4G/5G SOM MÖJLIGGÖRARE AV TRANSPORTSYSTEMETS DIGITALISERING

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FORUM FÖR TRANSPORTINNOVATION
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TRIGGERS, ENABLERS AND IMPACTS OF DIGITALIZATION

- User behaviour
- Eco-systems
- Mobility-as-a-Service
- Value chains
- Technologies
- Automation
- Electrification
- Business models
DIGITALIZATION CROSS INDUSTRIES

Assets: People, Things & Information

Customer Experience

Business Processes

Applications & Services
Transactions & Analytics
Cloud & Connectivity
Devices & Sensors

Manu-
facturing
Energy
Transport
Public
Safety
Health—
care
Media
Telecom
Operators
Other industries…..

IoT
4G/5G

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A DIGITAL REPRESENTATION OF THE REAL WORLD

- Temp
- Noise
- Air quality
- Occupancy
- Energy
- Water
- Vibration
- Temperature
- Traffic intensity
- Surface condition
- Noise level
- Route to work
- Energy
- Water
- Waste
- CO2 emission
- Machine tear
- Production
- Heart rate
- Skin conductance
- Calories
- Gesture
- Mood
- Position
- Movement
- Location
- Occupancy
- Fuel
- Emissions
- Speed
- Irrigation
- Luminosity
- Nutrition
- Moisture
- Pesticides
DIGITAL ENABLES TRANSFORMATION
Subscription outlook: Growth in HSPA and LTE

Mobile subscriptions by technology (billion)

<table>
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<tr>
<th>Year</th>
<th>2G – GSM</th>
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- 2013: 3G (WCDMA/HSPA) 4.6 billion LTE subscriptions by the end of 2022
- 2017: 7.5 billion
- 2020: 8.9 billion

Source: Ericsson Mobility Report
IOT – A BIG PART OF 5G

5G USE CASES

- BROADBAND EXPERIENCE EVERYWHERE, ANYTIME
- MEDIA EVERYWHERE
- SMART VEHICLES, TRANSPORT & INFRASTRUCTURE
- CRITICAL CONTROL OF REMOTE DEVICES
- INTERACTION HUMAN-IOT
WHAT IS 5G – WHAT WILL IT BRING
A Network for the Networked Society

10-100x END-USER DATA RATES
1000x MOBILE DATA VOLUMES
5x LOWER LATENCY
100x MORE DEVICES
Cost DEVICE COST REDUCTION
10+ YEARS BATTERY LIFE
+20dB BETTER COVERAGE

10-100x MOBILE DATA VOLUMES
5x LOWER LATENCY
100x MORE DEVICES

One architecture supporting multiple industries
5G: THE ROAD AHEAD

- 76% of leading edge operators intend to be trialing 5G
- 3GPP compliant commercial operation
- 3GPP compliant NR roll-out
- 3GPP based field trials
- 3GPP R-16 NX phase 2
- World Radio Conference
- 3GPP R-15 NX phase 1
- 3GPP R-14

Radio Test Bed 10+ Gb/s
Radio Test Bed 20+ Gb/s
Network slicing demo
Industrial collaborations
Outdoor radio test network
Advanced outdoor field trials
5G Standardization started in 3GPP

Driver of early EU projects for 5G

Radio Test Bed 5+ Gb/s
5G FOR AUTOMOTIVE

› We drive 4G/5G standardization of V2X in 3GPP

› We collaborate with the automotive industry to ensure appropriate solutions in LTE and 5G

› We create transport management solutions by leveraging our expertise from telecom
INDUSTRY COOPERATION FOR 5G

“5G for Sweden”
1. Industry pilots with Swedish industries

2. Innovation projects to enable engagement of smaller companies

3. Establish a strong research community on ICT and its integration in industry process, products and services

“5G for Europe”
EXAMPLE - AUTOMOTIVE ECO SYSTEM

- **Connected Vehicle Cloud**
- **Logistic Service Providers**
- **Automotive OEM**
- **Dealer**
- **Insurance Companies**
- **App developer / Content Provider**
- **Energy / Utilities Companies**
- **Repair Shop**
- **Traffic Management**
- **Parking Operator**
- **Fleet Operator**
- **Driver & Owner**
TRAVELLER EXPERIENCE MANAGEMENT

- Customer Service
- Station Management
- Catering/Coffee shops
- Restaurants
- Information
- Transportation
- Payments
- Tickets
- Shops
- Media
- ...in all steps in the customer journey