CLOUDERA

5 Essential Applications of Wireless Connected Data

Telecommunications, media & entertainment

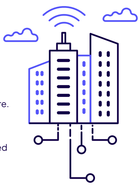
Advanced wireless networks — 5G, Wi-Fi 6/7, satellite and low-power IoT networks — help create multiple data-centric opportunities for service providers.

Rich enterprise applications can be created and monetized, by blending network, location and environmental data sources. These can yield valuable insights — and enable the creation of CSP-managed services — for both immediate actions and long-term planning.

01 Smart Cities & Buildings

Smart infrastructure — from individual buildings to entire cities — represents a huge opportunity for blending network data (such as vehicles or pedestrian locations) with input from sensors, cameras and external sources such as maps. Traffic congestion, pollution levels, energy consumption and citizen safety can all be improved by using the data-led insights to optimize road junctions, transit schedules, lighting, indoor ventilation and much more.

In Manchester in the UK, a recent trial involving the local authority deploying a private 5G network alongside sensors at road-junctions, using advanced AI/reinforcement learning and edge-computing to optimize for reduced congestion, improve priority for pedestrians and cyclists, and potentially lower CO2 emissions citywide.



02 Automotive Fleet Management & Logistics

Vehicle fleet operators and logistics specialists face huge challenges — from reducing energy/CO2 usage, to optimising multi-modal freight shipments in the face of supply chain challenges and geopolitical risks.

Data from multiple networks — 4G/5G, satellite and others — can be analyzed together with input from outdoor/on-site location monitoring, vehicle speed and driver behavior telemetry, battery condition and charging status and much more. Together, fleets can be managed for optimal efficiency, safety and predictability.

> **Our partnership with Cloudera has been instrumental in our digital transformation and the evolution of use cases we have been able to adopt. With the help of Cloudera's consultancy and training, Vodafone Automotive is leading the way for data-driven telematics services."**
>
> PAOLO GIUSEPPETTI,
> Head of Innovation, Vodafone Automotive

03 Asset Management and Predictive Maintenance

There is huge potential for using connected IoT systems to improve asset utilization and performance. CSPs and their partners can combine network-derived data such as device location and movement, with environmental inputs such as local weather patterns or indoor temperatures, plus direct sensor feeds for variables such as vibration and noise. These can help predict and avoid imminent machinery failures, track unauthorized usage and combat theft and physical security risks.

04 Entertainment and Sports Fan Experience

Sport and leisure sites offer CSPs some of the best opportunities to monetize advanced network functions for new 5G and Wi-Fi 6/6E deployments, combining connectivity with multiple data-sets to create innovative services. Mapping seat numbers to user IDs and lines-of-sight can enable AR/VR fan experiences, while remote fans can enjoy the event at home, while still feeling "part of the show". This needs rich real time data from the players, performers or vehicles, together with detailed mapping, historical statistics and footage, and many other sources.

05 Network Rationalization and Optimization

Operators can improve their CapEx effectiveness and minimize OpEx by cleverly using multiple data sources for network planning, rollout, usage and eventually decommissioning. Scarce resources for new 5G and fiber rollouts can be prioritized according to revenue opportunity, while old 2G/3G networks can be retired progressively. Active network data can be combined with high-quality mapping, demographic and housing forecasts, supply-chain expectations, and detailed insight about 3rd-party or shared assets such as towers, ducts and fiber.

> **"The telecom industry needs to continually rationalize its infrastructure, adjusting to market and regulatory pressures. This requires both data from the network itself, but also broader trends 'on the ground' such as new building construction or shifting weather patterns."**
>
> DEAN BUBLEY,
> Disruptive Analysis

Why Cloudera

As Adaora Okeleke, Principal Analyst at Analysys Mason said, "The increased speed and capability of 5G networks create opportunities for CSPs to go beyond delivering just connectivity services to enterprises. By combining edge compute, data and AI platforms with 5G, CSPs can help enterprises make better decisions on how best to consume, store, analyze data to support their digital transformation agendas.

However, these opportunities will be best exploited by CSPs when they decide to work with partners providing relevant data management and industry vertical expertise to ensure CSPs deliver effcient and cost effective solutions to enterprise customers."

Cloudera empowers CSPs to modernise their data architecture to deliver clear and actionable insights at scale. Over 80% of the world's leading (Top 100) CSPs trust and rely on Cloudera to drive analytics and insights on data, in networks, marketing and across the enterprise, from Edge to AI.

Learn more at: cloudera.com/telco

Contact us today for more information about **Cloudera**
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