**DOCUMENT OF THE EUROPEAN BANK
FOR RECONSTRUCTION AND DEVELOPMENT**

Approved by the Board of Directors on 24 November 2021[1]

SERBIA

RURAL BROADBAND ROLLOUT 2

[Redacted in line with the EBRD's Access to Information Policy]

[Information considered confidential has been removed from this document in accordance with the EBRD's Access to Information Policy (AIP). Such removed information is considered confidential because it falls under one of the provisions of Section III, paragraph 2 of the AIP]

[1] As per section 1.4.8 of EBRD's Directive on Access to Information (2019), the Bank shall disclose Board reports for State Sector Projects within 30 calendar days of approval of the relevant Project by the Board of Directors. Confidential information has been removed from the Board report.

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ABBREVIATIONS / CURRENCY CONVERSIONS

CAPEX	Capital expenditure
CP	Condition Precedent
DBO	Design, Build and Operate
DDAD	Department for Digital Agenda Development
DSL	Digital subscriber line
EIA	Environmental Impact Assessment
EIB	European Investment Bank
ESAP	Environmental and Social Action Plan
EUR	Euro
EU	European Union
EC	European Commission
EURIBOR	European Interbank Offered Rate
FttB	Fibre-to-the-building
FttH	Fibre-to-the-home
FWA	Fixed Wireless Access
Gbs/Gbps	Gigabytes per second
GDP	Gross Domestic Product
GoS	Government of Serbia
ICT	Information and Communication Technologies
IMF	International Monetary Fund
IP	Intellectual Property
IPA	Instrument for Pre-accession Assistance
ISP	Internet Service Provider
IFI/s	International Financial Institution/s
Km	Kilometre/s
LTE	Long Term Evolution (4G wireless data transmission)
Mbs/Mbps	Megabytes per second
MoE	Ministry of Education
MoF	Ministry of Finance
MoTT	Ministry of Trade, Tourism and Telecommunications
NBP	National Broadband Programme
PIU	Project Implementation Unit
PPR	Procurement Policies and Rules
RATEL	Regulatory Agency for Telecommunications and Postal Services
RSD	Serbian Dinar
SBB	Serbia Broadband
TC	Technical Cooperation
TA	Technical Assistance
USO	Universal Service Obligation
WBIF	Western Balkans Investment Framework

CURRENCY CONVERSION

(as of 28 October 2021) EUR 1 = RSD 117.6

PRESIDENT'S RECOMMENDATION

This recommendation and the attached Report concerning an operation in favour of Republic of Serbia (the "Borrower"), are submitted for consideration by the Board of Directors.

The facility will consist of a sovereign loan to the Borrower, in the amount of up to EUR 100 million, for the benefit of the Ministry of Trade, Tourism and Telecommunication (the "Client").

The operation builds on the Bank's investment into the first Rural Broadband Rollout project signed with MoTT in 2020 and will enable the Client to connect existing fibre backbone to up to 1,200 additional settlements and pass at least 145,000 households in rural areas in Serbia. The expected transition impact of the project is Inclusive and Competitive, by creating new economic opportunities and skills for local populations in less developed regions through increased access to connectivity and training, as well as advancing a competitiveness-focused policy engagement in the telecommunications sector, which will focus on the implementation and enforcement of practices and necessary regulation that enable telecom operators to provide services to targeted settlements in less developed regions.

An application for Technical Cooperation (up to EUR 5 million) and Investment Grant (up to EUR 30 million) support for this operation is under consideration by the Steering Committee of the Western Balkans Investment Framework ("WBIF"). In addition, the European Investment Bank ("EIB") is in the process of approving an amount of up to EUR 25 million. In the case of an EIB and WBIF approval, the EBRD loan can be adjusted.

I am satisfied that the operation is consistent with the Bank's Strategic and Capital Framework, the Strategy for Serbia as well as with the Information and Communication Technologies Sector Strategy, the EBRD's Economic Inclusion Strategy, the Strategy for the Promotion of Gender Equality and with the Agreement Establishing the Bank.

I recommend that the Board approve the proposed loan substantially on the terms of the attached Report.

Odile Renaud-Basso

BOARD DECISION SHEET

SERBIA – Rural Broadband Rollout	
Transaction / Board Decision	Board approval[2] is sought for a sovereign loan of up to[3] EUR 100 million in favour of Republic of Serbia, represented by the Ministry of Finance ("MoF") consisting of a committed tranche of up to EUR 50 million and an uncommitted tranche of up to EUR 50 million. Commitment of the second tranche is expected in 2023 and will be delegated to Management. The Loan proceeds will be used for the development of digital infrastructure necessary for private sector development. The Project will finance the roll-out of mid-mile broadband infrastructure in rural areas with limited high-speed internet connectivity, as well as mid-mile and last-mile infrastructure in very rural areas. This investment builds on the pilot Rural Broadband Rollout in Serbia financed by the EBRD in 2020. Procurement of contracts will be carried out in accordance with the Bank's PP&R.
Client	The Borrower is the Republic of Serbia ("Borrower"). The Client and implementing agency is the Ministry of Trade, Tourism and Telecommunication ("MoTT", "Client"), responsible for the construction and improvement of Serbia's fibre network.
Main Elements of the Proposal	Transition impact: *Primary Quality – Inclusive.* The Project will create new economic opportunities for the local population in rural areas by expanding broadband access [REDACTED] and strengthening digital literacy which will also support the adoption of e-government services in currently underserved regions. *Secondary Quality – Competitive.* The Client will engage in a competitiveness-focused policy dialogue initiative for the implementation and enforcement of practices and necessary regulation that enable telecom operators to provide services to targeted settlements in less developed regions. Additionality (i) *Financing structure*: The Bank's financing is needed to close the funding gap. (ii) *Standard-setting*: The project contributes to closing the digital gender divide by extending digital literacy training and awareness raising activities on e-government services to women in rural areas. Sound banking – The transaction is a sovereign loan.
Key Risks	Client's capacity to implement the Project within schedule is the key risk. This risk will be mitigated by engaging consultants to assist the Client with all aspects of project implementation, including a Lender's Monitor and Procurement Support. The consultants will support the MoTT with project preparation, implementation and supervision.
Strategic Fit Summary	The Project is consistent with: *EBRD Country Strategy for Serbia* through "support new technologies and innovation, benefitting from digital switchover and broadband penetration in ICT", *Information and Communication Technologies Sector Strategy* by assisting to "promote competitive, sustainable network expansion and access to communications and information to more citizens", *EBRD Economic Inclusion Strategy* by promoting services that enhance economic opportunities for people in less-developed regions, and the Bank's *Strategy for the Promotion of Gender Equality* by increasing access to skills for rural women. The Project is also in line with the Bank's strategic priorities as set out by the Strategic and Capital Framework 2021-2025.

