



EU 5G Action Plan

RIPE73 – Cooperation WG

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Achilleas Kemos
European Commission
Programme Officer, DG CONNECT E1
Future Connectivity Systems

Two "EU Packages" in 2016

The DEI Package, 19 April 2016

Digitising European Industry - Reaping the full benefits of a Digital Single Market

- **Staff Working Document on the Internet of Things**

>Advancing the Internet of Things in Europe

RIPE role in IoT numbering and addressing

The "14 September package"

- **The 5G Action plan**

The "14 September package"

1. **New 2025 Gigabit broadband objectives:** Commission Communication -> *Reference point and common vision*
2. **The 5G Action plan:** Commission Communication -> *to support European industrial leadership*
3. **Wi-Fi for Europe: targeted voucher scheme:** Regulation amending CEF -> *to bring direct benefits to citizen (8000 communities)*
4. **The Review of the Telecoms Regulatory Framework:** European Electronic Communications Code -> *REFIT modernisation*

Mutually supportive elements – harvesting commitment and providing longer term reference point and objectives to and from policy makers, market actors, regulators and investors.

State of the Union address 14/9/2016



Commission Study on 5G Impact

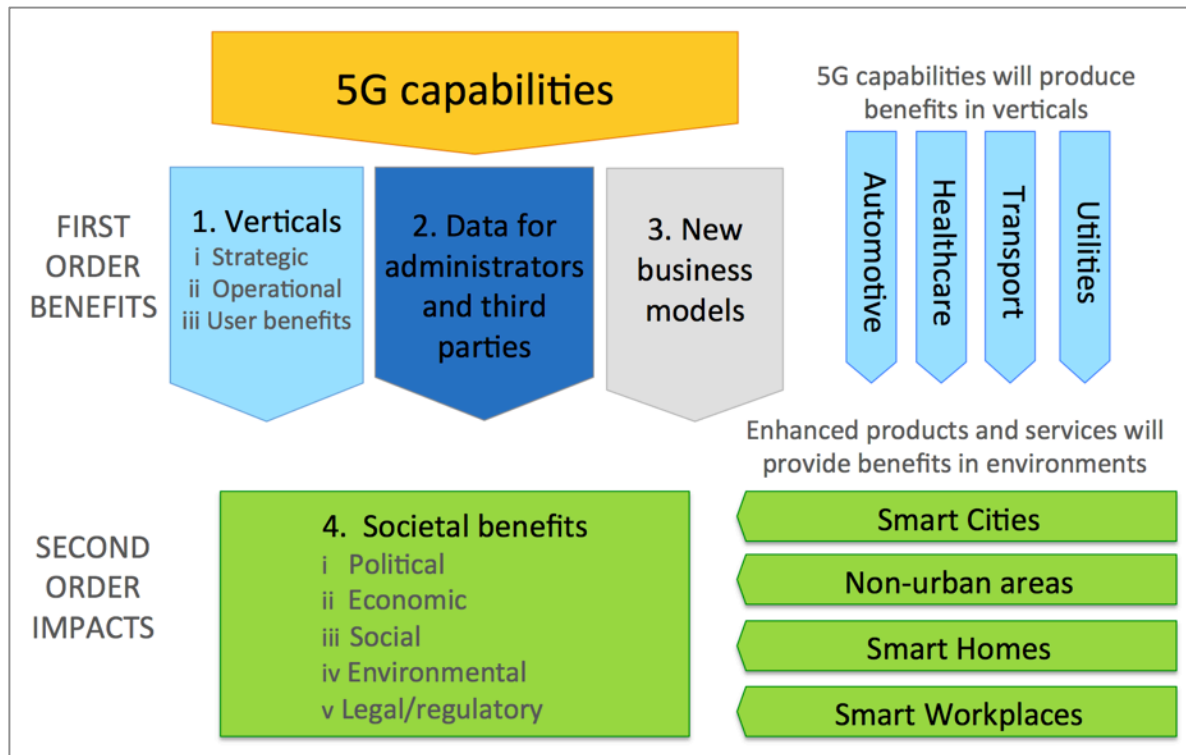
New Jobs: 2,4 million

Input-output analysis

Benefits of 5G introduction €113 billion

Identification and quantification of key socio-economic data to support strategic planning for the introduction of 5G in Europe - SMART 2014/0008

