



# It's time to rethink operations for the 5G era

FOUR QUESTIONS SERVICE  
PROVIDERS NEED TO ANSWER

# How do you seize a trillion-dollar opportunity?

5G operations need to connect the network to the business in ways that have never been done before. That raises four key questions for service providers:



How can we control costs and enhance ROI while evolving to 5G?



How can we ensure service quality in a complex network?



How do we keep our network secure and compliant?



How do we gain the agility to capture 5G opportunities?

Even conservative estimates put the potential size of the post-5G telco services market at more than \$2 trillion<sup>1</sup>. That's a powerful reason to pursue 5G transformation at full speed. But doing so requires a complete rethinking of traditional operations to overcome today's limits of customer value creation, network capacity and operational complexity.

We gathered top Nokia experts to get their views on the answers to these questions — and how service providers can position themselves today for 5G success.

<sup>1</sup>"Who will capture the new value in 5G Future X network era?" – Bell Labs Consulting (2019)





How can we  
control costs  
and enhance  
ROI while  
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# How can we control costs and enhance ROI while evolving to 5G?

The transition to 5G is ultimately about becoming a truly digital service provider and leaving the past behind. That can be a daunting prospect given the decades of building up and fine-tuning layers of legacy systems and procedures. Any path forward has to be incremental, sustainable and profitable.

## Key principles

### Streamline and consolidate legacy technologies

The first step toward a cost-controlled 5G transformation is to lay the right foundation. Adding more systems to an already crowded multivendor environment just increases complexity, which is inefficient and costly to manage. A primary goal should be to consolidate systems as much as possible. Automation can help limit complexity, too — as long as the right processes are being automated

### Limit investment in legacy systems

The transition to 5G won't happen overnight. 4G/LTE and other technologies will need to be maintained in parallel for years to come. Even so, strategic spending choices can be made today about when and where to stop investing in those legacy technologies and direct capital instead toward creating 5G infrastructure.

## CONSOLIDATION COUNTS

“ The value of having integrated systems and processes is far higher than potentially needing 10 suppliers to build those processes. ”

**TL Viswanathan**

Head of Products, Digital Operations, Nokia

**Nokia has a solution to help control cost and enhance ROI in your transition to 5G.**

Nokia Experience Center - An evolved Service Operations Center that drives operational prioritization into the business based upon real-time insights across a wide range of KPIs that trigger automated actions.

Service Lifecycle Automation for 5G Core - Reusable end-to-end workflows for network design, deployment and integration that automate end-to-end software acceptance testing and operations.

[FIND OUT MORE HOW TO CONTROL  
COST AND ENHANCE ROI](#)

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How can we ensure service quality in a complex network?

# How can we ensure service quality in a complex network?

Service providers have traditionally focused on the consumer market. 5G will open up new opportunities, especially in the enterprise segment. Seizing those opportunities will require service providers to deliver new and different levels of quality — not only in the network but also in the performance and efficiency of people and processes supporting service delivery.

## Key principles

### Augment operations with automation and AI to maintain quality

A complex, hybrid network environment with 5G services in the mix is beyond human-only management. It's too dynamic, with too many aspects to monitor and adjust in real time. Automation and artificial intelligence (AI) will give operations teams more control to ensure quality from end to end.

### Move toward a lifecycle approach

Today's operations are siloed, technology-specific and network-focused. Part of the 5G shift will be to focus not on those systems but instead on managing digital services from end to end over the course of their lifecycles. Ensuring the right network, cloud and IT resources are in place to deliver those service as intended will be the key to ensuring the highest network quality and contribute to operational efficiencies at the same time.



## Nokia has the solutions and services to help improve and ensure quality in the 5G era.

Nokia Analytics and AI Services - Cognitive Services powered by Nokia AVA - an AI ecosystem bringing together data science, telco and cloud expertise to transform networks and operations for the 5G era.

NOKIA EdenNet SON - The industry's widest range of SON modules to automate operations and eliminates complexities from multi-vendor, multi-technology, and multi-layered networks.

Nokia Network Operations Master - Highly automated and scalable software built on cloud-native architecture to address the network management requirements of multi-vendor 4G and 5G environments.

FIND OUT MORE HOW TO IMPROVE  
AND ENSURE QUALITY

CLICK HERE

WHAT THE BUSINESS NEEDS

“ You have to look at quality holistically. It's a function of technology, processes and people combined.

