Social Inclusion
2026 • Volume 14 • Article 12508
https://doi.org/10.17645/si.12508

cogitatio

EDITORIAL

Open Access Journal

Digital Transition and New Forms of Spatial Inequality

Tiit Tammaru [1], Kadi Kalm [1], Rūta Ubarevičienė [2], Veronika Mooses [1], Anto Aasa [1], and Olle Järv [1,3]

[1] Department of Geography, University of Tartu, Estonia
[2] Institute of Sociology, Lithuanian Centre for Social Sciences, Lithuania
[3] Department of Geosciences and Geography, University of Helsinki, Finland

Correspondence: Tiit Tammaru (tiit.tammaru@ut.ee)

Submitted: 1 April 2026 **Published:** 28 April 2026

Issue: This editorial is part of the issue "Digital Transition and New Forms of Spatial Inequality" edited by Tiit Tammaru (University of Tartu), Kadi Kalm (University of Tartu), and Rūta Ubarevičienė (Lithuanian Centre for Social Sciences), fully open access at https://doi.org/10.17645/si.i468

Abstract

This thematic issue examines how digital transition reshapes spatial inequalities by reconfiguring relationships between people, places, and opportunities. We frame the contributions around three interrelated mechanisms—place attractiveness, access to opportunities, and the coordination of activities—that operate through housing and labour markets. Digital transition reshapes all three mechanisms, generating spatially uneven outcomes across the settlement system. Rather than producing a fundamental spatial shift or simply reproducing existing inequalities, it repositions people and places into more networked and multilocal arrangements. Suburban areas emerge as key beneficiaries, large cities retain their dominance in employment while facing intensifying housing pressures, and rural areas are increasingly reoriented towards residence and consumption, with amenity-rich localities gaining while more peripheral areas face compounding disadvantage. We identify three avenues for future research: the implications of remote work for residential mobility and immobility; unequal household capacities to coordinate activities across digital and physical space; and the need for a multi-scalar perspective to better understand the shift towards networked and multilocal spatial arrangements as everyday activities increasingly span physical and digital space.

Keywords

digital divide; digital transformation; housing market; labour market; multilocality; remote work; segregation; spatial inequality

1. Key Questions on Digital Transition and Spatial Change

Digital transition is reshaping the social and spatial organisation of societies. This article focuses on its impact on spatial inequality, understood as the uneven distribution of opportunities across people and places—shaped by the attractiveness of places, who can access opportunities within them, and how people coordinate everyday activities across physical and digital space (Galster, 2012; Harvey, 1973). Digital technologies have been celebrated as sources of flexibility, efficiency, and inclusion that may compensate for inequalities rooted in physical space by expanding digital access to opportunities (Moreno, 2024), yet they have also been seen as mechanisms that reproduce and often amplify existing divides in physical space (van Dijk, 2020). This tension has fundamental roots. Graham and Marvin (2001) showed that urban infrastructures—from transport to telecommunications—reinforce socio-spatial inequalities despite universal aims, producing "premium networked spaces" by selectively upgrading some places while bypassing others. Digital infrastructures now extend and intensify this logic across multiple spatial scales. Understanding how digital transition—defined as the ICT-enabled coupling of physical and digital space, encompassing digitalisation, platformisation, and the growing deployment of digital tools and AI—can simultaneously widen access to opportunities and reinforce spatial inequalities remains a key challenge for contemporary urban and regional research (Alfieri et al., 2025).

What is changing is not only where people live or work, but also how social and spatial relations in physical space are rearranged as many everyday activities partly shift into digital space, redistributing opportunities and constraints across people and places (Ash et al., 2018). To understand this change, we propose three mechanisms as an integrated analytical framework that builds on the fundamentals of central place theory (Christaller, 1933) for place attractiveness, accessibility theory (Hansen, 1959) for physical access to people, places, and services, and time-geography theory (Hägerstrand, 1970) for coordination of activities in physical space. In this framework, places are understood as relational spatial units linked to each other across interconnected spatial scales, from macro-level contexts within the settlement system—such as large cities, suburbs, smaller towns, and rural areas—to micro-level activity places of households, including homes, workplaces, schools, and service settings that structure everyday activities (Hägerstrand, 1970).

While rooted in relatively stable spatial structures, these three mechanisms are reshaped by digital transition through spatially and temporally uneven changes in place attractiveness, access to opportunities, and the coordination of activities (Figure 1). Attractiveness captures the degree to which places draw people, capital, attention, and activity through their spatial qualities—jobs, schools, services, and other opportunities, amenities, connectivity, density, and environmental characteristics—positioning them differently within physical settlement hierarchies from local service centres to large metropolitan regions (cf. Christaller, 1933). Digital transition reshapes place attractiveness through online visibility—how places are represented, prioritised, and manipulated through platforms, algorithms, and filters—directing attention unevenly towards them (Zook & Graham, 2007). This reflects the dynamics of an ordinal society in which hierarchical position in algorithms determines who and what gets seen (Fourcade & Healy, 2024). Access concerns who can reach opportunities such as jobs, housing, services, and digital infrastructure, and under what conditions, structured both by physical distance and infrastructure provision, and by digital divides in skills, motivation, and usage that determine whether and how people can participate in digitally mediated opportunities (Hansen, 1959). Digital transition reshapes access to opportunities as digital infrastructure is distributed unevenly across the settlement system and across various activity places, and a partial shift of activities

online unevenly relaxes, reinforces, and reconfigures place-based constraints (van Dijk, 2020). Coordination refers to how individuals and households organise activities across time and space, combining online activities with place-bound requirements related to housing, work, education, care, services, and leisure (Hägerstrand, 1970). Hägerstrand identified three types of constraints that structure this coordination of activities in physical space: capability constraints, which reflect individuals' skills, resources, and capacities to participate in activities across space; authority constraints, which reflect the rules set by institutions, markets, and organisations that govern where and when activities can take place; and coupling constraints, which reflect the impossibility of being in more than one place at a time.

