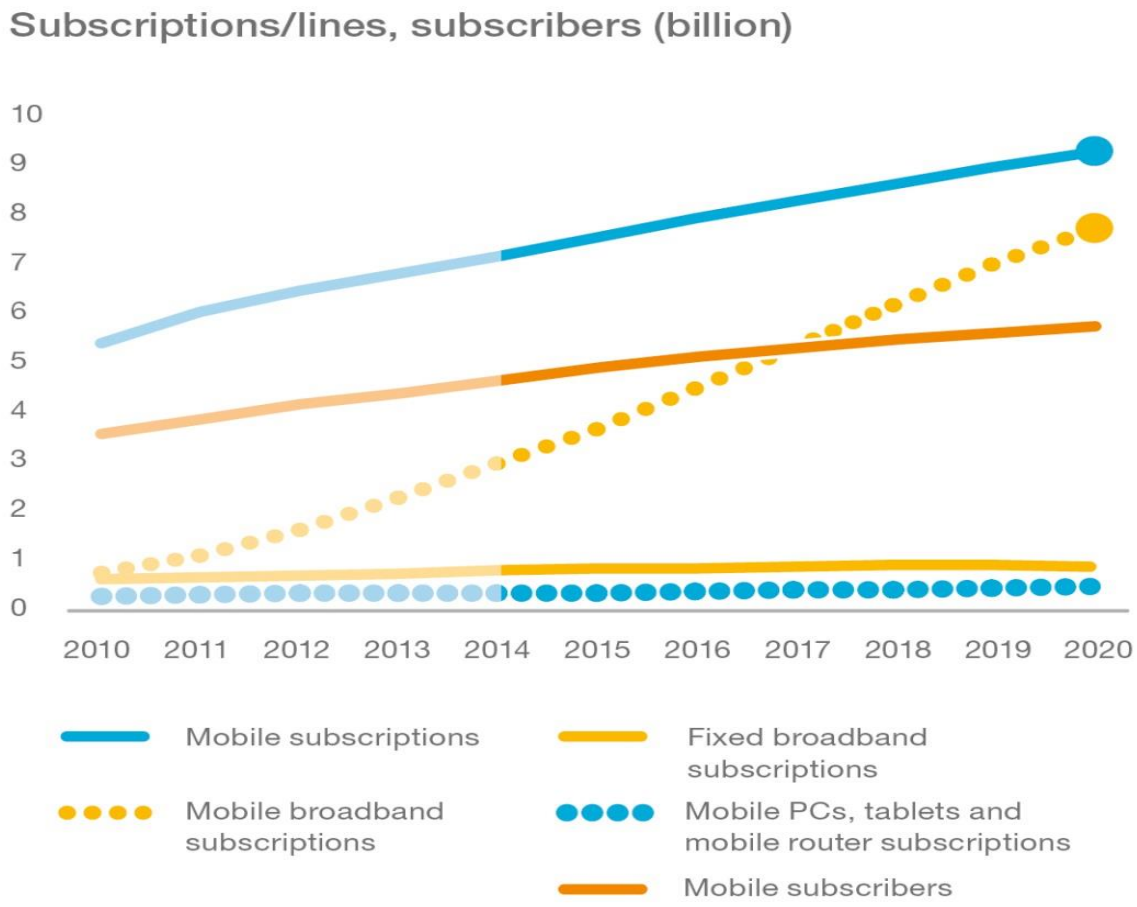
LOW POWER WIDE AREA SOLUTIONS
–
THE CENTRAL ROLE OF THE OPERATOR AND HOW TO FIT WITH OTHER RADIO TECHNOLOGIES

Jonas Näslund
Head of Business Unit Radio Strategy
Ericsson


50 BILLION CONNECTED DEVICES
Connections (billion)
50
40
30
20
10
1875
1975
2000
2020
15 years
50 billion connected devices
25 years
5 billion connected people
100 years
1 billion connected places

