MOBILE NETWORK
INNOVATION SUMMIT

MNIS26

INNOVATION, INVESTMENT AND THE NEW MOBILE NETWORK OPPORTUNITY

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Executive summary

The strongest message from MNIS 2026 was that the mobile industry is entering a phase in which innovation is once again becoming a strategic differentiator, but the shape of the innovation process has changed. Operators and their partners are no longer talking only about coverage, throughput and standards. They are talking about service-aware networks, autonomous operations, satellite-terrestrial convergence, energy architecture, quantum-safe security, software insertion points, startup procurement and new commercialization models.

The Mobile Network Operator (MNO) contributions framed the event in two complementary ways. One perspective, rooted in the history of 4G rollout and the current frustration around 5G monetization, argued that Europe's mobile industry has become too hesitant, too fragmented and too oriented toward shareholder conservatism. The other, from current operator innovation leaders, argued that innovation must now be more disciplined: tied to adoption, de-risking, competitive advantage and measurable business outcomes, not just patents or technical novelty. Together, those views suggested that the next phase of telecom innovation will reward operators that combine strategic boldness with sharper execution.

Across the four innovation streams that the conference examined, NTN was presented as the most immediate structural extension of the network, especially for resilience, rural reach, direct-to-device services and new IoT models. The Energy Challenge stream explored energy efficiency and resilience not just as a cost problem but as a forcing function for new network designs, operating models and infrastructure choices. The AI-Native Network stream discussed opportunities for innovation within the network stack pragmatically, with repeated calls to move beyond "AI-washing" toward specific applications in optimization, operations, cyber defense and sustainability. Quantum communications stood out as the longest-horizon theme, but one with rapidly rising urgency around cryptography, sensing and national capability.

A parallel theme ran alongside all of this: how to foster investment in innovation, increase commercialization and scale up innovative technology and companies. Speakers returned repeatedly to the same bottlenecks. Startups struggle when innovation teams, business teams, vendors and procurement functions are not aligned. Operators struggle when they rely too heavily on incumbent vendors and fail to create viable insertion paths for new technologies. Investors remain cautious when telecoms appears slow, fragmented and hard to sell into. Yet the summit also surfaced more hopeful models: shared labs, earlier operator guidance on network strategy, operator pressure on incumbent vendors to support new entrants, and even new IP-licensing approaches in which operators invent, partners productize, and both sides share the upside.

The big takeaway? The mobile industry's innovation challenge is to create an ecosystem with the speed, alignment, confidence and economic incentive to scale new businesses whose technology creates long-term competitive advantage for MNOs and their customers.

Introduction

The inaugural Mobile Network Innovation Summit arrived at a potentially pivotal moment for the telecoms industry.

The long cycle of 5G rollout is maturing; 6G is visible on the horizon; artificial intelligence has become both a tool and a source of noise; non-terrestrial networks are moving from concept to commercial reality; energy has become a strategic design constraint; and quantum is beginning to shift from research topic to board-level security concern. Against this backdrop, the summit set out not simply to ask what comes next for mobile networks, but to examine how innovation is actually fostered, financed, commercialized and operationalized across the telecoms ecosystem.

Over the two days, MNOs, innovators and investors discussed and tested a set of interlocking assertions. First, mobile networks are still a major arena of technical innovation and investment, challenging the popular narrative that operators face a future of always being out-performed by hyperscaler and internet-native companies.

Secondly, speakers identified fruitful areas of industry innovation that have the potential to change the business profile of communications service providers. Here, two main themes emerged. There are opportunities driven by the macro trends of softwarisation, automation, AI and a more flexible operating environment. On top of these opportunities lies potential at the "seams" of the network - in NTN coverage, in enterprise private and virtual networks, and in architectures that encompass new business models around differentiated and intent-centric coverage, energy and cyber-security.

Thirdly, there remained a clear recognition that telecoms has to improve its own innovation machinery - including discovery, investment, procurement, and commercialisation pathways - if it wants to capture the value of the technologies now arriving.

This report distills the main themes from the summit into six sections: the operator keynote perspective, the four flagship innovation domains discussed at the event, and the wider innovation investment journey that connected many of the sessions. It argues that the mobile industry is not short of ideas. Its central challenge is turning promising technical capability into scalable commercial advantage.

OPERATOR KEYNOTES: From utility mindset to strategic reinvestment

The operator keynotes collectively argued that mobile innovation remains essential, but that its success now depends as much on leadership, commercialization and execution as on technology itself.

Across the sessions, speakers returned to a common concern: operators that fail to innovate risk drifting into commodity status, even as traffic growth, new use cases and competitive pressure continue to reshape the market. In conversation with the Financial Times' Kieran Smith, **Olaf Swantee** offered a blunt diagnosis of Europe's mobile sector. Drawing on EE's 4G rollout, he argued that real innovation requires management courage: the willingness to invest ahead of certainty, align the whole company behind a clear strategic priority, and resist the inertia created by dividend pressure, bureaucracy and fragmented spectrum. Swantee's view was that 5G has been underappreciated because much of its value lies in back-end efficiency, capacity and energy performance rather than visible consumer breakthroughs. His warning was clear: operators that stop investing in infrastructure and differentiation risk becoming utilities, competing only on price.