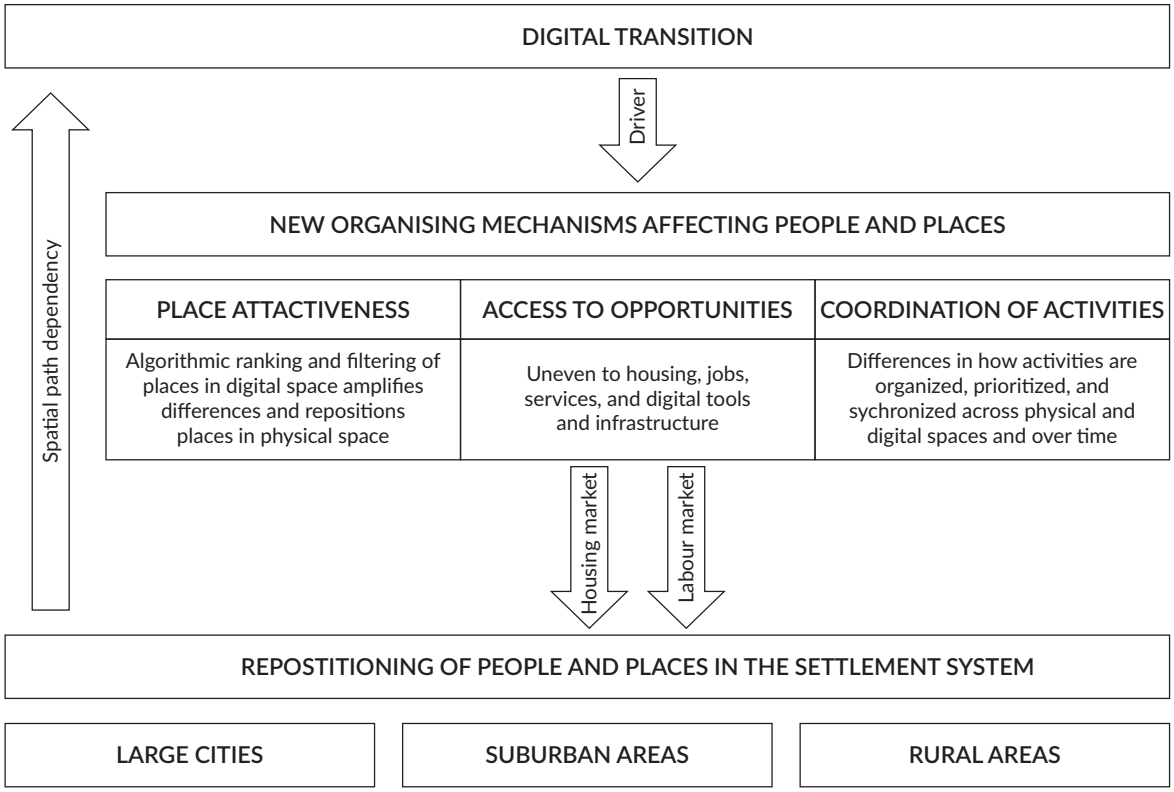

Figure 1. Digital transition reshapes people and places through three organising mechanisms.

While the expansion of remote working arrangements is the most visible manifestation of digital transition, its broader consequences for spatial inequality remain insufficiently understood (e.g., Reunamäki et al., 2026). Addressing these consequences requires recognising that the relationship between digital transition and the settlement system is inherently bidirectional: While digital transition repositions people and places within the settlement system, relatively stable spatial structures shape how it unfolds (cf. Massey, 2005). In turn, existing settlement structures influence where digital infrastructure is deployed, while the concentration of knowledge-intensive firms and start-ups in large cities further accelerates the digital transition. At the same time, these system-level dynamics translate into uneven impacts on households' capacity to rearrange everyday activities across digital and physical space, extending far beyond remote work itself. As digital tools become embedded in social relations and everyday activities, digital transition reshapes how opportunities and constraints operate across three interrelated mechanisms: place attractiveness, access to opportunities, and the coordination of activities. These mechanisms act via housing and labour markets as the principal channels linking digital transition to the repositioning of people and

places, with capability, authority, and coupling constraints shaping who can access and benefit from digitally mediated opportunities—and who remains excluded.

Capability constraints persist and deepen through an additional layer of digital divides between urban and rural areas, and between individuals with different levels of digital skills and access to infrastructure and tools (van Dijk, 2020). However, improvements in digital skills (Zālīte et al., 2025) and regional policy interventions (Aasa et al., 2026) may help to mitigate these constraints for both people and places. Authority constraints, ranging from housing and labour-market regulations to the opening hours of service providers, are also reshaped by digital transition, often becoming less restrictive in relation to residential decision-making (Galster, 2024), service use (Kousalová, 2026), and work arrangements (Leonardi et al., 2024). Most importantly, digital transition relaxes coupling constraints, as the partial shift of activities into digital space reduces the need to be physically present at a specific place and time—but does so unevenly, concentrating this flexibility among higher-educated, higher-income workers in knowledge-intensive occupations while leaving those in place-bound work largely unaffected (Dingel & Neiman, 2020). Digital transition, therefore, reorders spatial relations in complex and uneven ways, raising three interrelated questions that guide this thematic issue.

The first question concerns whether the digital transition produces a fundamental spatial shift, repositions people and places within existing spatial structures, or instead reproduces existing spatial inequalities. Digitalisation has the potential to generate disruptive changes in the spatial functioning of societies (van Wee & Witlox, 2021), most notably by reshaping housing demand through weakening the need to live near workplaces (McCue, 2022), while also enabling more flexible residential strategies such as multilocal living (Reunamäki et al., 2026). At the same time, recent research suggests that the digital transition often functions less as a disruptive force and more as an enabling mechanism, allowing selective, path-dependent residential reconfigurations rather than a systemic spatial transformation (Vilhelmson et al., 2026). These reconfigurations largely follow pre-existing spatial divides, reinforcing rather than reshuffling existing inequalities across the settlement system (McCollum, 2025). For instance, Reunamäki et al. (2026) show that movers often prefer to remain within the same urban region, highlighting that while proximity to workplaces has become less important, physical accessibility continues to matter because occasional commuting remains necessary. The core issue, therefore, is whether the digital transition fundamentally restructures spatial inequalities or instead reorders places within the existing settlement system, shifting their relative attractiveness, access to opportunities, and coordination of everyday activities.

The second question concerns how the gains and losses associated with the digital transition are distributed across cities, suburbs, smaller towns, and rural areas within the settlement system. As has been the case throughout history (Glaeser, 2012), large cities continue to concentrate high-skilled jobs, innovation, and digital infrastructure in the digitally transforming societies (Luca et al., 2025). This concentration has long been linked to rising urban inequality and segregation (Florida, 2018), and the digital transition appears to reinforce rather than weaken these tendencies. In particular, it intensifies housing-market pressures through digitalisation-driven commodification and platformisation (Galster, 2024), which contribute to rising housing prices. These pressures constrain the residential options of less affluent households and renters, while simultaneously generating capital gains for homeowners and investors. The core issue, therefore, is how the digital transition reshapes the relative attractiveness of places and redistributes access to opportunities across the settlement system.

