# Mobile World Congress (MWC) 2026 Recap

Barcelona, Spain

AI took center stage at MWC 2026. It was embedded in network infrastructure, baked into devices and hard to avoid in almost any telecom conversation. For operators, the pressure is now practical: what do architecture, capabilities and business models need to look like when AI starts carrying real operational weight? What were the key takeaways from this year's event, and why do they matter now?

	Highlight	Key takeaway
1	**AI-Native Networks & Autonomous Operations**	AI is increasingly being embedded into network operations, accelerating the shift toward more autonomous, self-optimizing and programmable networks.
2	**Distributed Compute & Edge AI**	Telecom networks are increasingly evolving into distributed AI compute platforms, extending processing capabilities across the core, RAN and edge.
3	**Sovereign AI Infrastructure & AI Factories**	Sovereign AI infrastructure is emerging as a core strategic priority, with operators exploring local AI platforms and compute capacity to position themselves as national AI infrastructure partners.
4	**Energy Optimization for AI Infrastructure**	Energy-efficient AI architectures and intelligent power management are becoming critical to support the rising compute and power demands of AI-driven infrastructure.
5	**AI-Embedded Devices**	AI is increasingly shifting to the device layer, with vendors embedding on-device intelligence to enable more local and personalized experiences.
6	**Robotics & Physical AI**	Physical AI is advancing toward scaled deployment, with new robotics capabilities highlighting the growing maturity of embodied AI systems for mission-critical use cases.
7	**5G Evolution Toward AI-Native 6G**	Early 6G discussions began defining next-generation network architectures to support critical mission applications and advanced automation.
8	**Satellite-Terrestrial Connectivity Integration**	Satellite-terrestrial integration is progressing beyond trials, with hybrid connectivity models gaining momentum as a means to extend coverage and strengthen network resilience.

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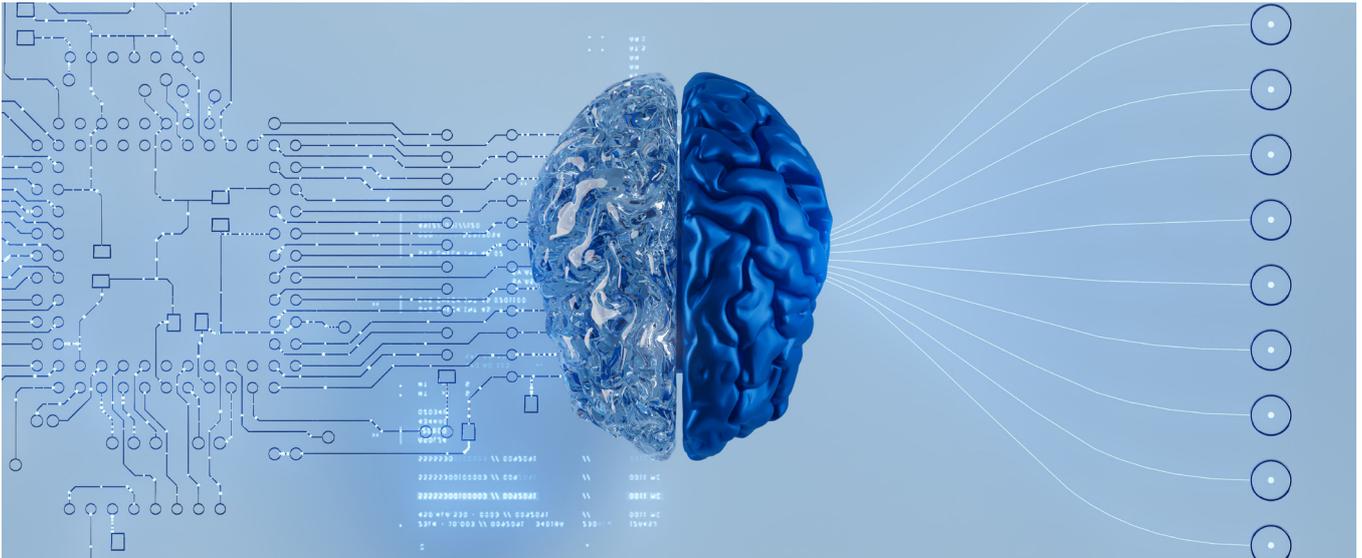
1. AI-Native Networks & Autonomous Operations

AI is increasingly being embedded into network operations, accelerating the shift toward more autonomous, self-optimizing and programmable networks.