Gabriela Styf Sjöman, Managing Director Research and Commercialisation, **BT Group** brought a more structured lens, emphasizing that innovation must be tied to adoption, future risk reduction or competitive advantage. Rather than treating research as an isolated R&D exercise, she argued for ruthless prioritization, clearer lines of sight to commercialization, and stronger engagement between researchers, internal sponsors and ecosystem partners. Her description of the future network as service-aware, self-optimized, deterministic and secure — spanning fixed, mobile and non-terrestrial domains — highlighted how value is shifting toward orchestration, automation, intelligence and software-enabled service logic.

From **Virgin Media O2**, Professor Robert Joyce, Director of Mobile Access Engineering, grounded the discussion in live network transformation. His focus was unapologetically practical: reliability, coverage, capacity, transport corridors, infrastructure sharing, spectrum use and satellite-backed coverage extension. That operational emphasis was significant because it showed how innovation is increasingly expressed through deployment methods, supply-chain efficiency and customer "moments that matter," not only through next-generation standards. Joyce's £700 million annual investment narrative made the case that O2 has harnessed innovative technologies and deployment approaches to regenerate its position within the UK network hierarchy.

Brad Stimpson, Director of Wireless Technology at **Bell Canada** added a commercialization perspective, describing a hands-on, discovery-led approach to innovation. Bell's model is to identify technologies that solve real network pain points, test them rigorously in its innovation labs, and then actively help move them into field deployment and scaled adoption. Stimpson emphasized Bell's role in creating the conditions for innovation to succeed commercially: aligning new technologies with strategic needs, working through Bell's venture arm, and leaning on incumbent vendors to support integration. His contribution reinforced one of the Summit's core themes: innovation succeeds not simply when a technology works, but when an operator creates a pathway for it to scale.

Finally, Simon Frumkin, CEO of **Freshwave** showed how innovation can come from new delivery and commercial models as much as from core radio technology. He argued that indoor connectivity has been underserved by traditional operator capex models, and presented Freshwave's answer as both a product innovation — a shared indoor small-cell solution supporting all UK operators — and a commercial innovation based on infrastructure-as-a-service. His presentation highlighted the growing importance of neutral host providers in extending coverage into offices, hospitals, airports, stations and stadiums in ways that are faster, more scalable and more energy-efficient than conventional approaches.

Taken together, these keynote perspectives highlighted four themes. Traffic growth and changing service requirements still demand continuous network innovation. Operators that do not innovate risk commoditization. Innovation must be tied far more closely to adoption and measurable business value. And increasingly, future differentiation will come not from connectivity alone, but from the software, intelligence, security, automation and ecosystem models built around the network.

THE INNOVATION INVESTMENT JOURNEY: From invention to adoption

The Day Two morning sessions mapped the innovation journey itself, via the views of investors, MNOs and those working to scale up companies in the ecosystem. The summit was explicit that telecom's problem is often not a shortage of invention. It is a shortage of workable pathways from invention to adoption.

Invention, speakers agreed, should serve three purposes: adoption, future de-risking and competitive advantage. That sounds straightforward, but it has major implications for how operators engage startups, research institutions and ecosystem partners. It means innovation priorities have to be visible. It means operators need to share more of their strategic concerns and architectural gaps. It means test environments need to be more accessible. And it means success has to be measured in commercial terms: make money or save money. That kind of framing is especially relevant for investors and founders because it signals what kinds of propositions are more likely to survive beyond pilot stage.

A second major point concerned organizational alignment. One of the most practical observations was that many startup engagements fail because the innovation team, business unit, incumbent vendor and procurement function are not connected. An operator may like a technology from an R&D perspective, but if it is not tied to a business priority, or if incumbent suppliers are not pressed to support integration, or if procurement later crushes the economics, years of work can evaporate. The Summit's candid discussion of this failure mode was one of its strongest contributions, because it moved beyond generic calls for "more collaboration" and identified the actual institutional handoffs where momentum is lost.

There were also signs of emerging solutions. One was stronger operator sponsorship: the idea that operators must actively lean on incumbent vendors to support new technologies they want in their environment. Labs and shared demonstration environments should be opened to external partners. There was also a suggestion from BT's Gabriela Styf Sjoman of the potential for a more novel IP model, in which the operator develops or owns the core invention, a partner productizes it, the operator becomes the reference customer, and both parties participate in the commercial upside through licensing and deployment. For an industry that often struggles to decide whether it wants to invent, buy or partner, this is a significant conceptual shift.

Tomorrow Street was presented as a structured bridge between scale-ups and large operators such as Vodafone, designed to solve a problem both sides recognize but often struggle to navigate: innovative smaller companies may have genuine value to offer, but they often find large organizations opaque, slow-moving and hard to access, while corporates themselves are not always set up to identify, validate and scale external innovation effectively. Created as a joint venture between Vodafone and the Luxembourg government, Tomorrow Street was positioned by its CEO, Sara Robles Moreno, as an independent platform that starts not with a startup looking for a home, but with clearly defined enterprise needs. Its model is built around three stages — scout, validate and scale — beginning by identifying specific business challenges inside Vodafone, then preparing scale-ups to engage in "enterprise language," matching them with the right subject-matter experts, and filtering quickly for genuine strategic fit. For those that show real traction, Tomorrow Street then supports the much harder work of scaling into a large, fragmented enterprise environment over several years, while measuring progress rigorously in commercial terms. In that sense, its role is not simply to accelerate startups in the abstract, but to increase the odds that promising scale-ups can translate innovation into meaningful, enterprise-ready outcomes inside major organizations.

