteeism-focused norms** (notably Thessaloniki and Istanbul) show much lower uptake. For example, Thessaloniki had only about 7% people regularly working remotely in 2022, reflecting cultural resistance despite new laws. Overall, the cases illustrate that **high managerial trust and modern work attitudes correlate with promoting remote work**, whereas **conservative management mindsets and scepticism** tend to keep employees office-bound, leading to significantly diverse remote work adoption rates across these areas.

4.6 Remote workers' problems and needs encountered with remote work

Below follows the comparative table of findings in terms of remote workers' problems and needs encountered with remote work in each use case area, grouped under emerging themes (digital connectivity and other workspace constraints, lack of physical access to transport, social services and amenities, social isolation and community support, work-life balance and wellbeing challenges, communication, collaboration and career development barriers). The comparative analysis findings are described after the table.

	Thessaloniki	**Twente - Münsterland**	**Milan**	**Istanbul**	**Surrey & Southeast England**	**Rheintal-Bodenseegebiet**
Digital connectivity and other workspace constraints	• Poor internet speed/reliability (49% of respondents) • ~35% lack a suitable home workspace • Limited co-working options	• Slow or glitchy systems and some homes with bad internet • Inadequate home office setups (noise, distractions, uneven equipment)	• Many lack an adequate home office (39% without proper workspace) • Scarcity of nearby co-working spaces (~41% have no flexible office nearby)	• Unreliable internet connectivity (~40% face moderate-high issues)	No significant connectivity or workspace issues reported (robust infrastructure; ample home space)	• Unstable internet and outdated equipment remain problems in some cases • Inappropriate home work environments (distractions, ergonomic issues)
Lack of physical access to transport, social services and amenities	• Limited public transport options for commuting	• Infrequent public transit and car dependence (long travel times)	N/A	• Poor local service access: ~48% struggle with nearby healthcare	• No major issues with local services (55% reported no schooling issues; 45% no health care issues)	N/A
Social isolation and community support	• Remote workers feel socially isolated (common issue reported)	• Weakened social ties; some feel "uncoupled" from colleagues	• Loss of informal coworker interactions ("no more contact… you eat alone")	N/A	• Little isolation; ~66% had no communication issues (strong community ties)	• Remote workers feel socially isolated (common issue reported)
Work-life balance and wellbeing challenges	• Blurred work-life boundaries lead to overwork ("no separation between	• Blurred boundaries and fatigue from longer hours and prolonged sitting	• Overlong workdays and fatigue ("no real end of the day" anymore)	• Work-family conflicts (e.g., childcare duties	N/A	• Constant availability and difficulty "switching off" from work

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	personal time and work")			often clash with work)		
Communication, collaboration and career development barriers	N/A	• Fewer spontaneous ideas and limited team interaction under remote work	• Weaker team communication and bonding due to remote arrangements	• Technical issues (audio/video) disrupt smooth communication with colleagues	N/A	• Reduced visibility of remote workers, concerns for career development prospects; some managerial mistrust

Table 9. Comparative analysis of remote workers' problems and needs encountered with remote work in each use case area

Across the six use cases, several remote work challenges are common yet vary in intensity. **Digital connectivity and workspace constraints** are significant for remote workers in regions like Thessaloniki and Istanbul: nearly half of Thessaloniki's respondents cite poor internet speed and 40% in Istanbul report connectivity issues, whereas in Surrey which is well-connected such issues are minimal. Similarly, **access to transport and services** shows a divide: Istanbul stands out with 48% of remote workers struggling to reach health services and Twente - Münsterland remote workers note gaps in public transit, while Surrey's high car ownership and quality local facilities mean few face transport or amenity access issues. **Social isolation** emerges as a widespread concern of remote workers in most use case areas (e.g., Rheintal-Bodenseegebiet respondents cite isolation as the most common issue and Milan respondents worry about lost friendly contact), except in Surrey where two-thirds reported no communication difficulties. Nearly in every region **blurred work-life boundaries** and associated well-being challenges are observed, from overwork and "no real end of the day" in Milan to pressure to be constantly available in Rheintal-Bodenseegebiet, indicating a consistent threat to work-life balance outside the office. Finally, **communication, collaboration, and career development barriers** are noted in varying degrees: in some use case areas remote workers report reduced team creativity and bonding (Twente's remote workers feel "uncoupled"), and in Rheintal-Bodenseegebiet remote workers fear limited career development prospects due to reduced visibility. These cross-case findings suggest that while the flexibility of remote work is universally appreciated, its downsides, whether infrastructure gaps, social disconnection, or work-life imbalance, are clearly affected by the local context. Use case areas with strong infrastructure and community (e.g., Surrey) experience fewer negative effects, whereas those with pre-existing spatial or infrastructural inequalities (e.g., Istanbul, cross-border rural communities) see remote work amplifying certain difficulties.

4.7 Citizens' future intentions

Below follows the comparative table of findings in terms of citizens' future intentions with respect to remote work in each use case area, grouped under emerging themes (remote work plans, career development and job change considerations, relocation plans). The comparative analysis findings are described after the table.

	Thessaloniki	**Twente - Münsterland**	**Milan**	**Istanbul**	**Surrey & Southeast England**	**Rheintal-Bodenseegebiet**
Remote work plans	With the option to work remotely, over half of respondents would reduce commuting (54% less car use). Many would upgrade home offices and spend more time locally.	Most citizens that work remotely intend to maintain their current hybrid routines with minimal change. Remote work is already normalized, so few foresee altering their work patterns significantly. y Level 2	With the option to work remotely, most would cut back on commuting (60% less public transit; 51% less car use). Many plan to solidify long-term remote work, for example by creating or improving dedicated home office spaces.	Remote work flexibility is widely embraced. Many survey respondents plan to keep working hybrid and invest in better home setups. Over half plan to enhance their capacity for remote work (e.g. through digital tools, home offices) to support continued remote work.	Respondents report few changes needed, as remote work is already part of regular life. Many plan only minor adjustments, such as slightly reducing travel and continuing to work from home in existing home offices (no major routine changes reported).	Hybrid work has become a standard model (56% observe it as the new norm), indicating most will continue with remote/hybrid arrangements. Remote work is expected to persist, supported by widespread employer adoption of flexible work.
Career development and job change considerations	Remote workers and citizens with the option to work remotely would enhance their digital skills. Some are looking to transition to fully remote roles, signalling an interest in career paths that accommodate exclusive remote work.	There is limited appetite for retraining or drastic career moves - few respondents indicate plans to change jobs due to remote work. The workforce already feels digitally prepared, so major upskilling efforts are not widely reported (remote work is seen as	Many workers link remote work with broader career aspirations. A notable subset aims for remote-friendly careers. For example, some hope to secure fully remote jobs so they can relocate for a better lifestyle. Overall, respondents are focused on leveraging	Improving professional skills is a key theme: 55.8% plan to upgrade their digital skills to remain competitive in the remote work environment. However, direct job changes are less prominent; instead, people are looking to grow within their	Most respondents do not see a need for major career changes or additional training. 42% felt well equipped digitally and did not identify strong upskilling needs. This suggests confidence in existing skills and little pressure to change jobs, as flexible and remote work	Awareness of skill gaps exists (e.g. 52% observed older workers struggling with digital skills), indicating a need for ongoing skill development. Citizens generally plan to update their digital competencies as needed, but there's no widespread intent

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
		a continuation, not a career shift).	remote work for greater flexibility rather than switching fields entirely.	current roles by gaining remote work competencies.	arrangements are already common.	to change jobs; rather, people aim to adapt their skills to current jobs under hybrid work.
Relocation plans	Relocation intentions are modest. Most respondents are not actively planning to change homes because of remote work. A small fraction show interest in suburban/peripheral moves, but overall there is no significant drive to relocate; people largely prefer improving local conditions over moving away.	The vast majority have no plans to relocate. The most common response was an intention to stay put, keeping the current home - work location balance. For example, 73% have no desire to move to a more urban area, and about 64% wouldn't relocate just for better transit or offices nearby.	There is notable movement outward from the city: over half of respondents have observed or contemplated people leaving central Milan for more space. Some Milanese remote workers plan to move to the countryside or back to their home regions for quality of life. However, this outward movement is not universal. Many still do not intend to relocate.	Suburban moves are highly appealing - about 64% expressed moderate-to-strong intent to relocate to suburban areas if remote work continues. The general trend is a preference for staying in Istanbul's orbit (seeking areas with better amenities or environment) rather than long-distance relocation.	Most respondents are firmly settled - more than 60% would not relocate even for better transport or more co-working spaces nearby. Likewise, 73% have no intention to move closer to a city center. The prevailing sentiment is to remain in the same community; remote work has not triggered much desire to change residence.	Relocation plans are moderate. While some respondents acknowledge a trend of moving out of city centers for more space (about 42% observed this at least moderately), most are not personally planning major moves. Any relocation intentions tend to be local (within the region), moving to nearby towns or rural areas rather than cross-country.

Table 10. Comparative analysis of Citizens' future intentions in each use case area

Survey findings show a strong intent to continue remote or hybrid work, with respondents in all six use case areas planning to **integrate remote work into their lifestyles long-term**. A common theme is reducing traditional commuting - many people across regions intend to **drive and use transit less** as they work from home more often. Likewise, there is broad interest in **improving home and work environments** (e.g. setting up quality home offices) to support ongoing remote work. Regions that already had high remote-work adoption (e.g. Surrey and Southeast England, Twente) report very little change, reflecting that remote work is already "business as usual." In contrast, regions newer to remote work (e.g. Thessaloniki, Istanbul) show stronger intentions to **adapt infra-structure and skills** for sustained remote work (upskilling, investing in home offices). Overall, however, the trend is consistent: **continuing remote/hybrid work** is a clear plan for a large share of citizens, accompanied by lifestyle tweaks like less commuting and more local activity.

The survey data shows a **strong emphasis on skill development over radical job changes**. In all areas, many respondents plan to **improve their digital skills** to better suit remote/hybrid work. This trend is especially pronounced in regions like Thessaloniki and Istanbul where digital upskilling is seen as essential. By contrast, there is relatively little indication that people are planning to switch employers or careers solely due to remote work. Instead of seeking new jobs, workers are largely looking to **adapt within their current roles** by gaining relevant skills and negotiating supportive policies. A few exceptions appear in highly urban regions (e.g. Milan), where some individuals explicitly aspire to **find fully remote jobs** in order to live elsewhere, blending career moves with lifestyle goals. Overall, **career development plans center on enhancing skills and leveraging remote work options** in existing jobs, rather than changing jobs completely.

Large-scale relocation due to remote work is not the norm in the survey findings. In all six use-case areas, a majority of citizens do **not** plan to move far as a result of being able to work remotely. Instead, where relocation is considered, it usually means a **minor geographical shift** - often from a city center to a suburb or smaller town within the same region, in search of more space or a better environment. For example, suburban moves are relatively popular in some regions (Istanbul, Milan), whereas outright urban-to-rural migrations remain uncommon. Moreover, very few respondents in any region intend to relocate purely for specific amenities like transit, co-working offices, or schools - such factors alone aren't driving many moves. **Quality of life** is a stronger motivator than infrastructure: some people (notably in Milan and Istanbul) envision moving to enjoy a lower cost of living or nature, but even so, this reflects a **minority**. Across all regions, the dominant trend is **residential stability**: most remote workers plan to **stay in their current region**, adapting their immediate surroundings (and commuting patterns) rather than relocating long-distance. This suggests that while remote work allows more freedom of location, it is **shaping a gentle "donut effect"** (gradual suburbanization) rather than a radical redistribution of where people live.

4.8 Overall assessment of the Urban - Rural divide dynamics and prospects in the context of remote work

Below follows the comparative table of findings in terms of an overall assessment of the Urban - Rural divide dynamics and prospects in the context of remote work in each use case area, grouped under emerging themes (infrastructure disparities, disparities in access to services & socio-economic fabric, future outlook). The comparative analysis findings are described after the table.

	Thessaloniki	**Twente - Münsterland**	**Milan**	**Istanbul**	**Surrey & Southeast England**	**Rheintal-Bodenseegebiet**
Infrastructure Disparities	Rural parts of Thessaloniki suffer from weaker digital infrastructure and services. 20% of rural	Twente-Münsterland's rural areas face clear infrastructure gaps. About half of rural respondents lack a	Milan is narrowing its digital divide, yet urban areas still hold the edge. 53% of respondents say better	Rural parts of Istanbul's broader area face serious infrastructure deficits compared to the city.	Urban vs rural infrastructure differences are stark in Surrey. Rural residents report	In Rheintal-Bodensee, remote work's traffic relief is more apparent in rural areas. Small towns

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	respondents "extremely" struggle with poor internet, vs only 8% urban. Rural residents also report lacking nearby amenities like recreation and schools (24% rural vs ~11% urban strongly feel deficits).	proper home workspace for remote work, compared to far fewer in towns or cities. Rural residents also report the highest lack of local cultural and recreational facilities, while urban centers have far better access.	rural broadband has enabled remote work. Still, Milan's roads remain busy (with only minor traffic relief on remote-work days), highlighting that the city's infrastructure dominance persists even as rural connectivity improves.	Improved broadband is deemed "extremely" necessary by 10.8% of rural respondents (vs 8.4% urban). Citizens residing in the urbanises areas report far fewer gaps in public transport, cultural amenities, and healthcare – in parallel, rural residents cite these shortages as major barriers.	lacking reliable public transport, nearby co-working spaces, and even fast broadband. Urban areas, by contrast, enjoy more developed transport connections and plenty remote-work facilities (e.g. co-working cafés), revealing a significant infrastructure divide between the city and countryside.	report bigger drops in public transport use and rush-hour congestion (emptier Friday trains, smoother roads), whereas big cities see only slight changes. This indicates rural communities feel remote work impacts more immediately than dense urban centers.
Disparities in access to services & Socio-economic Fabric	Socio-economic disparities persist between city and countryside. Over half of respondents perceive that rural residents lack needed digital skills for remote work. Village communities have fewer job opportunities and public services, whereas Thessaloniki's urban core sees more firms offering hybrid work options and better access to	Social and service divides are evident. Remote workers in rural parts of Twente-Münsterland feel more isolated and have greater childcare needs than their urban counterparts. Smaller communities struggle with fewer support services (from childcare to community interaction), whereas city dwellers report less isolation and better access to care networks.	Remote work is widening some socio-economic divides in Milan. Respondents note skyrocketing city housing costs and significant moves to cheaper peripheral areas (57% observed relocation outward). Suburban towns now enjoy more family life, whereas central Milan faces new strains (e.g. feeling less safe on public transport). This shows that flexibility gains have been	Urban zones see new co-working spaces and public-space adaptations that rarely extend to remote rural areas. In the meanwhile, rural communities around Istanbul have limited amenities and digital resources, hindering remote work uptake.	Service and socio-economic disparities persist. Rural communities have fewer cultural, recreational, and educational amenities and more limited healthcare access. Meanwhile, urban respondents benefit from diverse job opportunities and remote-work resources. This gap means city dwellers experience more advantages from	Big cities around Lake Constance are becoming more diverse due to remote workers, with urban respondents noting higher increases in neighborhood diversity (mean ~3.24 vs 2.67 in rural areas). Rural communities see smaller demographic shifts and still struggle with digital skill gaps among older residents, reflecting

	Thessaloniki	Twente - Münsterland	Milan	Istanbul	Surrey & Southeast England	Rheintal-Bodenseegebiet
	education and healthcare.		accompanied by heightened core-periphery disparities.		remote work, whereas rural residents often feel left behind.	an ongoing socio-economic divide.
Future Outlook	Many Thessaloniki residents foresee continued decentralization. Roughly 25% showed strong intent to move to suburban areas and ~20% to rural areas if remote work continues, versus only ~12% eyeing a city-center move. This suggests slight narrowing of the urban-rural divide as some population disperses, though major shifts are unlikely.	Major shifts appear unlikely in Twente-Münsterland. The most common response about future plans was no intention to relocate. While some would move for quality of life (abroad or to cheaper regions), the majority plan to keep their hybrid work routines rather than change location, meaning the current urban-rural balance will largely persist.	Outward relocation of remote workers will likely continue. 57% have seen people leaving central Milan for more space, and some plan to move to the countryside for quality-of-life reasons. This exodus is raising suburban housing demand and may widen the core-periphery gap unless addressed by policy.	Over 64% of Istanbul's respondents have interest in relocating to a suburban area when enabled to work remotely, while only ~15% consider moving to rural areas. This implies the urban-rural gap may persist, as most remote workers prefer semi-urban living (city amenities plus more space) rather than fully rural life. Digital skill improvements are also a priority, but large-scale rural migration remains unlikely.	Survey results suggest these disparities will remain stable. A majority (73%) have no desire to move to more urban areas, and ~64% wouldn't relocate just for better transit or offices. Residents seem content to stay put, implying the gap is unlikely to widen drastically in the near future.	Relocation to suburbs is notable but not overwhelming. Many observed a shift of residents outward from city centers (seeking more space, lower costs). Some remote workers plan moves for lifestyle reasons, but few intend to relocate just for better transit or amenities. This "donut effect" suggests the urban-rural divide will persist with incremental change.

Table 11. Comparative assessment of the Urban - Rural divide dynamics and prospects in the context of remote work

Across the diverse regions, rural communities often have inferior **connectivity and facilities** compared to urban centers. For instance, in the Thessaloniki area 20% of rural respondents reported extremely poor internet connectivity (versus only 8% of urban respondents), and in Twente-Münsterland nearly half of rural workers lacked a proper home office setup. Basic amenities and transport options also show a divide: in Surrey's countryside, residents cite unreliable broadband, limited public transit, and scarce co-working spaces, whereas nearby urban areas enjoy robust internet, efficient transit, and abundant remote-work venues. In some cases, improvements are underway but haven't erased the gap. Milan's push to extend broadband into rural outskirts has enabled

more remote work (over half of respondents in that region noted better rural internet access); however, the city's roads remain busy even on remote-work days, underscoring the continued dominance of urban infrastructure. Overall, these patterns highlight a persistent infrastructure divide, with rural areas still playing catch-up to better-equipped cities.

Socio-economic and service divides persist between cities and the countryside across all cases, as rural residents often lack full access to the resources and skills needed to thrive in a remote-work environment. For example, in the Thessaloniki area more than half of respondents observed that villagers lack key digital skills for working remotely. Likewise, remote workers in rural Twente-Münsterland reported stronger feelings of isolation and more unmet childcare needs than their urban counterparts, reflecting the fewer support services and social networks available in small communities. Urban dwellers generally continue to enjoy more diverse job opportunities, better education and healthcare access, and richer community life, whereas rural populations face more limited amenities. Some emerging trends are even accentuating the divide: in Milan, 57% of respondents have seen people relocating from the expensive city center to more affordable areas on the periphery, a shift that could widen core-versus-suburb inequalities (for example, housing pressures and service demands). Even demographic patterns are uneven: around the Lake Constance region, large towns are becoming more diverse as remote workers move in, while nearby villages remain relatively static and struggle with older residents' digital skill gaps. Overall, remote work has not erased the long-standing urban-rural differences in services and socio-economic fabric (in some cases it is reinforcing or reshaping those divides in new ways).

Looking ahead, the survey data suggest only gradual shifts in the urban-rural balance as a result of remote work (most people have no plans to relocate or significantly change their living situation because of being able to work remotely). For instance, in Twente-Münsterland and Surrey and Southeast England, over two-thirds of respondents indicated no intention to move; surveyed workers expressed no desire to shift to a more urban area just for better transit or access to offices. This suggests that for most hybrid workers, current urban-versus-rural living patterns will remain largely unchanged, effectively preserving the status quo. However, a minority of respondents do plan relocations, indicating some decentralization on the horizon. In Thessaloniki, roughly a quarter of participants intend to move outward to suburban or rural locales (double the share eyeing a move into the city center), and in Milan a notable outflow of remote workers toward peripheral towns is already underway as people seek more space and affordability. These outward shifts represent a mild "donut effect" in certain cities (suburban growth at the expense of city-center density) but so far, such changes appear incremental rather than a mass exodus. In summary, the urban-rural divide is expected to persist into the near future, with any narrowing or widening of the gap happening slowly unless new policies intervene.

5. Conclusions and way forward

Task 4.1 conducted a comprehensive **regional diagnosis** across six diverse use case areas, namely Thessaloniki, Twente - Münsterland, Milan, Istanbul, Surrey and Southeast England, and Rheintal-Bodenseegebiet. Through extensive desk research, 38 expert interviews (more than 5 in each use case area), and large-scale citizen surveys with 6,636 survey respondents (more than 1,000 in each use case area), of which almost 4,000 work remotely or hybrid at least once a week, the R-Map team examined how the rise of remote work is reshaping each use case area's spatial, economic, and social dynamics. This multi-method approach captured both quantitative and qualitative information, contextualizing phenomena such as shifting commuting patterns, changes in office and housing demand, and evolving perceptions and intentions. Towards the end of Task 4.1, a **comparative cross-case analysis** was performed to distill common trends and contextual differences across the six use case areas. This section summarizes the main conclusions from that analysis, focusing on broad takeaways rather than case-specific or dimension-specific details.

The first conclusion is that remote work is an ongoing trend, but its uptake is uneven across cities, regions and sectors. All six use cases confirm that the pandemic-driven broad remote work adoption has gradually given way to a lasting shift toward hybrid work arrangements, especially in knowledge-intensive industries. However, the degree of adoption varies widely. In areas with robust digital infrastructure and flexible work cultures -such as Milan, Surrey and Southeast England and Twente- remote work has quickly become normalized in a diversity of workplaces from the private and public sector. By contrast, areas with less developed and patchy digital infrastructure and more traditional corporate cultures, such as Thessaloniki and Istanbul, report much lower participation in remote work. Importantly, this divergence has real impacts on the physical environments of those use case areas. High-adoption areas are seeing pronounced changes like significant reductions in daily commuting and a local market for flexible workspaces, whereas lower-adoption regions experience only modest changes. Cross-border cases add an additional layer: in Twente - Münsterland and Rheintal - Bodensee, some people live in one country and work remotely for employers in another, but complex tax and social security rules have tempered this movement despite the very good road and rail connections. Overall, the spread of remote work is undeniable but highly uneven, meaning its benefits and challenges manifest differently from place to place.

Remote work has improved work-life balance for many, but blurred boundaries and produced new stressors. A clear finding across the use cases is that remote and hybrid work arrangements offer employees greater flexibility to organize work around personal life - especially for those with caregiving duties. There is higher job satisfaction among staff who can work remotely/hybrid, as it allows more time at home and less time commuting. Survey responses similarly highlight that people appreciate the improved work-life integration, such as being able to handle family needs during the day. However, this comes with a caveat: the same flexibility blurs the line between work and personal time. Many remote workers struggle to "switch off" as work hours extend into evenings. Interviews across the cases validated this tension: while productivity did not dramatically drop, employees reported difficulties in managing boundaries and avoiding overwork. In short, work-life balance has simultaneously been enhanced and strained by remote work.

Maintaining social cohesion and team dynamics is a growing concern in an era of dispersed work. Without the physical office as a daily gathering place, informal interaction and peer support have weakened in many job settings. The cross-case analysis found widespread reports of social isolation among remote workers, particularly younger or single employees who lack the camaraderie of co-located colleagues. In all six use case areas, isolation emerged as a common pain point confirmed by surveys and interviews, leading to calls for initiatives to keep people connected. Several employers have already responded by adapting their practices: for example, companies in Twente-Münsterland and elsewhere now designate mid-week "in-office" days to

bring teams together, and they provide training for managers on sustaining engagement in hybrid teams. These measures aim to rebuild team cohesion and ensure knowledge-sharing and creativity are not hindered by remote work settings.

Moreover, remote work is reshaping spatial and mobility patterns more through timing and activity changes than through mass relocation. One striking conclusion across the cases is that the shift to remote/hybrid work has changed when, how, and where people move around on a daily basis far more than it has changed their long-term residence choices. With many employees now travelling to the office only on certain days, peak traffic has flattened and re-timed: for instance, office districts see their busiest periods mid-week (Tuesdays to Thursdays) while Mondays and Fridays are much lighter. Public transport data and interview testimony confirm these "hybrid" mobility rhythms, alongside increased daytime activity within local neighborhoods, whereby remote workers run errands on remote days. Crucially, however, fears or hopes of a rural exodus have not materialized at scale. Some professionals have relocated to suburbs or smaller cities in search of more space (enabled by not having to commute daily), producing a subtle "doughnut effect" but these moves remain selective and affected by other personal factors, besides the ability to work from a distance.

Large-scale shifts in housing demand or urban form due to remote work have been modest, constrained by existing trends and compact city policies. To date, **housing market dynamics are still governed more by long-standing factors** - demographics, affordability, and local desirability - than by remote work per se. In several use case areas, interviewees noted that while some households did prioritize an extra room or a home with a garden to accommodate working from a distance, this was usually a marginal adjustment rather than a long-distance move. High housing costs and limited supply in attractive areas have also blunted potential relocation: even if a job is fully remote, finding affordable housing in the desired location still remains a challenge. Moreover, as noted in the Twente - Münsterland case, the draw of major job centers and urban amenities continues to influence where people settle. Urban cores like Milan or Istanbul still offer diverse employment and cultural opportunities that remote-friendly smaller towns cannot easily match. Additionally, planning and infrastructure constraints play a role. For example, strict land-use policies in parts of Austria's Rheintal region or the Netherlands prevent sprawling development, meaning remote workers cannot simply build new exurban enclaves.

On the economic and urban side, the rise of remote work is prompting a reconfiguration of workspaces. Many companies, responding to lower office attendance, are downsizing their central offices or reimagining them with flexible layouts. For instance, firms in the Twente-Münsterland and Surrey cases have reduced their office footprints and adopted hot-desking or "desk-sharing" policies, cutting costs while adjusting to hybrid routines. This trend is altering commercial real estate demand - new office construction has slowed in some areas, and older office buildings are being repurposed or considered for conversion in the longer term. At the same time, local co-working spaces and remote work hubs are on the rise. Several use cases noted the emergence of decentralised co-working centers (sometimes supported by public or private initiatives) as an alternative to both the home and the traditional office, allowing remote workers to collaborate or access equipment near their homes. This has been observed from Thessaloniki to Istanbul and is actively encouraged in places like Milan (through 15-minute city planning strategies that integrate co-working sites). Such hubs not only provide convenience but also help mitigate isolation by offering a social setting for remote workers.

On a community level, the **daytime economies** of residential areas have benefited from more people working locally - cafes, shops, and services in neighborhood high streets see increased patronage on weekdays. Conversely, city-center businesses that depended on a steady influx of office workers are having to adjust to new demand patterns (e.g. catering more to a mid-week peak of customers). In sum, the **economic geography is trending toward a more polycentric pattern**: not a wholesale hollowing-out of cities, but a subtle redistribution of activity as both workplaces and workers become more geographically flexible.

Finally, the local context and governance play a critical role in shaping remote work outcomes. National and regional policy support varies: some countries (like Italy and Austria) have enacted formal laws or guidance for remote work (ensuring workers' rights, equipment subsidies, etc.), whereas others leave it largely to employer discretion. In our use cases, areas with clearer policies or support programs (e.g. flexible work legislation in the Netherlands, or Vorarlberg's strategy promoting co-working and training) tended to see more confident uptake of remote work. In contrast, where policy was left mostly on paper (as in Turkey or Greece), adoption depended on individual company attitudes.

Beyond legislation, **infrastructure and services are decisive enablers**. Ubiquitous high-speed broadband, available in Surrey, Twente and Milan, is a precondition for widespread remote work, whereas connectivity gaps in rural Thessaloniki or outer Istanbul still hamper remote work in those areas. Access to reliable transport, childcare, and suitable workspace also came up in surveys as factors affecting people's ability or willingness to work remotely. Indeed, respondents across the cases expressed needs for better home-office setups, local childcare options, and clearer cross-border tax rules to support remote work lifestyles. In sum, the success and effects of remote work are **co-determined by local conditions and governance**. Regions that actively address the digital divide, support new work practices, and adapt urban planning (for instance, by encouraging co-working hubs and flexible mobility) are better positioned to harness the upsides of remote work while containing its downsides.

The insights from this regional diagnosis provide a valuable foundation as R-Map moves into the next stages of Work Package 4. In **Task 4.2**, the project will build on these findings to develop forward-looking scenarios and forecasts about remote work's future trajectory. The patterns identified in Task 4.1 will inform the scenario design, ensuring that our scenarios are grounded on the data observed in the six use cases. Following that, **Task 4.3** will focus on the evaluation and co-creation of policy measures to respond to the remote work phenomena diagnosed in Task 4.1 and forecasted through Task 4.2's scenarios. In this phase, the project team and local stakeholders will come together to design and assess policy measures that can **maximize the benefits** of remote and hybrid work while mitigating the downsides.

6. Annex

6.1 Interview template

INFORMED CONSENT FORM

Thank you for participating in this Interview performed by R-Map partner name! We are sharing with you the following questions in the context of R-Map, a project funded by the European Union under the Horizon Europe Framework Programme for Research and Innovation. A detailed description of how we handle personal data is presented in the Privacy Policy that can be accessed here.

Our contact details are the following:

#	Role	Name	E-mail
1	xxxxxx	xxxxxx	xxxxxx
2	xxxxxx	xxxxxx	xxxxxx

What do we need from you?

We need you to participate in a short interview. It will take approximately 30 minutes. Your replies will help us to understand better the spatial and socio-economic phenomena related to remote work, as well as key factors affecting those phenomena in city name. In this context, we need to process some of your personal data:

- Some basic demographics (gender, expertise);
- Your opinions on the subject matter.

What will we do with your data?

The project's deliverables that the interview will derive will not include your personal data or any other information that could identify you. However, we are obliged to grant access to your data to:

- EU officials such as our Project Officer for purposes related to the project's evaluation;
- EU agencies and other authorities for project's auditing purposes.

How can you withdraw your consent?

You can withdraw your consent at any time by communicating by email with the contact persons listed above.

I hereby give my consent to the processing of my personal data needed for:

#	Consent Subject	Tick box
1	My participation in an interview that will be carried out by R-Map to understand better the spatial and socio-economic phenomena related to remote work, as well as key influencing factors affecting those phenomena in city name.	

Your expert profile is (*Please select any that apply*):

- **real estate agent** with a knowledge of how the housing market is affected by the advent of remote workers in the city
- **municipal authority representative** working on remote work policy
- **urban policy and/or planning professional** with a knowledge of how the use the urban space is affected by the settlement of remote workers community in the city
- **local advisor** (e.g. tax advisor, lawyer) supporting remote workers to relocate in the city
- **local provider of working facilities** (e.g. co-working spaces) for remote workers in the city
- **provider of local networking services** for remote workers
- **HR manager or business owner** offering hybrid work (workers should not be 100% remote, but visit the city often)
- **Representative of a remote workers' community** or digital nomad group in the city
- **Cross-border employment advisor or mobility expert**
- other (please specify) ☐

Gender: How do you identify?

- Man
- Non-binary
- Woman
- I prefer to self describe, below: ☐

What is your age range?

- <26
- 26-45
- 46-65
- >65

What is your education level?

- High School or Less
- Bachelor's Degree
- Master's Degree or higher

Have you been involved in previous R-Map activities? If yes, please select any that apply.

- I am a member of the R-Map advisory board
- I was interviewed about the current status of remote working arrangements in Europe and beyond (T1.1)
- I was interviewed about the potential spatial implications of remote working arrangements (T1.2)
- I was interviewed about the potential socio-economic effects of remote working arrangements (T1.4)
- I am employed or studying at one of the R-Map partner organizations. Name of partner: ☐
- I participated in one or more of the meetings and events organised by R-Map
- Other (please specify) ☐

Interview Questionnaire

This interview seeks to shed light on the spatial and socio-economic phenomena related to remote work, as well as key influencing factors affecting those phenomena in city name.

1. **Based on your understanding and expertise, please provide a brief description of the current status of remote work, Remote Work Arrangements and related policies at urban, regional and national level affecting city name.**

Recommended answer: 150 words

2. **Based on your understanding and expertise, please describe any socio-economic phenomena observed due to remote work in the area. These may include, for example, changes in the social fabric of the city center or in suburban/rural areas, increased cross-border employment, and changes in the labor and property markets.**

Recommended answer: 150 words

3. **Based on your understanding and expertise, please describe any spatial phenomena observed due to remote work in the area. These may include, for example, massive changes in the use of buildings/land, higher spatial mobility from urban to the rural part of the region, changes in housing, transportation, energy consumption, and urban-rural dynamics.**

Recommended answer: 150 words

4. **Based on your understanding and expertise, please describe the key local factors that influenced how phenomena were shaped. These may include, for example, policies, housing prices, demographics, predominant job sectors, quality of life, air quality, pollution, land use, green spaces, transport connections, commuting patterns, etc.**

Recommended answer: 150 words

5. **Are you aware of recent statistics conducted within the city or region, or at national level related with any of the following?**
    - Companies that have introduced remote work policies and procedures
    - Working health and life quality in the region
    - Digital infrastructure coverage in rural areas
    - Social infrastructures availability in rural areas

Recommended answer: 150 words

6.2 Interview Results

The following tables present the aggregate results of the interviews conducted by the use case leaders. The top part of the table features the interviewee profiles, and the summary of their answers to the survey questions follows.

