



ERICSSON

DIGITALIZATION OF THE SUPPLY CHAIN

FROM RESEARCH TO THE FACTORY

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ERICSSON AT A GLANCE



THE NETWORKED SOCIETY

DRIVERS FOR GROWTH



11X

smartphone traffic

MORE
USAGE

9.1B

mobile subscriptions

MORE
PEOPLE

1.5B

cellular IoT devices

MORE
THINGS



CONNECTED DEVICES IN 2021

13 BILLION

MOBILE PHONES, PCs, LAPTOPS, TABLETS

28 BILLION

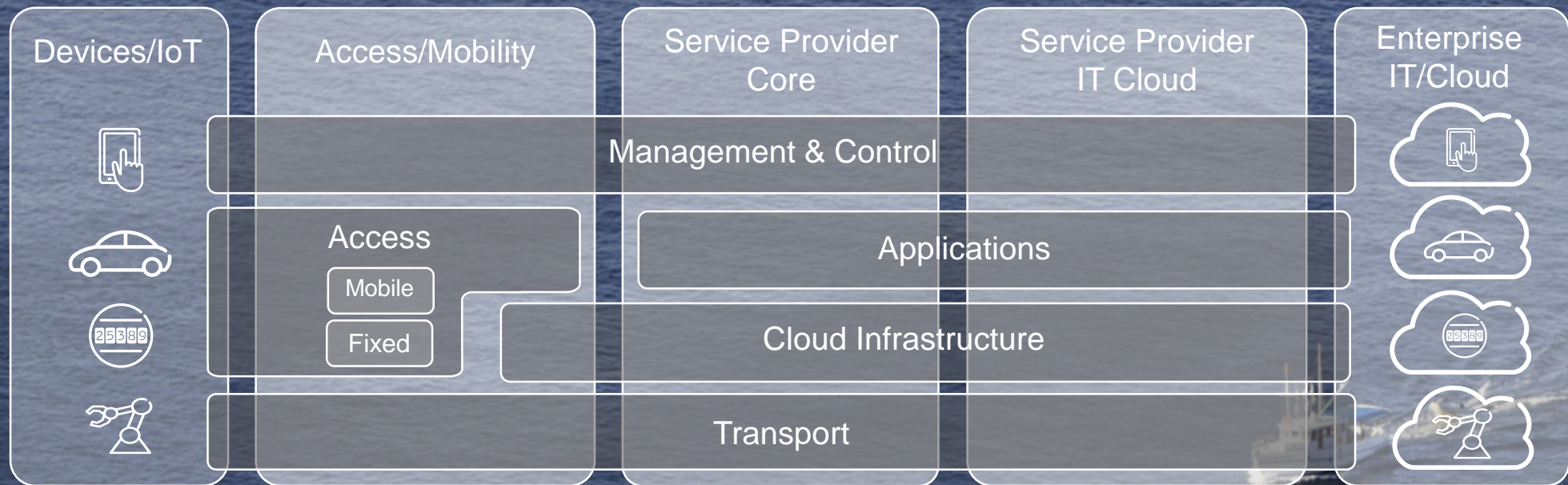


15 BILLION

