

5G privaattiverkkojen kehitys ja käyttökohteet maailmalla

5G Momentum Paikalliset 5G-verkot - webinaari 6.10.2021

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Nokia, Customer Solution Architect

+ AIRPORTS

+ MINING

+ MANUFACTURING

+ PORTS

Private Wireless Networks are well on the way...

Delivering comprehensive private wireless solutions for asset intensive industries...

340+

Customers with
Nokia private
wireless networks



Transportation

67



Energy

86



Government

88



Manufacturing

46



Other industries

53

...throughout the world

25%
NAM

8%
LATAM

42%
Europe

20%
APAC

5%
MEA

5G Private
Wireless Networks 60+

5G Public
Networks 189

Digitalization of asset-intensive industries with mission and business critical needs using high performance networks and digital automation solutions

Digital Industries



Aviation & Airports



Air Traffic & Space



Energy & Utilities



Oil, Gas & Mining



Railways & Metro



Automotive & Road



Utility Telcos



Public Safety



Maritime & Ports



Manufacturing



Logistics & Retail



Defense

Government & Cities



Federal Government

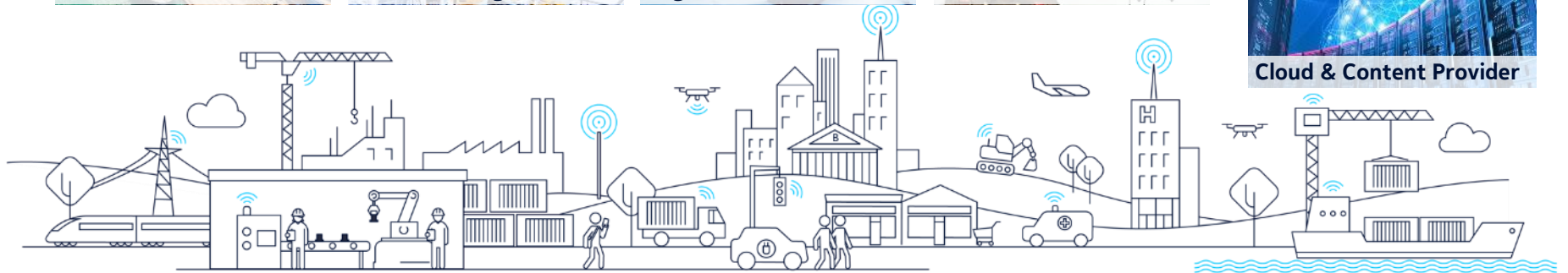


Smart Cities

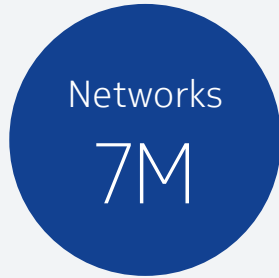
Webscale



Cloud & Content Provider



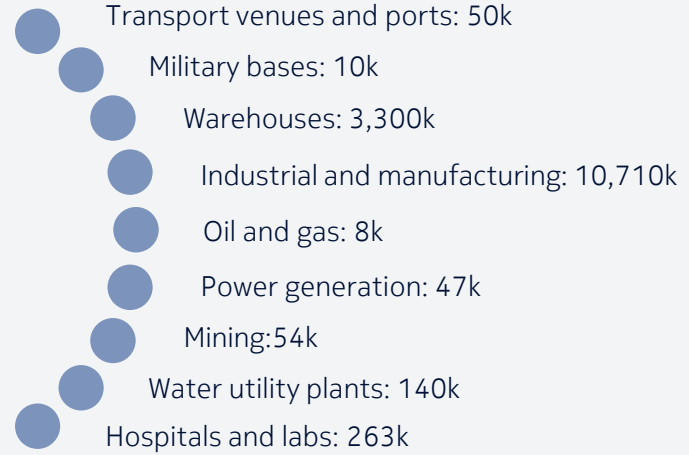
Private Wireless Networks and Industry 4.0 Journey is only starting



Global macro base station
deployments so far



Global industrial sites



Manual operation
of physical assets

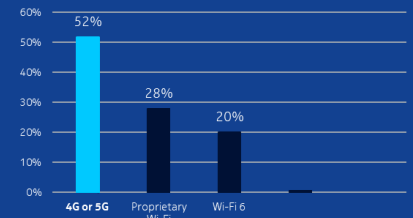


Real-time digital view
of physical assets



Digitally controlled
physical assets

52% plan to leverage private LTE/5G for their future business/mission critical connectivity**



Private Wireless NW Use Cases & Industry 4.0 Key Drivers

Manufacturing use cases

Oil, Gas and process industry use cases

Ports & Terminal Operators use cases


Logistics use cases

Airports use cases

Mining use cases

Use cases for the connected digital mine



 Enhance efficiency with process automation

 Better decision making via intelligent insights

 Increase agility to meet fast changing requirements

 Increase worker safety & productivity

 Sustainability efficiency helps lower environmental impact

Enterprises that start/evolve their digitalization journey with 5G



Lufthansa Technik

Germany, maintenance, repair, and overhaul (MRO) services for aircraft (21 facilities worldwide)

- Save customer time and travel to Hamburg by offering virtual engine parts inspection using 4K cameras to decide on repair/replace

Wi-Fi replacement for reliable high speed very wide area (large repair hangars) and deep coverage (in and around plane)

Deployment in Hamburg site hangar



Sweden, Underground mine machine manufacturer

Complement existing 4.9G network to validate technology to enable the future of mining machine innovation

- Remote operation of autonomous loaders and trucks
- Real-time monitoring of premises to keep people and equipment safe
- Remote machine diagnostics and predictive maintenance

Deployment in Sandvik underground test mine in Tempere, Finland



Japan, Largest car manufacturer & System integrator

Help accelerate digital transformation & factory automation

- Validate 4.9G and 5G performance
- Integrate next-generation manufacturing use cases & design innovative production processes for global manufacturing sites

Deployment in TEPC, Toyota Production Engineering facility in Fukuoka, Japan



German rail operator

Validation of Advanced Vital Vehicle Operation (AVVO)

- Validate fully automated, driverless shunting of empty trains
- Drivers on board to keep safety responsibility

Track coverage at and around Bergedorf station, Hamburg

NOKIA