

IEA SMART ENERGY SYSTEMS ROADMAP



TECHNOLOGY FRONTIER

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Global Head of Smart Grid – Ericsson

1 March 2016

INDUSTRIES IN TRANSFORMATION



#1

MOBILE INFRASTRUCTURE
OSS&BSS
SERVICES
MEDIA DELIVERY & IPTV

\$35 b.

Net Sales

\$5 b.

In R&D

118,000

Employees

65,000

Services
professionals

Telecom



Utilities



Transport

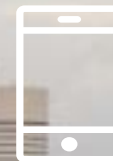


Public safety



THE NETWORKED SOCIETY

UTILITIES TRANSFORMATION



IoT platform
Functions and Analytics



Cloud

Access everything from the cloud



15 years
50 billion connected
devices



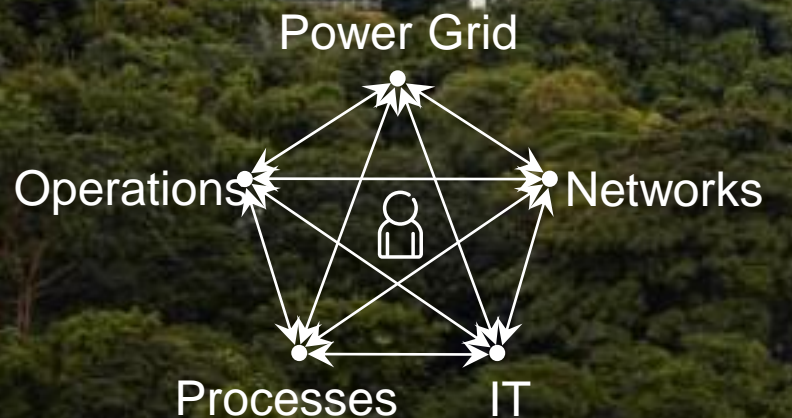
4G / 5G wireless
Broadband & Narrowband



25 years
5 billion connected people



100 years
1 billion connected places



Multi-dimensional changes