It is from here that MNIS surfaced a subtler tension around scale. Operators want innovation, but they also need reliability, long product life cycles and the economics that come from scalable suppliers. That means not every part of the value chain is equally open to startups. In high-risk infrastructure layers, substitution cost remains a major barrier. In software and operational layers, however, the opening is much wider. This suggests a more nuanced investment thesis for telecom

Across the sessions, a common five-stage pattern appeared.

STAGE 1: identify the structural pressure
This is the underlying force driving the need for innovation: traffic growth, energy cost, security risk, poor coverage economics, slow operations, or loss of differentiation. MNIS tied each technology theme back to a structural pressure rather than presenting it as a novelty.

STAGE 2: identify the technical response
This is where NTN, AI, indoor small cells, pre-assembled sectors, quantum-safe techniques or software-led automation enter the picture. The key lesson from MNIS is that the technical response must be matched to the actual operator problem, not just to market hype.

STAGE 3: identify the insertion point
This is often where telecom innovation succeeds or fails. Can the technology enter through software? Through an operations tool? Through a neutral-host deployment? Through a lab environment? Through an incumbent vendor relationship? Or does it require a far more difficult infrastructure replacement path? MNIS repeatedly highlighted how crucial this stage is.

STAGE 4: identify the adoption sponsor
Who inside the operator benefits enough to champion the technology? An innovation team alone is rarely enough. MNIS made clear that the business unit, network team, procurement organization and often incumbent vendors must all be aligned before anything significant scales.

STAGE 5: identify the commercial logic
How does the innovation make money, save money, reduce risk or improve strategic positioning? This was one of the clearest operator tests expressed at MNIS and should be the final discipline applied to any innovation conversation.

innovation: some of the best opportunities may now lie not in displacing core radio vendors directly, but in the software, orchestration, automation, assurance, intelligence and service layers that increasingly define how the network behaves and monetizes.

That point is crucial for investors. Telecom is often criticized as a difficult market to enter because sales cycles are long, procurement is demanding and customer concentration is high. All of that remains true. But the discussions at MNIS suggested that the market may now be opening in more targeted ways. If operators are serious about software-led differentiation, automation, AI-driven operations, quantum-safe transition, NTN integration and energy optimization, then the number of viable insertion points is growing. The question is whether the industry can make those insertion points legible and investable enough for capital to follow.

The MNIS message to founders was realistic but encouraging. Telecom remains difficult. Procurement is hard. Sales cycles are long. Incumbents remain powerful. Yet the event also showed that operators are actively looking for help in areas that align well with startup strengths: software, intelligence, automation, indoor economics, security, energy and new service integration.

THE INVESTMENT QUESTION: Can telecom build an investable innovation market again?

Running through nearly every session was a deeper issue: even if the technology opportunity is real, can telecom create an innovation environment that founders and investors actually want to engage with? MNIS did not avoid the hard truth that, for many startups and financial backers, telecom can still look slow, fragmented and difficult to sell into.

Yet the mood was not pessimistic. The underlying suggestion was that telecom may be becoming investable again, but on different terms than before. The opportunity is less about a single disruptive technology overturning the old order and more about a cluster of targeted innovation spaces opening at once: AI-led operations, software-defined control layers, NTN integration, quantum-safe security, energy optimization, advanced indoor coverage, and new operator research-commercialization models. Each of these by itself may be narrower than the grand narratives of earlier telecom cycles. Together, however, they create a more diversified and perhaps more resilient innovation surface.

For investors, the key issue is pathway clarity. MNIS repeatedly emphasized that operators need to do more to expose where the gaps actually are. If operators can communicate strategic priorities, open labs and demo environments, identify likely sponsors internally, and make procurement more navigable, then capital has a better chance of following. The more telecom innovation feels like an opaque maze, the more money will flow elsewhere. The more it feels like a set of identifiable, structured opportunities with real buyer intent, the more the ecosystem can attract specialist investment again.

For operators, the question is one of strategic intent. Do they want innovation mainly as a procurement outcome, purchased once mature and proven elsewhere? Or do they want to help shape the technologies that will define their future economics and relevance? The Summit's most ambitious contributions suggested the latter. But that requires operator teams to do more than host innovation showcases. It requires them to lean into risk-sharing, partner selection, early guidance, internal alignment and sometimes unconventional business models. The IP-licensing model described by BT is instructive here because it offers an alternative to the stale choice between "build it ourselves" and "wait for a vendor." It suggests operators can become more active authors of the ecosystem without needing to become full product companies themselves.

For founders and innovators, the event offered a mixed but still encouraging signal. Telecom remains hard, but the seams are opening. Software, orchestration, AI-enabled operations, network security, NTN integration and energy performance all appear to offer more viable entry points than some of the deeper infrastructure layers. That does not eliminate the challenge of selling into operators. But it does mean that telecom innovation may become less binary: not "break into the RAN or fail," but "solve the right pain point at the right layer with the right commercial sponsor."

↘ KEY TAKEAWAY

The key is to avoid selling "innovation" as an abstract virtue. Founders should instead frame their proposition around a specific operator pain point, a specific adoption path and a specific layer of the value chain. The more clearly a founder can explain where they fit, who inside the operator cares, what incumbent relationships they need, and how value will be measured, the better their chances.

INNOVATION THEMES

Digging deeper into the major innovation trends shaping mobile network investment decisions, MNIS focused on how the industry can capitalize on the non-terrestrial network (NTN) opportunity, address the energy challenge, drive progress towards the AI-native network and prepare for a quantum communications future. Bringing together analyst and innovator insights with operator and vendor experiences, each innovation stream connected back to the wider questions of network design, commercial value and industry structure.