6.2.1 Thessaloniki (Greece)

(author: AUTh)

Use Case / Interviewee profiles & Questions	**Thessaloniki (Greece) - AUTh**
Professional capacity	• urban policy and planning professional • regional authority representative • real estate expert • local creative NGO co-founder • Community Leader - Digital Nomad Event Organizer
Gender	• 2 Women • 3 Men
Age range	• 1 in 26-45 • 4 in 46-65
Education level	• 4 with Master's Degree or higher • 1 with High School or Less
Involvement in previous R-Map activities	• 1 Member of the R-Map advisory board • 4 Not previously involved
1. Based on your understanding and expertise, please provide a brief description of the current status of remote work, Remote Work Arrangements and related policies at urban, regional and national level affecting the use case area	Although remote work is more prevalent now than it was five years ago, there are no specific local policies or provisions for remote work, except for national legislation applicable to both the private and public sectors. Remote work as an employment practice was not widely implemented until the outbreak of the COVID-19 pandemic. The new Labour Law (4808/2021) regulated remote employment more comprehensively than the pre-existing Law (3846/2010). However, remote work is practised mostly ad hoc. In the public sector, it is not as prevalent, as there is a specific procedure to be followed and a maximum number of days for working remotely per person per year. In the private sector, it is up to each company to decide whether to follow or not and for how many days per week or month. The hybrid model, which combines office days with remote work, is prevailing. Some efforts are being noticed, although they have not yet been translated into policies (except for tourism) for attracting digital nomads, in line with the national program “Work from Greece”. The existing framework for digital nomads (the Digital Nomad Visa for Greece) primarily focuses on non-EU citizens and individuals outside the Schengen Zone.
2. Based on your understanding and expertise, please describe any socio-	• **Remote work as a gateway for cross-border employment.** Despite limited co-working infrastructure, Thessaloniki’s affordable living and quality of life attract remote workers-including young Greeks employed by foreign

economic phenomena observed due to remote work in the area. These may include, for example, changes in the social fabric of the city center or in suburban/rural areas, increased cross-border employment, and changes in the labor and property markets.	companies-creating opportunities for brain gain through cross-border employment. • **Remote job opportunities for small businesses and startups are increasing.** Thessaloniki is becoming an innovation hub with many remote workers in consulting, creative marketing, and IT sectors. However, Greece overall lags in digital adoption, especially among small and rural businesses, exposing significant gaps in technology use and investment. • **Opportunity to attract digital nomads**. Thessaloniki is drawing more digital nomads and has strong potential to become a hub, but their numbers remain small and require a regional strategy, support, and investment from local decision-makers. • **Growth of flexible working spaces as a business model.** Flexible workspaces are expanding rapidly in Thessaloniki, driven by increasing demand from remote workers and students. They are becoming a promising business and real estate investment, particularly in the city center and nearby urban areas.
3. Based on your understanding and expertise, please describe any spatial phenomena observed due to remote work in the area. These may include, for example, massive changes in the use of build-ings/land, higher spatial mobility from urban to the rural part of the region, changes in housing, transportation, energy consumption, and urban-rural dynamics.	• **Development of co-working spaces**. A limited number of co-working spaces are currently in operation, but their number is increasing, reflecting a broader shift toward flexible workspaces for remote workers. The emergence and expansion of co-working spaces in Thessaloniki are most evident in the city centre and extend towards the eastern and western parts of the urban complex. Third places, such as remote work-friendly cafés, are also becoming popular. • **Changing patterns in office space demand and development.** New office developments in Thessaloniki primarily focus on meeting hybrid work needs but mainly serve corporate demands. While rents in suburban areas are rising, demand in the city centre has declined, focusing on larger spaces. Small offices are being replaced by flexible spaces, while some companies downsize and return to the centre. Meanwhile, older buildings are converted into rentals or hotels. • **Increased Demand for Digital Infrastructure and public transport coverage/options.** The lack of adequate infrastructure to support remote workers and digital nomads outside Thessaloniki's city centre is evident and contributes to spatial inequalities and distributional injustice between urban, suburban, and rural areas. Key deficiencies include limited access to high-speed internet, an essential requirement for re-mote work, as well as poor transport connectivity to and from areas within a 20-minute radius of the city centre. • **Rising housing prices and movement to suburban/peri urban areas.** Residential prices in Thessaloniki's RU continue to rise following an upward trend since 2019. The growth of short- and mid-term rental investments contributes to the rising prices and leads residents toward suburban and peri-urban areas. While remote work enables some to relocate, limited transport and service infrastructure remain barriers. Still, no apparent shift in urban-rural dynamics has been observed. • **Rise in short and mid-term rentals.** Short/mid-term rentals in Thessaloniki have expanded rapidly and without regulation or plan, with some companies now offering combined accommodation and workspaces aimed at digital nomads. While rising real estate prices are not directly driven by remote work,

	the widespread expansion of short-term rentals has intensified housing pressures and contribute to gentrification.
4. Based on your understanding and expertise, please describe the key local factors that influenced how phenomena were shaped. These may include, for example, policies, housing prices, demographics, predominant job sectors, quality of life, air quality, pollution, land use, green spaces, transport connections, commuting patterns, etc.	• **Limited and Fragmented Regulatory Framework and Policies.** Greece's legal framework for remote work lacks enforcement and cohesion, with national laws offering limited support, especially for EU digital nomads. Thessaloniki operates with informal, uncoordinated practices, lacking local governance or strategic planning. This regulatory fragmentation leads to uneven infrastructure development, reinforcing spatial inequality and hindering remote work integration outside central urban areas. • **Cultural Barriers to Remote Work Adoption**. Deep-rooted cultural norms in Greece equate physical presence with productivity, especially in the public sector and traditional businesses. Despite temporary shifts during COVID-19, remote work remains marginalized. **connections** Co-working spaces cater to niche users, while mainstream acceptance favors hybrid models over fully remote arrangements. • **Inadequate Digital Nomad and Golden Visa Policies.** Greece's digital nomad visa focuses on non-EU nationals with high income thresholds, excluding most digital workers in Thessaloniki, who are typically EU citizens. Golden visas target real estate investment without promoting remote work infrastructure. These policies have minimal impact, as broader adoption is hindered more by cultural attitudes, employer practices, and poor infrastructure than by legal status. • **Tourism-Led Economy and Housing Pressures**. Thessaloniki's tourism boom drives housing demand, exacerbated by short-term rentals targeting visitors and digital nomads. Tourist-centered real estate transformations push out residents, inflate rents, and gentrify central areas. Office spaces convert to accommodation, leaving traditional workplaces vacant. This tourism-remote work overlap reshapes urban dynamics, leading to displacement and widening socio-economic disparities. • **Transport Infrastructure and Accessibility.** Thessaloniki's transport system favors the city center, leaving suburban and rural areas poorly connected. Limited transit options constrain those seeking affordable housing outside the core, reducing remote work's potential to decentralize labor. Smaller towns face similar deficits, compounding regional inequality. Without better mobility networks, remote work's promise of flexibility and regional development remains unfulfilled. • **Internet Infrastructure and Cybersecurity.** Urban Thessaloniki has adequate internet for remote work, but rural areas suffer from weak connectivity and lack of co-working spaces. Greece underinvests in digital infrastructure, with SMEs showing low tech adoption. Cybersecurity concerns-especially in public services-also limit remote work growth. This digital gap restricts widespread adoption, particularly outside major cities and among smaller enterprises. • **Digital Skills and Technical Readiness.** Remote work uptake depends heavily on digital competencies, which vary widely across Greece. While pandemic-driven training improved readiness for some, many-especially in rural areas and the public sector-still lack adequate skills, equipment, and cybersecurity

	awareness. Low digital literacy and unequal access to tech resources limit Greece's capacity to fully embrace remote work opportunities.
5. Are you aware of recent statistics conducted within the city or region or at national level related with any of the following?	• Unfortunately, no relevant statistics are available. This lack of data was discussed and is considered a hindrance to the creation of informed policies.

6.2.2 Twente - Münsterland (the Netherlands / Germany)

(author: UT)

Use Case / Interviewee profiles & Questions	**Twente (the Netherlands) - UT**
Professional capacity	• Representative from the Scientific Board of Twente • Representative from the Province of Overijssel • HR of UT • Two staff members (both HR managers) of AGRAVIS Raiffeisen AG, a big agricultural and energy trading company in Muenster, NRW, Germany. Two employees of the regional planning agency of the Muensterland Two representatives from GrenzInfoPunkt (an office of Euregio) - head (German, female) and one staff member (Dutch, male) who identified themselves as tax advisor/lawyer
Gender	• 5 Women • 4 Men
Age range	• 3 in 26-45 • 6 in 46-65
Education level	• 7 with Master's Degree or higher • 2 with Bachelor's Degree
Involvement in previous R-Map activities	• Member of the R-Map advisory board - None • interviewed in T1.1 - None
1. Based on your understanding and expertise, please provide a brief description of the current status of remote work, Remote Work Arrangements and related policies at urban, regional and national level affecting the use case area	Remote Work Arrangements (RWA) have become structurally integrated into work cultures in both the Münsterland region in Germany and the Twente region in the Netherlands since the COVID-19 pandemic. In Muensterland, many larger companies and public institutions (e.g. AGRAVIS, regional planning agencies) have adopted RW policies, though without overarching national or regional regulations. Companies independently define their RW frameworks, often allowing 2–4 days of remote work per week, with tools like desk-booking systems supporting hybrid models. In Germany, RW is practiced primarily from home rather than third places like co-working hubs. Approximately 50–60% of companies in Münsterland have established remote work policies. Nationally, Germany lacks formal legal mandates, although collective agreements permit flexibility.

	In Twente, Dutch universities and regional governments also support RW with internal guidelines. At the University of Twente, flexibility varies by department, influenced by work nature (e.g., administrative vs. academic). National labor agreements support RW but do not guarantee it as a right, particularly in cross-border contexts due to taxation and insurance regulations. Despite widespread adoption, neither region treats RW as a major planning tool. Provincial policies in Twente still prioritize compact growth, transit-oriented development, and farmland protection, with RW seen as a flexible labor practice rather than a lever for spatial restructuring.
2. Based on your understanding and expertise, please describe any socio-economic phenomena observed due to remote work in the area. These may include, for example, changes in the social fabric of the city center or in suburban/rural areas, increased cross-border employment, and changes in the labor and property markets.	• **Reduced Commuting and Cost Savings.** In Muensterland, RW has significantly reduced weekly commuting, lowering fuel costs and time demands. This increased job accessibility for people living further from urban centers, supporting both employment retention and recruitment in competitive labor markets. • **Improved Work-Life Balance and Family Integration.** RW enhances flexibility for employees with caregiving duties. Employers in both regions observed higher job satisfaction, particularly among staff with young children or eldercare responsibilities. However, managing work-life boundaries remains a challenge for some employees. • **Rise in Loneliness and Social Isolation.** Single and younger employees sometimes experience social isolation due to prolonged home-based RW. This has prompted employers in both Münsterland to increase sensitivity training for managers and promote in-office days to rebuild team cohesion. • **Labor Market Flexibility.** RW supports more dynamic labor markets. In Muensterland, the decoupling of job location and residence allows staff to live in less expensive areas, while companies like AGRAVIS attract candidates beyond commuting range. • **Cross-Border Employment Constraints.** Although Twente is near the German border, RW has not notably boosted cross-border employment due to complex tax and insurance implications. Administrative barriers outweigh spatial advantages, despite strong digital infrastructure and more affordable housing on the German side of the border. • **Mixed Impact on Housing Demand.** Although expectations of RW-driven migration existed post-pandemic, interviewees observed that housing trends are more strongly influenced by demographics (e.g., aging population, household size) and affordability, rather than RW per se. • **Changes in Office Use.** Firms sublet or reduce office space in response to decreased physical occupancy. While this optimizes cost, it also alters demand in commercial property markets. Hybrid policies like desk sharing are common now.
3. Based on your understanding and expertise, please describe any spatial phenomena observed due to remote work in the area. These may	• **Office Downsizing and Hybrid Spaces:** Companies like AGRAVIS and several agencies in Münsterland are reducing office footprints by up to 20%, shifting to flexible, hybrid-use layouts. This supports cost efficiency and reflects decreased daily occupancy due to RW. Similar trends can be observed in Twente.

include, for example, massive changes in the use of build-ings/land, higher spatial mobility from urban to the rural part of the region, changes in housing, transportation, energy consumption, and urban-rural dynamics.	• **Reduced Construction of Office Space:** In Münsterland, economic factors like inflation and interest rates compound this trend. RW is cited as a contributing-though not sole-factor. • **Stable Urban-Rural Residential Dynamics:** Despite theoretical potential, neither region has seen major shifts in population from urban to rural areas due to RW. Travel time constraints and persistent workplace attendance requirements deter long-distance relocation. Although short-distance relocation has been pointed out. • **Changing Commuting Patterns:** Workplace attendance is now concentrated mid-week (e.g., Tuesdays, Thursdays), with lower travel volumes on Mondays and Fridays. Bicycle infrastructure, especially in Twente, has further transformed mobility, making non-car commuting more viable. • **Limited Use of Co-working and Third Spaces:** Home remains the dominant RW location. Even in urban centers with co-working hubs or cafes, these spaces are underutilized. This limits their role in revitalizing urban economies. • **Infill Development over Urban Sprawl:** In Twente, urban densification is prioritized over sprawl. Despite RW offering flexibility, farmland protection and spatial planning principles (e.g., STOMP) limit residential expansion into rural areas.
4. Based on your understanding and expertise, please describe the key local factors that influenced how phenomena were shaped. These may include, for example, policies, housing prices, demographics, predominant job sectors, quality of life, air quality, pollution, land use, green spaces, transport connections, commuting patterns, etc.	• **Lack of National RW Policy** - Germany and the Netherlands both lack top-down RW mandates. Decisions are decentralized, shaped by internal organizational culture and practicalities like IT infrastructure, leading to varied implementation across sectors and regions. • **Quality of Life and Access to Amenities**: Both factors are important in attracting high-skilled workers to a region, including remote workers. • **Housing Prices and Shortages** - Increased housing demand, particularly for affordable units, shapes residential choices more than RW. In Twente, densification and smaller housing typologies are prioritized, partly due to land prices and demographic shifts. • **Transport and Accessibility** - Transport access (especially rail) strongly influences planning decisions. Towns like Enschede, Almelo, and Hengelo in Twente are favored for development due to connectivity. In Muensterland, reduced commuting supports decentralization for some professionals. • **Demographics and Work Culture** - Part-time work, particularly among women, and generational preferences (e.g., 4-day weeks) shape RW uptake in Twente. Younger workers in Twente increasingly prioritize flexibility, which intersects with long-standing Dutch norms around work-life balance. • **Job Sector Characteristics** - Service-based sectors, government offices, and academia have higher RW potential. Conversely, manufacturing or field-based roles are less adaptable, creating spatial and sectoral divides in RW accessibility. • **Digital Infrastructure -** Both regions report excellent broadband coverage, even in rural areas. This enables RW and supports future flexibility. However, gaps in digital tools (e.g., digital signatures for contracts) still hinder full adoption in Muensterland.

	• **Desk Sharing and Equipment Gaps -** Policies like desk-sharing and lack of quality equipment (e.g., screens, chairs) affect where and how staff choose to work. These micro-level factors shape RW experiences and satisfaction. • **Agglomeration Externalities** – Agglomeration externalities (concentration of similar or diverse firms) still act as the most important lever to attract high-skilled workers to a region and feature as one of the highest priorities for the Twente region, despite the remote working paradigm. • **Caring Responsibilities** - Caring responsibilities also affect the adoption of RW
5. Are you aware of recent statistics conducted within the city or region or at national level related with any of the following?	• **Remote Work Policies & Procedures:** There is no comprehensive national or regional dataset in Germany or the Netherlands on companies implementing RW. However, internal policies are common in large firms and public institutions. In Twente, RW is integrated into labor agreements, but not legally enforceable. • **Working Health and Life Quality**: No direct health impact statistics exist for RW, though anecdotal evidence points to improved flexibility and reduced absenteeism. Some concerns about loneliness and unhealthy work patterns have emerged. Broad Prosperity Index (Brede Welvaartsindicator, BW) is available for regions in the Netherlands. • **Digital Infrastructure in Rural Areas**: Digital infrastructure is well-developed in both regions. In Twente, fiber-optic coverage is widespread, sometimes outperforming urban centers. In Muensterland, digital standards enable secure remote workflows. • **Social Infrastructure in Rural Areas:** Access to healthcare, education, and shops remains concentrated in urban cores, limiting RW-induced migration to rural areas. There are no new datasets linking social infrastructure development to RW specifically. CBS data in the Netherlands provides a granular data on access to amenities and educational levels. Other datasets include: Inka BBSR on the number of buildings/apartments constructed/approved per year and municipality in Munsterland; and Grensdata on cross-border statistics.

6.2.3 Milan (Italy)

(author: UB)

Use Case / Interviewee profiles & Questions	**Milan (Italy) - UB**
Professional capacity	• Urban policy and planning professional • HR Director of Municipality of Milan • Vice-director of Municipality of Milan • Director of urban rigeneration of Municipality of Milan •2 Real estate data analyst • 2 Offices and commercial spaces architects
Gender	• 4 Women • 4 Men

Age range	• 2 in 26-45 • 6 in 46-65
Education level	• 8 with Master's Degree or higher
Involvement in previous R-Map activities	None
1. Based on your understanding and expertise, please provide a brief description of the current status of remote work, Remote Work Arrangements and related policies at urban, regional and national level affecting the use case area	In the post-pandemic context, remote work practices are evolving differently across sectors. In high-value service industries such as retail and banking, there is a growing trend toward reducing remote work and encouraging a return to the office. As highlighted by Prof. Percoco, this shift is driven by the recognition that in-person interactions significantly enhance productivity. Face-to-face communication fosters spontaneous, informal exchanges that are essential for innovation, collaboration, and team cohesion-elements that are harder to replicate through structured, digital platforms. In contrast, public administration, particularly within the Municipality of Milan, continues to implement remote work within a more regulated framework. Remote work policies are shaped primarily by national legislation, supplemented by local agreements with trade unions. Four key arrangements are currently in place: standard "lavoro agile" (occasional secure remote work), "lavoro da remoto" (fully remote work for those with specific needs), the “Direttiva Zangrillo” (temporary extensions for special circumstances), and “near work” (working from alternative public offices closer to home). Despite these options, public sector employees are allowed to work remotely for a maximum of 10 days per month, reflecting a broader policy preference for physical presence in the workplace. This underscores a general push to balance flexibility with the perceived benefits of in-person engagement in both the public and private sectors.
2. Based on your understanding and expertise, please describe any socio-economic phenomena observed due to remote work in the area. These may include, for example, changes in the social fabric of the city center or in suburban/rural areas, increased cross-border employment, and changes in the labor and property markets.	• **Residential Preferences and Lifestyle.** There is growing interest in homes with access to green spaces, terraces, and outdoor areas, particularly among families with children. However, these preferences are modest and reflect short-term lifestyle adjustments rather than a structural reorganization of Milan’s residential patterns. Weekend escapes to more natural settings have slightly increased but do not indicate a deeper urban transformation. • **Socio-Economic Shifts.** Remote work has not triggered significant socio-economic change in the public sector. Residential and employment mobility are still largely driven by Milan’s high cost of living rather than by remote work. While flexibility has helped specific groups, such as parents or those with mobility issues, it has not meaningfully reshaped labor or housing market dynamics. • **Urban Structure and Spatial Change.** No substantial spatial reconfigurations have been detected in Milan post-pandemic. The professor stresses that, while behavior has shifted slightly, e.g., more outdoor preferences or weekend relocations, these remain temporary responses. At this stage, there is insufficient evidence to claim a structural impact of remote work on Milan’s spatial or urban fabric. • **Public Transport Impact**. A clear consequence of remote work is seen in public transport usage. Commuting patterns have changed, with reduced

	passenger numbers, especially on Mondays and Fridays, leading to a decline in season ticket sales. This shift from monthly to occasional travel affects the financial sustainability of local transport services and complicates long-term planning for operators.
3. Based on your understanding and expertise, please describe any spatial phenomena observed due to remote work in the area. These may include, for example, massive changes in the use of build-ings/land, higher spatial mobility from urban to the rural part of the region, changes in housing, transportation, energy consumption, and urban-rural dynamics.	• **Office Real Estate Pressure.** Milan's office market is experiencing structural strain, with central vacancy rates approaching 30%. Many firms have reduced their footprints, opting for smaller but higher-quality spaces in premium districts such as Garibaldi-Repubblica and City Life. This downsizing signals a long-term reconfiguration of the commercial real estate sector. While some interest exists in converting unused offices into housing, high prices and risks of gentrification limit large-scale conversions, leaving many properties under pressure. • **Emergence of Medium-Sized Cities.** Peripheral and medium-sized municipalities within Lombardy are gaining traction, supported by remote work and improved regional transport. Rising housing costs in Milan and the possibility of commuting only a few days a week have redirected demand, with property sales in smaller municipalities increasing in 2025 compared to 2019. Yet, growth remains constrained by uneven infrastructure, and stronger connectivity will be essential to balance Milan's regional dominance. • **Urban-Rural Dynamics.** Despite affordability pressures, large-scale urban-to-rural migration has not materialized. The overall population distribution remains stable, with no evidence of mass relocation from Milan to rural areas. Instead, the city's metropolitan footprint is expanding, integrating nearby provinces into its functional system. Remote work has therefore encouraged a regional rebalancing rather than a true urban-rural divide. • **Office and Land Use Trends.** The shift toward "less space, more quality" is reshaping office design, with half of floor space now allocated to collaborative and experiential functions. Outdoor terraces, greenery, and flexible layouts are becoming standard features, making workplaces competitive with home environments. These adjustments, while incremental, highlight the gradual restructuring of Milan's urban fabric under the influence of remote work. • **Innovative Housing Models.** New residential formats are emerging in response to hybrid living needs. Projects such as City Pop in Viale Monza illustrate the rise of microliving: compact units combined with co-working spaces, fitness, and shared lounges, supported by digital services. These solutions are tailored to students, young professionals, and temporary workers, reflecting a convergence of living and working within Milan's evolving housing market. • **Expanding Metropolitan Footprint**. Remote work has reduced the historic gap in housing demand between Milan's municipality and surrounding provinces. Data show a strong decentralization of rental demand, particularly toward areas such as Lodi, while property purchases in peripheral municipalities have also surged. Improved connectivity and hybrid commuting patterns mean that Milan's influence now extends across the entire Lombard region and into neighboring provinces, creating a de facto expansion of the metropolitan system.
4. Based on your understanding and	• **Workplace Interaction and Productivity.** The perceived value of in-person collaboration in knowledge-intensive sectors influenced firms to reduce remote

expertise, please describe the key local factors that influenced how phenomena were shaped. These may include, for example, policies, housing prices, demographics, predominant job sectors, quality of life, air quality, pollution, land use, green spaces, transport connections, commuting patterns, etc.	work. Informal, spontaneous office interactions are seen as essential to productivity, innovation, and teamwork, benefits that virtual tools struggle to replicate, prompting a return-to-office trend, especially in high-value service industries like banking and retail. • **Housing Costs and Residential Preferences.** High housing prices in central Milan push residents and municipal employees to seek affordable options in nearby towns. In both the private and public sectors, cost of living-not remote work-remains the main driver of residential mobility, highlighting affordability challenges in shaping commuting and relocation decisions more than remote work policies. • **Demand for Green and Livable Spaces.** There is a growing, albeit modest, interest in housing with access to parks, terraces, and green areas, particularly among families. This reflects evolving lifestyle preferences rather than structural change but does suggest rising awareness of quality-of-life factors in urban residential decisions post-pandemic. • **Office Surplus and Land Use Pressures**. Reduced demand for office space post-pandemic, combined with high vacancy rates (~30%), is pressuring Milan's commercial real estate sector. This could lead to long-term shifts in urban land use and investment focus. The Municipality notes a move toward flexible office designs and increased residential development, though large-scale changes are not yet visible. • **Role of Public Services and Infrastructure.** Medium-sized cities surrounding Milan offer better affordability and decent amenities, attracting interest. However, limited regional transport connectivity constrains their appeal. Improved infrastructure could unlock their full potential, supporting decentralization trends and reducing pressure on Milan's urban core. • **Regulatory and Organizational Constraints.** National legislation favors in-office work for public administrations, limiting remote work adoption. Additionally, the nature of municipal work and cultural emphasis on presence further restrict flexibility. However, previous digitalization efforts allowed temporary adaptation during COVID-19, showing that enabling conditions do exist when adequately supported.
5. Are you aware of recent statistics conducted within the city or region or at national level related with any of the following?	1. Municipality of Milan: 4.4 average remote workdays/month, covering about 21% of total workdays for eligible employees (around 5,500 workers). 2. Internal reports of Municipality of Milan (e.g., "appendice 12") contain detailed figures on the situation for public administration they will be provided to us 3. Additionally, a Politecnico di Milano project is collecting further data via surveys of municipal employ-ees. 4. https://www.marcopercoco.eu/static/upload/per/percocomarco_iservizidimobilitsosteni_20241218213304.pdf 5. Idealista can share data upon request

6.2.4 Istanbul (Turkey)

(author: KU)

Use Case / Interviewee profiles & Questions	Istanbul (Turkey) - KU
Professional capacity	• 1 local service provider offering workspaces for remote workers in the city (e.g., co-working space operator). • 1 A real estate agent with knowledge of how remote workers are affecting the local housing market. • 2 Urban policy and/or planning experts familiar with changes in urban space usage resulting from the settlement of remote worker communities in the city. • 2 HR managers /or business owners who offer remote working arrangements (and who has the opinion employees should not work 100% remotely and should visit the city regularly). • 1 A business owner offering remote working opportunities • 1 HR consultant who recruits for international organizations offering remote work • 1 Representative of a remote worker or digital nomad community based in the city.
Gender	• 3 Women • 6 Men
Age range	• 5 in 26-45 • 4 in 46-65
Education level	• 4 participants – Hold a bachelor's degree • 5 participants – Hold a master's degree or higher
Involvement in previous R-Map activities	• Member of the R-Map advisory board • interviewed in T1.1
1. Based on your understanding and expertise, please provide a brief description of the current status of remote work, Remote Work Arrangements and related policies at urban, regional and national level affecting the use case area	• **A Pandemic-Induced Necessity Becomes a Lasting Model.** Istanbul has emerged as one of Turkey's cities most rapidly adapting to remote work. In particular, sectors such as technology, finance, and services have embraced remote and hybrid work models as the new norm. • **Legal and Institutional Uncertainties Persist**. Despite the Remote Work Regulation issued on 10 March 2021, major implementation gaps remain in areas such as social security (SGK), occupational safety, and data protection. In practice, remote work is largely left to the discretion of individual companies. • **Infrastructure and Access Inequalities Are Deepening.** While Istanbul generally enjoys strong digital infrastructure, disparities between central and peripheral districts persist. These spatial inequalities contribute to unequal access to remote work opportunities and reinforce class-based divisions. • **A Critical Enabler for Women and Caregivers.** Flexible work has become a vital tool for employees-particularly those with caregiving responsibilities for children or the elderly-to sustain their careers. However, the return to office routines has disproportionately increased the planning and coordination burden for women.

	• **Organisational Culture and Monitoring Systems Are Key.** Startups have leveraged the flexibility of remote work as an opportunity, while larger firms have approached it more cautiously due to entrenched corporate cultures. Companies with robust digital performance monitoring systems are better positioned to implement successful hybrid models. • **Real Estate, Mobility, and Urban Life Are Being Redefined.** The decline in demand for office space has elevated the importance of "third spaces" such as libraries, cafés, and co-working venues. At the same time, patterns of internal urban migration are shifting toward areas like Çekmeköy and Silivri. • **Remote Work as a Strategic Risk Management Tool.** In light of earthquake and disaster risks, particularly in critical infrastructure sectors, remote work is increasingly viewed not merely as a convenience but as a core strategy for business continuity.
2. Based on your understanding and expertise, please describe any socio-economic phenomena observed due to remote work in the area. These may include, for example, changes in the social fabric of the city center or in suburban/rural areas, increased cross-border employment, and changes in the labor and property markets.	• **Spatial Mobility and Lifestyle Shifts**. Remote work has encouraged a growing movement away from central districts toward suburban and rural areas in Istanbul. Green and quieter districts such as Sarıyer, Beykoz, and Şile have become increasingly desirable. Outer districts like Kurtköy, Çekmeköy, and Tuzla have experienced rising housing demand and prices. Nearby provinces such as İzmit, Tekirdağ, and Sakarya, as well as coastal regions along the Aegean and Black Sea, have emerged as popular relocation destinations. Home comfort features (e.g. balconies, terraces, and spacious interiors) have gained importance, reshaping housing preferences. • **Impact on the Office and Real Estate Markets.** Demand for traditional office space in central areas has declined, with shared and hybrid office models gaining traction. The real estate sector has seen a rise in short-term rentals and flexible leasing solutions. Rental prices have stabilized in central districts but increased in suburban and coastal areas. Reduced use of public transportation has had indirect impacts on urban infrastructure planning. • **Gender and Equality Dimensions.** Flexible and remote working models have helped women with caregiving responsibilities-particularly for children or the elderly-remain in the workforce. However, return-to-office policies risk undermining these gains. A lingering perception that "being in the office = productivity" remains prevalent among male managers, contributing to gender-based workplace inequalities. • **Cross-Border and Digital Workforce Trends**. An increasing number of professionals living in Istanbul are now working remotely for international companies. This has led to a form of "digitalized brain drain," with the emergence of a new socio-economic class earning in foreign currencies. As a result, income inequality between local wage earners and remote digital workers has widened. • **Organizational Culture and Attachment Challenges.** Remote work has weakened team communication and organizationalelonging. Startups have generally favored hybrid models, aiming to balance flexibility with interpersonal team interaction. Large corporations are showing a trend toward

	full office return, which is causing organizational culture tensions and inconsistencies. • **Labor Mobility and Emerging Dynamics.** The elimination of physical proximity requirements has triggered reverse migration from the city center to peripheral areas. Alongside domestic migration, digital workers are also returning to Turkey from abroad. A growing trend, especially among younger professionals, is the pursuit of location-independent careers. • **Inequality and Regulatory Gaps**. Remote work adoption remains limited in the public sector and traditional industries. Managerial resistance to remote work is high, and practices vary significantly across institutions. There is a lack of adequate legal regulation regarding social security (SGK), occupational safety, and working hour tracking. • **Changing Consumption Habits and Economic Effects.** Remote workers have reduced demand for restaurants, transportation, and retail businesses in city centers. In contrast, in-home consumption has increased, giving rise to new service models. Small businesses located in traditional office zones have experienced declining revenues.
3. Based on your understanding and expertise, please describe any spatial phenomena observed due to remote work in the area. These may include, for example, massive changes in the use of build-ings/land, higher spatial mobility from urban to the rural part of the region, changes in housing, transportation, energy consumption, and urban-rural dynamics.	• **Changing Housing Preferences and the Urban-to-Rural Migration Trend.** Remote work has significantly influenced residential preferences among Istanbul's workforce. The high cost of living and rental pressure in central districts have pushed especially white-collar professionals toward greener, quieter, and less central areas. Demand has increased for housing in districts such as Sarıyer, Beykoz, and Şile. This shift has driven a form of reverse migration from urban centers to rural or semi-rural peripheries. Homes suitable for remote work-featuring balconies, gardens, larger square footage, and quiet environments-have become more desirable, while demand for smaller apartments or studios has declined. Additionally, a trend toward permanent residence in vacation towns has gained momentum. These preferences have contributed to regional segmentation in housing prices within and around Istanbul. However, in areas lacking strong digital infrastructure, such migration patterns prove unsustainable. • **Decline of Office Space and Commercial Transformation.** The remote work model triggered by the pandemic has led companies to reassess their office space needs. In traditional business hubs such as Levent and Maslak, occupancy rates have declined sharply, with some firms closing offices or downsizing significantly. This shift has contracted the commercial real estate market and weakened the plaza-centered economic ecosystem. Supporting services like cafés, restaurants, and dry cleaners have suffered revenue losses. Conversely, interest has grown in shared office spaces and hot-desking. Flexible, meeting-based workspace solutions are gaining ground, and some office spaces are being converted into residential or logistics uses. These trends signal a future rise in mixed-use buildings and functional transformation strategies in Istanbul. • **Changing Mobility Patterns and Emerging Transportation Behaviors**. The expansion of remote work has directly impacted mobility in Istanbul, a city known for its heavy traffic. During the early phase of the pandemic, traffic congestion eased noticeably. Although some of these gains were reversed with

	partial returns to the office, hybrid work models have continued to reduce daily commutes. This has led to decreased demand for public transport and a rise in private vehicle use, affecting the city's carbon footprint. While municipal revenues from public transit have declined, demand for car-based infrastructure has grown. Moreover, peak congestion times have shifted, highlighting the need for flexible, data-driven transportation planning based on time–space independence. • **Shifts in Energy Consumption and Environmental Impacts.** While corporate energy use in large office buildings has declined, household consumption-for electricity, internet, heating, and cooling-has increased. Although total energy demand may remain stable, the cost burden has shifted from institutions to individuals. Employees are now facing hidden operational costs. Carbon emissions have also spatially redistributed, moving from commercial to residential settings. This raises new considerations for carbon neutrality strategies, including revised accounting and offsetting mechanisms. Although reduced public transport use seems environmentally beneficial, the increase in private car use offsets those gains. Energy efficiency is now as dependent on individual choices and domestic infrastructure as on institutional policy. • **Spatial Inequality and Digital Infrastructure Gaps.** Remote work does not provide equal opportunities for all. Digital infrastructure disparities between Istanbul's neighborhoods and in migration destinations create significant inequities. In some districts, slow internet speeds or frequent power outages result in substantial productivity losses, particularly for data-intensive professions. These conditions make remote work unsustainable in rural or under-resourced areas. Thus, the growth of remote work necessitates parallel investment in digital infrastructure. Without it, the ability to work remotely may deepen class divisions. Digital inclusivity has become a new dimension of spatial justice. • **Women and Care Work: The "Double Shift" Reality**. The rise of remote work has brought both opportunities and challenges for women. On the one hand, being at home and managing time flexibly has eased responsibilities like childcare. On the other hand, the overlap of living and working spaces has increased the pressure of performing dual roles-professional and domestic-simultaneously. This has led to rising levels of burnout among women. To ensure the sustainability of remote work, gender-sensitive support policies are essential. Without such interventions, the benefits of flexibility may backfire, placing a disproportionate burden on women. • **Socio-Economic Stratification and Cross-Border Employment**. Remote work has created new economic opportunities for Istanbul's white-collar professionals. Many are now working for companies based in Europe or North America from within Turkey. This has strengthened the dynamic of digital brain drain and contributed to the emergence of a new professional class earning foreign currency. These workers gain significant advantages relative to those earning local wages, thereby exacerbating income inequality. This trend is especially pronounced in fields such as software development, design, and data analytics. A new class of professionals living in Istanbul but working internationally is demanding more flexible and decentralized work cultures, challenging traditional employment frameworks.

