



AI opportunities for telecommunication providers

NOKIA

Unlocking new revenue with AI-powered services for industries

Artificial intelligence (AI) is making the leap from hype to everyday reality across every industry. For telecommunication providers, the surge in AI adoption presents a clear business opportunity. Digital sovereignty is emerging as a key requirement for organizations seeking to embrace AI and maintain control over their data, infrastructure and regulatory compliance.

Telecommunication providers are well positioned and highly motivated to meet the need for digital sovereignty. By leveraging their existing networks, data center footprint, customer relationships and regulatory expertise, telecommunication providers can shift from delivering connectivity to creating strategic AI value.

Some providers have already taken decisive steps to address the AI opportunity. For example, **SK Telecom** has consolidated its AI capabilities in a new business unit and set an ambitious target of US\$3.55 billion in annual revenue by 2030. [!\[\]\(99f58673407353e96a019fbca558fd72_img.jpg\)](#)

Deutsche Telekom has opened an AI factory in Munich equipped with 10,000 Nvidia Blackwell graphics processing units (GPUs). [!\[\]\(0f848bbd71cef6b345273b16f905912a_img.jpg\)](#)

Telefónica has announced the deployment of 17 edge nodes with AI capabilities across Spain. [!\[\]\(339a16584d5da0f0a3ca4e9ec17bf6a1_img.jpg\)](#)

Yet many providers are still weighing the risk of investing in sovereign AI infrastructures and asking where the profits will come from. The answer lies in the concrete AI-driven services and applications they can deliver.

Let's explore a range of use cases that illustrate how telecommunication providers can monetize AI while meeting the strict privacy, security and latency requirements of regulated sectors.

Agriculture



Crop monitoring

AI models can use satellite, drone and sensor imagery to assess crop health, spot nutrient deficiencies and detect early stress signals. The insights they generate can automatically adjust irrigation to the specific water needs of crops or raise alarms about emerging health issues to enable rapid remedial action.

Telefónica Tech's Smart Agro solutions enable proactive pest mitigation, water level optimization and fertilizer leak monitoring. [\[Link\]](#)

Autonomous farm machinery

Tractors, harvesters, drones and satellites powered by AI can enhance and simplify farm operations through auto-steering, precision spraying, seeding and weeding.

KPN's IoT agriculture solutions enable remote management of these vehicles through an online dashboard that tracks location, status and condition in real time. [\[Link\]](#)

Fruit sorting

AI-driven vision systems can sort produce and grade its quality to enable more productive harvesting.

Chorus is helping New Zealand Cherry Corp transition from on-premises services to cloud-based AI processing for this purpose. [\[Link\]](#)

Public safety

Public warning and alert systems

AI-driven geofencing can automatically broadcast localized alerts for events such as earthquakes, floods and evacuation orders to all phones within an affected area.

02 Telefónica and Intersec's Intersec.AI platform exemplifies how telecom data can power domain-specific AI for rapid emergency communication. 

Situational awareness and anomaly detection

By processing CCTV, sensor, drone and mobile camera feeds, AI can identify large crowds, traffic accidents or hazards and notify first responders.

In Ecuador, **Telconet** has deployed an AI factory to improve urban safety with intelligent video analytics that support multiple Spanish dialects. 

Emergency call

IP-based 911/112 services can now incorporate AI for real-time transcription, triage, translation and key information extraction. These capabilities are particularly useful for first responders and humanitarian agencies that need rapid, multilingual communication during emergencies.

T-Mobile's Live Translation service offers real-time multilingual translation during phone calls in over 50 languages. 

Telenor's Babelspeak provides near-real-time voice-to-voice AI translation. 



security



Smart city

Urban and transport management

AI can analyze traffic flows and transit usage to optimize vehicle routes, adjust street lighting and detect infrastructure issues.

The UAE's **du** supplies Dubai Taxi Company with high-speed compute and AI-ready infrastructure that boosts operational efficiency. 

Telefónica and Construcciones y Auxiliar de Ferrocarriles have deployed a pioneering AI-powered computer vision and video analytics solution that automatically detects train occupancy and the presence of suspicious objects. 

Waste management

IoT sensors combined with local AI processing can optimize collection schedules and recycling processes to reduce the operating costs and environmental impact of waste collection.

SmartSpires and **Orange Luxembourg** are using AI to support better and more sustainable urban services, including waste management, in the city of Belval. 

