Mobile and wireless communications Enablers for the 2020 Information Society

EU FP7 ICT-317669-METIS

www.metis2020.com

Fact Sheet

› An Integrated Project under EU Framework Programme 7 Call 8

› Budget: 27 M€

› Project Length: 30 months (from 2012-11-01 to 2015-04-30)

› Resource: ~ 80 persons working full time

› Contact & Information:
   www.metis2020.com
   facebook.com/metis2020
   twitter.com/metis2020
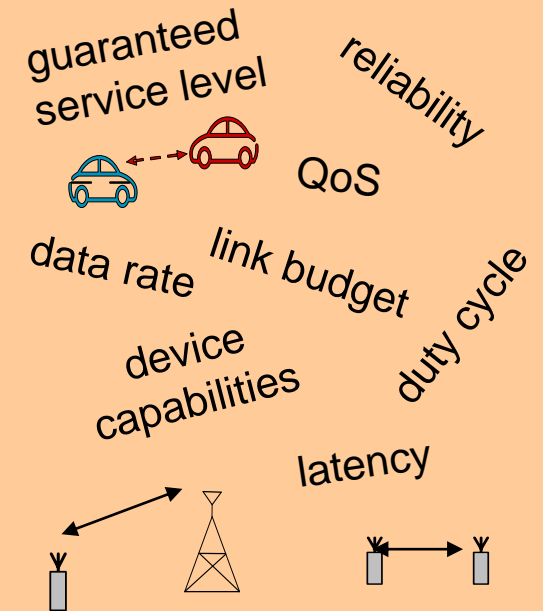
Rationale

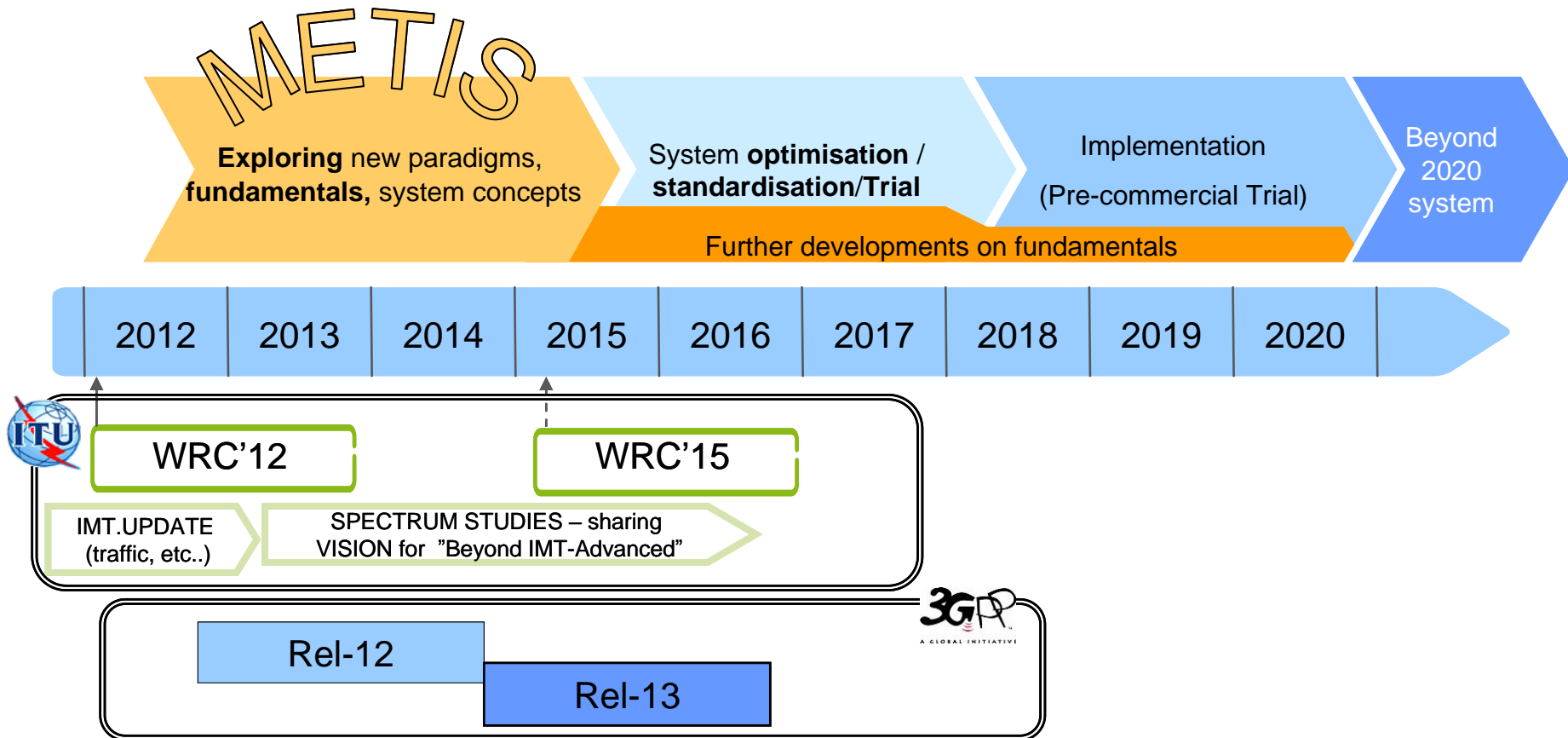| Avalanche of **traffic**	Explosion of the number of **connected devices**	Large **diversity** of **use cases** and **requirements**
X 1000	**5 billion** → **50 billion** (2010) (2020)	guaranteed service level, reliability, QoS, data rate, link budget, duty cycle, device capabilities, latency

