

A woman wearing a white hard hat and safety glasses is focused on a tablet device. She is wearing a bright orange safety jacket with reflective silver stripes. The background is a blurred industrial setting, likely a factory or warehouse, with various equipment and lights visible. A white diagonal line cuts across the top right corner of the image.

NOKIA

# Accelerating fiber broadband deployments

## Use case

The COVID pandemic has changed the way we work, live and learn. More capacity, higher data speeds and better online access is the new normal. But without the right network or infrastructure in place, this can be harder to achieve than imagined. To help, operators and new builders are working at breakneck speeds to upgrade or install new fiber broadband networks that are capable of delivering the Gigabit speeds that customers want.

# Challenges with fiber network deployment programs

But fiber rollout programs require high initial investment which is linked to building the infrastructure and to physically connecting customers. The challenge with fiber upgrade programs lies in the risk of delay or budget overrun due to inefficiencies and unexpected hurdles with planning and implementation. They also require you to engage in long-term civil works, dig up roads, and enter buildings to install new infrastructure. These costly activities impact your bottom line and affect the communities where you do business.

## Addressing the challenges of fiber network deployment programs

### **Accurate passive network designs, ready-to-build**

Core to fiber infrastructure is the design and installation of an outside plant; the physical guts of the network that serves as a connecting point between the central office and the subscriber. Building an outside plant, however, can be complicated and poses several challenges for even the most experienced operators in the market.

Once the fiber business case gets the green light, permits and rights of way are arranged, a successful rollout starts with the right design of the fiber passive network. Precise documentation is needed for the physical network rollout. Outside plant design and engineering services produce an accurate and cost-effective bill of quantities and network designs that are ready-to-build. Any errors made during the deployment due to improper planning and design can have a huge impact on the costs, timeline and overall business case. So, ensuring it's done right first time is critical.

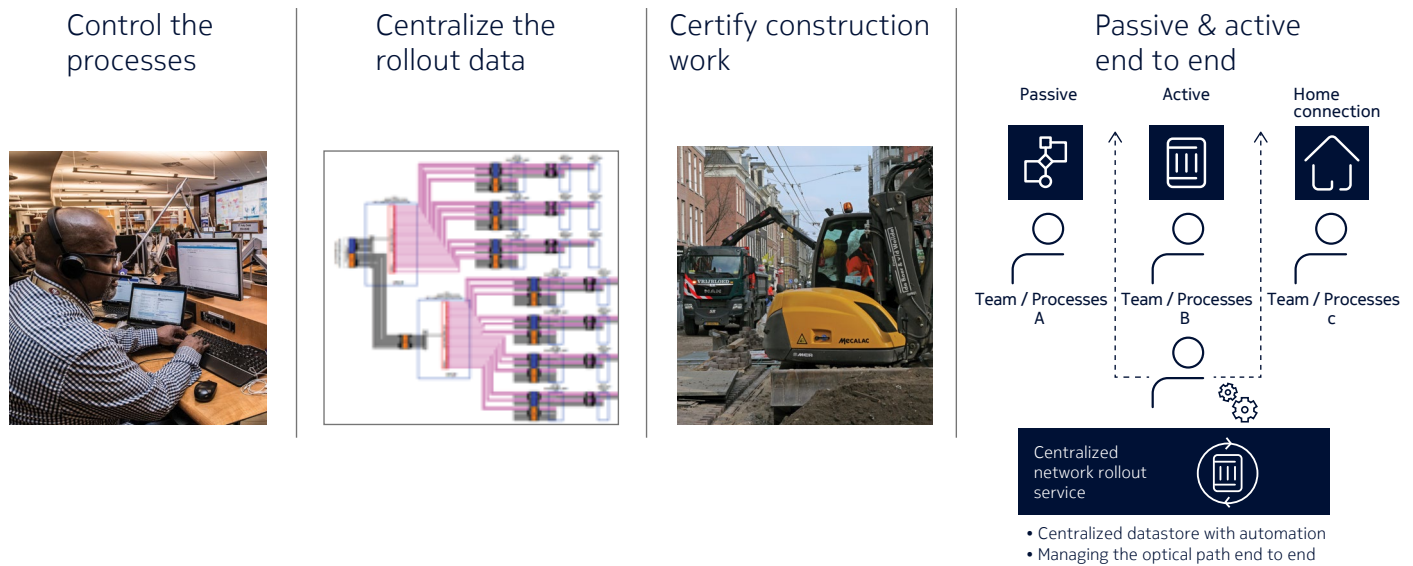
### **Rollout your fiber network more quickly**

Control of rollouts is essential for fiber services. You need to roll out and scale new services fast with quality and without errors that can frustrate users, create delays, and take your costs higher. The key is to automate repeatable processes that let you reliably deliver end-to-end network connections.

