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EXECUTIVE SUMMARY

Final Evaluation of the Investments in Broadband Services during the 2014–2020 EU Funds Planning Period

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The purpose of the Final Evaluation is to analyse the utility, efficiency, impact, and sustainability of the investments made under the 2.1.1. Specific Support Objective "Improve the availability of electronic communications infrastructure in rural areas" (hereinafter - 2.1.1. SSO) of the 2nd Priority axis "ICT accessibility, e-governance and services" of the Operational Programme "Growth and Employment" (2014-2020) of the European Union (hereinafter - EU) funding programming period.

The evaluation analyses the investments made under the 2.1.1. SSO of the 2.1. Investment Priority, which aims to improve the availability of electronic communications networks for users in rural areas by providing the necessary infrastructure in areas where no electronic communications provider currently offers and/or does not plan to offer within the next three years internet access services with improved data transmission parameters, using fully or partially fiber-optic-based broadband access networks and ensuring a data transmission speed of at least 30 Mbit/s.

The methodological framework of the Evaluation is based on a theory-based impact assessment model. Within the Evaluation, a contribution analysis approach was used to collect information (evidence) and establish sequential causal links between the intervention and the observed changes and impacts.

Infrastructure improvements made within the Project

The project has created a larger infrastructure than originally planned - 282 access points were built instead of the planned 220, as a larger number of educational institutions were connected than originally planned, and access points to mobile operator base stations were also built.

Cumulatively, the deployment of the infrastructure in the first and second phases covers 312 "white" areas, which represents 87.6% of the 356 identified white areas. Therefore, it can be concluded that both phases of the broadband project have managed to cover a significant part of the identified white areas in the country.

Achievement of the core infrastructure development and monitoring indicators

The degree of achievement of the core infrastructure development and monitoring indicators is generally considered high. The majority of the indicator values have been exceeded, except for the output indicator, where the target value has been partially reached (i.e., the indicator "number of households in the supported administrative territories where providers have been enabled to connect to the backbone routing network built under 2.1.1. SSO" has been achieved at 83%).

Preconditions for successful infrastructure improvements and potential use of benefits

Successful utilization of infrastructure in low-density population areas is only possible through close collaboration between various organizations - public institutions, businesses, and in some cases, the most active residents. Positive development occurs when electronic communications service providers (ESPs) have the opportunity to connect a larger number of facilities, such as multiple municipal institutions, which allows all involved parties to obtain a better service price and quality ratio.

Previous long-term cooperation between ESPs and municipalities is a facilitating factor in ensuring that both the needs of the municipalities and the capabilities of the ESPs are taken

into account when planning infrastructure development, resulting in an optimal infrastructure plan. In some cases, even residents have been able to unite their interests and take the initiative to encourage ESPs to establish a unified connection. These cases demonstrate that one of the most important prerequisites for infrastructure development is the presence of a "development driver" in the respective territory - a local operator, municipality, or municipal ICT department that can engage both organizations that can evaluate the technical solutions offered by electronic communications providers.

Regarding the interest of ESPs to develop services, the most critical factor is the **profitability of investments**, and therefore in areas where the distances between objects are large, investments in creating individual connections are not considered proportionate. It can be predicted that there will remain territories where, even after the construction of the middle-mile infrastructure, providers will not see the opportunity to build the last-mile connection without public investment support. It should be noted that fixed lines have faced competition from mobile communications, whose market share continues to grow rapidly.

Results of the Survey

The survey results of the electronic communications service providers implemented by the Contractor indicate that the Project has improved the possibility of providing connections to end-users in areas where it has been **more economically justified from the perspective of the service providers**, i.e., the public investments have allowed the service providers to redirect their own resources towards ensuring the last-mile connections.

A part of the service providers acknowledge that their investments are not currently profitable, but they hope for long-term payoff. An additional benefit is that the middle-mile infrastructure built within the Project is sometimes significant for the service providers to ensure signal distribution to other operator towers.

Broadband service availability as a result of the "middle-mile" investments

According to the adopted methodology, the number of households in the supported territories where electronic communications service providers rent broadband internet infrastructure and provide services is 32,080 households. Regarding businesses and institutions, in the supported territories where service providers rent middle-mile infrastructure and provide services, there are:

- ▶ 130 educational institutions, and access points were created for 18 educational institutions;
- ▶ 72 municipal and state institutions;
- ▶ 7349 enterprises, including NGOs and associations.

However, within the Evaluation, the actual number of households, institutions, and enterprises that have concluded contracts with electronic communications service providers for the use of services could not be determined, as the service providers did not provide this type of commercial information.

