



A “DevOps” approach to agile software engineering  
Nokia Software Target  
Operating Mode Consulting

Agile service delivery demands a more collaborative working model for communications service provider (CSP) engineering and operations teams.

Nokia Software Target Operating Mode Consulting enables that collaboration, helping you shift to a “DelOps” mindset that combines software delivery with operations. Transform your legacy software engineering processes and establish a seamless ecosystem with direct links between you and your equipment/software vendors — enabling rapid service design and development.

# Achieving true agility

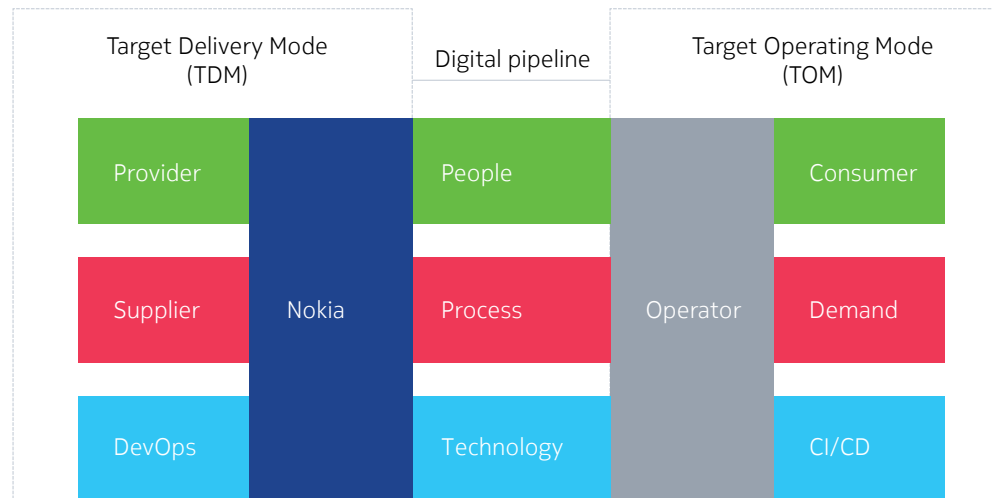
Most CSPs need to digitally transform so they can build, test and deploy new services with greater agility — and so they can do more, faster, with fewer personnel. Automation is the key to both. And yet automation itself brings a fair bit of change to software engineering teams. Instead of simply handing off the solutions they develop to the operations team to manage (as they have in the past), they must now continuously improve the solutions that have been designed for automation.

In other words: digital transformation involves more than just adopting tools for continuous integration and continuous delivery (CI/CD). It requires a new approach to the organizational roles at the heart of service development and delivery.

To do that successfully, you need to define your future **target operating mode (TOM)**: the systems and processes you have to implement to take full advantage of automation and CI/CD. That TOM must then be aligned with the **target delivery mode (TDM)** of a network equipment/software vendor like Nokia so development demands can be acted upon as quickly as possible. The TOM and TDM combined allow

you to introduce a **“DelOps”** (delivery operations) model that gives engineering teams unprecedented agility and flexibility.

Nokia Software Target Operating Mode Consulting can provide the methodology for developing a digital CI/CD pipeline to connect the TOM and TDM, accelerating innovation and increasing the quality of new software.



DelOps is an approach that automatically rolls engineering delivery services into operations through a CI/CD pipeline. It allows engineering teams to deliver innovation continuously as a running operation — and for services to be operationalized immediately after they are deployed.





# Switch seamlessly to DelOps mode



# For frictionless operations

Our methodology is designed to help you shift from an “analog” organization with rigidly structured engineering, business and operations functions to an agile digital organization that uses CI/CD principles to foster closer, more direct collaboration between functions — and deliver higher quality services.

Instead of the standard RACI (Responsible, Accountable, Consulted, Informed) matrices, our TOM model aims to establish “consumer/provider” relationships across your organization. With TOM, customer-facing business units take on the role of the “consumer” and the engineering team plays the role of platform-as-a-service “provider” (or engineering is the consumer with operations acting as infrastructure as-a service provider). What’s key is that there’s no middleman getting between requirements, implementation and operations. TOM’s redefined roles leave you with a single agile delivery process that transforms all aspects of your business, engineering and operations.

