TBR

Telecom AI Market Landscape

SPOTLIGHT REPORT

February 2026

Report Overview

TBR's *Telecom AI Market Landscape* covers how communication service providers (CSPs), which includes telecom, cable and satellite operators, and vendors that supply CSPs, are adopting AI (including traditional AI, generative AI [GenAI] and agentic AI) in their internal operations and in their products and services. This telecom industry-centric report covers AI use cases, adoption trends, business outcomes and offerings as well as AI-related partnerships and M&A in the global telecom ecosystem. We also provide commentary on how AI is likely to shape the telecom industry.

Additionally, the report covers key companies that enable AI for the telecom industry as well as leading CSPs that are adopting AI as part of their digital transformations.

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"AI will be transformative for telecom, but the industry is entering a reset phase in which expectations, architectures and investment timelines must realign before sustainable value can be realized."
— Principal Analyst Chris Antlitz

Excerpt

AI will change the telecom industry, but the timing of this transformation will take longer than anticipated; AI ecosystem is exhibiting bubble behavior, and a reset is likely

A new network architecture is required for AI, as current networks will not suffice

One key aspect of AI workloads, especially those emanating from end-user devices, is that they are uplink-intensive, meaning they rely more heavily on uplink resources from the network than on downlink resources. This is a fundamental issue because macro, cellular-based networks are optimized for downlink capacity (typically a 10:1 downlink-uplink ratio from a resource-allocation perspective). To optimize networks for uplink, CSPs will need to make significant investments in new network technologies and rethink how spectrum resources are utilized.

AI traffic also tends to require lower latency than current networks and can support higher bursts of traffic than video and other media consumption. AI networks require uplink bandwidth, lower latency (compared to current networks) and the ability to handle higher bursts in traffic patterns at scale, and none of these requirements can be achieved just by increasing capacity. These requirements are the opposite of how networks are architected today — optimized for downlink, best-effort or good-enough latency, and optimized for more predictable traffic patterns — necessitating significant investment by CSPs. This will be a gradual transition, as there is no silver bullet to address this problem quickly. The best approach appears to be decoupling the downlink from the uplink to address transmit power asymmetries, enabling network resources to dynamically adapt to traffic demands in real time. Additionally, there is concern as to how willing CSPs will be to invest in uplink when ROI is uncertain.

Hyperscalers' network needs for AI drives opportunities for CSPs

Hyperscalers' rapidly expanding AI workloads are reshaping their network requirements, creating opportunities for CSPs. Training and running large-scale AI models demand massive, low-latency, high-capacity connectivity between data centers, cloud regions and edge locations — capabilities that align closely with CSPs' core strengths in fiber, long-haul transport, metro networks and subsea infrastructure. As hyperscalers prioritize speed of deployment and geographic reach, CSPs can monetize dark fiber, wavelength services, private optical networks and data center interconnection, positioning their networks as enablers of AI scale rather than commoditized connectivity.

AI workloads behave differently compared to traditional network traffic, necessitating changes in networks and their architecture. Some CSPs have become proxies for hyperscalers, such as Lumen and Zayo, which are tackling some of the network needs for hyperscalers by selling dedicated, wholesale capacity (usually transport solutions for data center interconnect [DCI] and metro backhaul). The inferencing opportunity will emerge, likely over the next few years, but clearer ROI will need to be demonstrated to justify the investment necessary to scale.

AI ROI in telecom is expanding beyond cost savings

Key insights

- ROI metrics used to assess the effectiveness of AI and automation investments typically pertain to the degree of cost savings. Improved customer outcomes are also considered, driving Net Promoter Score (NPS) and lower churn, and new revenue would be assessed in attach rates (from upselling and cross-selling).
- CSPs are shifting from measuring AI only on cost savings toward a multidimensional ROI view — linking AI to customer experience, network reliability and new revenue creation.

