5 ESSENTIAL APPLICATIONS OF WIRELESS CONNECTED DATA

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

Advanced wireless networks—5G, Wi-Fi6/7, satellite

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.

Smart infrastructure—from individual buildings to entire

1. SMART CITIES

& BUILDINGS

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 Al/reinforcement learning and edge-computing to

optimize for reduced congestion, improve priority for pedestrians and

cyclists, and potentially lower CO2 emissions citywide. 2. AUTOMOTIVE FLEET **MANAGEMENT**



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,

& LOGISTICS

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.

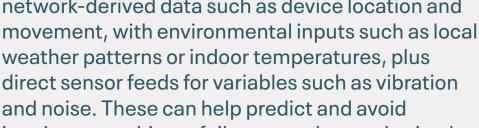
Our partnership with Cloudera has been instrumental in our digital transformation and the evolution of use cases we have been able to adopt. With the help of Cloudera's consultancy

and training, Vodafone Automotive is leading

the way for data-driven telematics services."

Paolo Giuseppetti, Head of Innovation,

Vodafone Automotive



3. ASSET MANAGEMENT

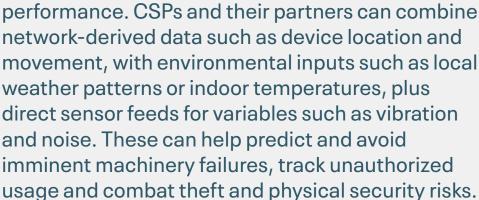
& PREDICTIVE

MAINTENANCE

There is huge potential for using connected IoT systems to improve asset utilization and

4. ENTERTAINMENT AND combining connectivity with multiple data-sets to create innovative services. Mapping seat

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,



numbers to user IDs and lines-of-sight can enable

5. 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

both data from the network itself, but

also broader trends 'on the ground'

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

footage, and many other sources.

with detailed mapping, historical statistics and



shared assets such as towers, ducts and fiber.

such as new building construction or shifting weather patterns". Dean Bubley, Disruptive Analysis



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 Al platforms with 5G, CSPs can help enterprises make better decisions on how best to consume, store, analyze data to support their digital transformation agendas.

decide to work with partners providing relevant data management and industry vertical expertise to ensure CSPs deliver efficient and costeffective 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

However, these opportunities will be best exploited by CSPs when they

As Adaora Okeleke, Principal Analyst at Analysys Mason said, "The

on data, in networks, marketing and across the enterprise, from Edge to Al. Learn more at **cloudera.com/telco**

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