ERICSSON

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Autonomous networks: Turning complexity into a competitive advantage

Introduction

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Autonomous networks convert increasing network intelligence into measurable business value, offering communications service providers a practical path to scale innovation, assurance, and monetization.

Service providers stand at a turning point

Telecommunications networks are becoming more intelligent, dynamic, and critical to society than ever before. Meanwhile, the industry is entering an era defined by AI, differentiated connectivity, network APIs, and increasing customer expectations. These opportunities and demands introduce unprecedented operational complexity for service providers.

The telecommunications industry is currently being challenged not only to ensure networks operate more efficiently, but also to lower the barrier to continuously innovate, scale, and monetize increasingly sophisticated services without proportionately increasing complexity, costs, and operational risks. Traditional operating models were not designed for this reality.

Autonomous networks (ANs) represent a new approach. By combining intent-driven networks, AI-powered decision making, automation, and real-time intelligence, ANs enable service providers to shift operations from managing networks to proactively managing business outcomes. In doing so, they create the operational foundation needed to commercialize differentiated connectivity, network APIs, and AI-enabled services at scale. At Ericsson, we believe the objective is to deliver better business outcomes with more agility, greater customer experiences, predictable and assured network performance, and simplified operations at scale.

The value extends well beyond operational efficiency

Achieving autonomy is not an isolated technology deployment exercise; it is a transformation journey spanning technology, operations, processes, data, governance, and organizational change. The service providers most likely to succeed will be those that identify the highest-value opportunities first and progressively adopt the capabilities, processes, tools, and expertise needed to scale autonomy across their operations.

Ericsson's view is that service providers can achieve the perfect balance of delivering desired business outcomes through available and trusted technology in tandem with operational changes, all while keeping risk low. Whether the priority is accelerating efficiency innovation or enabling new revenue opportunities, an outcome-led approach turns a long-term autonomy ambition into a practical business strategy.

Ericsson's unique perspective on this journey

Throughout this report, we leverage insights from our engagements with leading customers that are already progressing from isolated automation initiatives to more autonomous operating models. These insights demonstrate how value is created and the practical steps required to move from ambition to execution.

There are many paths to autonomy, but what remains constant is the need to convert increasing network intelligence into measurable results. In an industry where sustainable business performance increasingly depends on a service provider's ability to manage complexity, autonomy is becoming a strategic capability rather than a technology aspiration.

The future of telecommunications will not be defined by connectivity alone. It will be defined by how effectively service providers can transform network intelligence into business value, and ANs provide the foundation for that transformation.

This report explains why ANs matter, what autonomy means in practice, and how service providers can turn AN ambition into measurable business value.

Scaling service differentiation without scaling complexity

A service provider's future competitiveness depends on its ability to innovate, assure, and monetize increasingly complex services without proportionally increasing operational burden.

For decades, the telecommunications industry has been driven by successive waves of network innovation. Today, a new wave is taking shape that includes differentiated connectivity, network APIs, cloud-native architectures, and increasingly, AI application experiences.

These developments present service providers with significant opportunities – they can monetize network capabilities in new ways, create differentiated service experiences, expose network capabilities through APIs, and participate more deeply in digital ecosystems. At the same time, enterprises and consumers increasingly expect personalized, adaptive services that are more predictable and responsive.

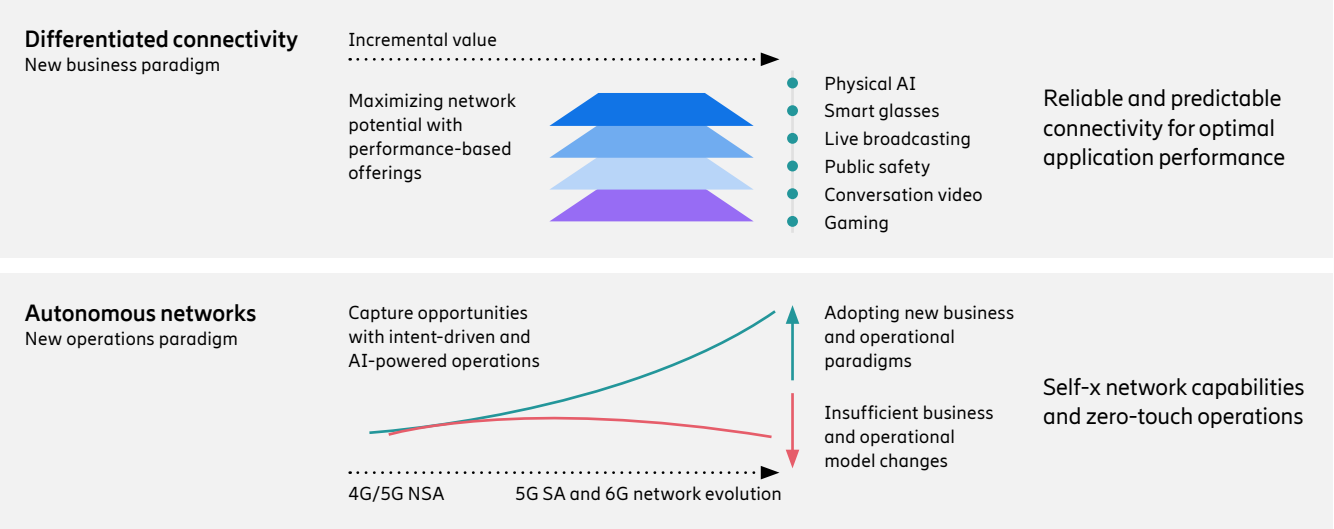
But new opportunities bring fresh challenges, with each additional service or requirement adding another layer of operational complexity. Networks are now increasingly more dynamic. Service assurance is becoming more demanding. Operating models originally designed around relatively static network environments are being stretched to support real-time, software-driven business demands.

