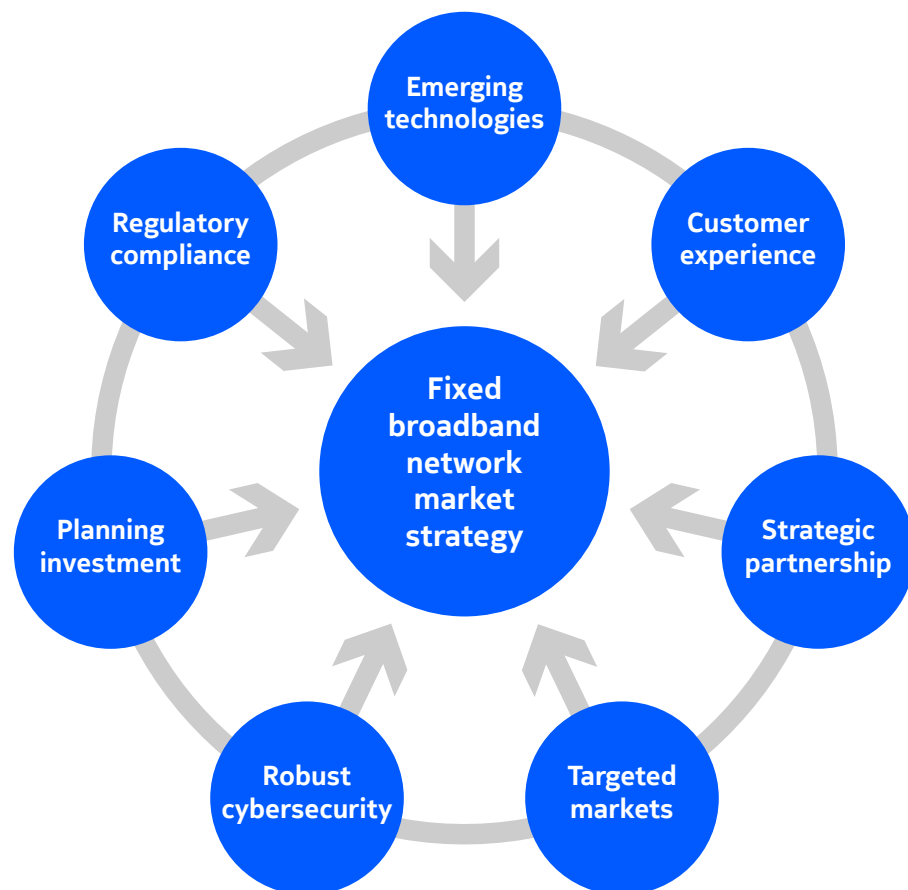


Strategies for entering or expanding fixed broadband networks

Quick take

The fast-rising demand for high-speed internet and wide bandwidth broadband services requires effective strategies for service providers to enter or expand fixed broadband network markets. As technology advances, service providers must continuously adapt to evolving trends and leverage innovative solutions to remain competitive. Fiber-optic networks remain the gold standard for reliable, high-speed connectivity, but alternative technologies like 5G fixed wireless access (FWA) and satellite internet are emerging as viable options for underserved areas. At Bell Labs Consulting (BLC), we believe that by strategically deploying the appropriate technology, or a combination thereof, service providers can offer comprehensive broadband solutions that cater to diverse customer and business needs.

Figure 1: Fixed broadband network market key strategies



BLC trusts that to succeed in the competitive broadband market, service providers must prioritize customer experience, explore innovative value-added services, and forge strategic partnerships. They should also leverage technologies like software-defined networking (SDN) and network functions virtualization (NFV) to enhance network operational efficiency and agility. BLC recognizes that by carefully considering these factors and tailoring the service offerings to specific market segments, service providers can position themselves for success in the evolving landscape of fixed broadband markets. Therefore, a well-crafted strategy is crucial for service providers to enter or expand their fixed broadband networks. BLC's long experience and expertise in this domain can help achieve this goal. Here is a set of key strategies that BLC considers essential.

Leverage emerging technologies

The future of fixed broadband networks hinges on the strategic deployment of advanced technologies. Fiber-optic access networks, particularly FTTx (Fiber-to-the-home/curb/business), offer unparalleled high-speed, reliability and future proof network infrastructure, making them the ideal choice for urban and suburban areas. With lower latency and energy efficiency, FTTx enables seamless online experiences and contributes to environmental sustainability.