Critical industry surveillance

Infrastructure surveillance

High-resolution cameras, radars and drones equipped with AI can monitor industrial plants, airports, railways, ports, mines, prisons, stadiums and storage facilities for hazards such as unauthorized access, thefts, leaks, fires and structural damage.

Telenet uses AI-enabled drones to patrol the port of Antwerp, and has made huge improvements to safety and shipping efficiency. 

Swisscom Broadcast operates a drone network to carry out inspections and secure large areas and infrastructure. 

Indosat has launched Vision AI, an AI-based smart surveillance system that analyzes real-time events, detects specific patterns, and sends early warnings about potential risks or opportunities. 

Drone intrusion detection

Airspace monitoring sensors on telco towers can detect unauthorized unmanned aerial vehicles, protecting critical facilities from hostile drones.

Proximus has developed a solution that proactively identifies and mitigates potential risks created by drones intruding in the airspace around a variety of venues and industrial sites. 

Orange has launched an anti-drone solution called Drone Guardian, which leverages AI for modeling and analysis of sensor data. 



Healthcare



Emergency room support

AI can listen to real-time conversations among clinicians and structure the information they share into dashboards aligned with medical priorities.

Deutsche Telekom, together with Fraunhofer IAIS and Kliniken der Stadt Köln, is developing an AI agent that helps trauma and emergency room teams improve patient outcomes. 

T-Systems offers secure large language model (LLM)-based chat tools for hospitals and insurers. Operating in a sovereign cloud, these tools tap into internal knowledge bases, answer patient and insurance queries, translate medical findings, and pre-fill forms. 

Real-time monitoring and alerts

AI-enabled wearable devices can analyze voice patterns, speech cadence, movement and physiological signals to detect stress, fatigue, heart irregularities or respiratory issues, and then transmit alerts instantly.

Telefónica's 5G Intelligent Blood Monitoring system uses AI to analyze video of blood flow in a patient's fingertip capillaries to estimate white blood cell levels. This enables real-time monitoring of oncology patients and reduces their need for frequent hospital visits. 

Medical imaging and diagnostics

AI can accelerate diagnosis and treatment pathways by analyzing radiology images to assist in detecting cancers, strokes and fractures, and triaging urgent cases.

Telefónica's CatEye autonomously captures high-resolution images of a patient's eyes. AI housed in Telefónica's edge computing infrastructure then analyzes the images to determine the severity of the patient's cataracts and whether surgical intervention is necessary. This approach speeds up the diagnostic process and makes it more accessible, particularly in underserved areas where ophthalmologists are scarce. 

Financial services (fintech)

Fraud detection and risk scoring

AI can examine transaction patterns, behavioral signals and network metadata to flag anomalous activity instantly. Telecommunication providers can enhance accuracy by bringing unique network-native signals—SIM-swap indicators, device identity, roaming anomalies and tenure patterns—into the fraud-detection model.