Objectives: Overall

Lay the foundation & **Ensure** a global forum & **Build** an early global consensus for beyond 2020 "5G"mobile & wireless communications

METIS

Exploring new paradigms, **fundamentals,** system concepts

System **optimisation** / **standardisation/Trial**

Further developments on fundamentals

Implementation

(Pre-commercial Trial)

Beyond 2020 system

2012	2013	2014	2015	2016	2017	2018	2019	2020

ITU

WRC'12

WRC'15

IMT.UPDATE (traffic, etc..)

SPECTRUM STUDIES – sharing VISION for "Beyond IMT-Advanced"
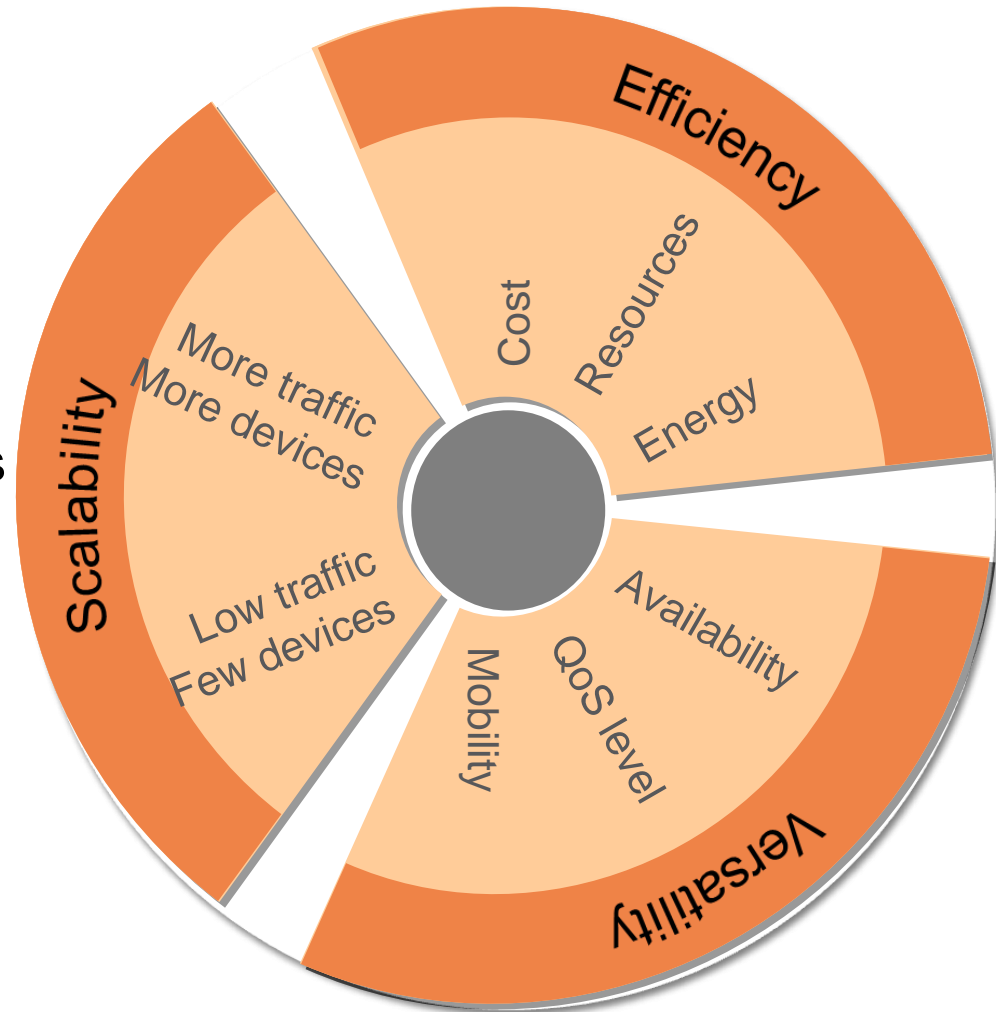
3GPP
A GLOBAL INITIATIVE

