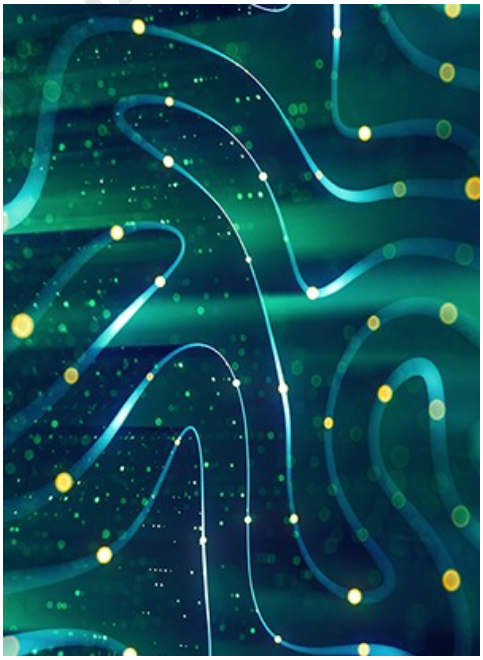


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Letter from the Editor

By: Scott St. John - Pipeline



Network evolution has always carried a faint whiff of marketing, a promise that the next generation will fix whatever the last one got wrong. This year the promise looks different because the evidence is different. The strongest signal is convergence. On its third-quarter call, AT&T reported that nearly 43% of its advanced home internet customers also carry a postpaid wireless account, and CEO John Stankey laid out a goal of running the most advanced and technologically open network in the U.S. by the end of the decade, built on dense metro fiber and nationwide wireless. Operators that once ran fixed, mobile and cloud as separate businesses are building one fabric. Standards are locking in, satellites are starting to behave like cell towers, and software agents are taking on the daily work of running it all. That is good news for everyone who builds on top of it.

Start with 6G, which now has a calendar instead of a slogan. 3GPP settled the Release 21 timeline in June, with specification work running from March 2027 through the end of 2028 and first commercial systems expected around 2030, according to Ericsson. The more consequential decision is architectural. 6G will be standalone from day one, and the 6G core architecture is due to be finished by June 2028. That is a compressed runway for core teams, but it also skips the long non-standalone detour that slowed 5G. Operators that finish their 5G standalone and cloud-native work now will have the smoothest road ahead.

The second shift is that the network is leaving the ground. SpaceX has confirmed it will build a terrestrial network alongside its satellites, with next-generation Starlink Mobile satellites targeted for the end of next year. Analysts at CCS Insight note that in dense urban areas, satellite capacity will struggle to compete without terrestrial partners, which is why the hybrid design matters. European operators are moving too. Telefónica is exploring direct-to-device service across Spain and Germany, and recently joined a European operator plan to fold satellite connectivity into existing mobile networks. Space and ground are becoming a single layer, and the operators who own the customer

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relationship are well placed to lead it.

Every one of these advances eventually lands on a device, and the device has to work. Satellite handoff, new bands and 6G features all ask more of the handset in a pocket and the rugged tablet in a technician's hands. Qualcomm notes that the defined Release 21 timeline reduces planning uncertainty for device makers, which is welcome news for anyone who has been guessing. Reliability is how customers and field crews judge the network, and the cost of a failure is rarely limited to the device itself.

For enterprises, eSIM is growing up. Juniper Research projects 1.5 billion eSIM devices in 2026, up 30%, with the momentum coming from connected logistics, oil and gas, and smart street lighting rather than phones. The GSMA's SGP.32 standard makes that possible through server-driven bulk activation. Connectivity becomes a software-managed capability instead of a procurement exercise: switch carriers remotely, activate fleets at scale and skip the truck roll. In a world of terrestrial, satellite and roaming profiles, remote provisioning is the quiet foundation of multi-network enterprise connectivity.

AI infrastructure is the biggest tailwind. This week, T-Mobile, Nokia and Nvidia completed the world's first AI-RAN call at a commercial cell site in Bellevue. At GTC Berlin, Jensen Huang argued that telcos' roughly 100,000 sites and 100 gigawatts of capacity will evolve into distributed AI networks, and Deutsche Telekom plans AI-RAN field trials in 2027. The same compute is starting to run the operation. Deutsche Telekom's MINDR applies agentic AI across RAN, transport and core, and Telefónica has set its sights on Level 4 network autonomy by 2030. AT&T, for its part, says over 90% of mapped U.S. data centers sit within ten miles of its fiber.

Finally, the network is learning to move with the road. Waymo's leadership has said to expect 1 million trips per week by the end of 2026, across a growing list of cities. Safety-critical decisions stay onboard, but a fleet at that scale lives on low-latency links, edge compute and coverage that follows the vehicle wherever it goes. The evolution is real, and it is arriving on every front at once. Which is why this issue of Pipeline is so important.

In this issue of *Pipeline*, we explore the aspects of Network Evolution. Members of the Satcom Innovations Group discuss how AI is being used by the satcom industry and its current state of adoption. Dr. Mark Cummings outlines an executive action plan for AI network evolution. Giesecke+Devrient propose that enterprises need a new connectivity mindset when it comes to eSIM. Spirent cautions that the timeline for 6G networks is accelerating and shares advice for standards adoption and monetization. Getac reveals the real cost of device failure in telecom field operations. Global Invacom explores the technical challenges when switching between low-earth and geostationary earth orbits and whether seamless switching can be achieved without signal degradation. According to Foresight, project delivery has become the critical bottleneck in AI infrastructure development. Calix examines how AI is changing the way product and engineering teams operate as development cycles accelerate. AccelerComm considers space-based 5G as the next evolution of mobile networks. LYT explains how using AI for adaptive signal timing is already cutting delays and emissions in self-driving vehicles linked to low latency networks.

All this, plus the latest enterprise and telecommunications technology industry news and more.

We hope you enjoy this and every issue,

Scott St. John
Managing Editor
Pipeline

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