AI-native and autonomous networks came to the forefront at MWC 2026. AI now sits at the core of network operations, orchestration and service delivery, with the potential to significantly expand telecom capabilities.

Several players highlighted the use of agentic AI for automated diagnostics and remediation, while others outlined a move toward intent-based networks in which AI agents and network elements work together to optimize performance. Related discussions also pointed to telecom-specific language models trained on telecom standards and operational documentation to support network troubleshooting.

Other announcements highlighted early work around agent-to-agent interaction and workflow orchestration, reinforcing initiatives toward more autonomous and coordinated network operations.

More broadly, vendors also showed how AI is being embedded across the network stack, including full-stack AI capabilities spanning base stations and network management platforms.

In parallel, GSMA's Open Gateway gained traction as an exposure layer for programmable networks,[1] enabling operators to align their efforts around a common API framework for exposing network capabilities to applications and AI systems. Use cases centered on authentication, fraud prevention, identity, and quality-on-demand, with growing momentum across operators and ecosystem players.

Overall, the discussions indicated a clear trend: AI is increasingly recognized as a key enabler of more automated, adaptive, and self-optimizing network operations.

Sources: Google Cloud Blog; TelecomTv; Fierce Network; ZTE; Nokia; MWC Barcelona, FTI Consulting

2. Distributed Compute & Edge AI

Telecom networks are increasingly evolving into distributed AI compute platforms, extending processing capabilities across the core, RAN and edge.

MWC 2026 highlighted a shift from operators providing connectivity only toward providing AI-ready infrastructure. Distributed compute and edge AI emerged as central themes, with compute moving across the core, RAN and edge to reduce dependence on centralized cloud environments and enable lower-latency inference closer to users, devices and enterprise sites. In this model, telecom networks are increasingly being positioned not only as connectivity layers, but also as platforms that can host, connect and orchestrate AI workloads across distributed environments.

Operators showcased sovereign industrial AI cloud models, demonstrating how telecom players can provide GPU-based compute capacity for enterprise AI workloads. Industry initiatives also pointed to telecom-specific AI models and open architectures designed to support AI deployment across both network and enterprise environments. More broadly, infrastructure players reinforced the case for communications as a core pillar of AI infrastructure, alongside other foundational enablers, highlighting telecom's growing role in enabling AI deployment.

At the same time, edge AI applications featured prominently across the discussion. Vendors positioned edge deployment as critical for latency-sensitive and real-time use cases, particularly in industrial, IoT, and autonomous environments where inference needs to move closer to the data source. This was reflected across multiple discussions and exhibitions, including examples focused on AI-enhanced edge security and quantum-resistant technologies for critical environments.

Overall, MWC 2026 discussions reinforced the view of telecom networks evolving beyond connectivity toward AI-ready platforms capable of hosting and orchestrating distributed compute.

Sources: Fierce Network; Fierce Wireless; GSMA; AT&T; AMD; Light Reading; MWC Barcelona; FTI Consulting

3. Sovereign AI Infrastructure & AI Factories

Sovereign AI infrastructure is emerging as a core strategic priority, with operators exploring local AI platforms and compute capacity to position themselves as national AI infrastructure partners.

Sovereign AI infrastructure moved up the telecom agenda at MWC 2026, with operators and technology players positioning local AI compute, edge infrastructure and data control as strategic assets. Discussions pointed to a growing push to keep critical AI workloads, networks and data closer to home, while reducing reliance on external platforms. In doing so, sovereign AI is enabling telcos to move up the value chain and position themselves as national AI infrastructure partners.