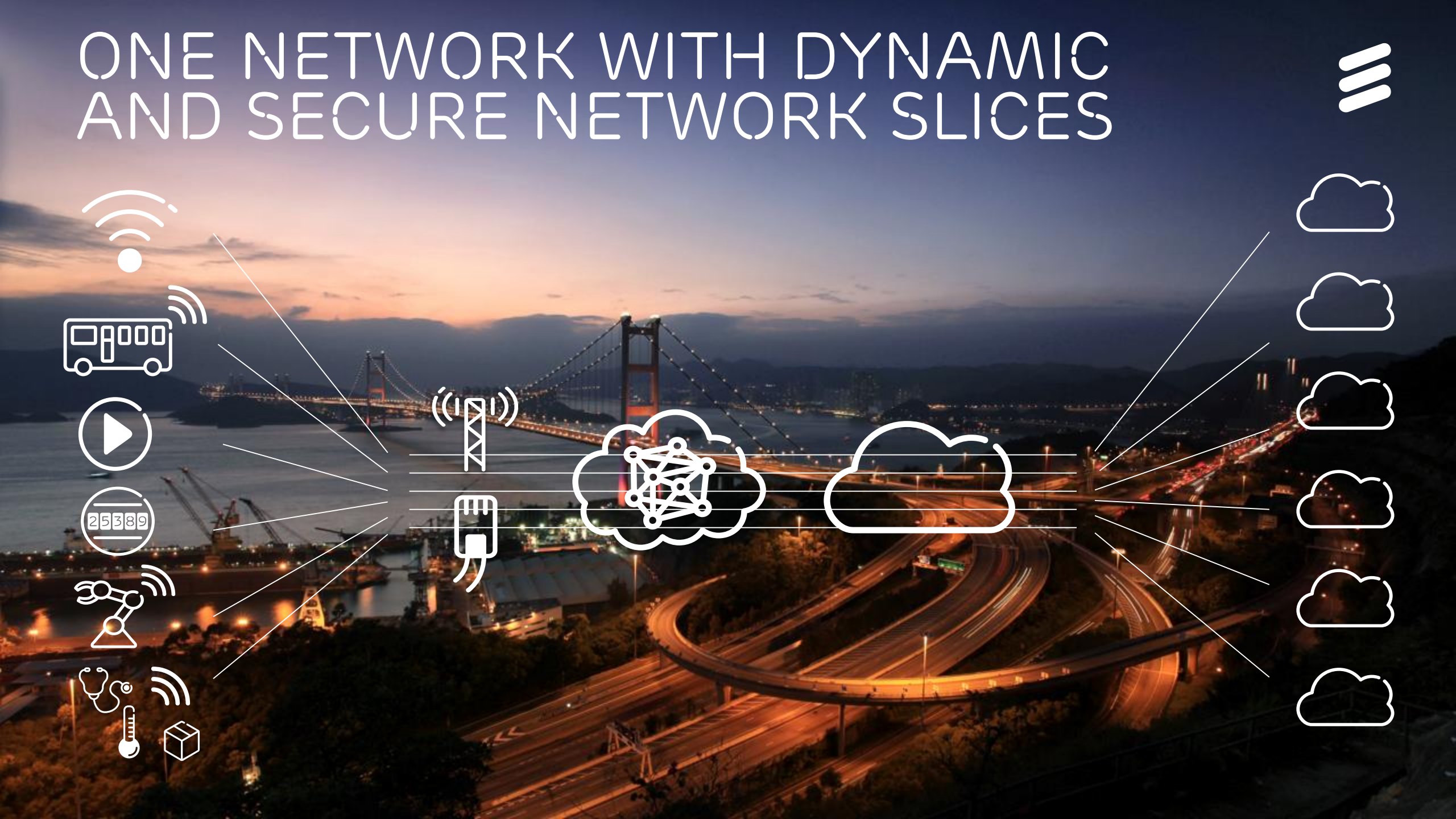
IoT DEVICES



COMMON 5G PLATFORM



ONE NETWORK WITH DYNAMIC AND SECURE NETWORK SLICES



NETWORK SLICING THE BASIS

Due to large span of characteristics



10-100X

Connected Devices

10X

Battery Life

5X

Lower Latency

10-100X

End-user Data Rates

1000X

Mobile Data Volumes

MASSIVE IOT REQUIREMENTS



MASSIVE NUMBER OF CONNECTIONS



Low COST



Long BATTERY LIFE



Good COVERAGE

FULL RANGE OF IOT/MTC SOLUTIONS