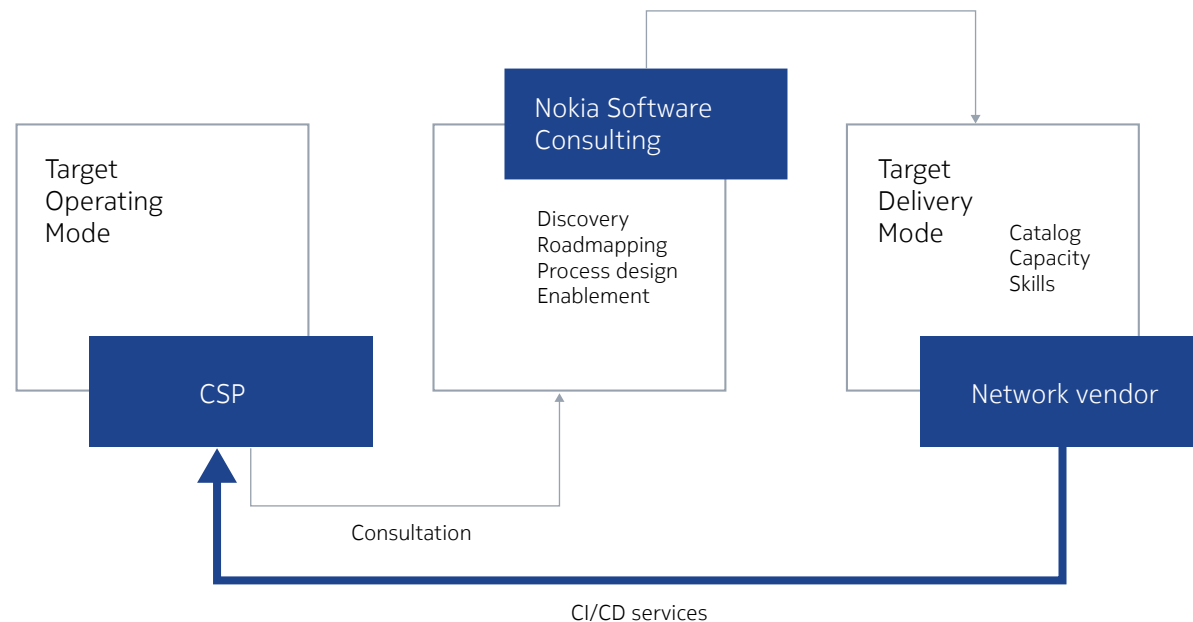
Our consultants serve as your navigator, providing assessments, strategies and guidance based on industry best practices to help you reach your TOM and seamlessly connect to the Nokia TDM. Nokia Software Target Operating Mode Consulting services include:

## An agile methodology

Nokia Software Consulting applies a proven methodology supported by industry best practices:

- **Target operating mode advisory services:** Providing a comprehensive assessment of your current mode of operations and preparing a step-by-step navigation strategy so you can quickly and successfully reach your TOM.

- **Target delivery mode advisory services:** Aligning your TOM and our TDM with a recommended implementation strategy that lets you get the most out of our online service catalog for faster, more flexible service delivery.



# Target operating mode advisory services

Reaching your TOM starts by turning your engineering organization into a DevOps powerhouse. Our team can provide strategies and advice for establishing the most direct path between your engineering, operations and other business units — and for transforming your people, processes and technologies to integrate closed-loop automation throughout service design and delivery.

Our TOM advisory services include:

## Discovery and navigation

Our consultants use an in-depth survey that assesses all aspects of service delivery to determine your capability for agility (and where any gaps might exist) — and what the best strategy will be to help you reach your TOM and generate positive business returns.

## Full-stack platform roadmap

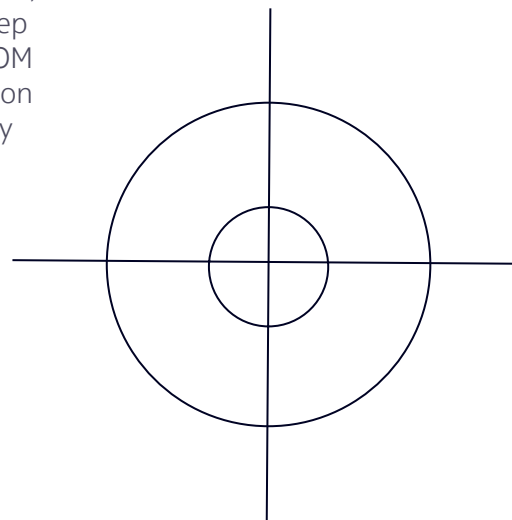
With the right strategy in place, we then provide a technology blueprint for software engineering and operations, outlining what will be needed from your OSS/BSS, virtualized network functions and more to create an agile, open and programmable network infrastructure.

## TOM enablement

We help you implement a transformation program for your people, processes and technologies, guiding you through a step-by-step approach to enabling your new TOM throughout your entire organization while also helping you manage any resistance to change.

## Benefits

- Accelerate the engineering innovation lifecycle to better meet the needs of new 5G market segments.
- Align business and operations lifecycles to facilitate the use of an open, programmable 5G core.
- Boost KPIs related to service launches, product innovation and customer satisfaction.



## USE CASE

### Enabling the 5G future state

CSPs need to reach their TOM before they can successfully support future services that require an agile 5G core. As CSPs invest in acquiring new 5G network slicing software capabilities, we can provide the strategy for designing the right organizational roles and processes to fully capture the benefits of an open, programmable 5G network. That starts by moving legacy RACI matrices and “waterfall” structures to agile DevOps processes based on consumer/provider relationships, supported by a roadmap for establishing a CI/CD platform that allows for continuous improvement.

# Target delivery mode advisory services

For your TOM to deliver maximum benefits, your network equipment/software vendor has to be part of the DelOps cycle — so that any deployed services are instantly operational. At Nokia, we developed our own TDM to extend the consumer/provider model not only across your organization but also into ours, providing a digital link to your TOM that allows our network and its functions to fulfill your software engineering requirements (e.g., continuous upgrades) at market speed.