KPI Categories	Examples of How AI ROI Is Being Measured
Cost & efficiency	• Opex reduction • Increased automation rate (% of tasks automated) • Productivity gains (average handling time [AHT] reduction; increased tickets per agent)
Customer experience	• Increase in NPS and/or customer satisfaction (CSAT) • First contact resolution (FCR) • Self-service completion rate
Network performance	• Mean time to repair (MTTR) reduction • Network uptime/reliability improvement • Energy-efficiency improvement
Revenue growth	• Increased upsell/cross-sell conversion • Campaign uplift (personalization) • New AI-enabled revenue streams
Quality & risk	• Model accuracy and error rate reduction • Using AI to ensure compliance and governance requirements are met • Reduction in billing or operational disputes
Time to value	• Decreased payback period (<12 to 18 months typical) • Increased deployment speed and/or adoption rate

CSPs' most lucrative opportunities to capture new revenue from AI are to support hyperscalers' AI endeavors, primarily via connectivity (transport) and asset rental

New Revenue Opportunities for CSPs Note: List is not comprehensive.	**Explanation and Examples**	**Relative Size of Revenue Opportunity for CSPs**	**Reason**
Support hyperscalers' connectivity needs for AI workloads	Provide hyperscalers with transport services, especially for DCI	High	Hyperscalers have significant need for DCI and will leverage CSPs' network backbones where necessary, as evidenced by Lumen's more than $10 billion in cumulative, multiyear deals. Transport for AI DCI could generate more than $25 billion per year in new revenue for CSPs by the end of this decade. Note: TBR includes the managed optical fiber network (MOFN) revenue opportunity for CSPs in this total addressable market, a common model employed in certain key countries like India.
Rent real-estate-related facilities to hyperscalers	Allow hyperscalers to rent access inside CSPs' real estate assets, especially central offices. Includes the rent of power, space and cooling associated with these real estate facilities. Verizon AI Connect is currently the best-defined example of this model.	Medium	Though hyperscalers will likely leverage CSPs' facilities for AI infrastructure, they have alternative options and do not need to work with CSPs. Also, TBR assumes a portion of CSP facilities are not economically or physically feasible for hyperscalers to utilize for their AI needs, which reduces the addressable market size. Still, TBR estimates CSPs' opportunity to act as shared infrastructure owners (SIOs) for hyperscalers' AI endeavors could exceed $20 billion in new annual revenue globally by 2030. This market opportunity is exemplified by Verizon, which has already secured $2 billion in its sales funnel for the AI Connect offering.
Sovereign cloud	CSP builds and owns AI data center in-country and sells services to government and other customers (businesses, consumers) in that domestic market.	Medium	U.S.- and China-based hyperscalers will be the predominant providers of AI to the world. With that said, in select countries and blocs of countries there may be instances where domestic players participate in some way in the AI opportunity, especially for industries deemed to be of national security importance. For example, all three Tier 1 CSPs in Canada plan to participate in the sovereign AI opportunity, which involves building out data centers and related infrastructure to support Canada's national push to have a domestic AI ecosystem. The EU has similar sovereign cloud and AI ambitions. Note: China's CSPs will derive the largest portion of revenue from sovereign cloud in the global telecom ecosystem.

Legend for relative size of revenue opportunity for CSPs: Green = >$20B annualized impact for CSPs in aggregate globally by the end of this decade; Orange = $10B-20B annualized impact for CSPs in aggregate globally by the end of this decade; Yellow = <$10B annualized impact for CSPs in aggregate globally by the end of this decade.

CSPs have an opportunity to capture meaningful value from AI, but realizing this opportunity requires expeditious action and investment

Realizing the $170 billion total annualized opportunity TBR estimates AI presents telecom operators by 2030 requires CSPs to act differently

- Address change management (e.g., workforce training and development; AI impact and implications on day-to-day operations, business processes and customer outcomes)
- Build corporatewide governance framework for how to handle AI internally and between partners and customers
- Build a corporatewide data strategy with long-term road map toward a single, unified platform
- Empower BUs to implement AI in situations where there is a clear ROI
- Make additional budget available whenever clear, ROI-positive opportunities emerge
- Prepare, adapt and adopt commercial models that account for AI implications (e.g., outcome-based pricing, token-based pricing, SLA impact)
- Align with AI ecosystem stakeholders to share risk (e.g., sovereign cloud)