2 Article 27 of the AEB provides the basis for this decision.

3 For local currency exposures, please refer to guidance in Section 8.10.5 of the Operations Manual.

ADDITIONAL SUMMARY TERMS FACTSHEET

EBRD Transaction	The transaction consists of a EUR 100 million sovereign loan to the Republic of Serbia (the "Borrower"), consisting of a committed tranche of up to EUR 50 million and an uncommitted tranche of up to EUR 50 million, to finance the design and construction of mid-mile and last-mile fibre broadband infrastructure in selected rural regions of the country, which will connect up to 1,200 settlements in Serbia to the existing fibre backbone network (the "Project"), subject to the commitment of both tranches. The Project is part of a larger initiative, and represents the follow-on investment to the Rural Broadband Rollout signed on 30 December 2020, which targeted a first set of up to 600 settlements as a way of piloting a new approach of providing broadband infrastructure in underserved regions in Serbia through a combination of private and public investment. The private operator selection process for the first project has now been completed, and the MoTT is prepared to continue expanding high-speed broadband infrastructure in rural Serbia using the model developed under the first project as a blueprint. Compared to the first project, the new Project targets more geographically isolated rural areas, with relatively lower household density and lower number of households per settlements. In total, the Project will cover 1,200 currently underserved settlements in over 100 different municipalities, located across the country. The Project is divided in two phases. In Phase 1, rights of use over mid-mile infrastructure will be offered to telecom operators for a period of 25 years in exchange for last-mile construction and mid-mile operations and maintenance for all settlements. In Phase 2, for settlements where there is very low commercial interest and that fail to attract any bids from telecom operators, both the mid-mile and last-mile infrastructure will be offered to the telecom operator offering the best terms with regard to distance of point of presence and technological solution. The two phases will be deployed almost simultaneously, meaning that settlements with insufficient interest would be offered with last-mile immediately after completion of the Phase 1 selection process. Tranching of the loan reflects the dynamics and progress of construction works, and does not depend on the phasing. Up to 184,000 households in the Project's catchment areas are expected to be reached as a result, with the Project targeting 145,000 households. The number of targeted households was revised in order to reflect the realistic expectations of the MoTT in terms of settlements that will be effectively reached compared to settlements targeted. The Project size was calculated on the estimation that around 40% of settlements might fall into the second phase, i.e. with the MoTT building the last-mile as well as the mid-mile. [REDACTED]. The Project finances capex which is in line with the Bank's GET guidelines as it is upgrading the existing copper mid-mile network with more energy efficient fibre technology. Based on the estimates presented in the Feasibility Study, the capex required for upgrade from copper to fibre technology constitutes % 9 of the total project. Therefore, GET share for the project is accounted as % 9. [REDACTED]. The Project is considered a strategic priority for Serbia due to its importance for the government's digitalization programme and the fact that it will continue rolling out critical infrastructure in the country. The sovereign loan for the purpose of implementing the project was included in the 2021 budget of Republic of Serbia. The Project is under consideration by the Western Balkans Investment Framework ("WBIF") which is a joint initiative pooling grant resources in order to leverage loans for the financing of priority infrastructure and socio-economic development in the Western Balkans. The EBRD acts as the lead IFI for this Project. WBIF Steering Committee decision is expected in

	December 2021 for a Technical Cooperation ("TC") grant of up to EUR 5 million for project preparation and an Investment Grant of up to EUR 30 million.
Existing Exposure	The Bank's total sovereign portfolio in Serbia as at 24 September 2021 was EUR 746 million. Sovereign operating assets were EUR 458 million, of which EUR 6.9 million was in the TMT sector (Digital Switchover, and Rural Broadband 1).
Maturity / Exit / Repayment	15 years [REDACTED].
Potential AMI eligible financing	None
Use of Proceeds	Financing of the design and construction of mid-mile and last-mile fibre broadband infrastructure to connect existing fibre backbone to up to 1,200 settlements in commercially unviable rural areas in Serbia. The MoTT will design and build the mid-mile, and transfer the rights of use to telecom operators who in return will have the obligation to extend the network and deploy last-mile to extend to surrounding households. In areas with no operator interest, the MoTT will deploy the last-mile as well, with the mid and last-mile networks to be tendered together. Telecom operators will be selected following open competitive tenders. The entire financing package needs to be in place before procurement can be completed [REDACTED]. The use of proceeds will be monitored through documentary evidence approved by an independent engineer, regular progress reports and regular monitoring visits.
Investment Plan	[REDACTED]
Financing Plan	[REDACTED]
Key Parties Involved	• Republic of Serbia as the Guarantor of the EBRD loan, represented by the Ministry of Finance ("MoF") • Ministry of Trade, Tourism and Telecommunication ("MoTT") • Ministry of Education ("MoE") – Project beneficiary

Conditions to effectiveness	• Ratification of the Loan Agreement by the Parliament of Serbia; • Legal opinion from the Ministry of Justice confirming that the Loan Agreement has been duly authorised by the Borrower and constitutes a valid and legally binding obligation of the Borrower; • Consent from the Serbian Commission for state-aid control confirming that the Project complies with local and EU state-aid regulation.
Conditions to disbursement	• Completed Project Implementation Plan in form and substance acceptable to the Bank; • Project Implementation Unit ("PIU") established by the Client with terms of reference and sufficiently qualified staff and time dedicated to the Project, acceptable to the Bank; [REDACTED]; • Satisfactory implementation of the Environmental and Social Action Plan ("ESAP") relating to project preparation activities.
Key Covenants	• [REDACTED]. The Client will obtain, maintain, renew and comply with all necessary licenses, approvals and registrations, including acquisition of Land Rights and construction permits necessary for network deployment, where applicable; • MoTT to work with EBRD to put in place digital literacy programme in rural areas, including targeted outreach to female end-users.
Security / Guarantees	• Sovereign loan;
Other material agreements	• Project Implementation Plan between the Bank and the Client.

[REDACTED]

INVESTMENT PROPOSAL SUMMARY

1. STRATEGIC FIT AND KEY ISSUES

1.1 STRATEGIC CONTEXT

Digital technologies have an increasingly significant impact on all sectors of the economy, with the accelerating pace of technological change upending established social and economic models. Particularly as shown by COVID-19 lockdowns around the world, high-speed internet is crucial to work from home, engage in education, and access financial services and social support programmes. According to studies by the IMF, a lack of universal access to the internet has the potential to widen income inequality. This can further exacerbate existing rural-urban divides, gender inequality as well as increase the gap between countries. Thus, the rollout of fast broadband in rural areas is crucial to ensure equality of opportunity and long-term, sustainable growth.

Serbia and the Western Balkans region are lagging behind the EU28 in terms of high-quality digital infrastructure and industry, prevalence of digital skills, as well as implementation of e-government initiatives. The need for high-speed digital infrastructure is particularly pronounced in rural areas in Serbia. In 2020, 87.1% of urban households had access to the internet at home, while that figure stood at only 70.4% outside urban centres. Rural households are even less likely to have fixed broadband connectivity at home, and have to rely more often than urban households on mobile internet connections, which have lower speeds and are less reliable. High costs, limited skills and a lack of broadband internet availability are reported as key reasons for not having an internet connection at home. Low computer literacy represents a major impediment for Serbia's ambition to transition to a digital economy. According to Serbia's Strategy of Digital Skills Development 2020-2024, 51% of the country's population qualify as computer 'illiterate' at present.[4] This compares poorly with the situation in other OECD countries and the EU, where only around 40% of the population is considered as having insufficient digital skills.

Population estimates furthermore mask important gender differences: Women in Serbia report significantly lower levels of digital skills, with 62.6% of female respondents indicating that they have low or no digital skills, and only 37.3% reporting basic and above basic skills. Lack of digital literacy and skills significantly hampers women's ability to benefit from digital infrastructure. It also results in women being less likely to take advantage of e-government services, whether to obtain information from public authorities' websites, access official forms or submit completed documents to public authorities.

High-speed broadband roll-out can not only enhance access to better economic opportunity, but also support the adoption of e-government services in currently underserved regions. The share of the Serbian population that used e-government services in 2020 was 29%, significantly below the EU-27 average of 57%[5]. E-government development has been recognized as one of the top priority goals by the Serbian Prime Minister's office, in the spirit of creating a more user-oriented public administration. A dedicated e-Government Development Programme was adopted for the period 2020-2022, foreseeing the introduction

[4] Computer literacy is defined as being able to carry out four basic activities on a computer, including word processing, spreadsheets, sending and receiving emails, and using the internet. Only 34.2% of Serbia's population can perform all four, and 14.8% can perform some, but not all of those listed.

[5] Source: EUROSTAT, 2020

of 300 new electronic services, including in the areas of business registration, childcare enrolment and tax payment.

In addition, the rising use of digital technologies and the digitalisation of economies overall has further increased the importance of energy efficient digital technologies and in particular the upgrade of existing networks. The ICT sector remains energy intensive, with some estimates putting the sector's energy consumption by 2030 at 11% of global electricity consumption and 4.5% of greenhouse gas emissions by 2025[6]. Without investments in energy efficient technology, concerns around new technologies and their impact on climate change will persist. The switch from mostly copper networks in these regions to fibre is replacing a dominant technology, in line with the Bank's goals to finance energy efficient capex rollouts. Fibre optic consumes 35 % less energy per Mbps and supports EBRD's goal to combat climate change by investing in energy efficient telecom infrastructure.