NTN moves from edge case to network extension

Of the four innovation themes, NTN felt closest to practical scale-up. Satellite was not presented as a wholesale replacement for terrestrial mobile, but as an additional access layer that can extend coverage, strengthen resilience and support new categories of device and service.
The key strategic question was therefore convergence. Often, speakers returned to the same point: the opportunity is not "satellite versus terrestrial" but "satellite with terrestrial" — a combined service architecture in which NTN becomes part of the wider mobile experience rather than a separate, proprietary world.

That framing also sharpened the likely near-term use cases: replacing poor legacy satellite services, acting as a backup layer in emergencies, extending service into deep rural areas and providing a more credible option where fixed connectivity is too slow, too expensive or too badly delivered. In other words, NTN looks most powerful where it fills structural gaps in today's network economics.

The NTN stream presented a picture of a market moving quickly from hype to practical commercialization, but still working through significant technical, ecosystem and business-model challenges. Luke Pearce, Principal Analyst at **CCS Insight** set the scene by arguing that non-terrestrial networks have become such a prominent topic because they promise something mobile operators and device makers badly need: a genuinely new layer of connectivity at a time when 5G monetization has proved difficult and smartphone innovation has become increasingly incremental. He described the industry's direction of travel as a broader convergence between satellite and mobile, where satellite is no longer a separate, proprietary ecosystem but becomes part of the wider mobile roadmap through 3GPP standardization. Pearce highlighted several clear

opportunity areas — universal coverage, emergency services, resilience, digital inclusion, rural reach, mobility continuity and industrial IoT — but stressed that the opportunity is not uniform across markets. In countries such as Canada, Brazil and Australia, NTN is more about extending basic coverage across vast geographies; in markets such as the UK, it is more about infill, continuity and resilience. At the same time, he emphasized that the commercial case remains unsettled: consumer willingness to pay appears real but modest, device ecosystems remain fragmented, and the economics of very large constellations mean operators and satellite players will need to build business cases across multiple verticals, from smartphones and automotive to IoT, government and defense.

The innovator insights brought that market framing down to the level of business models and implementation choices. **Rakuten Symphony's** Faiq Khan, SVP and Head of Sales for EMEA, argued that NTN could fundamentally change operator economics by making coverage less of a differentiator and pushing operators to focus more on monetizing network intelligence, customer value and ecosystem services. In that view, hybrid terrestrial and non-terrestrial networks are becoming real, and the strategic challenge is not simply adding another access layer but working out where future differentiation and margin will sit once connectivity itself becomes more ubiquitous. Callum Brydges, Sales & Business Development Manager at **OQ Technology** offered the perspective of an NTN startup focused first on NB-IoT over LEO, with an emphasis on practical enterprise use cases such as oil and gas monitoring, agriculture, mining, logistics and emergency messaging. Its presentation underlined how early NTN business is often being built through focused, small-packet industrial use cases rather than mass-market consumer broadband. Jaymy Teh, Vice President of GTM Telco Solutions at **Proximus Global**, then highlighted a less visible but critical enabler of the NTN market: interconnect and roaming. Its argument was that true hybrid network commercialization depends not just on satellites and devices, but on making satellite providers and mobile operators work together operationally and commercially, using familiar roaming and settlement models to reduce friction and scale adoption. Together, these innovation sessions showed that NTN is not one market but an emerging value chain spanning satellite operators, MNOs, device makers, infrastructure providers and service intermediaries.

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The panel discussion reinforced that point by focusing on where the money is likely to come from and what kinds of NTN architectures will be sustainable. One clear takeaway was that monetization will need to be diversified. Consumer smartphone connectivity generates excitement because of its scale, but several panelists argued that some of the strongest near-term business cases may lie in industrial IoT, logistics, automotive safety and other enterprise use cases where connectivity is directly tied to revenue, safety or operational continuity. Damien Lewis representing Viasat and the 5G Automotive Association (5GAA), drew on automotive work to argue that the most valued services are not always the ones with the highest willingness to pay: drivers may care most about security, emergency and traffic services, but may pay more for higher-value convenience

features such as in-vehicle broadband or video conferencing. Luke Pearce added that NTN should not be thought of only as a continuity layer for existing services; in some verticals it may enable entirely new kinds of value creation in previously unconnected environments. Technically, the panel suggested the market is moving toward more standardized, 3GPP-based approaches over time, particularly NR-NTN, because scale, interoperability and long-term economics depend on standardization. But there was also recognition that narrower-band and more limited implementations will persist for some time, especially where they are already proven and economically viable.

↘ KEY TAKEAWAY

MNIS clearly showed the innovation in service delivery and the scale of the opportunity for operators, innovators and investors. To that end, the broader message from the panel was clear – NTN's future will not be decided by one killer app or one architecture alone. It will depend on a stack of use cases, a gradual move toward standards, and a better alignment between technical capability, commercial models and the industries willing to pay for ubiquitous connectivity.

Energy becomes a design principle, not just an efficiency metric

If NTN represented the extension of the network, energy represented its constraint. One of the clearest messages from the Summit was that energy is no longer a background operational issue. It is now shaping network economics, architecture, sustainability priorities, deployment decisions and even innovation strategy itself. The event positioned energy not simply as a challenge to be managed, but as one of the core forces reshaping what future mobile networks will look like.