The third question concerns how digital transition rearranges everyday spatial connections between people, their activity places, and—consequently—their access to opportunities, such as workplaces, schools, services, and leisure. As work, services, and social interaction partly shift online, lifestyles change, daily routines become less tied to proximity between home and specific activity places, mobility patterns evolve, and new forms of dependence emerge. Residential decisions—long structured around access to workplaces, schools, services, and leisure opportunities (Tammaru et al., 2021)—become more differentiated as households vary in their capacity to arrange activities across physical and digital spaces (Kährik et al., 2026). Likewise, the spatial configuration of activity spaces and the mobility patterns within them change, contributing to an expansion of multilocal living arrangements and increasing work–home distances. Still, everyday activities become more strongly anchored around the home (Vilhelmson et al., 2026) or multiple homes. This question is therefore fundamentally about how digital transition reshapes the coordination of everyday activities across physical and digital spaces, and what new forms of spatial inequality emerge as a result.

2. Mechanisms of Spatial Change in Digitally Transforming Societies

Digital platforms, applications, and tools increasingly constitute the core infrastructure through which contemporary societies operate (Livingstone & Sefton-Green, 2025), reorganising how people and places are connected across different activity places, and structuring residential choice, economic activity, social relations, and everyday activities (Figure 2). Digital infrastructures and algorithmic governance do not act on space directly. Rather, they interact with existing spatial structures mainly through labour and housing markets, generating spatial differentiation through reconfigured place attractiveness, access to

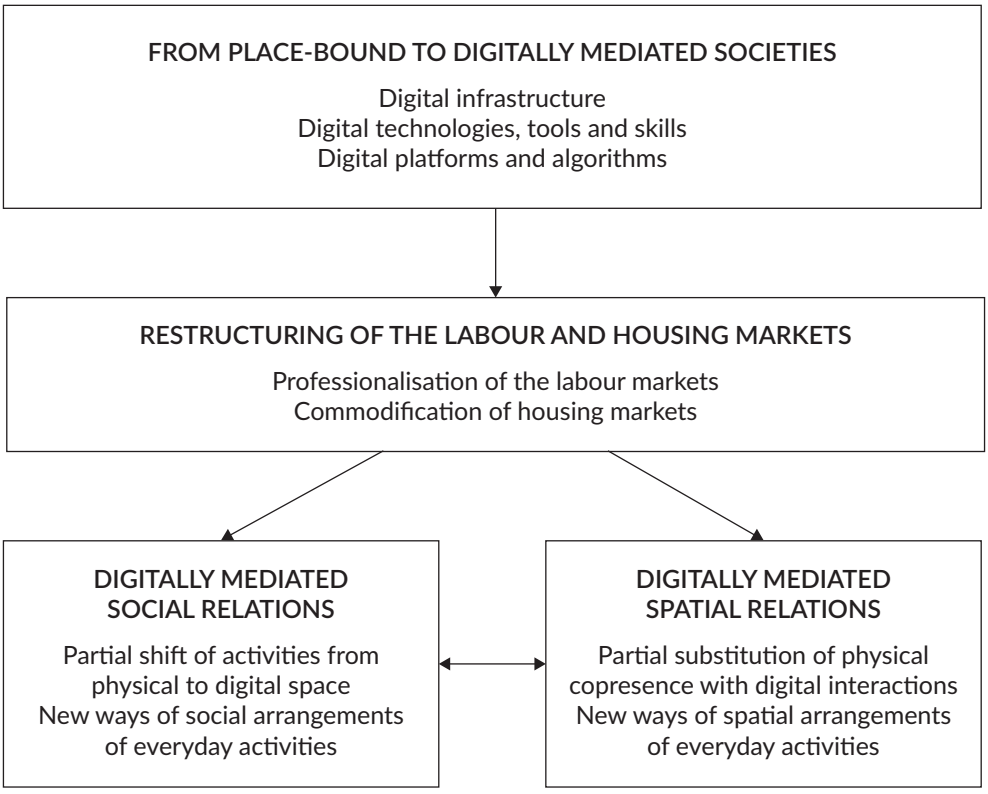

Figure 2. From place-bound to digitally mediated societies: new ways of social and spatial arrangements of everyday life.

opportunities, and the coordination of everyday activities. These three mechanisms do not operate independently or additively. Instead, advantages and disadvantages across place attractiveness, access to opportunities, and coordination of activities reinforce one another through a self-amplifying feedback logic. Higher online visibility attracts capital and talent, expanding access to opportunities and strengthening coordination capacity, which in turn further enhances attractiveness. This circular dynamic produces cumulative inequalities in which initial positional differences between people and places are progressively amplified, consistent with the Matthew effect (cf. Merton, 1968). It is through this same self-reinforcing logic that the long-term relative stability of the settlement system is reproduced.

Digital transition affects social and spatial relations by restructuring labour markets, reshaping access to employment, and the coordination of work (Figure 2). It contributes to the expansion of knowledge-intensive and highly skilled employment, reinforcing the long-term trend of labour-market professionalisation, especially in large cities (Ubarevičienė et al., 2025). Younger people are increasingly overrepresented in knowledge-intensive and digital occupations, such as those in the tech sector (Zālīte et al., 2025), supported by the expansion of higher education, intergenerational social mobility, and better digital skills. These opportunities are increasingly accessed through digital labour market platforms, where algorithmic recruitment systems shape which jobs, companies, and workers become visible (Fabris et al., 2025). Rising earnings among highly skilled workers expand residential choice (Hulchanski, 2010), further reinforced by opportunities to work from home (Leonardi et al., 2024). At the same time, the digital transition introduces new constraints and uncertainties. The extent to which AI will reduce labour demand across sectors and skill levels remains unclear (Brynjolfsson et al., 2025). It also expands precarious, platform-based forms of work, consistent with the social polarisation thesis (Sassen, 2001). Workers in such positions face more limited access to mortgage finance (Kalleberg, 2011) and, consequently, more restricted residential choice, particularly in high-priced urban housing markets.

