



# SUPPORT FOR HIGH-SPEED BROADBAND INFRASTRUCTURE IN SERBIA



We are fast approaching the stage where access to high-speed broadband internet will be as important to the quality of life and economic prospects of citizens as the availability of other utilities such as electricity and telecommunications.

Although there has been good progress in delivering connectivity in the EBRD's countries of operations, many parts of these countries still lack effective broadband coverage. Even the most economically advanced part of the region, central Europe and the Baltic states, lags behind in this respect: it had an average of 22.72 fixed broadband subscriptions per 100 people in 2016, compared with a Euro area average of 34.31. In Europe and Central Asia, excluding high income countries, the rate was 15.88.<sup>1</sup>

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Developing and transition countries increasingly appreciate that they need widespread fast internet access in order to move closer to being knowledge-based economies and competing effectively in today's global market. States are also becoming increasingly aware of how broadband connectivity contributes to learning, civic and social cohesion, entertainment and the delivery of public services. More and more governments, including some in the EBRD region, are using or are considering using the internet for elections, the filing of tax returns and other essential services.<sup>2</sup>

### NEXT GENERATION ACCESS

Affordable, high-speed broadband,<sup>3</sup> known as Next Generation Access (NGA) broadband, is fundamental to this connectivity. Governments in the EBRD region, however, often have very limited funds at their disposal for the large-scale investment necessary to deploy NGA infrastructure. They also frequently lack the technical expertise that private broadband operators possess. As a result, many countries have largely relied on commercial investors for the development of NGA broadband. But because of the less certain returns associated with investing in NGA infrastructure outside larger urban centres, fast internet access has been mainly restricted to cities and towns.

Governments therefore need to determine how they can continue to stimulate private investment in those areas where the market is likely to satisfy the need for effective broadband supply, while also making provision for NGA infrastructure in areas where it makes less commercial sense in the short to medium term. They will also need to cater for those remote regions where it is unlikely the service will ever be provided on a commercially viable basis.

As part of its response to this situation, the EBRD designed its Accelerating Broadband Connectivity (ABC) Initiative. It is a four-pronged instrument that can offer to governmental authorities: (i) support on policy, legal and regulatory development; (ii) assistance with design and implementation planning and financial and investment modelling; (iii) help with piloting the chosen design; and (iv) assistance with accessing finance to cover the cost of pilot projects and full-scale deployment.

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### THE ABC INITIATIVE IN SERBIA

One of the first countries to partner with the EBRD on deployment of the ABC Initiative is Serbia. Since 2016, the Bank and the Serbian authorities have been working on a plan for accelerating the roll-out of NGA infrastructure across the country. This work benefited from donor support from the EBRD Shareholder Special Fund.

The initial stages of the Serbia project identified seven main tasks that it needed to complete in order to increase fast broadband coverage in Serbia:

- identify approaches that have attracted investment in the roll-out of superfast broadband infrastructure in other countries around the world
- evaluate the suitability of adopting those approaches in Serbia, making adaptations where necessary
- draw on global experience to design and provide cost estimates for Serbia-specific network variations
- model financing and investment business cases
- analyse cost against the forecast for the broader benefit to the economy
- recommend specific approaches for adoption by the Serbian government
- propose a pilot to prove the approaches recommended.

In order to complete these tasks, the EBRD had to analyse legal and regulatory frameworks; study and forecast levels of demand for broadband services; design broadband infrastructure networks; identify different cost scenarios and their associated benefits; devise financing options; and design a pilot scheme.



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## GENERAL CONCLUSIONS

From this work, we drew several general conclusions that will guide the work of the ABC Initiative in Serbia and, ultimately, other countries. First, we found that there are multiple approaches to attracting investment in NGA infrastructure. Countries such as Croatia, France, Ireland and Poland drew on different models with varying degrees of public and private involvement in the design, financing, construction and operational phases. Furthermore, in most cases the particular model used at the outset tended to evolve as officials adapted it to their country’s specific circumstances.

This examination of the experience of other countries identified three overarching categories of financing and operational model:

- publicly funded network build, lease to private operator
- privately funded network build and operate, with upfront capital expenditure subsidy or operational revenue subsidy
- publicly funded network build and operate (usually for areas where private investment is not viable, for example, sparsely populated rural areas).



We also realised that funding assumptions can change over time. Most of the EBRD countries considered for deployment of the ABC Initiative have little or no access to the type of support funds that were available in Croatia, France, Ireland and Poland. The nature, type and availability of funding might, however, change during implementation of an ABC programme, which would alter financing assumptions.

Another important conclusion is that governments need to create an environment that maximises private

investment at the outset. Experience from other countries clearly shows that private participation in broadband infrastructure programmes makes any public funds used go significantly further. Private involvement also helps to create a programme that is commercially sustainable in the long term, as opposed to one that continually relies on state aid and other subsidy programmes.

Lastly, we concluded that some of the models may require a government to negotiate access to

infrastructure, such as poles and ducts, owned by established operators. In such cases, officials would need to engage in adequate and timely consultations with operators in order to minimise the length and difficulty of the negotiation process.

## COUNTRY-SPECIFIC RECOMMENDATIONS

Completion of the seven tasks mentioned above will help the ABC project to develop specific legal, regulatory, financial and operational recommendations for Serbia. At the outset, one of the key directions was to help maximise the extent to which the market could be covered on a commercially viable basis. So, our analysis of the legal and regulatory frameworks should enable us to recommend new laws or adjustments to existing ones in order to better enable competitive wholesale broadband internet offers and facilitate infrastructure sharing.

Second, we will look to identify differing levels of engagement by the authorities according to local market conditions. It is likely that there will be “areas of no intervention”, that is regions where the market is sufficiently vibrant to support increased broadband provision on a purely commercial basis over the next five years. We will also look to identify “areas of intervention”, that is regions which network operators do not consider commercially viable in the near to medium term or, in some cases, at all.

On that basis, we aim to recommend specific types of government intervention for access network programmes in these “areas of intervention”, with the nature and level of intervention varying according to the level extent of market failure and area characteristics. We hope that such intervention will represent a form of public-private partnership that will, ideally, improve the economic prospects of these parts of Serbia.

Our analysis takes into account factors such as differences in population density, topography and market characteristics across Serbia. Given these differences, we will examine whether the ABC project would be better implemented as a series of smaller individual projects, rather than a larger nationwide project. To that end we will identify numerous sub-projects throughout the country that will involve a combination of the financing and operating models identified from examining other countries’ successful experience (as indicated above). The expectation is that a variation or combination of those models will apply depending on a given area’s characteristics.

From a technical perspective, fibre-to-the-home (FTTH) appears to be the only technology that is likely to satisfy future demand for speed, resilience and longevity. However, in those parts of a country where this solution is not economically viable, even when social benefits are taken into account, fixed wireless broadband solutions may be more viable.

As this journal went to press, we were working with the Serbian government to approve our recommendations and design a pilot to trial this flexible approach in selected parts of the country. Depending on how successful such a pilot is we will seek to extend the ABC Initiative to the rest of Serbia. Subsequently, we hope to offer a similar approach to other of the EBRD’s countries of operations.

<sup>1</sup> <https://data.worldbank.org/indicator/IT.NET.BBND.P2> (last accessed 19 December 2017).

<sup>2</sup> See article on smart contracts, broadband and crowdfunding in this journal.

<sup>3</sup> Commonly understood as delivering speeds above 30 megabits per second (Mbps).