”

Andrew Burrell

Head of Marketing, Digital Operations



How do we keep our  
network secure and  
compliant?



# How do we keep our network secure and compliant?

The openness, complexity and diversity of the 5G environment has many service providers wondering how to minimize risk and maintain security. What's clear is that the "old" approaches no longer work: the volume of threats and data to manage is too great, and the boundaries of the network have begun to disappear.

## Key principles

### Use analytics to prioritize the highest risks

Automation and artificial intelligence will be indispensable to security teams dealing with the massively expanded number of functions, endpoints and elements of scaled-up 5G networks. Automation will help ease "alarm fatigue", for instance, by resolving straightforward issues and elevating more complex ones to human operators. Artificial intelligence can monitor traffic across the network to detect cyber-attacks, applying a fix automatically or exposing the event to the cybersecurity team.

### Take a holistic approach

Currently, network security is delivered through an often complex patchwork of specialized point solutions. Separate from increasing the management challenge, that structure creates silos that deprives security teams of valuable insights and slows down their ability to identify and mitigate threats. Using analytics and data gathering/sharing tools to break down those silos will boost the security of even the most sophisticated network environments and strengthen service providers' overall security postures.



## SECURITY AT SCALE

“ When you have thousands of network elements across millions of endpoints, you need automation. You need technologies to run step-by-step ‘cyber playbooks’ to solve specific problems automatically, without human intervention. ”

Rodrigo Brito  
Head of Product Management, Security, Nokia

## Nokia has the solutions and services to ensure 5G security.

NetGuard Adaptive Security Operations – Telco-centric security orchestration, analytics and response (SOAR) suite that integrates digital trust modules such as compliance, access, threat intelligence, and certificate management.

Nokia Managed Security Services — A set of services to protect digital networks from cyber threats by assessing current security risks, managing day-to-day security and supporting security-enhancement planning.

[FIND OUT MORE HOW TO ENSURE  
5G SECURITY](#)

[CLICK HERE](#)



How do we  
gain the agility  
to capture 5G  
opportunities?



# How do we gain the agility to capture 5G opportunities?

Webscale companies have set the pace of the market when it comes to how quickly new services need to be designed and delivered. Months-long processes won't cut it — especially not in the dynamic 5G environment. Service providers need ways to rapidly onboard and manage emerging digital service opportunities as they arise.

## Key principles

### Be iterative

Agility is partly attitudinal. The traditional approach of designing services to perfection in a fixed form and rolling them out when ready needs to be set aside in favor of a more fluid model — one that allows services to be built and launched quickly from templates, rolled out and either refined on the go or scrapped for something newer and better. This is the method webscale companies have perfected, and will help service providers strike a better balance between supply and demand.

### Pull, don't push

Being agile also requires an unflinching focus on the customer. While 'classic' telco services have been pushed out to customers based on what the network can do, 5G services should — and will — be based on what customers need, 'pulling' them in. That inherently demands responsiveness and innovation, because those needs are constantly changing. It also requires a holistic, end-to-end view of what's being delivered versus the traditional focus on individual infrastructure elements behind discrete customer touchpoints.

AT THE POINT OF AGILITY

“ Operations where you’re connecting the network to the business and creating business from the network. By definition, that’s where agility is going to be measured.

”

**Simon Osborne**

Head of Portfolio Strategy and Investments,  
Digital Operations, Nokia

## Nokia has solutions and services to increase agility for the 5G era.

Managed network and service operations - Orchestrates all digital operations layers as a managed service, providing full multiple-vendor capability and slashing time-to-value for new 5G services.

FlowOne - Enables the design and deployment of services onto physical, virtual and hybrid network environments and abstracts the complexity of these services for business systems.

Nokia Assurance Center - Combines fault and performance management functions to enable network and service assurance that leverages AI and ML techniques to drive closed-loop automation.

Nokia CloudBand — An automated, secure, easily replicable system for network functions virtualization management and network orchestration (MANO) designed to support lean, fast and efficient service operation.