Standardized in 3GPP rel 13



EC-GSM-IoT

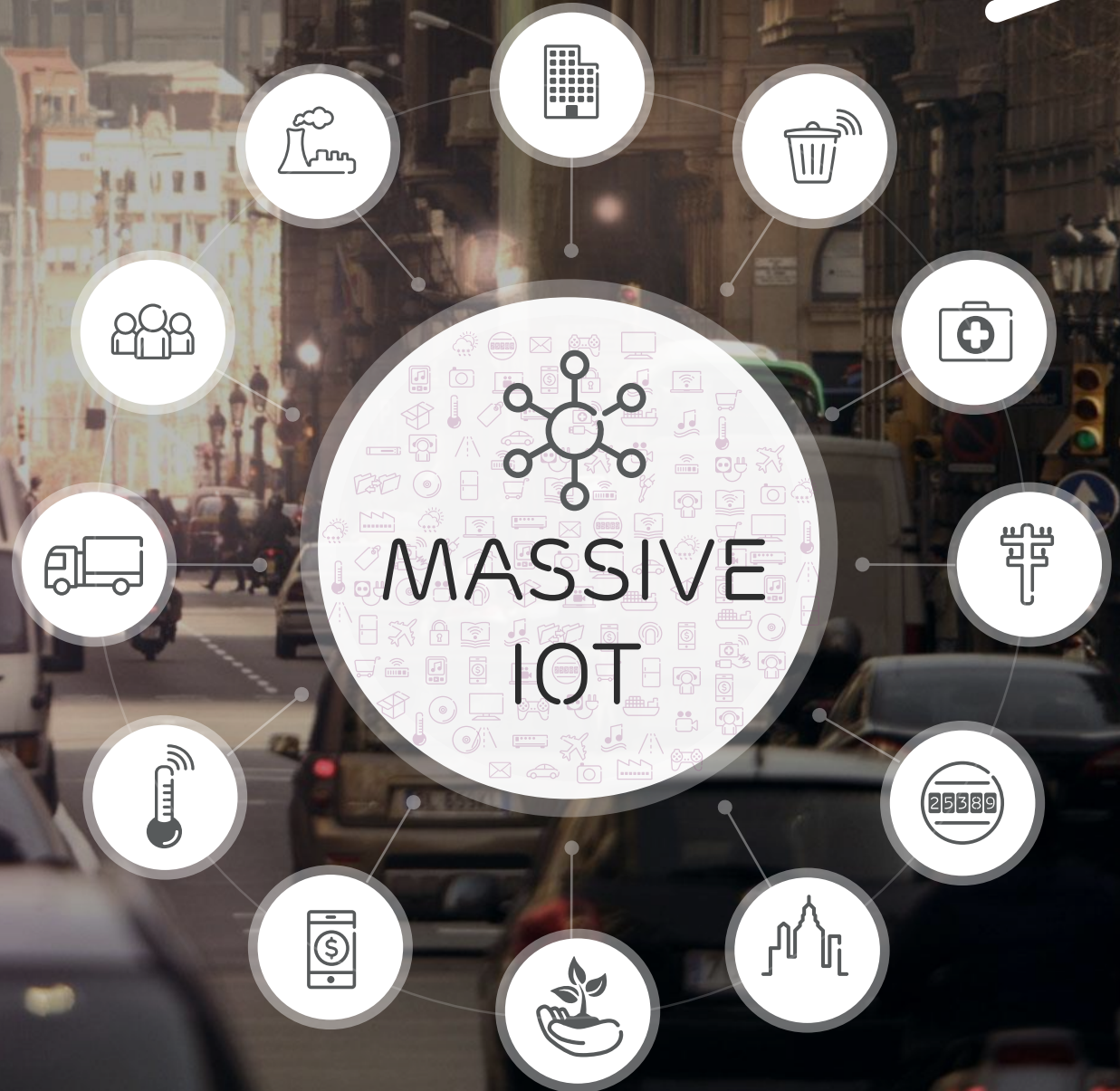
Evolution of GSM
Ultra-low bitrate
applications

Cat-M1

Scaled down LTE
Low to medium
bitrate applications

NB-IoT

**New 200KHz
carrier**
Ultra low-bitrate
applications



OUT OF THE LAB

5G enters a new phase



- › Phase 2: 5G prototype
 - Multi-user MIMO (MU-MIMO)
 - 128 antenna elements
 - Integrated with cloud-based network slicing
- › Live indoor & outdoor network trials from 2016