	• **The Rise of Shared and Flexible Office Models.** As the need for permanent office space declines, shared and modular office models have gained prominence. In innovation hubs like Tekmer or inner-city co-working spaces, individuals increasingly use offices on a weekly or meeting-specific basis. This reduces costs and helps combat social isolation. Firms adopting hybrid models prefer small, flexible units that can be scaled as needed. Even shopping malls are beginning to incorporate workspace zones. The concept of the "office" is evolving into a service model shaped by function rather than fixed space. • **Urban Planning and Policy Imperatives**. All these transformations necessitate a fundamental rethinking of Istanbul's spatial planning approach. In the areas of housing, transportation, energy, and digital infrastructure, policy-makers must develop integrated strategies that reflect this shift. Population growth in peripheral districts increases the burden on local infrastructure, while weak transport connections reduce quality of life. Moreover, the spatial freedom enabled by remote work must be supported not only by physical planning but also social policy. Future housing projects should include architectural designs conducive to remote work, strong digital infrastructure, and transport integration. Without this, spatial inequality and urban fragmentation may intensify
4. Based on your understanding and expertise, please describe the key local factors that influenced how phenomena were shaped. These may include, for example, policies, housing prices, demographics, predominant job sectors, quality of life, air quality, pollution, land use, green spaces, transport connections, commuting patterns, etc.	• **Housing Prices and the Real Estate Market.** High housing prices in central Istanbul have driven workers to settle in more affordable peripheral and rural areas. This trend particularly affects the quality of life for young professionals and families. While outer districts offer more affordable options, infrastructure and service deficiencies in these areas present significant challenges. Although remote work enables more flexible housing choices, it also risks reinforcing spatial inequality. • **Inadequate Transportation Infrastructure.** Heavy traffic and limited public transportation significantly extend commute times in Istanbul. Transportation difficulties during peak hours have encouraged the adoption of remote and hybrid working models. At the same time, the lack of infrastructure and support services-such as childcare and employee shuttles-creates serious barriers, particularly for women returning to the office. • **Demographic Factors**. Young, educated workers with strong digital skills adapt more easily to remote work. In contrast, older employees and those in field-based roles continue to rely more on physical work environments. These demographic differences result in varying preferences for work models and residential locations across the city. Additionally, household conditions strongly influence the productivity of home-based work. • **Sectoral Distribution**. Remote work is widespread in sectors such as information technology, finance, and media, while physical presence remains essential in manufacturing, retail, and field-based work. This divergence leads to differentiation in both spatial preferences and working models. Hybrid systems play a key role in bridging these sectoral disparities. • **Quality of Life and Environmental Factors**. Air pollution, noise, and a lack of green spaces drive workers toward quieter, nature-oriented districts. This trend intensified during the post-pandemic period. However, limited green space and growing environmental pressures in the city continue to affect

	overall quality of life, influencing both residential choices and preferences for remote work. • **Digital Infrastructure and Internet Access.** The sustainability of remote work depends on reliable digital infrastructure. In some parts of Istanbul, low internet speeds and unstable connections hinder effective remote work. These challenges are even more pronounced in rural and peripheral districts, deepening spatial digital divides. Greater investment in infrastructure is critical to ensure equitable access. • **Work–Life Balance for Women.** Remote work supports women with school-aged children in managing both professional and domestic responsibilities. However, the "double shift" phenomenon-balancing work and care duties-makes home-based work more complex. The lack of support services like childcare and flexible hours complicates women's return to sustainable employment. Gender-based perceptions continue to influence organizational policies. • **Socio-Economic Inequality.** Disparities in access to affordable housing, digital infrastructure, and essential services create significant inequalities among workers. Remote work opportunities remain largely accessible to well-educated, higher-income groups, which deepens both spatial and social divides. Inclusive policies must be developed to address these emerging forms of inequality. • **Gaps in Local and National Policy**. Comprehensive and regulatory frameworks for remote work in Istanbul are still lacking. There is a need for tax incentives, social security adjustments, and ergonomic and technological support mechanisms. At present, companies rely on individual solutions, but sustainable implementation requires strong legal and social infrastructure. Strategic policymaking and coordinated action are urgently needed in this area.
5. Are you aware of recent statistics conducted within the city or region or at national level related with any of the following?	• **No relevant Data Monitoring, Data Fragmentation and Disjointed Structure**. While existing data is available across a range of institutions and sectors, it remains fragmented and lacks integration. When compiled, these datasets fail to present a coherent and comprehensive picture. There is no centralized or integrated data infrastructure to support robust spatial and field-level analyses. • **Lack of Regional and Social Depth.** Although technical data on digital infrastructure and public services is available, it is often disconnected from broader indicators such as quality of life, occupational health, and demographic factors. In particular, rural areas lack granular regional data on digital access, limiting the capacity for evidence-based planning in these regions. • **Sectoral and Policy Data Gaps.** There are notable implementation differences between public and private sectors, and data is particularly lacking for some industries. Comprehensive statistics on the effectiveness of legal frameworks and remote work policies are still missing, which hinders strategic evaluation. • **Human-Centered and Gender-Specific Data Deficiencies.** While some data exists on themes such as women's work–life balance, access to childcare services, and employee satisfaction, there is a strong need for more systematic and disaggregated data production and analysis on these human-centered dimensions.

	• **Timeliness and Transparency Challenges.** Due to the rapidly evolving nature of remote work post-pandemic, maintaining up-to-date datasets has proven difficult. Transparency and accessibility remain limited, and there is a growing need for inter-institutional data sharing and collaborative analysis to support informed policymaking. Key Statistical Sources and Indicators in Use • Istanbul Chamber of Commerce (ITO), 2023 • Sectoral reports: 40% of companies report supporting remote work to help women achieve work–life balance • Kariyer.net, 2024 labor market trends • Information and Communication Technologies Authority (BTK), 2023 • Reports by the Ministry of Transport and Infrastructure: Provide technical data on fiber internet coverage, yet with limited integration into social infrastructure analysis • Turkish Statistical Institute (TÜİK) – labor force statistics • Reports from İŞKUR and the Ministry of Labor and Social Security • Data from SGK and the Ministry of Family and Social Services • District municipalities' regional development reports • Analyses by local NGOs, providing insight into social infrastructure and quality of life • Publications from international organizations such as Mercer, PwC, LinkedIn, Microsoft, and Gallup • Sectoral reports from organizations such as ISO, TÜSİAD, and MÜSİAD, offering regularly updated insights

6.2.5 Surrey & Southeast England (United Kingdom)

(author: SURREY)

Use Case / Interviewee profiles & Questions	**Surrey & Southeast England (United Kingdom) - SURREY**
Professional capacity	• Municipal authority representative • Local transport provider • Future of Work Professor • Local workspace provider
Gender	• 2 Women • 3 Men
Age range	• 1 in 26-25 • 4 in 46-65
Education level	• 1 with high school degree • 1 with Bachelor's degree • 3 with Master's Degree or higher

Involvement in previous R-Map activities	• No previous R-Map involvement: 4 • Participation in past R-Map meeting: 1
1. Based on your understanding and expertise, please provide a brief description of the current status of remote work, Remote Work Arrangements and related policies at urban, regional and national level affecting the use case area	Remote work has become significantly more widespread during the COVID-19 pandemic. A lot of employers continue such practices even after the COVID-19 restrictions were lifted. The UK has no countrywide remote work policy. The majority of employers who offer remote working arrangements are focusing on hybrid work. 51% of survey respondents in Surrey work from home two or three days per week, whereas 36% of them never work from home (SCC – AECOM, 2024). The UK has no cross-border workers so only Northern Ireland could face such challenges, but the Common Travel Area and frictionless border-crossings do not allow monitoring such worker movements. The number of EU nationals working in the UK has stabilised since the UK left the EU, so this has not changed after the COVID-19 pandemic. Other international workers need a visa to work in the UK and visa requirements are strict, which often does not support remote work. As a result, remote work is largely a benefit of either UK nationals or pre-existing workers in the UK. No specific visa exists for remote workers in the UK e.g. digital nomad visa. Individual employers and cities introduce their own remote working arrangements, since a lot of sectors which could work remotely do not have collective agreements in the UK. In Surrey, large employers such as Surrey County Council (through its Agile Programme) and the University of Surrey implement hybrid working policies. Surrey hosts the headquarters of several multinational companies and the same applies for them regarding remote working arrangements. The service sector is prevalent in Surrey. The housing market is influenced by a lot of factors and remote working is only one of them. 63% of commuting journeys in Surrey are still completed using a car. The digital divide and spatial disparities are still evident across Surrey.
2. Based on your understanding and expertise, please describe any socio-economic phenomena observed due to remote work in the area. These may include, for example, changes in the social fabric of the city center or in suburban/rural areas, increased cross-border employment, and changes in the labor and property markets.	• **Housing:** Property size and available space in properties affects remote working levels. Interviewees mentioned that not a lot of workers moved home because of remote work options, although very few may have moved to further rural areas due to lower housing costs. UK study findings indicate that people who live in larger houses are more probable to work from home. • **Gender:** Various gender issues have been identified. Across the UK, it has been found the men are more probable (60%) to have a dedicated home office space to work remotely, whereas this is less probable (40%) for women. This demonstrates gender inequality. • **Caring:** Remote work can offer more flexibility to accommodate caring responsibilities for younger or older family members. Female workers tend to be in charge of caring responsibilities in larger numbers compared to male workers. Arrangements for caring responsibilities after COVID-19 may have allowed certain workers to work from the office more frequently from 2024 onwards. • **Transport:** Transport costs related to commuting are among the most important factors that workers choose to work remotely. Workers try to travel less times per week to their workplace to reduce their transport costs. If workers only travel e.g. two times per week to their workplace, they cannot benefit by

	travel ticket discounts. A few employers are trying options to support commuting via public transport, while supporting sustainable options. • **Social network:** Socialisation and the establishment of social networks are important for workers. New revenue streams e.g. increased Cafe usage are positive sideffects. Safety has emerged as a new challenge linked with social networks and working at the workplace. Some workspace providers have attempted to support social networking by organising various group activities. It has proven difficult for workers in Surrey to socialise with colleagues and establish personal relationships, particularly across different teams. It has been particularly dificult for specific sectors e.g. software companies, which find it difficult to bring workers back to the office. This has a negative impact on multidisciplinary projects.
3. Based on your understanding and expertise, please describe any spatial phenomena observed due to remote work in the area. These may include, for example, massive changes in the use of build-ings/land, higher spatial mobility from urban to the rural part of the region, changes in housing, transportation, energy consumption, and urban-rural dynamics.	• **Geographic inequality:** A remote work impact which has been reported in the UK is increased geographic inequality. This is linked with the types of jobs available in each region. For example, Surrey has a lot of white-collar workers, whereas many areas in the North of the UK have a lot of blue-collar workers. The reality is that blue-collar workers have by default less remote work opportunities, largely due to the nature of their job. • **Property prices**: There have been examples where property prices increased during COVID-19 and now are falling again, although not at the previous lower levels. This trend was particularly intense for workers moving out of London to commuter towns, including to Surrey. Interviewees only reported a few workers having moved to live further away from their workplace in e.g. rural areas and benefit by lower property prices. • **Transport & Environment:** Remote work has offered the option to travel less to work. The impact of this was particularly seen during COVID-19. However environmental benefits are yet to be quantified and reported since Surrey has among the highest car ownership levels in the UK. Certain public transport services may have fully recovered from their low ridership levels reported during COVID-19. However, the majority of public transport services currently operate at lower levels compared to the situation before the pandemic. Some locations and employers benefit by new mini-shuttle services to promote sustainable public transport. However, these are only offered on an ad-hoc basis. • **Energy**: Efficiency is key for remote workers as it is directly linked with heating costs for example. A lot of workers may choose to work at their workplace to avoid increased home bills. However, this can only work if there is sufficient power supply at the new work hubs arising due to the rise in remote work practices. Computing power and data connectivity have emerged as key workplace challenges in Surrey, regardless of whether workers work remotely or at the workplace. • **Land use:** The use of land and building practice are linked with remote work in Surrey. Spatial design needs to link space with other key components of remote work, for example broadband connectivity. Offering key amenities locally will reduce the negative impact of transport, since congestion levels quickly return to their pre-COVID-19 levels.
4. Based on your understanding and expertise, please	• **Lower office space demand:** Large companies have left Surrey since they do not need office space any more. For example, Leatherhead had 9 Business Parks, but now they are closing down so the town centre has been significantly

describe the key local factors that influenced how phenomena were shaped. These may include, for example, policies, housing prices, demographics, predominant job sectors, quality of life, air quality, pollution, land use, green spaces, transport connections, commuting patterns, etc.	affected. There are less workers around and since Surrey is mainly focused on the service industries, this has a negative local impact on e.g. hospitality jobs. • **Less car sharing:** There has been an impact on car-sharing. Work colleagues are offering less car sharing compared to before COVID-19. This is both because of the pandemic i.e. health issues, but also because workers now may have moved to live further away, so it is more difficult to share common rides nowadays. This has a negative impact on the local environment e.g. air pollution. Selected employers are attempting to address this by offering sustainable public transport options e.g. EV shuttle, but these are only on certain times of the day and for a few workers. Transport connectivity has been mentioned as a key factor for successful workplaces e.g. airport links. • **Less public transport options:** Waverley is the most rural Borough of Surrey, so more people moved to Waverley during COVID-19. Guildford and Farnham have good commuting links to London e.g. by rail, so travellers can reach London in less than one hour. Surrey Connect has offered more ways to be able to travel, so Surrey County Council are removing a lot of buses and replacing them with Surrey Connect options. • **House prices:** House prices are quite high in Surrey on average compared to the rest of the UK. This has an impact on the type of workers who can afford to move to Surrey. In turn, this has an impact on community building across Surrey. This cannot be attributed to remote work, but is an influencing factor. • **Quality of life:** Surrey in general has a quite good quality of life, with Mondays and Fridays being the most common days for workers to work from home (SCC – AECOM, 2024). Certain company founders are requesting workers to work more from the office, particularly if they have relocated workplaces from e.g. London to Surrey. Remote work has improved the opportunity for those workers to enjoy more their local area and enjoy a higher quality of life. However, this depends on their profession among other factors.
5. Are you aware of recent statistics conducted within the city or region or at national level related with any of the following?	No relevant statistics exist about remote work in Surrey or the UK. Specific studies have been conducted, but only include selected populations so it is difficult to generalise.

6.2.6 Rheintal-Bodenseegebiet (Region Austria, Germany and Switzerland)

(author: RIM)

Use Case / Interviewee profiles & Questions	**Rheintal-Bodenseegebiet, Vorarlberg (Austria) - RIM**
Professional capacity	• 2 real estate agents with a knowledge of how the housing market is affected by the advent of re-mote workers in the city • 2 municipal authority representative working on remote work policy • 2 local advisor (e.g. tax advisor, lawyer) supporting remote workers to relocate in the city

	• 2 Representative of a remote workers' community or digital nomad group in the city
Gender	• 4 Men • 1 Woman
Age range	• 2 in 26–45 • 3 in 46–65
Education level	5 with Master's degree or higher
Involvement in previous R-Map activities	No interview partner was involved in any R-Map activity before
1. Based on your understanding and expertise, please provide a brief description of the current status of remote work, Remote Work Arrangements and related policies at urban, regional and national level affecting the use case area	The Rheintal-Bodensee area in Vorarlberg is experiencing notable spatial and socio-economic transformations due to the growing influence of remote work. Traditional office demand has declined, resulting in increased vacancy rates and the conversion of spaces into co-working hubs. Simultaneously, migration trends show a preference for semi-urban and rural living, with remote professionals seeking high-quality, flexible housing. This shift has introduced pressures on the real estate market, driven by both lifestyle preferences and investment interests in temporary rentals. On a cross-border scale, tax, social security, and legal uncertainties hinder a seamless remote work dynamic across Austria, Switzerland, and Germany. Nevertheless, the region benefits from strong digital infrastructure and mobility networks, supporting cross-border flexibility for remote professionals. Yet, not all groups benefit equally: disparities persist in remote work accessibility by occupation, education, and location. Local governance, employer policies, and planning frameworks all significantly shape these developments. The area's attractive quality of life further supports relocation and integration of both domestic and international workers, enriching cultural diversity while also raising new questions about community engagement and social cohesion.
2. Based on your understanding and expertise, please describe any socio-economic phenomena observed due to remote work in the area. These may include, for example, changes in the social fabric of the city center or in suburban/rural areas, increased cross-border employment, and changes in the labor and property markets.	• **Vacancy of Traditional Office Spaces.** The decline in daily office attendance has led to increased commercial space vacancies, particularly in urban cores. Companies are downsizing and reevaluating physical office needs, opening the door for co-working space development in both city and suburban zones. • **Residential Relocation and Flexible Living Demand.** Remote workers are increasingly relocating to rural or suburban areas within Vorarlberg, seeking affordable, high-quality housing. This trend has intensified pressure on housing markets and led to a rise in demand for flexible, furnished rental units, especially near transit corridors. • **Rise of Co-Working Spaces in Peripheral Areas.** As daily commutes become less necessary, co-working hubs have emerged in semi-rural communities, bringing professional infrastructure closer to where people live. These spaces cater to freelancers, SMEs, and cross-border commuters who need occasional workspace access. • **Cross-Border Commuting Enabled by Remote Work**. Remote and hybrid arrangements allow people to live in Austria and work for Swiss or German companies. The Rheintal's strong public transit and proximity to international borders make cross-border employment feasible but also administratively complex.

	• **Unequal Access to Remote Work Opportunities**. Remote work benefits are skewed toward high-skilled, white-collar professionals. Workers in services, logistics, or healthcare often lack remote flexibility, reinforcing occupational and spatial inequalities within the region.
3. Based on your understanding and expertise, please describe any spatial phenomena observed due to remote work in the area. These may include, for example, massive changes in the use of build-ings/land, higher spatial mobility from urban to the rural part of the region, changes in housing, transportation, energy consumption, and urban-rural dynamics.	• **Greater Ethnic and Cultural Diversity.** Remote work and international recruitment have brought greater cultural variety to the Rheintal-Bodensee region. Professionals from across Europe and beyond are settling locally while working globally, facilitated by relocation services and international schooling options. • **Increase in Cross-Border Employment.** Many residents now work for employers in Switzerland or Germany while residing in Vorarlberg. This flexibility is made possible by strong transport networks but challenged by fragmented social security and tax frameworks. • **Flexible Work Expectations Among Young Professionals.** Remote work is a top priority for younger talent in Vorarlberg. Organizations offering flexibility are more competitive in attracting skilled professionals, especially in IT, creative, and knowledge sectors. • **Growth in Integration and Relocation Services.** Due to rising professional mobility, there is an increased demand for relocation and integration services. These include help with legal processes, housing search, and local orientation-primarily driven by remote workers arriving from other countries or regions. • **Decreased Local Social Engagement.** With less time spent in traditional workplaces and more geographic flexibility, some remote workers engage less in community life. Local actors have raised concerns about weakening social cohesion and seek ways to re-engage mobile professionals in civic activities.
4. Based on your understanding and expertise, please describe the key local factors that influenced how phenomena were shaped. These may include, for example, policies, housing prices, demographics, predominant job sectors, quality of life, air quality, pollution, land use, green spaces, transport connections, commuting patterns, etc.	• **Regional Zoning and Land Use Policies**. Strict zoning regulations restrict the expansion of both residential and commercial developments. As demand patterns shift due to remote work, these policies constrain the ability to adapt quickly and create tension between market demand and planning frameworks. • **Cross-Border Public Transport Infrastructure.** Robust regional mobility systems, particularly rail and bus networks, facilitate remote employment across borders. However, infrastructure strain and inconsistent scheduling challenge this flexibility, especially for less central communities. • **Digital Infrastructure and Internet Quality.** Vorarlberg's generally strong broadband coverage supports remote work, but rural gaps still exist. These digital divides affect settlement patterns and limit remote work expansion in underconnected areas. • **Employer Work Models and Culture**. Organizational preferences-ranging from fully remote to hybrid to office-centric-shape how and where employees work. This affects demand for office space, home workspace design, and residential mobility. • **Labor Market Structure.** The regional economy is dominated by manufacturing and export-driven sectors that require on-site presence. Knowledge-intensive and tech jobs are more amenable to remote models, leading to uneven spatial effects across sectors.

	• **Housing Market Constraints.** Limited available land, long planning processes, and rising demand have driven up housing prices, especially for flexible rentals. This increases competition among locals, digital nomads, and cross-border workers. • **Legal and Tax Complexity Across Borders**. Inconsistent tax and social security rules in Austria, Switzerland, and Germany create administrative burdens that deter cross-border remote arrangements and reduce labor mobility despite physical proximity.
5. Are you aware of recent statistics conducted within the city or region or at national level related with any of the following?	• Decline in Home Office Use (VOL.AT, 2024). Recent trends indicate a partial retreat from remote work in Austria. A survey cited by VOL.AT notes that only 20% of employees still work primarily from home, down from pandemic highs. This suggests a normalization of hybrid work rather than a permanent shift to fully remote models. Link: https://www.vol.at/the-retreat-of-the-home-office-has-begun/9221233 • Home Office Utilization in Austria (Statista, 2023). In 2023, 23% of Austrian employees reported working from home at least occasionally, compared to 41% in 2020. The decline is more pronounced among older age groups and in non-office sectors, confirming that remote work remains concentrated among younger, knowledge-based professionals. Link: https://de.statista.com/statistik/daten/studie/733658/umfrage/nutzung-von-home-office-telearbeit-in-oesterreich/ • Mental Health and Remote Work (Landesgesundheitsbericht Vorarlberg, 2022). The Vorarlberg Health Report 2022 indicates increased reports of mental strain among remote workers, particularly due to isolation and blurred work-life boundaries. Young professionals and parents were most affected, highlighting the importance of psychosocial support in remote and hybrid work settings. Link: https://vorarlberg.at/-/gesundheitsbericht • Population Density in Rheintal-Bodensee Region (Eurostat, 2023). According to Eurostat, the Rheintal-Bodensee region has a population density of approximately 210 inhabitants per km²-above the Austrian average. This moderate density supports the feasibility of co-working spaces and short-distance commuting, both relevant for hybrid and remote work patterns. Link: https://db.nomics.world/Eurostat/tgs00049?tab=list • Digital Connectivity in Austria (EU Digital Strategy, 2023). Austria ranks among the top EU countries in terms of broadband access, with over 95% of households connected to high-speed internet. However, digital gaps persist in remote rural areas, limiting full participation in remote work across all regions. Link: https://digital-strategy.ec.europa.eu/en/policies/digital-connectivity-austria • Public Transport App Usage (FAIRTIQ, 2023). FAIRTIQ reported a 40% increase in app usage for public transport in Vorarlberg in 2023-a record growth. This reflects changing mobility behaviors, with more flexible commuting patterns linked to hybrid work and occasional office attendance. Link: https://fairtiq.com/en/blog/fairtiq-use-in-vorarlberg-up-by-a-record-breaking-40-percent

6.3 Regional Citizen Survey Questionnaire

MAPPING THE EFFECTS OF REMOTE WORKING ARRANGEMENTS IN URBAN AND RURAL AREAS

Welcome to our survey on the impact of remote working!

We aim to gather valuable insights into citizens' viewpoints, problems encountered, needs and future plans related to Remote Work Arrangements (RWA) in [city/area name]. The survey lasts **about 20 minutes**. There are no right or wrong answers, this is about your views. The questionnaire has been ethically approved by [organization] and all data is anonymized.

Thank you very much in advance for your support, which is very much appreciated!

If you have any questions, please do not hesitate to contact us at [use case leader email].

Best wishes,
The R-MAP team

What is the R-MAP project?
R-Map aims to analyze the impact of remote working on urban and rural disparities in Europe. For more information, please visit our website at **www.r-map.eu**

What is remote work (and its arrangements) in this survey?
Remote work refers to employment in which work tasks are carried out partially or fully outside of an employer's premises, whether that be at home, in a co-working space, or in another location chosen by the employee.

Funded by the European Union

The R-MAP project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101132497.

SECTION 0 - ELECTRONIC CONSENT

Before proceeding, we would like to kindly draw your attention to the following information:

CONTENT
We aim to gather valuable insights into **citizens' viewpoints, problems encountered, needs and future plans related to Remote Work Arrangements (RWA) in [city/area name].** Your participation is crucial in shaping our understanding of the evolving landscape of remote work. Thank you for being a part of this important initiative!

PARTICIPATION
Your participation in this survey is entirely voluntary, and you have the right to refuse or discontinue your involvement at any point. Incomplete data will not be used or considered in the analysis.

RISKS
Participating in this survey carries no foreseeable risks. By completing the questionnaire, you provide consent for the generated data to be used for research and its associated purposes. The results will be openly disseminated through various channels, including scientific publications and public reports, ensuring anonymity.

ANONYMITY
We do not gather any personally identifying information. As a result, your responses will be kept anonymous.

CONTACT
For more information please visit https://r-map.eu/contact-us/. If you have questions at any time about the study or the procedures, you may contact us via email at [use case leader email].

ELECTRONIC CONSENT
Please select your choice below.
Clicking on the "Agree" button indicates that:

✓ You agree with the above information. ✓ You are clearly informed. ✓ You voluntarily agree to participate. ✓ Your anonymous answers can be used for research and exploitation purposes. ✓ You are 18 years of age or older.	❑ Agree ❑ Do not agree

SECTION 1 - BACKGROUND

1. **Do you live in [city/area name]?**
   a. Yes, all the time
   b. Yes, part time
   c. No

2. **What gender do you identify with?**
   a. Female
   b. Male
   c. Non-binary
   d. Prefer not to mention

3. **In which specific area do you live?**
(drop down list with LAUs selected in your diagnosis)

4. **Urbanisation level (auto-code from question 3)**
City (DEGURBA 1) / Town-Suburb (2) / Rural (3)

5. **What is your age group?**
   a. 18-24
   b. 25-34
   c. 35-44
   d. 45-54
   e. 55-64
   f. 65+

6. **Do you currently work remotely?**
   a. No
   b. Yes, occasionally (less than 1 day/week or other flexible schedule)
   c. Yes, on average 1-2 days per week
   d. Yes, on average 3-4 days per week
   e. Yes, fully remote (5 days per week)

7. **[Only for cross-border cases] Do you currently work across a national border?**
   a. Yes - I live in [Country A], work in [Country B]
   b. Yes - I live in [Country B], work in [Country A]
   c. No - I live and work in the same country

8. **What is your main employment status?**
   a. Private sector employee
   b. Public sector employee
   c. Nonprofit / Non-Governmental Organisation (NGO) employee
   d. Self-employed (freelancer, contractor, consultant, entrepreneur)
   e. Not employed currently
   d. Other (please specify): [free text]

SECTION 2 - THEMATIC CONTENT

9. According to your perception, have you noticed any of the following social and economic changes in your city/ place of residence since remote and hybrid work became more widespread (since 2020 / post-pandemic)?

Change	Not at all	Very Slightly	Slightly	Moderately	Strongly	Extremely	I don't know
Skilled workers who had previously left the area are returning because of remote jobs							
Skilled workers are moving away because of remote jobs (because they are no longer tied to one location)							
The number of people living in my residential location while being **employed in another country** has increased							
Many residents aged 55 and above face difficulties with digital skills needed for remote/hybrid work							
Many rural residents face difficulties with digital skills needed for remote/hybrid work							
I observe increased residential, ethnic & cultural diversity in my place of residence.							
An increasing number of hotels or holiday rentals (e.g. Airbnb apartments) offer stays designed for remote work and leisure							
An increasing number of local companies are offering flexible or hybrid work as the new normal/standard option							

10. According to your perception, have you noticed any of the following changes in the city space since remote and hybrid work became more widespread (since 2020 / post-pandemic)?

Change	Not at all	Very Slightly	Slightly	Moderately	Strongly	Extremely	I don't know
Thanks to remote work, residents increasingly relocate **outside city centers**							
New work-friendly cafés and co-working spaces are opening **outside the city centre**							
Housing prices **outside the city center** are rising due to remote workers moving in							
The number of unoccupied office **spaces in the city centre** has increased							

The number of residential homes being converted into short-/mid-term rentals (like Airbnb) **in the city-centre** has increased							
New work-friendly cafés and co-working spaces are opening **in the city centre**							
Public buildings (e.g., libraries, town halls) are being turned into shared workspaces							
Empty office spaces (thanks to remote work) are used by companies for alternative uses (e.g. teamwork, brainstorm sessions, co-working etc)							
Empty office spaces are being turned into flats or hotels							
Public transport use has decreased since more people work from home							
Private vehicle use has decreased since more people work from home							
There is less rush-hour congestion than before the acceleration of remote work							
People who have second/leisure homes spend more time working from there.							

11. According to your perception, are there any other changes you have noticed in your city? Examples include changes in commuting, travel journey purpose, and how home/office space is used.

Optional free text: "_____"

12. According to your perception, which of the following <u>factors</u> have influenced this remote work adoption in your city/place of residence?

Factors	**Not at all**	**Very Slightly**	**Slightly**	**Moderately**	**Strongly**	**Extremely**	**I don't know**
The increase of visas or programmes to attract remote workers or digital nomads (e.g. Golden Visa, Digital Nomad Visa, relocation programmes, etc)							
The introduction of national laws and/or company policies and guidelines enabling and/or encouraging remote work							
The introduction of incentives by local government (e.g. subsidizing accommodation for remote workers), enabling and/or encouraging remote work							

Short-term rental property regulations and limits set by national government and/or local government							
The high-quality and affordable commuting infrastructure (trains or road), enabling cross-border work							
The increase/improvement in broadband rollout in rural parts of the region							

13. Are there any other <u>factors</u> you think are important?
Optional free text: "_____"

14. Please tell us which <u>problems</u> you have encountered with remote/hybrid work.

Problems encountered with remote work	**Not at all**	**Very Slightly**	**Slightly**	**Moderately**	**Strongly**	**Extremely**	**I don't know**
When working remotely, I sometimes pay excess home energy / utility costs							
When working remotely, I don't have a suitable workspace (e.g. with enough space, light and silence)							
When working remotely, I have problems with poor internet connection speed and reliability							
When working remotely, I feel socially isolated							
There is a lack of reliable public transport nearby my home (e.g. in 15 minutes of walking or biking/cycling)							
There is a lack of recreational and cultural amenities nearby my home (e.g. in 15 minutes of walking or biking/cycling)							
There is a lack of schools and other educational infrastructures nearby my home (e.g. in 15 minutes of walking or biking/cycling)							
There is a lack of access to co-working spaces/flexible offices nearby my home (e.g. in 15 minutes of walking or biking/cycling)							
There is lack of access to health services nearby my home (e.g. in 15 minutes of walking or biking/cycling)							

When working remotely, I have trouble reaching out to and communicating with my colleagues.							
When working remotely, I am not as productive.							

15. Are there any other <u>problems</u> you have encountered with remote/hybrid work that you think are important?

Optional free text: "_____"

16. Please tell us about your <u>needs</u> considering your own circumstances with respect to remote/hybrid work.

<u>Needs</u>	**Not at all**	**Very Slightly**	**Slightly**	**Moderately**	**Strongly**	**Extremely**	**I don't know**
I need better tax and social security advice for remote work in my country							
I need clearer regulations on tax or social security for when working across borders							
I need clearer rules or formal policies about who can work remotely and under what conditions from employers							
I need better childcare support where I live, to enable me to work remotely							
I need better internet connectivity where I live, to enable me to work remotely							
I need better transport options where I live, to enable me to work remotely							
I need to have amenities for my daily needs (supermarket, gym, recreation) where I live, to enable me to work remotely							
I need to have more local co-working options where I live							
I need to enhance my digital skills to be better equipped for my remote/hybrid work							

17. If given the option to work remotely/hybrid, I intend to … (please complete):

Intentions	Not at all	Very Slightly	Slightly	Moderately	Strongly	Extremely	I don't know
improve my digital skills to make them more relevant to remote work							
move away from my current residential location to a more suburban area							
move away from my current residential location to a more rural area							
move away from my current residential location towards the city center							
relocate to an area with better public transport nearby							
relocate to an area with more recreational and cultural amenities nearby							
relocate to an area with more childcare, schools and other educational infrastructures nearby							
relocate to an area with more co-working spaces/flexible offices nearby							
create a high-quality office space (or upgrade the current one) in my home							
make fewer trips to the city centre							
make more trips within my local area							
use my private vehicle less, since I will be working from home							
use public transport less, since I will be working from home							
relocate to another country or region with a better quality of life / more affordable housing options / lower cost of living / tax benefits for remote workers							

18. Do you have any other needs or future plans related to remote work?
Optional free text: "_____"

SECTION 3 - CLOSING REMARKS

19. Do you have any closing remarks?
Optional free text: "_____"

End of Survey

Thank you for participating in this survey!

If you have any questions, please contact us at [use case leader email].

Please follow R-MAP social media accounts to stay in touch and check our website for more information!
Facebook: https://www.facebook.com/profile.php?id=61557375367551

LinkedIn: https://www.linkedin.com/company/r-map-project-eu/?viewAsMember=true

Twitter: https://twitter.com/rmapprojecteu

Youtube: https://www.youtube.com/channel/UCidK3CgVP_U2qzD2NH13uFQ

6.4 Local Administrative Units (LAUs) selected for analysis

This section outlines the Local Administrative Units (LAUs) selected for analysis in each use case area.

