Digitalizing business with 5G

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Why do we need 5G?

Figure 14: Mobile data traffic per smartphone (GB per month)

Regions: North America, Western Europe, GCC, India, South East Asia and Oceania, North East Asia, Global average, Middle East and North Africa, Latin America, Central and Eastern Europe, Sub-Saharan Africa

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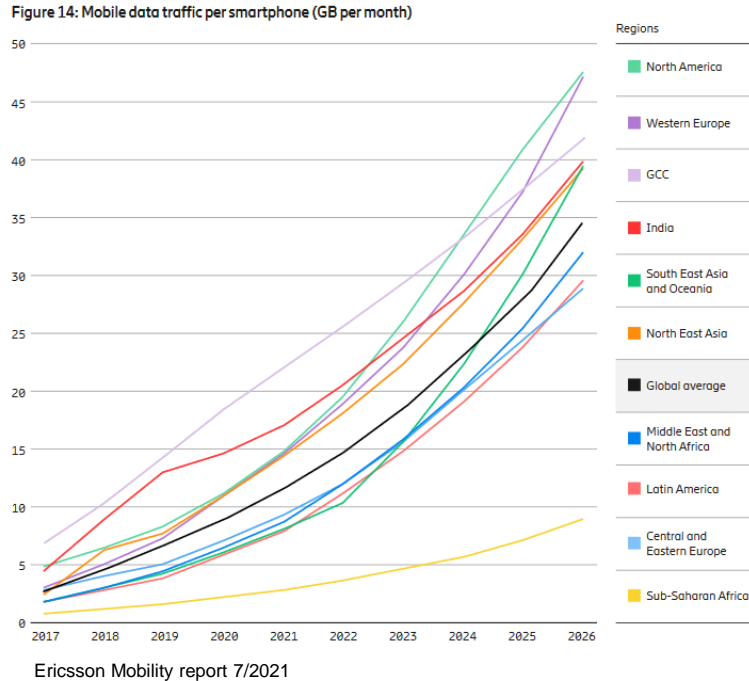
5G Infrastructure Market Size Worth $80.5 Billion By 2028 |

Bloomberg estimate

5G penetration is rapidly increasing

**DNA's 5G coverage includes almost 3 million Finns in 124 towns**

Most sold phones 10/2021, DNA
1. Samsung Galaxy A52s 5G
2. Samsung Galaxy A32 5G
3. OnePlus Nord CE 5G
4. OnePlus Nord N10 5G
5. Xiaomi Redmi 9C NFC
6. Apple iPhone 12 5G
7. Apple iPhone 11
8. Samsung Galaxy A12
9. Apple iPhone 12 mini 5G
10. Samsung Galaxy A22 5G
11. Apple iPhone 13 Pro 5G
12. Apple iPhone 13 Pro Max 5G
13. Apple iPhone 13 5G
14. OnePlus Nord 2 5G
15. Xiaomi Redmi Note 10 5G

580m
By the end of 2021, there will be around 580 million 5G subscriptions.

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Figure 4: Mobile subscriptions by region and technology (percent)

Legend: 5G | LTE (4G) | WCDMA/HSPA (3G) | GSM/EDGE-only (2G) | TD-SCDMA (3G) | CDMA-only (2G/3G)
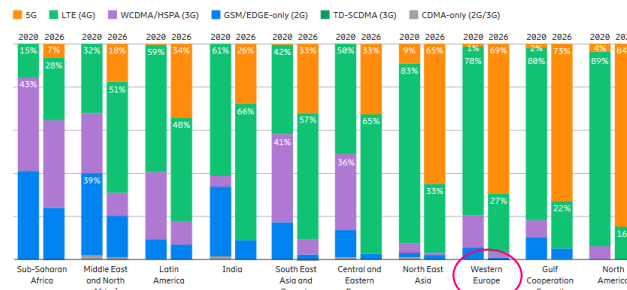
Note: Except for 5G, technologies with less than 1 percent of subscriptions are not shown on the graph.

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What does 5G offer for companies?

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Fibre-like connections at customer sites for wider coverage area	**5G subscriptions and devices for heavy bandwidth mobile work/ leisure**
IoT for a large number of devices	**Industry specific business digitalisation from critical factory automation to autonomous vehicles**

5G complements phase by phase 4G and fixed networks as connectivity technologies for businesses
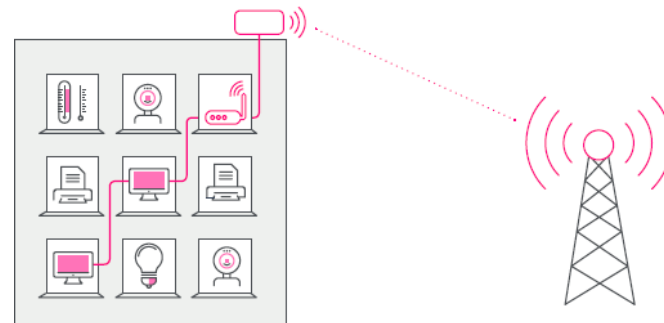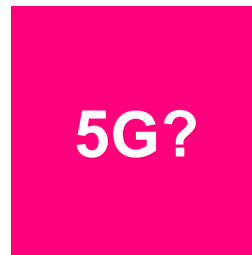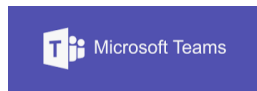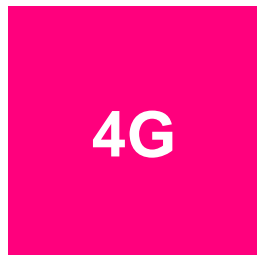
Fibre-like connections to sites