The challenges of adding network capacity or improving efficiency continue to be important, but the focus is increasingly shifting toward enabling innovation and agility without simultaneously increasing operational effort, cost, or risk. Service providers must be able to launch services faster while more proactively assuring performance, resolving issues intelligently, and continuously optimizing experiences across increasingly complex environments.

Manual operations, siloed processes, and isolated automation initiatives can deliver incremental improvements, but these initiatives do not meet scale with the speed and complexity required by future business models.

For these reasons, AN initiatives are gaining momentum across the industry, representing a shift from managing tasks and processes to managing outcomes. A global survey of 71 senior service provider decision-makers found that autonomy is currently concentrated at TM Forum Levels 1–2, while approximately two-thirds expect to approach Level 4 or above by 2030, representing roughly two levels of progress in four years.[1] Greater autonomy can help service providers connect decisions across network, service, and business domains, and subsequently to improve customer experience, operational efficiency, and commercial outcomes. The question for service providers, therefore, is how to turn this ambition into practical, measurable business value.

Figure 1: Reshaping the potential of service providers' business and operations



[1] Turning autonomous operations ambition into measurable business value, STL Partners.

What are autonomous networks?

A shift from managing tasks and configurations to managing outcomes through intent, AI, and autonomous execution is required.

ANs represent the next evolution

ANs are not a single product, platform, or software application but rather a new operating model that enables service providers to achieve business outcomes through intent-driven networks, AI-powered decision making, and continuous closed-loop execution.

Despite service providers' investments in automation, most network operations remain heavily dependent on human intervention, predefined rules, and domain-specific processes. Humans specify what the business objectives are, while the system continuously determines the most effective way to achieve them within predefined policies, guardrails, and governance frameworks.

A useful analogy is the evolution from conventional vehicles to self-driving cars. A traditional network resembles a manual vehicle that requires a human driver to constantly control all decisions and navigation. An AN is closer to a self-driving vehicle that continuously observes its environment and evaluates available options, which then allow it to select the best path forward and adapt to changing conditions. Meanwhile, humans define the destination and retain overall control.

This highlights an important difference: Automation stops at executing predefined instructions explicitly programmed by humans, which can improve efficiency yet is limited while handling unexpected situations or changing objectives.

However, autonomous systems continuously observe, reason, decide, and act based on current business objectives, operational conditions, and available information. They can evaluate alternatives, resolve competing priorities, and adapt their behavior as circumstances change. Humans remain responsible for the goals, policies, and governance, but are no longer required to manage every operational decision or define every rule.