Commission Study on 5G Impact



Reference: Identification and quantification of key socio-economic data to support strategic planning for the introduction of 5G in Europe - SMART 2014/0008

Vertical & Environments Benefits

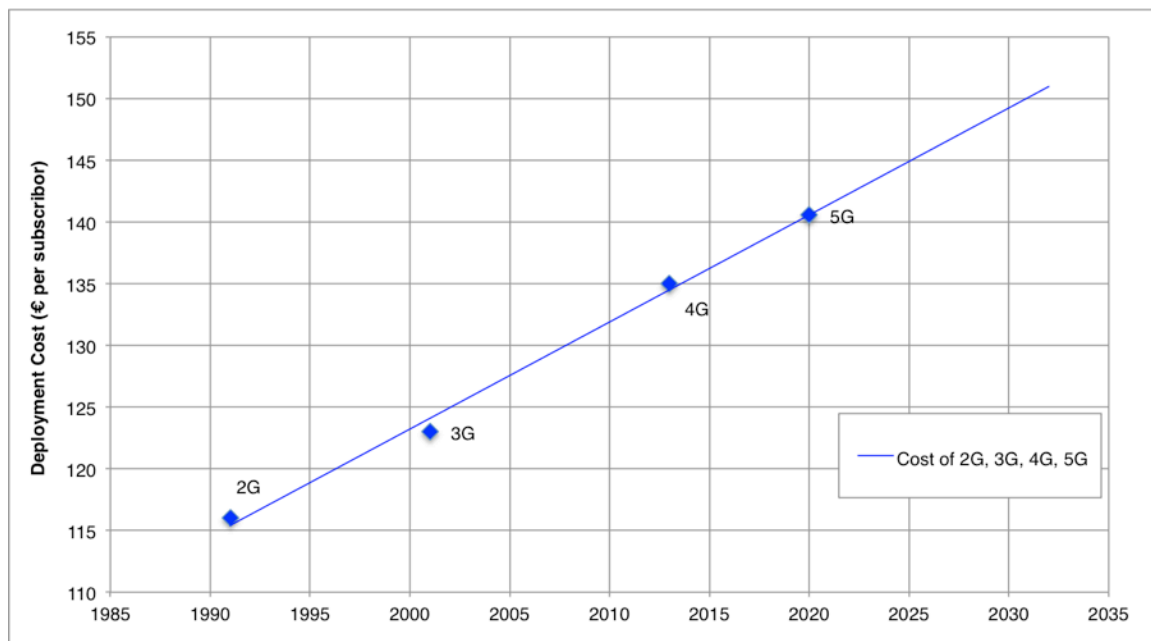
Verticals Benefits	Automotive (€ mn)	Healthcare (€ mn)	Transport (€ mn)	Utilities (€ mn)	Total (€ mn)
Strategic	13,800	1,100	5,100	775	19,770
Operational	1,800	4,150	3,200	2,700	11,850
Consumer	13,900	207	-	3,000	17,110
Third Party	13,700	72	-	-	13,770
Total	42,200	5,530	8,300	6,470	62,500

Environment Benefits	Smart City (€ mn)	Non-urban (€ mn)	Smart Home (€ mn)	Workplace (€ mn)	Total (€ mn)
Economic	4,000	2,200	720	14,500	21,420
Social	4,100	8,300	-	-	12,400
Environmental	22	38	609	16,100	16,770
Total	8,120	10,540	1,330	30,600	50,590

Source: Identification and quantification of key socio-economic data to support strategic planning for the introduction of 5G in Europe - SMART 2014/0008

Cost of 5G Deployment

(on top of fixed broadband infrastructure investments)



This would equate to a total cost of 5G deployment in EU Member States of approximately €58 billion in 2025

5G Action Plan: Motivations

- ***New EU Market potential, usages, actors***
- ***DSM support***
- ***Technology maturity***
- ***Acceleration of 5G agenda***
- ***Learning our lessons.***

The 5G Action plan

□ ***What:***

Industry deployment of advanced 5G networks as from 2020 in a coordinated manner throughout the DSM, as a strategic driver for EU competitiveness.