5G Fixed wireless access (FWA)
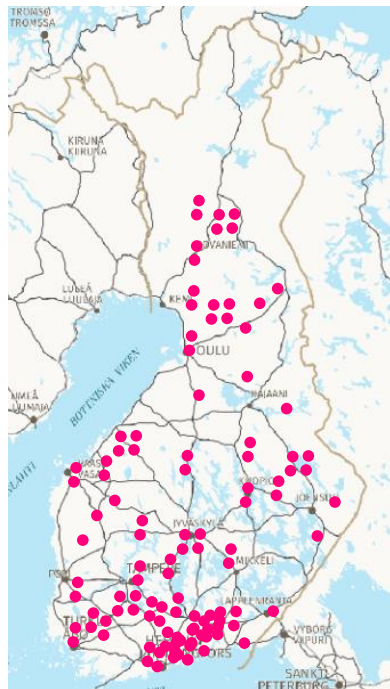
Illustrative – all customer sites need
best possible connectivity

5G mobile connections

4G
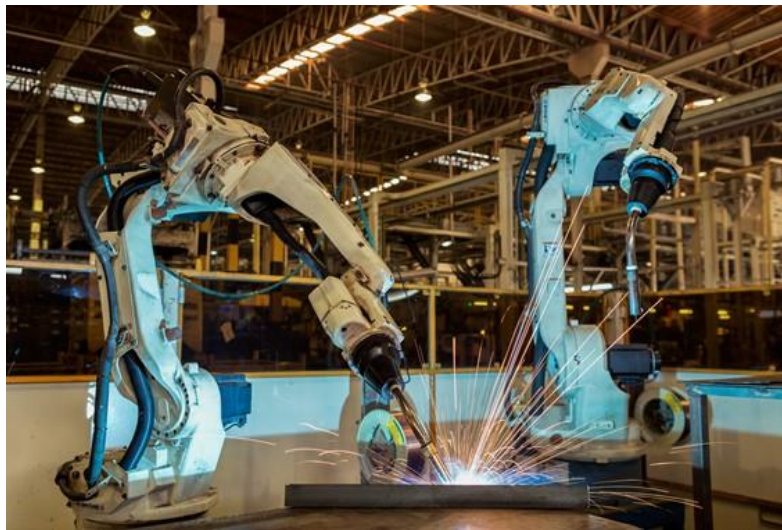
facebook

YouTube

Microsoft Teams

5G?

Meta

Platform for IoT - right IoT technology for right use case

5G

4G

LTE-M

NB-IoT

5G has numerous use cases across industries

Safety, quality, process management, customer experience, efficiency

Monitoring and analytics: high number of devices, video, AI, digital twins

Process automation and robotics
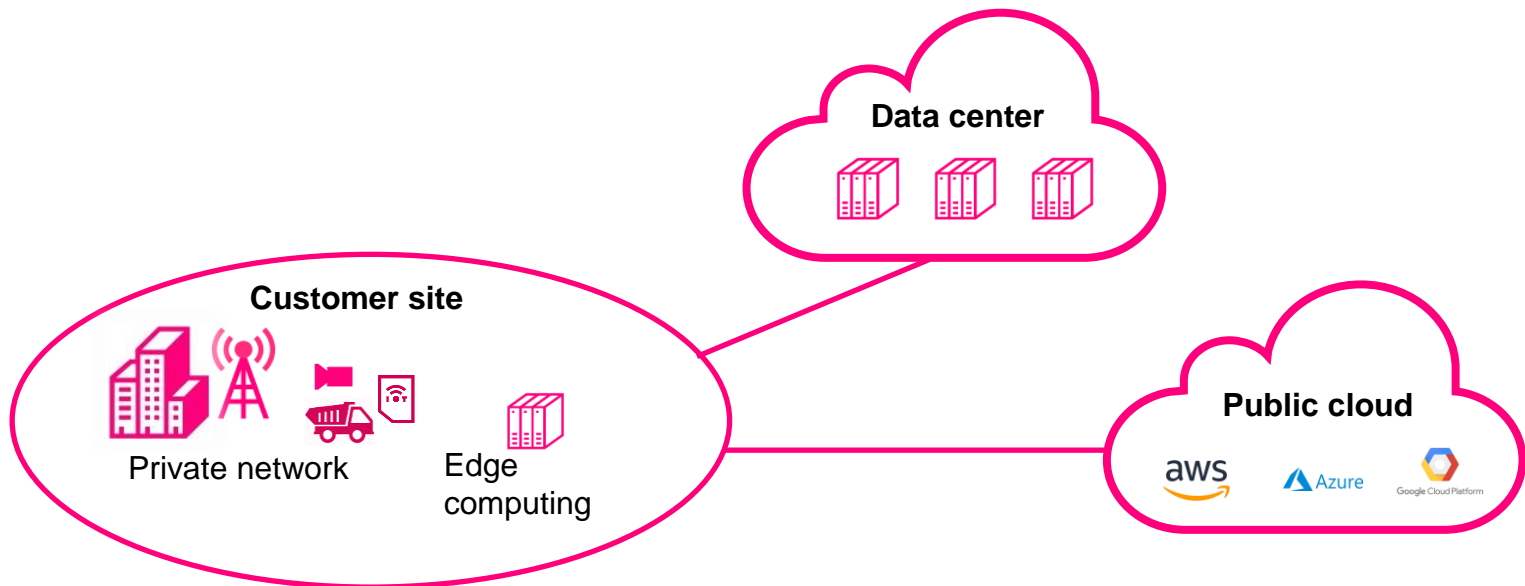
Remote management and autonomous vehicles