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Addressing the energy challenge is no longer a background operational issue. It is now shaping network economics, architecture, sustainability priorities, deployment decisions and even innovation strategy itself.

This point surfaced first in the operator discussions around 5G. One keynote speaker argued that 5G's real value was insufficiently appreciated by consumers because much of its benefit lies behind the scenes, especially in improved capacity economics and far better energy efficiency than previous generations. That matters because it suggests the industry should rethink how it explains innovation. Not every meaningful network advancement produces a dazzling consumer-facing service overnight. Some of the most important innovations are those that allow operators to absorb traffic growth, contain operating costs and improve resilience without degrading quality. Energy, in that sense, is not a secondary KPI. It is one of the fundamental reasons why infrastructure innovation matters.

The stream itself made the strategic case explicit. Marie-Laure Lamouroux, Project Lead, Green Future Networks at **NGMN** and Director, Green ITN Program at **Orange Innovation Network**, framed energy as a planning and design issue rather than an afterthought, highlighting three operator priorities: better environmental measurement and reporting, smarter energy management and flexibility, and stronger resilience as telecom networks become more critical national

infrastructure. Looking ahead, she pointed to three intensifying areas of focus: the energy and environmental impact of AI in networks, the need to harden resilience against outages and climate-related disruption, and the importance of better cooling strategies as data growth and AI workloads rise. The overall message was simple but important: decarbonization and resilience are now part of the same network-planning problem.

The innovator insights showed how broad the response to that challenge is becoming. Dr Ivar Kruusenberg, Founder & CEO of **PowerUp Energy Technologies** focused on backup power and site resilience, making the case for hybrid electric generators combining hydrogen fuel cells and batteries as a cleaner, lower-maintenance alternative to diesel for telecom towers, particularly where operators need long-duration backup and stricter environmental compliance. **Allye Energy's** Founder & CEO Jonathan Carrier approached the problem from a battery-storage angle, arguing that grid instability and localized outages make resilience a much bigger issue than many operators currently assume. Its proposition was that smart battery energy storage, including systems built from repurposed EV batteries, can turn backup power from a pure cost into an asset that also delivers savings and potentially wider energy value. Simon Bjorklund, MD UK & Benelux at **Polarium** took that further by describing how distributed battery assets on telecom sites could be aggregated into virtual power plants, allowing operators not only to improve backup capacity but also to participate in energy markets, provide grid services and offset some of their own costs. Camilla Thoma, CEO at **MoveAir**, meanwhile, emphasized decentralized renewable generation, especially micro-wind combined with solar and storage, as a way to bring affordable, local resilience to tower sites and rural energy systems. Taken together, these innovation sessions suggested that the energy challenge is producing a new layer of telecom innovation spanning backup systems, batteries, software, renewables and energy-as-a-service models.

The panel discussion on AI and energy efficiency broadened the conversation from individual technologies to system-level strategy. One core theme was that AI is both a challenge and an opportunity. On the one hand, panelists noted that AI workloads will significantly increase power demand, especially as inferencing and compute move closer to the edge. On the other hand, they argued that the same distributed telco infrastructure being upgraded for AI could also become part of a more flexible, distributed energy system, with smarter batteries, better orchestration and participation in grid services. There was also a strong emphasis on commercial realism: several speakers argued that energy resilience will only scale if it is tied to a stronger value stack, combining backup, energy arbitrage, peak shaving, and potentially new services such as edge cloud. Cornerstone and StonesThro in particular highlighted the importance of shared, neutral-host infrastructure, arguing that if operators build multiple separate layers of compute, storage and power resilience, the cost and carbon burden will be unnecessarily multiplied. Bell Canada added a more cautious operator perspective, stressing that while the ideas are compelling, the business case for upgrading site batteries, inverters and control systems still needs to become stronger before widespread rollout. Overall, the panel's message was that telecom energy innovation is likely to succeed where it combines resilience, cost reduction, carbon reduction and infrastructure sharing into a single commercial proposition, rather than treating backup power as a standalone expense.

More broadly, the discussion also connected energy to public-private alignment and national infrastructure policy. Energy is one of the clearest areas where telecom innovation intersects with

wider national priorities. If operators are expected to help underpin digital growth, public-service modernization and industrial competitiveness, then their energy posture becomes strategically significant. Networks need to be greener, but they also need to be resilient. They need to support growing traffic and new applications without simply driving a linear increase in power consumption. That is why energy at MNIS was not treated as a sustainability sidebar. It was treated as an enabling condition for the next phase of network evolution.

↘ KEY TAKEAWAY

For vendors, innovators and investors, the energy discussion pointed to three clear opportunities. First, technologies that reduce power consumption while preserving or improving service quality will gain strategic relevance, not just operational interest. Second, new models for shared infrastructure, smarter indoor coverage and better orchestration can be as important as component-level innovation. Third, the energy challenge may create a wider innovation space that includes materials, cooling, power systems, site design, AI-driven optimization and even operator participation in adjacent energy ecosystems.

In other words, the energy question is no longer "how do we consume a bit less?" It is "how do we build the next network around radically better energy economics?"

AI in the RAN is moving from slogan to operating model

Artificial intelligence was everywhere in telecom discourse before MNIS, but one of the healthiest signs at the event was that the discussion had already moved beyond vague enthusiasm. Several speakers explicitly pushed back against the industry habit of rebranding routine automation as AI or adding the term indiscriminately to existing products. This focussed the debate toward practical use cases, operational bottlenecks and architectural consequences.