□ ***How:***

Proposing to MS the timely implementation of a **comprehensive set of operational steps to accelerate investments** in the following areas: very dense cellular coverage, superfast fibre backhauling, vertical industry driven connectivity services, new digital innovation ecosystems.



Action plan for 5G

Common roadmap for a coordinated deployment of 5G in 2020

"Keeping the EU ahead of the race"

- ✓ Common EU calendar / coordinated national plans for commercial launch

"A 5G-ready Europe" - strategic pre-requisites:

- ✓ Availability of spectrum - fast track for EU spectrum decisions re. 5G
- ✓ Availability of fibre connectivity – fibre capacity for 5G backhauling
- ✓ Reducing the cost of 5G deployment (emission limits, local taxes,)

"5G in support of Growth"

- ✓ Commission as facilitator of cross-sectoral business synergies
- ✓ Innovative ecosystems and collaboration
- ✓ Pan-European 5G trials / pilot projects (Connected Driving Corridor...)

"Preserving 5G Global Interoperability for consumers"

- ✓ Promote common global standards

"Single Market" approach to EU 5G Introduction

Early 5G
launch in
selected
areas

2018

Commercial
launch of 5G
services in at
least one
major city in
all MS

2020

5G in all
urban areas
and
Along main
transport
paths

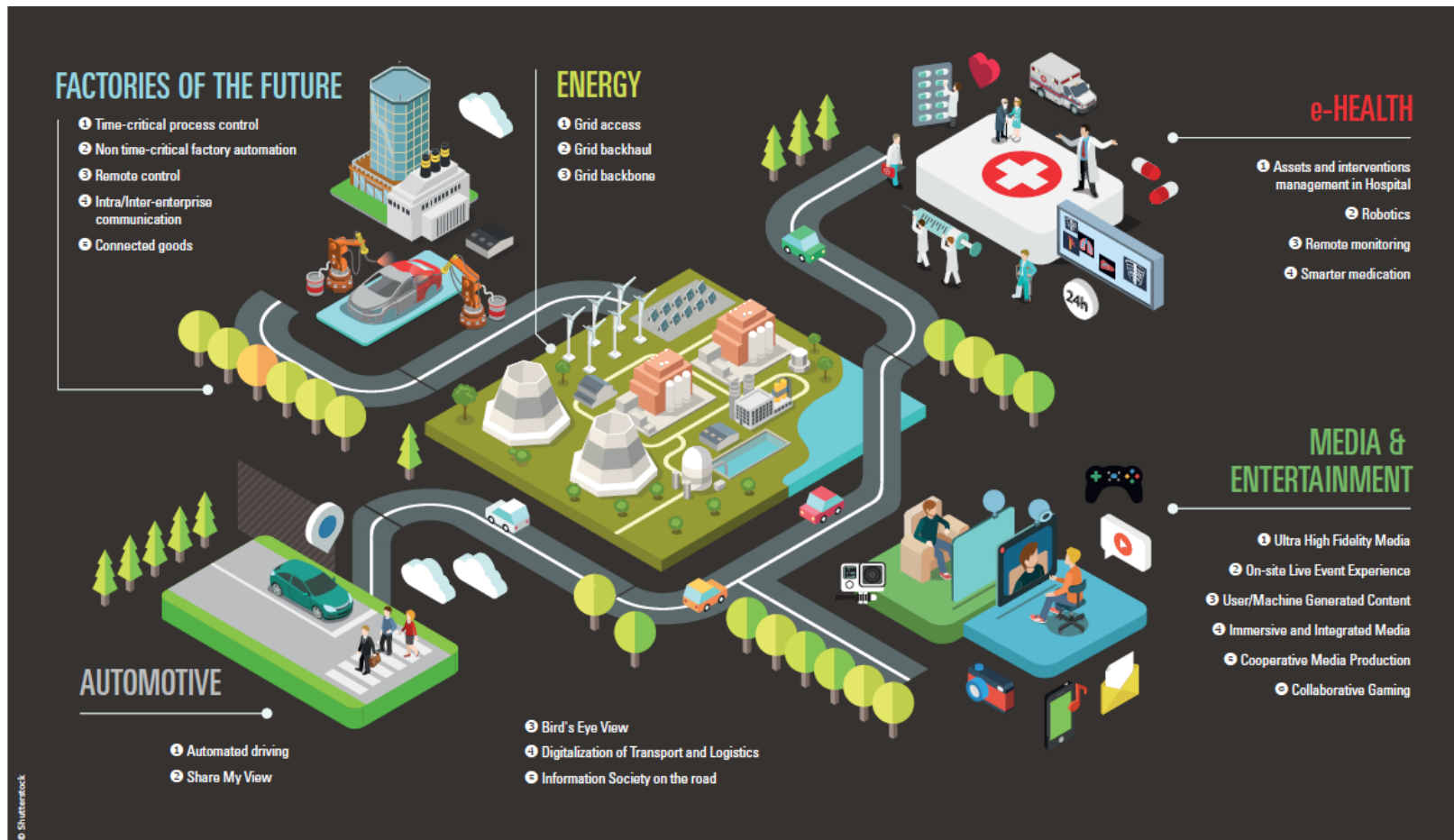
2025

----->
Coordinated/quasi-
simultaneous launch
throughout single market

----->
Aggressive roll-out with
geographical and sectorial
focus

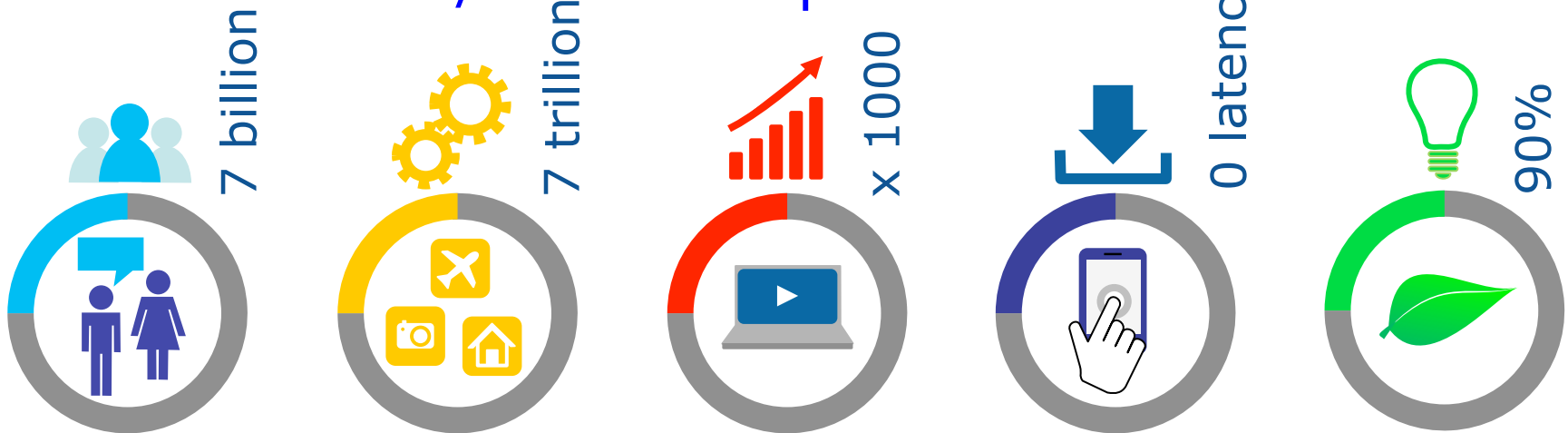
5G for the DSM:

"Pervasive fixed and mobile *connectivity*"



Supporting Actions: 5G PPP

- **5G Public Private Partnership launched in Dec. 2013**
- Objective-driven (technical, economic, social) ⇒ contractual KPIs / 700 M€ public funding 2014-2020 / 3500 M€ private investment