The Project builds on several years of EBRD policy engagement to support the Serbian government in accelerating the roll-out of affordable, high-capacity digital infrastructure to underserved areas. In 2017, the Bank agreed a programme of SSF-funded technical cooperation (TC) that would examine options for achieving nationwide roll-out. A wide range of options were explored to provide connectivity to targeted areas. The chosen options represent a balance of cost effectiveness, speed of provision and sustainability, allowing for telecom operator provision of service in the last mile, whilst satisfying the government's desire to have direct control over the location of points of access for last mile connections and over the timetable for connecting public buildings through mid-mile infrastructure. The intensive involvement of the Bank in the analysis of options and scenario mapping, and its subsequent advocacy for an option that allowed for telecom operator involvement represented a significant influence on the government in their decision to favour the selected option, which constitutes a more desirable outcome for the competitiveness of the sector.

This resulted in a EUR 18 million initial investment (Rural Broadband Rollout) by the EBRD signed on 30 December 2020, which targeted up to 600 settlements to be connected to mid-mile broadband infrastructure by the Government, with telecom operators constructing the last-mile. The telecom operators' selection process for the first project was completed in March 2021, and the Serbian government now wishes to continue expanding broadband infrastructure in rural Serbia.

This Project represents the full rollout of mid-mile fibre networks in even more rural areas, resulting in a comparably larger size and scope to finance the design and construction of mid-mile and last-mile fibre broadband and fixed wireless infrastructure in currently underserved regions. As seen in the first Project's operator selection tenders, the existing dominant market position of Telekom Serbia has, as expected, resulted in them receiving a large share of the awards, based on their existing footprint in targeted regions. EBRD has engaged an external consultant to ensure that the tender processes were fair, and will remain engaged through its policy engagement to ensure that open access regulations are implemented, thus allowing other operators to provide service in rural areas of the country. Please refer to *Annex 6* for additional information on the first Rural Broadband Rollout project implementation.

The Project is divided into two phases. In Phase 1 of the Project, rights of use over mid-mile infrastructure will be offered to telecom operators for a period of 25 years in exchange for last-mile construction and mid-mile operations and maintenance for all settlements, in the same way as for the first Rural Broadband Rollout project. In Phase 2, for settlements that failed to attract sufficient interest from telecom operators, both the mid-mile and last-mile

[6] The Shift Project: https://theshiftproject.org/en/article/lean-ict-our-new-report/

infrastructure will be deployed by the government and offered to the telecom operator offering the best terms with regard to distance of point of presence and technological solution. Both phases will be implemented simultaneously over a period of three years, from Q4 2022 until Q4 2025.

The Serbian Commission for state-aid control reviewed the Project and provided its no objection, confirming that it is in line with the local regulation on provision of state-aid since it addresses a market failure and that the Project effectively minimizes public sector involvement. The Project is in line with the EU digital agenda for Western Balkans, which supports transition into a digital economy, bringing faster economic growth, more jobs, and better services. The Project is also in line with the Strategy for Development of Information Society by 2020 and the Strategy for Development of Electronic Communications until 2020, which together constitute the Digital Agenda for Serbia.

The Project supports the Bank's strategic priorities as set out by the Strategic and Capital Framework 2021-2025, by addressing the digital gap related to rural regions and gender, and also contributes to the EBRD's country strategy priorities for Serbia, in particular under the first priority, by "supporting new technologies and innovation, benefitting from digital switchover and broadband penetration in ICT". The Project is also in line with the Information and Communication Technologies Sector strategy by assisting to "promote competitive, sustainable network expansion and access to communications and information to more citizens, including through the penetration of broadband to more distant places". Furthermore, the Project contributes towards the Bank's Economic Inclusion Strategy by opening up access to services that enhance economic opportunities for people in less-developed regions and the Bank's Strategy for the Promotion of Gender Equality by increasing access to skills for rural women.

1.2 TRANSITION IMPACT

Primary Quality: Inclusive

Obj. No.	Objective	Details
1.1	The project will create new economic opportunities for the local population in less developed regions through increased access to services [REDACTED] and training [REDACTED].	The Project will support the roll-out of high-speed broadband infrastructure in underserved areas of Serbia which would otherwise be at risk of being left behind in the digital transition. Construction of mid-mile infrastructure in the areas covered under the Project will increase the number of households in former white zones connected to high-speed broadband [REDACTED]. As a result of gaining access to high-speed internet connectivity, the [REDACTED] newly connected households will be able to make use of teleworking, online education, digital home care applications and other services that enhance economic benefits to individuals and the wider economy and society.[7] Ultrafast broadband has also been linked with reduced migration away from rural areas and increased employment, thereby contributing to a more even distribution of economic opportunities.[8] In addition, households will gain improved access to e-government services such as e-enrolment for kindergartens, e-medical records, e-tax slips, etc. To support the uptake of e-government services among rural populations, the Project will implement awareness raising and coaching services through the establishment of dedicated e-counters in the municipalities covered under the Project. As a result, [REDACTED] people in underserved regions are expected to be trained on the use of e-government services.
1.2	The project will introduce improved policy practices (e.g. market relevant curricula).	To ensure rural populations can benefit from the opportunities that high-speed broadband access is offering to them, EBRD will establish new policy dialogue with MoTT to develop and implement a basic digital literacy programme to be rolled-out in currently underserved regions of the country. This complements the government's strategy of digital infrastructure and e-government services expansion: without basic digital literacy individuals are unlikely to subscribe to ultrafast broadband or take advantage of the benefits that e-government services can offer them, for instance. The digital literacy programme will enrol local civil servants and teachers to build the capacity of end-users in rural areas through a training-of-trainers model. To deliver this programme, MoTT is expected to work together with MoE and relevant municipalities who own the schools and public buildings that will be used to provide training. [REDACTED] [I]ndividuals from the local population will be trained under the first iteration of the programme, with the

[7] Forzati, M. and C. Mattson (2014); Mölleryd, B. (2015); SQW (2013); Singer, H., Caves K. and A.Koyfman (2015); Bai, Y. (2017).

[8] Godlovitch, L. et al. (2018).

		potential of further expansion to other regions in the future, based on local needs and demand.

Secondary Quality: Competitive

Obj. No.	Objective	Details
2.1	The client/sponsor will engage in a competitiveness-focused policy dialogue initiative that is relevant in the country and sector context, taking a supporting role (e.g. a client joining a well-established initiative, launching an initiative with a limited/specialised impact, or with engagement limited to attending meetings etc.)	The Bank has started its engagement with the Government of Serbia on improving access to fixed broadband in rural regions since 2017 with the initial funding for the National Broadband Study. This work served as the basis for the first stage of the investment plan signed by EBRD in 2020. The current project builds on the existing policy engagement and TC pursued by the Bank to enable broadband roll-out while increasing private operator provision of broadband services in areas which otherwise lack commercial viability. The continuous engagement with the ministry supports the implementation of an investment model that facilitates greater competition in the telecommunication sector by enforcing open and fair tendering practices and open access regulation in the areas targeted by the project. As part of the investment, the Bank will continue to engage external consultants to ensure that: (a) the tenders for telecom operators are conducted on a fair and transparent basis in line with EU state aid rules, and (b) after the network deployment is completed to confirm appropriate competition safeguards in the form of open access regulation are implemented and enforced. The external Consultant will be engaged prior to tender allocation to ensure that their recommendations on the selection and technology requirements are implemented in advance. As part of this Project, the Bank will also support the development of a regulatory and legal framework for the provision of fixed broadband through Universal Service Obligations in areas where it is not commercially viable for operators to build the last-mile.

Delivery risks

The risks to the delivery of the expected transition impact relate to: (i) on-time delivery of the Project and the connection of the respective schools and households, and (ii) low disposable income and population density in rural areas, which could reduce interest from telecom operators and consequently broadband penetration and (iii) the dominant position of the incumbent state-owned telecom operator [REDACTED], which gives rise to imperfect competition in the market. On the latter, also building on the results of the previous investment, the Project aims to mitigate to some extent these risks through monitoring mechanisms for the selection of telecoms operators as well as for the enforcement of open access regulation for both the mid-mile and last-mile infrastructure.

1.3 ADDITIONALITY

Identified triggers	Description
A subsequent/consecutive transaction with the same client/group either with the same use of proceeds or in the same country (**repeat transaction**).	The Republic of Serbia is an existing client of EBRD. This is the Bank's third transaction within the TMT sector with the Republic of Serbia. The project constitutes the second stage of investments as envisaged under the Rural Broadband Rollout Plan, with the first project signed in December 2020.

