From business intent to network action

How Ericsson Dynamic Service Automation accelerates journey to autonomous networks

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150 years

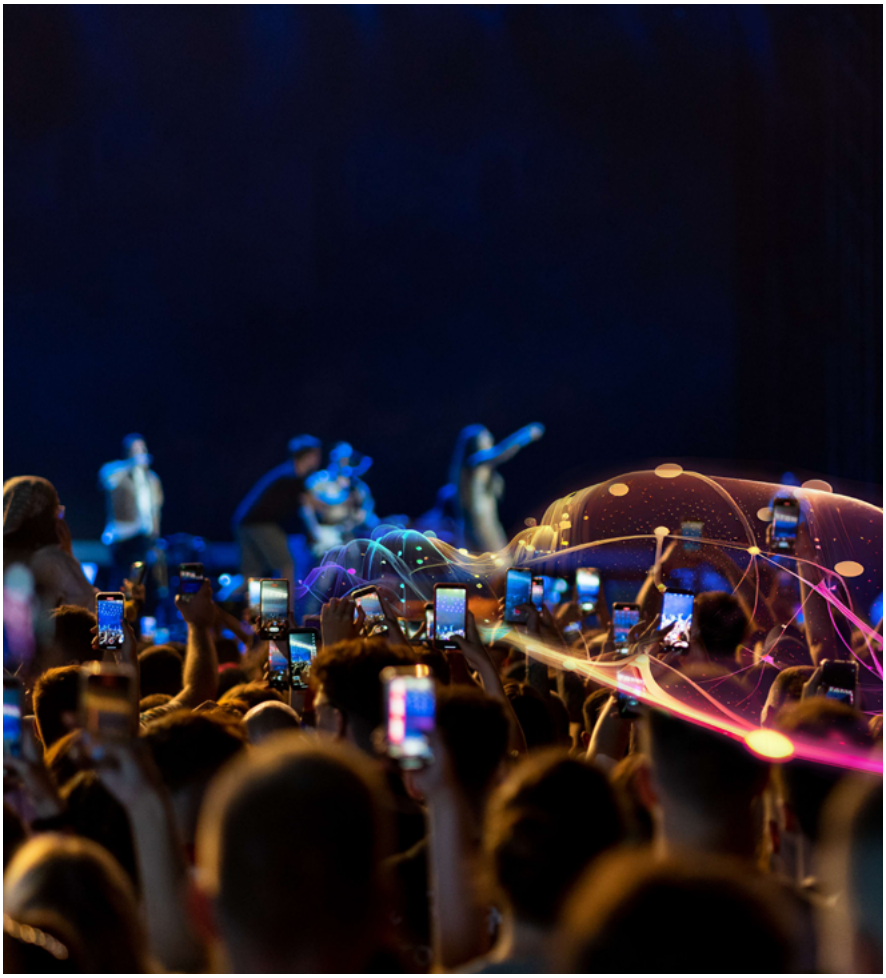
Navigating the structural challenges of dynamic telecom networks

Communications service providers (CSPs) are currently facing a period of structural challenges, driven by profound changes in network technology, market dynamics, and service expectations. These challenges reflect fundamental limitations of traditional operating models when applied to modern, highly dynamic mobile networks. Three areas of stress are emerging as critical:

1. **Manage growing network complexity at scale:** the evolution towards 5G and beyond has introduced multi vendor, multi domain environments spanning RAN, core, transport, edge, and cloud infrastructures, with increasing levels of dynamism and interdependency. Human centred and procedure driven operational models, even when supported by traditional automation, are insufficient to navigate such complexity in a scalable and resilient way.

2. **Rising operating costs and unsustainable economic pressure:** while network capabilities and service portfolios continue to expand, operational expenditure grows faster than revenues. Incremental automation has delivered only limited efficiency gains and has not fundamentally transformed the underlying cost structure. This has challenged the economic sustainability of current operational models.

3. **End to end service quality and experience:** traditional assurance models are fragmented across network domains and poorly correlated with real service outcomes, making it difficult to consistently guarantee service level agreements (SLAs), customer experience, and business intent in highly dynamic environments. This gap becomes particularly acute as we move beyond consumer connectivity towards enterprise, industrial, and vertical use cases.



These three areas create the conditions for new approaches—such as autonomous networks—necessary to enable scalable, sustainable, and intent-driven network operations.

Such operations must be capable of dynamically adapting to changing network conditions, user demands, and service requirements with minimal human intervention. They should also support greater service specialization and customization, to tailor network behaviour to highly diverse application needs while significantly reducing the time required to introduce and deploy new services.