across Business-IT-Networks

UTILITIES TRANSFORMATION PATH



WHAT UTILITIES SAY ABOUT IOT



Utilities Top Strategy Drivers



Customer
Experience

86%



Customer
Operations

77%



Workforce
Management

72%



Asset
Utilisation

70%



Utilities Top Use Cases

BEMS

Customer
Engagement

Demand
Management

EV

HEMS

Revenue
Protection

DERM

SM

Fleet
Management

Remote WFM

Sensor-Based
Staff Id

DA

Leakage
Reduction

Quality
Control

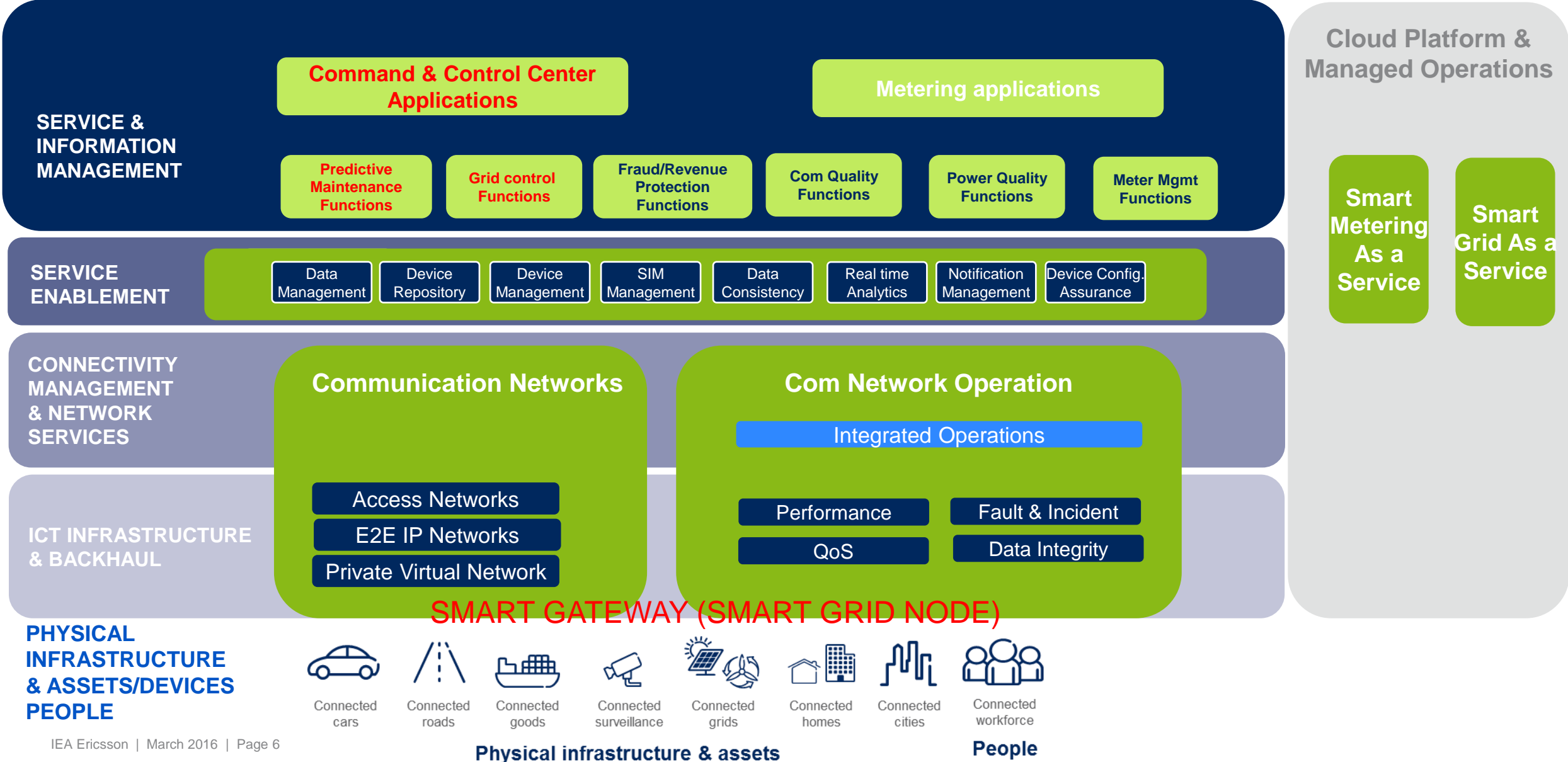
Remote
Asset Surv.

Asset Diagn. &
Maintan.

Substation
Automation

Weather
Sensors

IOT SOLUTIONS FOR UTILITIES



FIRST CONNECTIVITY SOLUTIONS DEDICATED TO IOT



90%

MODULE COST
REDUCTION

NB-IoT devices support



10+

YEARS
BATTERY LIFE

Extended life
(LTE-M & NB-IoT)



7X

BETTER
COVERAGE

Extended Coverage
(NB-IoT)