2016 MWC 5G DEMO



5G
RADIO
TESTBED
26.2 GBIT/S
DOWNLINK THROUGHPUT

› Key achievements

- MU-MIMO & Massive MIMO
- Beamforming & Beam tracking
- 256 radio chain & 512 antenna elements per site
- 8 spatial streams per site
- Over 25Gbps peak downlink throughput



INDUSTRY COLLABORATIONS



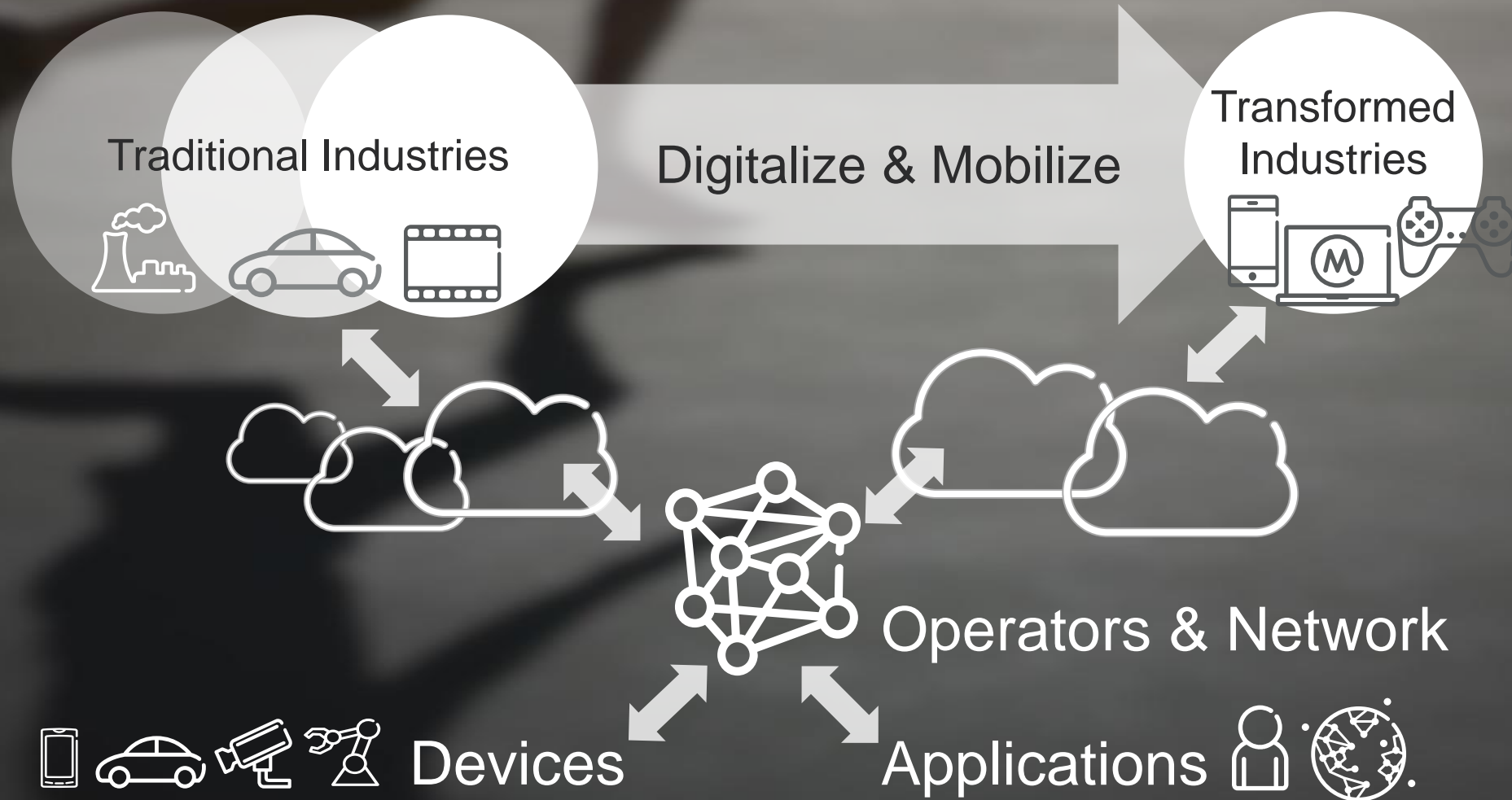
5G for Sweden

- 5G program with industry and academic partners, including Volvo, Boliden, SICS, Scania , Saab, SKF
- Apply ICT in industrial processes, products & services
- Pilot for industrial mobile communication in mining

