

Europe: the leading innovator?

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Europe has strong assets and history in creating large-scale and complex innovations

Collaborative and cooperative culture

Diversity of ideas

World's best universities

1990s

GSM
Circuit-switched

2000s

UMTS/HSPA
Transition to IP

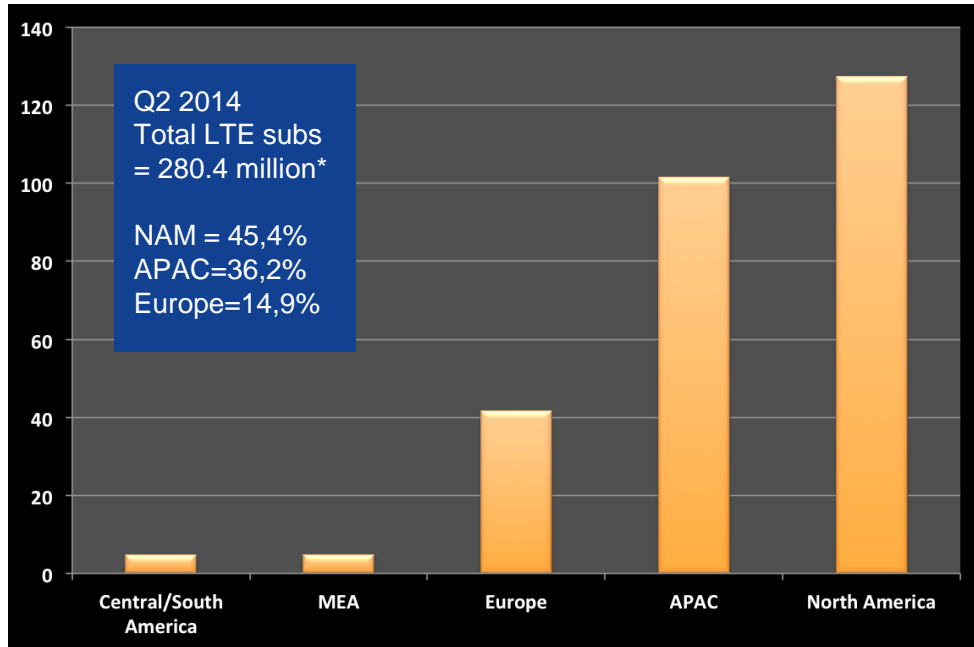
2010s

LTE, LTE-A, All IP*

2020s

5G, Cloud & Virtualization *

Europe needs a platform and environment to foster innovation



Opportunity : 5G

Europe to regain its
lead in complex
interoperable mobile
networks

What is at stake for Europe?

Jobs and growth

5G is a key technology for European industrial base in network technologies.

Impact of mobile industry in 2012 in Europe
GDP: 261 bn€*
Jobs: 394000*

Research

5G reinforces European lead, in particular in ultrafast broadband and Internet of Things.

Investments

Early lead would boost a positive investment cycle.

Contributions
EU: 700 m€
Industry: 700 m€

Harmonization

Europe could be in a position to lead in building a globally harmonized standard.

Innovation

5G helps to prepare for next phase of industrialization and societal innovations.



