



The 5G Infrastructure Public-Private Partnership

5G PPP Phase 1, objectives & on-going work
Info Day, Bologna, 17/03/2016

Phase 1 projects time plan



5G Infrastructure PPP
The European path towards global next generation communication networks

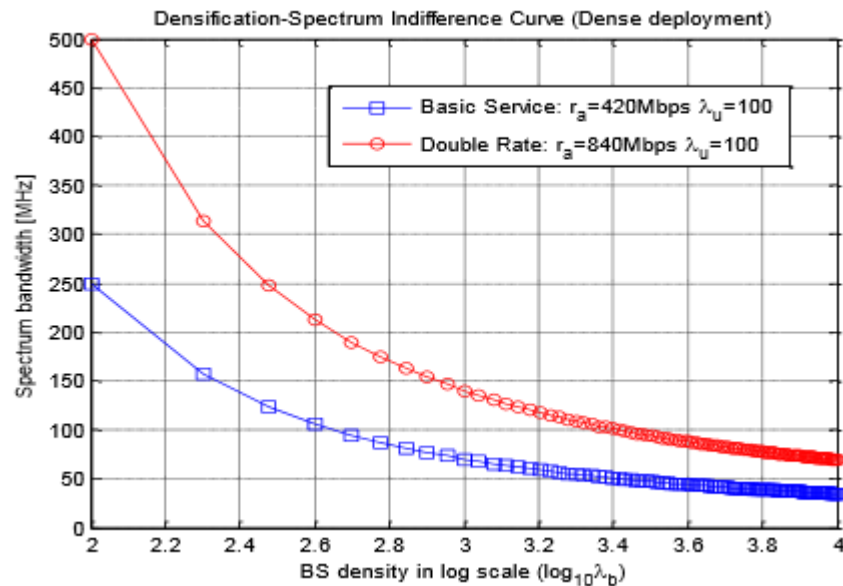
	Name	M1= July 2015																																		
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M35
CSA	EURO 5G	Euro-5G																																		
R&I	5G-NORMA	5G NOvel Radio Multiservice adaptive network Architecture																																		
R&I	5G-Xhaul	Dynamically Reconfigurable Optical-Wireless Backhaul/Fronthaul with Cognitive Control Plane for Small Cells and Cloud-RANs																																		
R&I	5G-CrossHaul	Developing an integrated 5G backhaul and fronthaul transport network																																		
R&I	5G-Ensure	5G Enablers for Network and System Security and Resilience																																		
R&I	CHARISMA	Converged Heterogeneous Advanced 5G Cloud-RAN Architecture for Intelligent and Secure Media Access																																		
R&I	COGNET	Building an Intelligent System of Insights and Action for 5G Network Management																																		
R&I	COHERENT	Coordinated control and spectrum management for 5G heterogeneous radio access networks																																		
R&I	FANTASTIC 5G	Flexible Air iNTERfAce for Scalable service delivery wITHin wireless Communication networks of the 5th Generation																																		
R&I	Flex5Gware	Flexible and efficient hardware/software platforms for 5G network elements and devices																																		
R&I	METIS II	Mobile and wireless communications Enablers for Twenty-twenty (2020) Information Society-II																																		
R&I	mmMAGIC	Millimetre-Wave Based Mobile Radio Access Network for Fifth Generation Integrated Communications																																		
R&I	SELFNET	SELFNET - FRAMEWORK FOR SELF-ORGANIZED NETWORK MANAGEMENT IN VIRTUALIZED AND SOFTWARE DEFINED NETWORKS																																		
R&I	SESAME	Small cELLS coordinATIOn for Multi-tenancy and Edge services																																		
R&I	SPEED-5G	quality of Service Provision and capacity Expansion through Extended-DSA for 5G																																		
R&I	SUPERFLUIDITY	Superfluidity: a super-fluid, cloud-native, converged edge system																																		
I	5GEx	5G Exchange																																		
I	SONATA	Service Programing and Orchestration for Virtualized Software Networks																																		
I	VirtuWind	Virtual and programmable industrial network prototype deployed in operational Wind park																																		