Additionality sources	Description
Gender SMART: Client seeks/makes use of EBRD expertise for the adoption of gender standards and/or equal opportunities action plans (e.g. improving women's access to safe transport and/or women-led businesses participation in the client supply chain).	The Project will allow the development and roll-out of initiatives which will benefit not only the rural population, but also specifically target women who are lagging behind men when it comes to digital skills access to internet and e-government services. The digital literacy and e-government trainings to be provided to end-users will aim to increase the participation of women via targeted outreach campaigns highlighting the benefits of digital literacy and access to e-government facilities in their day-to-day lives. They will also be designed in a gender-responsive manner, e.g. by offering childcare services during training and/or scheduling training sessions in a way that maximises women's chances of being able to participate. This is expected to result in [REDACTED] a share of training participants being women, and an increase in the use of e-government services among women in the municipalities targeted under the programme.
Financing structure: Public sector: EBRD investment is needed to close the **funding gap**. At the same time, EBRD does not crowd out other sources, such as from IFIs, government, commercial banks and/or complements them.	EBRD initially funded the National Broadband Study, which constituted the foundation for the Bank's cooperation with the Government of Serbia on rural broadband rollout planned in two stages. The first investment signed last year was a pilot in preparation of this Project. On the first project the Bank acted as the lead IFI for the WBIF funds granted and is the lead IFI for the ongoing application for TA and Investment grants under consideration by the WBIF. Based on this, the Government of Serbia chose EBRD as the suitable partner for financing. Serbia would not have been able to allocate sufficient funds in the national budget to finance the preparation of project documentation and broadband deployment on a larger scale, in a reasonable time frame (next two to three years) as needed for this Project. In the context of this project, EBRD may adjust its participation in the event that other IFIs, [REDACTED], would be willing to finance part of

	this project, depending on Project progress and funding need.
Risk mitigation: EBRD provides comfort to clients and investors by **mitigating non-financial risks**, such as country, regulatory, Project, economic cycle, or political risks.	EBRD's presence in this project sends a strong signal to existing and potential clients in Serbia. This will serve as an additional risk mitigating factor against regulatory and/or political risks, as EBRD was engaged and will remain engaged in an active dialogue with the Serbian government. Since the Project enables a broadband rollout that would otherwise commercially not be viable, it will boost confidence for other investors in the sector for eventually related projects for broadband infrastructure development.

1.4 SOUND BANKING - KEY RISKS

Risks	Comments
Completion and Implementation risk	The Project targets up to 1,200 settlements, most of which are located in heavy rural areas on often difficult terrain. This is a large-scale project, twice the size of the first Rural Broadband Rollout project, which will test the capacities of MoTT and other key public and private stakeholders to implement it on time. *Mitigants:* This is a follow-up investment to the first project, and is seen by the government as the second phase of an ongoing broadband expansion programme. The MoTT has already proven its capacity to manage high-complexity projects, and the required capacities and processes are already in place. Despite the large project size, the complexity of expected works can be described as below standard (digging shallow trenches and laying down fibre cables or setting up wireless internet connection points). It is not envisaged to introduce new technologies or major works of high inherent risk during construction. The implementation will be supervised by the MoTT's PIU which has previous experience in implementing projects financed by IFIs. The services and works financed from the Bank's loan will be procured in line with the Banks PPR. In addition, the Bank will work closely with the Client prior to and during the implementation of the works. The MoTT will be supported by a Procurement advisor for the works and the Bank will engage a Lender's Monitor to monitor the implementation of the Project.
Political risk	Regular parliamentary elections and extraordinary presidential elections in Serbia are expected to be held in April 2022. The election campaign (late 2021 / early 2022) and potential delays in forming the new government in 2022 could result in delays in Project implementation. [REDACTED].
Macro-economic risk	The main risks to debt sustainability stem from the absence of further structural fiscal adjustment and unfavourable internal and external developments due to different shocks, including the COVID-19 pandemic. Further structural adjustment is needed in order to preserve fiscal sustainability. [REDACTED]. *Mitigants:* Notwithstanding the recent shock caused by COVID-19, the long term outlook for the country remains resilient. In March 2021, Moody's upgraded Serbia's rating to Ba2, with a stable outlook, citing solid medium-term growth prospects. At the same time, Fitch affirmed Serbia's sovereign rating at BB+, keeping a stable outlook. In June 2021, Standard & Poor's also affirmed the rating at BB+/stable. Continuation of the expansionary fiscal policy, with large public investment planned this year, and expected recovery in consumption should result in a GDP growth of 6% in 2021, while in 2022, a growth rate of 3.5% is forecast. IMF forecasts public debt at 59.0% of GDP at end-2021, falling afterwards to 45.6% of GDP in 2026.

Market risk	As the first Rural Broadband Rollout project was focused on rural settlements with relatively high population density, the second Rural Broadband project – as a continuation of the broadband expansion programme – consequently focuses on rural settlements with lower population density and lower number of inhabitants. This inevitably results in higher risk that lower disposable income and lower number of users in these areas could result in reduced interest from telecom operators. *Mitigants*: The National Broadband Study financed by EBRD showed satisfactory demand levels and sufficient take-up by local population even in heavy rural areas characterized by lower disposable income and lower population density. Similarly to the first Rural Broadband Rollout project, in case certain settlements turn out to be insufficiently attractive to operators, the MoTT will reoffer either at different conditions, including lower connection speeds requirements, or move them to the second phase of tenders where the MoTT will build the last-mile as well.

2. MEASURING / MONITORING SUCCESS

Overall objectives of project	***Monitoring benchmarks***	***Implementation timing***
- Good financial and operational performance - On-time project implementation	Completion according to the timeline and within the budget	[REDACTED]

Transition Impact Monitoring Indicators and Benchmarks						
Quality	**Obj. No.**	**Monitoring Indicator**	**Details**	**Base-line**	**Target**	**Due date**
Inclusive	1.1	Number of new/improved ICT service connections	Number of passed households in white zones effectively covered by fixed broadband as part of the settlements targeted under this Project.	[REDACTED]	[REDACTED]	[REDACTED]
	1.2	Tailored training programme developed and implemented	E-counters providing awareness raising and coaching services for use of e-government services have been implemented in relevant municipalities, and a minimum of 500 local people have taken up their services.	[REDACTED]	[REDACTED]	[REDACTED]
	1.3	Legal, institutional or regulatory frameworks in target areas improved	MoTT, MoE and municipalities to agree and formalise modalities to deliver – in a sustainable manner – digital literacy training to citizens in underserved areas.	[REDACTED]	[REDACTED]	[REDACTED]
	1.4	Number of local population enhancing their skills as a result of training	Individuals from underserved regions trained by civil servants and teachers on digital literacy.	[REDACTED]	[REDACTED]	[REDACTED]

Competitive	2.1	Client engages in policy dialogue: mobilising other stakeholders	-Recommendations from external consultants on the design of the tendering process are implemented; -The effective implementation of all tenders for selecting telecom operators under this Project is confirmed by the independent consultants' opinion.	[REDACTED]	[REDACTED]	[REDACTED]
	2.2	Client engages in policy dialogue: other	The ministry to adopt legislation in relation to USO relevant for the sector, based on external consultants recommendations.	[REDACTED]	[REDACTED]	[REDACTED]
	2.3	Client engages in policy dialogue: other	Implementation of open access regulation for the network deployed under this project, as measured by RATEL reporting and external consultants' opinion.	[REDACTED]	[REDACTED]	[REDACTED]

Additional Indicators

Indicator type	Monitoring indicator	Details	Baseline	Target	Due date
Gender SMART	Number of women with improved access to ICT related services	The implementation of gender-responsive awareness raising and coaching services will result in an increase of female users of e-government services within the targeted municipalities.	[REDACTED]	[REDACTED]	[REDACTED]
Gender SMART	Number of women enhancing their skills as a result of training	As a result of targeted outreach and gender-responsive training design, women are expected to make up [REDACTED] of participants in digital literacy programmes under the Project.	[REDACTED]	[REDACTED]	[REDACTED]

3. KEY PARTIES

3.1 BORROWER / INVESTEE COMPANY

The Borrower is the Republic of Serbia represented by the Ministry of Finance.