5G for Europe

- Delivering research, innovation and industrial pilots enabled by 5G
- Including transport and automotive, IoT, utilities, public safety, public infrastructure and retail – Zuchetti , Weiss Robotics, and more.
- 7 countries and 10 institutions

INDUSTRY TRANSFORMATION



FROM RESEARCH TO MASSIVE SCALE



? Managing Billions
of Devices

! Cellular NW ID/Security
Capillary NW Addressing
Automation

Market view
MWC

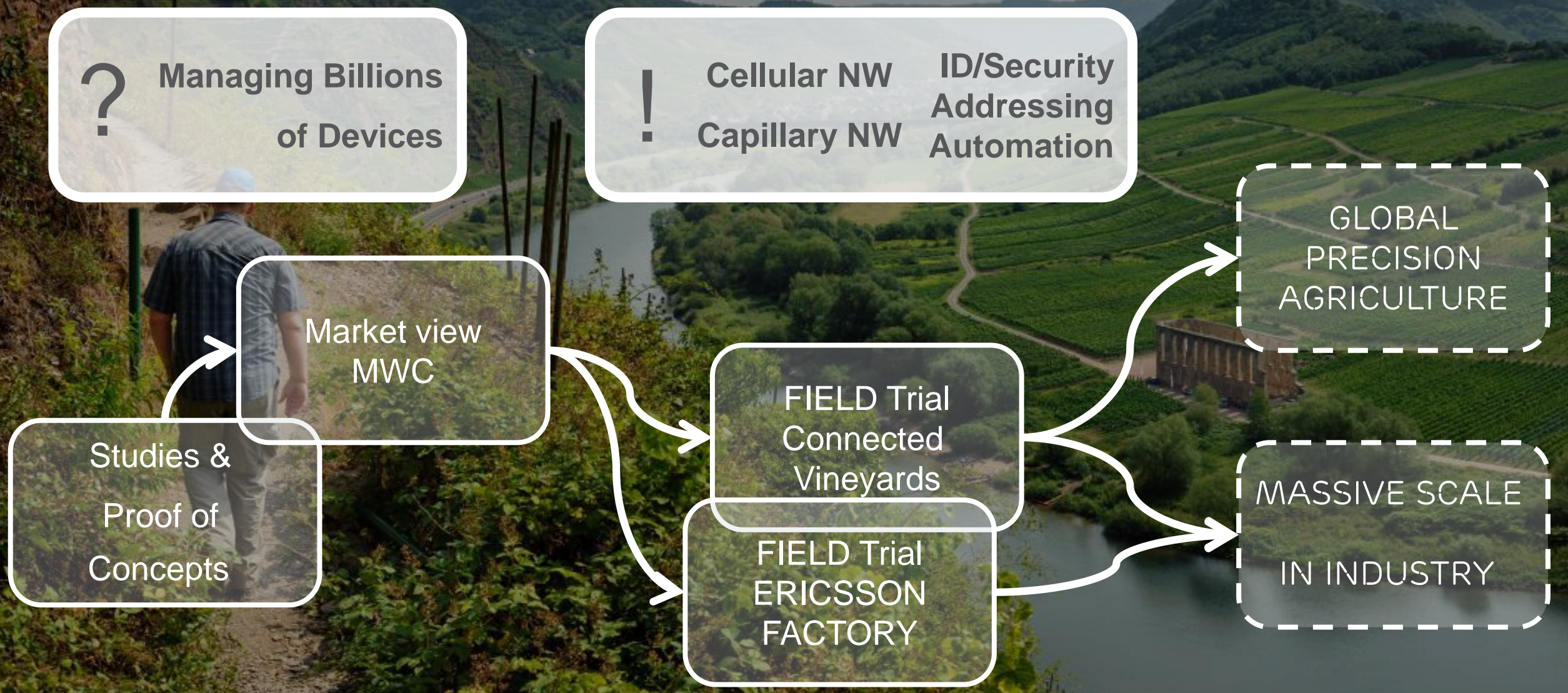
Studies &
Proof of
Concepts

FIELD Trial
Connected
Vineyards

FIELD Trial
ERICSSON
FACTORY

GLOBAL
PRECISION
AGRICULTURE

MASSIVE SCALE
IN INDUSTRY



THE TRIAL



- › Solution together with partner: MyOmega