One example highlighted a sovereign AI factory model in the Nordics, designed to deliver high-performance AI compute while keeping data within national borders, built on a cloud-native platform stack. More broadly, other players framed sovereignty in wider strategic terms, arguing that stronger capabilities across AI, cloud, cybersecurity, and digital infrastructure will be required to strengthen regional autonomy. This also included references to initiatives such as EURO-3C,[2] positioned as a federated sovereign infrastructure model integrating telecom, edge, cloud, and AI capabilities across markets.

Broader MWC coverage reinforced the same direction, with sovereignty increasingly tied not only to cloud and large scales data centers, but also to edge connectivity.

Overall, MWC 2026 showed that sovereign AI is moving from policy ambition toward infrastructure execution, with telcos seeking to anchor AI platforms, compute and data control more locally.

Sources: Telecoms.com; The Stack; Data Center Knowledge; MWC Barcelona; FTI Consulting

4. Energy Optimization for AI Infrastructure

Energy-efficient AI architectures and intelligent power management are becoming critical to support the rising compute and power demands of AI-driven infrastructure.

Energy optimization emerged as a key theme at MWC 2026, with vendors positioning power efficiency as a core requirement for scaling AI-ready networks and infrastructure. As AI traffic, distributed compute and denser processing loads raise energy intensity across networks, sites and data centers, pressure is increasing to improve power usage, cooling performance and overall infrastructure efficiency. In response, vendors showcased more efficient architectures and AI-enabled optimization tools designed to reduce energy consumption without compromising performance.

One vendor showcased its solution to improve energy efficiency in AI-era mobile networks, including AI-enabled radios that can reduce power consumption by 35 - 40% compared with traditional power amplifiers while maintaining network performance.

Other announcements similarly highlighted AI-powered green site and AI data center solutions aimed at optimizing power supply, cooling, and energy management across telecom and compute environments, with a focus on improving energy efficiency and maximizing compute output per unit of power.

Overall, MWC 2026 showed that energy optimization is becoming a core enabler of AI infrastructure scale-up, with power efficiency and energy availability rising on the strategic agenda.

Sources: Telecoms.com; The Stack; Data Center Knowledge; MWC Barcelona; FTI Consulting

5. AI-Embedded Devices

AI is increasingly shifting to the device layer, with vendors embedding on-device intelligence to enable more local and personalized experiences.

On-device AI emerged as a major theme at MWC 2026, with several players highlighting how AI is increasingly being embedded directly into consumer devices through specialized hardware and local inference. The discussion centered on enabling AI experiences that are faster, more personalized and less dependent on cloud connectivity.

Several announcements highlighted the expansion of AI across broader connected device ecosystems, including smartphones, wearables, and accessories. New device launches were positioned around enhanced AI performance, with features such as more conversational assistants, smarter search, personalized briefings, and real-time contextual support. More broadly, these developments reflected the wider industry push to build device ecosystems capable of supporting more advanced on-device AI capabilities.

Other players also emphasized plans to develop and deploy AI features that do not require cloud connectivity to function, reinforcing the role of local inference in

enabling lower-latency, more privacy-preserving, and more personalized AI experiences.

Overall, MWC 2026 highlighted how AI is becoming more deeply embedded at the device layer, as vendors increasingly shift intelligence closer to the user through on-device processing and AI-optimized hardware.

Sources: Samsung Newsroom; OPPO; AMD; HONOR; TCL; MWC Barcelona; FTI Consulting

6. Robotics & Physical AI

Physical AI is advancing toward scaled deployment, with new robotics capabilities highlighting the growing maturity of embodied AI systems for mission-critical use-cases.

Physical AI emerged as one of the most visible themes at MWC 2026. Across the exhibition floor, vendors showcased increasingly advanced robots performing real-world tasks, highlighting the growing maturity of robotics and embodied AI technologies.

