



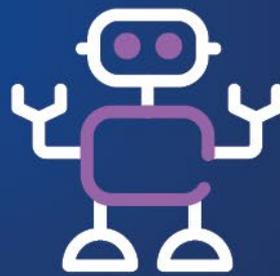
RECOVERY AND RESILIENCE SCOREBOARD

NEXT
GEN
EU

Thematic analysis

Connectivity

January 2023



This paper is part of a series of thematic analyses undertaken by the European Commission to illustrate the impact of the Recovery and Resilience Facility (RRF). The RRF is the European Union's largest ever funding instrument and is intended to support European economies and societies to recover from the Covid-19 pandemic and build resilience against future shocks. EU Member States commit to implement ambitious reforms and investments and receive funds from the RRF when they achieve these commitments.

Recovery and Resilience Scoreboard

Thematic analysis



Policy Overview

More and better connectivity is key for Europe's development in an increasingly digital world. Guaranteeing ubiquitous internet access and availability of digital services is crucial for everyday activities - economic, social or cultural. This was amply shown during the COVID-19 crisis when electronic communications networks played a crucial role in enabling remote working and schooling, healthcare, personal communication and entertainment.

To unlock the full potential of digital transformation, the European Union needs connectivity infrastructure that is performant, resilient, secure and sustainable. Such infrastructure should be optimised to leverage the latest optical fibre technologies in fixed networks and to connect innovative wireless systems such as 5G, 6G and Wi-Fi. Widespread gigabit connectivity¹ is important for intensive use in areas such as health, education, transport, logistics, manufacturing and media, which can play a key role in Europe's competitiveness and resilience. Very high-capacity networks² are the enablers for emerging and future digital services such as the adoption of improved video standards, cloud services, applications based on virtual and augmented reality, artificial intelligence applications and automated driving. More generally, fixed and wireless connectivity contributes to providing accessible services and bridging the digital divide.

Further efforts are needed to accelerate the deployment of connectivity infrastructure in the European Union. Today, while the EU has full coverage of basic broadband infrastructure, 30% of households still do not have access to fixed very high-capacity networks capable of providing at least gigabit connectivity, with coverage being significantly lower in rural areas. In addition, while 5G coverage has increased substantially in recent years, 34% of populated areas in the EU are still not covered by 5G networks.

In the context of the Recovery and Resilience Facility (RRF), the Commission has encouraged Member States to include in their recovery and resilience plans (RRPs) reforms and investments aimed at improving connectivity. The goal is to foster and facilitate the widespread deployment of very high-capacity networks, including 5G, in line with the EU's 2025 connectivity objectives and the EU Digital Decade targets to ensure that by 2030 all end users at a fixed location are covered by a gigabit network and all populated areas are covered by next generation wireless high-speed networks with at least 5G equivalent performance. While private investments will account for a major part of investments, the public sector has a role to play in removing legislative and administrative barriers as well as supporting very high-capacity network deployment in areas with low commercial interest.

¹ Gigabit connectivity is to be understood as cost-effective symmetrical Internet connectivity capable of providing a download and upload data transfer speed of at least 1 gigabit per second.

² 'Very high capacity network' means either an electronic communications network which consists wholly of optical fibre elements at least up to the distribution point at the serving location, or an electronic communications network which is capable of delivering, under usual peak-time conditions, similar network performance in terms of available downlink and uplink bandwidth, resilience, error-related parameters, and latency and its variation; network performance can be considered similar regardless of whether the end-user experience varies due to the inherently different characteristics of the medium by which the network ultimately connects with the network termination point.