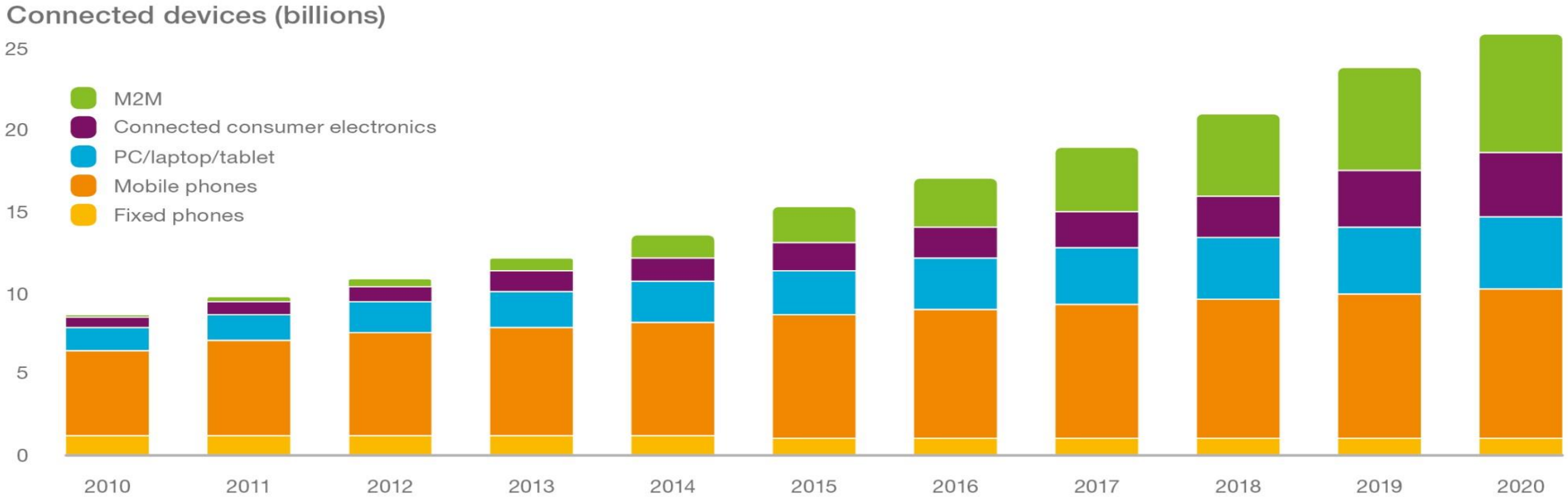
ERICSSON MOBILITY REPORT JUNE 2015

- 90% of the world´s population over 6 years old will have a mobile phone by 2020
- 9.2 Billion mobile subscriptions by the end of 2020
- 85% of mobile subscriptions will be for mobile broadband by the end of 2020



MOBILITY REPORT - CONNECTED DEVICES

- Growth in the number of connected devices is accelerating, driven by growing range of applications and business models, supported by falling modem costs
- 13.5 billion connected devices in 2014
- 26 billion connected devices by 2020 towards Ericsson vision of 50 billion connected devices