Introducing Ericsson Dynamic Service Automation - turning intent into action

Ericsson Dynamic Service Automation is driving the execution and validation of an end-to-end architecture for intent-driven service automation across functional use cases. It supports service design, fulfillment, assurance and closed-loop automation, driven from intent, enabling CSPs to rapidly introduce, customize, and optimize services across heterogeneous and multivendor network environments.

Ericsson Dynamic Service Automation turns complexity into competitive advantage by enabling:

- **Service-intent-driven orchestration:** uses intent-based modelling and translation, including Intent Management Framework (IMF) capability of Ericsson Service Orchestration and Assurance, to convert service intent into resource intent seamlessly across and within autonomous domains. This cross-domain coordination reduces operational issues and manual errors, accelerating time to market for services.

- **End-to-end service lifecycle management:** automation spans the complete service lifecycle, including design, onboard, fulfil and configuration across day zero, day-one and day n, change management, assurance, and closed-loop automation for both business and operational services..

- **Cross-domain coverage:** provides broad support across RAN, core and transport autonomous domains. In the RAN autonomous domain, it aligns with Open RAN and Service Management and Orchestration (SMO) standard decomposed architecture for Cloud RAN and purpose-built RAN. In the core autonomous domain, it supports GitOps practices for service-intent-driven full configuration management, ensuring CSPs are ready for full automation across service and resource layers.

- **Assurance and closed-loop automation:** integrates with Ericsson Telco IT AI Engine and Ericsson Expert Analytics to enable service and subscriber assurance and closed-loop across and within autonomous domains to maintain the SLA. This moves CSP operations from reactive troubleshooting to proactive, automated service optimization. .

- **AI-driven execution:** enables AI-driven execution with orchestration of AI agents for all phases of the cognitive loop that helps observe the data, detect problems, propose remedial measures, evaluate recommendations, and take corrective actions.

- **Open integration and extensibility:** supports open interfaces including TMF Application Programming Interfaces (APIs), Third Generation Partnership Project (3GPP) and autonomous networks/intent APIs. Its configurable artifacts enable straightforward integration with existing OSS/BSS stacks and cloud-native environments, minimizing integration complexity and accelerating time to market.

The engine behind service-layer automation: As the service-layer automation engine, Ericsson Dynamic Service Automation provides dynamic service intent translation within and across RAN, core and transport domains, enabling the transformation from fragmented, domain-centric operations to truly end-to-end service management. It maps business and operational requirements, goals and constraints expressed and received from a service intent API to network capabilities and specific autonomous domain requests, accelerating service roll-out while preserving control over quality, performance and resource allocation.

The solution delivers a functional catalog of use cases via technology software artifacts that configure and drive the Ericsson Service Orchestration and Assurance platform. The reference assets reduce risk and shorten time to market while optimizing costs when deploying the platform. Built for extensibility and scalability on customer-specific architectures, Ericsson Dynamic Service Automation provides an end-to-end architecture blueprint for the verification of reference use cases.

With Ericsson Dynamic Service Automation, CSPs can accelerate their journey toward autonomous networks level 4 and enable high-value scenarios across service operational flows and service categories.