Recovery and Resilience Scoreboard

Thematic analysis



Connectivity in the recovery and resilience plans

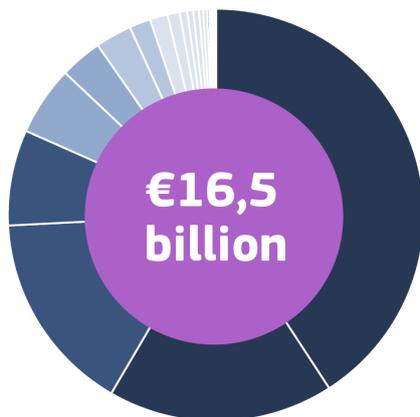
Overview of the plans

Overall, 21 Member States have included reforms and investments related to connectivity in their RRP.

The cost of these reforms and investments is planned to be €16.5 billion, representing approximately 3.3% of the total estimated RRF expenditure of the 26 approved RRP, and 12% of total estimated digital expenditure. For the 21 Member States that have included connectivity in their plans, it corresponds to approximately 3.6% of the total estimated RRF expenditure.

Connectivity

Expenditure in EUR millions per Member State



■ Italy, € 6721	■ Spain, € 2887	■ Poland, € 2600
■ Greece, € 1233	■ Austria, € 891	■ France, € 540
■ Sweden, € 464	■ Bulgaria, € 272	■ Czechia, € 227
■ Croatia, € 157	■ Romania, € 94	■ Belgium, € 77
■ Lithuania, € 74	■ Cyprus, € 53	■ Finland, € 50
■ Slovenia, € 30	■ Estonia, € 24	■ Ireland, € 19
■ Latvia, € 17	■ Denmark, € 13	■ Portugal, € 10
■ Germany, € 0	■ Slovakia, € 0	■ Luxembourg, € 0
■ Malta, € 0	■ The Netherlands, € 0	

EU: For the 26 Member States, whose recovery and resilience plans have been approved so far. Note: This chart shows estimated expenditure based on the pillar tagging methodology for the Recovery and Resilience Scoreboard and corresponds to the measures allocated to the policy area "Connectivity" as primary or secondary policy area.*

Main reforms

The RRP include important reforms to create an environment which facilitates the timely roll out of fixed and wireless very high-capacity networks. Many of those reforms involve the implementation of the

Recovery and Resilience Scoreboard

Thematic analysis



recommendations set out in the EU Connectivity Toolbox,³ a set of best practices for the roll out of 5G and fast broadband.

Most typically, the RRPs contain reforms which will remove unnecessary administrative hurdles for investments in gigabit and 5G networks. The planned measures aim in particular to expedite permit granting procedures, establish a single point of contact for the application for licenses and permissions, optimise procedures for constructing electronic communication networks, and improve coordination between all relevant stakeholders (national government, municipalities, companies, etc.). Another example of such reforms includes a possible revision of regional radiation standards, which is expected to lift a significant hurdle for the 5G deployment in the relevant Member State.

In their RRPs, several Member States commit to a timely assignment of radio spectrum for 5G networks. Spectrum assignment is an important precondition for the launch of 5G services; however, it is still not complete in several Member States: by October 2022, only 62,3% of the total harmonised 5G pioneer spectrum has been assigned. The relevant RRPs envisage that 5G pioneer spectrum will be assigned on specific dates through spectrum auctions, notably under investment-friendly conditions and ensuring promotion of competition in networks and services.

Some RRPs contain reforms aimed at providing financial incentives for the deployment of very high-capacity networks. Examples of such reforms include the reduction of fees for the use of spectrum, temporary reduction of the 5G spectrum taxation and exploring the feasibility of allowing operators to pay radio spectrum award fees in instalments.

The RRPs also envisage other targeted reforms to foster network deployment. Those include, for instance, promoting the availability of information on physical infrastructures and civil works (notably through improving the capacity to gather such information and ensuring a single information point for operators to access it); developing guidelines on sharing passive infrastructure (i.e. physical one such as ducts, poles, sites, towers) and active infrastructure (i.e. electronic one such as switches and base station equipment); and adopting legislation to promote the deployment of telecommunications networks on national and municipal infrastructures (roads, bridges, squares, etc.).

