Towards 6G

Dr Mikael Prytz, Ericsson

6G Wireless Summit 2020

Recorded presentation

- The Internet of Senses
- Connected intelligent machines
- Digitalized & programmable physical world
- Sustainable world
- Non-limiting connectivity
- Trustworthy systems
- Cognitive network
- Network compute fabric
Towards 6G

5G

The Internet of Senses
Connected intelligent machines
Digitalized & programmable physical world
Sustainable world
Non-limiting connectivity
Trustworthy systems
Cognitive network
Network compute fabric
2019: 5G took off

- **13M** subscriptions
- High-end smartphones and pocket routers; ~USD 1,000
- Coverage in major cities and highly populated areas by early movers
- Smartphone-driven use cases
- Non-standalone 5G; in one band
2020: 5G to scale up

13M subscriptions
High-end smartphones and pocket routers; ~USD 1,000
Coverage in major cities and highly populated areas by early movers
Smartphone-driven use cases
Non-standalone 5G; in one band

100M Subscriptions*
Volume devices, mid-tier smartphones <USD 300
Wide 5G coverage by early movers; 20-25% operators* to launch 5G
Consumer service bundling; trials continue for industries
Standalone 5G introduced; 5G in multiple bands

* Ericsson Mobility Report Nov 2019
* Ericsson analysis
First with commercial 5G live networks in 4 continents

26 Live networks

81 commercial 5G agreements

*As of March 2020
5G for business: ADAS
Towards 6G

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Connected intelligent machines
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Towards 6G

- Connectivity everywhere
- Joint communication and sensing
- Zero-cost, zero-energy devices
- Artificially Intelligent Air Interface (AI-AI)

Non-limiting connectivity
Connectivity everywhere

Today

Dual Connectivity
Split RAN architecture
Integrated access and backhaul (IAB)

Evolving 5G

New network topologies (e.g. multi-hop IAB)
V2X

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Connectivity everywhere
Joint connectivity and sensing

Today
Communication up to 39 GHz

Evolving 5G
Communication up to 100 GHz
Positioning with cm accuracy

Towards 6G
Integrated communication and sensing on frequencies up to 0.3 THz
Zero cost, zero energy devices

Today
- LTE-M
- NB-IoT

Evolving 5G
- NR RedCap

Towards 6G
- Zero cost, zero-energy devices

Capabilities vs. Time
- NR
- LTE-M
- NB-IoT
- NR RedCap
- Battery power
- Zero energy & cost
Artificially Intelligent Air Interface (AI-AI)

Today
Domain specific AI

Evolving 5G
Cross domain optimization
Zero-touch

Towards 6G
Artificially intelligent air interface (AI-AI)
with self learning transmission and reception
Towards 6G

The Internet of Senses
Connected intelligent machines
Digitalized & programmable physical world
Sustainable world
Non-limiting connectivity
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