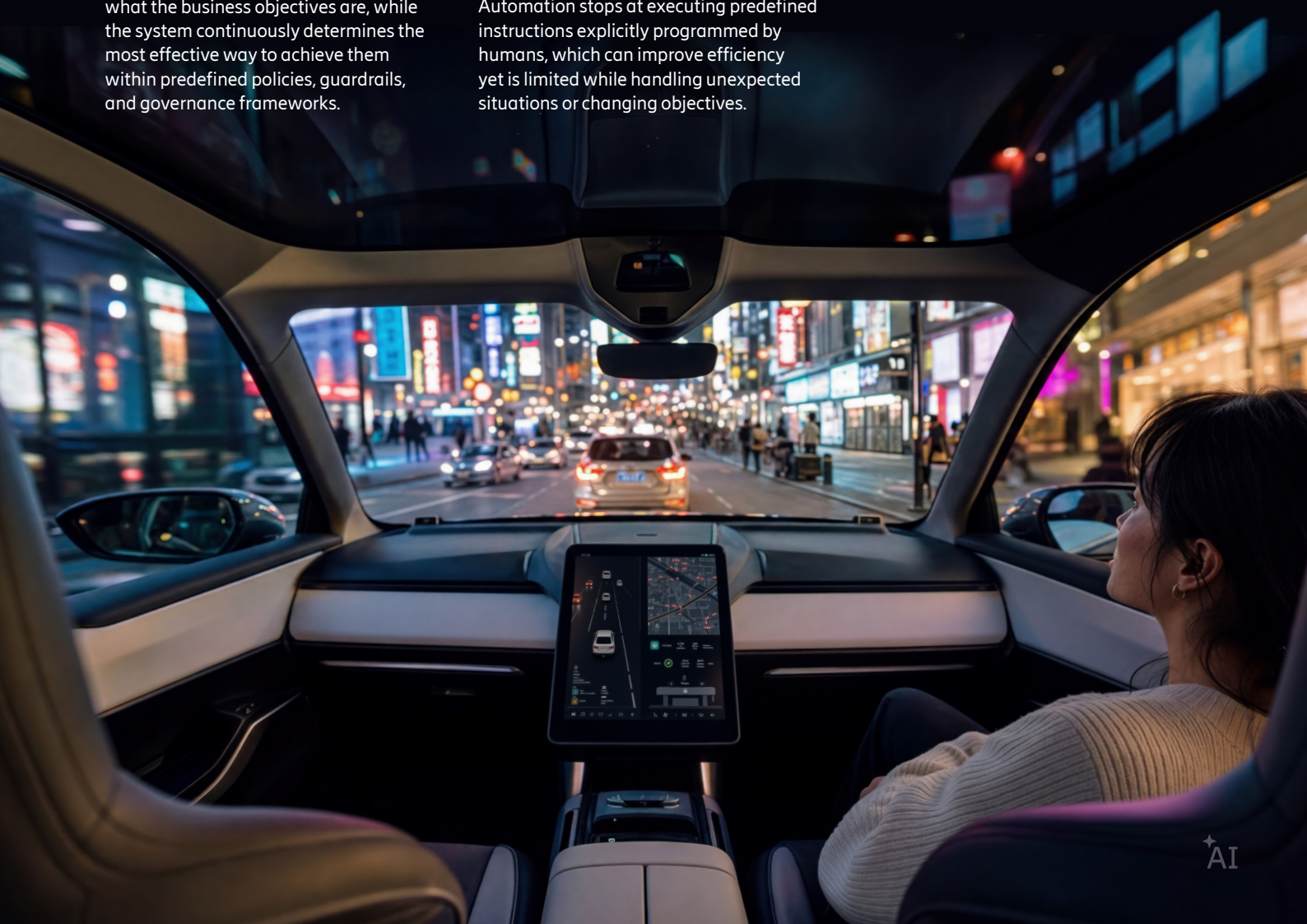
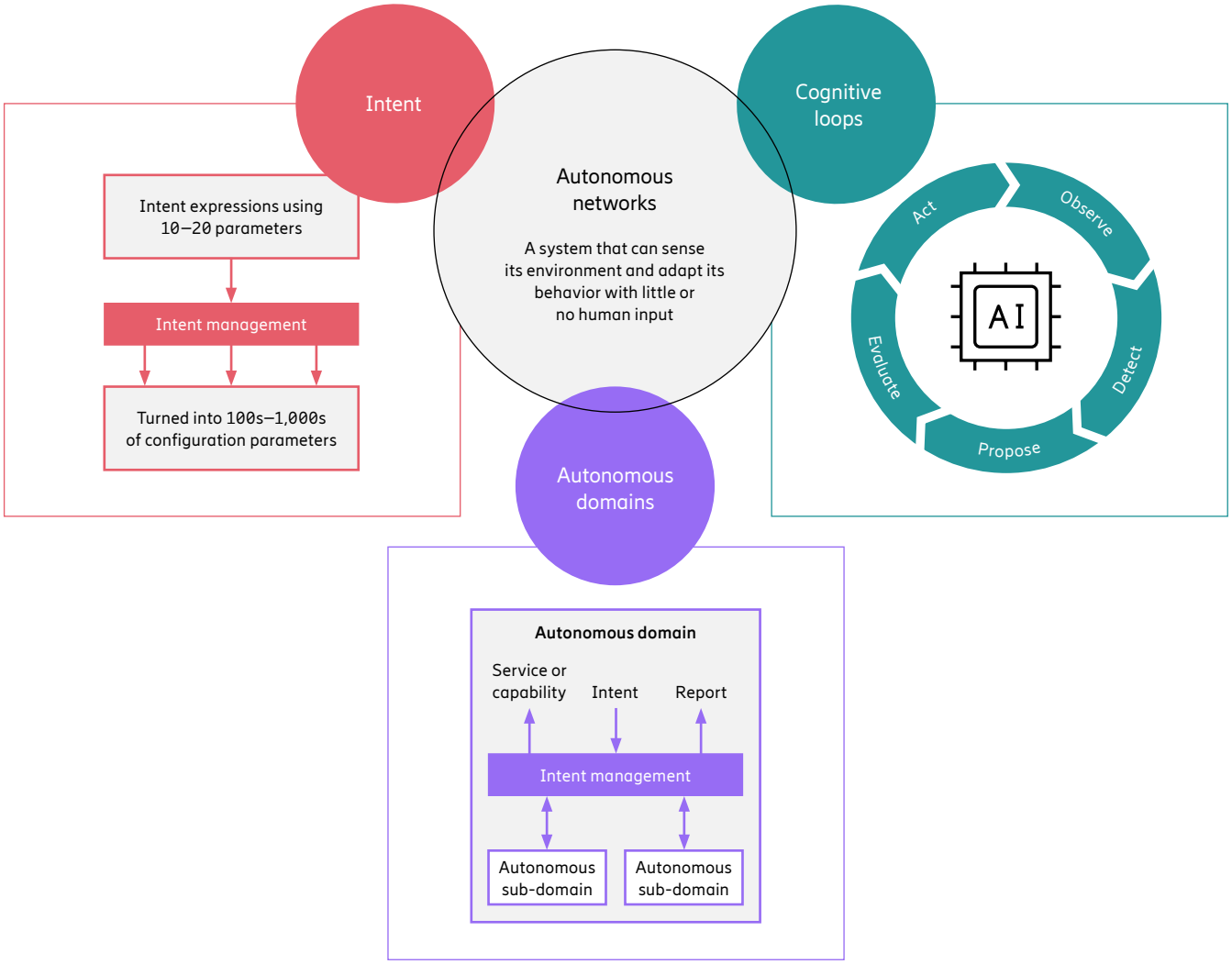


Figure 2: Foundational concepts that make autonomous networks possible



Three foundational AN concepts

1. **Intent:** This allows business leaders, operations teams, or customers to express what they want to achieve, rather than how it should be implemented (such as a guaranteed service level, customer experience objective, security requirement, or business outcome). The network determines how to fulfill that intent through coordinated actions across multiple domains. For example, a service provider requests premium connectivity for a live event, and the network determines how to deliver it.
2. **Cognitive closed-loop automation:** Where it makes business sense, AI-powered observe-decide-act loops continuously evaluate operational conditions, compare performance against objectives, determine the best course of action, and execute corrective measures, rather than waiting for human intervention. For example, AI detects emerging service delivery issues, determines the best response, and prevents performance deterioration autonomously.
3. **Autonomous domains:** Each domain can independently fulfill its contribution to a broader objective while coordinating with other domains through open interfaces, enabling intent expressions, and fulfillment acknowledgments. This allows autonomy to scale without creating centralized bottlenecks. For example, RAN, transport, core, cloud, service, and business domains independently optimize energy consumption while preserving service quality.