Rel-12

Rel-13

Objectives: Science & Technology

› To provide a system concept that supports

- 1000 times higher mobile data volume per area

- 10 times to 100 times higher number of connected devices

- 10 times to 100 times higher typical user data rate

- 10 times longer battery life for low power MMC

- 5 times reduced End-to-End latency

Objectives (Cont.): Technical

› Efficiency to allow for a constant growth in capacity at acceptable overall cost and energy dissipation

› Scalability to respond to a wide range of requirements regardless of the traffic amount (low or high)

› Versatility to support a significant diverse requirements (e.g. Availability, Mobility, Quality-of-Service) and use cases

Structure: Consortium

› ## Five vendors:
Alcatel-Lucent, Ericsson, Huawei, Nokia, NSN
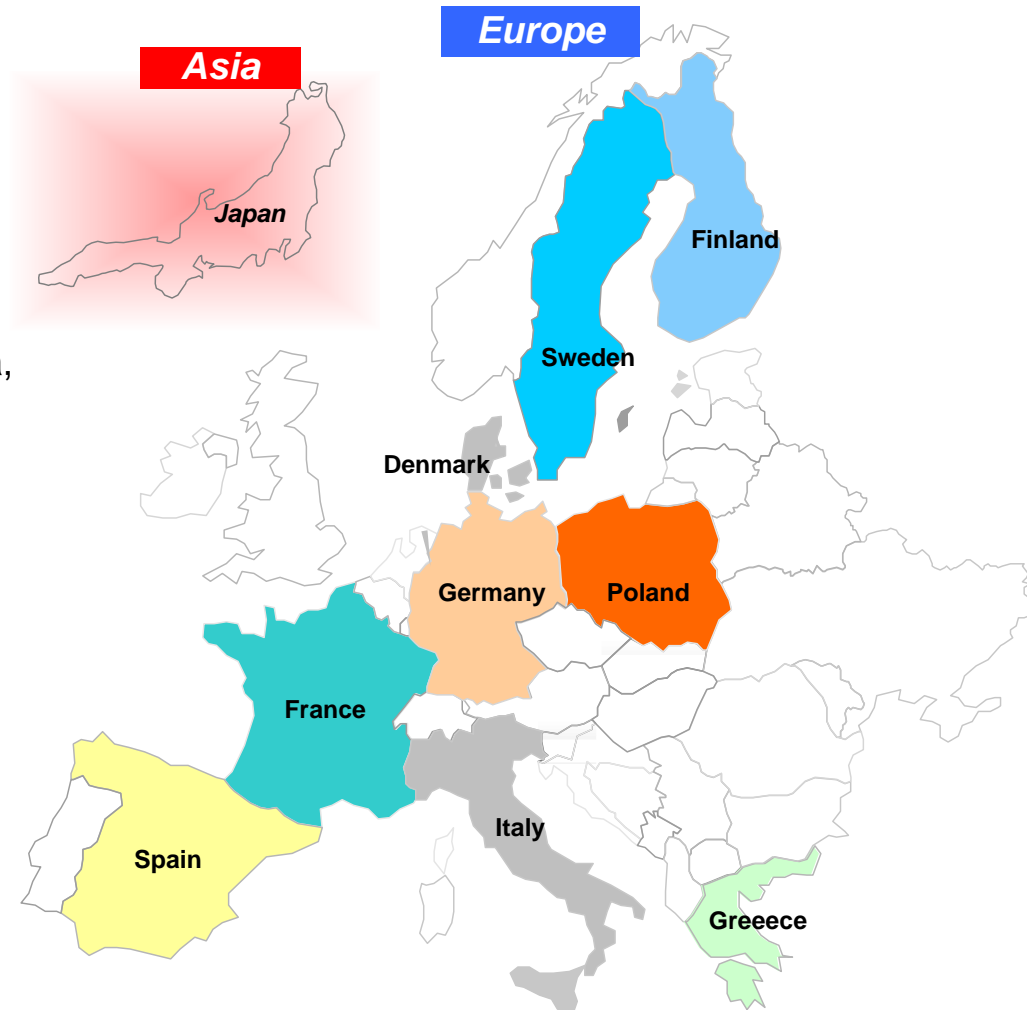
› ## Five operators:
Deutsche Telekom, Orange, Telecom Italia, Telefonica, DOCOMO

