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Proposal for an ESPON 2030 Programme Thematic Action Plan (TAP) on 'Smart connectivity'

INPUT PAPER FOR PUBLIC CONSULTATION

1. The understanding

The ESPON's accessibility indicators demonstrate that, overall, there are significant disparities in accessibility at the regional and local levels. From most locations in Europe, at least one regional centre can be reached in less than 60 minutes' travel time. However, only in western Europe more than five different cities can be reached within this 1-hour time frame. Infrastructure endowment is still much lower in eastern Europe. According to the latest European Commission analysis (2022)[1], cities consistently perform better than suburbs and rural areas in all European countries, for instance, when regional and territorial accessibility indicators for passenger rail or road are considered.

This dichotomy is rather hard to resolve, perhaps even impossible in some cases, thus "digital" is the new connector, bringing new opportunities for the less connected areas, where physical connectivity is and perhaps always will be handicapped. The digital transition can improve access to services and transform how territories respond to territorial development challenges stemming from physical accessibility, remoteness and peripherality.

In simple terms, "smart connectivity" in this TAP means a focus on digital transition of connectivity patterns, and using digital and green solutions to enhance transport and passenger mobility and accessibility. The objective of this TAP is to link digitalisation and mobility, and develop a knowledge base as regards to understanding how digital transition can help dealing with territorial challenges and digital cohesion, especially related to low accessibility (for instance, via a better and smarter (greener) connectivity, improved digital skills and new ways how to organise public services across different levels of governance). In addition, through the observations for the entire ESPON Programme area, this TAP intends to provide analysis and policy guidance on how to improve transport and passenger mobility and accessibility in places which are outside of high speed networks and fall into enclaves of lower accessibility and consequently potential reduced economic potential.

This TAP shall not have a profound focus on innovation to support business development in terms of exploring such elements as "comparative advantage", creating added value, etc. The innovation shall be explored more from the context of private sector offering appropriate solutions to public administrations.

[1] European Commission (2022). Regional and territorial accessibility indicators for passenger rail. See: https://op.europa.eu/en/publication-detail/-/publication/c33890a8-a4db-11ec-83e1-01aa75ed71a1/language-en/format-PDF/source-search

This TAP shall also be future-looking and have a profound focus on the foresight element, in order not to arrive at obvious conclusions, given the vast efforts (funding and research wise) already dedicated to digital transition. The European Strategy and Policy Analysis System (ESPAS) has, in this context, developed four scenarios (November 2022) on how digital cohesion might look like in the coming decades.[2]

Among others, this TAP:

- Includes methodological studies aimed at accessing new data and developing appropriate indicators in order to assess digitalization, connectivity at territorial level in terms of current states of affairs and development potentials.
- Supports organisational change and scaling up of digital skills and paramount digital solutions (CEF building blocks, minimal interoperability mechanisms, standards), in order to support digital transition efforts of territories via smart connectivity.
- Improves access to basic public services for all citizens, especially for those in less connected areas via support in delivering digital solutions (e-government, e-health, e-energy and e-transport, etc.) and improved digital skills via vocational training, youth initiatives and other activities.
- Strengthens the capacities and digital skills of policy makers in order develop appropriate and tailored regional and local digital strategies via citizen-centric approach, service design (co-creation, innovation 2.0), by taking into account also the role of digital innovation ecosystems.

2. The policy setting

This TAP theme is linked to the Cohesion Policy objective of Smarter Europe by addressing an innovative, smart digital transformation as well as regional ICT connectivity. It links as well to the objective of More connected Europe by addressing the sustainable component of enhancing mobility and accessibility. This TAP theme is also linked to the Territorial Agenda 2030 theme of a Green Europe, by improving sustainable connections and supporting sustainable digital and physical connectivity of places.

The digital transition is one of the key targets of the EU spanning across several policy fields, deeply rooted in the EU's Digital Decade (2021) initiative. At the EU level, the aim is to have open and efficient governments, interoperable digital public services for all citizens and businesses, and a modern infrastructure to support digital connectivity. Thus, the Digital Single Market remains a priority in the post-2020 multiannual financial framework and will continue to be supported by the Connecting Europe Facility (CEF) in terms of digital infrastructure (CEF Digital) and also by the Digital Europe Programme.

In 2020, the European Commission adopted "Sustainable and Smart Mobility Strategy". Together with the European Green Deal, these initiatives have triggered multiple proposals in terms of promoting smarter mobility (for instance, via zero emission vehicles or automated multimodal mobility). The proposal for the revised Trans-European Transport Network entails a multitude of improvements to

[2] ESPAS Ideas Paper Series (2022). Digital Cohesion. See: https://espas.eu/files/ESPAS-Ideas-Paper-CoR-Digital-cohesion.pdf

further improve transport connectivity and accessibility, for instance, via improved rail connections and use of innovative technologies like 5G to further advance the digitalisation of transport infrastructure. Initiatives like the European Commission's new European Urban Mobility Framework (2022) provides further guidance, for instance, for local action and offering cities a toolbox for sustainable mobility.