The first important distinction was between automation and genuinely AI-native networking. In the AI-focused sessions, speakers argued that the real shift is not simply using machine learning inside predefined workflows, but restructuring the network so that intelligence becomes part of how it perceives conditions, makes decisions and adapts in real time. That is a more ambitious claim than classic SON narratives. It implies a network with more contextual awareness, more autonomy and a greater ability to optimize across domains rather than at isolated points. Whether the industry can reach that destination quickly is still uncertain, but the direction of travel was unmistakable.

The dedicated AI stream then turned that broad argument into something more operational. In conversation with Appledore Research's Robert Curran, Valeria Baiamonte, Director of Network Strategy & Transformation at **VodafoneThree**, argued that AI-native should not mean simply adding smarter tools to existing workflows. At its more ambitious end, it means building the foundations for a self-optimizing, self-healing and increasingly autonomous network that can respond much more directly to customer and business needs. Crucially, she stressed that this cannot be treated as a siloed network initiative: it requires coordination across network, IT, customer operations and product teams, or operators risk building a new generation of AI-era silos.

The innovator presentations reflected the breadth of AI activity now emerging across the network stack. Faisal Gzhazaleh, Solution Engineering VP EMEA at **Rakuten Symphony** argued that AI-native networks represent a deeper structural shift than traditional automation, because they are about giving the network a "brain" able to create workflows from intent, rather than simply executing predefined rules. In that framing, the real competitive battleground moves from towers and spectrum toward intelligence, orchestration and response time. Roger Dewey, CEO of **Able Device**, brought a more specific device-layer perspective, arguing that one of the missing pieces in AI-driven networking is enforcement: even if the network understands what should happen, operators still need ways to make endpoints behave accordingly across fragmented device types and operating systems. Dr Usman Hadi, Founder & CEO of **MIMONet** focused on AI at the physical layer, making the case that machine learning can increasingly replace heavy mathematical signal processing in tasks such as MIMO detection, improving reliability and latency in complex radio environments. **Robustient's** Founder and CEO, Dr Abdulhamed Waraiet, meanwhile, emphasized continuity rather than mere connectivity, showing how AI-driven control of multiple radios in private 5G environments can prevent interruptions before they happen in industrial settings. Together, these presentations showed that AI innovation is happening from core orchestration and OSS down to SIM behavior, radio signal processing and private-network reliability.

The panel discussion on AI innovation in network optimization then brought a more critical and pragmatic tone to the topic. Several speakers noted that AI in telecom risks becoming just another label unless it is tied to clear, tangible use cases. The discussion therefore focused on where AI is already showing value: improving productivity in network engineering and testing, enabling more dynamic optimization inside the RAN, supporting more autonomous control models, and opening new possibilities in private networks and edge environments. There was also a useful distinction between "AI around the network" and "AI in the network" — from AI tools helping engineers and operators, to AI directly influencing radio and service decisions in real time. A recurring theme was that the real breakthroughs may come less from grand claims of fully autonomous networks and more from focused use cases where better data, intelligent control and closed-loop adaptation can produce measurable improvements quickly. The panel also highlighted a wider debate about where AI innovation will come from: hyperscalers, startups, academia, standards bodies and established vendors all have a role, but several speakers argued that private networks, open ecosystems and academic research may prove especially fertile areas for rapid and commercially relevant progress. Overall, the AI stream suggested that the industry is moving from generic AI enthusiasm toward a more nuanced understanding of where AI can create genuine operational, architectural and commercial advantage.

The summit's AI panel discussions also highlighted the importance of software insertion points. If the future network is service-aware and self-optimized, then software becomes the key battleground. This is where operators see greater scope for new entrants, and where startups may find more realistic pathways into telecom than through direct displacement of core radio infrastructure. AI in the RAN therefore matters not only because it could improve spectrum

Today's AI narrative will only retain credibility if it delivers measurable improvements in speed, efficiency, reliability or new commercial capability.

use, energy performance or customer experience, but because it helps re-open parts of the network value chain to a broader class of innovators. That is especially relevant for investors assessing where telecom may become more accessible as a software market.

There was also a recurring note of caution. Throughout MNIS speakers repeatedly acknowledged that telecom has heard versions of this promise before. Self-organizing networks, closed-loop automation and autonomous operations have all been discussed for years. That historical memory matters. It means today's AI narrative will only retain credibility if it delivers measurable improvements in speed, efficiency, reliability or new commercial capability. The industry no longer needs another abstract case for AI. It needs evidence that AI can help build networks that are more intelligent, more economical and more responsive than the ones operators have today.

↘ KEY TAKEAWAY

The most important conclusion from MNIS on AI is not that the RAN is suddenly becoming fully autonomous. It is that the network's control and operating layers are being redesigned around intelligence, and that this shift is starting to create new commercial, technical and ecosystem opportunities. The winners are likely to be those who can connect algorithmic capability to clear operator pain points, integrate into live operational environments, and prove outcomes rather than simply claim them.

Quantum communications shifts from distant promise to strategic urgency

Quantum was the most future-facing topic at MNIS, but it was not treated as speculative theater. Instead, speakers framed it as a strategic horizon technology that operators, vendors, governments and investors need to understand now because the transition risks and capability opportunities are already beginning to take shape. The result was one of the most strategically rich discussions of the Summit.