Finally, the RRPs take due account of the cybersecurity considerations in the deployment of very high-capacity, and in particular 5G networks. Some Member States committed to introduce national legislation on 5G network security, drawing upon the EU Toolbox on 5G cybersecurity.⁴ Also, in line with the RRF Regulation, 16 out of the 21 RRPs which contain connectivity measures include a security self-assessment of the issues related to the implementation of those measures.

³ Commission Recommendation (EU) 2020/1307 of 18.9.2020 on a common Union toolbox for reducing the cost of deploying very high capacity networks and ensuring timely and investment-friendly access to 5G radio spectrum, to foster connectivity in support of economic recovery from the COVID-19 crisis in the Union.

⁴ "Cybersecurity of 5G networks EU: Toolbox of risk mitigating measures" (January 2020), available here: https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=64468.

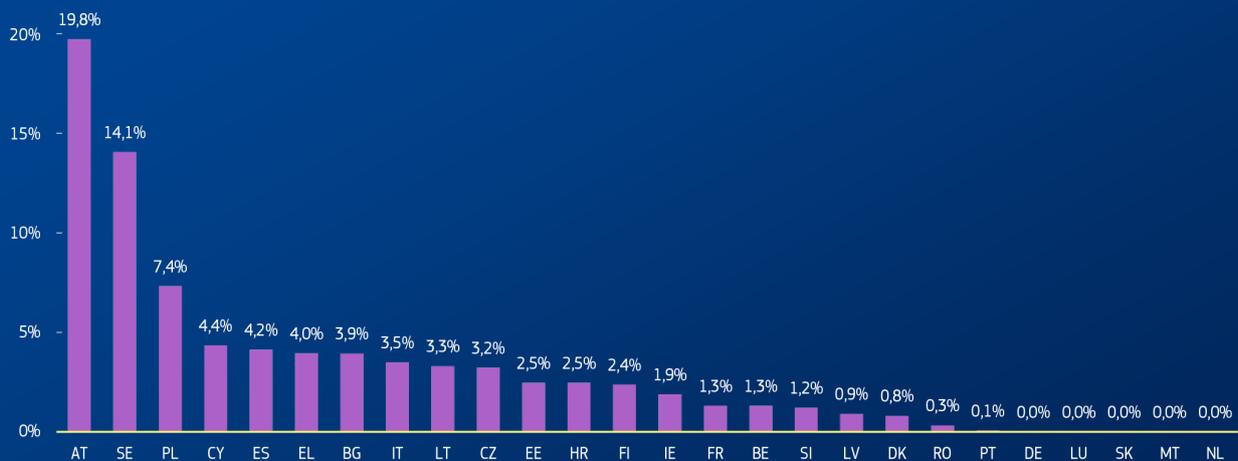
Recovery and Resilience Scoreboard

Thematic analysis



Digital connectivity

Expenditure on digital connectivity, % of total estimated cost per Member State



Main investments

Four main areas of investments in connectivity can be identified: investments in backbone/backhaul networks, investments in fixed very-high capacity access networks, investments in 5G mobile access networks and other investments.⁵

- **Investments in backbone/backhaul networks** in the approved RRFs are worth €8.7 billion in total and concern in particular investments to provide broadband coverage in market failure areas (e.g. rural, sparsely populated areas) and to connect islands with fibre submarine cables.
- **Investments in fixed very-high capacity access networks** are worth €3.2 billion and concern measures aimed for instance at deploying fibre access networks until and/or within the premises. Out of these, €2.3 billion concern deployments of fixed very high-capacity access networks serving individual households and businesses, while €0.9 billion concern deployments of fixed very-high capacity access networks serving multi-dwelling premises.