- › 4 of top German wine makers
 - Wunningen: Knebel
 - Poltersdorf: Clemens
 - Bremm: Franzen
 - Piesport: Haart
- › Gateways & sensors running since July 2015.
- › 3km distance from gateway to sensor
- › 16 sensor platforms with 80 sensors



CONNECTED VINEYARD



Solar radiation
Soil temperature
Soil humidity
Air temperature
Air humidity

Water Irrigation

Fungus protection

Optimized fertilizers usage

Time of harvest

Workforce planning

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WHAT'S NEXT – THE CONNECTED FACTORY

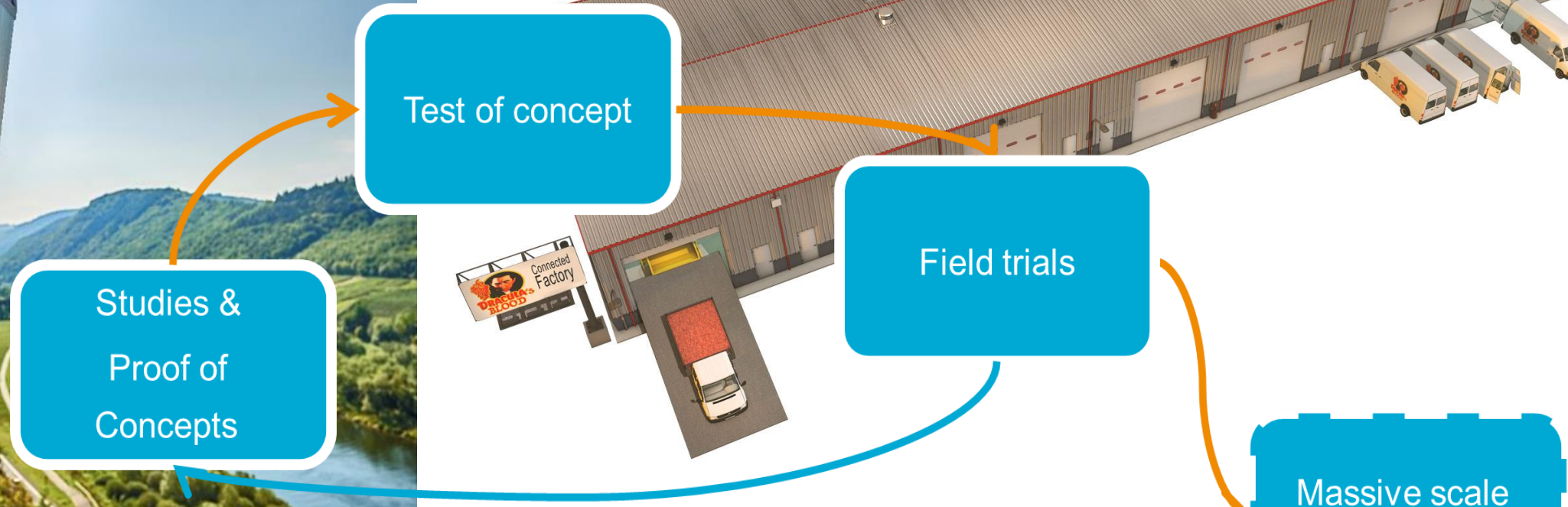


Studies &
Proof of
Concepts

Test of concept

Field trials

Massive scale
of business





THE NETWORKED SOCIETY



ERICSSON