Local Administrative Units (LAUs) examined in the use case of Thessaloniki (Greece)

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
EL_07010100	Municipal Commune of Thessaloniki (psevdo)	309617	19288533	1	1
EL_07010201	Municipal Commune of Triandria	9428	2058611	1	1
EL_07020101	Municipal Commune of Abelokipi	35846	1629374	1	1
EL_07020201	Municipal Commune of Menemeni	14297	5659757	1	1
EL_07030101	Municipal Commune of Stavros	3262	17267300	3	1
EL_07030102	Municipal Commune of Ano Stavros	768	19082769	3	1
EL_07030103	Municipal Commune of Volvi	844	92598731	3	0
EL_07030201	Municipal Commune of Asprovalta	2405	24986454	3	1
EL_07030202	Municipal Commune of Vrasna	2276	41423333	3	1
EL_07030301	Municipal Commune of Nea Apollonia	1652	71322658	3	0
EL_07030302	Municipal Commune of Melissourgos	318	22758562	3	0
EL_07030303	Municipal Commune of Nikomidino	440	12019723	3	0
EL_07030304	Municipal Commune of Peristerona	305	51048544	3	0
EL_07030305	Municipal Commune of Stivos	502	11315603	3	0
EL_07030401	Municipal Commune of Arethoussa	636	56558214	3	0
EL_07030402	Municipal Commune of Mavrouda	237	22918145	3	0
EL_07030403	Municipal Commune of Skepasto	431	30511249	3	0
EL_07030404	Municipal Commune of Stefanina	284	55920650	3	1
EL_07030405	Municipal Commune of Filadelfio	650	48723584	3	0
EL_07030501	Municipal Commune of Profitis	870	48803383	3	0
EL_07030502	Municipal Commune of Evaghelismos	392	21339759	3	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
EL_07030503	Municipal Commune of Nymfopetra	1049	28950599	3	0
EL_07030504	Municipal Commune of Scholario	389	16298568	3	0
EL_07030601	Municipal Commune of Nea Madytos	1369	34806339	3	0
EL_07030602	Municipal Commune of Apollonia	350	32129416	3	0
EL_07030603	Municipal Commune of Modio	326	22342793	3	1
EL_07040101	Municipal Commune of Sindos	9406	49009435	2	1
EL_07040102	Municipal Commune of Diavata	11876	8441529	2	1
EL_07040103	Municipal Commune of Kalochori	4626	31302800	3	1
EL_07040104	Municipal Commune of Nea Magnissia	4088	14726068	2	1
EL_07040201	Municipal Commune of Kymina	3210	28866472	2	1
EL_07040202	Municipal Commune of Vrachia	445	14950646	3	0
EL_07040203	Municipal Commune of Nea Malgara	2218	41415387	2	1
EL_07040301	Municipal Commune of Chalastra	6657	96250752	2	1
EL_07040302	Municipal Commune of Anatoliko	2409	22797120	3	0
EL_07050101	Municipal Commune of Perea	16995	10801038	2	1
EL_07050102	Municipal Commune of Aghia Triada	1990	3493844	2	1
EL_07050103	Municipal Commune of Nei Epivates	5882	6398315	2	1
EL_07050201	Municipal Commune of Epanomi	8377	79081445	2	1
EL_07050202	Municipal Commune of Messimeri	1533	12281463	3	1
EL_07050301	Municipal Commune of Nea Michaniona	7846	11293932	2	1
EL_07050302	Municipal Commune of Aghelochori	1074	5822599	3	1
EL_07050303	Municipal Commune of Nea Kerassia	1864	6203701	2	1
EL_07060101	Municipal Commune of Thermi	19602	55928180	2	1
EL_07060102	Municipal Commune of Nea Redestos	4061	14595934	2	1

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
EL_07060103	Municipal Commune of Neo Ryssio	2845	15238443	3	1
EL_07060104	Municipal Commune of Tagarades	2122	15443534	3	1
EL_07060201	Municipal Commune of Vassilika	4115	56982557	3	0
EL_07060202	Municipal Commune of Aghia Paraskevi	2152	15828747	3	1
EL_07060203	Municipal Commune of Aghios Antonios	726	50140327	3	0
EL_07060204	Municipal Commune of Livadi	351	40024914	3	0
EL_07060205	Municipal Commune of Peristera	651	28146337	3	0
EL_07060206	Municipal Commune of Souroti	1583	9454072	3	0
EL_07060301	Municipal Commune of Trilofo	6727	35378576	2	1
EL_07060302	Municipal Commune of Kardia	3369	8907490	2	1
EL_07060303	Municipal Commune of Kato Scholari	1963	24021633	3	1
EL_07060304	Municipal Commune of Plagiari	5091	10926347	2	1
EL_07070000	Municipal Commune of Kalamaria (psevdo)	92248	6875700	1	1
EL_07080101	Municipal Commune of Evosmos	79221	8993575	1	1
EL_07080201	Municipal Commune of Eleftherio - Kordelio	26131	5605412	1	1
EL_07090101	Municipal Commune of Lagadas	8447	30739777	2	0
EL_07090102	Municipal Commune of Analipsi	478	29968581	3	0
EL_07090103	Municipal Commune of Iraklio	1171	11241812	3	0
EL_07090104	Municipal Commune of Kavallari	1575	43823633	3	0
EL_07090105	Municipal Commune of Kolchiko	1768	45720052	3	0
EL_07090106	Municipal Commune of Lagyna	3552	13543911	3	0
EL_07090107	Municipal Commune of Perivolaki	1331	7144335	3	0
EL_07090108	Municipal Commune of Chryssavgi	1017	15917958	2	0
EL_07090201	Municipal Commune of Assiros	2037	54676217	3	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
EL_07090202	Municipal Commune of Krithia	1253	20501513	3	0
EL_07090301	Municipal Commune of Ossa	486	58549482	3	0
EL_07090302	Municipal Commune of Vertiskos	279	47277112	3	0
EL_07090303	Municipal Commune of Exalofos	573	38187777	3	0
EL_07090304	Municipal Commune of Lofiskos	306	52768304	3	0
EL_07090401	Municipal Commune of Zagliveri	1774	62579087	3	0
EL_07090402	Municipal Commune of Adam	387	18206595	3	0
EL_07090403	Municipal Commune of Nei Kalindii	449	29486903	3	0
EL_07090404	Municipal Commune of Petrokerassa	250	27185789	3	0
EL_07090405	Municipal Commune of Sarakina	120	16312701	3	0
EL_07090501	Municipal Commune of Gerakarou	1080	18026375	3	0
EL_07090502	Municipal Commune of Aghios Vassilios	1180	28612365	3	0
EL_07090503	Municipal Commune of Ardameri	175	22547278	3	0
EL_07090504	Municipal Commune of Vassiloudi	606	22999507	3	0
EL_07090505	Municipal Commune of Lagadikia	798	13364736	3	0
EL_07090601	Municipal Commune of Xylopoli	601	34472811	3	0
EL_07090602	Municipal Commune of Karteres	549	84013259	3	0
EL_07090603	Municipal Commune of Lachanas	462	47899832	3	0
EL_07090604	Municipal Commune of Lefkochori	249	23960999	3	0
EL_07090605	Municipal Commune of Nikopoli	82	20392698	3	0
EL_07090701	Municipal Commune of Sochos	1979	152770359	3	0
EL_07090702	Municipal Commune of Askos	1014	70434306	3	0
EL_07090703	Municipal Commune of Kryoneri	994	58570571	3	0
EL_07100101	Municipal Commune of Sykies	35545	5039485	1	1

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
EL_07100201	Municipal Commune of Aghios Pavlos	6086	1588772	1	1
EL_07100301	Municipal Commune of Neapoli	25822	955252	1	1
EL_07100401	Municipal Commune of Pefka	13435	4015766	2	1
EL_07110101	Municipal Commune of Stavroupoli	45891	3413728	1	1
EL_07110201	Municipal Commune of Efkarpia	15416	14398147	1	1
EL_07110301	Municipal Commune of Polichni	38887	7220633	1	1
EL_07120101	Municipal Commune of Panorama	17679	21743828	2	1
EL_07120201	Municipal Commune of Pylea	36843	24511456	1	1
EL_07120301	Municipal Commune of Asvestochori	6551	35173302	2	1
EL_07120302	Municipal Commune of Exochi	1265	2406332	2	1
EL_07120303	Municipal Commune of Filyro	5531	15531639	3	1
EL_07120304	Municipal Commune of Chortiatis	4515	57071312	3	0
EL_07130101	Municipal Commune of Koufalia	7522	66346723	2	0
EL_07130102	Municipal Commune of Prochoma	1940	38369851	3	0
EL_07130201	Municipal Commune of Aghios Athanassios	4717	36199486	3	0
EL_07130202	Municipal Commune of Anchialos	727	11006485	3	0
EL_07130203	Municipal Commune of Vathylakkos	2002	23743756	3	0
EL_07130204	Municipal Commune of Gefyra	2782	29540555	3	0
EL_07130205	Municipal Commune of Nea Messimvria	2303	30051080	3	0
EL_07130206	Municipal Commune of Xirochori	495	23711012	3	0
EL_07130301	Municipal Commune of Chalkidona	2905	21495466	3	0
EL_07130302	Municipal Commune of Adendro	1889	37427663	3	0
EL_07130303	Municipal Commune of Valtochori	179	18460695	3	0
EL_07130304	Municipal Commune of Eleoussa	363	10407149	3	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
EL_07130305	Municipal Commune of Mikro Monastiri	1779	36238029	3	0
EL_07130306	Municipal Commune of Parthenio	427	7401882	3	0
EL_07140101	Municipal Commune of Oreokastro	23626	22134507	2	1
EL_07140201	Municipal Commune of Pentalofos	1871	27315132	3	0
EL_07140202	Municipal Commune of Messeo	1063	27743883	3	0
EL_07140203	Municipal Commune of Nea Philadelfia	770	12896046	3	0
EL_07140204	Municipal Commune of Neochorouda	2844	29454954	2	1
EL_07140301	Municipal Commune of Liti	3527	18583133	3	0
EL_07140302	Municipal Commune of Drymos	2866	42429488	3	0
EL_07140303	Municipal Commune of Melissochori	3437	37334527	3	0

Local Administrative Units (LAUs) examined in the use case of Twente-Münsterland

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
NL_GM0148	Dalfsen	29683	165020000	2	0
NL_GM0160	Hardenberg	62932	312160000	2	0
NL_GM0166	Kampen	56177	141230000	2	0
NL_GM0175	Ommen	19031	179850000	2	0
NL_GM0180	Staphorst	17739	133940000	2	0
NL_GM0193	Zwolle	133141	110670000	1	0
NL_GM1708	Steenwijkerland	45472	288310000	3	0
NL_GM1896	Zwartewaterland	23448	82360000	2	0
NL_GM0150	Deventer	103405	130560000	1	0
NL_GM0177	Raalte	38364	170970000	2	0
NL_GM1773	Olst-Wijhe	18835	113660000	2	0
NL_GM0141	Almelo	74317	67180000	1	0
NL_GM0147	Borne	24639	25990000	2	0
NL_GM0153	Enschede	161738	140730000	1	0
NL_GM0158	Haaksbergen	24359	104780000	2	0
NL_GM0163	Hellendoorn	36264	137930000	2	0
NL_GM0164	Hengelo	83058	60840000	1	0
NL_GM0168	Losser	23376	98740000	2	0
NL_GM0173	Oldenzaal	31794	21550000	2	0
NL_GM0183	Tubbergen	21397	147000000	3	0
NL_GM0189	Wierden	24931	94600000	2	0
NL_GM1700	Twenterand	34073	106140000	2	0
NL_GM1735	Hof van Twente	35446	212430000	2	0
NL_GM1742	Rijssen-Holten	38675	94120000	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
NL_GM1774	Dinkelland	26739	175720000	3	0
NL_GM0197	Aalten	27308	96530000	2	0
NL_GM0213	Brummen	21286	83630000	2	0
NL_GM0222	Doetinchem	59623	79040000	2	0
NL_GM0262	Lochem	34289	213050000	3	0
NL_GM0294	Winterswijk	29231	138130000	2	0
NL_GM0301	Zutphen	48752	40920000	2	0
NL_GM1509	Oude IJsselstreek	39402	136070000	2	0
NL_GM1586	Oost Gelre	29969	109930000	2	0
NL_GM1859	Berkelland	43933	258090000	2	0
NL_GM1876	Bronckhorst	36119	283530000	3	0
NL_GM1955	Montferland	36873	105700000	2	0
NL_GM0202	Arnhem	167632	97740000	1	0
NL_GM0209	Beuningen	26725	43600000	2	0
NL_GM0221	Doesburg	11079	11560000	2	0
NL_GM0225	Druten	19590	37520000	2	0
NL_GM0226	Duiven	24872	33880000	2	0
NL_GM0252	Heumen	16836	39730000	2	0
NL_GM0268	Nijmegen	187049	52810000	1	0
NL_GM0274	Renkum	31419	45960000	2	0
NL_GM0275	Rheden	43661	81770000	2	0
NL_GM0277	Rozendaal	1831	27900000	3	0
NL_GM0293	Westervoort	15151	7010000	2	0
NL_GM0296	Wijchen	41545	66040000	2	0
NL_GM0299	Zevenaar	45041	92620000	2	0
NL_GM1705	Lingewaard	47314	61960000	2	0
NL_GM1734	Overbetuwe	48919	109030000	2	0
NL_GM1945	Berg en Dal	35474	86390000	2	0
NL_GM0109	Coevorden	35725	296110000	3	0
NL_GM0114	Emmen	109346	335330000	2	0
NL_GM1681	Borger-Odoorn	26014	274690000	3	0
DE_03456001	Bad Bentheim, Stadt	16321	9999000	2	0
DE_03456002	Emlichheim	7648	4865000	2	0
DE_03456003	Engden	419	4430000	3	0
DE_03456004	Esche	593	1100000	3	0
DE_03456005	Georgsdorf	1232	1929000	3	0
DE_03456006	Getelo	499	2025000	3	0
DE_03456007	Gölenkamp	592	2095000	3	0
DE_03456008	Halle	669	2116000	3	0
DE_03456009	Hoogstede	2933	4978000	3	0
DE_03456010	Isterberg	614	2032000	3	0
DE_03456011	Itterbeck	1720	4108000	3	0
DE_03456012	Laar	2091	5101000	3	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
DE_03456013	Lage	1052	639000	3	0
DE_03456014	Neuenhaus, Stadt	10650	3137000	2	0
DE_03456015	Nordhorn, Stadt	55619	14986000	2	0
DE_03456016	Ohne	589	903000	3	0
DE_03456017	Osterwald	1178	3344000	3	0
DE_03456018	Quendorf	630	1413000	3	0
DE_03456019	Ringe	1981	3536000	3	0
DE_03456020	Samern	805	2607000	2	0
DE_03456023	Uelsen	5830	1947000	3	0
DE_03456024	Wielen	493	2309000	3	0
DE_03456025	Wietmarschen	12766	11909000	2	0
DE_03456026	Wilsum	1635	4726000	3	0
DE_03456027	Schüttorf, Stadt	13387	1945000	2	0
DE_05515000	Münster, Stadt	322904	30328000	1	0
DE_05554004	Ahaus, Stadt	40580	15124000	2	0
DE_05554008	Bocholt, Stadt	72409	11940000	1	0
DE_05554012	Borken, Stadt	43589	15324000	2	0
DE_05554016	Gescher, Glockenstadt	17467	8084000	2	0
DE_05554020	Gronau (Westf.), Stadt	50151	7882000	2	0
DE_05554024	Heek	8788	6943000	2	0
DE_05554028	Heiden	8603	5339000	2	0
DE_05554032	Isselburg, Stadt	11260	4280000	2	0
DE_05554036	Legden	7614	5628000	3	0
DE_05554040	Raesfeld	11859	5795000	2	0
DE_05554044	Reken	15488	7874000	3	0
DE_05554048	Rhede, Stadt	19837	7890000	2	0
DE_05554052	Schöppingen	6807	6881000	3	0
DE_05554056	Stadtlohn, Stadt	20791	7925000	2	0
DE_05554060	Südlohn	9738	4529000	3	0
DE_05554064	Velen, Stadt	13381	7075000	2	0
DE_05554068	Vreden, Stadt	23265	13583000	2	0
DE_05558004	Ascheberg	16012	10632000	3	0
DE_05558008	Billerbeck, Stadt	11790	9136000	2	0
DE_05558012	Coesfeld, Stadt	37259	14136000	2	0
DE_05558016	Dülmen, Stadt	47937	18483000	2	0
DE_05558020	Havixbeck	12215	5317000	2	0
DE_05558024	Lüdinghausen, Stadt	25306	14054000	2	0
DE_05558028	Nordkirchen	10534	5241000	3	0
DE_05558032	Nottuln	19921	8567000	2	0
DE_05558036	Olfen, Stadt	13298	5243000	2	0
DE_05558040	Rosendahl	10897	9449000	3	0
DE_05558044	Senden	20991	10945000	2	0
DE_05566004	Altenberge	10438	6296000	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
DE_05566008	Emsdetten, Stadt	36556	7206000	2	0
DE_05566012	Greven, Stadt	38321	14026000	2	0
DE_05566016	Hörstel, Stadt	21049	10754000	2	0
DE_05566020	Hopsten	7843	9983000	3	0
DE_05566024	Horstmar, Stadt der Burg-mannshöfe	7605	4476000	3	0
DE_05566028	Ibbenbüren, Stadt	52688	10887000	2	0
DE_05566032	Ladbergen	7036	5235000	3	0
DE_05566036	Laer	6930	3526000	2	0
DE_05566040	Lengerich, Stadt	23067	9079000	2	0
DE_05566044	Lienen	8827	7344000	3	0
DE_05566048	Lotte	14476	3769000	2	0
DE_05566052	Metelen	6577	4028000	2	0
DE_05566056	Mettingen	12041	4060000	2	0
DE_05566060	Neuenkirchen	14096	4844000	2	0
DE_05566064	Nordwalde	9853	5160000	2	0
DE_05566068	Ochtrup, Stadt	20392	10563000	2	0
DE_05566072	Recke	11410	5369000	2	0
DE_05566076	Rheine, Stadt	78220	14500000	2	0
DE_05566080	Saerbeck, NRW-Klimakom-mune	7102	5903000	2	0
DE_05566084	Steinfurt, Stadt	35456	11167000	2	0
DE_05566088	Tecklenburg, Stadt	9398	7049000	3	0
DE_05566092	Westerkappeln	11464	8583000	2	0
DE_05566096	Wettringen	8350	5769000	2	0
DE_05154004	Bedburg-Hau	13607	6131000	2	0
DE_05154008	Emmerich am Rhein, Stadt	32157	8040000	2	0
DE_05154012	Geldern, Stadt	34604	9697000	2	0
DE_05154016	Goch, Stadt	35520	11543000	2	0
DE_05154020	Issum	12391	5474000	3	0
DE_05154024	Kalkar, Stadt	14199	8820000	3	0
DE_05154028	Kerken	12860	5817000	2	0
DE_05154032	Kevelaer, Stadt	28466	10064000	2	0
DE_05154036	Kleve, Stadt	53458	9776000	2	0
DE_05154040	Kranenburg	11380	7689000	2	0
DE_05154044	Rees, Stadt	21452	10986000	3	0
DE_05154048	Rheurdt	6544	3003000	3	0
DE_05154052	Straelen, Stadt	16544	7400000	2	0
DE_05154056	Uedem	8454	6093000	2	0
DE_05154060	Wachtendonk	8292	4817000	2	0
DE_05154064	Weeze	11563	7949000	2	0
DE_05170004	Alpen	12870	5960000	3	0
DE_05170008	Dinslaken, Stadt	67949	4766000	1	0
DE_05170012	Hamminkeln, Stadt	27450	16453000	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
DE_05170016	Hünxe	13980	10685000	2	0
DE_05170020	Kamp-Lintfort, Stadt	38731	6314000	2	0
DE_05170024	Moers, Stadt	105606	6764000	1	0
DE_05170028	Neukirchen-Vluyn, Stadt	28110	4350000	2	0
DE_05170032	Rheinberg, Stadt	31096	7524000	2	0
DE_05170036	Schermbeck	13565	11071000	2	0
DE_05170040	Sonsbeck	8819	5541000	2	0
DE_05170044	Voerde (Niederrhein), Stadt	36282	5349000	2	0
DE_05170048	Wesel, Stadt	61277	12256000	2	0
DE_05170052	Xanten, Stadt	21776	7243000	2	0

Local Administrative Units (LAUs) examined in the use case of Milan (Italy)

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
IT_015002	Abbiategrasso	32629	47770424	2	0
IT_015005	Albairate	4712	15673930	2	0
IT_015007	Arconate	6824	8626696	2	0
IT_015009	Arese	19562	6297424	1	0
IT_015010	Arluno	12452	12766145	2	0
IT_015011	Assago	9238	8573276	1	0
IT_015012	Bareggio	17177	11527457	1	0
IT_015014	Basiano	3680	4627328	2	0
IT_015015	Basiglio	7944	8497556	2	0
IT_015016	Bellinzago Lombardo	3827	4757430	2	0
IT_015019	Bernate Ticino	2941	12118361	2	0
IT_015022	Besate	2047	12794193	2	0
IT_015024	Binasco	7093	3724438	2	0
IT_015026	Boffalora sopra Ticino	4079	7929966	2	0
IT_015027	Bollate	36320	12721662	1	0
IT_015032	Bresso	26248	3544504	1	0
IT_015035	Bubbiano	2463	2823111	2	0
IT_015036	Buccinasco	26664	11976003	1	0
IT_015038	Buscate	4680	7666989	2	0
IT_015040	Bussero	8328	4441621	1	0
IT_015041	Busto Garolfo	14042	12523080	2	0
IT_015042	Calvignasco	1204	1881186	2	0
IT_015044	Cambiago	7223	7005794	2	0
IT_015046	Canegrate	12565	4946473	1	0
IT_015050	Carpiano	4142	17788422	3	0
IT_015051	Carugate	15744	5850777	1	0
IT_015055	Casarile	3951	8136241	2	0
IT_015058	Casorezzo	5643	6626542	2	0
IT_015059	Cassano d'Adda	19490	17580958	2	0
IT_015060	Cassina de' Pecchi	13931	7071771	1	0
IT_015061	Cassinetta di Lugagnano	1917	3624237	2	0
IT_015062	Castano Primo	10860	19360508	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
IT_015070	Cernusco sul Naviglio	34898	12662665	1	0
IT_015071	Cerro al Lambro	5186	10272196	2	0
IT_015072	Cerro Maggiore	15031	10200143	1	0
IT_015074	Cesano Boscone	23395	3895547	1	0
IT_015076	Cesate	14309	5621214	1	0
IT_015077	Cinisello Balsamo	74946	12938920	1	0
IT_015078	Cisliano	5119	14496223	3	0
IT_015081	Cologno Monzese	47043	8285401	1	0
IT_015082	Colturano	2045	4264501	2	0
IT_015085	Corbetta	18934	18451100	2	0
IT_015086	Cormano	20586	4450201	1	0
IT_015087	Cornaredo	20672	11355141	1	0
IT_015093	Corsico	34650	4803668	1	0
IT_015096	Cuggiono	8079	14886674	2	0
IT_015097	Cusago	4705	11569475	2	0
IT_015098	Cusano Milanino	18912	3113944	1	0
IT_015099	Dairago	6384	5283632	2	0
IT_015101	Dresano	3105	3156914	2	0
IT_015103	Gaggiano	9350	26027857	2	0
IT_015105	Garbagnate Milanese	27019	9101905	1	0
IT_015106	Gessate	8787	8116504	2	0
IT_015108	Gorgonzola	21216	10257766	1	0
IT_015110	Grezzago	3184	2770670	2	0
IT_015112	Gudo Visconti	1631	6107614	2	0
IT_015113	Inveruno	8444	12293677	2	0
IT_015114	Inzago	11338	11953674	2	0
IT_015115	Lacchiarella	9141	23992489	2	0
IT_015116	Lainate	26336	12318235	1	0
IT_015118	Legnano	60443	17558100	1	0
IT_015122	Liscate	4061	9174740	2	0
IT_015125	Locate di Triulzi	10321	12866335	2	0
IT_015130	Magenta	24598	21685021	2	0
IT_015131	Magnago	9508	11149280	2	0
IT_015134	Marcallo con Casone	6326	8163228	2	0
IT_015136	Masate	3828	4538720	2	0
IT_015139	Mediglia	12237	21589038	2	0
IT_015140	Melegnano	17962	4040852	2	0
IT_015142	Melzo	18422	9976703	2	0
IT_015144	Mesero	4235	5808490	2	0
IT_015146	Milan	1371850	181636790	1	0
IT_015150	Morimondo	1007	25820021	3	0
IT_015151	Motta Visconti	8194	10595167	2	0
IT_015154	Nerviano	16902	13458677	1	0
IT_015155	Nosate	644	4672405	2	0
IT_015157	Novate Milanese	20086	5361863	1	0
IT_015158	Noviglio	4536	16124608	3	0
IT_015159	Opera	14376	7314098	2	0
IT_015164	Ossona	4319	5962980	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
IT_015165	Ozzero	1417	11257154	3	0
IT_015166	Paderno Dugnano	47403	13958299	1	0
IT_015167	Pantigliate	5803	6031993	2	0
IT_015168	Parabiago	28161	14386392	1	0
IT_015169	Paullo	11128	9085533	2	0
IT_015170	Pero	11774	5204111	1	0
IT_015171	Peschiera Borromeo	24410	22717008	2	0
IT_015172	Pessano con Bornago	8974	6767720	2	0
IT_015173	Pieve Emanuele	15707	12737743	2	0
IT_015175	Pioltello	36657	13450912	1	0
IT_015176	Pogliano Milanese	8372	4651700	1	0
IT_015177	Pozzo d'Adda	6696	4515307	2	0
IT_015178	Pozzuolo Martesana	8613	11921786	2	0
IT_015179	Pregnana Milanese	7304	5222148	1	0
IT_015181	Rescaldina	14246	8007128	2	0
IT_015182	Rho	50847	22407237	1	0
IT_015183	Robecchetto con Induno	4795	13413075	2	0
IT_015184	Robecco sul Naviglio	6790	19101579	2	0
IT_015185	Rodano	4644	12833001	2	0
IT_015188	Rosate	5708	18777251	3	0
IT_015189	Rozzano	41358	12112045	1	0
IT_015191	San Colombano al Lambro	7339	16369128	2	0
IT_015192	San Donato Milanese	32296	12937057	1	0
IT_015194	San Giorgio su Legnano	6740	2211123	1	0
IT_015195	San Giuliano Milanese	39914	30765726	1	0
IT_015200	Santo Stefano Ticino	5017	4985454	2	0
IT_015201	San Vittore Olona	8341	3583172	1	0
IT_015202	San Zenone al Lambro	4473	7736308	2	0
IT_015204	Sedriano	12850	7790621	1	0
IT_015205	Segrate	37088	17472044	1	0
IT_015206	Senago	21517	8824807	1	0
IT_015209	Sesto San Giovanni	78565	11802672	1	0
IT_015210	Settala	7405	17809366	3	0
IT_015211	Settimo Milanese	19935	10598859	1	0
IT_015213	Solaro	14064	7060976	2	0
IT_015219	Trezzano Rosa	5379	3299818	2	0
IT_015220	Trezzano sul Naviglio	21635	10660811	2	0
IT_015221	Trezzo sull'Adda	12121	13442936	2	0
IT_015222	Tribiano	3769	7390949	2	0
IT_015224	Truccazzano	5850	21973741	3	0
IT_015226	Turbigo	7106	8607635	2	0
IT_015229	Vanzago	9372	5986519	1	0
IT_015230	Vaprio d'Adda	9582	7085905	2	0
IT_015236	Vernate	3419	14026120	2	0
IT_015237	Vignate	9272	8589603	2	0
IT_015242	Vimodrone	16820	4714749	1	0
IT_015243	Vittuone	9248	5736240	1	0
IT_015244	Vizzolo Predabissi	3868	5821380	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
IT_015247	Zibido San Giacomo	6723	24630972	2	0
IT_015248	Villa Cortese	6222	3499842	2	0
IT_015249	Vanzaghello	5349	5610515	2	0
IT_015250	Baranzate	11849	2972304	1	0
IT_015251	Vermezzo con Zelo	5909	10489738	2	0

Local Administrative Units (LAUs) examined in the use case of Istanbul (Turkey)

EU LAU Code	LAU Name Latin	Population	Total Area (km^2)	DEGURBA	Coastal area
TR_1103	ADALAR	16.325	11	2	Yes
TR_1166	BAKIRKÖY	220.476	29	1	Yes
TR_1183	BEŞİKTAŞ	169.022	18	1	Yes
TR_1185	BEYKOZ	245.647	310	1	Yes
TR_1186	BEYOĞLU	218.589	9	1	Yes
TR_1237	ÇATALCA	80.007	1.142	2	Yes
TR_1325	EYÜPSULTAN	420.194	228	1	Yes
TR_1327	FATİH	356.025	15	1	Yes
TR_1336	GAZİOSMANPAŞA	483.830	12	1	No
TR_1421	KADIKÖY	467.919	25	1	Yes
TR_1449	KARTAL	475.042	38	1	Yes
TR_1604	SARIYER	344.250	177	1	Yes
TR_1622	SİLİVRİ	221.723	858	2	Yes
TR_1659	ŞİLE	48.537	800	3	Yes
TR_1663	ŞİŞLİ	264.736	10	1	No
TR_1708	ÜSKÜDAR	517.348	35	1	Yes
TR_1739	ZEYTİNBURNU	280.896	12	1	Yes
TR_1782	BÜYÜKÇEKMECE	276.572	173	1	Yes
TR_1810	KAĞITHANE	445.672	15	1	No
TR_1823	KÜÇÜKÇEKMECE	792.030	44	1	Yes
TR_1835	PENDİK	743.774	190	1	Yes
TR_1852	ÜMRANİYE	723.760	46	1	No
TR_1886	BAYRAMPAŞA	268.850	9	1	No
TR_2003	AVCILAR	437.221	50	1	Yes
TR_2004	BAĞCILAR	719.071	23	1	No
TR_2005	BAHÇELİEVLER	567.848	17	1	No
TR_2010	GÜNGÖREN	269.944	7	1	No
TR_2012	MALTEPE	523.137	53	1	Yes
TR_2014	SULTANBEYLİ	360.702	29	1	No
TR_2015	TUZLA	293.604	138	1	Yes
TR_2016	ESENLER	427.901	19	1	No
TR_2048	ARNAVUTKÖY	336.062	453	1	Yes
TR_2049	ATAŞEHİR	416.529	25	1	No
TR_2050	BAŞAKŞEHİR	509.915	107	1	No
TR_2051	BEYLİKDÜZÜ	409.347	39	1	Yes

EU LAU Code	LAU Name Latin	Population	Total Area (km^2)	DEGURBA	Coastal area
TR_2052	ÇEKMEKÖY	299.806	152	1	No
TR_2053	ESENYURT	978.007	43	1	No
TR_2054	SANCAKTEPE	492.804	63	1	No
TR_2055	SULTANGAZİ	532.802	37	1	No

Local Administrative Units (LAUs) examined in the use case of Surrey & Southeast England (United Kingdom)

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
E06000035	Medway	288877	193,721,000	1	yes
E06000036	Bracknell Forest	131118	109,374,600	1	no
E06000037	West Berkshire	163712	704,177,200	2	no
E06000038	Reading	182002	40,393,600	1	no
E06000039	Slough	164312	32,542,200	1	no
E06000040	Windsor and Maidenhead	156469	196,487,500	1	no
E06000041	Wokingham	190955	178,973,900	1	no
E06000043	Brighton and Hove	288969	82,821,700	1	yes
E06000044	Portsmouth	215873	40,386,400	1	yes
E06000045	Southampton	266353	49,880,600	1	yes
E06000046	Isle of Wight	142410	379,596,900	2	yes
E06000060	Buckinghamshire	574966	1,564,941,200	1	no
E07000061	Eastbourne	104245	44,161,400	1	yes
E07000062	Hastings	91041	29,803,200	1	yes
E07000063	Lewes	102483	292,113,700	1	yes
E07000064	Rother	96404	509,430,300	2	yes
E07000065	Wealden	168235	833,161,100	2	yes
E07000084	Basingstoke and Deane	193268	633,810,900	1	no
E07000085	East Hampshire	131981	514,412,300	2	no
E07000086	Eastleigh	145386	79,691,500	1	yes
E07000087	Fareham	114588	74,219,800	1	yes
E07000088	Gosport	81820	25,373,900	1	yes
E07000089	Hart	103024	215,253,800	1	no
E07000090	Havant	126711	55,751,400	1	yes
E07000091	New Forest	177011	752,111,900	1	yes
E07000092	Rushmoor	102031	39,049,600	1	no
E07000093	Test Valley	137630	627,653,900	1	no
E07000094	Winchester	134818	660,970,600	2	no
E07000105	Ashford	140957	580,641,700	2	no
E07000106	Canterbury	165237	308,737,200	1	yes
E07000107	Dartford	125195	72,732,600	1	yes
E07000108	Dover	120308	315,348,600	1	yes
E07000109	Gravesham	108534	98,988,300	1	yes
E07000110	Maidstone	190066	393,344,100	1	no
E07000111	Sevenoaks	122878	369,223,500	2	no

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
E07000112	Folkestone and Hythe	112779	356,911,900	2	yes
E07000113	Swale	159731	373,442,000	1	yes
E07000114	Thanet	142203	103,609,200	1	yes
E07000115	Tonbridge and Malling	136919	240,119,600	2	yes
E07000116	Tunbridge Wells	118500	331,285,400	2	no
E07000177	Cherwell	172283	588,732,100	1	no
E07000178	Oxford	171498	45,602,900	1	no
E07000179	South Oxfordshire	157893	678,502,400	2	no
E07000180	Vale of White Horse	150552	577,662,100	2	no
E07000181	West Oxfordshire	120905	714,428,100	2	no
E07000207	Elmbridge	142933	95,060,800	1	no
E07000208	Epsom and Ewell	83053	34,087,800	1	no
E07000209	Guildford	151954	270,944,800	1	no
E07000210	Mole Valley	88644	258,311,900	1	no
E07000211	Reigate and Banstead	158620	129,161,800	1	no
E07000212	Runnymede	92780	78,025,300	2	no
E07000213	Spelthorne	105980	44,897,900	1	no
E07000214	Surrey Heath	92803	95,092,700	1	no
E07000215	Tandridge	90331	248,227,500	1	no
E07000216	Waverley	133531	345,197,100	1	no
E07000217	Woking	105213	63,609,600	1	no
E07000223	Adur	65218	42,068,800	1	yes
E07000224	Arun	170910	220,995,200	1	yes
E07000225	Chichester	129839	786,190,100	2	yes
E07000226	Crawley	122890	44,945,300	1	no
E07000227	Horsham	154254	530,243,500	2	no
E07000228	Mid Sussex	159959	334,023,700	1	no
E07000229	Worthing	114323	32,520,200	1	yes

Local Administrative Units (LAUs) examined in the use case of Rheintal-Bodenseegebiet, Vorarlberg (Austria)