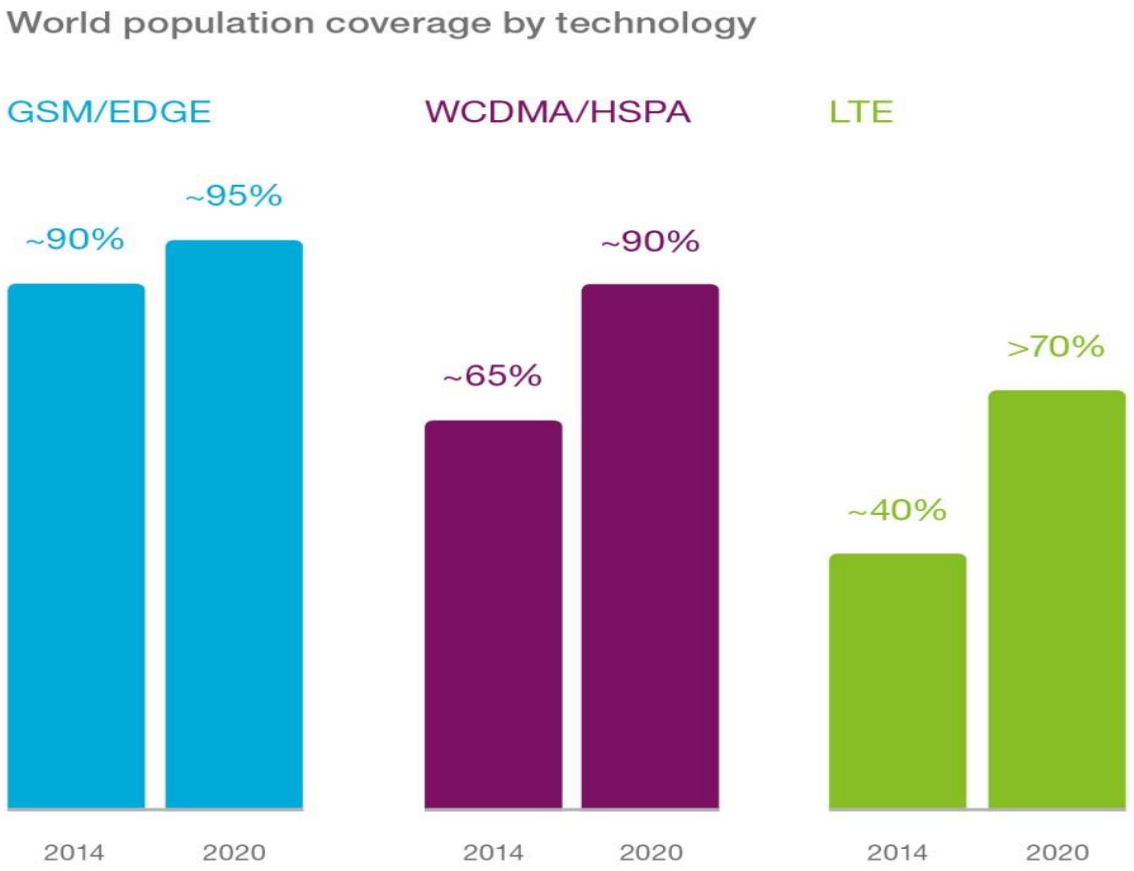


Examples of M2M: connected cars, machines and utility meters
Examples of consumer electronic (CE) devices networked TVs, digital media boxes, Blu-ray players, etc
Not included: passive sensors and RFID tags

MOBILITY REPORT - POPULATION COVERAGE

- Around 90% of world´s population covered by WCDMA/HSPA in 2020
- More than 70% of world's population covered by LTE in 2020

- A base for any connectivity beyond todays Voice, Mobile Broadband and M2M and foundation for IoT networks with global reach



EXAMPLES OF ERICSSON INDUSTRY SOLUTION OF TODAY

Utilities

- Smart metering
- Smart grid Communications
- Asset & Critical infrastructure Mgmt
- Customer & Revenue Mgmt
- Grid control

Transport

- Connected Vehicle Cloud
- Maritime ICT Cloud
- Connected Traffic Cloud
- ICT infrastructure for Road and Rail
- Transport transactions
- Connected Vessel
- Traffic Management

Public Safety

- Disaster & Emergency Mgmt
- Border and area security
- Strategic Government Networks
- First Responder Networks

EVERYTHING THAT CAN BENEFIT FROM BEING CONNECTED WILL BE CONNECTED

[ROBOTS]





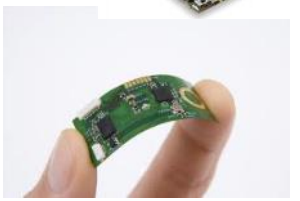



[DEVICES]

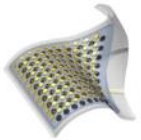
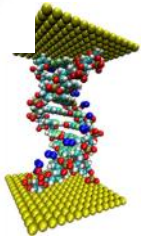










[MACHINES & VEHICLES]

[EMBEDDED]

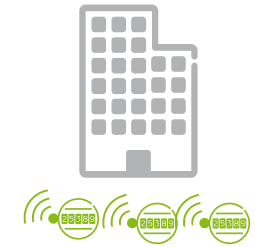
NEW ECO-SYSTEMS – AN EXAMPLE

RANGE OF REQUIREMENTS

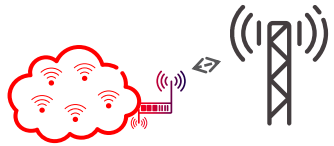
Low cost
Low energy
Small data volumes
Massive numbers