Achievement of the goals and objectives foreseen in the project planning documents

The implemented actions have resulted in the creation of middle-mile infrastructure in the corresponding administrative territories. The 2.1.1. SSO objective to *improve the availability of electronic communications infrastructure in rural areas* has been achieved. In 176 territories

where internet with at least 30 Mbit/s speed was previously unavailable, broadband infrastructure has been established.

Regarding *internet access services using broadband access networks consisting fully or partially of fiber-optic elements and ensuring a data transmission speed of at least 30 Mbit/s*, the contracts concluded by the ESPs indicate an interest in utilizing the created infrastructure, including offering last-mile services. Additionally, some of the connections are being used to establish mobile communication base stations, which improves the availability and quality of mobile communication services.

Significance of Project investment in economic growth and its impact on economic sectors

Compared to 2011, the population in the white areas in 2024 has decreased on average by 22%. In some rural municipalities, the population decrease has reached even 35%-41%. These indicators are significantly lower than the rest of the country (areas where no project investments were made), where the population has decreased by almost 9% on average. Economic activity in the territories where project investments were made has increased slightly, namely the number of registered enterprises per 1,000 people, but the growth is minor and could be associated with the decrease in population. The survey of ESPs also confirms that there is no faster development of service demand in the supported territories compared to other areas. It should be noted that Latvian development documents envisage polycentric development, and the demand and supply of new technologies is increasing precisely in the development centers, as there is a critical mass of various factors.

The Project investments have been more successful in improving the availability of public services, as well as in improving mobile communication services (as their towers are connected to the optical network), which have had a greater impact in many less densely populated areas, especially for enterprises in the agriculture, tourism, and forestry sectors, as new technologies (5G automated drones or Waze usage) have changed the demand in these sectors as well. The Project also has a positive impact regarding the National security needs related to the use of the broadband communications network, for example, in case of unforeseen threats or damage to data networks.

The contribution of the Project to the achievement of strategic objectives at the National and EU level

The population density and distribution of households in Latvia (characterized by isolated homesteads rather than villages) present challenges for meeting the EU's connectivity targets (such as providing 1 GB connection speed, ensuring optical network availability, and 5G network coverage) without substantial and extensive public funding. The costs of establishing connections in rural areas are significantly higher due to the absence or reduced number of legal entities and other public service providers who would contribute to the efficient use of network infrastructure. In analysed cases, municipalities often assume either full or considerable portion of the medium-mile leasing costs, incorporating these into the subscription fee of fixed connections.

Currently, mobile communication technologies are available. While they do not provide 1 GB connectivity, enable the use of essential services at a sufficiently high quality and at a fraction of the cost - both in terms of installation and ongoing subscription - compared to high-speed fixed internet resources. However, regulatory bodies have concluded that fixed internet on an optical access network cannot be functionally replaced by unlimited mobile internet and likely

will not be replaceable for at least the next five years. Therefore, it is necessary to establish an optimal compensation structure for pricing, aiming to balance the interests and capabilities of both public authorities and service users regarding fixed broadband last-mile internet access.

Although the Project's investments have contributed to the advancement of the EU's strategic objectives, experts believe that Latvia will not meet the EU-set targets - namely, providing all European households with access to a gigabit network and ensuring 5G coverage for all populated areas - without substantial public investment.

Recommendations to enable residents, businesses, schools, and municipalities to effectively utilize very high-performance internet connectivity

In planning future investments, it is essential to systematically incorporate broadband goals into planning documents, establishing a clear trajectory toward specific, achievable outcomes to avoid a fragmented or sectoral approach. The development of infrastructure should be closely aligned with improvements in public service quality and the monitoring of service standards. Within the Evaluation Report, strategic recommendations are proposed that could be implemented with the EU funding, provided that available funding and commercial support conditions permit:

- ▶ Assess the possibility to establish a support program for the acquisition and deployment of 4G or 5G signal enhancement equipment in sparsely populated rural areas near tourism or other commercial sites, to increase entrepreneurs' access to the benefits of the digital economy;
- ▶ Assess the feasibility of securing EU funding to continue constructing middle-mile connections to mobile operator base stations or to support the construction of mobile base station towers in areas where end-users currently lack adequate internet speed;
- ▶ With EU funding, support the development of last-mile infrastructure in areas with demand but without existing broadband infrastructure built by commercial operators, coordinating efforts with telecommunications operators while setting reasonable construction timelines, considering that Latvia requires full construction permits rather than simple notifications of planned work.