These concepts create an operating system in which networks continuously sense conditions, reason over possible actions, and adapt to changing circumstances while remaining aligned with business objectives.

Openness is critical to this transformation. Through standardized protocols and interfaces, seamless integration and collaboration are possible across multi-vendor environments. Ericsson drives standardization of intent management and agent-to-agent interfaces and communication protocols.

Importantly, autonomy does not mean removing humans from the equation, but the role of humans will be elevated as autonomy matures. Designed around a "human-in-command model," humans define objectives, constraints, policies, and governance requirements. They establish acceptable risk boundaries, approve critical policies, and maintain accountability for outcomes. Autonomous systems take responsibility for transparent, explainable and trustworthy execution, optimization, and continuous adjustment within those guardrails.

Ultimately, ANs represent far more than advanced automation. This is the operating model required for an industry where intelligence must be embedded into every decision, service, and interaction. In the AI era, autonomy becomes the foundation for long-term competitiveness.

Why autonomous networks matter

The value of ANs comes not just from reducing costs, but from improving business agility and resilience while simplifying operations.

The current beliefs around ANs

For many service providers, the discussion around ANs begins with automation and operational efficiency, yet industry research suggests that efficiency is only part of the story. Service providers' investments in ANs are primarily driven by improved network performance (33 percent), faster service deployment (33 percent), and reduced operational costs (31 percent). Meanwhile, only 42 percent of service providers identify cost efficiency as the primary reason for adopting agentic AI, with many placing greater emphasis on managing complexity and fulfilling increasingly demanding service-level agreements (SLAs).[2]

While efficiency is undoubtedly important, it is not the primary reason autonomy is becoming a strategic priority. Research from TM Forum shows that there is an increasing perception among service providers that ANs will also support business value and new revenue streams.[3] ANs enable service providers to innovate and compete in an environment where complexity is increasing faster than traditional operating models can accommodate.

Building the operating model for the AI era

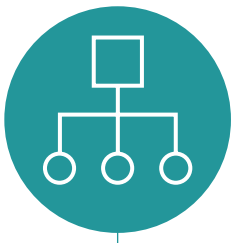
When it comes to this new AI era, the industry is experiencing two connected shifts: AI is becoming increasingly important in ensuring more effective network operations (known as AI for networks), while AI devices and applications are creating new requirements for predictable, differentiated, and assured connectivity (known as networks for AI).

ANs sit at the intersection of these shifts, using AI to improve how networks are operated and enable the predictable, assured connectivity that AI-native applications require. This makes autonomy more than an operational efficiency initiative – it becomes a foundation for service innovation.

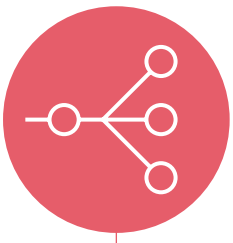
The drivers of ANs

The value of ANs can be understood through three strategic business outcomes: greater business and service agility, stronger network performance and resilience, and simpler, more efficient operations. Together, these outcomes help transform network intelligence into business value, such as faster time to market and greater customer experience.

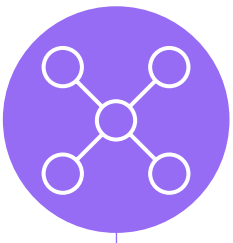
Figure 3: The drivers of autonomous networks



- Business and service agility
  - Accelerate service creation, delivery, and monetization
  - Hyper-automated and AI-assisted customer interactions
  - Commercialize differentiated connectivity services at scale



- Network performance and resilience
  - Predictable network performance with dynamic SLA enforcement
  - Self-x networks that deliver consistent outcomes
  - Autonomously coordinated security across services and networks



- Simplification and efficiency
  - Separation of concern through intent-driven autonomous domains
  - AI-powered closed-loop automation in all network layers
  - Close to zero-touch operations

[2] CSPs' Transformation Journeys Toward Autonomous Core Networks, Omdia.
[3] Scaling to AN Level 4 to unlock network value, TM Forum, June 2026.

Business and service agility

In the telecommunications industry, service innovation must now happen faster than ever before. While enterprises increasingly expect connectivity services tailored to specific business needs, consumers demand more personalized experiences and, at the same time, new opportunities are emerging around differentiated connectivity, network APIs, ecosystem partnerships, and AI-enabled services.

Success will increasingly depend on a service provider's ability to sell, deliver, monetize, and adapt services efficiently and effectively, and traditional operating models often slow this process. Creating a new offer may require coordination across multiple operational systems, manual configuration activities, and extensive testing processes.

ANs address this challenge by connecting business objectives directly to service delivery. Service creation, fulfillment, assurance, and monetization become increasingly aligned, reducing the time required to move from concept to commercial launch. This creates a foundation for new business models.