⁵ The mentioned figures are calculated on the basis of the digital tagging methodology as set out in Annex VII of the RRF regulation, and correspond respectively to (i) intervention field 051 “Very High-Capacity broadband network (backbone/backhaul network)”, (ii) intervention fields 052 “Very High-Capacity broadband network (access/local loop with a performance equivalent to an optical fibre installation up to the distribution point at the serving location for multi-dwelling premises)” and 053 “Very High-Capacity broadband network (access/local loop with a performance equivalent to an optical fibre installation up to the distribution point at the serving location for homes and business premises)” (iii) intervention field 054 bis, “5G network coverage, including uninterrupted provision of connectivity along transport paths; Gigabit connectivity (networks offering at least 1 Gbps symmetric) for socio-economic drivers, such as schools, transport hubs and main providers of public services” and (iv) intervention field 054 “Very High-Capacity broadband network (access/local loop with a performance equivalent to an optical fibre installation up to the base station for advanced wireless communication)”.

Recovery and Resilience Scoreboard

Thematic analysis



- **Investments in mobile very-high capacity access networks** in approved RRP are worth €3.5 billion and concern in particular measures aimed at supporting the deployment of 5G networks in market failure areas and alongside 5G corridors.
- **Measures aimed at providing fibre backhauling for mobile base stations** account for the remaining €1.1 billion.

Multi-country projects in connectivity

Multi-country and cross-border projects in digital connectivity are necessary to deploy the next generation's digital infrastructure seamlessly across the Union. The RRP include multi-country projects for the deployment of 5G corridors as well as submarine cables.

5G corridors are key enablers of connected and automated mobility, and several Member States include measures related to cross-border 5G corridors in their plans: Greece uses the RRF to support the cross-border corridor Thessaloniki-Sofia-Belgrade. Italy aims to cover 12,600 km, with 5G corridors, as part of a larger EU 5G corridor. The Spanish plan foresees the deployment of a 5G corridor (road and rail) along the cross-border sections with Portugal and France, as well as along the main national transport corridors. Latvia and Lithuania use their RRP for the contribution to 5G corridors along Via Baltica. Czechia uses the RRF to invest in developing 5G networks and the application of 5G-ecosystems across the Member State.

Greece, Cyprus and Spain include **submarine cables** in their RRP, with the aim to improve the performance and resilience of very high speed connectivity.

Good practices

 Italy will implement **five connectivity measures**, providing around 7 million street addresses with fixed gigabit connectivity, facilitating the development of 5G mobile networks in market failure areas, securing approximately 10,000 schools with free gigabit internet connectivity services, providing approximately 12,300 healthcare facilities with (at least) gigabit connectivity and connecting 19 smaller islands with fibre optic core network cables.

 The Croatian plan includes a reform and investment package with the aim to provide **gigabit connectivity to households and socio-economic drivers**. The reform aims to identify and address the administrative burden and regulatory barriers related to the construction of gigabit connectivity networks, as well as to implement the necessary regulatory framework and the objectives of the National Broadband Plan. The reform is accompanied by investments in the deployment of broadband infrastructure to at least 100,000 Croatian households.

 Estonia plans substantial investments in **very high-capacity networks in rural areas**, which is expected to ensure broader access to online services. Overall, 8,000 sites (residential, companies, establishments) will be covered by very high-capacity networks under this investment.

Recovery and Resilience Scoreboard

Thematic analysis



Country overview

The figures provided in the Country Overview are based on the pillar tagging methodology for the Recovery and Resilience Scoreboard and correspond to the measures allocated to the policy area “Connectivity” as primary or secondary policy area. For all Member States, the listed relevant components are based on the Council Implementing Decision. The descriptions are based on the content of the adopted plans and are also included in the Digital Economy and Society Index (DESI) country reports.

Austria

Allocation: EUR 891 million. Relevant component: 2.A

Connectivity accounts for the largest share of the digital-related expenditure of Austrian plan, recognising the need to increase coverage with fixed very high-capacity networks (VHCN) in rural areas. The investment is underpinned by a reform to facilitate broadband deployment (ensuring coordination between all stakeholders and reducing red tape) and aims to ensure equal access in urban and rural areas. It is expected to contribute to Austria achieving the digital targets set out in its Broadband strategy for 2030 (Breitbandstrategie 2030) and in Austria’s digital action plan (Digitaler Aktionsplan Austria) complementing existing support programmes. Broadband deployment entails the roll-out of gigabit enabled access networks to cover at least 50% of Austrian households, as a result of the RRF support (with the total coverage being greater, given also the network deployment on a purely commercial basis without the RRF support).