5G PPP Collaborative Achievements

<https://5g-ppp.eu/white-papers/>

Moving on beyond Vision: 5G for verticals



Günther H. Oettinger,
European Commission

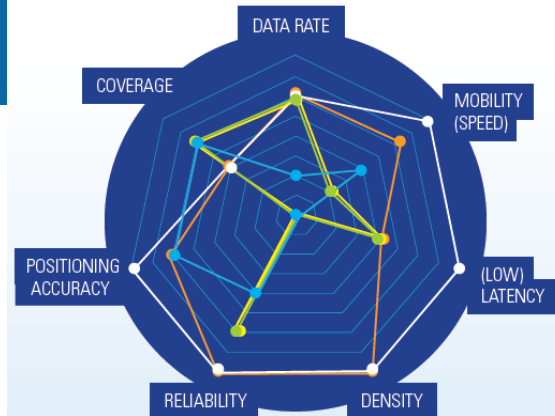


MOBILE
WORLD CONGRESS

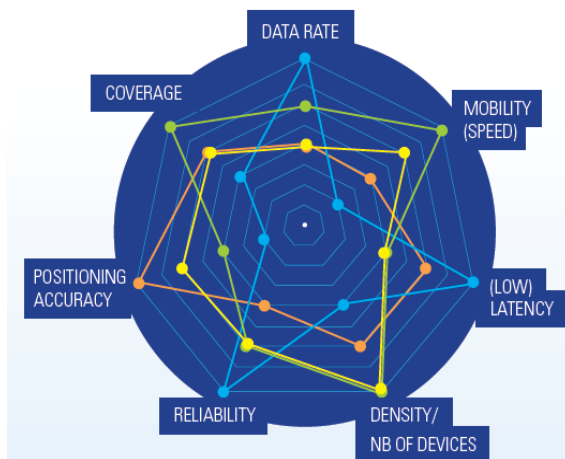


**MOBILE IS
EVERYTHING**

Factories

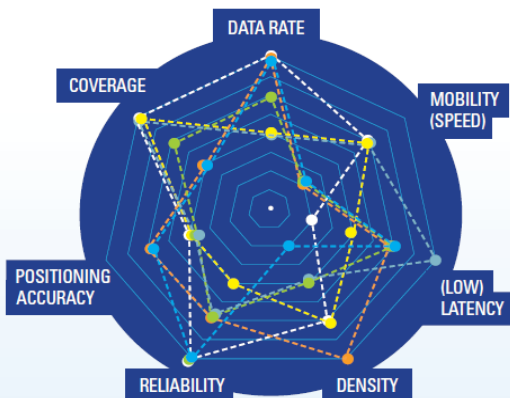


eHealth



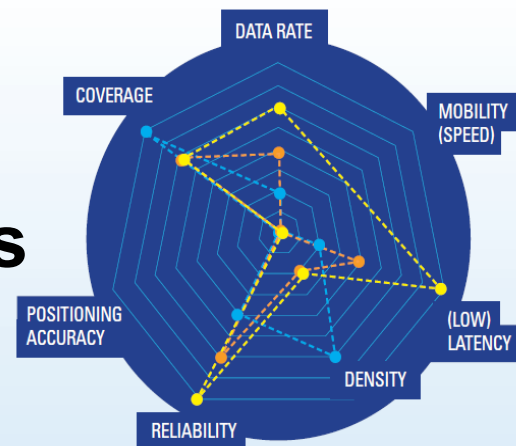
Vertical Requirements

Media & Entertainment

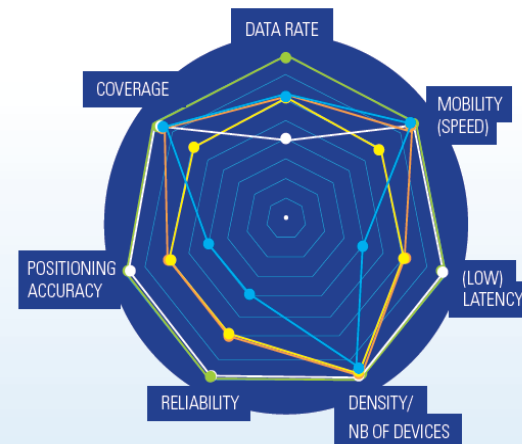


Source: White Paper, "5G Empowering the Vertical Industries, February 2016.

Energy



Automotive



Towards 5G PPP Phase 2

research and innovation actions

- Critical technologies and Systems
- Radio Network and Architectures

106 M€

- Optical Core
- SDN/NFV, architecture, net mgt;
- R&I access nets (Taiwan)

Innovation actions

Optical support to access
Network apps

40M€

advanced
**5G network
infrastructure**


Support Actions

programme
integration,
monitoring

3M€

Keys: Verticals, experiments, demos



 is inviting you to the
5G Global event in Rome, Italy
on November 9 and 10, 2016