› ## Thirteen academic org.:
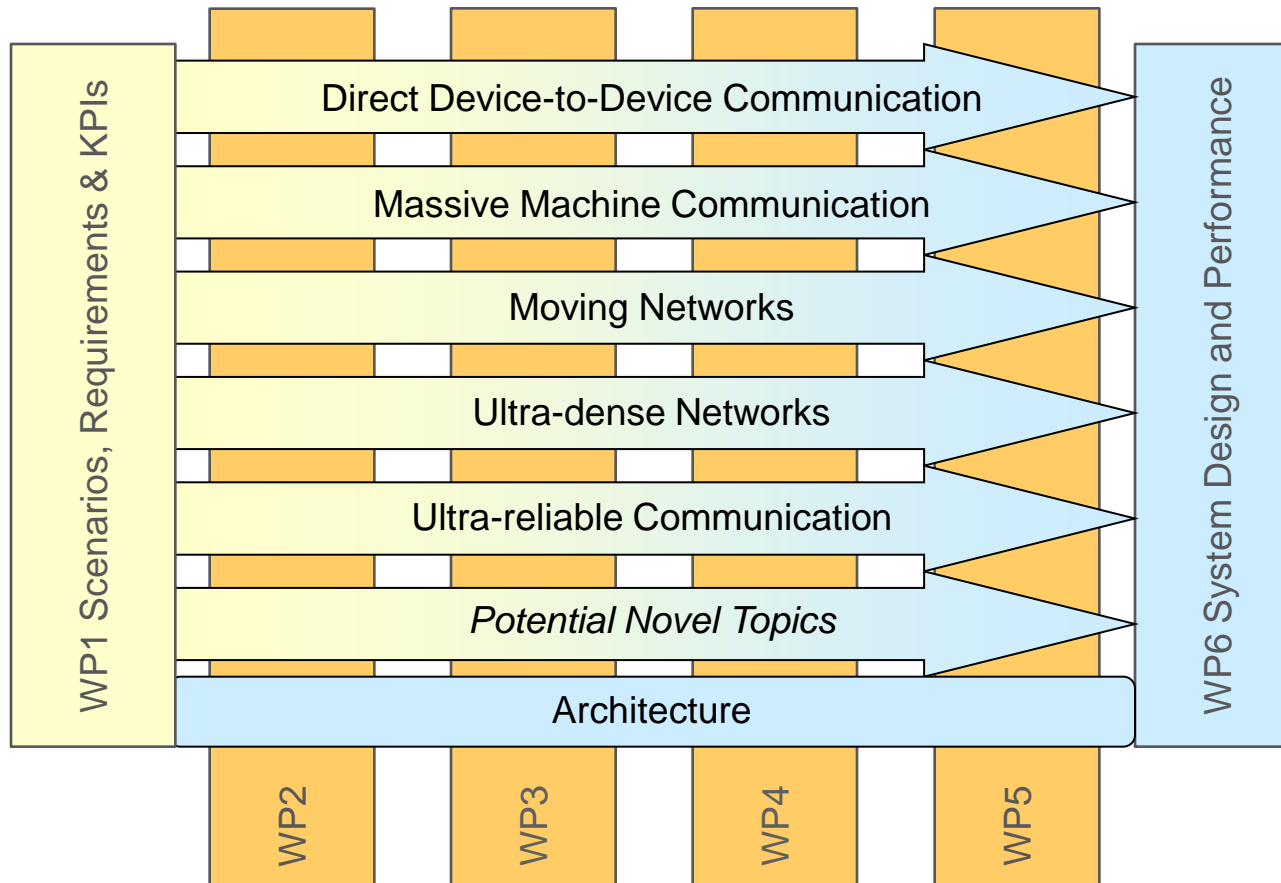AAU, Aalto, CTH, HHI, TB, KTH, NKUA, Oulu, PUT, RWTH, UB, UKL, UPV