Belgium

Allocation: EUR 77 million. Relevant component: 2.3

The Belgian plan includes some investments and key reforms related to connectivity. At federal level, Belgium is preparing a national plan for fixed and mobile broadband. At regional level, all regions will consider modifying their electromagnetic fields (EMF) emission norms, which are currently an obstacle to 5G rollout, especially in Wallonia and in the Brussels region. Consultations are already ongoing on this. Investments will be dedicated to supporting the deployment of fibre-to-the-home (FTTH) in the German-speaking community. Wallonia will also invest in connecting business parks and schools.

Bulgaria

Allocation: EUR 272 million. Relevant components: 7

The connectivity measures in the Bulgarian plan mainly address challenges linked to efficient use of the spectrum and an effective policy and regulatory framework. Some of these measures are: (i) the upgrade and the extension of coverage of the state backbone network to all municipal centres to offer coverage with VHCNs in areas where relevant infrastructure is not going to develop soon, due to no or little market interest; (ii) the provision of access points for ultra-fast connection to Bulgaria Academy of Science (BAS), the National Supercomputing Centre and the universities and scientific institutes to join European research networks such as GEANT; (iii) the reduction of the administrative burden and the streamlining of procedures and fees associated with the deployment of 5G networks.

Croatia

Allocation: EUR 157 million. Relevant component: 2.3

The Croatian plan includes a measure that aims to provide VHCN connectivity services in line with the EU gigabit ambition objective by 2025, through the provision of 100 Mbps services to 100,000 Croatian households and of 1 Gbit services to major socio-economic drivers such as schools, universities, research centres, transport hubs, hospitals, public administrative authorities and businesses. Other investments include building passive electronic communications infrastructure to provide access to VHCN and 5G services in rural and sparsely populated areas; and 5G coverage in urban areas and the main terrestrial transport routes (5G corridors). Reforms in the connectivity area include: (i) analysis of administrative burdens on spatial planning and construction and permit

Recovery and Resilience Scoreboard

Thematic analysis



granting; (ii) development of guidelines for removing administrative burdens; (iii) development of guidelines for the development of spatial plans, focusing on the conditions and method of planning of electronic communications; (iv) development of guidelines for the harmonisation of procedures for obtaining building documents based on good practice in EU countries.



Cyprus

Allocation: EUR 53 million. Relevant component: 4.1

The Cypriot plan includes reforms and investments that aim to foster and facilitate the widespread deployment of VHCN, including 5G (wireless) and fixed network connection. The reforms are expected to identify and remove the administrative bottlenecks, facilitating the rapid deployment of VHCN and investments by private operators. Investments support the build-up of VHCN in areas where there has been no private interest thereby addressing territorial disparities of broadband availability. The plan also includes a voucher scheme for individuals, to encourage the construction of their building internal cabling, for connection to VHCN. Furthermore, the installation of a high-capacity internet submarine link between Cyprus and Greece should further improve connectivity.



Czechia

Allocation: EUR 227 million. Relevant component: 1.3

Czech investments in very high-capacity networks target remote areas where market-based solutions are not profitable. 23,000 new units should gain access to gigabit connectivity by 2026. The measures planned are expected to improve digital technical maps, connectivity quality monitoring and bring in legislation to facilitate broadband deployment. The reforms and investments are in line with the EU gigabit objectives and with the EU Connectivity Toolbox. The plan also includes measures that aim to develop the 5G ecosystem for 5G technology on transport corridors, including cross-border sections. The RRP foresees equipping 350 railway wagons with repeaters or passive walls for 5G signals. The plan is expected to stimulate research in 5G applications, in particular for the automotive sector. The planned measures should contribute to the rollout of 5G in remote regions.