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
AT_10615	Wiesen	2766	18910591	3	0
AT_10707	Gols	3972	42226730	3	0
AT_10713	Neusiedl am See	8945	57031673	2	0
AT_10724	Zurndorf	2278	54293859	3	0
AT_10827	Weingraben	353	9220705	3	0
AT_10902	Bernstein	2140	38988633	3	0
AT_10917	Oberwart	8019	36492047	2	0
AT_20101	Klagenfurt am Wörthersee	104866	120114552	1	0
AT_20201	Villach	65600	134922077	2	0
AT_20302	Dellach	1183	36530503	3	0
AT_20425	Poggersdorf	3303	30744448	3	0
AT_20635	Spittal an der Drau	15269	48522375	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
AT_20701	Afritz am See	1454	28017735	3	0
AT_20702	Arnoldstein	7143	67396340	3	0
AT_20711	Finkenstein am Faaker See	9402	102097246	3	0
AT_20727	Wernberg	5650	26418813	2	0
AT_20923	Wolfsberg	25084	278312387	2	0
AT_30101	Krems an der Donau	25363	51656549	2	0
AT_30201	St. Pölten	58856	108436252	2	0
AT_30401	Wiener Neustadt	48517	60935198	2	0
AT_30541	Winklarn	1854	12565773	2	0
AT_30542	Wolfsbach	2212	31004768	3	0
AT_30604	Baden	25923	26894751	2	0
AT_30637	Teesdorf	1891	7304262	2	0
AT_30729	Ebergassing	4305	16275180	3	0
AT_30740	Schwechat	21227	44820408	2	0
AT_30741	Zwölfaxing	1679	6757278	2	0
AT_31201	Bisamberg	4877	10744183	2	0
AT_31402	Eschenau	1292	24718729	3	0
AT_31520	Loosdorf	3890	11885968	3	0
AT_31524	Melk	5674	25696588	3	0
AT_31540	St. Martin-Karlsbach	1621	24910445	3	0
AT_31701	Achau	1691	11878659	2	0
AT_31702	Biedermannsdorf	3148	8953255	2	0
AT_31703	Breitenfurt bei Wien	6016	27002814	2	0
AT_31704	Brunn am Gebirge	12301	7262698	1	0
AT_31717	Mödling	20580	10039274	1	0
AT_31719	Perchtoldsdorf	14909	12597029	1	0
AT_31725	Wiener Neudorf	9628	6055266	1	0
AT_31839	Ternitz	14753	65343623	2	0
AT_31848	Zöbern	1381	31563489	3	0
AT_31905	Eichgraben	4793	8882664	2	0
AT_31947	Wilhelmsburg	6489	45780801	2	0
AT_32013	Scheibbs	4210	45873664	3	0
AT_32110	Großweikersdorf	3372	43359405	3	0
AT_32144	Klosterneuburg	28115	76245585	2	0
AT_32306	Bad Erlach	3259	9161977	2	0
AT_32307	Felixdorf	4577	2540794	2	0
AT_32320	Matzendorf-Hölles	2137	14075148	2	0
AT_32323	Pernitz	2523	16674794	3	0
AT_32530	Zwettl-Niederösterreich	10766	256322335	3	0
AT_40101	Linz	211944	95988541	1	0
AT_40301	Wels	65287	45920072	1	0
AT_40444	Treubach	766	13036283	3	0
AT_40503	Eferding	4290	2810438	2	0
AT_40601	Freistadt	8187	12879318	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
AT_40704	Ebensee am Traunsee	7456	194694462	2	0
AT_40705	Gmunden	13254	63512245	2	0
AT_40831	Waizenkirchen	3881	34251158	3	0
AT_40915	Roßleithen	1829	67485944	3	0
AT_40923	Windischgarsten	2373	4912398	3	0
AT_41003	Asten	7058	8485221	2	0
AT_41012	Leonding	29096	24043575	1	0
AT_41021	Traun	25171	15490640	2	0
AT_41205	Eitzing	920	8608027	3	0
AT_41212	Lambrechten	1339	23697872	3	0
AT_41225	Ried im Innkreis	12674	6776859	2	0
AT_41306	Atzesberg	449	12717659	3	0
AT_41309	Haslach an der Mühl	2590	12416286	3	0
AT_41415	Rainbach im Innkreis	1566	24421056	3	0
AT_41422	Schärding	5414	4081015	2	0
AT_41425	Suben	1713	6404450	3	0
AT_41501	Adlwang	2161	17209607	3	0
AT_41611	Hellmonsödt	2366	18073254	3	0
AT_41613	Kirchschlag bei Linz	2221	16782200	3	0
AT_41614	Lichtenberg	2890	18488543	3	0
AT_41617	Ottensheim	4771	11817464	2	0
AT_41618	Puchenau	4663	8185860	2	0
AT_41627	Zwettl an der Rodl	1804	15364377	3	0
AT_41707	Desselbrunn	1942	17370424	3	0
AT_41743	Timelkam	6010	18118711	2	0
AT_41824	Weißkirchen an der Traun	3555	21715387	2	0
AT_50101	Salzburg	157399	65652455	1	0
AT_50207	Kuchl	7467	46876739	2	0
AT_50324	Neumarkt am Wallersee	6626	36265525	2	0
AT_50339	Seekirchen am Wallersee	11570	50282838	2	0
AT_50408	Flachau	3056	117251701	3	0
AT_50515	Zederhaus	1170	130561795	3	0
AT_50605	Hollersbach im Pinzgau	1253	76892464	3	0
AT_50619	Saalfelden am Steinernen Meer	17273	118342989	2	0
AT_50628	Zell am See	10290	55166191	2	0
AT_60101	Graz	302749	127572244	1	0
AT_60324	Preding	1916	18266528	3	0
AT_60350	Stainz	8656	92459464	3	0
AT_60608	Feldkirchen bei Graz	7287	11559235	2	0
AT_60661	Eggersdorf bei Graz	7243	49221527	3	0
AT_60664	Gratwein-Straßengel	12879	86620823	2	0
AT_61016	Heimschuh	1989	18521481	3	0
AT_61043	Tillmitsch	3907	14998558	3	0
AT_61052	Heiligenkreuz am Waasen	2920	26327179	3	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
AT_61053	Leibnitz	13362	23522681	2	0
AT_61203	Aigen im Ennstal	2715	86413522	3	0
AT_61259	Liezen	8211	92037828	2	0
AT_62044	Pölstal	2536	270596511	3	0
AT_62271	Ilz	3778	39255671	3	0
AT_62311	Edelsbach bei Feldbach	1362	16096913	3	0
AT_62379	Feldbach	13515	67133288	2	0
AT_70101	Innsbruck	132188	104910454	1	0
AT_70201	Arzl im Pitztal	3160	29373389	2	0
AT_70220	Sölden	3110	466886978	3	0
AT_70301	Absam	7374	51927049	2	0
AT_70318	Hatting	1525	7069452	2	0
AT_70354	Hall in Tirol	14755	5538903	2	0
AT_70359	Trins	1384	48820163	3	0
AT_70369	Zirl	8324	57241730	2	0
AT_70401	Aurach bei Kitzbühel	1143	54238631	3	0
AT_70608	Ischgl	1638	103337148	3	0
AT_70701	Abfaltersbach	640	10276634	3	0
AT_70711	Iselsberg-Stronach	610	17964472	3	0
AT_70716	Lienz	12039	15939886	2	0
AT_70729	Strassen	801	17037500	3	0
AT_70828	Reutte	7275	100863714	2	0
AT_70837	Zöblen	245	8769720	3	0
AT_70917	Jenbach	7600	15228483	2	0
AT_70941	Zellberg	658	12131638	3	0
AT_80122	Schruns	4027	18061492	2	0
AT_80129	Vandans	2815	53438170	3	0
AT_80204	Bezau	2040	34411896	3	0
AT_80207	Bregenz	29643	29499454	1	0
AT_80301	Dornbirn	51876	120938414	2	0
AT_80404	Feldkirch	36384	34343382	2	0
AT_80406	Fraxern	750	8872449	3	0
AT_80414	Rankweil	12172	21869190	2	0
AT_90001	Wien	2005760	414820448	1	0

Local Administrative Units (LAUs) examined in the use case of Rheintal-Bodenseegebiet (Switzerland)

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
CH_CH0002	Affoltern am Albis	12588	10590000	2	0
CH_CH0014	Wettswil am Albis	5282	3770000	2	0
CH_CH0053	Bülach	23624	16090000	2	0
CH_CH0056	Embrach	10005	12690000	2	0
CH_CH0112	Bubikon	7496	11610000	2	0
CH_CH0121	Wetzikon (ZH)	26018	16810000	2	0
CH_CH0131	Adliswil	19243	7770000	1	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
CH_CH0161	Zollikon	13472	7850000	1	0
CH_CH0198	Uster	35748	28490000	2	0
CH_CH0227	Seuzach	7692	7560000	2	0
CH_CH0242	Birmensdorf (ZH)	7057	11420000	2	0
CH_CH0243	Dietikon	28162	9340000	1	0
CH_CH0261	Zürich	427721	87930000	1	0
CH_CH0306	Lyss	16190	14830000	2	0
CH_CH0310	Rapperswil (BE)	2675	22580000	3	0
CH_CH0329	Langenthal	15838	21130000	2	0
CH_CH0351	Bern	134506	51620000	1	0
CH_CH0358	Stettlen	3380	3500000	2	0
CH_CH0533	Bätterkinden	3368	10190000	2	0
CH_CH0562	Aeschi bei Spiez	2283	30990000	3	0
CH_CH0565	Kandersteg	1298	134310000	3	0
CH_CH0855	Schwarzenburg	6767	44800000	3	0
CH_CH0902	Langnau im Emmental	9337	48360000	2	0
CH_CH1051	Adligenswil	5504	6990000	2	0
CH_CH1059	Kriens	28983	27300000	1	0
CH_CH1061	Luzern	83840	29100000	1	0
CH_CH1102	Sempach	4131	8910000	2	0
CH_CH1103	Sursee	10519	5830000	2	0
CH_CH1201	Altdorf (UR)	9880	10210000	2	0
CH_CH1220	Wassen	416	96880000	3	0
CH_CH1372	Schwyz	15685	53180000	2	0
CH_CH1630	Glarus Nord	19428	146980000	2	0
CH_CH1706	Oberägeri	6415	30040000	2	0
CH_CH1711	Zug	31469	21630000	1	0
CH_CH2196	Fribourg	37653	9290000	2	0
CH_CH2211	Neyruz (FR)	2837	5530000	2	0
CH_CH2304	St. Ursen	1431	15720000	3	0
CH_CH2325	Châtel-Saint-Denis	8163	47930000	2	0
CH_CH2476	Hofstetten-Flüh	3353	7520000	2	0
CH_CH2546	Grenchen	17939	26030000	2	0
CH_CH2581	Olten	18339	11490000	2	0
CH_CH2613	Breitenbach	4153	6800000	2	0
CH_CH2701	Basel	173552	23850000	1	0
CH_CH2761	Aesch (BL)	10607	7400000	1	0
CH_CH2775	Therwil	9934	7660000	1	0
CH_CH2793	Zwingen	2685	4610000	2	0
CH_CH2827	Hersberg	362	1660000	3	0
CH_CH3203	St. Gallen	76931	39380000	1	0
CH_CH3271	Buchs (SG)	13605	15950000	2	0
CH_CH3315	Schänis	4021	39900000	3	0
CH_CH3340	Rapperswil-Jona	28252	22260000	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
CH_CH3514	Schmitten (GR)	212	11350000	3	0
CH_CH3901	Chur	38129	54240000	2	0
CH_CH4001	Aarau	21807	12340000	2	0
CH_CH4045	Wettingen	21094	10600000	2	0
CH_CH4139	Menziken	7874	7320000	2	0
CH_CH4309	Klingnau	3603	6710000	2	0
CH_CH4324	Zurzach	7911	25990000	2	0
CH_CH4461	Amriswil	14313	19020000	2	0
CH_CH4566	Frauenfeld	26093	27350000	2	0
CH_CH5113	Locarno	16241	18910000	2	0
CH_CH5192	Lugano	62464	75860000	1	0
CH_CH5196	Massagno	6575	740000	1	0
CH_CH5281	Biasca	6110	59090000	2	0
CH_CH5586	Lausanne	141418	41370000	1	0
CH_CH5624	Bussigny	10365	4810000	2	0
CH_CH5711	Commugny	2976	6530000	2	0
CH_CH5717	Founex	3775	4790000	2	0
CH_CH5727	Saint-Cergue	2788	24280000	3	0
CH_CH6011	Zwischbergen	73	86030000	3	0
CH_CH6023	Conthey	8983	84950000	2	0
CH_CH6152	Collombey-Muraz	9739	29750000	2	0
CH_CH6153	Monthey	18446	28700000	2	0
CH_CH6421	La Chaux-de-Fonds	36527	55710000	2	0
CH_CH6458	Neuchâtel	44597	30090000	2	0
CH_CH6602	Anières	2417	3860000	2	0
CH_CH6621	Genève	203840	15960000	1	0

Local Administrative Units (LAUs) examined in the use case of Rheintal-Bodenseegebiet (Germany, excerpt)

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
DE_01059173	Wallsbüll	986	13230000	3	0
DE_07131208	Spessart	860	8720000	3	0
DE_07235001	Aach	1104	6960000	3	0
DE_08111000	Stuttgart, Landeshauptstadt	633484	207330000	1	0
DE_08115001	Aidlingen	9429	26560000	2	0
DE_08116004	Altbach	6413	3340000	2	0
DE_08116019	Esslingen am Neckar, Stadt	95881	46430000	1	0
DE_08119001	Alfdorf	7177	68520000	3	0
DE_08121000	Heilbronn, Universitätsstadt	130093	99890000	1	0
DE_08125001	Abstatt	5058	9660000	2	0
DE_08126011	Bretzfeld	12645	64680000	2	0
DE_08128006	Assamstadt	2242	17230000	3	0
DE_08211000	Baden-Baden, Stadt	57420	140190000	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
DE_08212000	Karlsruhe, Stadt	309964	173420000	1	0
DE_08215007	Bretten, Stadt	30136	71100000	2	0
DE_08216002	Au am Rhein	3490	13290000	2	0
DE_08216043	Rastatt, Stadt	51800	58980000	2	0
DE_08221000	Heidelberg, Stadt	162960	108830000	1	0
DE_08222000	Mannheim, Universitätsstadt	316877	144970000	1	0
DE_08225001	Adelsheim, Stadt	5313	43840000	3	0
DE_08226003	Altlußheim	6389	15960000	2	0
DE_08231000	Pforzheim, Stadt	128992	97990000	1	0
DE_08235006	Altensteig, Stadt	10983	53190000	3	0
DE_08237002	Alpirsbach, Stadt	6242	64560000	3	0
DE_08311000	Freiburg im Breisgau, Stadt	237244	153040000	1	0
DE_08315003	Au	1505	4000000	2	0
DE_08316013	Forchheim	1456	10780000	2	0
DE_08317001	Achern, Stadt	26664	65240000	2	0
DE_08326003	Bad Dürrheim, Stadt	13793	62080000	2	0
DE_08327002	Aldingen	7775	22170000	2	0
DE_08335001	Aach, Stadt	2427	10680000	3	0
DE_08336004	Aitern	510	9210000	3	0
DE_08337002	Albbruck	7519	39700000	3	0
DE_08415014	Dettingen an der Erms	10204	15790000	2	0
DE_08416006	Bodelshausen	5948	13830000	2	0
DE_08417002	Balingen, Stadt	35054	90320000	2	0
DE_08421000	Ulm, Universitätsstadt	129942	118680000	1	0
DE_08426001	Achstetten	5177	23380000	2	0
DE_08436001	Achberg	1729	12920000	3	0
DE_09161000	Ingolstadt	142308	133350000	1	0
DE_09162000	München, Landeshauptstadt	1510378	310700000	1	0
DE_09163000	Rosenheim	65192	37220000	1	0
DE_09174111	Altomünster, M	8131	75660000	3	0
DE_09175111	Anzing	4475	16180000	3	0
DE_09175122	Grafing b.München, St	14348	29580000	2	0
DE_09176123	Eichstätt, GKSt	13867	47790000	2	0
DE_09177112	Berglern	3068	19880000	3	0
DE_09178113	Allershausen	6271	26550000	3	0
DE_09178125	Gammelsdorf	1578	21620000	3	0
DE_09179111	Adelshofen	1844	13280000	3	0
DE_09180112	Bad Kohlgrub	2842	32560000	3	0
DE_09181111	Apfeldorf	1254	12310000	3	0
DE_09182111	Bad Wiessee	5134	32780000	2	0
DE_09182120	Holzkirchen, M	16719	48240000	2	0
DE_09183112	Ampfing	7136	31130000	2	0
DE_09184112	Aschheim	9567	28050000	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
DE_09188113	Berg	8321	36630000	2	0
DE_09188124	Herrsching a.Ammersee	11045	20880000	2	0
DE_09189111	Altenmarkt a.d.Alz	4273	26100000	2	0
DE_09189162	Waging a.See, M	7187	48860000	3	0
DE_09190111	Altenstadt	3299	18660000	2	0
DE_09262000	Passau	54401	69560000	2	0
DE_09271111	Aholming	2383	29350000	3	0
DE_09271119	Deggendorf, GKSt	35757	77140000	2	0
DE_09272116	Eppenschlag	953	17030000	3	0
DE_09272118	Freyung, St	7263	48630000	3	0
DE_09273111	Abensberg, St	14685	60260000	2	0
DE_09273137	Kelheim, St	17094	100230000	2	0
DE_09274111	Adlkofen	4507	47860000	3	0
DE_09277111	Arnstorf, M	7548	80370000	3	0
DE_09278112	Aholfing	1931	21400000	3	0
DE_09279112	Dingolfing, St	20927	44000000	2	0
DE_09361000	Amberg	42676	50140000	2	0
DE_09362000	Regensburg	159465	80860000	1	0
DE_09371111	Ammerthal	2065	8140000	3	0
DE_09375113	Alteglofsheim	3360	13220000	2	0
DE_09461000	Bamberg	80580	54620000	1	0
DE_09462000	Bayreuth	74907	66890000	1	0
DE_09464000	Hof	46963	58020000	2	0
DE_09471111	Altendorf	2155	8700000	2	0
DE_09562000	Erlangen	117806	76960000	1	0
DE_09564000	Nürnberg	526091	186440000	1	0
DE_09572111	Adelsdorf	9382	31680000	2	0
DE_09573111	Ammerndorf, M	2043	5060000	3	0
DE_09574111	Alfeld	1111	17950000	3	0
DE_09575112	Bad Windsheim, St	12766	78240000	2	0
DE_09576111	Abenberg, St	5614	48410000	3	0
DE_09576143	Roth, St	25405	96330000	2	0
DE_09577111	Absberg, M	1462	18980000	3	0
DE_09661000	Aschaffenburg	72918	62450000	1	0
DE_09663000	Würzburg	128246	87600000	1	0
DE_09671111	Alzenau, St	18787	59300000	2	0
DE_09674111	Aidhausen	1679	37300000	3	0
DE_09676111	Altenbuch	1261	37640000	3	0
DE_09678115	Bergrheinfeld	5467	19860000	2	0
DE_09679114	Aub, St	1398	17540000	3	0
DE_09761000	Augsburg	303150	146850000	1	0
DE_09762000	Kaufbeuren	46386	40020000	2	0
DE_09763000	Kempten (Allgäu)	70713	63280000	1	0
DE_09764000	Memmingen	46178	70110000	2	0

EU LAU Code	LAU Name Latin	Population	Total Area (m^2)	DEGURBA	Coastal area
DE_09771111	Adelzhausen	1868	16960000	3	0
DE_09772111	Adelsried	2610	9700000	3	0
DE_09773111	Aislingen, M	1301	19350000	3	0
DE_09774111	Aletshausen	1221	17650000	3	0
DE_09775111	Altenstadt, M	5354	31300000	3	0
DE_09776111	Bodolz	3020	3030000	2	0
DE_09777111	Aitrang	2085	30730000	3	0
DE_09778111	Amberg	1469	11010000	3	0
DE_09778119	Böhen	790	20550000	3	0
DE_09778221	Kettershausen	1869	26690000	3	0
DE_09779184	Mönchsdeggingen	1437	32050000	3	0
DE_09780112	Altusried, M	10430	91680000	3	0
DE_12068417	Stüdenitz-Schönermark	598	24390000	3	0
DE_14524330	Zwickau, Stadt, Hochschulstadt	87593	102580000	2	0
DE_15082377	Südliches Anhalt, Stadt	13004	193410000	3	0
DE_15083355	Kroppenstedt, Stadt	1377	38910000	3	0

6.5 Highlights from Citizen Surveys

6.5.1 Thessaloniki (Greece)

(author: AUTh)

- **Use case survey results for the Regional Unit of Thessaloniki**
- Partner Responsible: **AUTh**
- Contact person and email for queries for this report: **Efstratios Stylianidis, sstyl@auth.gr**
- Total respondents / of which remote workers: **1001/ 411**
- Mode (CATI/CAWI): **CATI (299 responses) and CAWI (702 responses)**

SECTION 1 - BACKGROUND

1. Status of living in the Regional Unit of Thessaloniki (survey question n.1)

- 93% Yes, all the time
- 7% Yes, part time
- 0% No

2. Gender (survey question n.2)

- 50% Female
- 50% Male
- 0% Non-binary / Other
- 0% Prefer not to mention

3. Respondent's main residence by urbanisation level (DEGURBA classification) (survey question n.4)

- 76% City (DEGURBA 1)
- 14% Town-Suburb (DEGURBA 2)
- 10% Rural (DEGURBA 3)

4. Age groups (survey question n.5)

- 9% 18-24
- 20% 25-34
- 27% 35-44
- 28% 45-54
- 13% 55-64
- 3% 65+

5. Remote work (survey question n.6)

- 59% No
- 14% Yes, occasionally (less than 1 day/week or other flexible schedule)
- 12% Yes, on average 1-2 days per week
- 7% Yes, on average 3-4 days per week
- 8% Yes, fully remote (5 days per week)

6. Main employment status (survey question n.8)

- 58% Private sector employee
- 22% Public sector employee
- 1% Nonprofit / Non-Governmental Organisation (NGO) employee

- 16% Self-employed (freelancer, contractor, consultant, entrepreneur)
- 0% Not employed currently
- 3% Other (mostly university students and pensioners)

SECTION 2 - THEMATIC CONTENT

7. Citizen's perceptions regarding remote work

7.1 Social and economic phenomena observed (survey questions n.9 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moder-ately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Many rural residents face difficulties with digital skills needed for remote/hybrid work	2%	5%	9%	21%	32%	22%	8%
Many residents aged 55 and above face difficulties with digital skills needed for re-mote/hybrid work	3%	5%	12%	23%	33%	21%	4%
An increasing number of hotels or holiday rentals (e.g. Airbnb apartments) offer stays designed for remote work and lei-sure	9%	8%	13%	24%	22%	8%	16%

The survey results indicate three prominent perceived socio-economic trends (average score ≥3.79) that high-light mostly issues of digital literacy and skills. Respondents indicated that many rural residents may face dif-ficulties in acquiring the digital skills required for remote working, with 54% of the participants agreeing strongly and extremely, suggesting a perceived territorial disparity in digital competency. Reflecting an age-related dimension, 21% of the participants extremely agreed that residents aged 55 and above also face chal-lenges and are affected by digital skill gaps. They observed an increase in hotels and short-term rentals tailored to remote workers as well, suggesting a market response to evolving work-leisure practices and a trend high-lighted in other survey sections.

While these perceptions highlight broader socio-spatial dynamics, they are not directly linked to remote work adoption in the area. However, respondents largely agreed (30% moderately, 18% strongly) that local compa-nies are increasingly offering flexible or hybrid work options.

7.2 Spatial phenomena observed (survey questions n.10 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moder-ately (4)	Strongly (5)	Extremely (6)	I don't know (7)
The number of residential homes being converted into short-/mid-term rentals (like Airbnb) in the city-centre has in-creased	3%	2%	8%	18%	31%	31%	6%
Empty office spaces are being turned into flats or hotels	4%	6%	13%	23%	27%	12%	14%
New work-friendly cafés and co-working spaces are opening in the city centre	5%	6%	12%	29%	26%	12%	10%

Housing prices outside the city center are rising due to remote workers moving in	8%	7%	13%	22%	23%	12%	14%

With an average score of ≥3.93, four factors emerged as the most observed, reinforcing earlier findings on the expanding market for hotels and short-term rentals for remote workers. Commuting patterns and transport-related impacts did not feature prominently in participant responses.

Respondents pointed to a rise in residential units converted into short- and mid-term rentals (31% extremely agreed), alongside the re-purposing of vacant office spaces into flats or hotels. They also highlighted the opening of work-friendly cafés and co-working spaces both in the city centre (38% strongly/extremely agreed) and, to a lesser extent, in surrounding areas (28% strongly/extremely agreed). Also, remote work was associated with increasing housing prices outside the city centre. These perceptions align with participants' references to the rising cost of living, a tourism-oriented economy, and the rapid increase in short-term rentals, including former ground-floor shops. However, substantial "I don't know" responses (5-23%) indicate uncertainty in linking remote work to spatial phenomena.

7.3 Factors influencing remote work (survey questions n.12 & 13)

Factor	Not at all (1)	Very Slightly (2)	Slightly (3)	Moder-ately (4)	Strongly (5)	Extremely (6)	I don't know (7)
The introduction of national laws and/or company policies and guidelines enabling and/or encouraging remote work	7%	9%	19%	28%	22%	5%	10%
The increase/improvement in broadband rollout in rural parts of the region	11%	12%	17%	25%	16%	7%	11%
The increase of visas or programmes to attract remote workers or digital nomads (e.g. Golden Visa, Digital Nomad Visa, re-location programmes, etc)	10%	13%	17%	24%	14%	4%	17%

The introduction of national laws and company policies enabling or encouraging remote work, along with improvements in broadband connectivity in rural areas, were perceived as the two most relevant influences on remote work adoption. The increase in visas or programmes aimed at attracting remote workers and digital nomads was also acknowledged as an impactful factor. These perceptions suggest that institutional and infrastructural measures are acknowledged by participants but are not viewed as strongly shaping local remote work dynamics. A substantial percentage of "I don't know" responses per factor (10-17%) reflects uncertainty or limited awareness regarding potential factors shaping remote work adoption in the area.

7.4 Problems with remote/hybrid work (survey questions n.14 & 15)

Problem	Not at all (1)	Very Slightly (2)	Slightly (3)	Moder-ately (4)	Strongly (5)	Extremely (6)	I don't know (7)
When working remotely, I have problems with poor internet connection speed and reliability	20%	16%	15%	20%	19%	10%	1%
There is a lack of access to co-working spaces/flexible offices nearby my home	23%	14%	16%	15%	13%	14%	4%

(e.g. in 15 minutes of walking or biking/cycling)							
When working remotely, I don't have a suitable workspace (e.g. with enough space, light and silence)	23%	17%	17%	20%	15%	7%	1%
When working remotely, I feel socially isolated	25%	13%	19%	21%	12%	9%	1%

A few issues emerged as significant challenges for remote workers in the area (average score ≤3.33). Internet speed and reliability issues stand out, with 49% of respondents identifying connectivity problems when working remotely. The lack of nearby co-working spaces or other "third places" was also highlighted, while 35% of participants agreed moderately or strongly that they do not have access to a suitable workspace. Feelings of social isolation were additionally reported, as was the lack of reliable public transport. In their remarks, respondents referred to blurred work-life boundaries "There is no control over hours, and I work more. There is no separation between personal time and work." and, once more, to insufficient access to the internet and ergonomic workspaces.

8. Citizens' intentions regarding remote work

8.1 Needs with respect to remote/hybrid work (survey questions n.16 & 18)

Needs	**Not at all (1)**	**Very Slightly (2)**	**Slightly (3)**	**Moderately (4)**	**Strongly (5)**	**Extremely (6)**	**I don't know (7)**
I need clearer regulations on tax or social security for when working across borders	9%	7%	11%	22%	24%	21%	6%
I need clearer rules or formal policies about who can work remotely and under what conditions from employers	9%	9%	13%	21%	27%	19%	2%
I need better internet connectivity where I live, to enable me to work remotely	12%	9%	14%	19%	24%	22%	1%
I need better tax and social security advice for remote work in my country	13%	7%	16%	21%	24%	17%	1%

Four needs emerged as the most prominent according to participants (average score of ≥3.88). 45% of the participants strongly or extremely emphasized the need for clearer regulations on tax and social security when working across borders. Respondents also highlighted the importance of clear rules or formal policies that ensure transparency from employers, specifying who can work remotely and under what conditions. One participant noted, "There should be very clear rules regarding the framework more generally," while others emphasized the need to reach agreements with employers to cover additional expenses, such as electricity or internet costs. Better internet connectivity at their place of residence was identified as a key requirement for remote work, with 22% of respondents considering it extremely important. Participants further stressed the need for improved guidance on tax and social security matters related to remote work within their own country.

8.2 Future plans related to remote work (survey questions n.17 & 18)

Intentions	**Not at all (1)**	**Very Slightly (2)**	**Slightly (3)**	**Moderately (4)**	**Strongly (5)**	**Extremely (6)**	**I don't know (7)**

use my private vehicle less, since I will be working from home	9%	6%	11%	18%	27%	27%	2%
improve my digital skills to make them more relevant to remote work	10%	7%	11%	19%	26%	24%	1%
use public transport less, since I will be working from home	11%	6%	11%	20%	26%	22%	3%

Survey results indicate that remote workers' future plans are primarily focused on improving digital skills and reducing their reliance on private vehicles and public transport, if they continue working remotely or in hybrid arrangements (average score ≥ 4.15). A reduced use of private vehicles is strongly or extremely supported by 54% of participants, while 50% expressed a firm intention to enhance their digital skills. In their reflections, some respondents mentioned their willingness to improve their technological and IT knowledge and develop skills that would allow them to work exclusively remotely, while others expressed a clear wish to transition to fully working remotely. Additional plans include making fewer trips to the city center and spending more time in their local area, as well as creating or upgrading a dedicated home office space.

SECTION 3 - CLOSING REMARKS

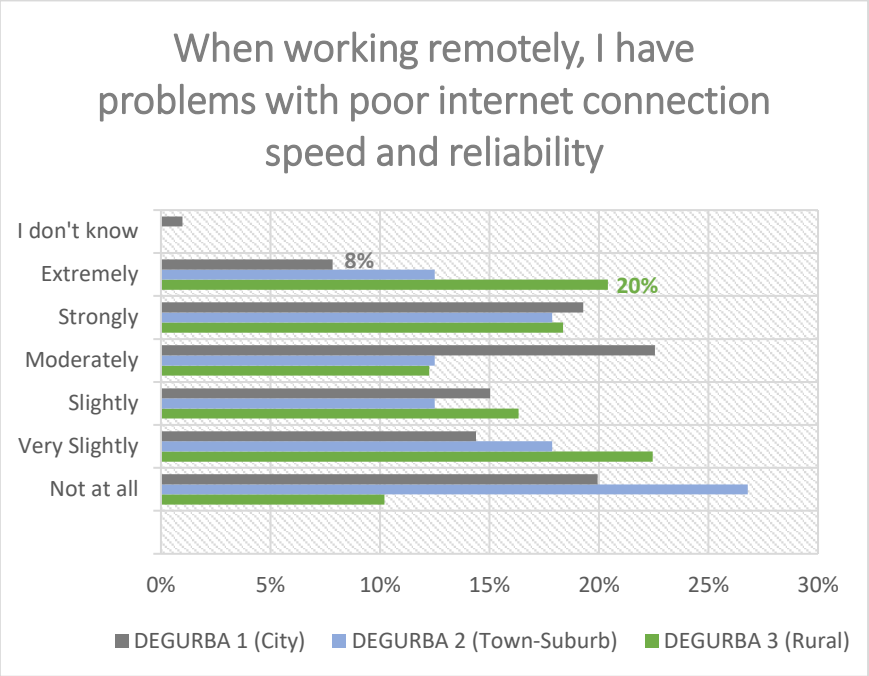
In their closing remarks, participants showed an overall positive perception of remote work, emphasizing that its effectiveness and appropriateness vary widely by profession, with some sectors considered more adaptable to remote work arrangements and able to benefit from it. Others, such as education, are difficult to operate remotely without compromising quality. Some participants mentioned negative aspects of remote work, such as isolation, costs transferred to employees and potential wage reductions.

Moreover, participants highlighted the need for clearer regulatory frameworks, including state support, work-place interventions, and financial incentives and subsidies to facilitate working remotely. A further recurring theme concerned the limited adoption of remote work in Greece, where business practices were perceived as slow to adapt and recent changes as relatively insignificant. Overall, participants' closing reflections under-score both the potential of remote work and the regulatory, perceptual and organizational barriers that con-tinue to constrain its wider implementation.

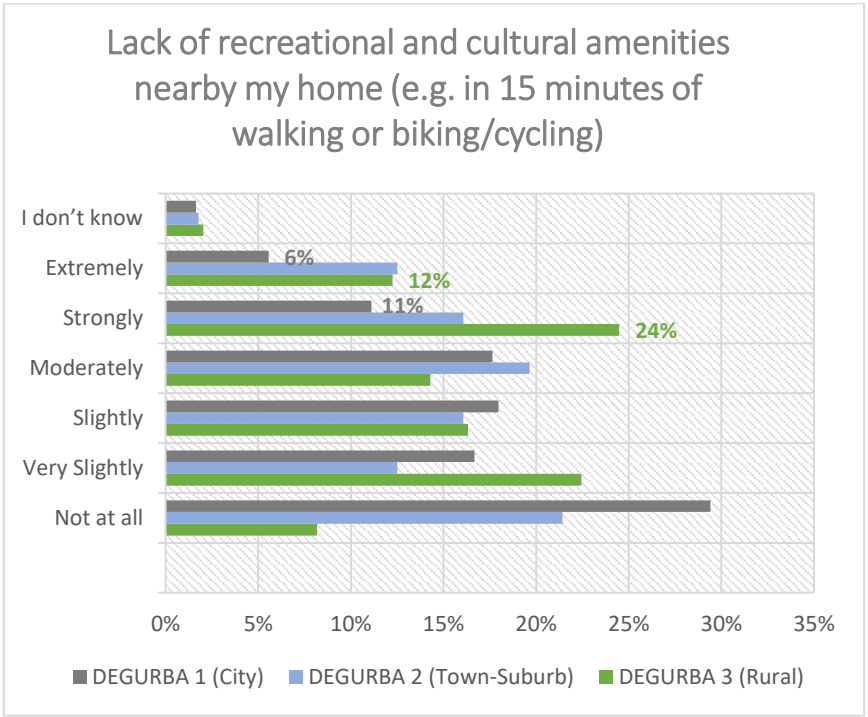
SECTION 4 - RESPONDENTS BY URBANISATION LEVEL

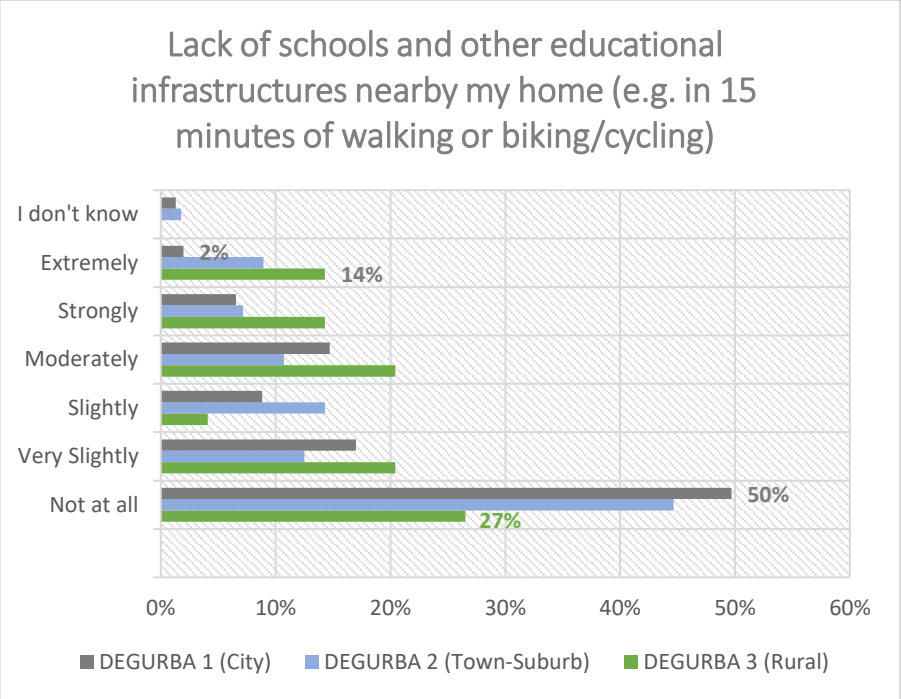
- Differences:

DEGURBA 3 (rural) areas face much greater problems with the quality and reliability of internet connections compared to DEGURBA 1 (urban) areas. Respondents in rural areas seem more concerned about the quality and speed of the internet than those in urban areas. Notably, 20% of rural respondents extremely agreed with the statement "When working remotely, I have problems with poor internet connection speed and reliability", compared to 8% of urban respondents. However, it is also recognized as a challenge by respondents in urban and suburban contexts, with 42% of participants in DEGURBA 1 and 31% in DEGURBA 2 moderately or strongly agreeing with the same statement.