› ## Automotive Industry:
BMW

Asia

Europe

Japan

Finland

Sweden

Denmark

Germany

Poland

France

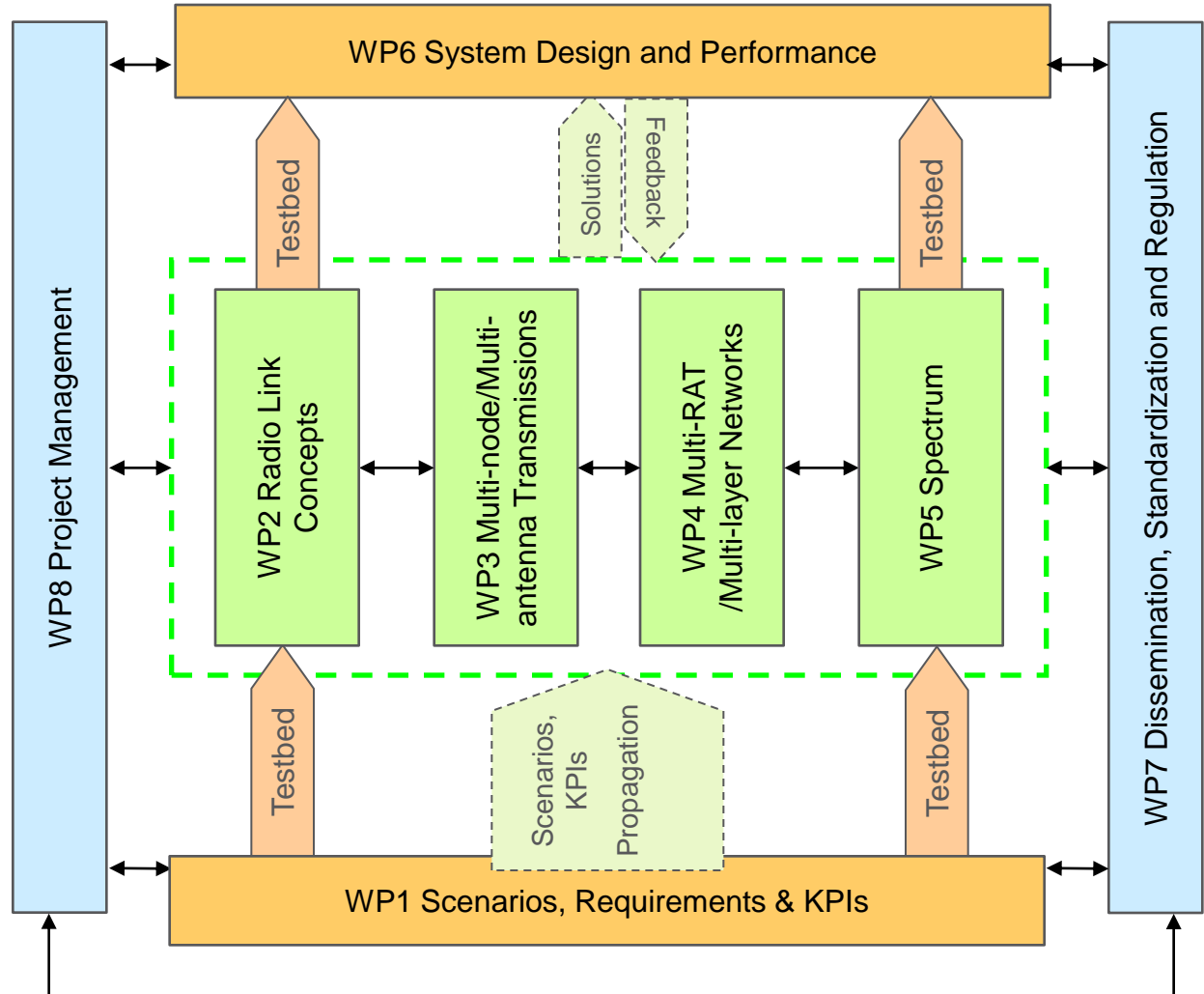Spain

Italy

Greeece

Structure: Matrix Approach

The integration is conducted in the horizontal and vertical dimensions:
Horizontal Topics (e.g., D2D Comm., Moving Networks, etc.) & Technology Components (vertical dimension)

Structure: Work-package (WP)

› ## Eight WPs:
  - WP1 (DOCOMO)
  - WP2 (Huawei)
  - WP3 (Alcatel-Lucent)
  - WP4 (NSN)
  - WP5 (Nokia)
  - WP6 (Ericsson)
  - WP7 (Ericsson)
  - WP8 (Ericsson)

Expected Output

› Concepts & Technology solutions for "5G" to
- – Meet diverse requirements of future services
- – Connect diverse devices
- – Support 1000 X traffic increase

› Consensus & Global strategy to
- – Ensure leadership in future communications system
- – Ensure early global consensus

› Unique Expertise allowing to
- – Conduct fundamental research at early point
- – Identify where a revolution or evolution from LTE-A is needed

Contact

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Project Info

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Project partners