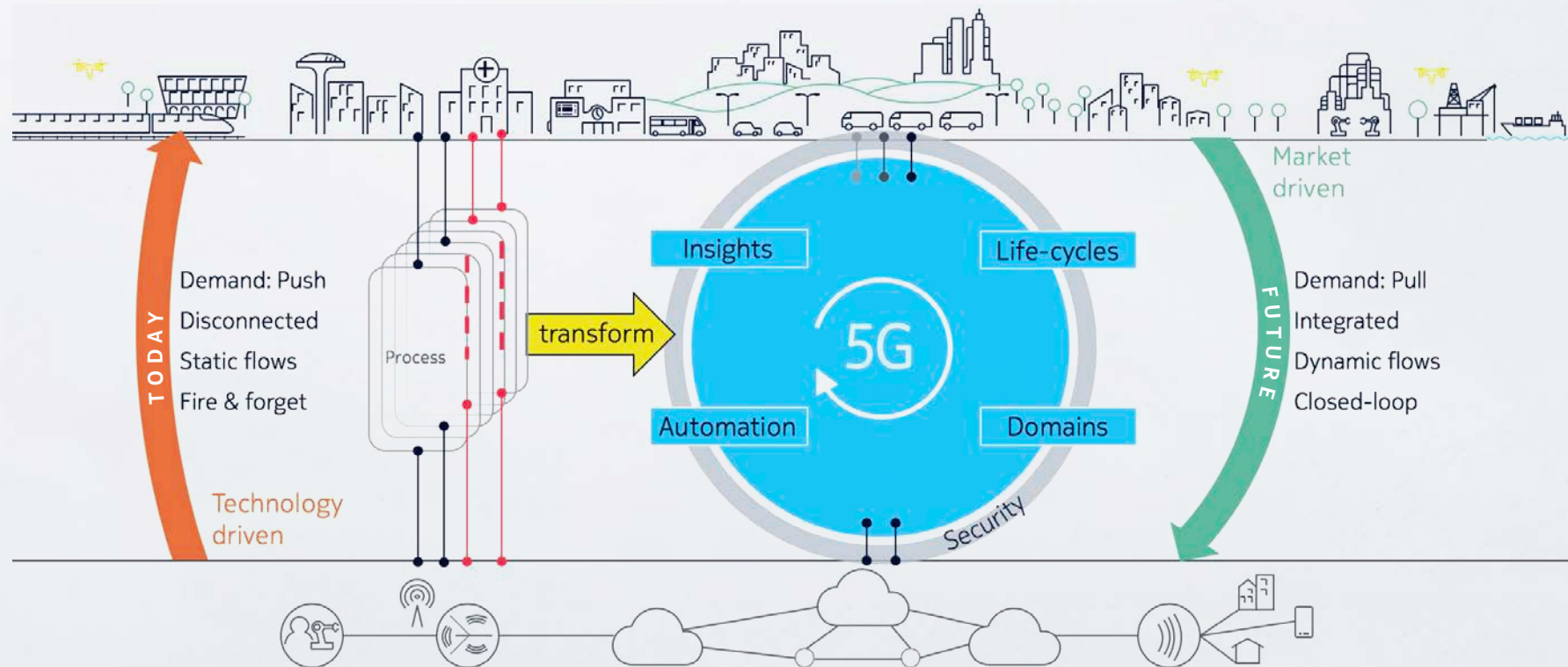
Nokia Network Services Platform (NSP) — A unified, integrated approach to service automation, network optimization and assurance.

[FIND OUT MORE HOW TO  
INCREASE AGILITY](#)

[CLICK HERE](#)

# Your partner for digital operations

Nokia has the network expertise, software solutions and global services to help telecommunications companies plan for, and carry out their 5G evolution. We are the only vendor to address the end-to-end service lifecycle from create and deliver to assure and monetize. Our deep understanding of 5G operations and Future X architecture vision provide a clear path forward to connect the network to the business, adopt closed-loop processes and establish a truly outside-in approach to innovation.



GET MORE INSIGHTS INTO THE KEY TRENDS AFFECTING OPERATIONS TODAY AND THE IMPLICATIONS OF A 5G ERA AT NOKIA'S FUTURE OF OPERATIONS HUB

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# Looking into the future of operations

Francis Haysom of Appledore Research led the roundtable session with our experts about the future of operations:



Francis Haysom  
Appledore Research



Andy Burrell  
Head of Marketing, Digital  
Operations



TL Viswanathan  
Head of Products, Digital  
Operations



Rodrigo Brito  
Head of Product  
Management, Security



Simon Osborne  
Head of Portfolio Strategy  
and Investments

HAVE A QUESTION FOR OUR EXPERTS? SEND IT  
TO US AND WE WILL GET BACK TO YOU.

GET IN TOUCH NOW



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