Rich experiences: VR, AR, videos, 3D, holograms

**Existing and new business applications**

Industry, logistics, field service, engineering, smart cities, health care, retail, media

Private networks and edge computing bring processing close to users

Data center

Customer site

Private network

Edge computing

Public cloud

- Guaranteed capacity and isolated traffic to local use
- Local breakout routes user traffic localy to edge servers

- Latency critical workloads e.g. vehicles, process automation
- Data intensive workloads e.g. video, VR/AR, data models

- Centralized, non-latency critical workloads: reporting, management, machine learning, archives
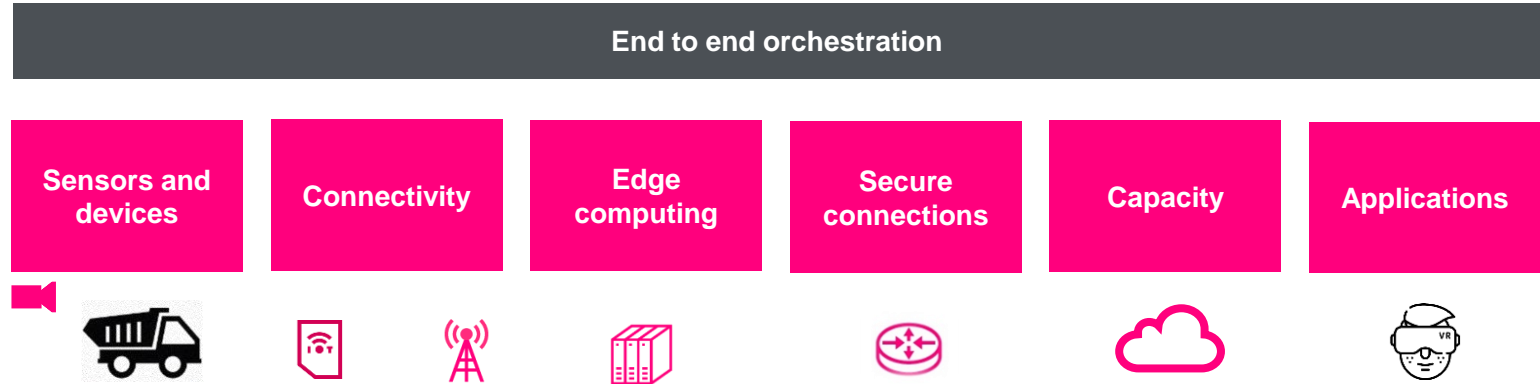
Private networks and edge computing bring processing close to users

Customer site

Private network

Edge computing
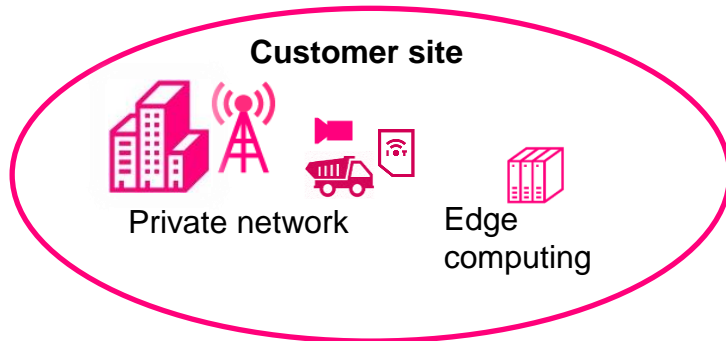
- Benefits sought with private networks
  - isolated traffic
  - guaranteed capacity
  - local traffic
  - customer specific tailoring
  - customer specific operations

- Private network deployment options
  - operator network (APN, slicing, prioritization, local breakout, regional edges)
  - customer dedicated hardware and frequencies

Ecosystem required to deploy end to end solutions

End to end orchestration

Sensors and devices	Connectivity	Edge computing	Secure connections	Capacity	Applications

Tips for exploring 5G opportunities

1.	Think of 5G as platform for digitalizing business

2.	Act use case driven, business and technology together. Think outside the box!

3.	Start small from early use cases, scale up

4.	Build ecosystem early on