Digital transition affects social and spatial relations by restructuring housing markets too, reconfiguring residential mobility through changing access to housing and growing demand for larger homes. Online platforms and their underlying logics further mediate the attractiveness and visibility of dwellings and neighbourhoods, access to housing, and the coordination of transactions across buying, selling, and renting (Galster, 2024). Platforms and algorithms govern as well as manipulate which dwellings and neighbourhoods are digitally visible in home-search, how rent applicants are screened, and how housing is segmented between homeowners, long-term renters, and short-term renters. As Zhang et al. (2026) show, this platform-based filtering of visibility is not neutral within the cities. Rather than simply reinforcing existing inequalities, platforms like TikTok generate new spatial patterns of online visibility in which lifestyle-oriented neighbourhoods gain prominence while large parts of the city remain digitally marginalised. By amplifying renter demand and short-term rental activity in already sought-after neighbourhoods, this reconfiguration accelerates gentrification pressures (García-López et al., 2020), while leaving less attractive areas invisible to potential residents and capital alike (Boeing, 2020). Platform-driven gentrification—the displacement of long-term residents from sought-after neighbourhoods through digitally mediated rental markets and short-term letting platforms—has emerged as a distinct urban dynamic, deepening housing inequality in high-demand cities (Sequera, 2025).

Digital visibility also varies across the settlement system. It is highest in large cities and tourist areas, where the concentration of listings on shared platforms enables landlords to benchmark prices upward, whereas

rural areas remain comparatively underrepresented (Mesa-Pedrazas et al., 2026). Digital platforms also broaden housing search for migrants, students, refugees, and digital nomads, enabling long-distance investment and inflows of capital into already attractive markets. This way, housing-market digitalisation intensifies commodification, most notably through short-term rental platforms that convert long-term housing into temporary accommodation, further tightening supply in high-demand areas. Together, these dynamics expand housing options for mobile and temporary users while constraining access to permanent housing for lower-income households and renters, thereby deepening the divide between owners and renters. At the same time, digital transition reshapes the meaning of home—from a physically bounded private space (Livingstone & Sefton-Green, 2025) to a node within digitally connected networks where work is also performed—thereby driving demand for more spacious dwellings that accommodate both living and working (Reunamäki et al., 2026).

3. Spatial Restructuring in Digitally Transforming Societies

The three mechanisms operating through housing and labour markets interact with the existing settlement system, while also contributing to changes within it, as different parts of the system unevenly gain or lose from the restructuring of housing and labour markets under digital transition (Figure 3). Large cities remain key nodes in the network society (cf. Castells, 1996), and the digital transition further strengthens their role as hubs coordinating both at global and national scales, thereby reinforcing metropolitan advantage (Aasa et al., 2026). Digitally intensive and knowledge-based employment, including remote work (Luca et al., 2025), continues to cluster in metropolitan regions, where agglomeration advantages—such as specialised labour pools, dense professional networks, institutional thickness, advanced infrastructure, and global connectivity—operate at global and national scales, supporting productivity, innovation, and knowledge exchange (Balland et al., 2020).

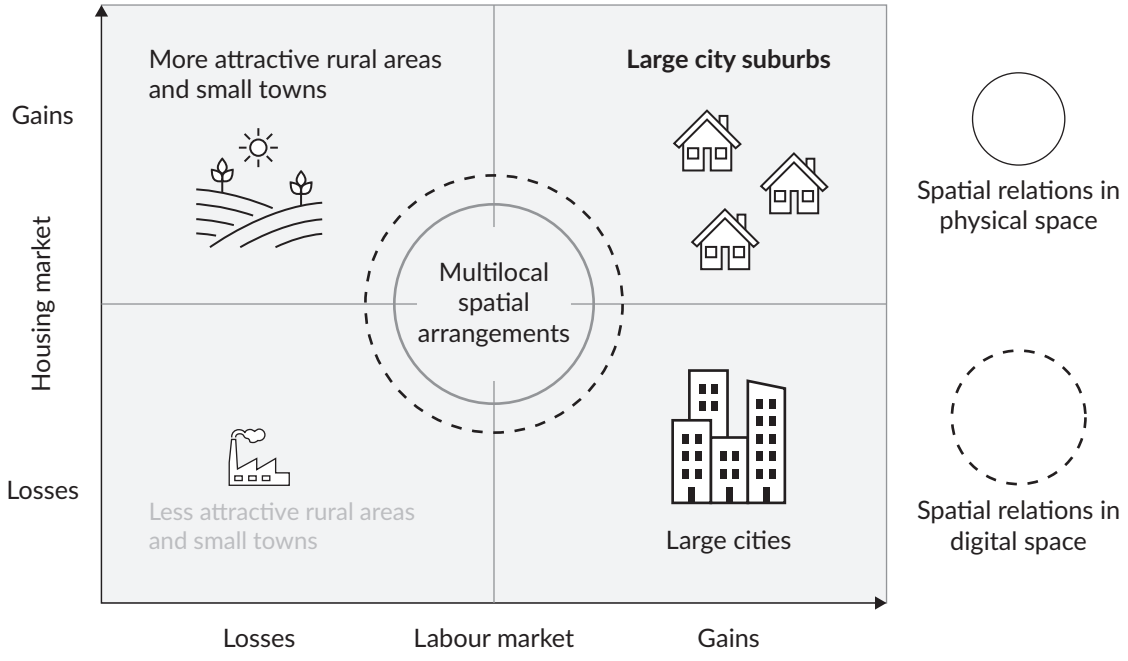

Figure 3. Digital transition induced gains and losses in the settlement system.

For workers, these metropolitan advantages translate into better career opportunities and upward social mobility, reinforcing the role of large cities as "escalator regions" (cf. Fielding, 1992). At the same time, these advantages are unevenly distributed within cities, clustering in city centres undergoing gentrification and thus contributing to socio-economic segregation (Ubarevičienė et al., 2025). Evidence from Riga illustrates this dynamic: creative and knowledge workers concentrate in historic inner-city and pre-war neighbourhoods, while leisure industry workers—whose jobs require physical presence—are more spatially dispersed across different neighbourhood types (Bērziņš et al., 2026). Digital transition also affects office spaces in multiple ways. While employers and businesses remain concentrated in large cities, the partial shift of work into digital space reduces demand for office space, raising concerns about a potential "urban doom loop"—a self-reinforcing cycle in which declining office use weakens urban revenues and local economies (van Nieuwerburgh, 2023). Yet the picture is more nuanced than simple office decline: Vibrant urban consumption spaces such as cafés and restaurants increasingly serve as attractive flexible work settings (Kousalová, 2026), while coworking spaces emerge alongside traditional offices in large cities (Sinitsyna & Alfieri, 2026).