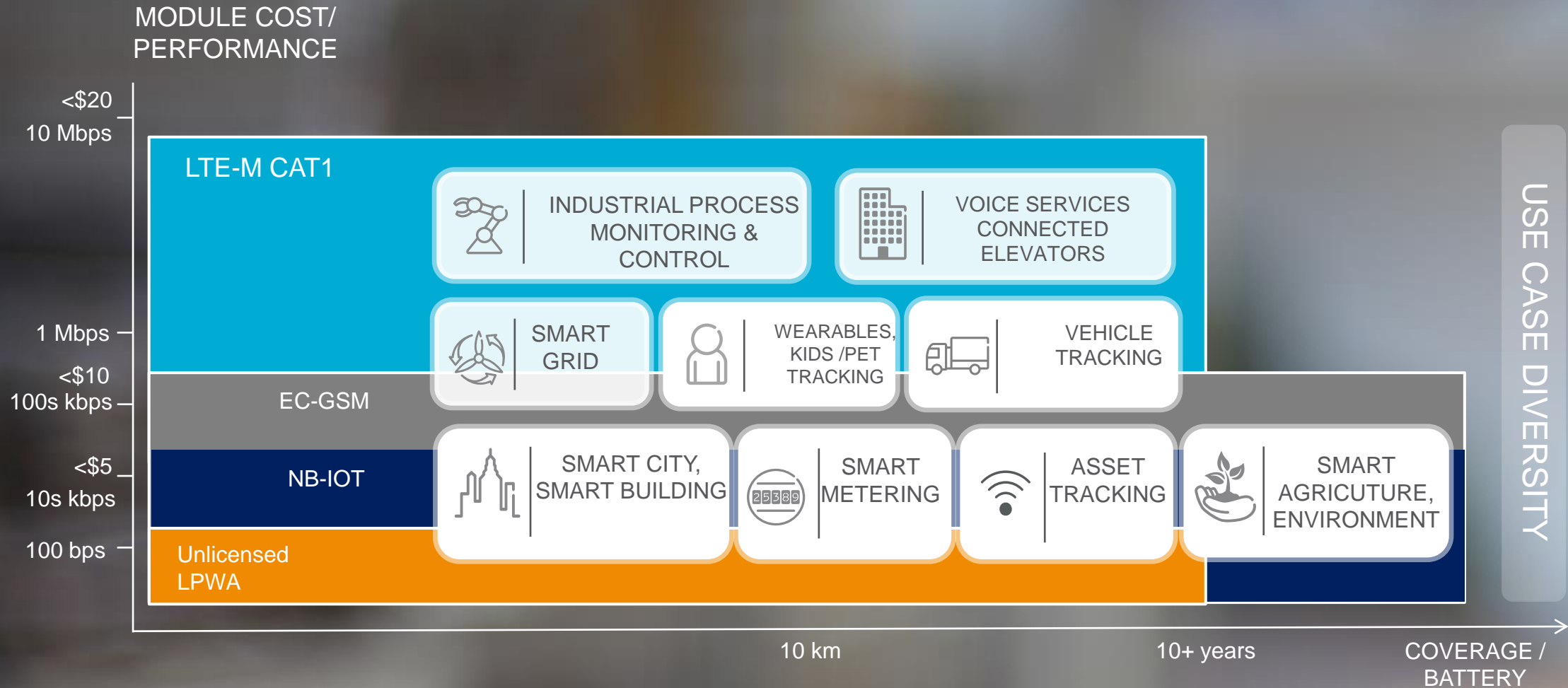


1M+

DEVICE
CONNECTIONS

Support massive
number of connections
per cell site

CELLULAR LOW POWER WIDE AREA SERVES MUCH MORE



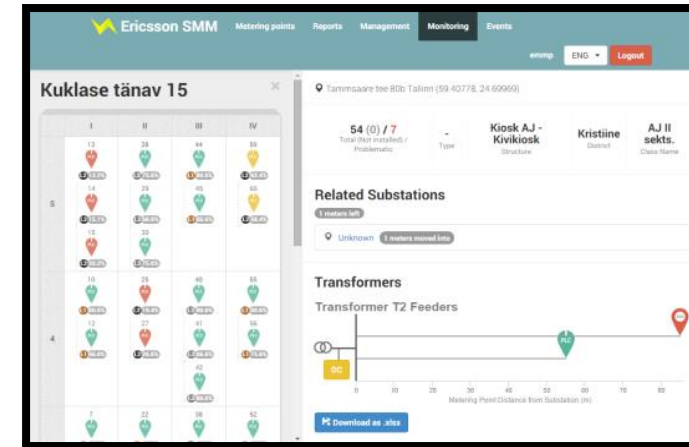
IMPACT OF ANALYTICS SAMPLE USE CASES (PROJECT ESTONIA)