The state budget does not have a dedicated revenue source for sovereign loan repayments. In general, the repayments are made from the budget and new borrowings, such as government bond issuance.

3.2 CLIENT

The Client and implementing agency is the Ministry of Trade, Tourism and Telecommunications ("MoTT"). The Ministry's Department for Digital Agenda Development ("DDAD") is in charge of project implementation and monitoring on behalf of the MoTT.

The DDAD is responsible for implementing strategies concerning information society and electronic communications, such as the analogue-to-digital switchover, development of public administration IT systems, and facilitating implementation of projects financed by EU and IFIs. Specific projects implemented by DDAD on behalf of the MoTT include: i) Digital Schools Project (2010): procuring 1,200 school in Serbia with computers and other IT equipment, allowing all schools in the country to have a dedicated IT classroom, ii) Twinning Project (2014): implementing IT system for managing Intellectual Property ("IP") rights, financed by IPA, iii) Digital Switchover (2015): switchover from analogue to digital TV broadcasting, and iv) establishing the Academic Network of Serbia, with the purpose to facilitate the communication between the higher education system and research facilities in Serbia, and v) Rural Broadband.

The Bank has prior experience in working with DDAD, namely on the Digital Switchover project- a EUR 18 million sovereign-guaranteed loan for financing the switchover from analogue to digital TV broadcasting, successfully completed in 2015, as well as the Rural Broadband Rollout- a EUR 18 million sovereign-guaranteed loan for financing broadband internet expansion in rural areas of Serbia.

3.3 REGULATORY BODIES

Regulatory Agency for Telecommunications and Postal Services ("RATEL") is the regulator of the telecommunications market, which will be responsible for determining wholesale prices of infrastructure.

4. MARKET CONTEXT

While fixed-line internet access is available throughout Serbia, high-speed broadband availability differs considerably between urban and rural areas. In urban areas about 86% of households have an internet connection while in rural areas penetration is about 70%. Relatively low household penetration partly results from relatively low computer ownership - on average around 70% of households have a computer.

As of Q2 2021, 35% of fixed broadband internet subscribers had access to 10Mbit/s to less than 30Mbit/s in Serbia, with the majority of users using xDSL and Cable for fixed internet access. Overall, xDSL continues to be the main platform for basic broadband services.

Fibre-to-the-Building (FttB) is available in Serbia, with deployments mainly limited to metropolitan areas. However, despite accelerated growth in recent year, FttH connections remain relatively minor compared to DSL, mainly due to cost. Increased competition is expected to drive down tariffs and increase download speeds, and a number of ISPs offer services on a wholesale basis. Continued growth in the fixed-line broadband sector is expected to result in improved competitive situation, resulting in faster throughput speeds and affordable prices for either standalone products or bundled offerings. The regulator is also expected to continue promoting wholesale and infrastructure-based competition.

While there are a number of competitors in the market (about 220 licensed ISPs), Telekom Serbia remains the market leader, providing both retail and wholesale ISP services, with around 54% share of fixed broadband subscribers in 2020, followed by SBB - Serbia Broadband (32% market share), and other players with each having less than 3% market share.

Telekom Serbia as the incumbent telco dominates the market in terms of fixed broadband subscribers. It recently completed a series of acquisitions of local operators, increasing its

subscriber base by over 300,000. The company is 58% owned by the Serbian state, with other shareholders including the private sector (15%) and company employees and management (7%), and operates autonomously in a competitive market environment and is subject to bankruptcy laws. As described in section 1.2, there are allegations of Telekom Serbia contributing to the suppression of competition alongside state agencies. For example, there are reports from market participants and supported by external EBRD consultants that network expansion permits are being delayed and obstructed in an effort to stifle competition in the market. While the design of tenders under this Project allows for operators to bid also on the basis of non-existing points of presence, limiting the advantage Telekom Serbia has from its existing infrastructure, the results of the previous phase (with Telekom Serbia being the sole bidder in 89% of tenders) suggest that there are other challenges that limit the commercial broadband roll-out in rural areas. The open access model tied to the structure of this Project (monitored by the independent consultant) would ensure that other operators can access the infrastructure in rural areas to provide their services, and allow rural citizens to benefit from high-speed broadband access.

Responsibility for the Serbian telecoms market sits with the Regulatory Agency for Electronic Communications and Postal Services (RATEL). It operates under the legal authority of the MoTT, which is tasked with developing and overseeing Serbia's overall telecommunications policy. As a state-controlled agency, RATEL has the potential to be heavily influenced by the government.

5. FINANCIAL / ECONOMIC ANALYSIS

5.1 ECONOMIC ANALYSIS / SOVEREIGN DEBT ASSESSMENT

[REDACTED]

5.2 SENSITIVITY ANALYSIS

[REDACTED]

5.3 PROJECTED PROFITABILITY FOR THE BANK

[REDACTED]

6. OTHER KEY CONSIDERATIONS

6.1 ENVIRONMENT

Categorised B (2019 ESP). Environmental and Social due diligence (ESDD) has been undertaken in-house in line with the ESD's response to COVID-19 and by reviewing previous annual environmental and social reports and the implementation of the ESAP developed for Rural Broadband Rollout 1, as well as follow up communications with the Client. The ESDD showed that the Bank's financing of the design and construction of fibre broadband to connect up to 1,200 rural schools and public institutions in Serbia to the existing fibre network will have limited environmental and social impact. The project implementation agency, Department of Digital Agenda Development (DDAD) of the Ministry of Trade, Tourism and Telecom (MoTT) has previous experience of working with EBRD, EU and EIB and has the management capacity to implement the Project in compliance with EBRD Performance Requirements (PRs). The civil works are expected to start in Q4 2022 and will be carried out in line with the measures adopted by the Government's COVID-19 Crisis Response Team. An ESAP has been developed and agreed by MoTT.

ESDD have shown that the government's internal rulebooks and national law are applied for the project implementation and an official construction permit is required to carry out respective civil works associated with the Project. DDAD operates in compliance with national labour and OHS law and is required to ensure that the project complies with EBRD PRs. Bidding and contracting documents for the works will incorporate environmental, labour and OHS legal compliance clauses. Local authorities and DDAD will continue to inform schools and other public institutions as well as concerned residents through on line communications and other media means. While impacts of the civil works are limited and localised, the ESAP prepared for the project addresses monitoring of labour and OHS of the contractor workers, safety and safeguarding of the pupils of the schools and residents, traffic management, noise and dust, chance finds procedure and the need for an effective public grievance mechanism. The Bank will monitor the project E&S performance by reviewing the annual E&S reports as well as a site visit if deemed necessary.

6.2 INTEGRITY

In conjunction with OCCO, integrity due diligence was undertaken on the Company, its shareholders, senior management and other relevant parties [REDACTED]. [T]his project does not pose an unacceptable reputational risk to the Bank. [REDACTED].

All actions required by applicable EBRD procedures relevant to the prevention of money laundering, terrorist financing and other integrity issues have been taken with respect to the project, and the project files contain the integrity checklists and other required documentation which have been properly and accurately completed to proceed with the project.

ANNEXES TO OPERATION REPORT

ANNEX 1	Detailed Project Description
ANNEX 2	Overview of PPP models in broadband development
ANNEX 3	Overview of Feasibility Study findings
ANNEX 4	Project Implementation and Procurement Plan
ANNEX 5	Serbia Sovereign Debt Assessment
ANNEX 6	Rural Broadband Rollout 1 implementation

ANNEX 1 – DETAILED PROJECT DESCRIPTION

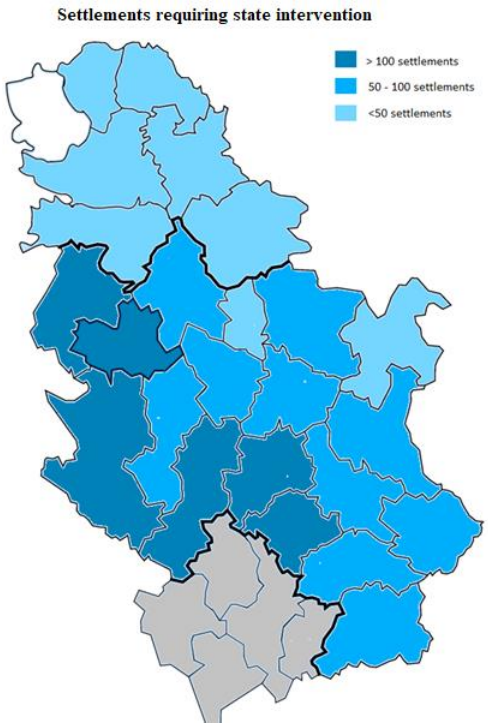
Project Description

The Project is divided in two phases. In Phase 1 of the Project, rights of use over mid-mile infrastructure will be offered to telecom operators for a period of 25 years in return for last-mile construction and mid-mile operations and maintenance for all settlements. In Phase 2, for settlements where there is very low commercial interest and that fail to generate sufficient bids from telecom operators, both the mid-mile and last-mile infrastructure will be offered to the highest-bidding telecom operator. [REDACTED]. [H]ouseholds in the surrounding catchment areas are expected to be reached as a result.

