



# Telco as a Platform

## Network-as-a-Service: Architecture & Business Models

### Executive Summary

In the rapidly evolving digital landscape, telecom operators are under pressure to transform their infrastructure into revenue-generating assets.

Application Programming Interfaces (APIs) provide a powerful avenue for achieving this by enabling operators to expose network capabilities to developers, businesses, and partners. Through API monetization, telecom companies can create new revenue streams, enhance customer experiences, and maintain a competitive edge.

The foundation of API monetization lies in identifying high-value network capabilities that can be packaged as APIs. Telecom networks offer a wealth of features, such as low-latency connectivity, secure data transfer, location services, and IoT connectivity, which can be tailored to meet diverse industry needs.

By identifying high-value capabilities, fostering developer ecosystems, adopting flexible pricing, and leveraging emerging technologies, telecom operators can turn their networks into platforms for innovation and revenue, securing a competitive edge in the digital economy.



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# Executive Overview

By transitioning into platform-based ecosystems, telcos can offer a suite of digital services—ranging from cloud communications and IoT enablement to advanced analytics and cybersecurity—positioning themselves as critical enablers of the digital economy.

This report examines the market dynamics, technological enablers, and strategic imperatives driving this shift, while assessing the potential for telcos to redefine their value proposition in an increasingly API-driven world.

Through a comprehensive analysis of industry trends, competitive forces, and customer needs, we aim to provide actionable insights for telcos seeking to capitalize on this transformative opportunity.

# The Digital Monetization Imperative for Telecommunications Providers

## Executive Summary

The telecommunications sector is at a critical inflection point, transitioning from traditional Communications Service Providers (CSPs) to dynamic Digital Service Providers (DSPs).

This evolution is driven by the need to monetize a new generation of digital services—including IoT, streaming bundles, and 5G enterprise platforms—at the speed of innovation. However, this ambition is frequently constrained by rigid, legacy Business Support Systems (BSS) designed for an era of static pricing and limited service catalogs.

The core challenge is a "dual-speed" imperative: managing reliable, traditional connectivity while simultaneously launching agile digital offerings. The consensus solution is not to replace core systems but to augment them with a flexible, agile monetization layer.

This approach, exemplified by Telstra's "Network as a Product" (NaaP) strategy, enables telcos to productize sophisticated network capabilities via open APIs. By doing so, they can accelerate time-to-market from months to weeks, experiment with new pricing models, and foster innovation within a broader partner ecosystem.

This shift is fueling the explosive growth of the Network as a Service (NaaS) market, projected to reach over \$81 billion by 2030. Industry-wide collaboration through bodies like CAMARA and strategic partnerships, such as Telstra's with Nokia, are critical to standardizing these network APIs and unlocking their full potential.

However, this transformation is not without risk. Key challenges identified by industry analysts include managing security and trust in an AI-driven environment, cultivating the right talent and skills, and ensuring the effective execution of complex technological

transformations. Success hinges on balancing innovation with stability and strategically building upon, rather than replacing, legacy foundations.

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# The Evolving Telecommunications Landscape

## The Dual-Business Imperative

The modern telecommunications industry is undergoing a fundamental transformation. Communications Service Providers (CSPs), once focused on traditional voice and data, are evolving into Digital Service Providers (DSPs). This new identity involves offering a diverse portfolio of advanced services, including IoT solutions, curated streaming bundles, edge computing, and 5G enterprise platforms.

This shift requires CSPs to operate two distinct business models simultaneously on a single infrastructure:

1. **Traditional Connectivity:** Focused on reliability, call quality, and coverage maps.
2. **Digital Services:** Demanding speed, flexibility, operational agility, and rapid innovation across B2C, B2B, and B2B2X models.

As stated by Kalpana Vaka, Chief Engineering Officer at Evergent Technologies, "success now depends on seamless digital experiences, rapid innovation, and collaborative partner ecosystems. In this environment, competition is defined not by coverage maps or call quality, but by agility and innovation velocity." This places telcos at an inflection point where customer needs are becoming more sophisticated, the competitive environment is changing, and the demand for flexible connectivity is set to increase dramatically.

## The Legacy BSS Bottleneck

The primary obstacle to this digital transformation is the reliance on legacy Business Support Systems (BSS). These platforms were engineered for billing accuracy and static service catalogs, not for the dynamic, cross-domain business models of the digital era. This inherent rigidity creates significant bottlenecks:

- **Overly Complex:** Simple updates require extensive configuration changes, making the systems slow and inflexible.
- **Slow to Adapt:** Launching new digital services often takes three to six months due to complex dependencies and testing requirements.
- **Integration Challenged:** Onboarding partners or third-party platforms requires custom development, leading to operational silos.