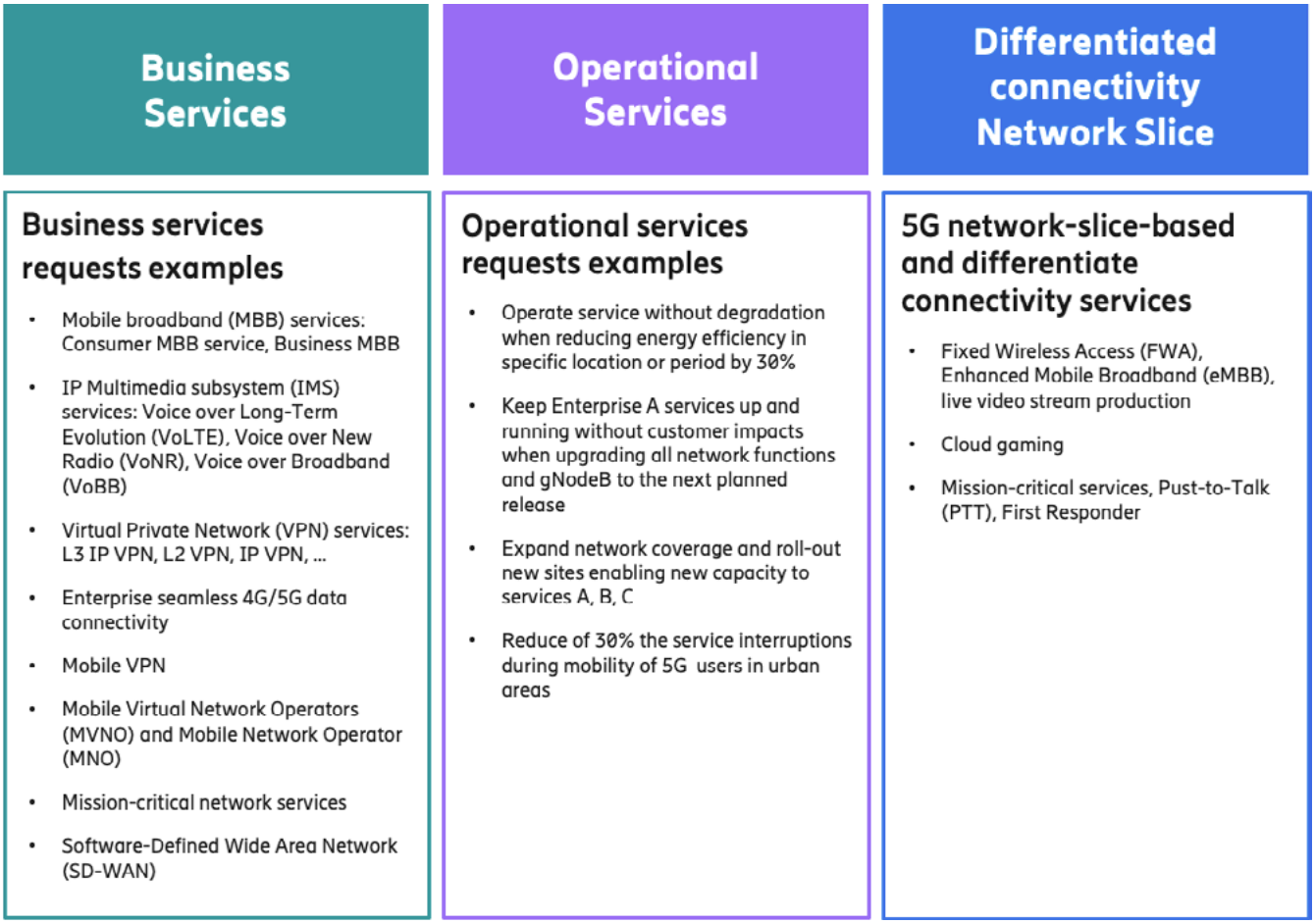


Figure 1: Examples of service requests supported by Ericsson Dynamic Service Automation

Ericsson Dynamic Service Automation is service-centric solution with three main service classes - business services, operational services and network slice-based services.

Business services
These are services that deliver value directly to the customer and are tied to product offers, commercial SLAs, and CSP revenue. They come from a business intent request in the business layer and generate a service intent request to the service layer, for example, a service order. You can see the examples of business service requests in Figure 1.

Operational services
These are services not directly sold as part of a commercial product. They may or may not relate to a specific CSP business service offered to the market. They often start with operational intent used to operate, optimize, or heal the network via graphical user interface (GUI) or TMF921 intent management API. You can see the examples of operational services requests in Figure 1.

Network slice-based services and differentiated connectivity
Ericsson Dynamic Service Automation is built on and evolved from the proven foundation of the Ericsson Dynamic Network Slicing solution that enables CSPs to realize the differentiated connectivity strategy and monetize 5G. The solution makes it possible to orchestrate, manage, and assure end-to-end slice lifecycles, overcoming the complexity of 5G network slice technology and helping CSPs to operationalize network slicing efficiently and profitably.

Network slice-based services are gaining traction, including Fixed Wireless Access (FWA), Enhanced Mobile Broadband (eMBB), cloud gaming and mission-critical services. Each service is mapped to a Single Network Slice Selection Assistance Information (S-NSSAI) and differentiated connectivity resources according to the service intent.

From service intent to network actions:
Ericsson Ericsson Dynamic Service Automation use cases demonstrate and deliver the platform's role in the service layer for service management by using the received service intent, such as optimizing coverage in cluster X or applying a new roaming policy. For the received service intent, Ericsson Dynamic Service Automation generates, validates, and orchestrates the coordinated resource intent toward the RAN, core, transport and cloud domains. The Autonomous Network Levels Evaluation Tool (ANLET) is used for each use case to validate the implementation for each operational flow. Ericsson Dynamic Service Automation and Ericsson Dynamic Network Slicing have a common foundation powered by Ericsson Service Orchestration and Assurance, which provides the following capabilities and operations:

- intent-based and TMF v5 APIs
- disaster recovery, topology and inventory
- assurance and analytics
- closed-loop automation (decide and act)
- AI agents and knowledge base
- service design, catalog and user interface (UI)

Ready to run — validated artifacts, service catalogs and integrations to accelerate end-to-end service lifecycle automation

Ericsson Dynamic Service Automation provides a ready-to-run foundation for CSPs, combining capabilities, features, and tangible deliverables that make service-layer automation deployable at scale from day one. It delivers production-grade software artifacts and a functional catalog of business, operational and network slice-based use cases, standardizing deployments, reducing implementation risk and optimizing costs across both the service and operations layers.