To fully realize the potential of FTTx, passive-optical-network (PON) technology, which includes GPON (Giga-PON, 10G-PON, 25G-PON, 50G-PON, etc.) and EPON (Ethernet-PON), plays a crucial role. PON offers significant advantages such as cost-effective deployment, scalability, high bandwidth capacity, improved reliability, energy efficiency, and future-proof capabilities. By leveraging both FTTx and xPON technologies, service providers can deliver superior broadband services, enhance customer satisfaction, drive economic growth, and position themselves for the future of telecommunications.

In regions where fiber deployment is challenging, 5G FWA emerges as a viable alternative, delivering high-speed internet over wireless connections. For remote or underserved areas, satellite internet, particularly low-earth-orbit (LEO) satellite constellations, can provide essential connectivity. To optimize network performance and efficiency, SDN and NFV supported by AI are essential.

Focus on customer experience

To ensure long-term success in the competitive broadband market, service providers' strategy must prioritize customer experience. This includes delivering reliable, high-speed internet and broadband services with minimal downtime, offering a range of plans to suit diverse customer needs, and providing excellent customer support through multiple channels.

Additionally, exploring innovative value-added services such as cybersecurity solutions and IoT offerings can help differentiate providers and attract new customers.

Strategic partnerships

Strategic partnerships play a pivotal role in the success of fixed broadband networks. By collaborating with other providers to share infrastructure, such as fiber-optic cables or wireless towers, companies can reduce costs and accelerate network deployment.

Additionally, partnerships with technology vendors can provide access to cutting-edge solutions, enabling service providers to offer innovative services and improve network performance. Engaging with government agencies is crucial for securing necessary permits, accessing funding opportunities, and advocating for favorable regulatory policies that support broadband expansion and innovation.

Targeted market segmentation

To effectively serve diverse customer needs, fixed broadband service providers' strategy must consider targeted market segmentation. Residential customers require a range of plans, from basic internet packages for casual browsing to premium plans for high-bandwidth activities like streaming and gaming. Additionally, bundled deals that combine internet, television and phone services can offer added convenience and cost savings.

For small and medium-sized businesses (SMBs), reliable and scalable internet broadband solutions, such as business internet and VoIP phone systems, are essential for productivity and growth. Large enterprises, on the other hand, require high-speed internet connections, advanced network security, and managed services to support their complex operations and protect sensitive data.

With a strategy that tailors service offerings to specific customer segments, service providers can enhance customer satisfaction and drive business growth.

Robust cybersecurity measures

To ensure the security and privacy of their networks and customers, broadband service providers' strategy must consider the implementation of robust cybersecurity measures. This includes deploying advanced security solutions to protect against cyber threats, adhering to strict data privacy regulations to safeguard customer information, and developing comprehensive incident response plans to minimize the impact of potential security breaches. This increases customer confidence and satisfaction as well as loyalty (retention).