This paradox leaves CSPs with the ambition to innovate but constrained by infrastructure built for a different age.

## A Strategic Solution: The Agile Monetization Layer

Instead of a high-risk "rip and replace" of core systems, the recommended strategy is to augment existing infrastructure with a modern, flexible monetization layer. This "dual-speed" architecture allows organizations to separate fast-moving digital innovation from mission-critical operations.

"CSPs don't need to abandon the systems that built their success. They just need to build smarter on top of them." - *Kalpna Vaka, Evergent Technologies*

### Key Benefits of a Dual-Speed Approach:

| Benefit                           | Description   |
|-----------------------------------|---|
| <b>Accelerated Time-to-Market</b> | Reduces digital service launch cycles from quarters to weeks through specialized digital commerce capabilities. |

|  |   |
|--|---|
| <p><b>Pricing and Bundle Experimentation</b></p> | <p>Empowers business teams to test and iterate on pricing models and promotions without heavy IT involvement, while maintaining governance.</p>   |
| <p><b>Operational Continuity</b></p>             | <p>Allows the core BSS to continue managing rating, compliance, and billing, while the digital layer handles subscription lifecycle, partner settlement, and marketplace orchestration.</p> |

To manage the added complexity of this architecture, CSPs must establish clear frameworks for data governance (defining systems-of-record) and revenue assurance (involving automated daily reconciliation and unified audit trails). This is a deliberate design choice that trades manageable operational overhead for a dramatic improvement in business agility.

## Case Study: Telstra's "Connected Future 30" Strategy

Telstra's "Connected Future 30" strategy, presented on May 27, 2025, serves as a comprehensive real-world application of the agile monetization layer concept. The strategy is built upon a conviction that demand for connectivity is growing, the company has a track record of disciplined execution, and its core business possesses unique competitive advantages.

### The Three Strategic Layers

Telstra's strategy is organized into three core layers, each with a distinct goal:

1. **Customer Engagement:** To lead in anticipating and delivering on customer connectivity needs across Consumer, Business, and Enterprise segments.
2. **Network as a Product (NaaP):** To build and operate Australia's leading network and reinvent how value is captured from it.

3. **Digital Infrastructure:** To be Australia's leading digital infrastructure provider through its InfraCo and Amplitel divisions.

## Reinventing the Business Model: Network as a Product (NaaP)

The "Network as a Product" (NaaP) pillar is the centerpiece of Telstra's digital monetization strategy. It aims to transform the company's connectivity platform by productizing sophisticated network capabilities and enabling new, scalable commercial models fueled by automation and programmability. The goal is to have the majority of connectivity revenue enabled by NaaP by FY30.

This involves a paradigm shift from today's static, manually optimized network to a future autonomous network that is:

- **Dynamic and Intent-Based:** Optimizes to meet real-time customer needs.
- **Predictive and Self-Healing:** Uses predictive monitoring to avoid customer impact.
- **Programmable and Open:** Utilizes intent-driven interfaces (APIs) to support new modes of value capture.

The NaaP strategy will capture value through three key channels:

1. **Retail Segments:** Direct sales to Consumers, Businesses, and Enterprises.
2. **Traditional Wholesale:** Serving carriers and Mobile Virtual Network Operators (MVNOs).
3. **API-Based B2B2X:** Targeting developers, hyperscalers, OEMs, and software vendors through emerging indirect models.

## Financial Goals and Enablers

The strategy is designed to deliver consistent growth in shareholder value, underpinned by strong financial discipline and key enablers.

**Key Financial Goals to FY30:**

| Metric                      | Target  |
|-----------------------------|---|
| <b>Cash Earnings Growth</b> | Mid-single digit Compound Annual Growth Rate (CAGR)   |
| <b>Underlying ROIC</b>      | 10% by FY30   |
| <b>Capital Management</b>   | Disciplined, with balance sheet settings consistent with an A band credit rating                            |
| <b>Shareholder Value</b>    | Creation of >\$20b in financial capacity through growth in cash earnings and disciplined capital management |

**Strategic Enablers:**

- **People and Culture:** Investing in new skills and technology.
- **Technology Leadership:** Leading AI adoption, modern software practices, and decoupled architecture.
- **Sustainability:** Creating positive impact for communities and the environment.
- **Financial Discipline:** Driving positive operating leverage through commercial, cost, and capex discipline.