Ericsson Dynamic Service Automation is modular, pre-integrated and extensible via open interfaces. It enables intent-driven orchestration with human-in-the-loop where needed, simplifying OSS/BSS and cloud-native integrations, and provides dynamic cross-domain control, allowing CSPs to simplify operations, safeguard service quality and deliver differentiated customer experiences.
Ericsson Dynamic Service Automation solution offers:

- **Pre-validated software artifacts on an end-to-end reference architecture**: pre-built, tested service lifecycle flows for prioritized use cases such as enterprise VPN, 5G bearer provisioning, enterprise onboarding and network performance optimization. These artifacts accelerate deployment and significantly reduce custom development effort.

- **A functional service catalog**: a ready-to-use catalog covering business and operational services, including both slice-based and non-slice services, mapped to the underlying domains and technologies. This becomes the foundation for standardized, repeatable and reusable service patterns.

- **Pre-tested integration reference points:** reference integrations with Ericsson Service Orchestration and Assurance and key network, IT and analytics products, including Ericsson Order Care, Ericsson Catalog Manager, Ericsson Digital Experience Platform, Ericsson Expert Analytics, Ericsson Telco IT AI Engine, Ericsson Network Manager, GitLab and Cloud Core Pipeline (CLCP), Ericsson Virtual Network Function Manager, Ericsson Intelligent Controller, and RAN optimization tooling. These integrations reduce project risk, shorten implementation timelines and support heterogeneous, multi-vendor environments.

By combining an intent-driven, reusable catalog approach with heterogeneous network support including 5G Core, Evolved Packet Core, Standalone and Non-Standalone RAN, Cloud RAN and multi-domain transport), Ericsson Dynamic Service Automation enables full end-to-end service lifecycle automation, from design and provisioning to change management, assurance and closed-loop optimization. It effectively bridges commercial offers and network execution, consistently translating business and service intent into resource-level actions across all domains.

The business case — value that goes beyond automation

Ericsson Dynamic Service Automation delivers measurable, strategic value across the dimensions that matter the most: speed, efficiency, service quality, and long-term agility. It goes beyond tactical automation to underpin new business possibilities:

- **Faster time-to-market and accelerated monetization:** by mapping business intent directly to network capabilities and automating service lifecycle tasks end-to-end, Ericsson Dynamic Service Automation reduces the time needed to introduce and scale new 5G and enterprise services. CSPs can respond to customer demand faster, industrialize new offers, and monetize network investments sooner.
- **Improved operational efficiency and reduced risk:** a modular, use-case-driven architecture with open interfaces and a reusable service catalog simplifies integration and day-to-day operations. Standardized patterns, pre-tested integrations, and closed-loop automation reduce manual work, minimize configuration errors, and lower project and operational risk, translating into tangible OPEX savings.
- **Differentiated services and superior customer experience:** intent-driven orchestration combined with advanced assurance and AI enabled closed loops ensures that service quality is continuously monitored, enforced, and optimized in real time. SLAs are applied automatically across domains, enabling CSPs to offer differentiated services with provable performance and experience, strengthening customer relationships and reducing churn.

Ericsson Dynamic Service Automation is designed to evolve alongside network technologies and CSP business strategies. As CSPs introduce 5G Advanced capabilities, expand Cloud RAN, integrate new transport technologies or adopt higher levels of autonomous network capabilities, Ericsson Dynamic Service Automation can be extended incrementally, protecting existing investments and avoiding disruptive re platforming.

Evolving continuously as 5G capabilities advance, Ericsson Dynamic Service Automation is the strategic solution for autonomous, intent driven service operations—enabling leadership in 5G enterprise services, private networks, and differentiated connectivity, with greater speed, confidence, and control.

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Further reading

- AI-enabled service orchestration solutions
- OSS/BSS: bridging business and operations
- Is your service orchestration layer ready for autonomous operations?
- Accelerating 5G business growth with Ericsson Dynamic Network Slicing

About Ericsson

Ericsson's high-performing networks provide connectivity for billions of people every day. For nearly 150 years, we've been pioneers in creating technology for communication. We offer mobile communication and connectivity solutions for service providers and enterprises. Together with our customers and partners, we make the digital world of tomorrow a reality.

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