Denmark

Allocation: EUR 13 million. Relevant component: 6.2

The Danish RRP estimates that 6% of households and/or companies (corresponding to 100,000 addresses) do not have high-speed-internet access. The Broadband Pool – a government fund to increase access to broadband – will provide funds to cover this gap through investments in very high-speed (minimum of 100 Mbps coverage) internet access for the public, households and companies in rural areas across the country. Further national funding will be added to ensure full coverage and to top up the recovery and resilience funding.



Estonia

Allocation: EUR 24 million. Relevant component: 3

The Estonian RRP includes a measure to improve the connectivity of the most remote areas of its territory. The objective of the measure is to improve access to VHCN for households and socioeconomically significant institutions such as hospitals, schools, public services and businesses in remote areas. 8,000 sites shall be equipped with VHCN through this investment. The measure consists in providing financial support for the deployment of VHCN in areas of 'market failure' (i.e. areas to which private-sector providers would otherwise not provide service as it would not be profitable). The eligibility and selection criteria used to allocate the funding will ensure an appropriate regional balance and compliance with State aid rules.



Finland

Allocation: EUR 50 million. Relevant component: P2C1

The Finnish plan includes an investment support scheme to increase the quality and availability of high-speed connectivity network in areas where such connections are not provided by the market. Financial support will be disbursed to broadband providers. The broadband connections supported under this scheme will offer at least a capacity of 100 Mbit per second. Additionally, Finland is expected to establish a coordinator position in the National Broadband Office with the aim of promoting broadband and planning the coordination of national and EU broadband.

Recovery and Resilience Scoreboard

Thematic analysis



France

Allocation: EUR 540 million. Relevant components: 6 and 9

The French plan includes an investment to boost connectivity in rural areas and contributes to a larger effort to improve connectivity under France's Très Haut Débit plan, supported also by national funds. The objective set in the recovery and resilience plan is to reach 100% ultrafast broadband coverage by 2025. Investments in connectivity are also planned for the implementation of 5G and new networks under the communication strategy adopted in February 2021. This strategy aims to develop French solutions around telecommunications networks, for technological sovereignty and to achieve end-to-end control of these solutions (sovereignty over exploitation) through support for supply, R&D and training.

Greece

Allocation: EUR 1,233 million. Relevant components: 2.1 and 4.7

The Greek plan includes: (i) the installation of fibre optic infrastructure in buildings; (ii) the development of 5G corridors covering all major Greek cross-border motorways; (iii) the deployment of submarine fibre cables to connect mainland with the Greek islands and with Cyprus. In addition, the plan includes an investment in the utilisation of space technologies and applications by developing a constellation of small satellites. As such, the Greek plan contributes to multiple multi-country projects: the '5G corridors' will also support the cross-border corridor Thessaloniki-Sofia-Belgrade; the 'submarine fibre cables' will allow interconnecting mainland Greece with Cyprus; and the 'small satellites' will ensure interoperability with European Quantum communication infrastructure (EuroQCI). The plan also includes reforms which will put in place a framework to facilitate the switch to fast broadband connections and the transition to 5G technology. Additional resources are envisaged through the Loan Facility, which provides financing to the private sector for the development of very high-capacity networks.

Ireland

Allocation: EUR 19 million. Relevant component: 2.5

The connectivity measure in the Irish plan aims at ensuring that public administrations maximise the benefit from 5G technologies. The investment consists in building a low-latency platform with a high-speed backbone using edge compute nodes to enable a faster response. A variety of public services shall subsequently be developed, tested and deployed using the platform, notably for public protection and disaster relief. SMEs and start-ups shall also be able to use the platform to test new concepts before investing.