Several demonstrations illustrated this trend. One example connected physical AI to mission-critical operations through a demonstration showing how AI, drones, and advanced network capabilities can be integrated through a unified control center to support crisis-response scenarios.

Other showcases highlighted AI-driven service environments in which multiple robots coordinated tasks such as food preparation and service. Additional demonstrations also pointed to continued progress in humanoid robotics, with systems designed to guide visitors, support service environments, and assist manufacturing operations.

Beyond the exhibition floor, industry discussions emphasized the commercial implications of physical AI. Vendors highlighted how robotics, connected devices, and vehicle-to-everything (V2X) systems could create new monetization opportunities for telecom operators, particularly in sectors such as manufacturing and autonomous mobility.

Overall, MWC 2026 reinforced that physical AI is emerging as a key frontier, with robots and autonomous systems interacting with real-world environments and driving new connectivity and infrastructure demands.

Sources: Fierce Networks; Telecoms.com; UK Government (GCOT); MWC Barcelona; FTI Consulting

7. 5G Evolution Toward AI-Native 6G

Early 6G discussions began defining next-generation network architectures to support critical mission applications and advanced automation.

MWC 2026 showed that early 6G priorities are starting to take shape, with discussions focused on deployment timing, spectrum requirements and security foundations rather than near-term commercialization.

Some players pointed to initial 6G services around 2029–2030, supported by wider spectrum bands and broader architectural preparation for next-generation networks.

Security and resilience also emerged as key considerations. A set of 6G security and resilience principles was introduced, emphasizing the importance of sovereignty, security, and network robustness for future telecom infrastructure.

Alongside work on spectrum, architecture, and security, operators are also beginning to explore the types of applications that future 6G networks may need to support. Early initiatives highlighted 6G architecture concepts combining connectivity, sensing, and compute to support use cases such as physical AI and robotics.

This reflects early work to shape how 6G networks are designed as standards continue to evolve.

Overall, MWC 2026 positioned 6G as a longer-term network evolution already entering early design and ecosystem development, with initial industry focus centered on spectrum, security and future AI-driven applications.

Sources: Fierce Networks; Telecoms.com; UK Government (GCOT); MWC Barcelona; FTI Consulting

8. Satellite-Terrestrial Connectivity Integration

Satellite-terrestrial integration is progressing beyond trials, with hybrid connectivity models gaining momentum as a means to extend coverage and strengthen network resilience.

Non-terrestrial connectivity gained further momentum at MWC 2026, with discussions pointing to satellite-terrestrial integration moving from trials toward commercial deployment. The focus shifted from POC toward hybrid connectivity models that can extend coverage, improve resilience and support areas beyond the reach of traditional terrestrial networks. This shift was also reflected in how vendors and operators positioned their space-based connectivity offers at the event.

One player repositioned its direct-to-cell offer within the operator landscape, promoting a satellite-enabled mobile connectivity model more explicitly aligned with carrier partnerships.

Other operators signaled similar moves. Several announcements highlighted partnerships aimed at advancing space-based connectivity in areas where terrestrial coverage remains limited, including efforts to integrate LEO satellite communications into mobile networks and explore high-altitude or satellite-based connectivity models.

At the ecosystem level, GSMA Foundry and the European Space Agency announced access to up to €100 million in funding to accelerate convergence between the mobile and space industries,[3] with focus areas including AI for non-terrestrial networks ("NTN") and direct-to-device ("D2D") connectivity.

Overall, MWC 2026 reinforced the growing role of satellite connectivity in telecom, with hybrid terrestrial-satellite architectures increasingly positioned to extend coverage and improve resilience.

Sources: Light Reading; Fierce Networks; Telecoms.com; GSMA; MWC Barcelona; FTI Consulting

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[3] GSMA, https://www.gsma.com/newsroom/press-release/gsma-foundry-and-esa-announce-access-to-new-funding-worth-up-to-e100m-for-ai-ntn-d2d-and-6g-at-mwc26-barcelona/