

Rural coverage initiatives: stakeholders can learn from the successes and failures of past efforts

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The cost of building and maintaining a telecoms network in rural areas can be high relative to the number of potential customers, leading to a low return on investment (ROI) for service providers. This has discouraged operators from deploying networks in rural and remote regions. As a result, users in these areas experience a lower density of networks and poorer quality of service than in urban areas, putting them at a disadvantage when it comes to accessing connectivity-based services.

To address these challenges, initiatives have been established to help to bring fixed and mobile network coverage to rural areas. These initiatives aim to increase the commercial viability of building, operating and maintaining rural networks and hence reduce the risk of investment for stakeholders.

Analysys Mason’s report *Rural coverage initiatives: case studies and analysis* assesses examples of initiatives that are deploying rural networks and explores the two main approaches that these initiatives are taking: **network-sharing initiatives** and **private–public projects**. The report also assesses the initiatives according to their scope, aims, progress, achievements and barriers.

Network sharing could be an effective business model for operators that are working to close rural coverage gaps

Network-sharing initiatives rely on stakeholders to take collective responsibility for funding, building and operating rural network infrastructure. These initiatives usually involve operators that also use the networks. Sometimes these initiatives are a response to coverage obligations set out by regulatory bodies and/or governments, or they are operators’ standalone projects.

Network-sharing initiatives can use several infrastructure-sharing models, including joint ventures (JVs), partnerships with governments, private-infrastructure partnerships and wholesale models (Figure 1).

Figure 1: Examples of network-sharing initiatives

Network-sharing initiative: country	Infrastructure-sharing model	Description
Suomen Yhteisverkko (SYV): Finland	JV	Telia Finland and DNA created this initiative in 2014. SYV is responsible for building and deploying a shared rural 2G, 3G and 4G network in remote northern and eastern Finland.
Shared Rural Network: UK	Operator–government partnerships (based on coverage obligations)	EE, O2, Three and Vodafone are working with the UK government to close almost all partial ‘not-spots’ (no coverage provided by at least one operator) by sharing network infrastructure. The initiative is supported by public funding. The mobile network operators (MNOs) are required to meet legal coverage obligations set by Ofcom to cover 88% of the UK’s landmass with 4G by 2024.

Network-sharing Initiative: country	Infrastructure-sharing model	Description
Deutsche Telekom and Vodafone: Germany	Operator-only partnerships	This network-sharing project was established to improve 4G coverage in rural areas of Germany. A multi-operator core networks (MOCN) sharing approach is being used to eliminate 3000–4000 4G ‘grey-spots’ (areas where only one of the two partners offer 4G).

Source: Analysys Mason

Network-sharing approaches that involve operators benefit from all parties having telco expertise and resources in place to accelerate deployment.

To help to improve the chances of success, network-sharing initiatives that are mandated by public bodies and/or regulators should ensure that operators have strong incentives to implement them. For example, the UK operators in Figure 1 were originally hostile to any mandated sharing and only agreed to it in return for an assignment of spectrum. In some cases, the cost savings that network sharing can deliver are unevenly split among the stakeholders, which can discourage some operators, thereby halting the progress of the agreement. This issue can arise in areas where a large amount of existing rural network infrastructure is owned by a single operator (such as BT in the UK and Telstra in Australia). In this scenario, these operators tend to feel disadvantaged by a sharing arrangement and may charge other operators higher commercial rates for access.

Besides traditional participants (operators and governments), network-sharing initiatives may also benefit from the involvement of new investors, such as hyperscalers, infrastructure companies and regional equipment providers. These investors could increase the level of financing, knowledge and expertise available and expand the benefits of collaboration.

Private–public initiatives can be a long-term solution to increasing rural coverage and boosting digital literacy and skills

Private–public initiatives to improve rural fixed or mobile broadband access are usually introduced by governments when traditional commercial processes cannot support the requirements; and/or when governments are under pressure to meet rural connectivity targets and obligations, such as those set out by the European Union.

In this scenario, governments provide part of the funding for the initiative and partner with private companies for additional investment and support with designing, building and maintaining the network. These initiatives aim to improve rural broadband accessibility, and may also aim to boost social and economic prospects for rural users by investing in digital literacy programmes and e-services.

Figure 2: Examples of private–public initiatives

Private–public Initiatives: country	Description
Ghana Rural Telephony and Digital Inclusion Project (GRTP & DIP): Ghana	A public–private partnership, between the ‘Ghana Investment Fund for Electronic Communications (GIFEC)’ (an agency of the Ministry of Communications), Huawei and MTN, with additional funding from the China Exim Bank. The project aims to help rural communities to access a range of e-services and is focused on improving the digital literacy skills of women in rural Ghana.

Private–public Initiatives: country	Description
Rural capacity upgrade: New Zealand	A government-funded upgrade project to help to enhance mobile/fixed broadband services in underserved regions. The upgrade is being carried out by Crown Infrastructure Partners (CIP), a government-led company that is responsible for managing and rolling out the government’s investment in rural broadband. The project will help to boost economic productivity of rural businesses.
Better Connectivity Plan for Regional and Rural Australia: Australia	The government is funding the plan to improve the equity of rural connectivity through investing in improved rural mobile coverage, e-skills and advanced technology for farmers. A portion of the funding is also going to the upgrade of Australia’s National Broadband Network (NBN).

Source: Analysys Mason

Private–public projects are aimed at setting up long-term broadband access and services in rural areas. These projects have the support of public bodies, which can bring additional funding and accelerate some of the regulatory processes (such as spectrum assignment), indirectly benefiting operators by opening up new opportunities to increase the customer base.

However, these initiatives can be slow to implement and may go through several different strategy and planning phases to develop the technical approach and deployment milestones. They may also be difficult to manage given that they involve a range of different public and private partners.

Governments should also consider adopting strategies to improve the commercial case for rolling out a network in rural areas. Such strategies could include supporting the development of new technologies, such as Open RAN solutions, which could reduce the cost of additional coverage in economically challenging areas.