Both phases will be implemented simultaneously over a period of three years, from Q4 2022 until Q4 2025. The broadband infrastructure will be deployed on technologically neutral basis, ensuring that all telecom operators can compete. [REDACTED].

The objective of this Project is to accelerate high-speed broadband rollout in rural Serbia, focusing on schools and public buildings as access points and priority rural broadband users. The MoTT will build the mid-mile infrastructure from the existing backbone and provide long-term right of use (25 years) to operators selected following an open competitive tender process, free-of-charge. In return, selected operators will in-parallel build the last-mile infrastructure connecting the schools and public buildings to surrounding households.

Deploying mid-mile connectivity is expected to incentivise telecommunications operators to develop last-mile connectivity in rural areas which are commercially unviable, and which without state intervention would remain uncovered for years to come.



Mid-mile infrastructure will be deployed on a technologically neutral basis, ensuring that all telecom operators can compete. The Project aims to provide at least 100 Mbps connectivity (ultrafast broadband) to as many rural settlements as possible, in line with the country's Strategy for the Development of Broadband Networks and Services (2014) and general EU aims (30 Mbps connectivity to all citizens, and 100 Mbps connectivity to at least 50% of the population by 2020).

The MoTT will publish open public calls including proposed locations of schools and public buildings and a targeted number of households in their proximity that should be covered by fast broadband infrastructure. The operators will then provide their fibre Points of Presence to which the MoTT would build mid-mile fibre connections. In case an operator plans to invest in the target settlement in next three years, they will inform the MoTT about such investment plan to terminate the open call. Mid-mile connectivity in such areas will not be deployed. In case operators see no economically viable case for such venture/investment, they will not provide any interest during the open public call.

During the structuring of the first Rural Broadband Rollout project, the EBRD kept in close dialogue with the MoTT in order to define and develop appropriate mechanisms to ensure a fair and transparent process, and with RATEL (sector regulator) to confirm the presence of appropriate competition safeguards for network access. The MoTT also took into consideration suggestions from telecom operators when structuring the first project.

The MoTT decided to engage in rural broadband deployment in close collaboration with the private sector in order to:

i) ensure efficient network deployment, meaning areas where demand is sufficient are served first,
ii) benefit from the private sector's operating and technical know-how, and
iii) decrease the cost to public and maximise private sector funding.

For the mid-mile infrastructure deployment, the Project is envisaged as a "*Public DB (Design and Build), Private O (Operate)",* or a combination of *a Public DBO* model and a *Public Outsourcing* model.The public call inviting operators to provide offers for mid-mile maintenance and last-mile deployment is designed to provide transparency to all investors wishing to provide offers. The conditions for participation are clearly defined and available to all interested investors, accessible on the MoTT's and e-government websites. The operator selection process, including the valuation and ranking process, will be done in a non-discriminatory manner, based on objective criteria to all bidders. The selected operator will secure wholesale services at fair and non-discriminatory conditions to all telecom operators at prices determined by RATEL using peer EU countries. The MoTT considers that if operators have open access to the infrastructure they will have more freedom to develop innovative services and compete better with other operators, thereby delivering lower prices to consumers.

Wholesale obligations will be detailed in the requirements specification document used in the procurement. This is also a prerequisite according to the local legislation. In addition, Telekom Serbia and SBB, the two largest players, are considered by RATEL (sector regulator) as 'Significant Market Power' players, meaning that they are obliged to share their infrastructure with all other players. The MoTT considers that if operators have open access to the infrastructure they will have more freedom to develop innovative services and compete better with other operators, thereby delivering lower prices to consumers.

This specific combination of PPP models provides the MoTT with a greater degree of control over the choice of settlements offered first to telecom operators, allowing it to prioritize long-term social and economic needs of specific rural areas. This allows the public sector to take into account certain externalities and specificities of certain settlements, which the private sector might otherwise ignore. In addition, the MoTT wishes to benefit from the private sector's operating and technical know-how when it comes to last-mile deployment and technology choice.

A full private DBO was not possible due to low commercial viability of targeted settlements which did not allow MoTT to make a viable business case that would be attractive to telecom operators. Low commercial viability would have left telecom operators exposed to more risks, which would have necessitated payment of a risk premium, which the MoTT wanted to avoid. Furthermore, as the MoTT would essentially have no control over the project, the social benefit that it is looking to create would have been restricted since the telecom operators have little interest in delivering this and instead focus on generating a financial return. Overall, the private DBO model is appropriate for larger-scale investments where sufficient funding is available to attract interest from operators to work in rural areas and where the operations (and risk) of the network can be effectively transferred to an operator with little ongoing control from the public authority.

In order to avoid areas where private investors are planning to roll out their own infrastructure in the next three years but also to avoid deploying network in municipalities where there is no sufficient demand, the MoTT intends to publish public calls to operators informing them on its intention to build mid-mile network in specific rural settlements, and asking them to express interest in developing last-mile infrastructure in these settlements.

The EBRD will verify by an independent consultants / legal advisors that the selection of telecom operators for last-mile network deployment was done in a fair and transparent manner in line with EU state aid rules, and that open access regulation is imposed and enforced, which is important in the context of the presence of imperfect competition.

In case the area is already targeted for expansion by private investor, the MoTT will not proceed with mid-mile deployment. Likewise, in case there is no interest from telecom operators to develop last-mile infrastructure, the MoTT will defer mid-mile deployment in these settlements to the second phase as described above.

Technology neutrality is one of the key principles of the EU regulatory framework for electronic communications. Depending on the context, technology neutrality can have three different meanings: i) telecom operators are free to adopt whatever technology is most appropriate to achieve the result as long as they respect technical standards designed to limit negative externalities (e.g. radio interference, pollution, safety), ii) regulatory principles should apply regardless of the technology used, and iii) regulators should not use regulations to push the market toward a particular structure that the regulators consider optimal. The MoTT will ensure that the technology used for mid-mile deployment does not create barriers for adoption to certain market players. It is important to note that a mix of technologies, rather than a single technology, may be appropriate in a particular region. In unserved and underserved locations, which are often rural or have difficult topographies, deployment should not be limited to one type of technology, and the fastest technology (in terms of broadband access speed) may not always be the most appropriate. While optical fibre cable usually delivers the highest connection speed, it is expensive to deploy over wide areas, and wireless and satellite technologies are likely to have a role to play in providing cost-effective wide-area coverage, especially in mountainous areas.

The Project was reviewed by the Serbian Commission for state-aid. The commission provided no objection and confirmed that: i) the Project is in line with the local regulation on provision of state-aid since it addresses a market failure, ii) the Project effectively minimizes public sector involvement as mid-mile operations and last mile deployment are delegated to private sector, and iii) the Project is in line with the European Commission guidance on providing state-aid to broadband development projects in rural areas with limited high-speed connectivity.

ANNEX 2 - PPP MODELS IN BROADBAND DEVELOPMENT

Broadband deployment in rural areas is often not commercially viable, especially in developing countries. Due to low population density and geographic isolation of rural settlements, broadband infrastructure delivery is difficult and expensive, and the risk of investing is high. There is therefore a need for governments to intervene and facilitate broadband infrastructure financing by incentivizing telecom operators. To that end, the Serbian government and MoTT identified a public-private partnership ("PPP") investment model as the most effective tool to accelerate the development of broadband infrastructure in rural areas and connect critical infrastructure such as schools. PPP contracts, and the financing agreements behind them, are powerful tools that governments use to leverage the private sectors' knowledge, experience and financing capacity to improve the volume and quality of basic services provided to local populations. Working with the private sector brings a number of advantages, including access to expertise and commercial discipline that can ensure that the project is delivered efficiently.