Differentiated connectivity services can be introduced with greater confidence, while SLA-backed offerings can be delivered and assured at scale. Additionally, network APIs can be monetized through programmable ecosystems, and enterprises can receive tailored service experiences without requiring extensive manual intervention. The result is faster innovation, improved customer experience across both enterprise and consumer services, and greater ability to capture new revenue opportunities. Through autonomous assurance, intent-driven operations, and programmable network capabilities, ANs transform the network from an operational asset into a platform for continuous value creation.

Network performance and resilience

As services become more critical and dynamic, network performance can no longer be managed through reactive operational processes.

AI applications, industrial automation, differentiated connectivity, and mission-critical services all depend on predictable experiences rather than best-effort delivery. Customers increasingly expect continuous service assurance to be proactive and outcome driven.

Autonomous systems continuously monitor conditions, identify emerging risks, evaluate possible responses, and take corrective actions before service quality is affected. Cognitive closed loops enable networks to observe and act continuously, keeping performance aligned with business objectives and SLAs.



This shift from reactive operations to proactive assurance can deliver significant benefits, such as:

- issues being resolved before customers notice them
- prediction and prevention of service degradation
- dynamic optimization of capacity
- performance objectives being maintained despite changing traffic patterns, network conditions, and customer demands

Several industry milestones demonstrate what is already possible. DNB[4], True Corporation[5], TDC NET[6], and NBN Co[7] have achieved TM Forum Level 4 autonomy validations in areas such as service assurance and energy management, proving the benefits of ANs in live production networks.

Beyond specific use cases, ANs establish the operational foundation required for AI-native applications. They enable the predictable connectivity and assurance needed to support increasingly sophisticated digital experiences while maintaining trust and reliability at scale.

Operational simplicity and efficiency

Efficiency remains an important outcome of autonomy, but it is best understood as a consequence of simplification rather than cost reduction alone.

Modern networks contain an unprecedented number of dependencies across technologies, domains, vendors, and operational processes. Every new service, network slice, API exposure, cloud application, and AI capability adds complexity. Managing this environment manually is becoming increasingly difficult, regardless of the size of the operations organization.

ANs absorb complexity into the system. Rather than requiring service providers to manage thousands of configurations and workflows, autonomy enables people to focus on objectives, policies, governance, and continuous improvement. Operational teams can move away from repetitive manual activities toward higher-value work that contributes directly to business outcomes.

This shift delivers measurable efficiency gains, including:

- increasingly zero-touch operations
- proactive troubleshooting
- predictive capacity management
- improved resource utilization
- human effort is focused where it creates the most value
- increased productivity without proportionally increasing operational headcount

The results achieved within Ericsson's managed services operations, for example, illustrate this potential. Deployments have led to reduced work orders, fewer truck rolls, lower customer complaints, and significant improvements in operational productivity while maintaining service quality. Similar gains have been demonstrated through automated testing, RAN optimization, energy management, and closed-loop assurance initiatives.

[4] DNB and Ericsson secure TM Forum's world-first validation of Level 4 Autonomy for 5G Service Assurance, Ericsson.
[5] True Corporation achieves Level 4 Autonomy validation for 5G Service Assurance with Ericsson AI Solutions, Ericsson.
[6] TDC NET and Ericsson achieves industry-first certification from TM Forum of Level 4 Autonomy, Ericsson.
[7] NBN Co and Ericsson achieve Australia-first TM Forum Level 4 Autonomy Validation, Ericsson.

The key technologies and capabilities for autonomous networks

Key interconnected capabilities allow networks to understand intent, make decisions, and execute actions while maintaining security and operational trust.

Intent management framework
Intent management provides the bridge between business objectives and network operations, meaning service providers can define desired outcomes through high-level intents. This is the basis for managing intents across all layers and within each of the autonomous domains of the network, continuously evaluating whether outcomes are being achieved and initiating required corrective actions.

Security management
Security management ensures that autonomous actions comply with governance policies, regulatory requirements, and operational safeguards. It continuously monitors threats and vulnerabilities while protecting network assets, data, and AI-driven decision processes. Ultimately, service providers can confidently increase levels of autonomy without compromising resilience, compliance, or customer trust.

Telecom AI architecture
Telecom AI architecture provides the specialized tools and operational environment required to deploy telecom-grade AI at scale across network domains. This architecture supports the full AI life cycle, including data processing, model training, inference, orchestration, governance, and life-cycle management. It enables AI capabilities to operate reliably across distributed environments while meeting the performance, security, and operational requirements.