Italy

Allocation: EUR 6,721 million. Relevant component: M1C2

Ambitious investments support the deployment of ultra-fast broadband and 5G networks to reduce the digital divide, also targeting socio-economic drivers such as schools, hospitals and transport corridors. To this end, the plan provides for the following five projects: (i) 'Italia a 1 Giga', with the objective of providing at least 1 Gbit/s in download and 200 Mbit/s in upload connectivity in grey and black next-generation access (NGA) market failure areas; (ii) 'Italia 5G', focusing on: investments to incentivise the deployment of 5G mobile infrastructure in the 'market failure areas'; 5G corridors, to support EU efforts towards the diffusion of optical fibre and 5G-based technologies along European transport corridors, facilitating the introduction of autonomous driving and new value-added 5G services; and 5G-ready extra-urban roads, to deploy optical-fibre backhauling on provincial and extra-urban roads and ensure their 5G readiness; (iii) 'Connected schools', to connect with state-of-the-art connectivity (at least 1 Gbps) approximately 10,000 schools with free internet connectivity services, with symmetric speeds of at least 1 Gbps, for six years including management, technical assistance and maintenance services. This measure complements an intervention launched in 2020 and will permit to have all the schools with a gigabit broadband Internet connection within 2026; (iv) 'Connected health care facilities', which intends to cover approximately 12,000 hospitals and healthcare facilities (at least 1 Gbps and up to 10 Gbps)

Recovery and Resilience Scoreboard

Thematic analysis



connectivity); (v) 'Connected smaller islands', to deliver adequate connectivity to at least 18 smaller islands through submarine fibre cables.

Latvia

Allocation: EUR 17 million. Relevant component: 2

The Latvian Recovery and Resilience Plan includes two measures on connectivity infrastructures. Firstly, the broadband last-mile infrastructure development measure foresees to provide connectivity to 1,500 households, businesses, schools, hospitals and other public buildings in rural areas. Secondly, construction of passive infrastructure on the Via Baltica corridor for 5G coverage aims to ensure 100% fibre backhaul availability along the Latvian part of the Via Baltica corridor, as well as the necessary physical infrastructure to provide 5G coverage. The Via Baltica corridor seeks to link Latvia, Estonia, Lithuania, Finland and Poland by providing uninterrupted 5G coverage on the main paths.

Lithuania

Allocation: EUR 74 million. Relevant component: 3

The Lithuanian Recovery and Resilience Plan envisages two measures in connectivity: (i) investments in infrastructure, including building new towers, rolling out 2,000 km of fibre and related active equipment with appropriate maintenance and administration. These investments should provide gigabit speed to 5,000 digitally intensive enterprises/institutions. In addition, internet service providers should be able to increase the speed of their last-mile services. (ii) Delivering on Connectivity Innovation: at least 7 projects are planned to enhance sectoral digitalisation by making practical use of mobility innovations such as autonomous transport, drones, internet of things, virtual reality, 5G-based robotisation or automation; and advanced technological solutions such as transport waybills, sustainable mobility data management solutions, and unified ticketing schemes and solutions for the digitalisation of transport benefits. The plan also includes measures to facilitate the 5G rollout, notably in international transport corridors, including Via Baltica and Rail Baltica.

Poland

Allocation: EUR 2,600 million. Relevant components: C1.1, C1.1.1, C1.2.1

The Polish plan dedicates significant attention to digital connectivity, aiming to boost the deployment of very high-capacity networks, including fibre and 5G. This will be done in line with the best practices of the EU Connectivity Toolbox. Poland aims to provide universal access to high-quality telecommunication infrastructure and modern electronic communication services in market failure areas throughout the country, narrowing the gap between urban and rural areas. The reform aims at guaranteeing universal access to high-speed internet and digital services throughout Poland by (i) removing legislative barriers to broadband investment and (ii) aligning national legislation with the EU Connectivity Toolbox. The investments will focus on: (i) covering 931,000 households in white NGA areas, to achieve broadband internet access with a capacity of at least 100 Mb/s and possibly increasing it to gigabit capacity; (ii) supporting the roll-out of 5G network through construction of 5G bases stations in market failure areas. These measures are expected to contribute to the achievement of the goals set out by the National Broadband Plan, namely speeding up the roll-out of ICT of the country by 2025, as well as achieving the EU's 2025 5G and gigabit connectivity objectives.