These labour-market dynamics interact with housing-market dynamics, adding further complexity to the transformation of large cities under digital transition. Platform-mediated transactions, short-term rentals, and digitally coordinated investment intensify competition for housing in centrally located and amenity-rich neighbourhoods, which also attract workers engaged in flexible work arrangements. At the same time, a widening range of population groups—including domestic migrants, foreign workers, refugees, students, digital nomads, and tourists—adds demand to already tight urban housing markets. Many stays are temporary, yet digital tools enable these groups to maintain active connections to their countries of origin (Jauhiainen et, 2026). Together, the concentration of knowledge-intensive employment and intensifying housing competition increasingly restrict access to urban housing markets not only for lower-income but also for middle-income households, while concentrating agglomeration advantages among those able to remain (Hochstenbach & Musterd, 2018).

Suburban areas of large cities gain the most from housing and labour-market changes under the digital transition (Figure 3). Well-connected, low-density suburban environments emerge as spaces of triple access advantage, combining proximity to large-city labour markets and services, spacious dwellings in green environments, and access to high-quality digital infrastructure. Higher-income and higher-educated households benefit most from this advantage, as they are more likely to hold jobs that can be performed remotely (Luca et al., 2025) and experience a reduced commuting burden (de Menezes Amorim et al., 2026). Most relocations from large cities remain within metropolitan regions rather than beyond them, suggesting that occasional commuting still constrains residential choice (Sánchez-Moral et al., 2026). However, less frequent commuting also enables relocation further from large cities to environmentally attractive low-density locations—the so-called "donut effect" (Ramani et al., 2024)—increasing work–home distances (Coskun et al., 2026). As workplace proximity becomes less decisive, households can prioritise other factors, such as living closer to family to support intergenerational care and childcare (Kährik et al., 2026). Interestingly, the daily activity patterns of remote workers become more strongly anchored around the home, reducing everyday mobility distances (Vilhelmson et al., 2026) and concentrating social interaction within residential contexts. At the same time, new tensions emerge. First, this localisation of activity spaces is associated with higher levels of segregation, as people working from home and choosing nearby services experience more homogeneous daily environments than commuters in contexts of high residential

segregation, as shown in the Seattle metropolitan region (Cao et al., 2026). Second, among parents, working from home is associated with lower life satisfaction, reflecting the challenges of combining paid work and caregiving within the same space, as reported in a study from Belgium (Versigghel et al., 2026).

In rural areas and small towns outside urban regions, digital transition amplifies long-term job losses, as employment concentrates further in cities while nonmetropolitan areas reorient toward residence and consumption (Figure 3). Automation increases productivity in agriculture, forestry, and mining while reducing routine labour demand (Al-Amin et al., 2023), while high-skilled jobs generated by these changes partly relocate to cities (Berdegué et al., 2025). Disadvantages compound in former mining areas and agricultural centres that are least attractive for emerging consumption-based functions (Tammaru et al., 2023), leaving them excluded from the benefits of digital transition due to ageing populations, limited digital skills and access to high-quality digital infrastructure, and remoteness from urban opportunities (Leetmaa et al., 2025). Unlike cities with their vibrant cafés, restaurants, and social spaces that professional workers rely on for work, socialising, and leisure (Florida, 2018), rural areas offer less diverse opportunity structures for new consumption-oriented lifestyles. They also suffer from a digital visibility disadvantage. Low platform representation and sparse digital data trails make these areas less visible to capital, residents, and tourists alike (Mesa-Pedrazas et al., 2026), reinforcing their status as "forgotten spaces" (cf. Plüschke-Altof & Sept, 2023). Even where public investment has extended fast internet to underserved areas, IT companies and workers remain concentrated in already well-connected settlements, suggesting that digital infrastructure alone does not automatically translate into local economic activation (Aasa et al., 2026).

Digital transition brings a new wave of extended urbanisation in line with the concept of planetary urbanisation (Brenner & Schmid, 2014), reaching into rural areas by enabling residential preferences previously constrained by distance—through remote work and digitally mediated multilocal living arrangements. At the same time, it integrates rural areas more deeply into urban-origin flows of capital, knowledge, and opportunity. Amenity-rich rural areas with good accessibility and good digital infrastructure benefit through several interrelated pathways. Remote work eases distance constraints from urban labour markets, attracting new residents and enabling existing ones to avoid relocating to large cities by working from home (Reunamäki et al., 2026). This residential attraction is supported further by coworking spaces that offer professional infrastructure, reliable connectivity, and social interaction (Bosworth et al., 2023). Beyond facilitating remote work, multilocal arrangements enable families to raise children in more child-friendly environments and help slow population decline in rural areas while sustaining demand for local services (Reunamäki et al., 2026). New permanent and multilocal residents bring elements of urban lifestyle into rural areas (Tammaru et al., 2023), and households with green attitudes are particularly likely to seek out rural areas aligned with ecological lifestyles (Panori et al., 2026). The temporal rhythm of multilocal living is also changing as second homes get used more frequently and less seasonally, becoming settings for both residence and work rather than purely leisure (Hannonen et al., 2024). Amenity-rich rural areas also increase their role as places of consumption through tourism flows, gaining further attraction through enhanced visibility in digital booking systems and social media (Zainol & Roslan, 2025). Such changes strengthen the settlement system as a networked hierarchy of connectivity (Castells, 1996) and give rise to complex forms of multilocal belonging that connect individuals simultaneously to several places (cf. Schwanen et al., 2008).

Taken together, the contributions to this thematic issue show that digital transition is not a disruptive break with existing spatial structures, but a powerful force reshaping them through changes in residential decisions

and everyday activities. These dynamics unfold unevenly across the settlement system. Suburban areas emerge as the primary beneficiaries, while large cities retain their employment dominance while facing new housing market internal pressures. Rural areas and small towns outside urban regions experience the most polarised outcomes, with amenity-rich settlements gaining while peripheral areas face compounding disadvantage. At the core of these shifts lies the reorganisation of everyday activities, driven by unequal capacities of households to coordinate activities across physical and digital spaces. Digital transition thus neither eliminates distance nor diminishes the importance of place, consistent with Castells' (1996) insight that the space of flows does not dissolve the space of places but repositions them within existing settlement systems. It redefines how places matter by reshaping their attractiveness through the selective amplification of visibility within digital space, differentiating access to opportunities, and stratifying coordination capacity. The result is neither a fundamental spatial shift nor a simple reproduction of existing spatial inequalities, but a repositioning of people and places within existing spatial structures into more networked and multilocal social and spatial arrangements, mediated by digital transition-driven restructuring of labour and housing markets.

4. Avenues for Future Research

Building on these findings, we identify three avenues for future research that address the most pressing open questions in the field.