While there is no single, internationally accepted definition of PPP, a broad definition of PPP is: "A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance"[9]. This definition: i) encompasses PPPs that provide for both new and existing assets and related services, ii) includes PPPs in which the private party is paid entirely by service users, and those in which a government agency makes some or all payments, and iii) encompasses contracts in many sectors and for many services, provided there is a public interest in the provision of these services and the project involves long-life assets linked to the long term nature of the PPP contract.

The project functions transferred to the private party – such as design, construction, financing, operations, and maintenance – may vary from contract to contract, but the private party is usually accountable for project performance and bears significant risk and management responsibility. The advantage of PPPs is that private investors can pool resources to finance, maintain or develop project deployment. PPP contracts typically allocate each risk to the party that can best manage and handle it – risk transfer to the private party is not a goal, but is instrumental for full transfer of management responsibility and for alignment of private interests with the public interest.

Broadband PPP models

Based on the type of PPP contracts, project type, level of risk transfer, investment level, and the desired outcome, broadband investment models can be broadly grouped into four different types:

- Private Design Build and Operate ("private DBO") model – a private sector organization receives public funding (often a grant) to assist it in deploying network, offering open wholesale access. Under this form of PPP, the private sector builds, owns and operates the infrastructure but is subject to strict controls, including setting rollout targets and benchmarking. The public sector has no role in the ownership or network operations.
- Public outsourcing model – contracts are awarded to private sector organizations covering all aspects of network design or construction. The infrastructure is built and operated by the private sector, but the public sector can retain ownership and some control. Also known as "GOCO" (Government Owned Contractor Operated), this model involves the construction and operation of a fully functional broadband infrastructure where the funding itself is being provided from public sector sources. The private sector operator is appointed after a competitive tender and takes responsibility for implementing the infrastructure and subsequently operating the network.
- Joint venture ("JV") model – ownership of the network is split between the public and private sectors. Construction and operation of the network are undertaken by a private sector organization. JVs make it possible for the public sector to initiate a major part of the project but then allow the private sector to increasingly take control and responsibility based on certain key performance indicators.

[9] Source: https://pppknowledgelab.org/guide/sections/6-ppp-contract-types-and-terminology

- Public DBO model – all aspects of the deployment and operation of the network are managed by the public sector. In this model, there is a significantly higher level of involvement by the public sector that is justified by the greater control that is being sought. In particular, this model offers an alternative when special funding for deprived regions is available. Usually, a network company is formed by the public authority, which offers wholesale (and sometimes retail) services.

Private DBO	**Public outsourcing**	**Joint Venture**	**Public DBO**
Public funding to private company	*Outsource to private company*	*Private build/operate under joint ownership*	*Public ownership and delivery*
+ Low public sector burden + Participation of commercial operator - Limited public control - Funding level must be attractive	+ Public stability and private expertise +Public sector retains control - Return may not be attractive to private sector - Network management overhead	+ Benefits to both parties based on risk sharing - Conflicts of interest may impede success of joint venture	+ Full public control means no conflict of interest + Socio-economic benefits can be prioritized - No private sector funds or expertise

Public and private DBO models are the most commonly used method to fund broadband projects. However, there is no single model that suits every situation, and any public authority has to consider the pros and cons of each model and how it might fit its particular situation. In public sector broadband projects, the long-term needs of general population are prioritized, and for this reason public authorities favour models that give the public sector a greater degree of control to ensure those long-term needs are met.

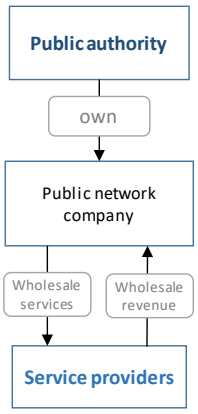
For the current Project, the model chosen by the MoTT is a combination of two distinct PPP models:

1) the first phase of the Project is envisaged as a *Public DBO* model, whereby all aspects of network deployment are managed by the public sector,
2) the second phase is envisaged as a *Public Outsourcing* model, whereby the operations and maintenance of mid-mile is transferred to private sector, following a competitive tender process, and the private sector is in charge of last-mile network deployment.

A more detailed description of those two models below are presented below, including examples of successfully implemented projects in EU using these models.

Public DBO

A public DBO model involves the public authority operating without any private sector intervention, except at a service provider level (involving either wholesale or retail service providers). All aspects of network deployment and operation are managed by the public sector. Public DBO models are advantageous in case the public authority wishes to maintain greater control of the network, in order for example ensure that social capital targets are given a high priority, ensure that there are no conflicts of interest in achieving effective competition, or to enforce common technical standards. On the other hand, public DBO models carry increased exposure to risk of a failed venture due to sole public ownership, and also result in less efficient deployment and network operation due to lack of commercial and technical expertise of the private sector.



Public DBO was successfully used in Lithuania (RAIN 1 and RAIN 2 projects in 2005-2013), where public authority deployed a new national backhaul/core network in order to ensure absolute control of the network, and therefore to promote effective competition. RAIN 1 was implemented in 2005-2008 by the Ministry of Transport and Communications, the Ministry of Education and Science, the Institute of Mathematics and Informatics and public company 'Placiajuostis internetas', owned by the government, established in 2005 to create broadband access and provide broadband services. The project cost was EUR 21 million and it involved deployment of 3,357 km of fibre lines, connecting 330 schools and 467 sub-districts in 51 municipalities, ultimately enabling broadband access to over 300,000 inhabitants. Named as one of 12 best-practice examples in a European Commission broadband investment guide[10], RAIN made the launch of further projects possible, notably RAIN 2, a second phase under which 5,775 km of fibre optic cable was laid and 2,789 broadband access points were set up, to serve some 700,000 people, more than 700 schools and around 850 libraries. RAIN 2 won the 2015 European Broadband Award in the socio-economic impact and affordability category. Aimed at connecting rural economic actors to broadband networks, the PRIP and PRIP2 projects also used RAIN infrastructure. PRIP installed 485 km of fibre optic cable and 443 access points to meet the needs of around 100,000 people, while PRIP2 installed 340 km, 400 access points, and 20,000 people. As of 2018, 55 providers were using networks under RAIN and PRIP, many of them small operators with a strong understanding of local conditions. In all, 97% of Lithuania's municipalities had at least two providers using RAIN infrastructure and 63% had at least five. Moreover, 62% of rural households were using broadband, up from 5% in 2006. The RAIN network remains owned by the Ministry of Transport and Communications, who sets services and tariffs, while the public company 'Placiajuostis internetas' acts as the network supervisor. Maintenance of the network is executed by private sector selected via public tenders. RAIN network users are all retail operators, on equal conditions (without any restrictions or tenders), while end users can freely choose retail operator, services and last mile technology according to their needs.

Another good example is the Asturcon PPP in Spain (EUR 55 million invested) where the publicly owned company (Asturcon) is implementing and managing the wholesale network itself in order to keep control of its rollout objectives and to manage the network directly.[11] Asturcon project operates in a declining former coal and steel producing region of Spain. A public-owned special purpose company has been established offering wholesale services to private service providers. The high level of control has permitted a range of competing private service providers to get involved.

DBO was also successfully used in Romania, when the Ro-NET project[12] started in 2014 connecting 9 million rural inhabitants (or 47.2% of total population) to broadband. The project cost was EUR 84 million funded by ERDF (EUR 68.5 million) and from state budget (EUR 15.5 million). The infrastructure remains in public ownership and the operators (concessionaires) pay a concession fee of 18% of the investment value for 18 years concession and have the right to retain the remaining revenues from managing and operating the networks. The concessioner also has the option to purchase the respective network and its facilities.