3. The challenges, trends and drivers behind

Along the way, the Covid-19 pandemic has clearly accelerated the digitalisation efforts, and businesses and citizens will continue to capitalise on the momentum, as emphasised by the EIB, as - before - the pandemic, cutting-edge digital technologies were primarily used by the most innovative and modern firms, which is not the case anymore[3]. According to Eurostat, in 2021, already 80% of the EU's population aged 16–74 years, reportedly, used the internet on a daily basis. Moreover, in every region of the EU, more than 60 % of the population aged 16–74 years used the internet on a daily basis.[4] However, there are widespread disparities between EU regions in terms of use of the internet (for instance buying goods and services, using internet banking) along broad geographical lines: Northern and Western European regions generally recording higher levels than Southern or Eastern regions. As demonstrated by ESPAS and the work by the European Committee of the Regions, more broadly the issue of digital cohesion is at stake, since territorial digital divides exist across many fronts.[5]

Thus, digital transformation comes with a profound challenge of tackling territorially uneven progress across many fronts.

(1) In the summer of 2022, the European Parliament and the Council reached an agreement on establishing the Policy Programme "Path to the Digital Decade" which sets out a clear roadmap to achieve the ambitious targets of the Digital Compass (the monitoring vehicle of the Digital Decade), for instance - 100% online accessibility of key public services for the EU's citizens and businesses" by 2030. From the territorial perspective, the ongoing initiatives like "smart villages" is a adequate response to make the digital transition a reality for everyone, not only for those who live in "smart cities". However, more efforts are needed, for instance, initiatives like living-in.eu effortlessly provide support to make digital solutions available in any place ("smart communities"). Nevertheless, if the path to the digital decade is to be achieved, all levels of government need to provide their input in establishing a digital strategy/roadmap, especially at the local level which is at the heart of public service delivery, in order to avoid any digital divides in the future.

(2) The benefits of digitalisation include economic growth, the creation of new types of jobs, improved public services and access to services, and opportunities to combat peripherality through digital connectivity. So far, the digitally more developed regions of Northern and Central Europe overlap with the knowledge and innovation regions. However, as demonstrated by the ESPON T4 project, new islands of innovation have appeared on the European regional map also in lagging territories, thus, the old

[3] EIB (2022). Digitalisation in Europe 2021-2022: Evidence from the EIB Investment Survey (https://www.eib.org/en/publications-research/economics/digitalisation-in-european-union.htm)

[4] Eurostat Regional Yearbook 2022: https://ec.europa.eu/eurostat/web/products-flagship-publications/-/ks-ha-22-001

[5] ESPAS Ideas Paper Series (2022). Digital Cohesion. See: https://espas.eu/files/ESPAS-Ideas-Paper-CoR-Digital-cohesion.pdf

dichotomy of rich and technologically leading countries vs. poor and technologically lagging behind countries may no longer be entirely true. For this to become a further reality, there is a need for a profound adaptation in terms of improving digital skills. For instance, according to Eurostat, use of social networks is standing out as not showcasing a clear regional divide, surprisingly, despite relatively low levels of internet access, many eastern regions of the EU recorded quite high shares of people participating in social networks.[6] This indicates that even less developed regions could hold a potential for reaping the benefits of digitalisation via the right stimuli to improve digital skills. The announced European Year of Skills (2023) will be a good opportunity to fast-track the process of improving digital skills at all territorial levels.

(3) Digitalisation enables the provision of modern public services (e.g. e-government, e-health, e-energy and e-transport), while digital public services bring benefits for citizens and governments. These include reduced bureaucracy, the simplification of administrative procedures and the improvement of citizen–administration and citizen–service provider interactions. However, amidst all the good efforts, regional and local governments are still developing individualised digital solutions, tailored to the reality of each territory. Thus, interoperability of public services is many times lacking and duplication, waste of resources is an unfortunate by-product of public service digitalisation. Thus, better coordination efforts are needed between different levels of government and also with a strong participatory element from the private sector in order to make the solutions more modular, flexible, adaptive, breaking away from a one-provider mentality which exists in many public sector administrations. Overall, more than half of the European municipalities are of less than 5000 inhabitants and, inevitably, they won't have capacity to transform on their own. This is a striking reality that needs to be taken into account when building digital solutions.

(4) Digital connectivity is the driving force of the digital transformation. While the roll out of the fibre cables and 5G technology is accelerating in cities, unfortunately, some remote areas are still not benefitting from the promise of better connectivity. According to the JRC, urban areas present the highest speed in broadband connection, revealing how the areas already most connected in terms of physical networks are also the most connected from the digital point of view[7]. The latest DESI report (2022) also confirms that the current trend indicates a risk that a significantly lower proportion of rural households will be connected, and they will be connected significantly later than in non-rural areas.[8] Thus, the connectivity issue is in many ways the "dark horse" of the digital transition efforts – current trends overshadow the promise that any remote territory can overcome many challenges by being more digital. However, a continuous funding and locally led initiatives may overturn the current course of the events.