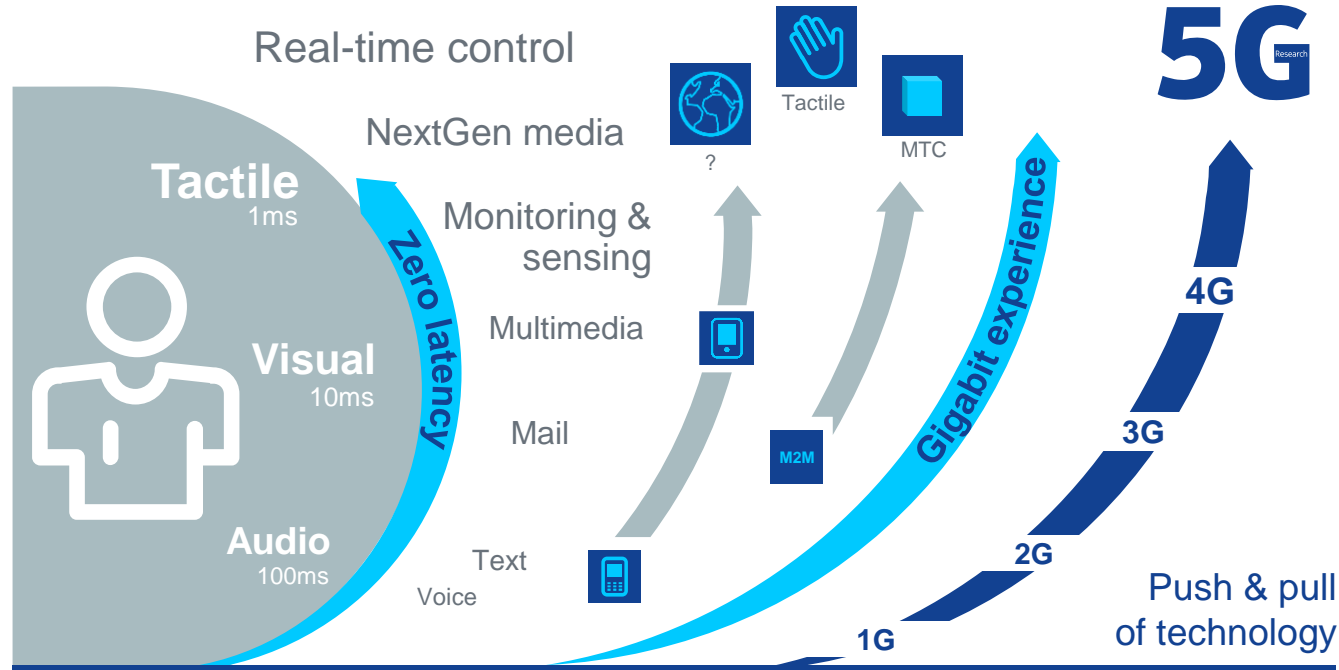
Our vision is to create 5G as a platform for innovation



Design a platform which allows others to innovate and apply 5G to improve life, business and society

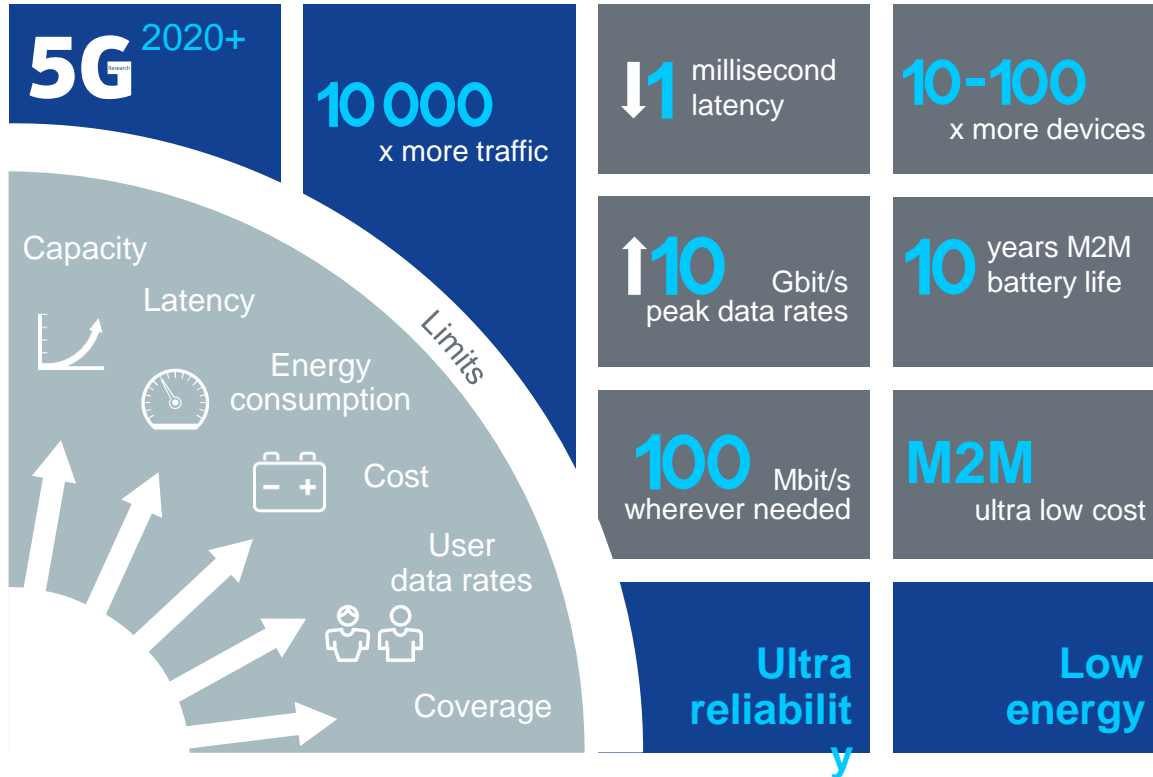
Make 5G useful for every industry, every vertical, every human, every machine and every thing