[10] Source: https://ec.europa.eu/digital-single-market/en/guide-high-speed-broadband-investment

[11] Source : https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/epec_broadband_en.pdf
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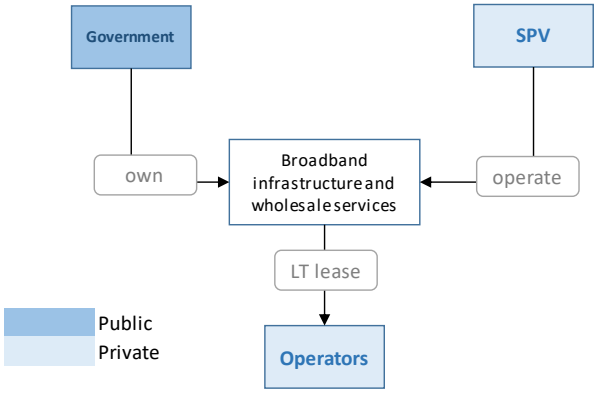
Public outsourcing



Under the public outsourcing model contracts are awarded to private sector organizations, covering all aspects of the design or construction of the network. The major characteristic of this model is that the network is built and operated by the private sector, but the public sector sometimes retains ownership and varying degree of control of the network. Public outsourcing model is advantageous as it leverages financial stability of public authority and commercial and technical know-how of the private sector. On the other hand, next-generation broadband networks can typically take 10-15 years (or more) to achieve returns on investment. The fact that public network outsourcing agreements typically revert to public operational control after 10 or 20 years tends to reduce the incentive for private companies to invest.

Public outsourcing model was successfully used in Latvia and in Slovakia. In 2015, the Latvian Ministry of Transport signed an agreement with Latvian State Radio and Television Centre (LVRTC), a non-profit organization for broadband deployment in rural areas of Latvia. The project cost was EUR 26 million, of which EUR 87% was co-financed by European Reconstruction and Development Fund ("ERDF"), with remaining 13% financed by LVRTC funds. The total network length was about 600 km, and the network remained in public ownership.

In Slovak Republic, following a successful implementation of the 'Basic broadband deployment in white zones in Slovakia' project, the national broadband network remained in public ownership under National Agency for Network and Electronic Services (NASES), a non-profit public enterprise, responsible for managing service providers' access to wholesale services, and determining prices of these wholesale services in conjunction with the regulator. There are separate tenders for constructing the network and for maintaining it, so potentially these functions could be carried out by different private sector organizations.

The Metropolitan Networks Project (MAN) in Ireland is another good example of successful public outsourcing. This EUR 170 million project, financed entirely from public funds (45% ERDF, 45% National DCNER and 10% local authorities), runs on a 15-year concession.

ANNEX 3 - FEASIBILITY STUDY FINDINGS

[REDACTED]

ANNEX 4 - PROJECT IMPLEMENTATION AND PROCUREMENT PLAN

Procurement classification – *Public [sovereign]*

[REDACTED]. The Executing Agency for the Project will be the MoTT and its Department for Digital Agenda Development, which has been responsible, MoTT has established a Project Implementation Unit (PIU) for this purpose of the implementation of Phase I of the Project which is currently underway. The same PIU will be responsible for the Phase 2. As of today the PIU has only gained experience in conducting consultancy tenders in accordance with the EBRD PPR. Hence, it is considered that the PIU has limited experience in the implementation of similar projects under IFI procurement procedures. To mitigate such risk, the MoTT will engage a qualified independent consultant to support the PIU in all procurement matters concerning the implementation of the project. Additionally, the MoTT will engage a Project Management/Technical Consultant to provide support and advice during the integration phase of the project as well as in supervision of works.

Contracts risk assessment: *Moderate –high*
The scope of the contracts to be covered by the Programme is not technically challenging.

There are five(5) contracts envisaged under the Project: one (1) works contract for construction of the communication infrastructure ; and four (4) consultancy contracts covering i) the designs; ii) procurement support; iii) supervision and iv) to contracts for independent technical verification of design and works.

The main risk is that the current health emergency crisis may deter international companies to participate in tendering for these contracts while the Serbian domestic market may not be sufficiently competitive to ensure the most economic offers. As such, there is a potential risk for low competition and high prices resulting from the tendering processes. Such risk shall be mitigated by the client and its consultants trough market outreach.

Procurement arrangements:
The project is classified as a public sector operation for procurement purposes.

The works contract for the associated broadband infrastructure works will be procured following 'Open' Single Stage tendering procedure, in accordance with the provisions of Section 3 of the Bank's PP&Rs. The EBRD standard tender documents and the FIDIC Red Book General Conditions of Contract will be used.

With the exception of the Procurement Support Consult, all other consultancy services will be procured through Competitive Selection in accordance with the procedure described in Section 5 of PPR.

The Procurement Support consultant contract, which is estimated to EUR 75,000, will be procured through direct contracting in accordance Section 5 of PPR. [REDACTED].

ANNEX 5 - SERBIA - SOVEREIGN DEBT ASSESSMENT

[REDACTED]. As a response to the pandemic, the government implemented aid packages in 2020 worth EUR 5.8 billion, which increased budget deficit significantly (to 8.1 percent of GDP). At end-March 2021, the debt stood at 60.7 percent of GDP. The debt is composed mostly of foreign currency (70 percent). [REDACTED]. After two large packages in 2020, the government has announced another set of measures in 2021. Government's Covid 19 crisis response measures in 2020 were focused on support for businesses, healthcare and citizens, among the rest: (i) a large aid package announced, consisting of fiscal measures [REDACTED], direct private sector support [REDACTED] and liquidity enhancement (primarily state guarantees for EUR 2 billion new loans); (ii) Central bank providing additional local currency and FX liquidity to banks through EUR/RSD swap auctions and additional repo auctions (recently collateral has been changed to include corporate bonds of adequate quality); (iii) Lifted restriction on the share of government FX securities in the DIA portfolio during emergency state, and (iv) one-off assistance to adults (EUR 100) and 10 percent increase in salaries of medical staff from 1 April. In February 2021, the government has announced a new package of measures, worth around EUR 2.0 billion. The package includes one-off financial assistance to adults, direct assistance to SMEs, transport sector, and expansion of loan guarantee scheme. The main objection to the package is its non-selectiveness in helping citizens and businesses.

Public debt is expected to be at around 60 percent of GDP at end-2021. Under the condition that the government continues with fiscal adjustment as soon as the pandemic is over, the rise in debt is to be temporary. [REDACTED].

ANNEX 6 - RURAL BROADBAND ROLLOUT 1 IMPLEMENTATION

As part of the Rural Broadband Rollout project, the EBRD contracted Salience Consulting Ltd, independent external consultants, to observe the selection process for telecom operators in charge of operating constructing the last-mile and operating the mid-mile infrastructure, and opine on i) the appropriateness of the selection criteria for choosing the winners of the tenders, and ii) the fairness, transparency and compliance with EU State-aid Guidelines.

Salience monitoring covers the pre-tender, tender and post-tender phases of the awarding. In the Initial Evaluation Report dated 7 January 2021, Salience provided an opinion on the pre-tender, and concluded the following:

- The selection criteria are consistent with the aims of the Program and appropriate for the choice of a winner. However, the approach involves certain risks, so the Ministry and regulator will have follow-up actions and on-going monitoring obligations to reduce the likelihood of adverse impacts eventuating and mitigate the magnitude of any adverse impact to ensure the full benefits of the Program are realised.
- The selection process was overall fair, transparent, and compliant with the EU Guidelines. We found that the designed selection process with one or two minor exceptions met fairness, transparency and compliance requirements.

The selection process was executed from 9 September 2020 until 16 March 2021, and consisted of three public calls totalling 815 rural settlements. Main findings include:

- The evaluation and ranking criteria defined in the Public Invitation was highly simplified. An operator's proposal for a settlement bid must precisely define the starting point of the presence of the optical network from which it is necessary to build the Middle mile segment. The maximum number of points is given to the operator whose valid Proposal offers the shortest air distance for the construction of the Middle mile segment.
- At least one response was received for 95% of the settlements (772) and 5% of settlements (43) had no interest. Only 11% of settlements (79) received bids from more than one telecom operators, whereas 89% of the calls (658) resulted in single response [REDACTED].
- In terms of technologies applied for last-mile segment of the network: 96.8% would implement FTTH/VDSL technology, 1.8% would implement FWA (Fixed Wireless Access), and 1.5% would use 4G/5G technology. Out of the analysed sample of 157 awarded applications to Telekom Serbia, 106 (68%) of TS applications considered FTTH and 51 (32%) considered VDSL as a proposed technology. [REDACTED].