4.1. Remote Work and Changing Patterns of Spatial Mobility and Immobility

Future research should examine the extent to which the ability to work from home functions as a substitute for migration. This requires assessing how remote working arrangements enable people living outside major urban regions to access urban labour markets without relocating, potentially weakening the traditional links between migration, employment, and spatial inequality. Research should also pay greater attention to how the partial shift of activities from physical to digital spaces relates not only to mobility, but also to residential rootedness and immobility. A key question is whether digital transition reduces the need for migration or instead reconfigures it into more selective and spatially uneven flows across the settlement system.

4.2. Unequal Capacities of Households to Coordinate Activities Across Digital and Physical Spaces

Better knowledge is needed of how the capacity to coordinate everyday activities across digital and physical spaces varies across population groups, including age groups, life-course stages, and generations. While knowledge-intensive workers with better digital skills gain greater flexibility and benefit more from the opportunities provided by digital transition, diversifying residential choices and living further from workplaces, older generations and those in place-bound occupations remain more tightly constrained by physical proximity and fixed schedules. These differences intersect with education, income, and ethnicity, pointing to the need for more systematic research on how they jointly shape—at both individual and household levels—the capacity to coordinate everyday activities and, in turn, residential choices and spatial inequalities.

4.3. Differences Across Spatial Scales and Their Implications for Segregation

Future research also needs to address how digital transition reshapes spatial relations across scales, including the rise of multilocal living arrangements, and how both shape spatial inequality. While the uneven effects of digital transition across the settlement system are becoming better understood, important questions remain. In particular, from a household perspective, the expansion of residential choice alongside the contraction of daily activity spaces requires further attention. Intra-urban dynamics, including the uneven digital visibility of neighbourhoods, the role of digital platforms in shaping neighbourhood attractiveness, and their implications for community formation and social interaction, remain underexplored. A key question is whether and how the contraction of daily activity spaces around the home generates new vicious circles of segregation within already segregated residential contexts, potentially extending spatial inequality from places of residence to other activity places.

Acknowledgments

We are grateful to Raúl García Estévez, Anneli Kährik, Karin Torpan, and Jānis Zālīte for their valuable comments on earlier drafts of this manuscript. We also acknowledge all contributing authors to this thematic issue for their insightful work, which has informed and shaped the development of this introduction.

Funding

This editorial is based on research supported by the Estonian Research Council, under the research grant "Living Segregated Lives: Exploring Changes in Spatial Inequalities in Digitally Transforming Societies" (PRG1996), by the Ministry of Education and Research through the Centre of Excellence in Energy Efficiency (TK230U7), by the Research Council of Lithuania, under the research grant "PROximity Without Density" (PROWD) (S-DUT-25-1), and by the European Union, under grant agreement no. 101132580 (WinWin4WorkLife). The guest professorship of Olle Järv, who has been invited to contribute to this editorial piece, is financially supported by the University of Tartu Foundation.

References

Aasa, A., Ubarevičienė, R., García Estévez, R., & Tammaru, T. (2026). Which regions gain the most from digital transition: Urban, suburban, or rural? *Social Inclusion*, *14*, Article 11492. https://doi.org/10.17645/si.11492

Al-Amin, A. K. M. A., Lowenberg-DeBoer, J., Franklin, K., & Behrendt, K. (2023). Economics of field size and shape for autonomous crop machines. *Precision Agriculture*, *24*, 1738–1765. https://doi.org/10.1007/s11119-023-10016-w

Alfieri, L., Mariotti, I., & Rossi, F. (2025). The twin transition and flexible work arrangements: A systematic literature review. *Journal of Environmental Management*, *395*, Article 127988. https://doi.org/10.1016/j.jenvman.2025.127988

Ash, J., Kitchin, R., & Leszczynski, A. (2018). Digital turn, digital geographies? *Progress in Human Geography*, *42*(1), 25–43. https://doi.org/10.1177/0309132516664800

Balland, P. A., Jara-Figueroa, C., Petralia, S. G., Steijn, M. P. A., Rigby, D. L., & Hidalgo, C. A. (2020). Complex economic activities concentrate in large cities. *Nature Human Behaviour*, *4*, 248–254. https://doi.org/10.1038/s41562-019-0803-3

Berdegué, J. A., Trivelli, C., & Vos, R. (2025). Employment impacts of agrifood system innovations and policies: A review of the evidence. *Global Food Security*, *44*, Article 100832. https://doi.org/10.1016/j.gfs.2024.100832

Bērziņš, M., Balode-Kraujina, S., & Krišjāne, Z. (2026). Location and residential concentration of the "creative class" in Riga, Latvia. *Social Inclusion*, *14*, Article 11611. https://www.cogitatiopress.com/socialinclusion/article/view/11611

Boeing, G. (2020). Online rental housing market representation and the digital reproduction of urban inequality. *Environment and Planning A: Economy and Space*, *52*(5), 868–887. https://doi.org/10.1177/0308518X19869678

Bosworth, G., Whalley, J., Füzi, A., Merrell, I., Chapman, P., & Russell, E. (2023). Rural co-working: New network spaces and new opportunities for a smart countryside. *Journal of Rural Studies*, *97*, 550–559. https://doi.org/10.1016/j.jrurstud.2023.01.003

Brenner, N., & Schmid, C. (2014). The "urban age" in question. *International Journal of Urban and Regional Research*, *38*(3), 731–755. https://doi.org/10.1111/1468-2427.12115

Brynjolfsson, E., Chandar, B., & Chen, R. (2025). Generative AI at work. *Quarterly Journal of Economics*, *140*, 889–942. https://doi.org/10.1093/qje/qjae044

Cao, X., Jin, T., Mengyao, Z., & Shou, T. (2026). Does telework make people experience more segregation in daily activity spaces? *Social Inclusion*, *14*, Article 11557. https://doi.org/10.17645/si.11557

Castells, M. (1996). *The rise of the network society*. Blackwell.

Christaller, W. (1933). *Die zentralen Orte in Süddeutschland*. Gustav Fischer.