Hyperscalers are becoming the de facto AI backbone for telecom, reshaping CSP AI strategies and investment priorities

Most hyperscalers are vertically integrated across the AI stack, spanning multiple domains including custom semiconductors (e.g., AWS Trainium and Inferentia; Google Tensor Processing Unit [TPU]), ICT infrastructure (hyperscale data centers and backbone networks), cloud platforms for AI workload hosting, AI-enabled devices (e.g., smartphones and endpoints), foundational AI models (e.g., large language models), and AI software platforms and applications (e.g., Microsoft Copilot, contact center solutions).

Hyperscalers either own, control or hold significant strategic stakes in leading foundational model developers (e.g., OpenAI, Anthropic) while also developing proprietary AI models in-house. In parallel, they design custom silicon optimized for AI training and inference, operate the underlying infrastructure required to run AI workloads at scale, and package AI capabilities into products that can be embedded into enterprise and industry-specific solutions. As a result, hyperscalers are likely to remain the de facto providers of foundational AI models, platforms and tooling that CSPs will leverage for telecom-specific use cases such as network operations, customer care and customer journey orchestration.

The current AI investment cycle, catalyzed by the launch of OpenAI’s ChatGPT in 4Q22, prompted hyperscalers to reassess capital allocation priorities. This has driven a renewed emphasis on centralized hyperscale data centers, which are best suited to the extreme compute density, power availability and cooling requirements of large-scale AI model training. At the same time, investment momentum in edge cloud infrastructure has slowed temporarily, as near-term AI economics favor centralized training and inference. (For additional details, see TBR’s *Hyperscaler Capex Market Forecast* and *Telecom Edge Compute Market Forecast*.)

Nearly all CSPs are expected to rely on hyperscalers in some capacity to enable AI across both network and business operations, whether through public cloud services, AI platforms, foundation models or ecosystem partnerships.

Amazon, Alphabet and Microsoft are pursuing dual strategies: enabling CSPs’ internal digital transformation and AI adoption while also partnering with CSPs to distribute AI-enabled solutions to enterprise and SMB customers.

China’s hyperscalers — notably Alibaba, Baidu and Tencent — are advancing AI strategies broadly similar to those of U.S.-based hyperscalers, including investments in models, platforms and infrastructure. However, large China-based CSPs are simultaneously investing heavily in proprietary AI capabilities, reducing their reliance on hyperscalers relative to peers in other regions. This contrasts with most global markets, where U.S.-based hyperscalers function as the primary providers of AI technologies, both directly and through partner ecosystems.

Supporting Research

TBR's *Telecom AI Market Landscape* covers how communication service providers (CSPs), which includes telecom, cable and satellite operators, and vendors that supply CSPs, are adopting AI (including traditional AI, generative AI [GenAI] and agentic AI) in their internal operations and in their products and services. This telecom industry-centric report covers AI use cases, adoption trends, business outcomes and offerings as well as AI-related partnerships and M&A in the global telecom ecosystem. Access the full *Telecom AI Market Landscape* and all of the supporting research below with a 60-day free trial of TBR Insight Center™.

Vendor Analysis

Deep-dive analysis of a single vendor across corporate strategies, tactics, SWOT analysis, financials, go-to-market strategies and resource strategies

Accenture	Altice Mobile (Altice USA)	Amdocs	AT&T
Atos Group	Capgemini	CGI	Charter
China Communications Services	Ciena	Cisco	Comcast
CommScope	CSG International	Dish Network	Ericsson
Fujitsu	Hewlett Packard Enterprise	Huawei	IBM
Infosys	Juniper Networks	Lumen Technologies	NEC/Netcracker
Nokia	Oracle Corp.	Samsung	SAP
Spectrum Mobile (Charter)	Tata Consultancy Services	Tech Mahindra	T-Mobile USA
U.S. Cellular	Verizon	Wipro	Xfinity Mobile (Comcast)
ZTE			

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