Different operator and subcontractor teams need to work together efficiently to build the network—both passive and active—from the central office all the way up to the customer. Any inefficiencies in planning and communication or simply lack of data sharing will lead to delays, introduce errors and increase project costs.

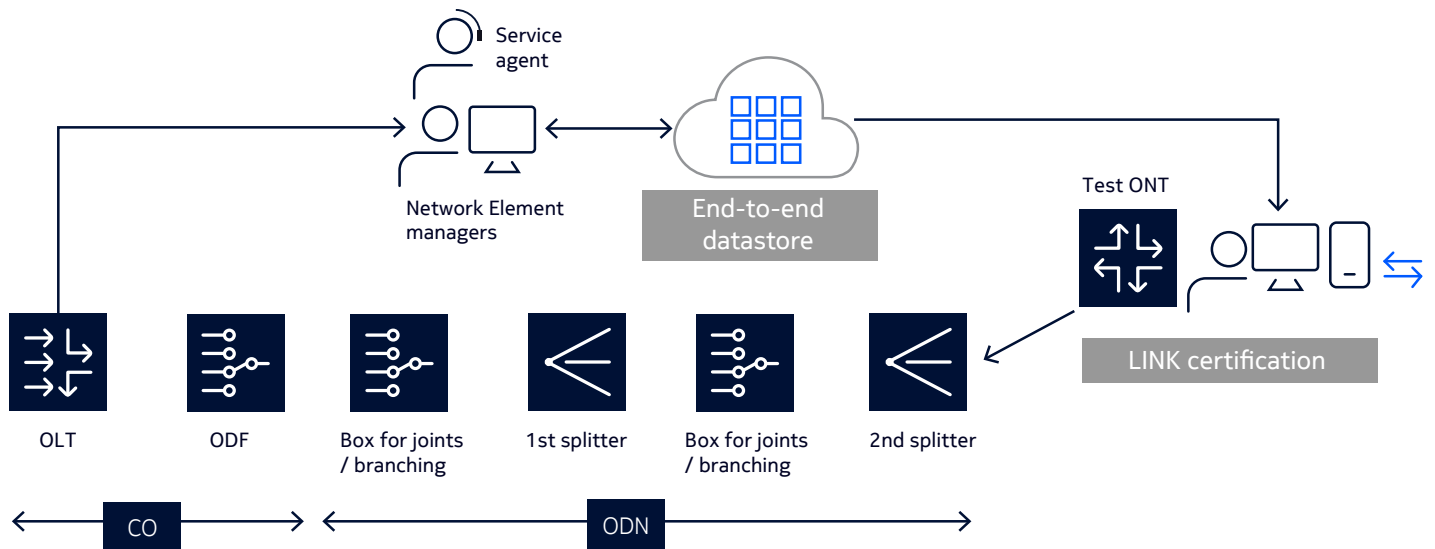
A centralized and automated control of the network rollout end-to-end and an easily accessible central datastore where all teams can share relevant information is needed. This approach breaks silos between active and passive network builds to speed up the end-to-end build process.

Figure 1. End-to-end network rollout control and optical path certification



It also monitors the quality of delivered services by testing and certifying optical paths end-to-end to ensure homes passed are ready for sale.

