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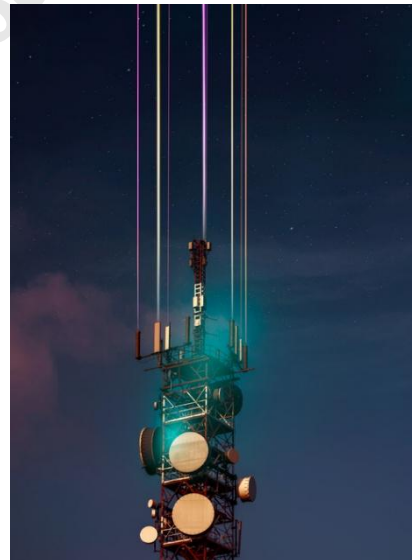
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Autonomous Networks Lead The Way for a New Chapter in Growth for 5G

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The journey to 5G is entering a new stage as communication service providers (CSPs) move from building networks and expanding their reach to monetizing their investment. As part of that work, leading CSPs are eyeing automation, AI, and intelligent orchestration to unlock efficiency, scale and new sources of revenue.

It's not just an ambition either, with clear commitments being made globally to these key areas. For instance Telstra recently announced that it is stepping up plans to accelerate the shift toward autonomous networks. It said that it wants to explore key challenges such as “fragmented and siloed data, gaps between business intent and execution, the complexity created by multi-vendor and multi-domain environments and the trustworthiness of AI models”.



As Telstra's Chief Architect, Mark Sanders, puts it: “Developing and validating ideas and technical possibilities in real environments is essential to closing the gap between aspiration and execution. Addressing the foundations will be critical to shaping the industry and influencing standards.”

In other words, while modern networks are capable of self-optimization and predictive performance, many of the systems that manage them still depend on manual processes, legacy IT, and disconnected data.

This gap - between network capability and operational control - is acting as a brake on those CSPs looking to push on and maximise their return on the investment.

Smart Monetization is Key to 5G Success

Which is why the journey to 5G isn't - and never was - simply about building faster networks. If CSPs want to monetize their investment, then they need the systems, intelligence, and agility to match so they can sell, deliver, and get paid. That means modernizing the operational and business support systems (OSS/BSS) that keep networks running, assuring performance and managing how services are delivered and billed.

Together, these provide the operational backbone that makes new business models possible, enabling operators to monetize new forms of connectivity, such as network slices, usage-based pricing, and performance-driven service level agreements (SLAs).

For a sector not afraid to innovate, this is where technology makes the switch from hardware and software into revenue, by translating the network capability into a commercial opportunity.

This is also where automation and differentiated connectivity converge. Intelligent OSS/BSS gives operators the ability to sell, deliver, and get paid for the premium network experiences made possible by automation, closing the loop between technical performance and commercial value.

In the past, each of these areas - data, AI, Cloud and IT, and service orchestration along with core commerce and monetization - have seen major innovation in their own right. The real challenge today, though, lies in connecting them effectively for better business outcomes.

That's because for decades, networks, IT systems, and business platforms have evolved in silos, built by different teams, using different technologies, and often for different eras of connectivity.

As such, the result has been a patchwork of legacy systems that struggle to share data or scale automation beyond narrow use cases. Yes, that requires a solution rooted in technology. But addressing this continuous innovation for continuous evolution is as much a cultural challenge as a technical one.

Autonomy demands a different mindset - one that embraces openness, collaboration, and continuous evolution. It's about enabling systems - and teams - to learn and adapt together rather than operating in isolation.

Proof in Progress

That shift is already underway. Some of the most forward-looking operators are now approaching transformation as an ecosystem opportunity rather than a product upgrade. They're investing in standardized data models, cloud-native architectures, and AI frameworks that allow information to flow freely across the entire value chain.

For example, Odido - the largest mobile phone company in the Netherlands - migrated some five million subscribers over a single weekend, with zero faults, to a cloud-native billing system allowing it to offer innovative 5G services, with improved operational efficiency and customer experience.

Elsewhere, Grameenphone - Bangladesh's leading mobile operator - is developing an agentic AI-powered OSS/BSS solution to streamline complex processes, boost efficiency, and accelerate time-to-market.

More than a technical experiment, it signals a shift in how CSPs can harness generative and agentic AI to transform operational models and set new standards for digital progress.

Of course, all this is framed by the TM Forum industry body and its five levels of network autonomy that set the industry's shared benchmark for measuring progress. Today, most CSPs sit somewhere between Levels 2 and 3, with automation helping but still heavily reliant on manual control.

The Race Toward Level 4 Autonomy

The next frontier, Level 4, represents a true leap where networks become capable of self-optimization and intent-based decision-making across multiple domains.

It's a goal many in the industry talk about, but few have yet to reach. But there are exceptions. TDC NET of Denmark and DNB in Malaysia are leading the way and proving that AI-driven closed-loop operations are already possible when data, orchestration and assurance are unified. And where they lead, others are sure to follow.

The path to autonomy won't be achieved overnight, but what's emerging is the beginnings of a roadmap shaped by the likes of Telstra, Odido, Grameenphone, TDC NET, DNB, and others.

With verified progress in live networks and a growing culture of collaboration, the industry is entering a new phase of continuous evolution for continuous innovation - one defined by dynamic networks that can sense, decide, and adapt on their own.

Underpinned by unified data, trusted AI, and intent-driven orchestration, this new model marks a shift from building rigid networks to creating flexible systems that not only offer customers more but charge accordingly. Because it's only by having these dynamic systems in place that the real potential of 5G - to connect, automate and monetize at scale - can truly be realized.

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