Ultra reliable
Very low latency
Very high availability

Massive MTC

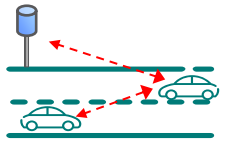


Sensors, actuators



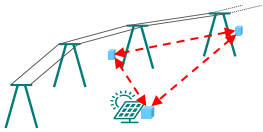
Capillary networks

Critical MTC

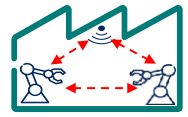


Traffic safety & control

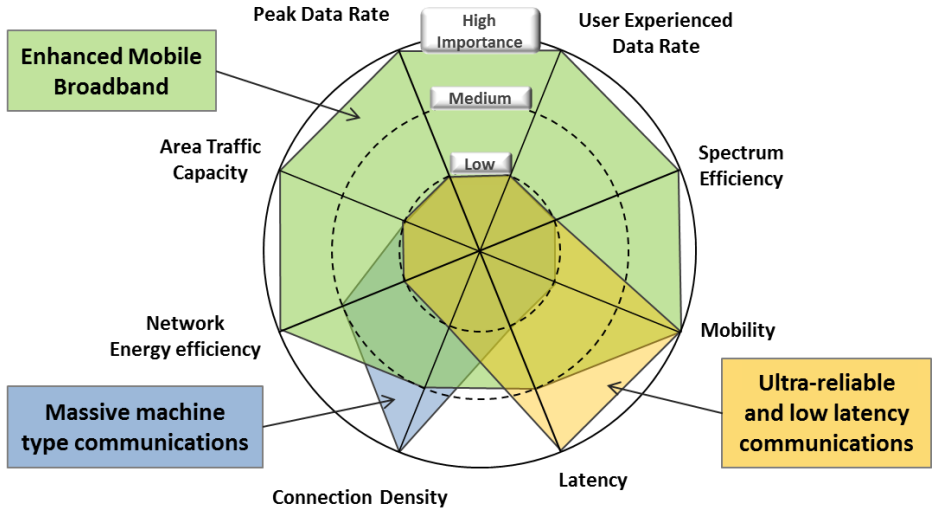
“Tactile Internet”



Smart grid



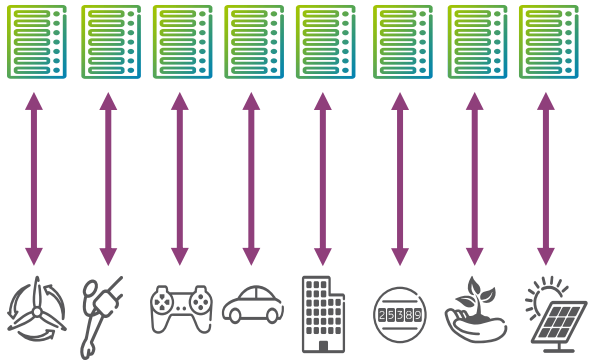
Industrial application



TOWARDS THE INTERNET OF THINGS

Today

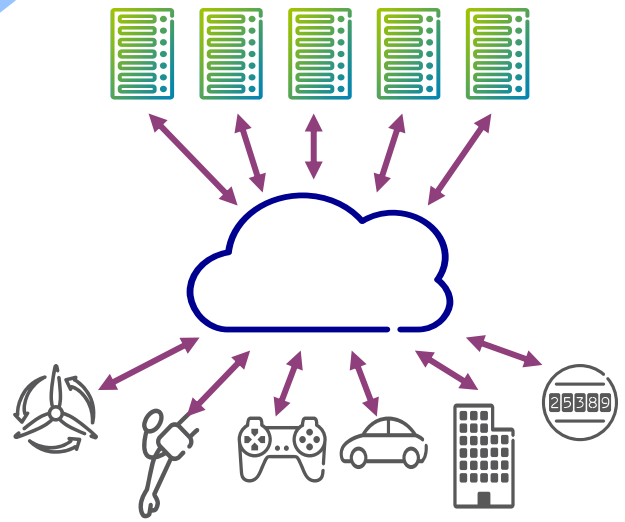
Per-problem solutions
Per-industry solutions
Proprietary IT solutions