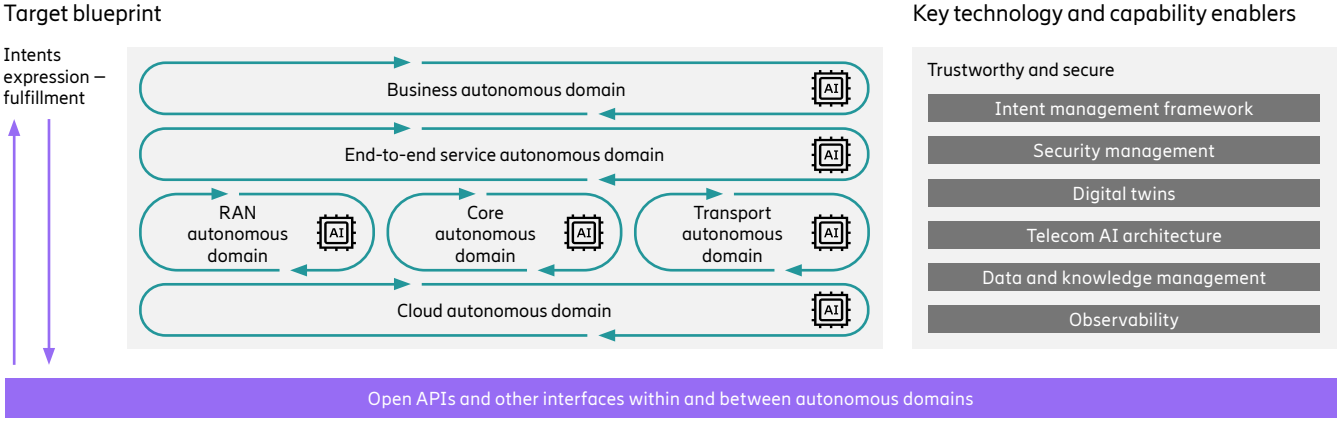
Digital twins
Digital twins provide virtual representations of network environments, services, and operational processes. They allow service providers to simulate scenarios, test policy changes, validate automation workflows, and predict outcomes before introducing modifications. By enabling safe experimentation and continuous learning, digital twins reduce operational risk and accelerate the deployment of new capabilities.

Data and knowledge management
Data and knowledge management establishes the foundation for collecting, organizing, governing, and contextualizing information from across the network, service, business, and customer domains. This creates a shared knowledge layer that enables AI systems and automation engines to understand relationships, dependencies, policies, operational history, and business priorities. It allows service providers to improve decision quality, accelerate automation, and strengthen the effectiveness of AI-driven operations.

Observability
Unlike traditional monitoring, real-time observability combines data from multiple sources. This provides a comprehensive understanding of how systems behave and why specific outcomes occur across areas such as network and operational performance, and customer experience. This enables autonomous systems to detect issues and their causes, and then trigger corrective actions before service impact occurs.

Bringing the key enablers together
The true power of these enablers emerges when they operate as an integrated system. Together, these capabilities create the foundation upon which ANs can progressively evolve toward higher levels of autonomy.

Figure 4: Autonomous networks blueprint



The journey to autonomy

The journey to ANs relies on evolving perceptions, processes, governance, and technology, all while building trust and organizational readiness.

While technology is an essential enabler, ANs also depend on changes in people, processes, operating models, data, and organizational culture. Even highly automated use cases will not deliver their full value if operations still rely on manual approvals or fragmented workflows.

Most service providers already have elements of automation, analytics, orchestration, and AI-assisted operations in place. The challenge is to build on these capabilities to create a more coherent operating model across domains and scale through use cases that deliver measurable business value.

Autonomy is a business transformation challenge

Achieving autonomy requires service providers to align governance and ways of working to support increasingly automated operations and decision making. Success relies on establishing trust in autonomous systems and breaking down organizational silos.

For this reason, Ericsson views ANs as a business transformation enabled by technology, rather than a technology initiative with business implications.

Apply an outcome-driven approach

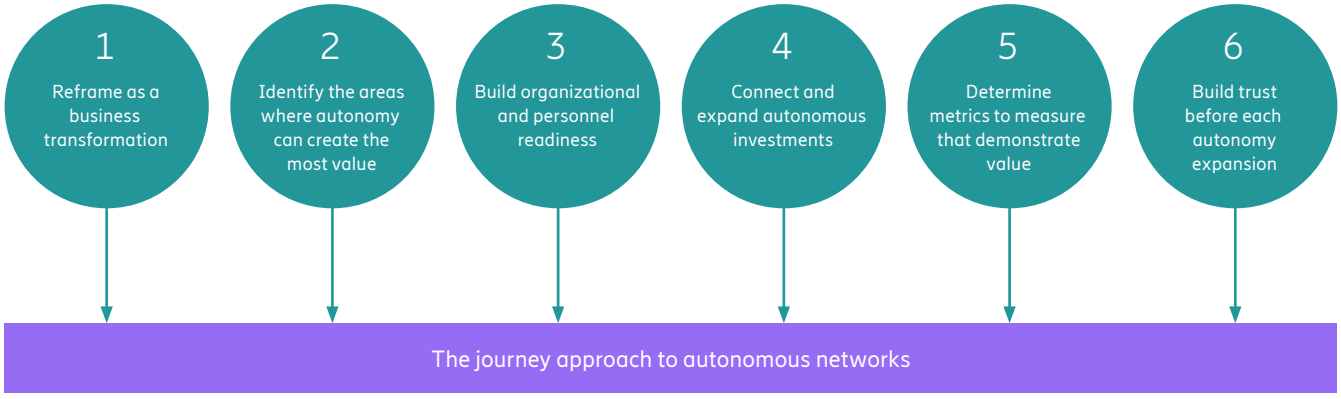
Autonomy levels are useful for assessing progress, but reaching a level should not become the objective itself. Progress should be measured through outcomes such as faster time to market, improved service quality, reduced operational effort, stronger resilience, lower energy consumption, or new revenue. This is particularly important because 49 percent of surveyed service provider decision-makers rely primarily on pilot or production results that are then extrapolated to wider deployment to support investment, while 42 percent cite payback beyond investment criteria as the main funding constraint.[8] Service providers should therefore prioritize use cases based on expected value, feasibility, and strategic need. These may include service assurance, RAN energy optimization, product launches, capacity planning, change management, or differentiated service delivery. Each initiative should deliver measurable outcomes while strengthening reusable capabilities that support broader autonomy over time, creating grounds for further investment and a foundation for the next stage.