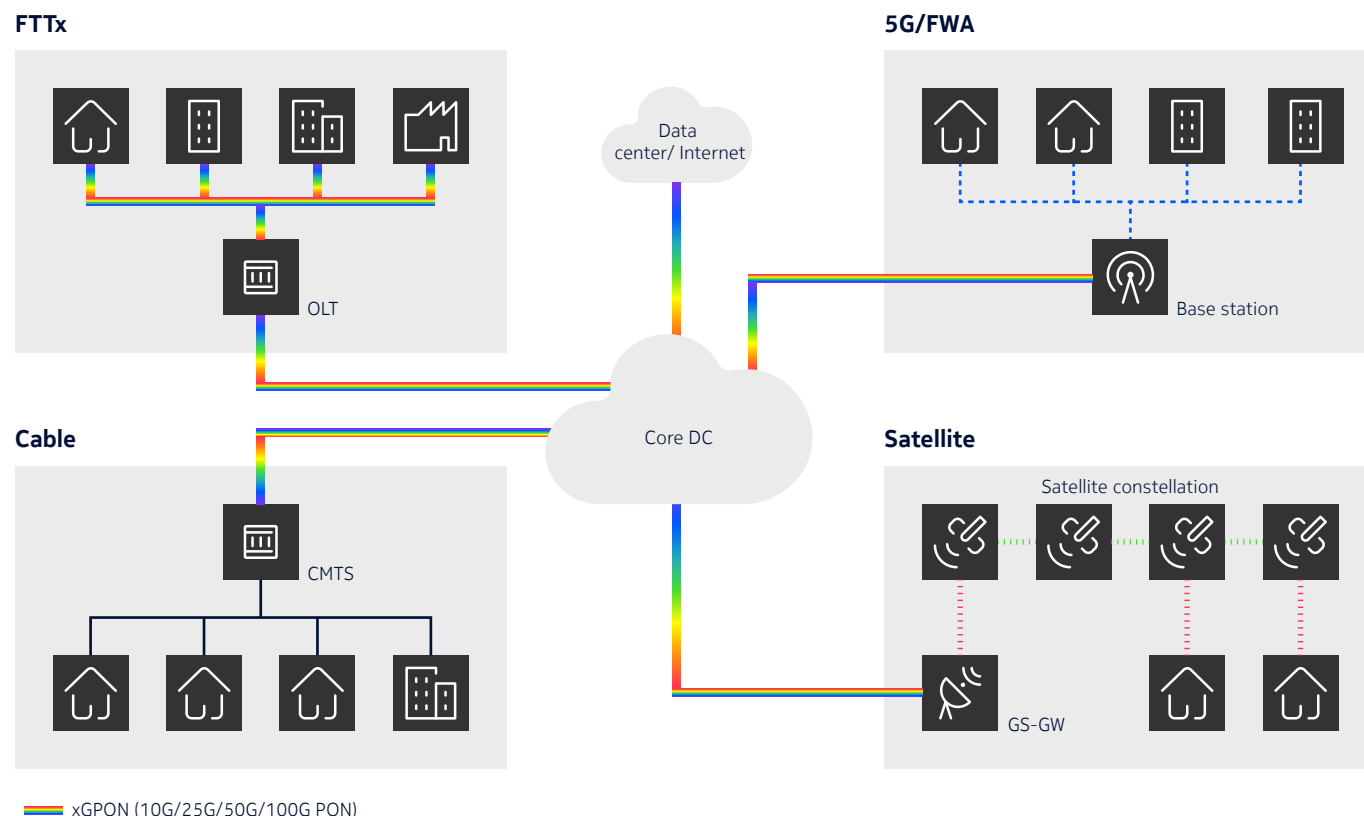
Broadband network financial planning and investment

Sound financial planning and investment are crucial for the success of a broadband network service provider. Service providers' strategy must consider allocating sufficient funds for network infrastructure development and upgrades, while providing necessary resources to efficiently manage operational costs essential for long-term sustainability. With a strategy that focuses on a thorough analysis of the potential return on investment (ROI) of various projects, service providers can prioritize investments that maximize profitability and drive business growth.

Broadband network regulatory compliance

To maintain regulatory compliance, broadband providers must stay informed about the latest regulations and industry standards. By adhering to privacy, data protection, and net neutrality regulations, providers can mitigate legal risks, protect customer data, and foster a positive relationship with regulators.

Figure 2: Fixed broadband access technologies



Bell Labs Consulting Services

At Bell Lab Consulting (BLC), we combine technical and business expertise to advise and guide organizations seeking to enter or expand in the fixed broadband network market. We can help them adopt and implement well-crafted strategies that align with the rapid evolution of broadband technology. By leveraging technologies such as FTTx, xPON, 5G FWA, and satellite internet, we help service providers create resilient and reliable networks. Additionally, we facilitate and help them optimize their network performance with the integration of SDN and NFV supported by AI/ML to enhance their customers' experience. This allows providers to adapt swiftly to changing market conditions. It is also critical to consider potential challenges, such as network technology selection and geographical constraints, which may impact business economics and service quality.

With BLC guidance and advice based on thorough and detailed consideration of the various strategies to remain adaptable to the evolving landscape, businesses can position themselves for success in the competitive fixed broadband market, ultimately bridging the digital divide and driving economic growth. BLC proposed strategies and our risk assessment methodology ensure a balanced approach to entry or expansion in the fixed broadband network market, aligning broadband services requirements with service providers' business objectives and resource constraints.

For further information please contact us at info.query@bell-labs-consulting.com

Learn more about Bell Labs Consulting at <https://www.bell-labs.com/consulting/>

About Nokia

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

Nokia is a registered trademark of Nokia Corporation. Other product and company names mentioned herein may be trademarks or trade names of their respective owners.

© 2024 Nokia

Nokia OYJ
Karakaari 7
02610 Espoo
Finland
Tel. +358 (0) 10 44 88 000

Document code: 1155201 (December) CID#214405