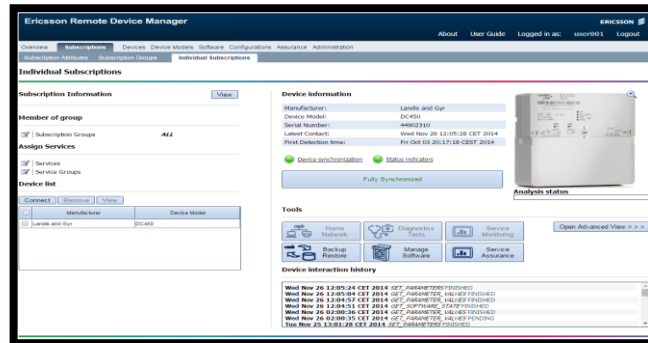
Event Visualization



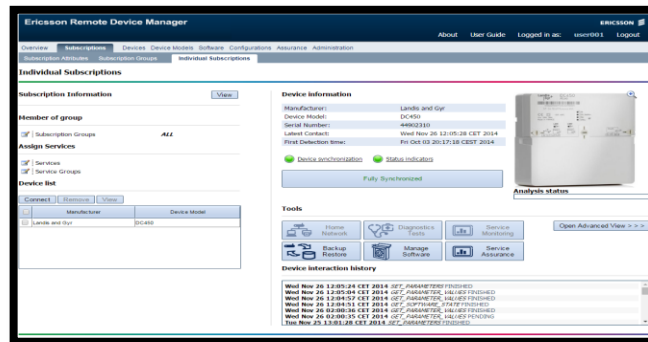
Power Quality Management



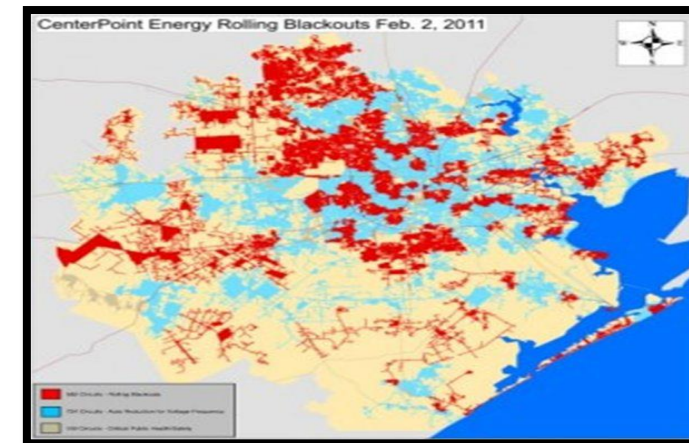
Communication Supervision



Configuration Management



Outage Management Visualization



GLOBAL UTILITY FOOTPRINT AND RELEVANT IOT REFERENCES



>50

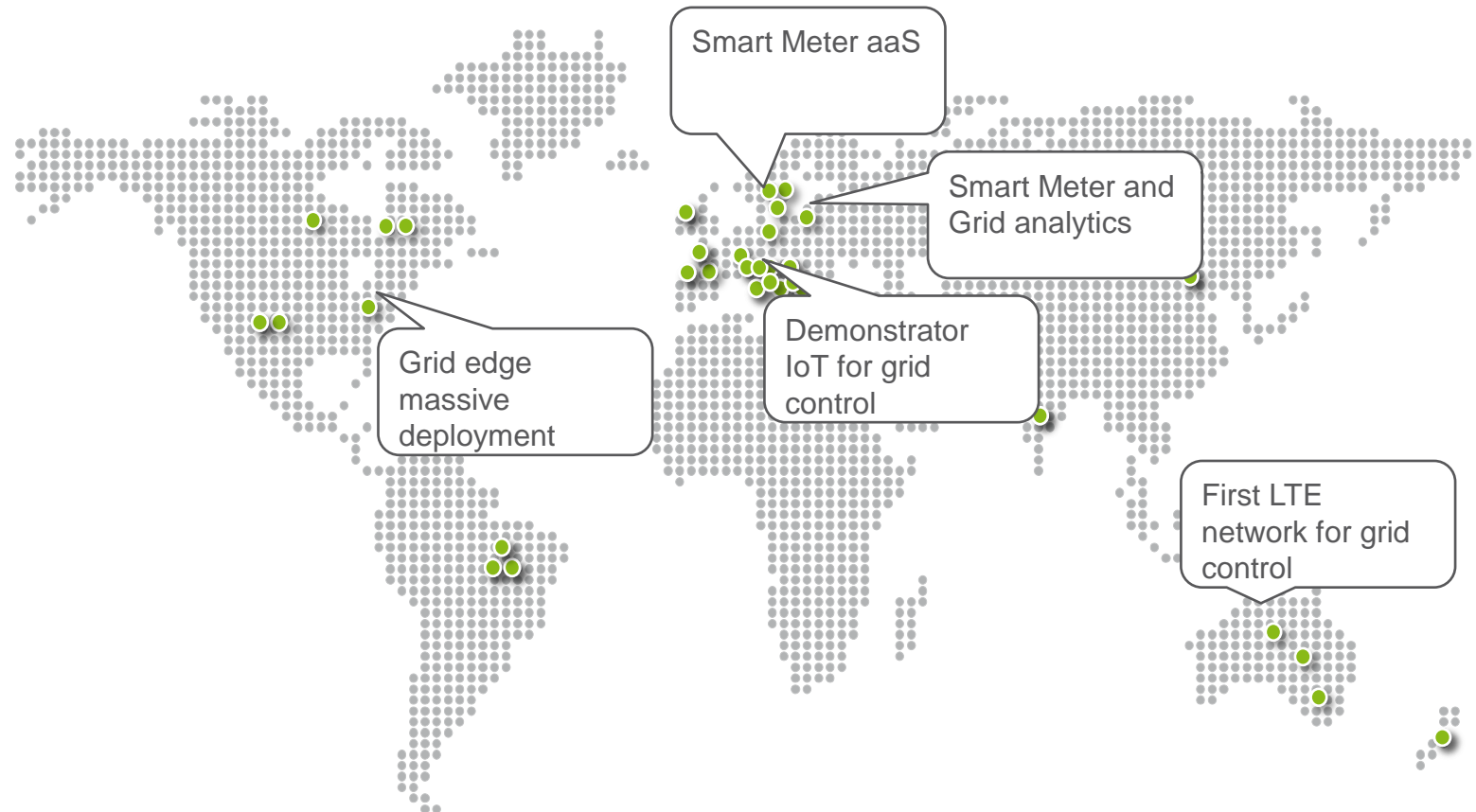
MILLION METERS

- 20% TCO

FOCUS ON COMMUNICATIONS
NETWORKS OPTIMISATION

WORLD'S
LARGEST

GRID EDGE NODE DEPLOYMENT



FULL RANGE OF SOLUTIONS AVAILABLE

Addressing diversity of use cases in the short/medium term



EC-GSM

2016

Global cellular
IoT for all GSM
markets

LTE-M