Coskun, S., Dauth, W., Gartner, H., Stops, M., & Weber, E. (2026). Working from home increases work–home distances. *Journal of Urban Economics*, *152*, Article 103832. https://doi.org/10.1016/j.jue.2026.103832

de Menezes Amorim, J., de Abreu e Silva, J., & Gonçalves, J. (2026). Commuting burden distribution: The equity effects of the new work dynamics on metropolitan areas. *Social Inclusion*, *14*, Article 11629. https://doi.org/10.17645/si.11629

Dingel, J. I., & Neiman, B. (2020). How many jobs can be done at home? *Journal of Public Economics*, *189*, Article 104235. https://doi.org/10.1016/j.jpubeco.2020.104235

Fabris, A., Baranowska, N., Dennis, M. J., Graus, D., Hacker, P., Saldivar, J., Zuiderveen Borgesius, F., & Biega, A. J. (2025). Fairness and bias in algorithmic hiring: A multidisciplinary survey. *ACM Transactions on Intelligent Systems and Technology*, *16*(1), Article 16. https://doi.org/10.1145/3696457

Fielding, A. J. (1992). Migration and social mobility: South East England as an escalator region. *Regional Studies*, *26*(1), 1–15. https://doi.org/10.1080/00343409212331346741

Florida, R. (2018). *The new urban crisis: How our cities are increasing inequality, deepening segregation, and failing the middle class*. Basic Books.

Fourcade, M., & Healy, K. (2024). *The ordinal society*. Harvard University Press.

Galster, G. (2012). The mechanism(s) of neighbourhood effects: Theory, evidence, and policy implications. In M. van Ham, D. Manley, N. Bailey, L. Simpson, & D. Maclennan (Eds.), *Neighbourhood effects research: New perspectives* (pp. 23–56). Springer. https://doi.org/10.1007/978-94-007-2309-2_2

Galster, G. (2024). How digitalisation influences neighbourhood change. *Urban Studies*, *61*(16), 3028–3049. https://doi.org/10.1177/00420980231198197

García-López, M. À., Jofre-Monseny, J., Martínez-Mazza, R., & Segú, M. (2020). Do short-term rental platforms affect housing markets? Evidence from Airbnb in Barcelona. *Regional Science and Urban Economics*, *84*, Article 103592. https://doi.org/10.1016/j.jue.2020.103278

Glaeser, E. (2012). *Triumph of the city: How our greatest invention makes us richer, smarter, greener, healthier, and happier*. Penguin Press.

Graham, S., & Marvin, S. (2001). *Splintering urbanism: Networked infrastructures, technological mobilities and the urban condition*. Routledge.

Hägerstrand, T. (1970). What about people in regional science? *Papers in Regional Science*, *24*(1), 7–21. https://doi.org/10.1007/BF01936872

Hannonen, O., Åkerlund, U., & Pitkänen, K. (2024). Recent developments in second home research: Has the COVID-19 pandemic spurred a re-thinking of second home mobilities? *Scandinavian Journal of Hospitality and Tourism*, *24*(2), 173–198. https://doi.org/10.1080/15022250.2024.2403539

Hansen, W. G. (1959). How accessibility shapes land use. *Journal of the American Institute of Planners*, *25*(2), 73–76. https://doi.org/10.1080/01944365908978307

Harvey, D. (1973). *Social justice and the city*. Edward Arnold.

Hochstenbach, C., & Musterd, S. (2018). Gentrification and the suburbanization of poverty: Changing urban geographies through boom and bust periods. *Urban Geography*, *39*(1), 26–53. https://doi.org/10.1080/02723638.2016.1276718

Hulchanski, J. D. (2010). *The three cities within Toronto: Income polarization among Toronto's neighbourhoods, 1970–2005*. Cities Centre, University of Toronto.

Jauhiainen, J. S. (2026). Immigrants' cross-border interaction and the pandemic: Estonians living in Finland. *Social Inclusion*, *14*, Article 11474. https://doi.org/10.17645/si.11474

Kährik, A., Kajdanek, K., Vallikivi, E., Tamm, H., Garcia Estevez, R., Plüschke-Altof, B., & Tammaru, T. (2026). Where the grass is greener: Exploring residential mobility of remote workers to the suburbs. *Social Inclusion*, *14*, Article 11669. https://doi.org/10.17645/si.11669

Kalleberg, A. L. (2011). *Good jobs, bad jobs: The rise of polarized and precarious employment systems in the United States, 1970s–2000s*. Russell Sage Foundation.

Kousalová, P. (2026). Time–space barriers in teleworkers' daily mobility. *Social Inclusion*, *14*, Article 11643. https://doi.org/10.17645/si.11643

Leetmaa, K., Bochkova, M., Kangro, K., Kübar, T., Lepik, K. L., Pastak, I., Plüschke-Altof, B. (2025). Digital transformation through the lens of peripheralisation: Double exclusion of ageing rural localities in an advanced e-country. *European Urban and Regional Studies*. Advance online publication. https://doi.org/10.1177/09697764251388979

Leonardi, P. M., Parker, S. H., & Shen, R. (2024). How remote work changes the world of work. *Annual Review of Organizational Psychology and Organizational Behavior*, *11*, 193–219. https://doi.org/10.1146/annurev-orgpsych-091922-015852

Livingstone, S., & Sefton-Green, J. (2025). The platformization of the family. In J. Sefton-Green, K. Mannell, & O. Erstad (Eds.), *The platformization of the family: Towards a research agenda* (pp. 7–24). Palgrave Macmillan.

Luca, D., Özgüzel, C., & Wei, Z. (2025). The new geography of remote jobs in Europe. *Regional Studies*, *59*(1), Article 2352526. https://doi.org/10.1080/00343404.2024.2352526

Massey, D. (2005). *For Space*. Sage.

McCollum, D. (2025). Post-pandemic geographies of working from home: More of the same for spatial inequalities? *Transactions of the Institute of British Geographers*. Advance online publication. https://doi.org/10.1111/tran.12749

McCue, D. (2022). *The possible impacts of remote work on cities, neighborhoods, and households* (Working Paper) Joint Center for Housing Studies, Harvard University. https://www.jchs.harvard.edu/blog/possible-impacts-remote-work-cities-neighborhoods-and-households

Merton, R. K. (1968). The Matthew effect in science. *Science*, *159*(3810), 56–63. https://doi.org/10.1126/science.159.3810.56

Mesa-Pedrazas, Á., Torrado, J. M., Palomares-Linares, I., & Duque-Calvache, R. (2026). The digitalization of the housing market in Spain: Online platforms and spatial inequalities. *Social Inclusion*, 14, Article 11584. https://doi.org/10.17645/si.11584

Moreno, C. (2024). *The 15-minute city: A solution to saving our time and our planet*. Wiley.