Transformation extends beyond technology deployment

As operations become increasingly autonomous, the role of humans changes. Operational personnel spend less time performing repetitive activities and more time governing AI-enabled systems. Engineers become architects of autonomous systems and intent management, and operations teams' responsibilities shift from task execution to exception management, optimization, and continuous improvement.

This transformation creates new requirements for skills and competencies. Cloud-native operations, AI engineering, data management, observability, automation design, and intent-driven operations become increasingly important capabilities. To fully realize the benefits of autonomy, organizations must invest in technology, workforce development, process modernization, and cultural change.

Figure 5: Building the journey to autonomous networks



[8] Turning autonomous operations ambition into measurable business value, STL Partners.



From islands of automation to autonomous operations

Many service providers have already implemented automation tools, assurance platforms, analytics solutions, orchestration systems, and domain-specific optimization capabilities. These investments provide valuable building blocks for autonomy. Yet in many organizations, they remain isolated, creating what can be described as "islands of automation" rather than a coherent, autonomous operating model.

The journey to autonomy involves connecting and expanding these islands. Initially, automation progresses toward semi-autonomous processes where systems execute actions within predefined guardrails, in combination — where it makes sense — with introducing AI-assisted operations that support human decision making. Ultimately, multiple autonomous domains collaborate through shared intent, data, orchestration, and governance frameworks to support end-to-end service and business objectives.

The objective is to create business outcomes and show measurable value at every step of the journey while progressively increasing organizational capability and confidence.

Measuring progress

Maturity levels provide one perspective, but should be used in the context of focusing on business metrics that demonstrate tangible value creation. These metrics may include improvements in time-to-market, reductions in order-to-activation cycles, increased SLA compliance, reduced operational effort, lower energy consumption, reduced incidents, improved customer experience, and increased revenue from differentiated services.

Reviewing how autonomous a network has become is key, but the most meaningful measure of progress is how effectively increased autonomy contributes to strategic business objectives in terms of making the business more agile and better able to capture future opportunities.

Establishing trust before scaling

As autonomous systems assume greater responsibility for decision making, service providers must have confidence in their actions. Explainability, governance, auditability, AI guardrails, and human oversight are critical enablers of scale. This becomes increasingly important as autonomy advances: 38 percent of surveyed service providers reporting TM Forum Level 3 or higher autonomy cited regulatory or compliance requirements as a constraint, compared with 6 percent at Levels 0—1.[9] Trust and control must therefore develop alongside autonomy through clear decision rights, validation, monitoring, audit trails, and recovery mechanisms. The practical path is to prioritize scenarios, prove control and value, and progressively expand autonomy as performance is demonstrated.

The journey may differ for every service provider, but the principle remains consistent: Sustainable autonomy is built through continuous transformation, not a one-time deployment.

[9] Turning autonomous operations ambition into measurable business value, STL Partners.

From industry blueprint to business outcome

To maximize the value of ANs, service providers need frameworks for prioritization and paths to execution.

From vision to execution
TM Forum's high-value scenarios can help service providers identify where ANs can deliver the greatest operational and business impact. They focus on combinations of services, processes, and domains that TM Forum has identified as being of the highest value to service providers.

Ericsson promotes an outcome-centric approach and offers a set of AN pre-designed solutions. They enable translations from strategic priorities into concrete, outcome-driven journeys. Progress is typically made by starting with high-impact, lower-risk scenarios and then reusing proven architectural patterns, data pipelines, and AI capabilities across adjacent domains.

Our solution offerings are aligned with one or more of TM Forum's high-value scenarios when applicable. Rather than acting as standalone offers, they present different starting points, enabling service providers to benefit from proven solutions and scale them.

Ericsson's AN solutions provide practical pathways for realizing values across, or within, the different layers and domains of the operations and networks.

Examples of Ericsson's pre-designed solutions

RAN Quality Optimization solution
RAN Quality Optimization continuously monitors RAN performance and user experience, detects anomalies, identifies root causes, predicts service impact, and automatically applies and validates corrective actions.

By combining AI-driven automation, intent-based operations, intelligent orchestration, and open interfaces, this closed-loop optimization enables service providers to move from manual, rule-based operations to more self-managing and self-optimizing networks, supporting the progression toward TM Forum RAN quality optimization Level 4 ANs and beyond.

There are several optimization use cases within the scope of this high-value scenario, including anomaly detection, cell shaping, uplink interference management, voice optimization, mobility optimization, and Level 4 autonomy assessment.

The approach enables faster and scalable RAN operations by automatically detecting issues and applying corrective actions. This reduces resolution times and minimizes manual intervention. It also improves network quality, availability, throughput, and mobility performance, while reducing interference and service-impacting incidents. By proactively addressing issues before they significantly affect users, the solution can improve overall quality of experience, and potentially reduce churn.

Agentic AI service experience
As enterprise services, differentiated connectivity, and AI-driven applications become increasingly critical to business, customer experience depends more on proactive service assurance than reactive troubleshooting.

The agentic AI service experience offering enables service providers to identify, diagnose, and resolve potential service issues before customers are affected. By combining real-time data, advanced analytics, operational knowledge, and specialized AI agents, service providers can predict anomalies and guide remediation actions.

The resulting business benefits include improved SLA assurance, enhanced customer experience, reduced service disruption, and protection of revenue associated with premium and mission-critical services. This pathway aligns closely with service-assurance-related high-value scenarios and demonstrates how autonomous operations can simultaneously improve customer and business outcomes.