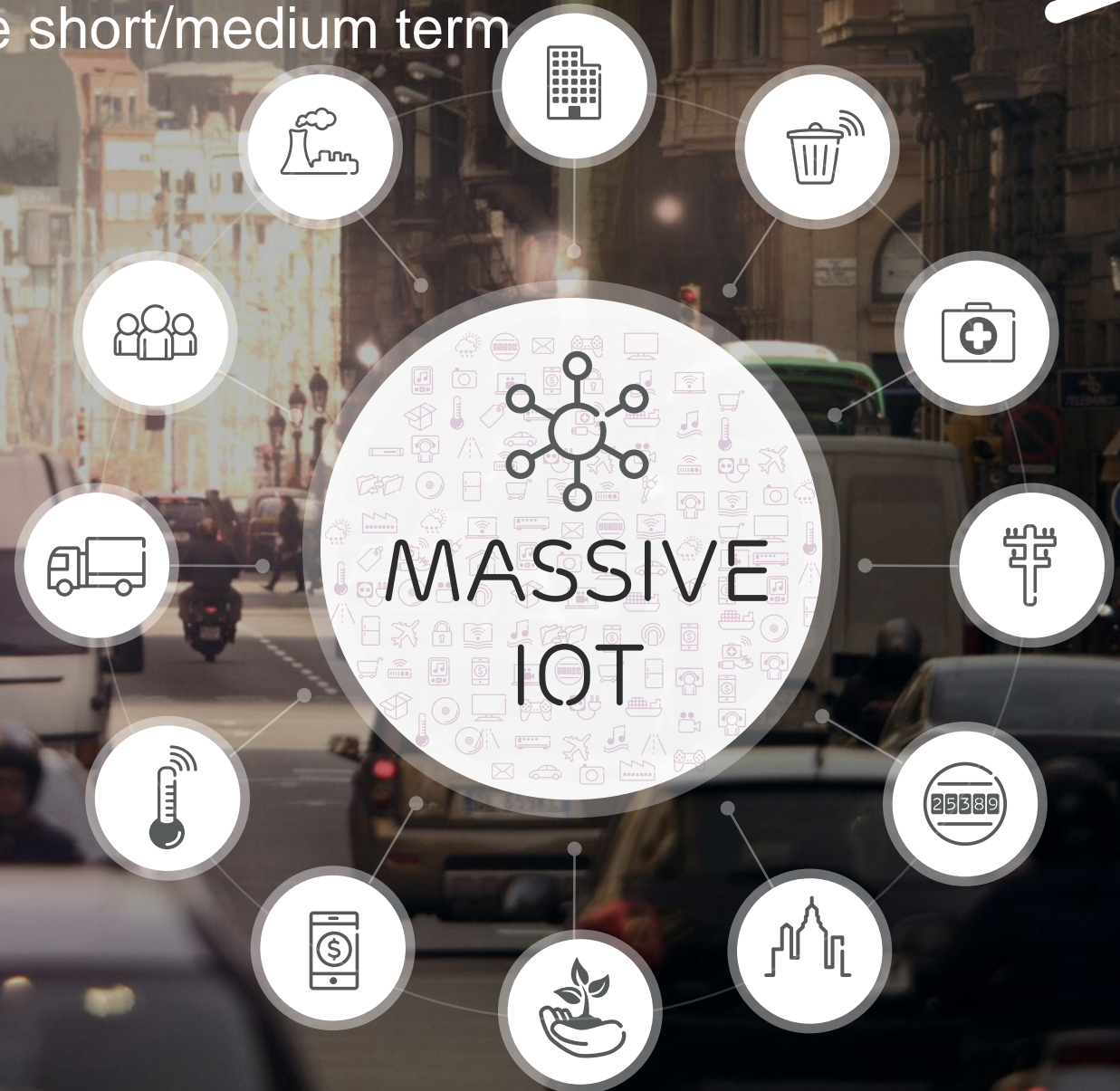
2017

Wide range of
applications

NB-IoT

2017

Ultra low-bitrate
applications



IN 2030...?

Millions of people have a life expectancy of 150 years or more

Food is grown in skyscrapers

3D printing and drone delivery provides close to real time supply

New buildings generate more energy than they consume

Learning a second language is no longer necessary

You don't need to drive your car unless you want to

Actors are out of work, replaced by animated artists

Cash is digital and virtual currencies capture a large share of GDP



A profile photograph of Hans Vestberg, CEO of Ericsson, speaking into a lapel microphone. He is wearing a dark suit jacket over a light blue shirt. The background is a solid blue color with a subtle pattern of small white dots. In the top right corner, there is a logo consisting of three horizontal white bars of increasing length, resembling a stylized 'E' or a set of bars.

CHANGE WILL
NEVER BE AS
SLOW AS TODAY !

Mr. Hans Vestberg, CEO of Ericsson since 2010

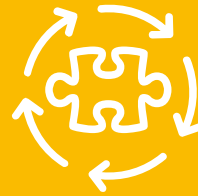
KEY TAKE AWAYS



UTILITIES GOING
THROUGH
DISRUPTIVE
CHANGE



HORIZONTAL
AND AGILE
PLATFORMS



DATA DRIVEN
TRANSFORMATION



IIOT / SMART GRID
IS INDUSTRY
TRANSFORMATION



CONNECTIVITY
EVERYWHERE



NEW BUSINESS
MODELS





ERICSSON