Transformation

Generic device solutions
Application Enablement
Cloud
Standards and Open Source

Applications
App Enablement
Connectivity
Devices



IOT EVOLUTION

CONNECTING THE INTERNET OF THINGS

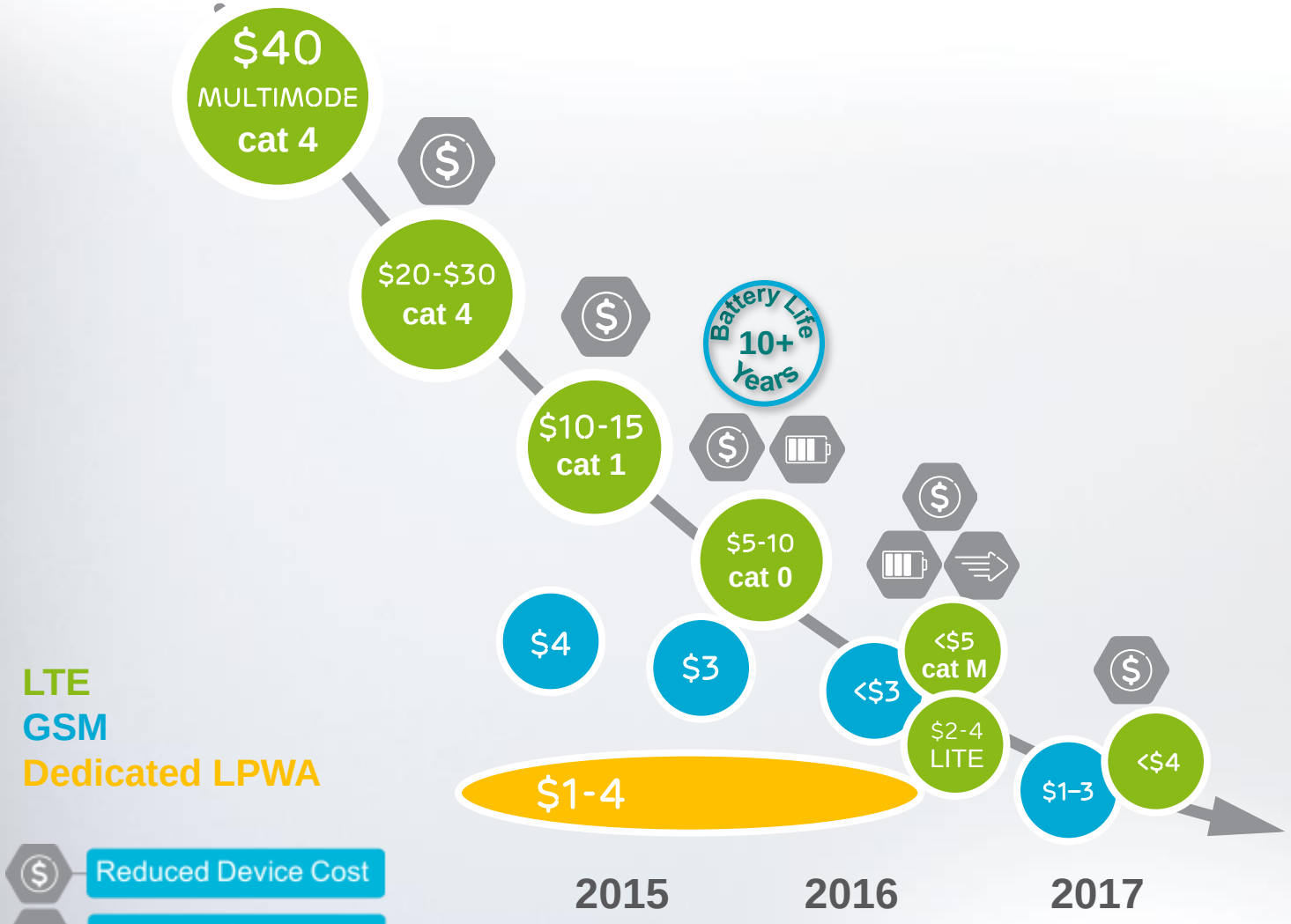
Cellular IoT in licensed spectrum

- Device Requirements.
  - Low complexity and cost modules
  - More than 10 years battery lifetime
  - Extended range
- Network requirements
  - No additional network required
  - Smooth upgrade an deployment of installed base
  - Aligned and integrated evolution with LTE and towards 5G
- Areas of 3GPP improvements
  - LTE evolution for MTC – LTE-MTC
  - Extended coverage GSM - EC-GSM
  - Narrowband Cellular – LTE Lite
  - Core and Service Network simplification

IoT Connectivity in unlicensed spectrum

- Available standardized short-range radio technologies with large ecosystems
  - Capillary network architecture when applicable and relevant
  - Integration with mobile networks including application enablement etc.

CELLULAR IOT MODULE EVOLUTION*



LTE
GSM
Dedicated LPWA

Reduced Device Cost
Improved Coverage
Improved Battery Life

3GPP ADVANTAGES

- Global standard and installed base
- Scale of economy
- Security and E2E Integrity
- Quality and Grade of Service
- Flexible Performance Requirements

*Cost indicative and primary for relative comparison

SUMMARY

- Huge number of “things” to be connected
  - Large variety in business cases as business models needed
- System adaptation for applications and use cases with different requirements
  - From advanced mission critical communication to very simple sensors
  - Adoptable and horizontal solution eliminating need for specialized verticals
- Accelerate the adaptation of todays technology for mass market IoT
  - LTE- MTC, LTE Lite & EC-GSM to address all needs
  - Core & Service network flexibility & simplification
  - Laying the foundation for 5G
- Large scale IoT is a different game, new thinking and different constellation to be successful

ERICSSON