Figure 2. Optical path certification ensures homes passed are ready to sell

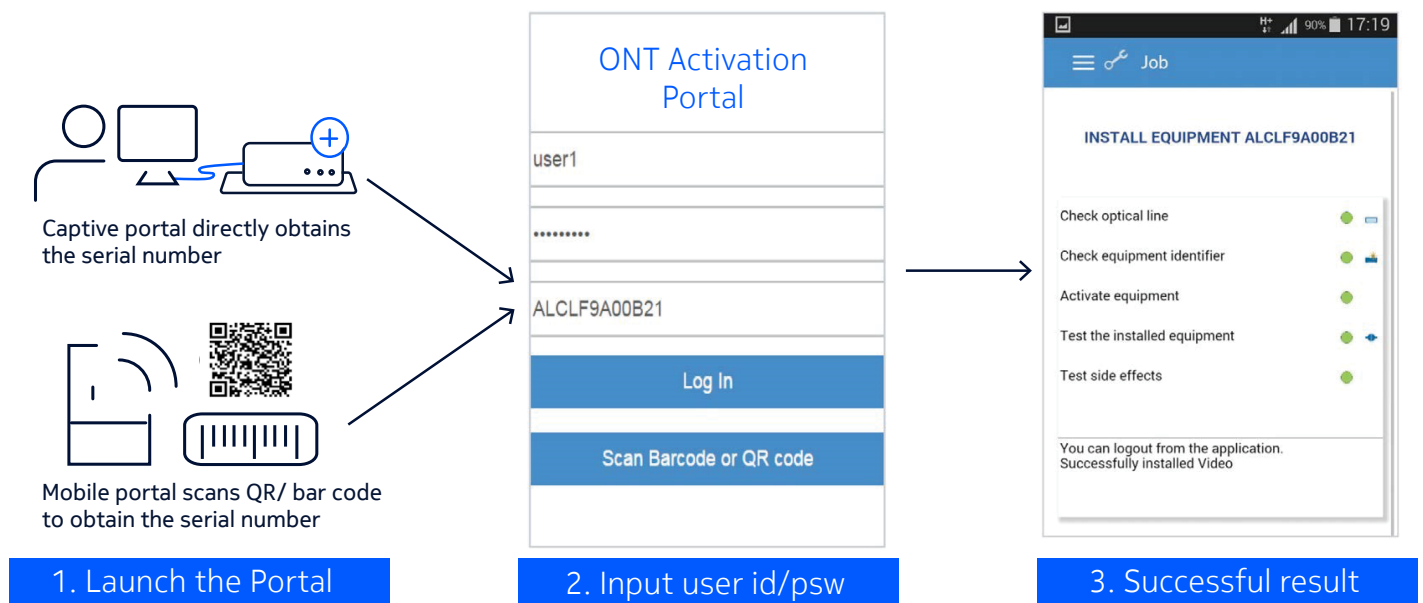


Applying these best practices can achieve a reduction in rollout costs up to 30% and accelerate network rollout times by up to 25%.

## Connect fiber customers faster and at lower cost

Once the network is in place, it's time to turn your fiber investment into a revenue stream. Today's multi-step and error prone ONT activation process hinder operators in turning their fiber network build quickly into a billable service. Turning the multi-step ONT activation process into an automated process helps. Through ONT-self-activation via a smartphone app, customers can start the process which then runs automatically in the background.

Figure 3. Automated ONT activation accelerates time-to-market



Alternatively, a field technician can use the same ONT self-activation capabilities to reduce time on site and make their work less error prone. With this approach, fiber operators can significantly improve connection times and reduce activation costs up to 50%.

## Fully exploit your fiber investment

Now your fiber services are up and running, how do you protect your fiber revenues and keep your customers loyal?

Network assessment and health check projects have found that 20% of optical power budgets on optical paths are low, which is problematic for network performance. Network optimization tools and services help. They make use of advanced analytics to analyze network data and apply best practices to provide the insights you need to continuously improve your fiber network performance. Important, though, is to look at the right set of network KPIs—amongst thousands of network parameters—which help to tell you if the network is maximizing its potential or frustrating customers.



Additionally, a proactive approach to network operations helps to improve network availability and cut network OPEX. Core to this are predictive analytics applying powerful artificial intelligence and machine learning algorithms to your network data and leverage unique knowledge databases to identify and solve network problems before they impact your customers. Operators using a pro-active care approach typically enjoy a faster resolution of network issues of up to 30% and a reduction in outage duration of up to 63%.

## Conclusion

Accelerating your Gigabit fiber rollout and fully exploiting your fiber investment require centralized network rollout and management services capabilities, automation and advanced analytics across the network lifecycle from planning, designing, implementing and operating these networks.

An accurate network design and bill of quantities help you deliver a cost-optimized and ready-to-build network design. Centralized and automated network rollout control help you to keep your fiber rollout projects on schedule and within budget. Optical path certification turns the network build into sellable homes. Automated ONT activation speeds up connecting and activating customers on your fiber network.

Finally, network optimization and proactive network operations practices apply powerful analytics to help you to continuously improve your network performance and solve network problems before they impact your customers.

Find out more about Nokia's fiber deployment and care services [here](#).

### About Nokia

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

As a B2B technology innovation leader, we are pioneering the future where networks meet cloud to realize the full potential of digital in every industry.

Through networks that sense, think and act, we work with our customers and partners to create the digital services and applications of the future.

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