Panori, A., Papastergiou, E., Väisänen, T., Malekzadeh, M., & Järv, O. (2026). Twin transition attitudes and regional left-behindness: Unpacking the drivers of interregional migration intentions. *Social Inclusion*, *14*, Article 11543. https://doi.org/10.17645/si.11543

Plüschke-Altof, B., & Sept, A. (2023). How to make forgotten spaces visible? Image making as a coping strategy of two European small towns. In M. C. Sánchez-Carreira, P. Reis, & B. Blanco-Varela (Eds.), *European regional policy and development: Forgotten regions and spaces* (pp. 53–69). Routledge. https://doi.org/10.4324/9781003256281-6

Ramani, A., Alcedo, J., & Bloom, N. (2024). How working from home reshapes cities. *Proceedings of the National Academy of Sciences*, *121*(45), Article 2408930121. https://doi.org/10.1073/pnas.2408930121

Reunamäki, R., Van Acker, V., & Järv, O. (2026). The impacts of remote work on residential space: A review on relocation, multilocality, and spatial inequality. *Social Inclusion*, *14*, Article 11664. https://doi.org/10.17645/si.i468

Sánchez-Moral, S., Arellano, A., & Díez-Pisonero, R. (2026). The impact of remote working on residential mobility in the metropolitan region of Madrid. *Cities*, *169*, Article 106462. https://doi.org/10.1016/j.cities.2025.106462

Sassen, S. (2001). *The global city: New York, London, Tokyo* (2nd ed.). Princeton University Press.

Schwanen, T., Dijst, M., & Kwan, M. P. (2008). ICTs and the decoupling of everyday activities, space and time. *Tijdschrift voor Economische en Sociale Geografie*, *99*(5), 519–527. https://doi.org/10.1111/j.1467-9663.2008.00489.x

Sequera, J. (2025). Platform gentrification: The production of urban inequalities in the on-demand city. *Open Research Europe*. https://doi.org/10.12688/openreseurope.20362.2

Sinitsyna, A., & Alfieri, L. (2026). The response by co-working spaces to digital transformation in Singapore. *Social Inclusion*, *14*, Article 11685. https://doi.org/10.17645/si.11685

Tammaru, T., Kliimask, J., Kalm, K., & Zālīte, J. (2023). Did the pandemic bring new features to counter-urbanisation? Evidence from Estonia. *Journal of Rural Studies*, *97*, 345–355. https://doi.org/10.1016/j.jrurstud.2022.12.012

Tammaru, T., Knapp, K., Silm, S., Van Ham, M., & Witlox, F. (2021). Spatial underpinnings of social inequalities: A vicious circles of segregation approach. *Social Inclusion*, *9*(2), 65–76. https://doi.org/10.17645/si.v9i2.4345

Ubarevičienė, R., Tammaru, T., van Ham, M., Basílio Junior, L., Bērziņš, M., Credit, K., Gaspar Silva, D., Harris, R., Kalm, K., Kauppinen, T., Krišjāne, Z., Malheiros, J., Maloutas, T., Manley, D., Musterd, S., Nel·lo, O., Nevanto, M., Novotný, L., Ouředníček, M., . . . Wessel, T. (2025). A comparative study of socio-economic segregation in European capital city-regions: From segregation to desegregation? *Urban Studies*, *63*(4), 779–803. https://doi.org/10.1177/00420980251378028

van Dijk, J. (2020). *The digital divide*. Polity Press.

van Nieuwerburgh, S. (2023). The remote work revolution: Impact on real estate values and the urban environment. *Real Estate Economics*, *51*(1), 7–48. https://doi.org/10.1111/1540-6229.12422

van Wee, B., & Witlox, F. (2021). COVID-19 and its long-term effects on activity participation and travel behaviour: A multiperspective view. *Journal of Transport Geography*, *95*, Article 103144. https://doi.org/10.1016/j.jtrangeo.2021.103144

Versigghel, J., Hook, H., De Vos, J., & Witlox, F. (2026). Does telework work for everyone? Teleworking's impact on wellbeing across gender and parental status. *Social Inclusion*, *14*, Article 11538. https://doi.org/10.17645/si.11538

Vilhelmson, B., Thulin, E., & Solá, A. G. (2026). The new geography of hybrid work: Do we live more locally when work moves home? *Applied Geography*, *186*, Article 103834. https://doi.org/10.1016/j.apgeog.2025.103834

Zainol, R., & Roslan, F. F. (2025). A scoping review of big data applications in assessing rural tourism destination. *Journal of Design and Built Environment*, *2025*, 107–119. https://doi.org/10.22452/jdbe.spVI.6

Zālīte, J., Kalm, K., Leetmaa, K., & Tammaru, T. (2025). Digital transition and cities: How tech workers reshape ethnic and class-based segregation. *Research Square*. Advance online publication. https://doi.org/10.21203/rs.3.rs-6321132/v1

Zhang, S., Forgaci, C., Qu, L., & van Ham, M. (2026). Uneven digital visibility of urban places: Evidence from tiktok hotspots. *Social Inclusion*, *14*, Article 11647. https://doi.org/10.17645/si.11647

Zook, M., & Graham, M. (2007). Mapping DigiPlace: Geocoded internet data and the representation of place. *Environment and Planning B: Planning and Design*, *34*(3), 466–482. https://doi.org/10.1068/b3311

About the Authors

Tiit Tammaru is a professor of urban and population geography at the University of Tartu and a member of the Estonian Academy of Sciences. His research interests include digital transition, migration, residential mobility, housing, activity spaces, and segregation. He develops the concept of vicious circles of segregation and register-based data infrastructure in Estonia.

Kadi Kalm is a research fellow in migration studies at the Department of Geography, University of Tartu. Her research focuses on spatial inequalities and integration, inter ethnic contact across different life domains, as well as residential mobility and migration.

Rūta Ubarevičienė is a human geographer at the Lithuanian Centre for Social Sciences. Her research focuses on spatial inequality, segregation, depopulation, internal migration, and housing. She combines urban and regional geography with sociology, using spatial analysis and statistical methods to study socio-spatial change at both local and global scales.

Veronika Mooses is a research fellow in Human Geography at the University of Tartu and a member of the Mobility Lab, University of Tartu. Her main research interest lies at the intersection of spatial mobility, urban development, and socio-ethnic inequalities.

Anto Aasa is an associate professor in Human Geography at the University of Tartu. His research focuses on using mobile positioning data and big data approaches to study human mobility, population statistics, tourism, and spatial segregation. His earlier work examined phenological responses to climate change.

Olle Järv is a university researcher at the University of Helsinki and a visiting professor at the University of Tartu. He examines people's spatial mobilities to understand social processes and phenomena, and how to derive mobility from big data. His research covers regional attractiveness, segregation, border regions, and transnational and multilocal lifestyles.