Actively accompanying your journey to the 5G promised land

Nokia Managed Services
The key to capturing a share of the 5G market and reaching the “promised land” of new revenues is operational maturity: streamlining processes in a way that allows communications service providers (CSPs) to cover a vast range of tasks, including those that are unexpected or need to be completed on short notice.

Nokia Managed Services can help CSPs achieve that maturity, supporting their journeys from manual to automated and cognitive operations.
Operational maturity comes step by step

5G revenue growth will depend largely on how easily you can digitize and streamline your operational and business support systems and become a truly digital service provider (DSP). But that transformation can’t happen overnight. Instead, it tends to follow four main stages of operational maturity:

- **Manual operations**: The 5G service portfolio is limited to a few “plain” enhanced mobile broadband (eMBB) services. Enterprise-focused services with committed service-level agreements (SLAs) may be possible but on a very limited scale.

- **Autonomous operations**: Automated, closed-loop processes allow you to offer a wider range of more complex, higher-value services.

- **Cognitive operations**: Rigid rules-based automation is replaced with processes based on machine learning and artificial intelligence (AI), supporting even more adaptive and dynamic enterprise use cases with tighter SLAs.

  - **Ecosystem operations**: Connecting with a broader ecosystem of design and development partners allows new services for new verticals to be spun up and deployed at very high speed. The Nokia 5G Maturity Index shows that most CSPs are still in the early days of operational transformation, with the majority of those surveyed (84%) at the lowest end of the maturity spectrum. This means they don’t have full visibility into service/network performance, can’t add new services quickly and can’t guarantee their capacity to uphold strict enterprise SLAs — creating a major bottleneck to business growth.

  The only way for these CSPs to gain the operational maturity they need is to make disruptive changes, completely transforming the way they do business. That’s where an experienced partner like Nokia can help.

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![Monetization](image_url)
A modular, customizable portfolio of managed services
For every step of the 5G journey

No two CSPs’ 5G journeys will be exactly alike. Nokia Managed Services offers a modular, customizable portfolio of “micro” managed services and business models, allowing you to outsource as many aspects of your operations to our experts as needed to meet your unique digital transformation targets.

You can choose the approach that works best for your business: from basic operations assistance to fully managed operations to end-to-end network transformation.

This makes it easier for you to progress along the four stages of operational maturity, no matter your starting point:

- **From manual to automated:** We provide a full stack of end-to-end network, service lifecycle, cloud and customer experience automation services, streamlining the operations architecture and its related processes.

- **From automated to cognitive:** We inject AI into service operations to fast-track innovation and automate the solutions for complex tasks such as detecting sleeping cells and optimizing energy management across network layers. Cognitive operations make it possible to tackle issues before they compromise performance.

  We also provide **ecosystem services**, giving you orchestrated access to worldwide IoT connectivity infrastructure and other “as-a-service” offerings from our partners so you can better capitalize on 5G B2B2X and enterprise opportunities.

  Each managed services engagement can begin with an operational maturity assessment using the **Nokia Digital Navigator**, which produces actionable recommendations and a roadmap of high-priority next steps for your transformation journey.
A platform for 5G transformation

More than just an outsourcing model for augmenting headcount, Nokia Managed Services provides a complete platform for operational transformation. You can pick and choose the areas you’d like our experts to manage on your behalf based on where you need help the most. The following are just some of the ways we can support you:

### Automation services

**Automated network, service lifecycle, customer experience or cloud operations with:**

- Closed-loop operations
- Single service model for ordering, fulfillment, assurance and scaling
- Automated workflows with digitized methods of procedures (digiMOPs)
- Zero-touch network and service operations centers to automate recurring, repetitive alarm/fault management

**Intelligent alarm filtering, suppression and correlation to reduce alarm volumes**

- Automated alarm resets and recovery
- Centralized remote operations to automate recurring, repetitive alarm/fault management

### Cognitive automation services

**Cell site degradation prediction**

Predict, detect and isolate anomalies days in advance with AI-based fault management, log analysis and root-cause analysis.

**Automated health checks / proactive network monitoring / service modelling & impact analysis**

Use real-time, multi-domain, customer-centric monitoring to prioritize incident management and reduce complaints.

**Automation-assisted triage**

Complement rules-based triage engines with machine-learning algorithms to improve overall correlation accuracy.

**Field force optimization**

Minimize wrong ticket dispatches and increase staff utilization with more accurate, analytics-driven information for field teams.

**Energy management optimization**

Extend radio-layer sleep mode duration without compromising the customer experience, cutting energy costs by up to 15%.

and many more…
Transformation powered by connected intelligence

The Nokia AVA cognitive operating system is the heart of our Managed Services platform. Driven by the continuous flow of data coming from our customers’ networks, it uses a combination of AI, machine learning and closed-loop processes to automate the orchestration of the network and security operations that cut across all domains. It also features a customer-centric service management layer, fulfilling and assuring all services from end to end.

An open operating system that can work with multi-technology and multi-vendor environments for multiple tenants, Nokia AVA can run on any cloud infrastructure, whether that’s the public cloud or a private cloud environment hosted by either Nokia or the CSP.

Enhancing our capabilities is a large ecosystem of partners such as Microsoft Azure, making it possible to quickly introduce, roll out and enhance new AI-driven use cases for our cognitive services.

We deliver our managed services remotely from our network of five global delivery centers and 13 local delivery centers around the world, with more than 10,000 managed services experts supporting the operations of more than 200 customers in 55 countries. Remote delivery provides both economies of scale and economies of scope, resulting in faster, higher quality service delivery by making the best use of our people and resources.
As an active partner in our customers’ 5G journeys, we can help you transform the way you do business and become more operationally mature, leading to real benefits:

**Higher productivity and reduced operating costs**
High-intensity automation reduces time-consuming manual tasks and eliminates the number of work orders that go to the field, cutting operating costs by up to 40%.

**Better network and service quality**
Injecting AI into alarm/fault management, log analysis and root-cause analysis helps accelerate incident resolution by proactively identifying issues and automatically triggering the most appropriate corrective actions.

**Better monetization and faster time to market**
The use of “as-a-service” business models helps you get to market with new services up to six times faster by speeding up service onboarding, slice creation and fulfilment/assurance in the network.

Reduced digital transformation risk
Managed services can help you “leapfrog” many steps on the operational maturity ladder, resulting in capital cost savings by not having to invest in your own systems transformation.

“A complete managed services portfolio for 5G”
Our automated and cognitive services can be underpinned by Nokia Managed Security Services. Our experts take on the day-to-day management of your security operations, providing 24/7 threat prevention, detection, response and recovery to fill skills gaps and free teams to focus on higher-value services.
About Nokia

We create the technology to connect the world. Only Nokia offers a comprehensive portfolio of network equipment, software, services and licensing opportunities across the globe. With our commitment to innovation, driven by the award-winning Nokia Bell Labs, we are a leader in the development and deployment of 5G networks.

Our communications service provider customers support more than 6.4 billion subscriptions with our radio networks, and our enterprise customers have deployed over 1,300 industrial networks worldwide. Adhering to the highest ethical standards, we transform how people live, work and communicate. For our latest updates, please visit us online www.nokia.com and follow us on Twitter @nokia.

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