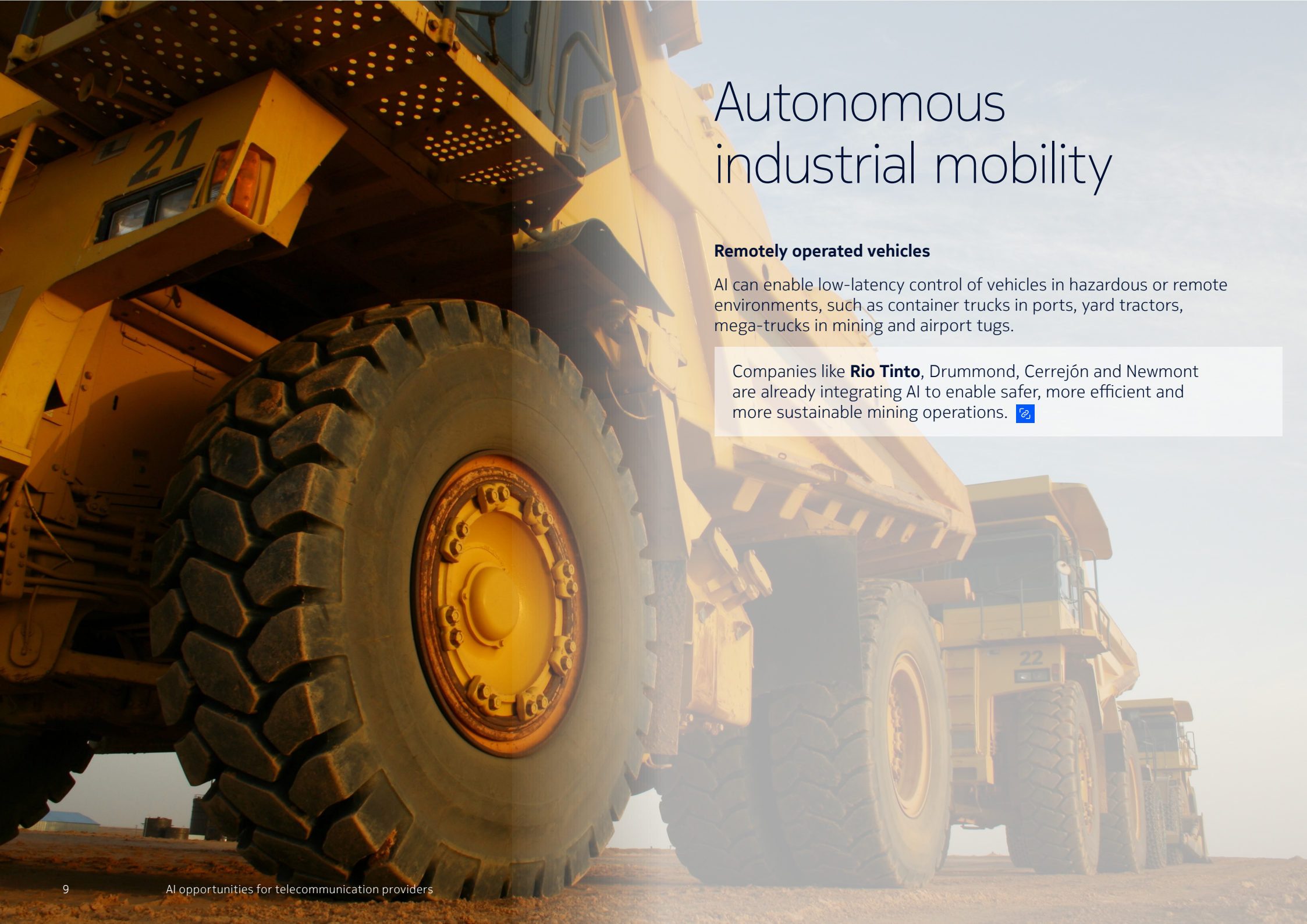
Telefónica offers AI-based fraud detection and prevention to banks, insurers and fintech companies by analyzing transaction data, behavioral signals and historical fraud cases in near-real time. 

Identity verification and authentication

AI can accelerate Know-Your-Customer (KYC) checks by instantly validating identity documents, matching live images with stored records and assigning risk scores. This reduces onboarding time while maintaining regulatory compliance.

Orange Business is embedding deepfake detection into its voice and collaboration services to help enterprises combat identity and impersonation fraud—a major financial crime vector. 





Autonomous industrial mobility

Remotely operated vehicles

AI can enable low-latency control of vehicles in hazardous or remote environments, such as container trucks in ports, yard tractors, mega-trucks in mining and airport tugs.

Companies like **Rio Tinto**, Drummond, Cerrejón and Newmont are already integrating AI to enable safer, more efficient and more sustainable mining operations. 

Retail

Behavior surveillance

AI can analyze live video feeds in shopping malls to detect shoplifting patterns, suspicious behavior or antisocial activity.

BT's AI-powered Digital Vision provides retailers with valuable customer data, enhanced store security, and staff and workplace safety solutions. 

Store layout optimization

AI can track movement patterns inside a store to measure the effectiveness of promotions and optimize product placement.

BT's Digital Vision uses AI to derive important customer insights from rich data, including metrics such as passing trade conversion, the average time customers stay in the store, heat maps and dwell time. 

Turning network assets into AI revenue

These examples illustrate just a fraction of the AI-driven services that can boost a telecommunication provider's revenue. There are countless opportunities to address AI use cases across other industries and market segments. Many of these cases require high-throughput, low-latency transfer of highly sensitive data.

Telecommunication providers are well positioned to unlock the value of AI. They have longstanding relationships with enterprises, governments and regulators; extensive data center real estate that can be repurposed for AI workloads; and full control of the transport network to guarantee deterministic performance. By focusing on AI services that demand privacy, low latency and regulatory compliance, telecommunication providers can unlock new revenue streams while reinforcing their role as trusted AI partners.

Next step: Evaluate how a sovereign AI strategy built on local control, regulatory compliance and deterministic performance can accelerate your AI services roadmap. Visit Sovereign AI data center networks to find out more. [🔗](#)

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About Nokia

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