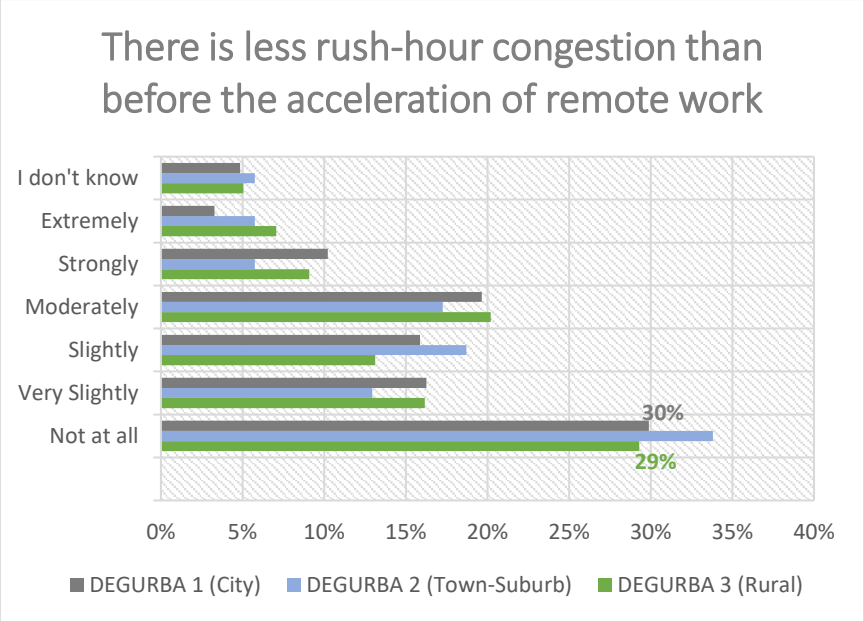
Rural areas appear to have greater needs and face more significant challenges regarding access to social infrastructure and amenities. For the statement, 'There is a lack of recreational and cultural amenities nearby my home (e.g. in 15 minutes of walking or biking/cycling)', 24% of rural respondents strongly agreed with this statement, compared to 11% of urban respondents. In response to the question 'There is a lack of schools and other educational infrastructure nearby (e.g. in 15 minutes of walking or biking/cycling)', 14% of rural respondents extremely agreed with this statement, compared to only 2% of urban respondents.

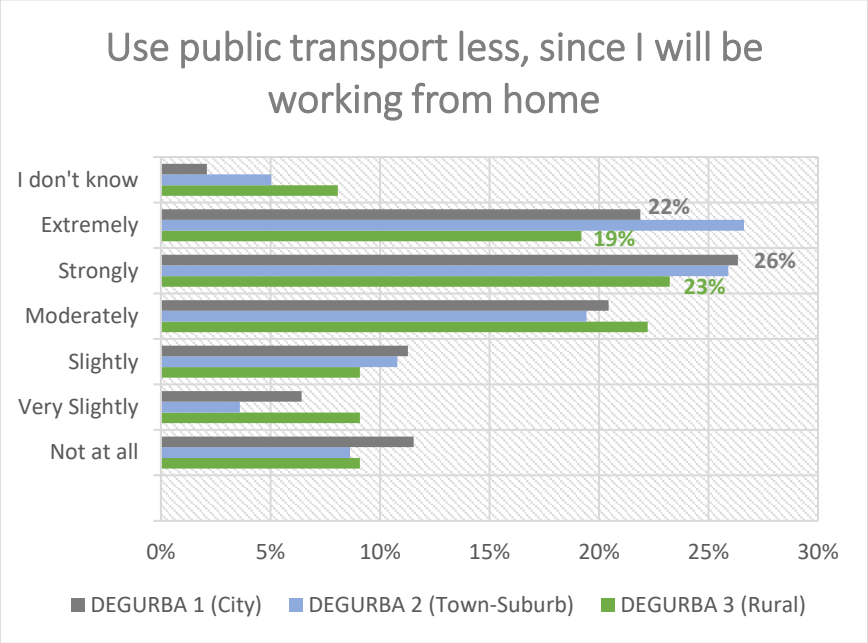




• Patterns:

Regarding the use of private vehicles and public transportation, citizens in rural, urban and suburban areas of the RU of Thessaloniki seem to agree that remote work has not decreased the use of private vehicles and public transport, nor the congestion during rush hour. Across all area types, participants also expressed a clear intention to rely less on private vehicles and public transport in the future, should they continue working remotely or in hybrid arrangements.





SECTION 5 - RESPONDENTS WHO ARE REMOTE WORKERS

Overall, the answers from remote and hybrid workers reveal clear patterns in their experiences and needs:

- Work Productivity & Communication: Most respondents who work remotely (from occasionally to fully) do not believe that they are unproductive or have difficulty communicating with their colleagues while working remotely.

Please tell us which problems you have encountered with remote/hybrid work		Yes, occasionally (less than 1 day/week or other flexible schedule)	Yes, on average 1-2 days per week	Yes, on average 3-4 days per week	Yes, fully remote (5 days per week)
When working remotely, I have trouble reaching out to and communicating with my colleagues.	Not at all	22%	34%	37%	32%
	Very Slightly	15%	18%	12%	24%
	Slightly	22%	16%	19%	18%
	Moderately	21%	17%	16%	14%
	Strongly	16%	12%	10%	5%
	Extremely	3%	3%	4%	5%
	I don't know	1%	0%	1%	1%

Please tell us which problems you have encountered with remote/hybrid work		Yes, occasionally (less than 1 day/week or other flexible schedule)	Yes, on average 1-2 days per week	Yes, on average 3-4 days per week	Yes, fully remote (5 days per week)
When working remotely, I am not as productive.	Not at all	29%	38%	38%	42%
	Very Slightly	20%	18%	16%	21%
	Slightly	13%	15%	13%	15%
	Moderately	23%	18%	26%	10%
	Strongly	10%	7%	3%	5%
	Extremely	3%	4%	3%	5%
	I don't know	3%	0%	0%	1%

- Clear Policy Framework: According to the responses, it is obvious that people working remotely or hybrid want a policy framework that clearly defines the work conditions.

Please tell us about your needs considering your own circumstances with respect to remote/hybrid work.		Yes, occasionally (less than 1 day/week or other flexible schedule)	Yes, on average 1-2 days per week	Yes, on average 3-4 days per week	Yes, fully remote (5 days per week)
I need clearer rules or formal policies about who can work remotely and under what conditions from employers	Not at all	8%	7%	10%	13%
	Very Slightly	6%	10%	12%	10%
	Slightly	14%	13%	9%	14%
	Moderately	23%	23%	16%	17%
	Strongly	28%	31%	22%	24%
	Extremely	17%	14%	28%	22%
	I don't know	3%	2%	3%	0%

- Co-working spaces: The need for more co-working spaces in their place of residence seems to be common among people who work remotely or hybrid.

Please tell us about your needs considering your own circumstances with respect to remote/hybrid work.		Yes, occasionally (less than 1 day/week or other flexible schedule)	Yes, on average 1-2 days per week	Yes, on average 3-4 days per week	Yes, fully remote (5 days per week)
I need to have more local co-working options where I live	Not at all	12%	20%	18%	18%
	Very Slightly	12%	8%	6%	8%
	Slightly	14%	14%	13%	19%
	Moderately	25%	27%	22%	13%
	Strongly	21%	22%	15%	24%
	Extremely	14%	8%	24%	17%
	I don't know	1%	1%	3%	1%

6.5.2 Twente - Münsterland (the Netherlands / Germany)

(author: UT)

- **Use case survey results for Twente - Münsterland**
- Partner Responsible: **University of Twente**
- Contact person and email for queries for this report: **Vidit Kundu/** **v.kundu@utwente.nl**
- Total respondents / of which remote workers: **1012 / 499**
- Total respondents engaging in cross-border work (only for cross-border cases): **71**
- Mode (CATI/CAWI): **CAWI**

SECTION 1 - BACKGROUND

1. Status of living in Twente Münsterland (survey question n.1)

- 94.6% Yes, all the time
- 5.4% Yes, part time
- 0% No

2. Gender (survey question n.2)

- 48.9% Female
- 50.8% Male
- 0% Non-binary / Other
- 0.3% Prefer not to mention

3. Respondent's main residence by urbanisation level (DEGURBA classification) (survey question n.4)

- 37.9% City (DEGURBA 1)
- 55.8% Town-Suburb (DEGURBA 2)
- 6.3% Rural (DEGURBA 3)[14]

4. Age groups (survey question n.5)

- 3.4% 18-24
- 16.9% 25-34
- 22.6% 35-44
- 19.9% 45-54
- 20.2% 55-64
- 17.1% 65+

5. Remote work (survey question n.6)

- 32.6% No
- 12.9% Yes, occasionally (less than 1 day/week or other flexible schedule)
- 20.8% Yes, on average 1-2 days per week
- 10% Yes, on average 3-4 days per week
- 5.6% Yes, fully remote (5 days per week)
- 18.1% N/A, I am not working

6. Cross-border[15] work (survey question n.7)

- 5.1% Yes - I live in the Netherlands, work in Germany
- 2.4% Yes - I live in Germany, work in the Netherlands
- 91.4% No - I live and work in the same country
- 1.1% Other

7. Main employment status (survey question n.8)

- 61% Private sector employee
- 24.2% Public sector employee
- 4.9% Nonprofit / Non-Governmental Organisation (NGO) employee
- 8.1% Self-employed (freelancer, contractor, consultant, entrepreneur)
- 1.7% Not employed currently
- 0% Other (please specify

[14] Most regions in which the survey was conducted fall under DEGURBA categories 1 or 2 which resulted in reaching 6.3% of respondents residing in rural areas.

[15] On average, across the Dutch border region, there are only around 2–3% cross-border employees. The use case team nevertheless made an effort to reach approximately 9%, despite this being a data point that the survey company does not collect in advance. They were able to monitor this proportion only during the data-collection process.

SECTION 2 - THEMATIC CONTENT

8. Citizen's perceptions regarding remote work

8.1 Social and economic phenomena observed (survey questions n.9 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moder-ately (4)	Strongly (5)	Ex-tremely (6)	I don't know (7)
I observe increased residential, ethnic & cultural diversity in my place of residence.	8	8.3	15.6	22.3	25.2	12.6	7.9
An increasing number of local companies are offering flexible or hybrid work as the new normal/standard option	4.1	5.3	13.6	24.8	25.4	9	17.8
Many residents aged 55 and above face difficulties with digital skills needed for remote/hybrid work	7.2	8.5	15.6	24.6	21.7	6.7	15.6

While many survey respondents pointed out that haven't observed many changes, others describe higher autonomy and better scheduling, offset by thinner social ties. They point out that flexible hours and hybrid routines have improved work-life balance - "more flexible around family life"- and broadened when people work, including evenings or weekends. Many upgraded their homes - "less commuting, more/better workspace at home"-and some blend leisure with work: "People combine holidays with work." Yet social costs are visible: "Less solidarity/involvement among colleagues," and reports of workplace loneliness, especially among younger or single staff. Employers are retooling offices into hybrid spaces, and some respondents also observe rising vacancy rates of office buildings.

8.2 Spatial phenomena observed (survey questions n.10 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moder-ately (4)	Strongly (5)	Ex-tremely (6)	I don't know (7)
Housing prices **outside the city center** are rising due to remote workers moving in	6	7.6	13.7	21.3	22.8	8.2	20.3
The number of unoccupied office **spaces in the city centre** has increased	5	7.6	14.5	24.2	25.1	7.3	16.2
Empty office spaces are being turned into flats or hotels	11.3	12.1	16.4	21.2	16.2	4.8	18

People observe more remote work and fewer daily commutes, producing less traffic during peak hours on certain days, but not necessarily less traffic overall, with some insisting it "only increases the number of vehicles and kilometers driven." Peak relief is most visible mid-week; Fridays and Wednesdays are quieter. Modal shifts are modest but noticeable for short trips: increased use of bikes and e-scooters. Public transport issues in Germany persist. On the built environment, respondents see hybridized offices and rising vacancy rates of commercial properties, alongside the conversion or adaptation to co-working, though actual uptake is mixed.

New residential developments appear in some places as apartments or mixed-use schemes, but many residents still report “not a lot of changes” in their immediate surroundings.

8.3 Factors influencing remote work (survey questions n.12 & 13)

Factor	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don’t know (7)
The increase/improvement in broadband rollout in rural parts of the region	7.8	8.2	12.6	24.1	20.9	6.9	19.4
The introduction of national laws and/or company policies and guidelines enabling and/or encouraging remote work	8.2	9.2	15.9	21	16.2	2.8	26.7
The introduction of incentives by local government (e.g. subsidizing accommodation for remote workers), enabling and/or encouraging remote work	10.2	11.2	14.4	20.5	14.1	4	25.7

Remote work adoption hinges on firm-level policy and the immediate work setting. Respondents say it succeeds when there is mutual acceptance by employer and employee, clear rules, predictable schedules, and small incentives such as home-working compensation. Technology readiness is also important: reliable internet, secure access, and fit-for-purpose software - one respondent highlighted video editing and production tools - plus quiet, ergonomic space at home; high noise and distraction in residential areas are clear barriers. Culture matters: flexible norms, trust-based management, and the option of fixed desks for those who come in (many dislike hot-desking) support uptake. Care infrastructure and general living costs shape which days people choose to work remotely and whether they can sustain it. The availability and affordability of co-working or alternative locations helps some workers, though use remains uneven. Although its important to emphasize that many perceive “nothing has changed.”

8.4 Problems with remote/hybrid work (survey questions n.14 & 15)

Problem	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don’t know (7)
There is a lack of reliable public transport nearby my home (e.g. in 15 minutes of walking or biking/cycling)	32.7	11.8	12.6	14.6	13.4	11.8	3
There is a lack of access to co-working spaces/flexible offices nearby my home (e.g. in 15 minutes of walking or biking/cycling)	17.2	10.6	12	17.4	16.2	9.6	16.8
When working remotely, I don’t have a suitable workspace (e.g. with enough space, light and silence)	28.9	12.6	15.6	18	15.6	6.6	2.6

Survey comments highlight five recurring problem areas. First, policy and culture are wobbling: some firms are allowing less remote work and there is little visible government support, which creates uncertainty and erodes

trust. Second, technology is a bottleneck. People report slow or glitchy virtual machines, bad internet in some homes, and workflows (for example, video editing) that perform worse off-site; several note a broader lack of digitalization in their organizations. Third, the home environment often undermines productivity: noise and distractions reduce focus, equipment is uneven, and boundaries blur, producing longer sitting time, poorer work-life balance, and fatigue. Fourth, collaboration and belonging suffer. Respondents describe less creativity, fewer spontaneous ideas, limited interaction, and isolation, with Münster teleworkers feeling "uncoupled" from colleagues. Fifth, mobility and access remain contentious. Some face infrequent buses, awkward schedules, and car dependence, emphasizing that what matters is total travel time, not just distance. Finally, it is important to mention that most respondents select the option 'not at all' in almost all options, suggesting that problems may be overemphasized.

9. Citizens' intentions regarding remote work

9.1 Needs with respect to remote/hybrid work (survey questions n.16 & 18)

Needs	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
I need clearer rules or formal policies about who can work remotely and under what conditions from employers	22.8	10	16.2	17.8	19.6	7	6.4
I need clearer regulations on tax or social security for when working across borders	28.9	11.8	10.4	15	17.8	6	10
I need better tax and social security advice for remote work in my country	26.1	12.8	12.8	19.6	15.8	5	7.8

Most respondents selected "not at all" across need options, indicating that their current arrangements already meet expectations. Where needs do appear, they cluster around five themes. First, compensation and policy clarity: people ask for a home-working allowance or better reimbursement for gas, electricity, and water, and for clear employer agreements; several note that some companies are now allowing less remote work. Second, work environment quality: quieter streets and fewer neighborhood disturbances are requested, alongside stronger workplace connections to offset isolation. Third, mobility and price: better public transport links are desired because the car remains easier for many. Fourth, equipment and connectivity: a second screen via the employer's budget, ergonomic setup, and "better internet expansion." Fifth, flexibility for caregiving. At the same time, multiple respondents report that their employer already "arranged everything perfectly," with hybrid freedom and fair compensation; for them, needs are essentially satisfied.

9.2 Future plans related to remote work (survey questions n.17 & 18)

Intentions	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
relocate to another country or region with a better quality of life / more affordable housing options / lower cost of living / tax benefits for remote workers	5.1	7.6	11.7	18.4	31	24	2.2
relocate to an area with better public transport nearby	11.4	8.9	7.6	20.3	26.6	21.5	3.8

relocate to an area with more recreational and cultural amenities nearby	7.6	11.4	11.4	26.6	20.3	20.3	2.5

Again, the most common response is “not at all,” meaning no new plans regarding remote work. Among those with intentions, relocation to another country or region with affordable housing and better quality of life comes up as the topmost intention. Many want to keep a stable hybrid rhythm-often around a 50/50 split or one day per week at home-because it underpins work-life balance and even influenced job choice. A small group plans “working holidays/workations” for a few weeks per year and may consider remote work from another country in the future. Some intend to reduce commute burden by moving closer to work or by using hybrid to widen their job search radius. Several aim to upgrade their home office with employer-funded equipment like a second screen, better chairs, and improved connectivity, and to “develop routines to clearly separate work time and free time.” Others simply want “fewer neighbors” or quieter surroundings. A notable share state they are satisfied with their current job and hybrid setup and plan no changes.

SECTION 3 - CLOSING REMARKS

Overall, people found the topic relevant but the survey was hard to navigate. Many struggled with broad or technical items, noted double negatives, and asked for clearer language. Several said they could describe only their own workplace and not city-wide phenomena, and suggested that some questions, such as those about Airbnb, are better answered with administrative data or by targeted stakeholders. A recurring request was an explicit “not applicable” or “don’t know” option (for example, for people without a car or without the option to work from home). Others highlighted perfectly adequate current arrangements and therefore no unmet needs or future plans acknowledged that many saw few changes locally.

SECTION 4 - RESPONDENTS BY URBANISATION LEVEL

Differences: Relocation motives and preferences. Rural and town respondents most often marked working conditions and environment as "not at all important" for relocation, while no city respondents did so. Preferences split as expected: interest in moving closer to urban areas is stronger among city and town residents, whereas proximity to rural green space is attractive to both city and rural residents and less so to town/suburb residents. Sector of employment also varies by settlement type, shaping the feasibility of remote work.

Access and infrastructure constraints. Rural respondents report the sharpest problems with public transport, towns somewhat less, and cities the least. About half of rural respondents say they lack a suitable home workspace when working remotely, compared with far fewer in towns and cities. Perceived shortages of nearby recreational and cultural facilities follow the same gradient: rural highest, towns moderate, cities lowest.

Social and care dimensions. Feelings of social isolation are most acute in rural areas, lower in towns, and lowest in cities. A need for better childcare is voiced across all classes but is strongest in rural areas, where access and affordability barriers are more pronounced.

Patterns: Public transport usage: Across cities, towns/suburbs, and rural areas, a similar share of respondents reported no change in how they use public transport since adopting remote work.
Appetite for better transport: In all settlement types, a moderate and broadly similar proportion felt that better transport options could be offered, indicating a steady, corridor-wide improvement signal rather than a strong, location-specific demand spike.

Remote-work-ready accommodation: Respondents across DEGURBA classes similarly perceived very limited rise in availability of hotels or vacation rentals (for example, Airbnb apartments) that are designed for combined remote work and leisure.

SECTION 5 - RESPONDENTS WHO ARE REMOTE WORKERS

Patterns: Remote workers largely praised greater flexibility and improved work-life balance, with many preferring stable hybrid routines over full-time remote arrangements. Several observed that employers have recently become more restrictive about remote days, so clear policies, predictable anchor days, and practical support (equipment, allowances, and quieter home or neighborhood environments) were highlighted as most helpful, with government support as well. Many respondents reported few visible socio-economic changes in their area; where change was noted, it centered on commuting patterns and mid-week attendance pulses, with lighter peaks on certain days but overall travel often continuing for different purposes. Social isolation and weaker team cohesion emerged as recurring concerns, especially among younger or single staff. Demand for co-working remains limited, with most people continuing to work from home and planning only modest home-office upgrades.

6.5.3 Milan (Italy)

(author: UB)

- **Use case survey results for Milan**
- Partner Responsible: **UB**
- Contact person and email for queries for this report: **Lisa Fontanella,** lisa.fontanella@sdabocconi.it
- Total respondents / of which remote workers: **1005/ 603**
- Mode: **CAWI: 955 / CATI: 50**

SECTION 1 - BACKGROUND

1. Status of living in the Milan (survey question n.1)

- 86% Yes, all the time
- 14% Yes, part time
- 0% No

2. Gender (survey question n.2)

- 52% Female
- 48% Male
- 0.1% Non-binary / Other
- 0% Prefer not to mention

3. Respondent's main residence by urbanisation level (DEGURBA classification) (survey question n.4)

- 80% City (DEGURBA 1)
- 19% Town-Suburb (DEGURBA 2)

- 1% Rural (DEGURBA 3)[16]

4. Age groups (survey question n.5)

- 1% 18-24
- 13% 25-34
- 30% 35-44
- 34% 45-54
- 22% 55-64
- 0% 65+

6. Remote work (survey question n.6)

- 40% No
- 13% Yes, occasionally (less than 1 day/week or other flexible schedule)
- 28% Yes, on average 1-2 days per week
- 9% Yes, on average 3-4 days per week
- 10% Yes, fully remote (5 days per week)

7. Main employment status (survey question n.8)

- 65% Private sector employee
- 16% Public sector employee
- 1% Nonprofit / Non-Governmental Organisation (NGO) employee
- 8% Self-employed (freelancer, contractor, consultant, entrepreneur)
- 8% Not employed currently
- 2% Other (please specify):

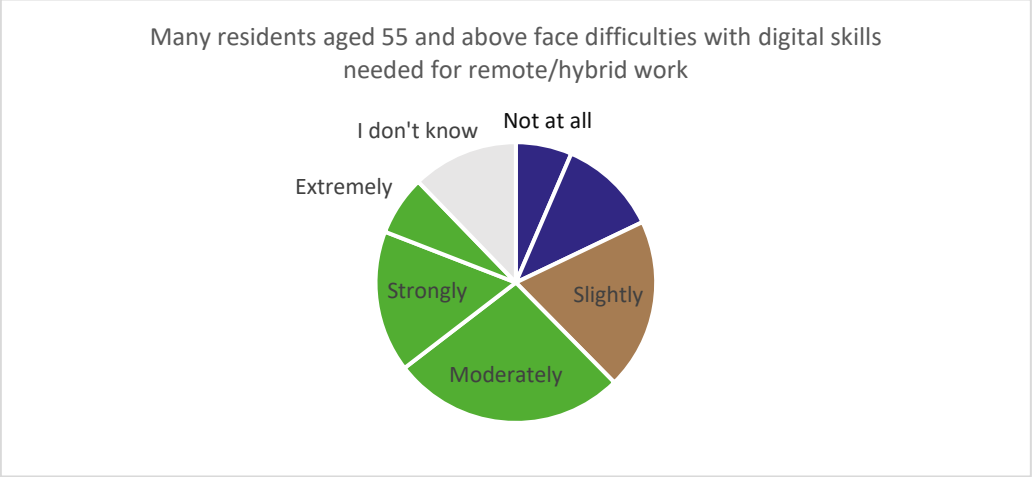
SECTION 2 - THEMATIC CONTENT

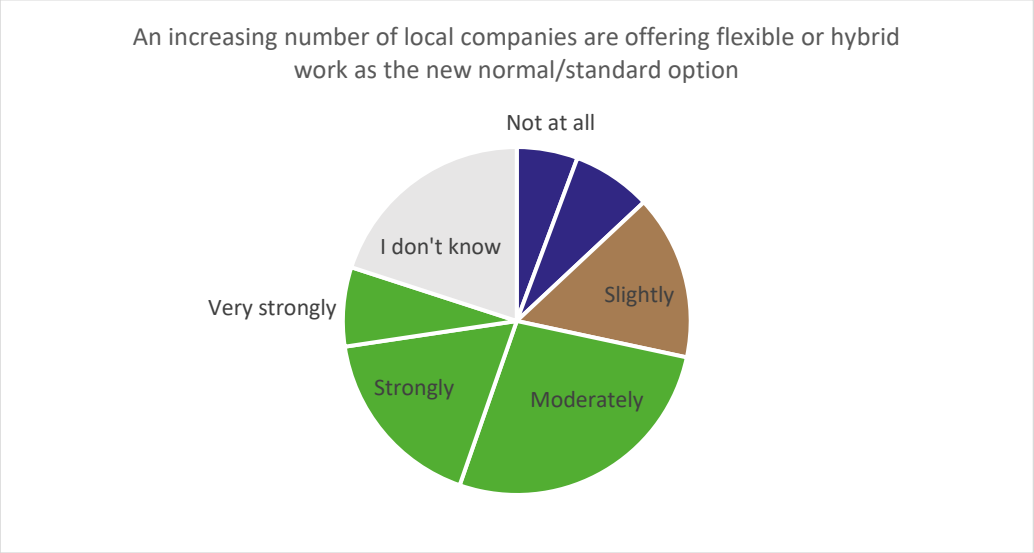
8. Citizen's perceptions regarding remote work

8.1 Social and economic phenomena observed (survey questions n.9 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Skilled workers are moving away because of remote jobs (because they are no longer tied to one location)	9%	13%	16%	27%	14%	5%	17%
Many residents aged 55 and above face difficulties with digital skills needed for remote/hybrid work	6%	11%	20%	27%	16%	7%	12%
I observe increased residential, ethnic & cultural diversity in my place of residence.	9%	8%	13%	27%	22%	12%	9%
An increasing number of local companies are offering flexible or hybrid work as the new normal/standard option	4%	9%	15%	32%	21%	7%	12%

[16] The Milan Metropolitan Region is a highly urbanised area with little to no rural areas, hence the number of respondents from rural areas is very low.





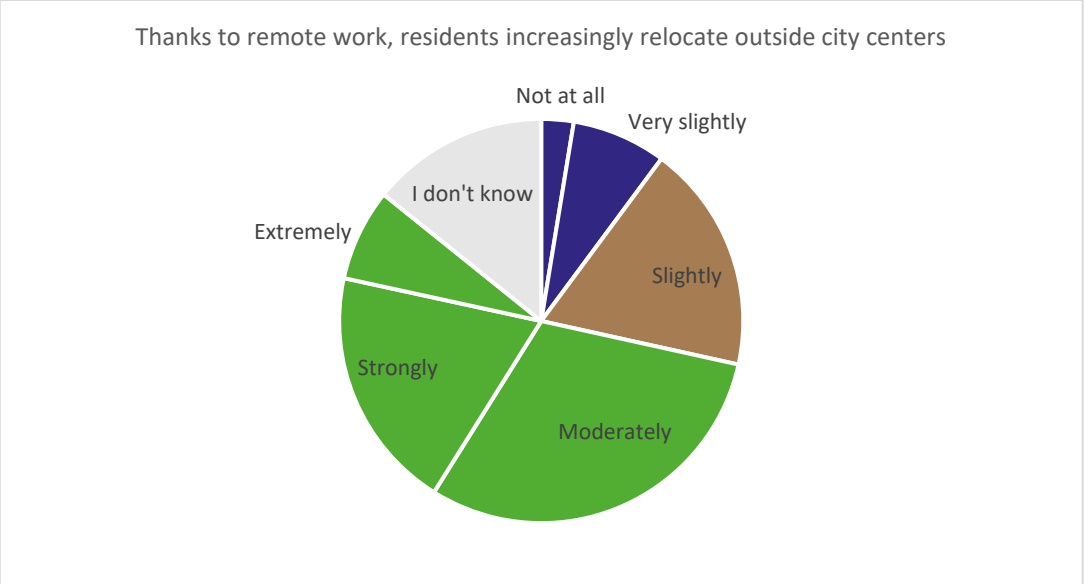
The survey reveals that remote work has triggered deep socio-economic transformations across work organization, inequality, and everyday life. Respondents describe a **partial "reversal" of remote work** - "few workers remain remote - many companies have stopped allowing it" - even as **60%** observe that local firms **increasingly offer hybrid** options as the new standard. This tension reflects **uneven normalization of flexible work**, often still "perceived as a privilege, not a normal mode."

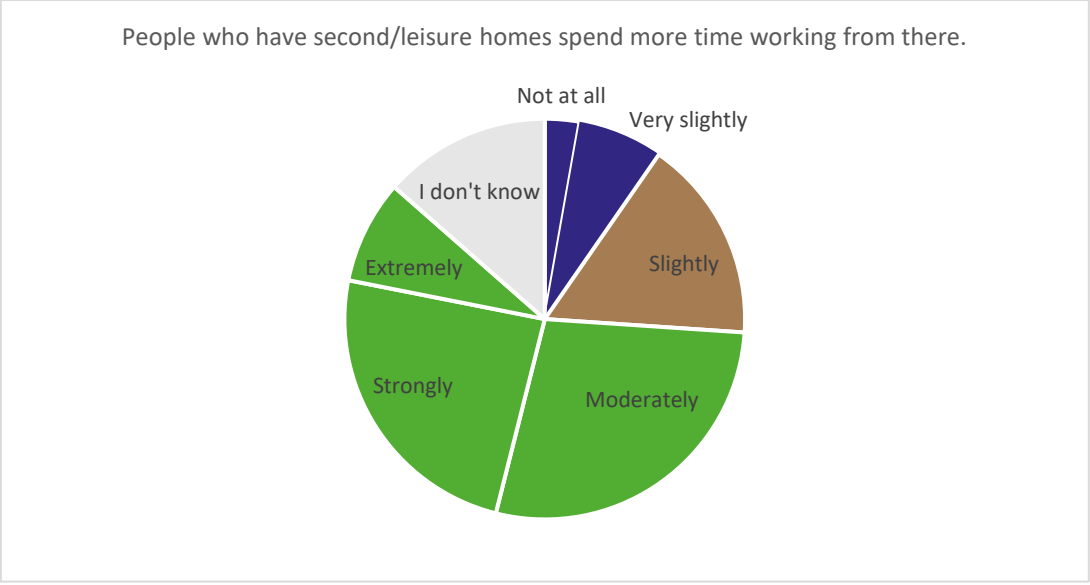
Digitalization nonetheless expanded: "All training courses are now online," and "internet connectivity has improved almost everywhere," though **50% note that residents aged 55 and above struggle** with the digital skills required for hybrid models.

Economic inequalities are widening: "Prices have skyrocketed," "no one can afford to rent or buy a house anymore," and **46% report skilled workers relocating due to new geographic freedom**. Socially, respondents mention "**more time for family**" and "more neighborhood life," yet also **rising tensions** - "the city feels less safe," "more crime and bad manners on public transport" - suggesting that while remote work improved flexibility and well-being for some, might also have contributed to new divides and urban imbalances.

8.2 Spatial phenomena observed (survey questions n.10 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Thanks to remote work, residents increasingly relocate **outside city centers**	3%	8%	18%	30%	20%	7%	14%
Housing prices **outside the city center** are rising due to remote workers moving in	4%	7%	16%	27%	18%	8%	19%
People who have second/leisure homes spend more time working from there.	3%	7%	16%	28%	24%	8%	14%





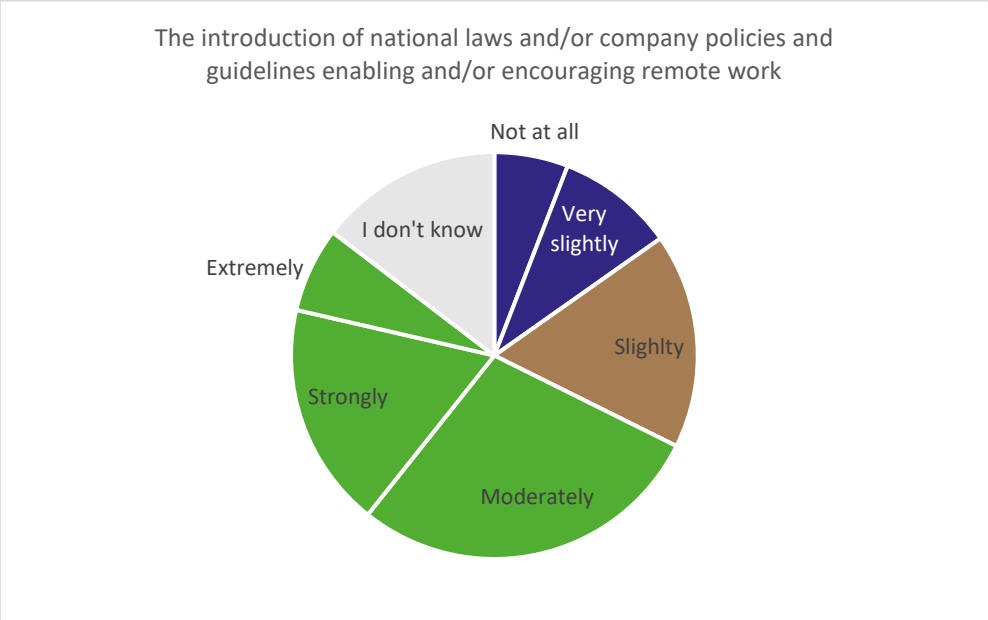
Remote work has profoundly reshaped spatial behaviors, altering commuting, housing, and urban dynamics. Respondents consistently report a **reduction and reorganization of mobility** - "less commuting, especially on Fridays," "on Mondays and Fridays, city center roads are less congested," and "fewer people on public transport and fewer cars" - though some still note that "car traffic is still very heavy."

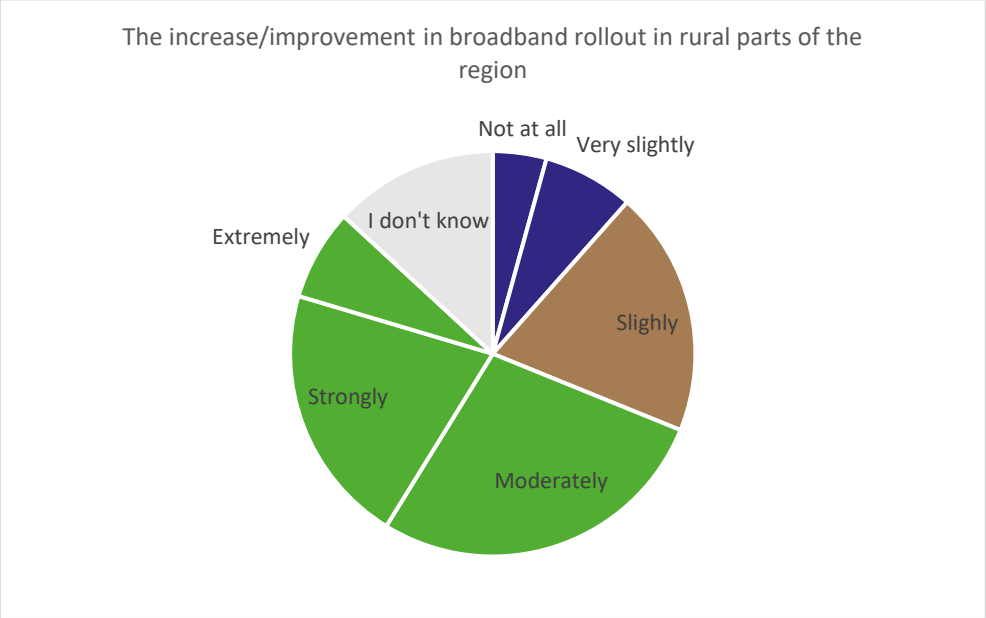
These changing patterns are accompanied by new **micro-mobility modes** ("greater use of electric scooters," "more pedestrians and cyclists") and **temporal shifts in daily life** ("rush hour has shifted later"). Spatially, the data show that **57%** of participants observe residents increasingly **relocating outside city centers**, while **53%** confirm that housing **prices in these areas are rising due to remote workers moving in**. Qualitative evidence reinforces this, with "many people moving to cheaper peri-urban areas" and "a growing need for larger homes to have space to work." Similarly, **60%** note that people with sec**ond or leisure homes spend more time working from there**.