**The Role of Open APIs in Monetization**

The technical foundation for NaaP and the broader industry shift toward digital monetization is the use of open Application Programming Interfaces (APIs). APIs allow telcos to expose network capabilities for consumption by third-party developers, partners, and internal teams, creating new value and revenue streams.

## Direct vs. Indirect Monetization

As highlighted by Axway, API monetization extends beyond simply charging for API use.

- **Direct Monetization:** Involves charging for API access through models like tiered subscriptions, pay-per-use, or freemium setups.
- **Indirect Monetization:** Creates value by streamlining processes (like client onboarding), enabling partnerships (e.g., embedding banking services in fintech apps), delivering real-time personalization, and creating new business models and ecosystems around core products.

A central API marketplace, like Axway's Amplify Engage or Nokia's Network as Code platform, is essential for curating, managing, and monetizing these APIs effectively.

# Industry Collaboration: CAMARA and Strategic Partnerships

To ensure interoperability and accelerate adoption, industry-wide collaboration is crucial. **CAMARA**, a Linux Foundation project, is a key initiative bringing together telcos, cloud operators, vendors, and developers to drive the future of global Telco APIs. By collaborating with partner organizations like GSMA Open Gateway and TM Forum, CAMARA helps operators monetize investments in spectrum and infrastructure.

Telstra's partnership with Nokia exemplifies this collaborative approach. Under the agreement, Telstra's **mur-D Labs** will provide developers with access to network APIs via **Nokia's Network as Code platform**. This initiative directly supports Telstra's NaaP strategy by allowing developers to build and test applications that leverage Telstra's network capabilities, focusing on real-world use cases and CAMARA-compliant APIs.

Kim Krogh Andersen, Telstra's Group Executive for Product & Technology, noted, "By giving access to advanced capabilities through our network APIs, we're enabling developers to create smarter, more responsive applications for enterprises. This is about working with our partner ecosystem to demonstrate how developers can securely interact with Telstra's network and innovate at scale."

# Market Context: The Network as a Service (NaaS) Boom

The strategic shift toward programmable networks and API-based monetization is driving explosive growth in the Network as a Service (NaaS) market. NaaS allows customers to rent networking services from cloud providers on a subscription basis, shifting from a Capex to an Opex model.

Market research firms provide a clear picture of this trend:

| Research Firm              | 2021/2022 Market Size | 2027/2030 Forecast | CAGR  |
|----------------------------|-----------------------|--------------------|-------|
| <b>Grand View Research</b> | \$6.67B (2021)        | \$81.82B (2030)    | 32.9% |
| <b>MarketsandMarkets</b>   | \$13.2B (2022)        | \$46.6B (2027)     | 28.7% |

## Key Market Drivers and Segments:

- **Drivers:** Rising adoption of cloud services, need for scalability and flexibility, reduction in capital investment, and the shift to hybrid work models.
- **Dominant Segments:** The WAN as a Service (WANaaS) segment holds the largest market share (~65%), and large enterprises are the primary adopters. The IT & Telecommunication vertical is the largest end-user segment.
- **Leading Region:** North America currently accounts for the largest market share, though Asia Pacific is expected to expand at the fastest rate.

## Key Industry Risks and Imperatives

While the opportunities are significant, the transformation journey is fraught with challenges. The EY "Top 10 risks in telecommunications" report for 2025 highlights the most pressing concerns for the sector.

### Top 3 Risks for Telcos in 2025:

1. **Underestimating changing imperatives in privacy, security and trust:** This is the top risk, exacerbated by customer wariness of AI and a dramatic increase in cyber-attacks.
2. **Inadequate talent, skills and culture management:** A critical challenge, as 73% of telco leaders rate talent attraction and retention as their most important people strategy element.
3. **Ineffective transformation through new technologies:** A new entry, reflecting the complexity of phasing technology deployments, simplifying legacy IT, and making strategic choices around AI and vendor partnerships.

Furthermore, **failure to mitigate value chain disruption** ranks as a growing threat, with 76% of telco leaders believing hyperscalers will be a source of disruption within five years, alongside satellite operators. This underscores the need for telcos to not only innovate but also to effectively manage their position within a complex and evolving digital ecosystem.