One reason quantum landed so strongly is that it was positioned in geopolitical as well as technical terms. The session framing stressed that quantum technologies are becoming a critical national capability, second only to AI in strategic importance. That matters for telecom because communications infrastructure sits directly in the path of both the threat and the opportunity. On the threat side, the emergence of sufficiently powerful quantum computing would undermine large parts of the cryptographic foundation on which current digital systems depend. On the opportunity side, quantum-secure communications, sensing and eventually networking could enable new classes of resilience, trust and national competitive advantage.

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The Summit made clear that post-quantum cryptography and quantum-safe communications are urgent near-to-mid-term priorities; quantum sensing is a promising applied domain with network

relevance; and a more fully fledged quantum network remains a longer-horizon ambition that still requires foundational work. In other words, "quantum communications" is not one thing. It is a stack of challenges and possibilities with different time horizons.

The urgency around cryptography came through especially strongly. One of the clearer arguments from the operator side was that the real question is no longer whether quantum-capable systems will arrive, but when, and how quickly organizations need to prepare for the impact on security. This is strategically significant for telecom operators because they are both users and enablers of secure communications. They must protect their own networks and data, but they also have an opportunity to create differentiated services, architectures and partnerships around quantum-safe infrastructure. That is exactly the kind of shift that can elevate security from a defensive cost center into a source of market relevance.

The most important question may not be who launches first, but who captures the downstream economic benefit.

MNIS also linked quantum to wider ecosystem design. As with 6G, speakers suggested that the most important question may not be who launches first, but who captures the downstream economic benefit. In quantum, that means thinking not only about devices or scientific leadership, but about supply chains, access to capability, incentives for vertical industries to adopt it, and the role of public-private coordination in turning technical capacity into national and commercial advantage. That perspective is highly relevant for investors and policymakers because it suggests that the quantum opportunity will not be captured solely by inventing a technology. It will depend on the surrounding ecosystem that makes it usable, trusted and economically meaningful.

The dedicated quantum stream translated that strategic framing into a more immediate telecom agenda. Jonathan Legh-Smith, Executive Director of **UKQuantum** positioned quantum communications within a broader national effort spanning computing, sensing, timing and networking, but the emphasis was practical rather than theoretical. The immediate objective is not to speculate about a distant "quantum internet"; it is to build the next layer of quantum-enabled infrastructure through secure communications, industrial testbeds and, over time, more advanced network capabilities based on phenomena such as entanglement.

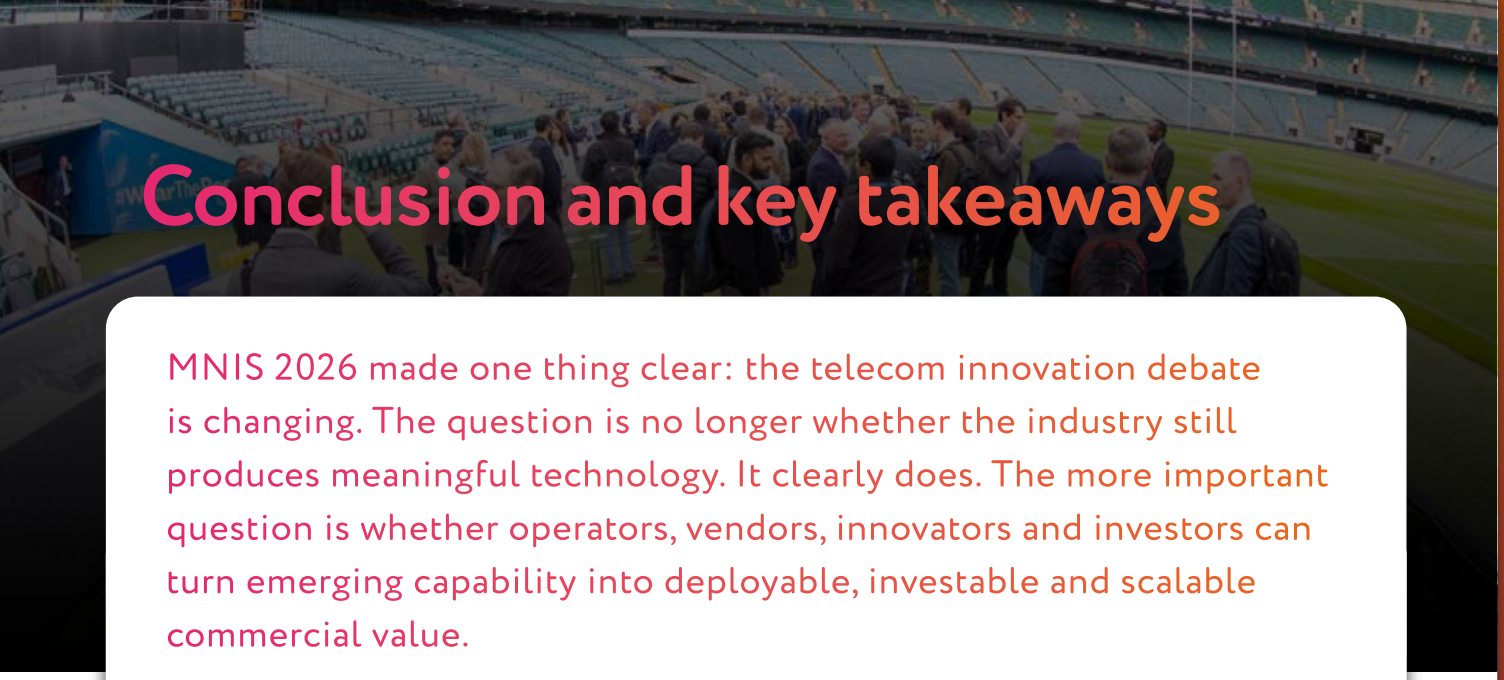
The innovator and deployment insights then grounded that strategy in practical telecom terms. Frank de Jong, Program Director, Quantum Safe Network and Edge at **Orange Business**, together with Lee Johnson, QKD Business Development Manager at **Toshiba** presented one of the clearest examples of commercial deployment, showing how quantum-secure networking is already being launched in Paris through a service that combines quantum key distribution with post-quantum cryptography. Their message was twofold: first, that the "quantum threat" to current public-key encryption is real enough that operators and enterprises need to start planning now, even if the exact timing of a large-scale quantum computer remains uncertain; and second, that the first market opportunity lies in quantum-safe infrastructure rather than some distant quantum internet vision. Steve Takhar, Chief Revenue Officer at Quside added another important layer by focusing on quantum entropy and random number generation, arguing that quantum-derived randomness can strengthen the security foundations of telecom and digital infrastructure more broadly, from data