What we know about 5G demands



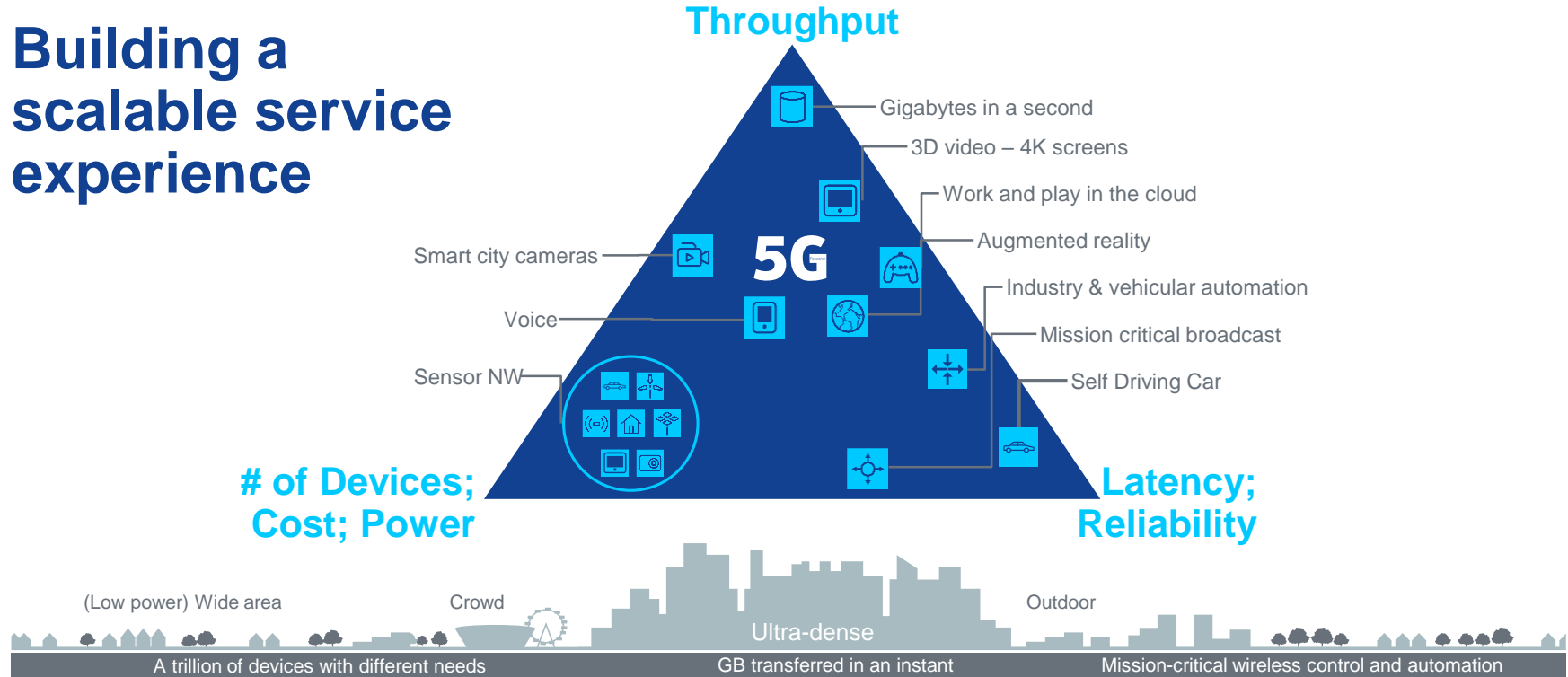
Flexibility
for what is
unknown
today

Stretching performance targets for 5G

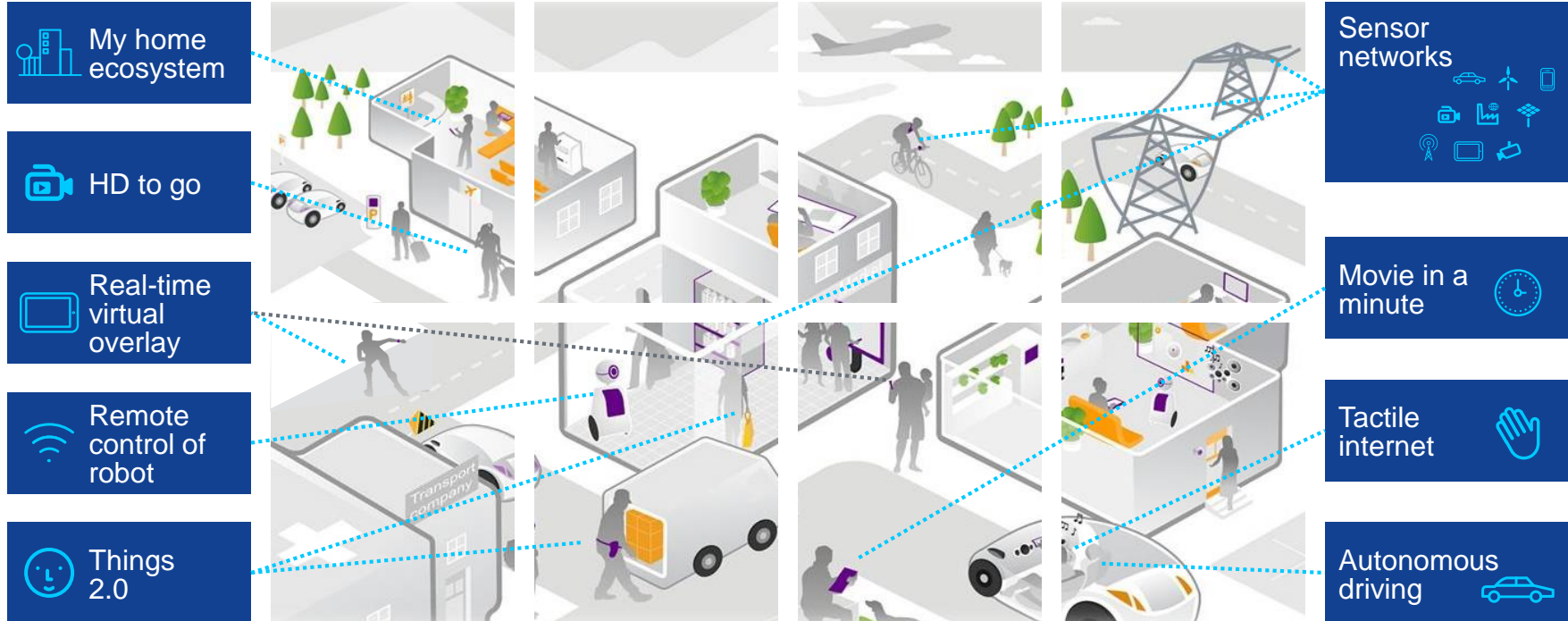


Diversity of services, use cases and (extreme) requirements

Building a scalable service experience



The 2020+ experience



Need for appropriate regulations to make Europe the lead innovator

Establish the right policies for creating the appropriate dynamic market structure allowing consolidation and a positive investment climate

Ensure early availability of affordable, harmonized and sufficient 5G spectrum across Europe



Make 5G a flagship initiative of the EU Digital Agenda



DIGITAL AGENDA FOR EUROPE
A Europe 2020 Initiative



Leverage 5G PPP initiative

Support the allocation and assignment of affordable spectrum, e.g. 700 MHz

Allow market driven consolidation

Allow collection and use of network-internal data while respecting privacy and data protection

Support adequate return of investment for innovators of standard essential patents

NOKIA