Our TDM advisory services can help you make the best use of our agile TDM capabilities:

## Service catalog

We will help you design a service catalog tailored to your specific CI/CD needs, allowing your business planners to submit service requests for designing, testing and releasing new software in a faster, more direct and easily repeatable way. Our consultants can also help you establish new “as a service” roles and responsibilities under the consumer/provider model,

which are necessary to take full advantage of the service catalog.

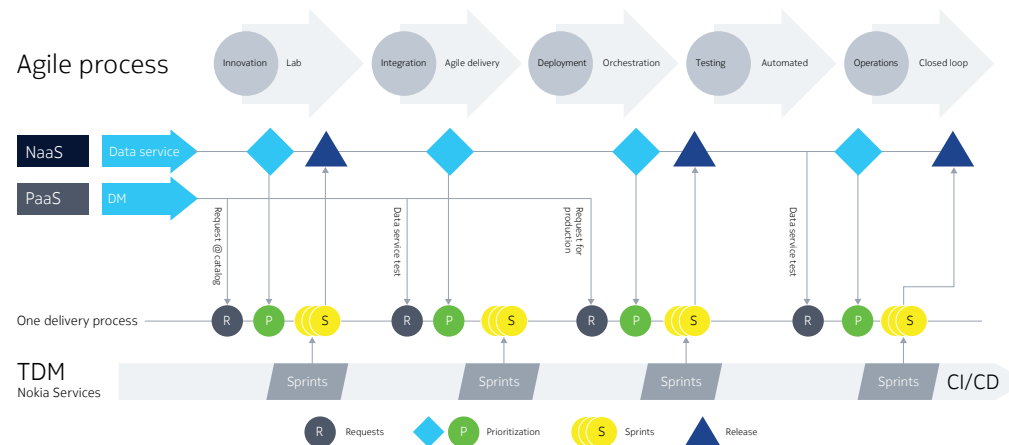
## Sprint delivery and squad design

Service catalog items are delivered via “sprints” that contain the end-to-end delivery of the necessary design, coding, testing and release processes — with requests prioritized to ensure only the sprints with the highest priority are executed first. This allows your best resources to serve the most business-critical sprints, while less important sprints can be served by less experienced

squads. We can provide guidance on the skills needed in effective squads, tribes, guilds and other groups.

## Benefits

- Shorten the planning, design and development path.
- Order only the components of agile service delivery you need in the moment.
- Implement network automation for continuous service innovation.



## USE CASE

## Developing digital links for the telco cloud

Many CSP engineering teams are looking to create an automated CI/CD framework to speed up the planning, design and development of new services. This is easier if they have a direct link between their telco cloud platform and their network equipment/software vendor. Nokia consultants can help turn the traditional joint-development project structure into a consumer/provider-based model with clearly defined roles and responsibilities — and propose an approach to automating and operationalizing the testing framework so the different parts of a CSP’s organization can subscribe to the resulting service using DelOps processes.

# A powerful combination of process and technology transformation

An agile service delivery model offers several capabilities that are simply not possible using the traditional “waterfall” approach to innovation, with its long cycle and rigid stages (requirement study, development, integration testing and acceptance testing):

## Greater flexibility and choice

Rather than blindly following the next sequence in the waterfall timeline, agile service delivery allows the next step in the process to be based on business prioritization — giving you the ability to decide which enhancements have the highest value to your organization.

## Improved KPIs

Agile delivery makes it easy to implement small changes rapidly for continuous improvement, which can lead to major (and cumulative) improvements in KPIs.

## Reduced costs

As you become more familiar with the agile methodology — and successfully manage the change in mindset that comes with moving away from traditional planning and project execution approaches — the cost of delivering a new service falls exponentially.



# Full-spectrum consulting services

Nokia is unique in the consulting services arena: we have worldwide software and network expertise, real-world experience in 5G, IoT and cloud solution deployment, and broad perspective on how CSPs are tackling the digital transformation challenge. With insights from our global customer engagements, we create and implement end-to-end transformation blueprints for the most complex, multi-vendor and future-facing environments.

Check out our full suite of Nokia Software Advanced Consulting Services

 <h3>Business Consulting</h3> <p>Digitally transform your business with results you can measure.</p>	 <h3>Security Consulting</h3> <p>Tackle today's toughest network security challenges with confidence.</p>	 <h3>Technology Consulting</h3> <p>Get the best performance out of your existing and future technologies.</p>
 <h3>Data Science &amp; Analytics Consulting</h3> <p>Turn data into insight and insight into strategy to grow your business the way you want.</p>	 <h3>Operations Consulting</h3> <p>Realign your processes for greater agility — and conquer operational complexity.</p>	 <h3>Target Operating Mode Consulting</h3> <p>Become a truly digital organization with as-a-service platforms, infrastructure and networks.</p>

## Want to know more?

**Contact us** to learn more or to start a Nokia Software consulting engagement.

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## **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](http://www.nokia.com) and follow us on Twitter [@nokia](https://twitter.com/nokia).

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