centers and core networks to IoT and edge devices. Together, these presentations showed that the near-term quantum market is less about futuristic transformation and more about strengthening trust, encryption and security in network infrastructure before the threat fully materializes.
The panel discussion broadened the debate from current deployment to the longer-term path toward quantum networking. Lisa Matthews, CEO of **KETS Quantum Security**, argued that the technology risk is falling quickly and that the challenge is shifting toward adoption, scaling and integration: embedding quantum capabilities into familiar telecom form factors, supply chains and operational models rather than treating them as standalone scientific add-ons. Callum Sterling, Innovation Lead at InnovateUK emphasized that the UK's role is to support both immediate commercialization and the longer-term build-out of larger, more advanced quantum networks, including the industrial testbeds and collaborative programs needed to make that happen. Rui Wang of the **University of Bristol's** Integrated Quantum Networks Hub then highlighted the longer-horizon significance of entanglement-based networking, not only for quantum-secure communications but potentially for connecting quantum computers, sensors and clocks in future distributed systems.

A recurring theme across the panel was that quantum networking will only succeed through collaboration: between quantum specialists and telecom operators, between research and industry, and across trusted international partners. At the same time, speakers acknowledged a growing tension between openness and sovereignty, with governments eager to foster global interoperability and commercial growth while also treating quantum as a strategically sensitive capability. Overall, the stream suggested that quantum communications is entering telecom first through security and trust, but could eventually reshape much deeper layers of networking infrastructure.

↘ KEY TAKEAWAY

For all this innovation and future preparedness, the practical takeaway is not that telecom should expect immediate mass-market quantum revenues. It is that quantum is rapidly becoming a strategic planning issue. Operators need a roadmap for quantum-safe transition. Vendors need to understand where quantum changes their relevance in security, transport and network design. Innovators need to identify where sensing, cryptography and communications intersect with real industry demand. And investors need to distinguish between speculative noise and the infrastructure layers likely to matter first.



Conclusion and key takeaways

MNIS 2026 made one thing clear: the telecom innovation debate is changing. The question is no longer whether the industry still produces meaningful technology. It clearly does. The more important question is whether operators, vendors, innovators and investors can turn emerging capability into deployable, investable and scalable commercial value.

Six key takeaways

1. Innovation is becoming more strategic, but also more practical.

The summit showed that smarter infrastructure, stronger security, better energy economics, more resilient coverage and more autonomous operations will increasingly shape operator competitiveness and long-term value creation.

2. Commercialization is now the critical battleground.

The industry accepts that traditional operator-vendor-startup relationships are too slow and too rigid for the pace of change now emerging. The winners will be those that can create faster, clearer and more investable routes from technical capability to scaled deployment.

3. Operators need to be clearer about priorities and pathways.

For mobile operators, the practical imperative is to make innovation priorities more explicit, link research more tightly to adoption, strengthen sponsorship across technical and business functions, and identify where new suppliers can realistically enter the stack. Energy, security and non-terrestrial integration should now be treated as strategic design questions, not side issues.

4. Vendors need to evolve from suppliers to ecosystem enablers.

Scale, trust and lifecycle support still matter. But in a world shaped by AI-native operations, NTN convergence and quantum-safe transition, vendors that help operators integrate new capabilities quickly and safely may gain more than those that simply defend installed base.

5. Innovators need sharper value propositions.

For founders and growth companies, the lesson from MNIS was not to sell innovation in the abstract. The strongest opportunities lie where technical novelty is directly connected to a clear operator pain point, a realistic insertion path and a visible business case.

6. Investors should think in layers, not in one telecom market.

Telecom innovation is no longer a single monolithic proposition. The most attractive opportunities are likely to sit in specific layers of the stack where operator need is rising and new entrants can participate more credibly: orchestration, AI-enabled operations, NTN integration, energy optimization, cyber response and quantum-safe transition.

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About MNIS

For too long the industry has internalized the belief that the telco sector is "bad" at innovation and is being outpaced by the hyperscaler, cloud and internet companies, offering an uncertain pathway for innovators and poor return on capital for investors.

From the labs to the boardroom, from the deep-tech to the services they enable, **The Mobile Network Innovation Summit** brings together innovators and investors with operators and major vendors to change the conversation around mobile network technology innovation.

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About MNIS Key Takeaways Report

This report was curated using AI, based on the transcripts of presentations and panel discussions during the two-day Summit.