These trends collectively suggest a re-**territorialization of work**, characterized by dispersed living patterns, domestic spatial adaptation, and emerging inequalities between core and peripheral urban zones.

8.3 Factors influencing remote work (survey questions n.12 & 13)

Factor	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
The introduction of national laws and/or company policies and guidelines enabling and/or encouraging remote work	6%	9&	17%	28%	18%	7%	15%
The increase/improvement in broadband rollout in rural parts of the region	4%	7%	20%	28%	21%	7%	13%



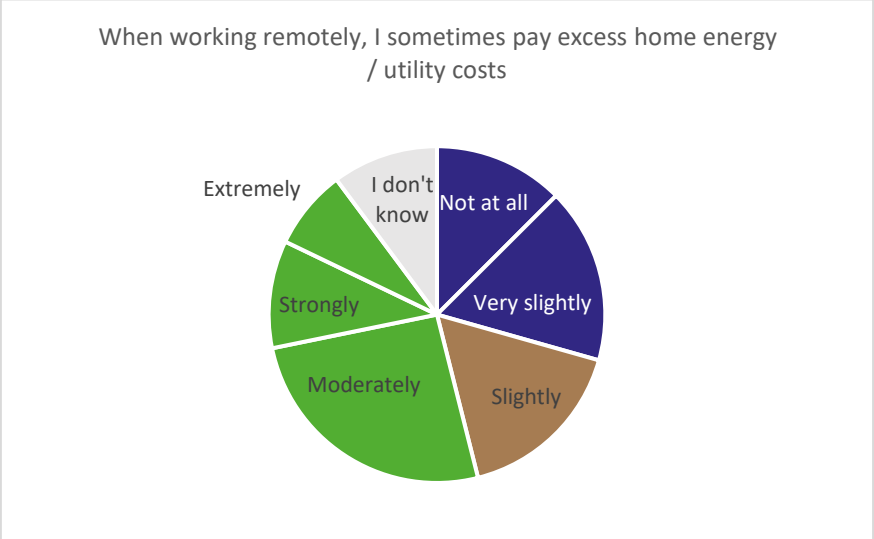


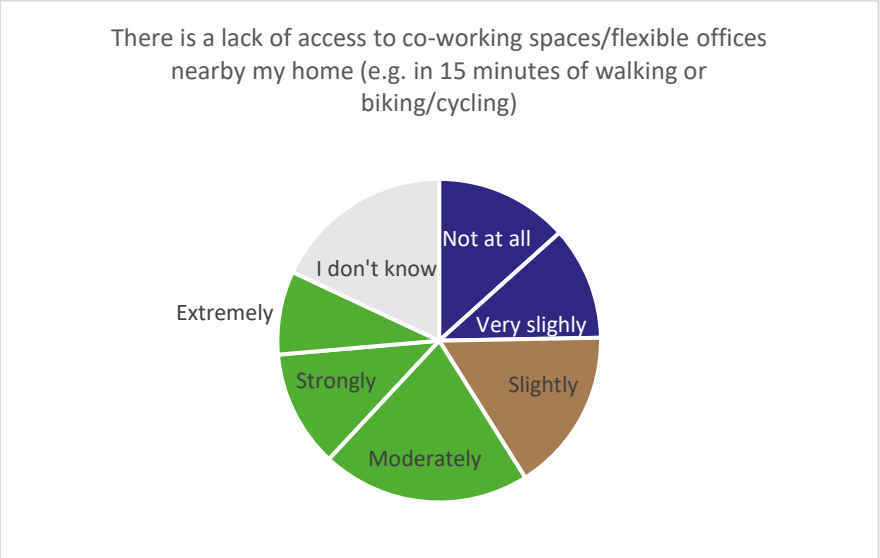
The diffusion of remote work is shaped by a combination of organi**zational, economic, and policy-related factors** that together reveal both structural inertia and emerging enablers.

From an organizational standpoint, **cultural resistance remains strong**: "Many Italian companies still don't like smart working," and "hybrid work is seen as a favor rather than a normal mode." This attitude reflects slow internal adaptation despite growing digital capacity.
Economically, the shift is sustained by **cost-saving incentives** for both firms and workers - "companies save on rent, heating, and cleaning costs," while "the cost of living in Milan is impossible - people move to smaller towns."
Policy and regulatory frameworks are also central: respondents call for "clear regulations and education about remote work" and "more incentives for companies to allow it." Quantitatively, **53%** of respondents view the introduction of **national laws and company guidelines** as having moderately to strongly influenced adoption, while **56%** highlight the **expansion of broadband in rural areas as a key enabling factor**.

8.4 Problems with remote/hybrid work (survey questions n.14 & 15)

Problem	**Not at all (1)**	**Very Slightly (2)**	**Slightly (3)**	**Moderately (4)**	**Strongly (5)**	**Extremely (6)**	**I don't know (7)**
When working remotely, I sometimes pay excess home energy / utility costs	12%	17%	17%	26%	10%	8%	10%
When working remotely, I don't have a suitable workspace (e.g. with enough space, light and silence)	24%	12%	15%	20%	12%	7%	10%
There is a lack of access to co-working spaces/flexible offices nearby my home (e.g. in 15 minutes of walking or biking/cycling)	13%	11%	16%	21%	12%	8%	18%





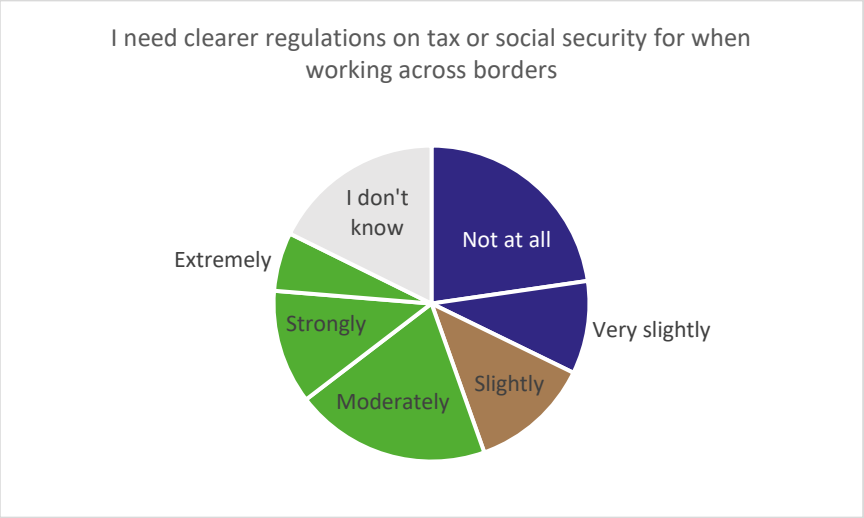
The survey reveals that while remote work offers flexibility, it also introduces structural and psychological challenges that affect well-being and productivity. Social isolation emerges as a major concern - "I miss socializing - there's no more contact with colleagues" and "you eat alone and lose the little breaks spent with others" - highlighting the erosion of informal social ties. Blurred boundaries between home and work further exacerbate fatigue: "I lose track of time and often work more hours than I should," and "working hours get longer - there's no real end of the day anymore." Material conditions also play a role. Nearly 44% of respondents report paying excess home energy or utility costs, while 39% lack a suitable workspace with adequate space, light, and silence. Additionally, 41% note a lack of nearby co-working or flexible offices, reinforcing inequalities between those with conducive home environments and those struggling to maintain healthy, sustainable work conditions.

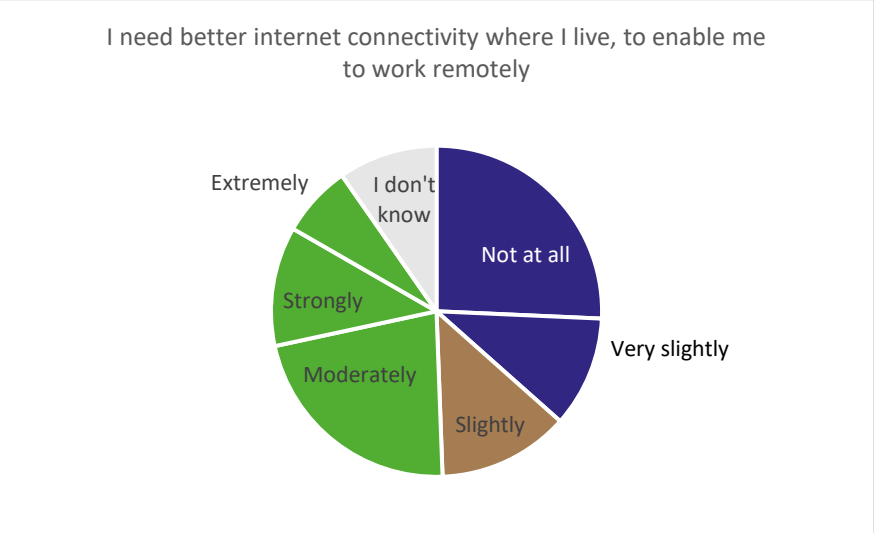
9. Citizens' intentions regarding remote work

9.1 Needs with respect to remote/hybrid work (survey questions n.16 & 18)

Needs	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)

I need clearer rules or formal policies about who can work remotely and under what conditions from employers	17%	12%	17%	24%	13%	7%	11%
I need better internet connectivity where I live, to enable me to work remotely	26%	11%	13%	22%	12%	7%	10%



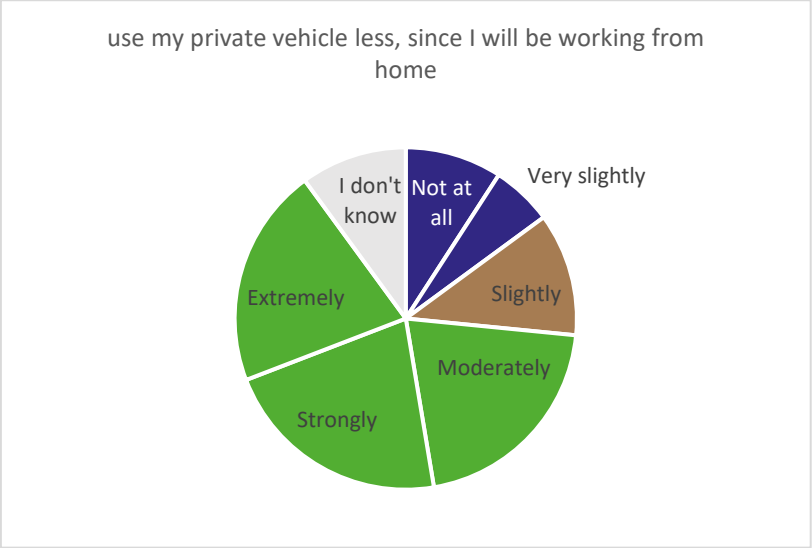


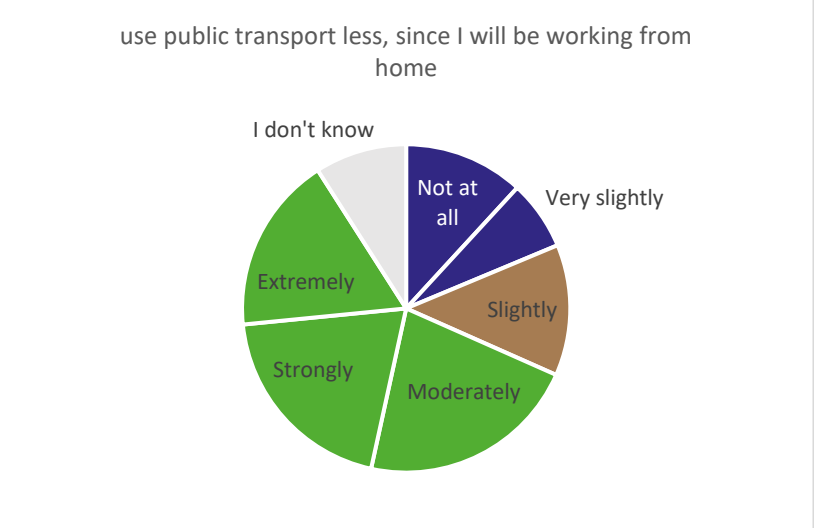
The survey highlights that remote workers' needs extend beyond technical access to encompass organizational, social, and material dimensions. A strong demand emerges for clearer rules and formal policies defining eligibility and conditions for remote work, with 44% of respondents rating this need as moderate to strong. Participants stress that "it should be real *smart working*, not telework," reflecting a desire for genuine autonomy and flexibility in scheduling and work modes. Similarly, 41% express the need for better internet connectivity to sustain remote operations. Respondents also emphasize work-life balance, noting that "better family management" and "better time management for family" are key to sustainable productivity. Economic and material support remains crucial: "Meal vouchers should still be provided," and "reimbursement for connection and meal costs" are frequent requests. Finally, workers call for greater social connection and recognition,

such as “more opportunities for team discussions,” underlining that effective remote work must balance autonomy with inclusion and organizational support.

9.2 Future plans related to remote work (survey questions n.17 & 18)

Intentions	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don’t know (7)
create a high-quality office space (or upgrade the current one) in my home	13%	10%	17%	26%	16%	9%	9%
use my private vehicle less, since I will be working from home	9%	6%	12%	21%	22%	21%	10%
use public transport less, since I will be working from home	12%	7%	13%	22%	20%	18%	9%





Survey results indicate that remote workers’ future plans are oriented toward reconfiguring both professional and personal life trajectories. Many respondents envision career and mobility changes, such as “I hope to get

a full-time remote job to move to another region," suggesting that remote work is increasingly tied to spatial and professional flexibility. This is reflected in behavioral intentions: 51% plan to use private vehicles less, and 60% expect to reduce public transport use, confirming the link between remote work and less mobility. 42% also intend to create or upgrade a home office, illustrating the material consolidation of remote work lifestyles. Respondents connect these shifts to lifestyle improvement and relocation, expressing a desire to "move to the countryside" or "return to my home region." Family and social aspirations complement this, as some plan to adopt remote work "when I have children," envisioning a more balanced, adaptive, and locally rooted future of work supported by stable and inclusive digital infrastructures.

SECTION 3 - CLOSING REMARKS

Overall, respondents express a **strongly positive perception of remote work**, praising its benefits for quality of life and balance between personal and professional spheres - "Working from home has improved my quality of life," and "It's the best thing that happened after Covid." Many see **remote work as a right** that should be widely and fairly accessible, insisting that "all companies should allow smart working" and that "it should be guaranteed by law, especially for parents." Yet, **participants also acknowledge its limitations**, emphasizing that "the best form is hybrid - half the week in the office, half at home" and warning that "it gives autonomy but isolates us from social life." Calls for clearer regulation and support are recurrent: "There's **no proper regulation** about who pays for internet and electricity." Beyond individual benefits, respondents highlight collective gains such as "less traffic, fewer emissions, and more time for family," framing remote work as not only a labor innovation but also a step toward more sustainable urban living.

SECTION 4 - RESPONDENTS BY URBANISATION LEVEL

The majority of questions follow the same pattern except for the following:

- Q9: The number of people living in my residential location while being employed in another country has increased à 80% of rural answered "slightly" or "moderately" against only 30% of other DEGURBA classes
- Q10: The number of unoccupied office spaces in the city centre has increased à 80% of rural answered "moderately" or "strongly" against only 40% of other DEGURBA classes
- Q17: improve my digital skills to make them more relevant to remote work à 80% of rural answered "moderately" or "strongly", 60% of town-suburb had the same answer, while only 50% in urban
- Q17: relocate to an area with better public transport nearby à 60% of rural answered "strongly" against 20% of other DEGURBA classes

Q17: relocate to another country or region with a better quality of life / more affordable housing options / lower cost of living / tax benefits for remote workers à 80% of rural answered either "slightly", "moderately" or "strongly", while 54% of town-suburb and 42% of urban

SECTION 5 - RESPONDENTS WHO ARE REMOTE WORKERS

Problems:

- There is a lack of schools and other educational infrastructures nearby my home (e.g. in 15 minutes of walking or biking/cycling): 52% of respondents answered "no" or "very slightly"
- There is lack of access to health services nearby my home (e.g. in 15 minutes of walking or biking/cycling): 47% of respondents answered "no" or "very slightly"

- When working remotely, I am not as productive: 45% of respondents answered “no” or “very slightly”
- There is a lack of access to co-working spaces/flexible offices nearby my home (e.g. in 15 minutes of walking or biking/cycling): 41% of respondents answered “moderately”, “strongly” and “extremely” together

Needs:

- I need clearer rules or formal policies about who can work remotely and under what conditions from employers: 44% of respondents answered “moderately”, “strongly” and “extremely” together
- I need better transport options where I live, to enable me to work remotely: 42% % of respondents answered “no” or “very slightly”

6.5.4 Istanbul (Turkey)

(author: KU)

- **Use case survey results for Istanbul**
- Partner Responsible: **KU**
- Contact person and email for queries for this report: **Sibel Kiran,** skiran@ku.edu.tr
- Total respondents / of which remote workers: **1570/ 845**
- Mode: **CAWI**

SECTION 1 - BACKGROUND

1. Status of living in Istanbul (survey question n.1)

- 91.8% Yes, all the time
- 8.2% Yes, part time
- 0.0% No

2. Gender (survey question n.2)

- 43.8% Female
- 55.5% Male
- 0.7% Non-binary / Other
- 0.0% Prefer not to mention

3. Respondent’s main residence by urbanisation level (DEGURBA classification) (survey question n.4)

- 80.5% City (DEGURBA 1)
- 10.7% Town-Suburb (DEGURBA 2)
- 8.8% Rural (DEGURBA 3)

4. Age groups (survey question n.5)

- 12.1% 18-24
- 26.2% 25-34
- 31.5% 35-44
- 19.0% 45-54
- 8.1% 55-64
- 3.1% 65+

5. Remote work (survey question n.6)

- 46.2% No
- 6.7% Yes, occasionally (less than 1 day/week or other flexible schedule)
- 27.5% Yes, on average 1-2 days per week
- 9.7% Yes, on average 3-4 days per week
- 9.9% Yes, fully remote (5 days per week)

6. Main employment status (survey question n.8)

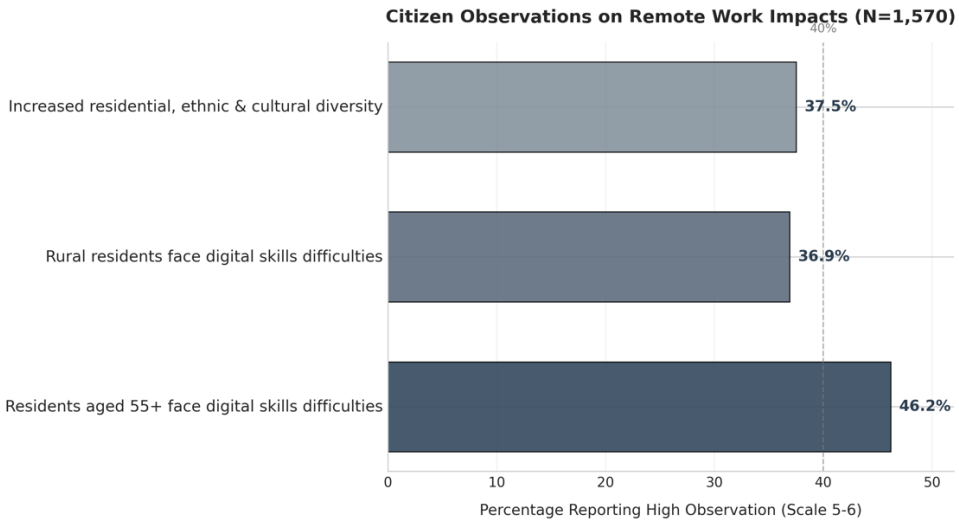
- 58.5% Private sector employee
- 29.2% Public sector employee
- 4.1% Nonprofit / Non-Governmental Organisation (NGO) employee
- 8.2% Self-employed (freelancer, contractor, consultant, entrepreneur)
- 0% Not employed currently
- 0% Other (please specify): [free text]

SECTION 2 - THEMATIC CONTENT

7. Citizen's perceptions regarding remote work

7.1 Social and economic phenomena observed (survey questions n.9 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Many residents aged 55+ face digital skills difficulties	3.0%	12.2%	17.7%	14.3%	12.2%	34.0%	6.5%
Many rural residents face digital skills difficulties	11.0%	8.2%	12.8%	13.1%	13.9%	22.9%	18.1%
Increased residential, ethnic & cultural diversity	7.3%	14.5%	14.5%	21.0%	19.6%	17.9%	5.2%

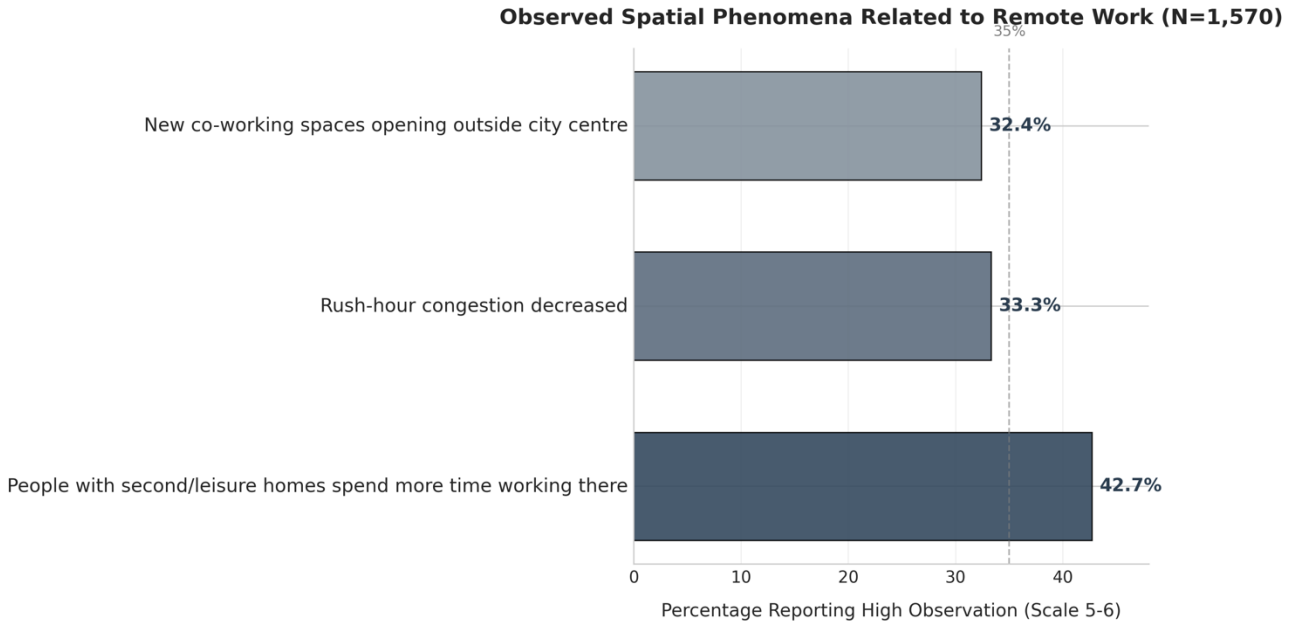


Survey data for Istanbul indicate widespread remote work adoption, though digital skill disparities persist unevenly across demographic groups. Among respondents, 46.2% observed moderate-to-high difficulties among

residents aged 55+ regarding remote work competencies. Conversely, 36.9% reported similar challenges among rural residents. These patterns suggest that infrastructure and training gaps affect older and rural populations more severely. Additionally, 37.5% observed a moderate-to-high increase in residential and cultural diversity. Respondent observations suggest shifts in residential preferences and commuting patterns, with workers prioritizing amenities over workplace proximity, as exemplified by the quote: "Previously, living close to work was important; now people seek homes closer to nature".

7.2 Spatial phenomena observed (survey questions n.10 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
People with second/leisure homes spend more time working from there	12.0%	11.3%	13.2%	13.3%	25.5%	17.1%	7.5%
New work-friendly cafés and co-working spaces opening in city centre	13.0%	12.7%	15.4%	16.6%	15.1%	16.3%	10.9%
New work-friendly cafés opening outside city centre	11.6%	16.2%	16.9%	17.3%	15.6%	16.8%	5.6%

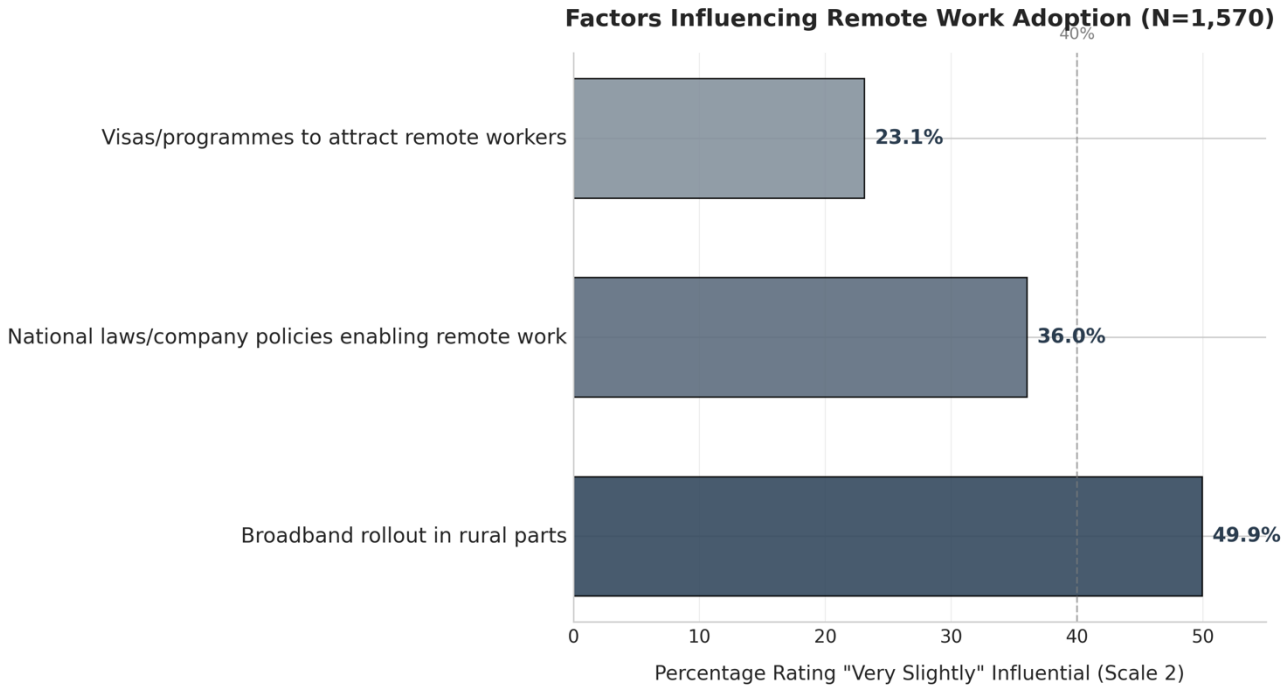


Survey data indicate a spatial redistribution of work activities in Istanbul. Among respondents, 42.7% observed moderate-to-high increases in remote work from second or leisure homes, suggesting multi-location work patterns. New co-working facilities emerged both outside city centers (32.4% observed) and within (31.4% observed), reflecting commercial adaptation to remote work demand.

Concurrently, respondents reported declining rush-hour congestion (33.3%) alongside reduced public transport (32.6%) and private vehicle usage (29.9%). These observations collectively suggest reduced commuting, with work activities shifting from city centers to suburban and residential areas. This shift is highlighted by observed phenomena, such as: "Due to reduced business travel, airports no longer have the old crowds, especially on domestic flights".

7.3 Factors influencing remote work (survey questions n.12 & 13)

Factor	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Broadband rollout in rural parts	15.5%	49.9%	10.6%	5.7%	8.2%	6.9%	3.2%
National laws/company policies enabling remote work	20.8%	36.0%	14.9%	11.0%	7.7%	6.6%	3.0%
Visas/programmes to attract remote workers	38.9%	23.1%	13.6%	6.8%	5.1%	4.6%	8.0%

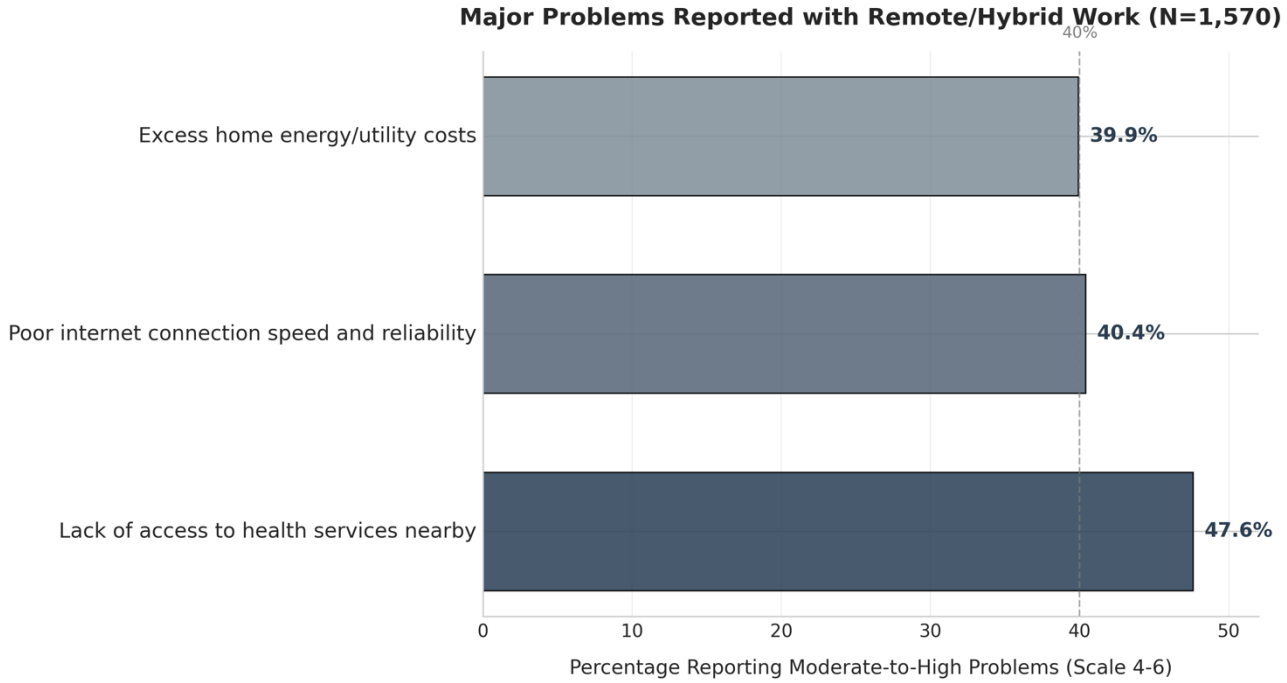


Survey data reveal limited policy support for remote work adoption in Istanbul. Broadband expansion emerged as the most influential enabler, yet 49.9% of respondents rated it as only "very slightly" influential, suggesting infrastructure remains foundational but not transformative. National laws and company policies garnered weak support (36.0% "very slightly"), while visa schemes lagged further behind (23.1%). These findings, coupled with observations like, "Technical infrastructure deficiencies, especially audio and video issues, create serious problems in remote work" and "Flexible working hours lead to lack of discipline for some employees," indicate that infrastructure alone is insufficient; policy frameworks and institutional support remain weak, limiting remote work expansion in Istanbul.

7.4 Problems with remote/hybrid work (survey questions n.14 & 15)

Problem	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Lack of access to health services nearby	10.2%	9.8%	12.6%	17.7%	21.2%	26.4%	2.2%
Poor internet connection speed and reliability	7.0%	10.9%	16.5%	21.3%	23.7%	16.7%	4.0%

Excess home energy/utility costs	4.1%	8.0%	6.2%	39.9%	25.1%	14.8%	2.0%

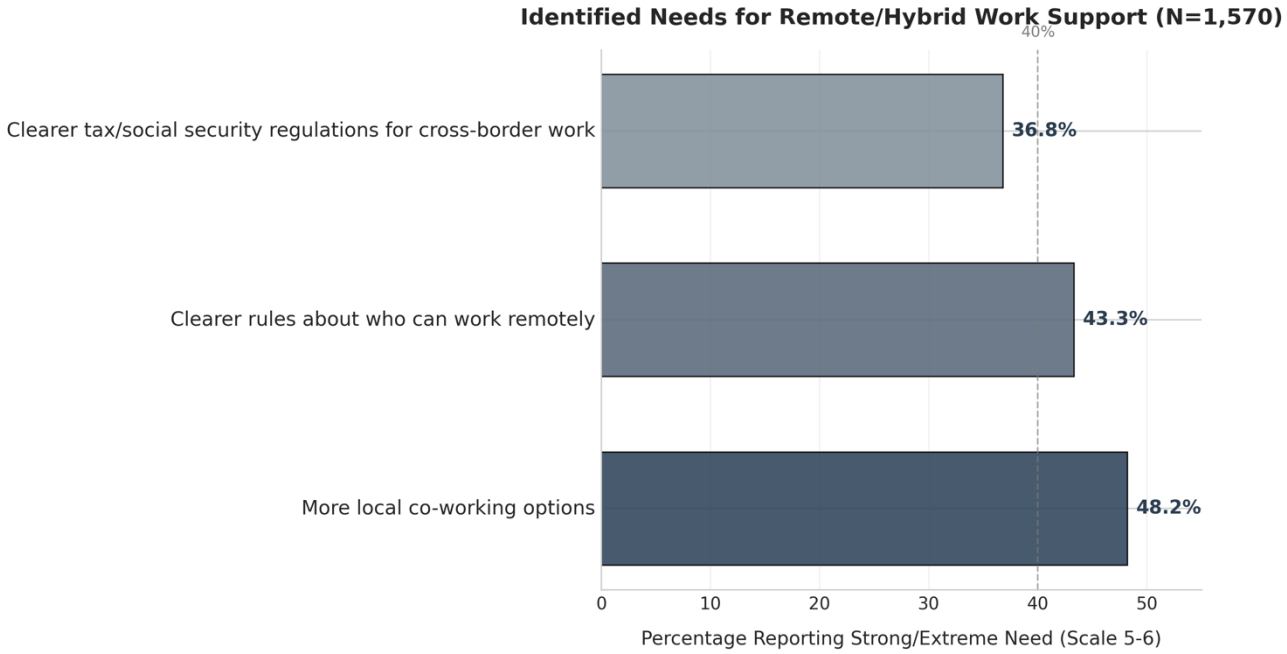


Survey data reveal significant barriers to remote work in Istanbul. Healthcare access emerged as the most critical issue, with 47.6% of respondents reporting moderate-to-high difficulties, suggesting remote work may exacerbate spatial inequalities in service provision. Internet reliability posed challenges for 40.4%, while home energy costs burdened 39.9% at moderate-to-high levels. Respondent observations, including "Childcare and work responsibilities conflict when working from home" and "Technical infrastructure gaps, especially audio and video issues, create serious problems in remote work," indicate that the success of remote work depends not solely on digital infrastructure but also on comprehensive support systems, including healthcare, childcare, and adequate home environments.