(5) In order to promote digital transformation and the scaling up of digital innovation, there is a clear need to know what works, what doesn't and why. Unfortunately, still little can be said about digitalisation at the territorial level. Currently, only some standard statistical indicators are available only at NUTS 2 level for comparative purposes, let alone the more nuanced indicators which shed light on digitalisation efforts. Under the umbrella of the LORDI (Local and Regional Digital Indicators) which is steered by the

[6] Eurostat's Regions in Europe — 2022 interactive edition: https://ec.europa.eu/eurostat/cache/digpub/regions/

[7] JRC (2022), New perspectives on territorial disparities. See : https://publications.jrc.ec.europa.eu/repository/handle/JRC126033

[8] Analysing DESI 2022: deployment of rural Very High-Capacity Networks must accelerate (https://digital-strategy.ec.europa.eu/en/node/11291/printable/pdf)

CoR, ESPON, European Commission and other stakeholder networks, a first attempt has been made to identify new possible indicators. As things stand, data collection efforts most likely will involve unconventional sources, use of big data, self reported surveys, etc., where to make things worse, the data would still need to be harmonized for any European benchmarks. Nevertheless, to be able to make informed decisions, inevitably the data challenge will need to be addressed. ESPON DIGISER (2022) project attempted a first effort of its kind at carrying out a survey of 250 European cities to gain insights on the key digitalisation indicators in public administrations.

This TAP looks at the smart connectivity not only from purely digital perspective but also from transport and passenger mobility where similarly challenges exist, albeit along two broad axis – access to places and services and access to adequate and efficient transport solutions, especially for less connected places, TEN-T catchment areas, rural areas and other peripheral territories.

Stemming primarily from ESPON's work on Inner Peripheries (PROFECY) and Regional Urbanization (IMAGINE), there seems to be a gap in policy response to manage the effects of high-speed travel across European regions. Infrastructure that facilitates high-speed travel bypasses small and often medium-sized cities, towns and villages, connecting mainly metropolitan centres and other key urban nodes. While European cities are becoming increasingly connected by faster and easier travel (rail and air) enclaves of lower accessibility and reduced economic potential are being actively created.

A deeper territorial dive shows that remote areas are affected far more than other territories. Based on the work of the ESPON PROFECY on inner peripheries, a new JRC analysis still confirms that urban areas in the EU provide better opportunities in terms of accessibility to services compared to rural areas, people have to travel larger distances to reach a service area or facility.[9] The lack of transport infrastructure remains one of the main drivers of peripheralisation, especially in terms of facilitating access to urban centres and services of general interest.

In addition, rural areas have a particularly dire challenge of ensuring transport accessibility. Many different experiences exist across Europe[10], but in many cases road and rail improvements are essential to improving connectivity and accessibility, either through improving services, or improving infrastructure. This also makes public transport and public transport providers crucial to the success of improving connectivity and accessibility. As concluded by the ESPON URRUC project, possible interventions to structurally improve mobility and support multimodality include: road or rail extension, intermodal parking facilities for bikes and cars, integrated multimodal ticketing and intermodal passenger transport. ESPON STISE (2021) further explored Mobility as a Service (MaaS) – with a focus on passenger transport from the public authority's perspective: defining the role public authorities have in this development, how can they operate and what the potential benefit is they can realise.

This TAP has a potential to address all kinds of places, especially places with geographic specificities and even city areas which are constantly in the focus via such initiative like European Mobility Week.

[9] JRC (2022). Accessibility to services in Europe's Member States – an evaluation by degree of urbanisation and remoteness. See: https://publications.jrc.ec.europa.eu/repository/handle/JRC124457

[10] Vitale Brovarone, E., Cotella, G., & Staricco, L. (Eds.). (2021). Rural Accessibility in European Regions (1st ed.). Routledge.

Policy needs:

- Which are the main challenges and constraints in your country/region/territories in terms of digital transition and transport and passenger connectivity?
- Do you need any specific evidence and/or support to better analyse challenges and be able to identify the opportunities when it comes to bringing to life the promise of smart connectivity?
- What is the character of any knowledge gaps? Are you looking for support to identify the right smart connectivity solutions or the bottleneck lies in being able to implement already an existing solution?
- Would you see ESPON as a right instrument to address any knowledge gaps? Are your knowledge gaps related more to passenger mobility or enhancing freight and trade? Do knowledge gaps lie more in understanding connectivity in non-urban areas or still there is a need to analyse mobility at a city level?
- What would then be your specific evidence and knowledge needs for better capacity development in policymaking that ESPON could address?

Research support:

- What is the stock of available scientific evidence (beyond the one accumulated at ESPON) concerning digital transition and mobility (smart connectivity)?
- Are there any distinct evidence gaps on smart connectivity that the ESPON Programme would be suited to fill?
- How to further support development of local indicators of digital transition? How to expand from covering just cities and making the data longitudinal?