Why Ericsson?

Transformation requires a partner that combines network expertise, operational experience, software leadership, AI capabilities, and real-world execution experience.

For service providers, the most challenging part of the AN journey is turning ambition into executable, measurable transformation across real networks without disrupting live services.

Ericsson is uniquely positioned to support this shift because it brings together the capabilities needed to move from AN concepts to operational reality: deep telecom domain knowledge, end-to-end software and automation platforms, AI and data capabilities, services expertise, and experience from transformation programs with service providers worldwide.

End-to-end telecom portfolio and expertise

Ericsson's position is rooted in expertise across the full telecom environment, from network domains and service operations to monetization, assurance, cloud, and security.

Ericsson's portfolio for AN spans the business, service, and resource layers of autonomy, combining orchestration and assurance, monetization, network automation, automation platforms, cloud-native infrastructure, and advanced network software. Rather than approaching these as separate capabilities, Ericsson brings them together as part of a unified autonomous networking architecture.

As autonomy cannot be realized in a single network layer, business intent must be translated into service behavior, coordinated across network resources, governed by policy, supported by trusted data, and connected to commercial outcomes. Ericsson has the cross-domain expertise and portfolio breadth to help service providers design and implement this end-to-end operating model in complex, multi-vendor environments.

AI, automation, and data foundations

Ericsson's approach to autonomy is built on trusted intelligence: high-quality data, telecom AI capabilities, observability, automation, and closed-loop execution working together across operational domains.

Telecom AI must operate under demanding requirements for reliability, performance, explainability, security, and governance, so Ericsson combines AI and automation capabilities with telecom-grade engineering and operational experience. This helps service providers apply intelligence where they can safely and measurably improve outcomes.

As AI evolves from predictive support toward more goal-driven and agentic capabilities, Ericsson can help service providers progress from analytics and automation toward trusted autonomy, while maintaining policy control and human oversight.

Proven progress in live networks

Key elements of autonomy are already being proven in live operational environments – customer examples include the aforementioned DNB, True Corporation, TDC NET, and NBN Co. These examples collectively illustrate Ericsson's ability to help service providers identify valuable starting points, implement autonomy in targeted domains, validate impact, and reuse the lessons learned to support broader transformation.

Openness, standards, and ecosystem leadership

Ericsson recognizes that service providers operate in complex multi-vendor and multi-domain environments, so autonomy must therefore be built on open interfaces, standards alignment, and architecture that allow capabilities to evolve without creating new silos.

Ericsson contributes to the industry shaping of ANs, including engagement with organizations such as TM Forum, 3GPP, O-RAN Alliance, IETF, and the Linux Foundation's Agentic AI Foundation. These standards and its ecosystem role help Ericsson support service providers in scaling autonomy across heterogeneous environments while preserving flexibility, interoperability, and long-term architectural control.

Consulting

ANs require organizational adoption – Ericsson's consulting services help service providers assess their current maturity and define transformation priorities, all while strengthening data and AI foundations and establishing practical roadmaps toward autonomy.

Co-creation is essential, and Ericsson works with service providers to align autonomy initiatives with their business objectives and realities – helping ensure transformation programs are both technically sound and commercially relevant.

Flexible engagement models

Service providers can realize AN outcomes through flexible engagement models tailored to their needs. They can build their own capabilities by using Ericsson products, platforms, and tools, as well as leveraging pre-designed solutions that address specific processes and business outcomes, or they can allow Ericsson to run operations of selected use cases and domains through managed services. The most appropriate model may vary across process families and use cases, providing flexibility to support different autonomy priorities across the business.

Conclusion: Turning autonomous ambition into business value

The future of telecoms will be shaped by how effectively service providers turn network intelligence into business value while managing increasing complexity.

Service providers are entering an era where AI-native applications, differentiated connectivity, network APIs, and programmable services are creating new opportunities while increasing operational complexity.

ANs offer a practical way to address this challenge by translating business intent into operational outcomes through AI-powered intelligence, closed-loop automation, autonomous domains, and trusted data foundations.

ANs provide the operating model for achieving balance going forwards, enabling service providers to innovate faster, commercialize new opportunities, and scale increasingly sophisticated services without increasing operational complexity.

The service providers that harness this capability will be best positioned to manage service differentiation without scaling complexity — and to turn autonomous ambition into sustainable business value and long-term competitive advantage.

Four key takeaways

1. **ANs are the operating model for the AI era**
   As networks support more dynamic and intelligent services, service providers need an operating model that can manage complexity in real time. ANs provide that model by connecting business objectives to adaptive network and service behavior.

2. **The goal is business value, not autonomy itself**
   The purpose of autonomy is to improve business outcomes: faster service innovation, stronger assurance, simpler operations, improved resilience, and new revenue potential. The priority should therefore be the value created, rather than the autonomy level achieved.

3. **Autonomy is achieved through continuous transformation**
   Autonomy cannot be delivered through a single technology deployment. It requires people, processes, governance, data, and technology to evolve together, starting with high-value scenarios and scaling what works.

4. **Every service provider's path will be different, but the need for action is universal**
   There is no single roadmap to autonomy. Service providers may start with efficiency, service innovation, performance leadership, or AI-native foundations, but each path must be tied to clear business priorities and measurable outcomes.



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.

www.ericsson.com

Ericsson
SE-164 80 Stockholm, Sweden
Telephone +46 10 719 0000
www.ericsson.com

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