8. Citizens' intentions regarding remote work

8.1 Needs with respect to remote/hybrid work (survey questions n.16 & 18)

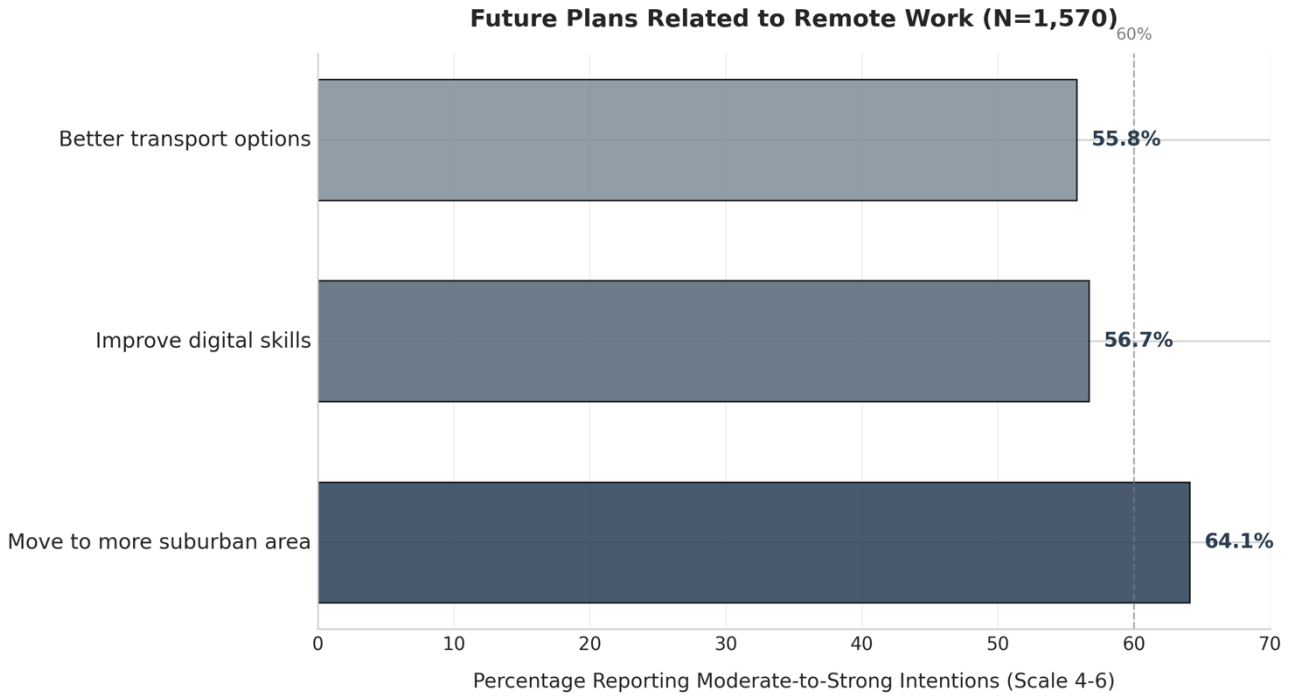
Needs	**Not at all (1)**	**Very Slightly (2)**	**Slightly (3)**	**Moderately (4)**	**Strongly (5)**	**Extremely (6)**	**I don't know (7)**
More local co-working options	11.3%	9.4%	8.6%	19.7%	20.6%	27.6%	2.8%
Clearer rules about who can work remotely	13.0%	10.5%	13.9%	17.2%	17.1%	26.2%	2.1%
Clearer tax/social security regulations for cross-border work	6.1%	9.8%	6.9%	37.1%	14.1%	22.7%	3.1%



Survey data reveal infrastructure and regulatory gaps constraining remote work in Istanbul. Co-working space access emerged as the most pressing need, with 48.2% reporting strong-to-extreme demand, suggesting insufficient local facilities outside traditional business districts. Regulatory clarity followed closely: 43.3% sought clearer employer rules on remote work eligibility, while 36.8% identified cross-border tax and social security frameworks as barriers. Observations, including "Technical infrastructure deficiencies, especially audio and video issues, create serious problems in remote work" and "Childcare and work responsibilities conflict when working from home," indicate that remote work requires both physical infrastructure and clear policy frameworks for workspace, employment rules, and support services.

8.2 Future plans related to remote work (survey questions n.17 & 18)

Intentions	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Move to more suburban area	6.0%	10.2%	17.1%	30.4%	18.0%	15.7%	2.5%
Better transport options	11.8%	12.7%	18.5%	31.7%	17.3%	7.7%	0.3%
Improve digital skills	9.8%	13.7%	18.8%	31.1%	12.1%	12.6%	2.0%



Survey data indicate moderate spatial adjustments rather than radical relocations. Among respondents, 64.1% expressed moderate-to-strong intentions to move toward suburban areas , while 56.7% prioritized better transport options and 55.8% planned digital skill improvements. Relocations to rural areas (14.7%) or abroad (18.8%) remained uncommon, suggesting a preference for semi-urban environments over dramatic decentralization. These intentions reflect pragmatic adjustments seeking a balance between urban amenities and residential tranquility through suburban relocation, while maintaining access to metropolitan opportunities. The emphasis on digital skills underscores awareness that remote work competencies require ongoing development.

SECTION 3 - CLOSING REMARKS

Respondents generally view remote and hybrid work positively for work-life balance, but stress digital inequalities and infrastructure shortfalls as key challenges. Notable comments reflect changing spatial patterns, including suburban demand, public space conversions, and an emerging co-working culture. The Istanbul case reveals that while remote work adoption is advancing, it remains constrained by infrastructure gaps (especially in healthcare and broadband), unclear regulatory frameworks, and spatial inequalities. Representative quotes confirm these themes: "Previously, living close to work was important; now people seek homes closer to nature," "Hybrid workers feel excluded from the in-office team," and "Reduced business travel has contributed to environmental sustainability".

SECTION 4 - RESPONDENTS BY URBANISATION LEVEL

Differences: Internet connectivity needs vary by urbanization level. Among those rating improved broadband as "extremely" necessary, rural respondents scored highest (10.8%) , followed by urban (8.4%) and semi-urban (5.1%). Conversely, the proportion answering "not at all" was lowest in rural areas (13.1%) , compared to semi-urban (15.8%) and urban (17.0%) , confirming that infrastructure gaps are most acute outside cities.

Patterns: Infrastructure deficits widen progressively from urban to rural areas, particularly for broadband access. Relocation intentions favor semi-urban over fully rural settings. Urban participants report fewer deficiencies in public transport, cultural amenities, and healthcare within walking distance, whereas rural respondents identify these as key barriers to remote work adoption. Semi-urban respondents showed stronger intentions

to upgrade home offices and sustain hybrid work patterns, positioning these zones as transition spaces between urban amenities and residential tranquillity.

SECTION 5 - RESPONDENTS WHO ARE REMOTE WORKERS

Patterns: Remote workers (n=845) exhibit distinct needs compared to non-remote respondents (n=725). Co-working space demand is elevated: 48.2% of remote workers rated local co-working options as "high need" (Scale 5-6), indicating unmet local supply. Home office investment is a priority: many plan to establish or improve dedicated workspaces, reflecting practical necessity. Commuting patterns shift markedly: remote workers anticipate fewer trips to city centers and reduced use of private vehicles or public transport, signaling more localized mobility. Digital skill development ranks higher among remote workers, acknowledging the technical demands of sustained hybrid arrangements. In summary, remote workers value flexibility but depend critically on better digital infrastructure (especially stable broadband) and accessible co-working facilities to sustain productive remote work.

6.5.5 Surrey & Southeast England (United Kingdom)

(author: SURREY)

- **Use case survey results for Surrey/Southeast.**
  The scope was expanded in order to meet the T4.1 requirement of having a sample of 1,000 respondents, because of the use case decision to use Prolific. Prolific only had 500 eligible users in Surrey, and only 300 completed our project survey. The Southeast of the UK included more respondents registered on Prolific, which provided a broader overview of challenges across a wider geographical region.
- Partner Responsible: **SURREY**
- Contact person and email for queries for this report: **Nikolas Thomopoulos /** n.thomopoulos@surrey.ac.uk
- Total respondents / of which remote workers: **1021/809**
- Mode: **CAWI**

SECTION 1 - BACKGROUND

1. Status of living in Surrey/Southeast (survey question n.1)

- 98% Yes, all the time
- 2% Yes, part time
- 0% No

2. Gender (survey question n.2)

- 55.6% Female
- 44.0% Male
- 0.2% Non-binary / Other
- 0.2% Prefer not to mention

3. Respondent's main residence by urbanisation level (DEGURBA classification) (survey question n.4)

- 14% City (DEGURBA 1)
- 71% Town-Suburb (DEGURBA 2)
- 15% Rural (DEGURBA 3)

4. Age groups (survey question n.5)

- 6% 18-24
- 29% 25-34
- 29% 35-44
- 18% 45-54
- 11% 55-64
- 7% 65+

5. Remote work (survey question n.6)

- 21% No
- 14% Yes, occasionally (less than 1 day/week or other flexible schedule)
- 24% Yes, on average 1-2 days per week
- 24% Yes, on average 3-4 days per week
- 17% Yes, fully remote (5 days per week)

6. **Main employment status (survey question n.8)**

- 49% Private sector employee
- 27% Public sector employee
- 6% Nonprofit / Non-Governmental Organisation (NGO) employee
- 12% Self-employed (freelancer, contractor, consultant, entrepreneur)
- 2% Not employed currently
- 4% Other (please specify): Retired, Disabled, Vicar, Part-time casual, Voluntary work, Law enforcement, Crown employee

SECTION 2 - THEMATIC CONTENT

7. Citizen's perceptions regarding remote work

7.1 Social and economic phenomena observed (survey questions n.9 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
An increasing number of hotels or holiday rentals (e.g. Airbnb apartments) offer stays designed for remote work and leisure	23%	14%	13%	15%	11%	5%	19%
The number of people living in my residential location while being employed in another country has increased	28%	13%	12%	11%	6%	2%	27%
Skilled workers who had previously left the area are returning because of remote jobs	25%	12%	15%	16%	10%	2%	20%

Some social and economic changes have been observed as a result of remote work trends. The visitor economy in Surrey and the Southeast of the UK does not seem to have adjusted to remote work through for example different offerings by hotels and AirBnB properties. This is reflected through the 23% of respondents who have not observed any change and through the 27% who have only observed slight or very slight changes. Yet, 19% of respondents, namely one in five, do not have an opinion about this issue. More interestingly, there does not seem to be any major change in Surrey and the Southeast due to a large influx of remote workers who are employed abroad. 28% of respondents have not observed any such trend, whereas 25% of them have only

observed slight or very slight changes. Similarly, no major change has been observed due to remote work in terms of the return of previously departed skilled worker according to a combined 52% of respondents.

7.2 Spatial phenomena observed (survey questions n.10 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
There is less rush-hour congestion than before the acceleration of remote work	33%	20%	18%	14%	9%	4%	4%
The number of unoccupied office spaces in the city centre has increased	5%	7%	13%	22%	26%	16%	12%
Thanks to remote work, residents increasingly relocate outside city centers	6%	9%	17%	26%	22%	10%	10%

Congestion has been a major concern in Surrey and the Southeast of the UK for years, which is exacerbated by the high car ownership levels in Surrey. Remote work has not affected this impact according to one out of three (33%) respondents, whereas 38% of respondents have only observed slight or very slight changes. Only 4% of respondents have observed extreme congestion reduction due to remote work, which is not surprising given the current road situation across Surrey and the Southeast. However, mixed views appear about other spatial changes. A significant proportion of respondents (64%) have observed a change in the number of unoccupied office space in town and city centres. This finding corresponds also with T4.1 interview input, which confirmed that certain towns had their central office spaces significantly lose office workers. Similar is the situation regarding relocation of residents further away from town and city centres, with a combined 58% having observed such trends.

7.3 Factors influencing remote work (survey questions n.12 & 13)

Factor	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
The high-quality and affordable commuting infrastructure (trains or road), enabling cross-border work	35%	14%	14%	14%	8%	2%	13%
The introduction of incentives by local government (e.g. subsidizing accommodation for remote workers), enabling and/or encouraging remote work	26%	15%	14%	12%	9%	2%	23%
Short-term rental property regulations and limits set by national government and/or local government	29%	14%	11%	9%	5%	2%	30%

A range of factors may have influenced remote work, but cross-border work has not been influenced by the commuting infrastructure available in Surrey and the Southeast of the UK as confirmed by more than one in three respondents (35%). This is largely due to having very limited cross-border commuters. Covid-19, visa regulations and Brexit may have influenced this too. No specific remote work incentives have been provided by the Government, so a combined 55% has not seen any major change due to any such incentives. Similarly, the majority has not seen any major change in rental properties due to remote work, since such regulations

have only been introduced in London. Therefore, it is not surprising that 30% of respondents are not aware of any such regulations.

7.4 Problems with remote/hybrid work (survey questions n.14 & 15)

Problem	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
There is a lack of schools and other educational infrastructures nearby my home (e.g. in 15 minutes of walking or biking/cycling)	55%	10%	6%	5%	2%	1%	1%
When working remotely, I have trouble reaching out to and communicating with my colleagues.	35%	17%	14%	7%	4%	2%	0%
There is lack of access to health services nearby my home (e.g. in 15 minutes of walking or biking/cycling)	45%	12%	8%	8%	4%	2%	0%

Pre-existing problems do not seem to have changed significantly due to remote work. Surrey is well known across the UK about the high level of its schools, therefore 55% of respondents have not experienced any significant challenge due to remote work regarding schools and other educational options. Similarly, there is no major lack of health services for 45% of respondents, which may be due to the good level of health facilities in Surrey and the Southeast on average. At the same time, communication with work colleagues does not seem to have been a major issue for a combined 31% of respondents and no issue at all for 35% of respondents. This could be due to the strong community relationships within local communities in Surrey and the Southeast, but also due to the short distances in case of a need to travel and meet work colleagues.

8. Citizens' intentions regarding remote work

8.1 Needs with respect to remote/hybrid work (survey questions n.16 & 18)

Needs	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
I need better transport options where I live, to enable me to work remotely	50%	9%	7%	5%	5%	3%	1%
I need to enhance my digital skills to be better equipped for my remote/hybrid work	42%	10%	9%	8%	7%	3%	0%
I need to have more local co-working options where I live	36%	13%	10%	8%	7%	4%	1%

The majority of respondents (50%) seem to be fine with the transport options available at their home location in Surrey and the Southeast of the UK. This is largely due to Surrey and the Southeast having among the highest car ownership levels in the UK, which means that there is low dependence on public transport options that may be sparse at certain locations. Interestingly, the majority (42%) of respondents seem to be confident about their digital skills and feel well equipped to meet their remote work requirements. This is in contrast to certain open ended question responses received, where respondents highlighted low level digital skills as one of the barriers to expand remote work. Additionally, there seems to be low interest (36%) for co-working options in Surrey and the Southeast, which may be due to the fact that a lot of residents live in houses and have sufficient space on average, compared to residents living in larger towns and cities.

8.2 Future plans related to remote work (survey questions n.17 & 18)

Intentions	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
move away from my current residential location towards the city center	73%	10%	6%	6%	3%	1%	2%
relocate to an area with better public transport nearby	64%	12%	8%	8%	4%	2%	2%
relocate to an area with more co-working spaces/flexible offices nearby	63%	13%	7%	8%	6%	2%	1%

There seems to be very low appetite by 73% of respondents to move away from their current residential locations and towards more central urban locations. This may be due to the good housing options in Surrey and the Southeast of the UK on average, compared with other UK areas. Similarly, there is very low appetite (64%) for respondents to relocate due to public transport options, which is rather expensive too ("The price of commuting is extortionate."). The high car ownership level in Surrey and the Southeast may explain this trend. The availability of co-working spaces also does not seem to influence a relocation decision by the majority of respondents (63%), which may be also due to the quite good space availability at home on average.

SECTION 3 - CLOSING REMARKS

"Work is becoming more reliant on digital skills."

"Cannot easily bounce ideas off colleagues or chat through options."

"Our broadband is disgraceful no end in sight for faster broadband because of being rural."

"More eateries have sprung up and the now unused office spaces are slowly being converted to flats."

"Adaptations at home have increased with people investing in converting garages and installing workspaces in their gardens"

"I would like to move abroad and have a remote job that allows me to travel freely."

"Remote work gives opportunities to those with chronic illnesses."

SECTION 4 - RESPONDENTS BY URBANISATION LEVEL

- Differences:

  1. *Many rural residents face difficulties with digital skills needed for remote/hybrid work (DEGURBA means: 1:4.19; 2:3.96; 3:3.93) -* ***urban > rural***

  2. *Public transport use has decreased since more people work from home (DEGURBA means: 1:3.44; 2:3.69; 3:4.05) -* ***rural > urban***

  3. *There is a lack of reliable public transport nearby my home (e.g. in 15 minutes of walking or biking/cycling) (DEGURBA means: 1:1.99; 2:2.22; 3:3.38) -* ***rural>urban***

  4. *I need clearer regulations on tax or social security for when working across borders (DEGURBA means: 1:3.13; 2:2.79; 3:2.41) -* ***urban>rural***

- Patterns:

Urban respondents report higher exposure to digital, economic, and lifestyle opportunities linked to remote work, including greater perceived diversity, more remote-work infrastructure (e.g., co-working cafés, holiday rentals), and stronger policy or regulatory needs associated with cross-border or flexible work. Conversely,

rural residents report deficits in local services and amenities, including public transport, cultural and recreational facilities, schools, health care, co-working availability, and broadband-related experiences, as well as stronger perceptions that remote work has reduced public transport use.

SECTION 5 - RESPONDENTS WHO ARE REMOTE WORKERS

• Patterns:
Remote workers perceive as stronger their local companies which already offer flexible or hybrid work as the standard, likely reflecting their current embeddedness in remote-friendly sectors. Overall, the pattern suggests that remote workers feel they have already accessed many of the benefits of flexible work, while non-remote workers see remote/hybrid work as a pathway to future lifestyle improvements and mobility opportunities.

6.5.6 Rheintal-Bodenseegebiet (Region Austria, Germany and Switzerland)

(author: RIM)

- **Use case survey results for Bodenseeregion (Austria, Switzerland, Germany)**
  The scope was expanded to include German cross-border regions with Austria and Switzerland, in order to ensure a sufficient sample size, as the Lake Constance region alone is relatively small
- Partner Responsible: **RIM**
- Contact person and email for queries for this report: **Katharina Fellnhofer, katharina@rim.eu.com**
- Total respondents / of which remote workers: **1023 / 790**
- Total respondents engaging in cross-border work: **155**
- Mode (CATI/CAWI): **CAWI via Prolific**

SECTION 1 - BACKGROUND

1. Status of living in the Bodenseeregion (Austria, Germany, Switzerland) (survey question n.1)
- 70 % Yes, all the time
- 18 % Yes, part time
- 12 % No

2. Gender (survey question n.2)
- 56 % Female
- 43 % Male
- 1 % Non-binary / Other
- 0 % Prefer not to mention

3. Respondent's main residence by urbanisation level (DEGURBA classification) (survey question n.4)
- 44 % City (DEGURBA 1)
- 24 % Town-Suburb (DEGURBA 2)
- 16 % Rural (DEGURBA 3)
- 16 % missing data

4. Age groups (survey question n.5)

- 18 % 18-24
- 50 % 25-34
- 21 % 35-44
- 6 % 45-54
- 4 % 55-64
- 1 % 65+

5. Remote work (survey question n.6)

- 23 % No
- 16 % Yes, occasionally (less than 1 day/week or other flexible schedule)
- 31 % Yes, on average 1-2 days per week
- 17 % Yes, on average 3-4 days per week
- 13 % Yes, fully remote (5 days per week)

6. Cross-border work (survey question n.7)

- 2 % Yes - I live in Austria , work in Switzerland
- 1 % Yes - I live in Switzerland, work in Austria
- 84 % No - I live and work in the same country
- 13 % Other cross-border situation (many international remote work across the globe)

7. Main employment status (survey question n.8)

- 54 % Private sector employee
- 21 % Public sector employee
- 2 % Nonprofit / Non-Governmental Organisation (NGO) employee
- 12 % Self-employed (freelancer, contractor, consultant, entrepreneur)
- 8 % Not employed currently
- 3% Other (please specify):

SECTION 2 - THEMATIC CONTENT

8. Citizen's perceptions regarding remote work

8.1 Social and economic phenomena observed (survey questions n.9 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Most observed/relevant phenomenon 1 An increasing number of local companies are offering flexible or hybrid work as the new normal/standard option	3 %	11 %	27 %	6 %	15 %	35 %	4 %
Most observed/relevant phenomenon 2 Many residents aged 55 and above face difficulties with digital skills needed for remote/hybrid work	3 %	12 %	26 %	6 %	17 %	29 %	7 %
Most observed/relevant phenomenon 3 I observe increased residential, ethnic & cultural diversity in my place of residence.	6 %	14 %	24 %	9 %	17 %	27 %	4 %

The analysis highlights three main phenomena regarding the impact of remote and hybrid work. First, the strongest observed change is the normalization of hybrid and flexible work options among local companies, with an average score of 4.28, 56% rating it at least "Moderately," and only 4% unsure. This suggests that employers have largely adopted hybrid work as a standard model. Second, digital skills among older residents (55+) emerge as a challenge, averaging 4.17, with 52% perceiving at least moderate difficulties and 7% uncertain. This indicates that age-related digital divides remain an important barrier. Third, respondents notice increasing residential, ethnic, and cultural diversity in their communities, averaging 4.01, with 53% recognizing the trend and only 4% unsure, pointing to broader demographic shifts linked to remote work flexibility. Other changes, such as rural skill gaps, remote-friendly Airbnbs, talent mobility, and cross-border employment, were noted but remain less pronounced.

8.2 Spatial phenomena observed (survey questions n.10 & 11)

Change	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Most observed/relevant phenomenon 1 Thanks to remote work, residents increasingly relocate **outside city centers**	7 %	19 %	29 %	10 %	7 %	19 %	9 %
Most observed/relevant phenomenon 2 Housing prices **outside the city center** are rising due to remote workers moving in	5 %	16 %	25 %	7 %	10 %	24 %	13 %
Most observed/relevant phenomenon 3 Empty office spaces (thanks to remote work) are used by companies for alternative uses (e.g. teamwork, brainstorm sessions, co-working etc)	6 %	19 %	26 %	13 %	5 %	15 %	16 %

The results indicate three particularly visible trends linked to remote work. First, residential relocation outside city centers emerges as the strongest phenomenon, with an average score of 3.65, and 42% rating it at least "Moderately." This points to a shift in settlement patterns, with residents seeking more space and lower housing costs. Second, rising housing prices outside city centers are widely perceived (avg. 3.58; 40% ≥ "Moderately"), reflecting pressure from incoming remote workers. Third, increasing unoccupied office spaces in city centers is also prominent (avg. 3.54; 38% ≥ "Moderately"), highlighting the reduced demand for central office real estate.

Other changes are more mixed: new cafés and co-working spaces are noted both inside and outside city centers (avgs. 3.4-3.5), while conversion of homes to short-term rentals (3.5) is moderate. Transport effects are weaker: reduced rush-hour congestion, public transport, and private car use average below 3.3.

8.3 Factors influencing remote work (survey questions n.12 & 13)

Factor	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Most observed/relevant factor 1 The increase/improvement in broadband rollout in rural parts of the region	7 %	15 %	25 %	10 %	10 %	24 %	9 %
Most observed/relevant factor 2	10 %	18 %	23 %	13 %	6 %	19 %	10 %

The introduction of national laws and/or company policies and guidelines enabling and/or encouraging remote work							
Most observed/relevant factor 3 The high-quality and affordable commuting infrastructure (trains or road), enabling cross-border work	13 %	15 %	23 %	14 %	6 %	18 %	11 %

Here are the three main observed factors (1-6 scale; "I don't know" excluded for means), with their averages, the share rating them at least "Moderately" (4-6), and don't-know rates:

1. **Broadband rollout in rural areas** - **Avg 3.80**; **≥4-6: 48%**; **DK: 9%**.

Most salient enabler: better rural broadband is widely noticed as supporting remote work.

2. **National laws / company policies enabling remote work** - **Avg 3.49**; **≥4-6: 43%**; **DK: 10%**.

Policy and employer rules are the next strongest lever, signalling institutional normalization of remote/hybrid models.

3. **High-quality, affordable commuting infrastructure (trains/roads) for cross-border work** - **Avg 3.44**; **≥4-6: 43%**; **DK: 11%**.

Good transport links facilitate flexible living/working geographies.

Context for the rest: **Local government incentives** (avg **3.16**, **38%** ≥4-6, **12%** DK) and **short-term rental regulations** (avg **3.14**, **36%** ≥4-6, **19%** DK) are noticed but less strongly. **Visas/programmes for digital nomads** register lowest salience (avg **3.02**, **36%** ≥4-6) with high uncertainty (**19%** DK).

8.4 Problems with remote/hybrid work (survey questions n.14 & 15)

Problem	**Not at all (1)**	**Very Slightly (2)**	**Slightly (3)**	**Moderately (4)**	**Strongly (5)**	**Extremely (6)**	**I don't know (7)**
Most observed/relevant problem 1 There is a lack of access to co-working spaces/flexible offices nearby my home (e.g. in 15 minutes of walking or biking/cycling)	16 %	12 %	18 %	12 %	16 %	17 %	8 %
Most observed/relevant problem 2 When working remotely, I feel socially isolated	18 %	14 %	22 %	13 %	12 %	19 %	3 %
Most observed/relevant problem 3 When working remotely, I sometimes pay excess home energy / utility costs	12 %	19 %	24 %	19 %	6 %	17 %	4 %

Here are the **three most salient problems** (1-6 scale; means exclude "I don't know"), with their **average**, **≥ "Moderately" (4-6)** share, and **don't-know** rate:

1) Limited access to co-working/flexible offices nearby - **Avg 3.56; 49% ≥4-6; DK 8%**.

The most widely felt issue is infrastructure: many lack nearby shared workspaces within a 15-minute reach.

2) **Social isolation when working remotely** - **Avg 3.45; 45% ≥4-6; DK 3%**.
   A large minority report isolation, underscoring the need for intentional social touchpoints in hybrid setups.

3) **Excess home energy/utility costs** - **Avg 3.40; 43% ≥4-6; DK 4%**.
   Costs borne at home remain a tangible pain point for remote workers.

Workspace suitability (**3.12**) and internet reliability (**3.02**) are noticeable but mid-tier issues. Local amenity gaps (recreation **2.99**, health **2.63**, schools **2.41**) and transport access (**2.56**) score lower overall. Collaboration frictions (**communication 2.93**) and **self-reported lower productivity (2.78)** appear for some but are not majority experiences.

9. Citizens' intentions regarding remote work
9.1 Needs with respect to remote/hybrid work (survey questions n.16 & 18)

Needs	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Most observed/relevant need 1 I need better tax and social security advice for remote work in my country	18 %	14 %	20 %	20 %	12 %	13 %	20 %
Most observed/relevant need 2 I need clearer rules or formal policies about who can work remotely and under what conditions from employers	15 %	14 %	21 %	11 %	13 %	23 %	3 %
Most observed/relevant need 3 I need clearer regulations on tax or social security for when working across borders	19 %	11 %	20 %	9 %	14 %	23 %	5 %

Here are the **three most salient needs** (1-6 scale; means exclude "I don't know"), with **average**, **≥ "Moderately" (4-6)** share, and **don't-know** rate:

1) **Better tax & social-security advice (domestic)** - **Avg 4.05; 56% ≥4-6; DK 20%**.
   Strongest need: many want clearer, practical guidance for remote work within their country.
2) **Clearer employer rules/policies on who can work remotely & under what conditions** - **Avg 3.64; 48% ≥4-6; DK 3%**.
   High clarity demand: formal, transparent remote-work policies.
3) **Clearer cross-border tax/social-security regulations** - **Avg 3.63; 48% ≥4-6; DK 5%**.
   Cross-border governance is a major friction for remote workers.

Context on the rest:
Internet connectivity: **Avg 3.28; 45% ≥4-6; DK 2%** - meaningful but secondary.
Amenities nearby & **more local co-working**: both **Avg 2.94; 38% ≥4-6; DK 2%**.
Childcare and **digital-skills upskilling**: **Avg 2.77** and **2.69** (both **34% ≥4-6**).

Transport options: lowest (**Avg 2.57; 31% ≥4-6; DK 1%**).

9.2 Future plans related to remote work (survey questions n.17 & 18)

Intentions	Not at all (1)	Very Slightly (2)	Slightly (3)	Moderately (4)	Strongly (5)	Extremely (6)	I don't know (7)
Most observed/relevant intention 1 create a high-quality office space (or up-grade the current one) in my home	10 %	10 %	20 %	7 %	22 %	28 %	2 %
Most observed/relevant intention 2 use my private vehicle less, since I will be working from home	15 %	9 %	16 %	6 %	24 %	23 %	6 %
Most observed/relevant intention 3 relocate to an area with more recreational and cultural amenities nearby	34 %	11 %	18 %	12 %	9 %	15 %	2 %

Here are the **three most salient intentions** (1-6 scale; means exclude "I don't know"), with **average**, **≥ "Moderately" (4-6)** share, and **don't-know** rate:

1) **Create or upgrade a high-quality home office** - **Avg 4.08; 58.8% ≥4-6; DK 2%**.
   Top priority: investing in better at-home workspaces.
2) **Use my private vehicle less (because of WFH)** - **Avg 3.90; 57.0% ≥4-6; DK 6%**.
   Strong intention to reduce car use as remote work increases.
3) **Make more trips within my local area** - **Avg 3.72; 46.9% ≥4-6; DK 2%**.
   Local living intensifies: more neighborhood-based trips/errands.

Context (close runners-up):
Improve digital skills - **Avg 3.61; 48.0% ≥4-6; DK 1%**.
Relocate to another country/region for QoL/affordability/tax - **Avg 3.61; 48.0% ≥4-6; DK 1%**.
Travel/relocation within the same country (suburban/rural/city-center shifts) and moving for better transport/amenities/co-working all score lower (avgs ≈2.5-3.0).

SECTION 3 - CLOSING REMARKS

The final comments highlight a broad range of perspectives on remote and hybrid work. Many respondents emphasize its benefits, including greater flexibility, improved quality of life, higher productivity, and more time for family. Several note that remote work is best when supported by clear structures, good communication, and trust between employers and employees. However, challenges re-main: social isolation, lack of separation between work and private life, and unequal access to proper childcare or infrastructure were mentioned re-peatedly. Some highlight the need for financial or tax support to offset costs of working from home, while others call for policy reforms and employer-provided equipment. A few worry that older managers resist re-mote work or that regulations, especially cross-border, remain difficult. Despite these caveats, the dominant view is positive: remote work is seen as an important, lasting change that should be expanded, normalized, and better supported through clear frameworks and balanced hybrid models.

SECTION 4 - RESPONDENTS BY URBANISATION LEVEL

First, **perceived diversity rises with urbanity**. Respondents in dense cities report the strongest sense that their neighbourhoods have become more residentially, ethnically, and culturally mixed (mean ≈ 3.24 in DEGURBA 1 vs. 2.67 in rural areas). That pattern fits the idea that large labour markets plus remote/hybrid policies attract more mobile professionals and international talent into already mixed urban districts, where small compositional shifts are simply more visible in daily life (cafés, schools, languages heard on the street).

Second, outside big cities respondents are **more likely to notice mobility and location shifts linked to telework**. Rural and intermediate areas report bigger drops in public-transport use and peak-hour congestion, and are more likely to say people are **moving out of city centres**. This likely reflects two mechanisms: (a) **baseline effect**-urban networks remain busy even if some commuters drop out, so changes are diluted; (b) **rebound effect**-in smaller towns, even a modest share of newly hybrid workers can be felt immediately (emptier Friday trains, smoother morning traffic, more cars parked at home). It also aligns with "donut" dynamics: some city-centre workers relocate to edge or rural communities when daily presence is no longer required.

Third, it's important to emphasize **scale**. The differences are statistically reliable but **small** (η^2 ≈ 1-2.5%). In practice, DEGURBA explains only a sliver of how people answer; **within-category variation is large**. Cities are not monolithic: a finance corridor and a mixed residential district in the same metropolis can move in opposite directions. Likewise, some rural counties with university hubs or tourism are behaving more "urban" on these metrics.

SECTION 5 - RESPONDENTS WHO ARE REMOTE WORKERS

- Remote workers consistently perceive **more and stronger social & economic changes** in their towns since 2020 - especially regarding **employer adaptation, digital divides, worker mobility, and diversity**. Non-remote workers are either **unaware** of these changes or judge them as **minimal**.
- Remote workers consistently perceive stronger social, economic, and spatial impacts of remote/hybrid work-most notably the normalization of hybrid work in local firms, rising diversity, digital-skill gaps among 55+, and visible talent mobility. They also observe more urban changes, such as office vacancies, co-working growth, suburban price increases, and shifts in transport use, while non-remote workers mostly report little or no change. Overall, awareness of transformation is **high among active remote workers** but **low or uncertain among non-remote and non-employed groups**.
- **Remote workers** perceive **broader, structural change**: diffused commuting peaks, repurposed offices, outward residential shifts, and a rise in flexible, tourism-adjacent patterns ("workations").
- **Non-remote workers** perceive **incremental change** at most: traditional peaks persist, office use looks familiar, and travel/housing feel closer to pre-pandemic norms.

R-Map

MAPPING THE EFFECTS OF REMOTE WORKING ARRANGEMENTS IN URBAN AND RURAL AREAS

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