Portugal

Allocation: EUR 10 million. Relevant component: C07, C19, C20

The Portuguese RRP includes some investments in 5G deployment. These cover local 5G networks in business parks and the deployment of the 5G network for the public administration in Madeira. Other investments focus on improving the internet connection of primary and secondary schools in mainland Portugal and in the two autonomous regions of Madeira and Azores. The investments in schools' connectivity are expected to enable the digital education investments foreseen in the plan and to have a lasting impact on the digital transition of the education system and the development of digital skills.

Recovery and Resilience Scoreboard

Thematic analysis



Romania

Allocation: EUR 94 million. Relevant component: C7

The reforms are dedicated to the acceleration of the 5G network roll-out and to improve broadband coverage. The plan also includes reforms implementing the Common Union Connectivity Toolbox and the entry into force of the 5G security law as well as a scheme to support the use of communication services through different types of instruments for beneficiaries, with an absolute priority on uncovered (i.e. white) areas, not covered by fixed networks. The objective of this investment is to provide coverage of very high-speed internet access to areas where the market cannot deliver these services on its own (villages, including disadvantaged areas). The minimum speed should be at least 100 Mbps upgradeable and the networks shall be fibre networks (FTTB/H) and/or 5G.

Slovenia

Allocation: EUR 30 million. Relevant component: C7

The Slovenian plan addresses the transition to a gigabit society by improving the regulatory environment and strengthening digital connectivity through investment in broadband infrastructure in hard-to-reach areas. Investments in connectivity are envisaged to bridge the digital divide. The adoption of a broadband plan is envisaged, which aims to ensure adequate broadband networks by 2025 in line with the objectives for Connectivity for a European Gigabit Society and a national plan for the construction of 5g, among others. The strategy for the digital transformation of enterprises will also include a roadmap for implementing the EU Connectivity Toolbox, which will focus on activities related to a single information point.

Spain

Allocation: EUR 2,887 million. Relevant component: 15

The Spanish plan contains an ambitious set of reforms and investments in connectivity in general, and 5G in particular, aligned with the Digital Decade connectivity targets. Some of the main reforms and investments set out within the plan on connectivity and 5G are: (i) reforms of the telecommunications regulatory framework with measures to reduce barriers to network

deployment and the implementation of EU Connectivity Toolbox; (ii) measures on managing and assigning 5G spectrum, including a temporary reduction on spectrum taxation to accelerate 5G deployment and the adoption of a law on 5G cybersecurity; (iii) promoting territorial cohesion through ultra-fast broadband connectivity (above 100 Mbps) to those areas, mainly rural areas and areas of historical value, which currently do not have such connectivity; (iv) strengthening connectivity in the main centres of economic and social activity including industria and technologicalm sites as well as health and social care centres; (v) infrastructure renewal and sustainability, by improving equipment that enables optimal deployment of VHCN in existing buildings and optimising the deployment of NGA networks in a sustainable way; (vi) 5G networks deployment in areas not covered by coverage obligations and transport corridors, combined with investments to support a 5G and 6G R&D and the related innovation ecosystem including cybersecurity actions.

Sweden

Allocation: EUR 464 million. Relevant component: D

Sweden will use the RRF to support the expansion of broadband connectivity. The investments in digital infrastructure aim at addressing remaining connectivity gaps in view of an increasingly digital society. Sweden has already an overall well-developed broadband infrastructure but needs to accelerate broadband roll-out in sparsely populated areas. The purpose of the relevant RRF measure is therefore to invest in fixed high-speed broadband networks in areas where access would not be provided on commercial basis alone.