Start of Phase 2

Examples of results

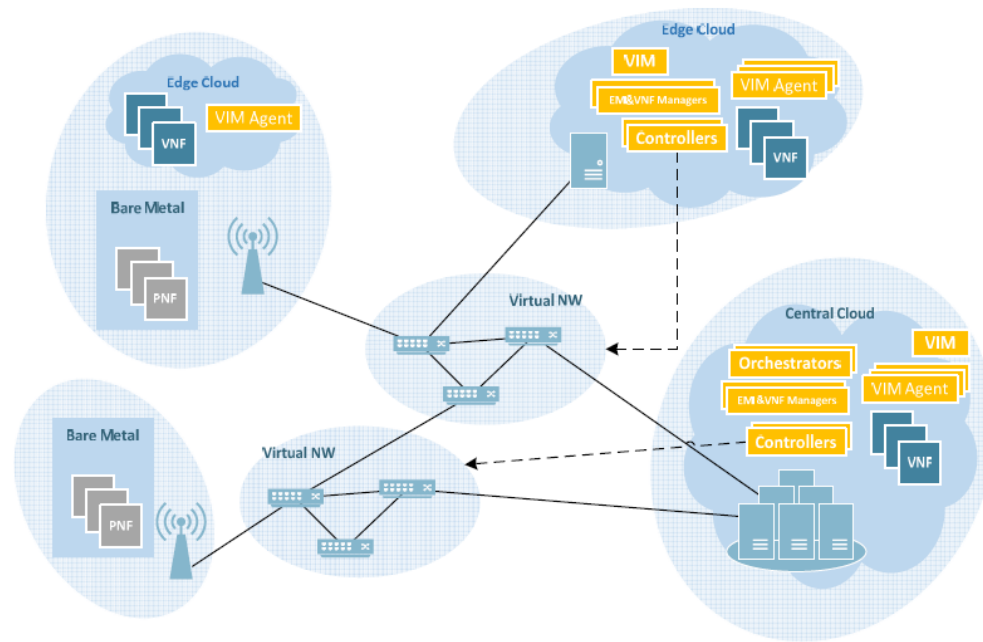
METIS II

Preliminary spectrum scenarios and justification for WRC Agenda Item for 5G bands above 6 GHz



Examples of results

5G-NORMA Functional Network Architecture and Security Requirements



Clause 41.4: what does it mean for your project ?



- Participation in cross project activities / working groups
 - workshops
 - whitepapers
- Common set of KPIs between projects
- Coordinated dissemination
 - 5G global events
 - Big audiences like MWC or Globecom
- Coordinated technical choices

Working Groups



Pre-standards



Spectrum



Vision and Societal Challenges



Architecture



Use cases and performance evaluation models



Software Networks (SDN and NFV)



Activity 5G PPP Contractual Arrangement, KPIs



Activity 5G International cooperation



Network Management, QoS and Security

Activity Community building and Public Relations

SME support

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Key deliverables from cross project activities to be taken into account



Key deliverable	Working Group	Availability
Whitepaper « 5G empowering verticals »	Vision & Societal challenges	22nd of February
Whitepaper on 5G Architecture	Architecture	1st of June
Standardization roadmap	Pre-standards	EuCNC
Guideline on use cases and performance evaluation models	METIS II cross project activity	April
Whitepaper on SDN and NFV (terminology, standards)	SDN/NFV	Summer
Whitepaper on network management	Network Management and QoS	EuCNC



Open workshops / events



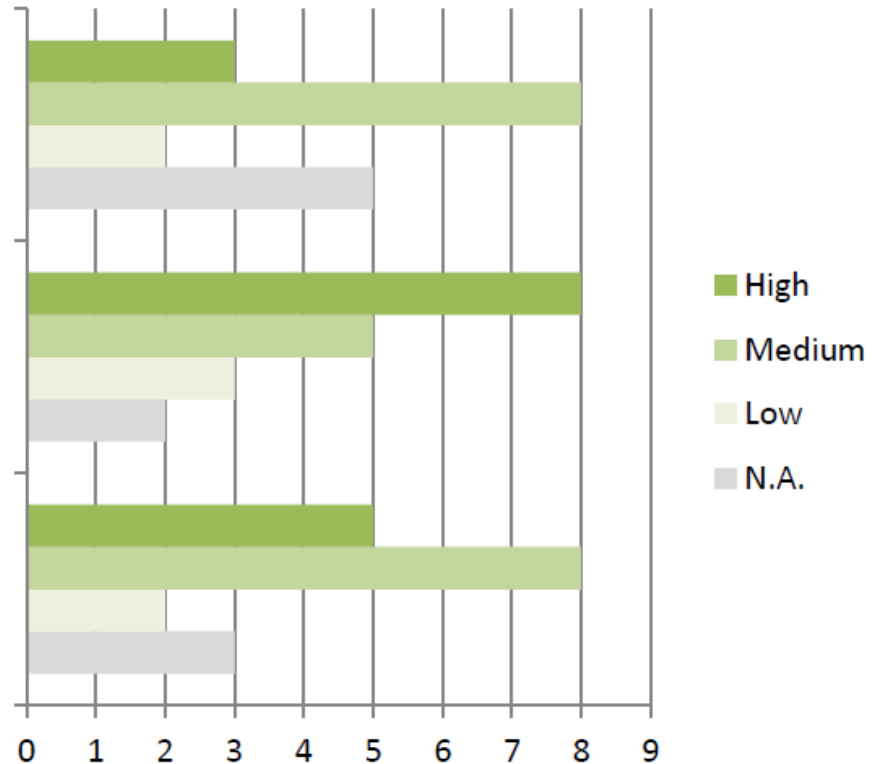
Date	Place	Workshop / event title
06/04	Brussels	5G Architecture
19/04	Brussels	NetWorld2020 Annual Event
10-11/05	Sophia Antipolis	“From Research To Standardization” (organized by ETSI)
06-07/06	Glasgow	EU ITS Congress (intelligent transportation verticals)
27-30/06	Athens	EuCNC workshops to be confirmed (SDN/NFV, network management, evaluation models...)
15/09	Munich	Workshop for the 5G Health Vertical at BMW World colocated to IEEE Healthcom 2016 (under confirmation)

Business KPIs

B1: Leverage effect of EU research and innovation funding in terms of private investment in R&D for 5G systems in the order of 5 to 10 times;

B2: Target SME participation under this initiative commensurate with an allocation of 20% of the total public funding;

B3: Reach a global market share for 5G equipment & services delivered by European headquartered ICT companies at, or above, the reported 2011 level of 43% global market share in communication...



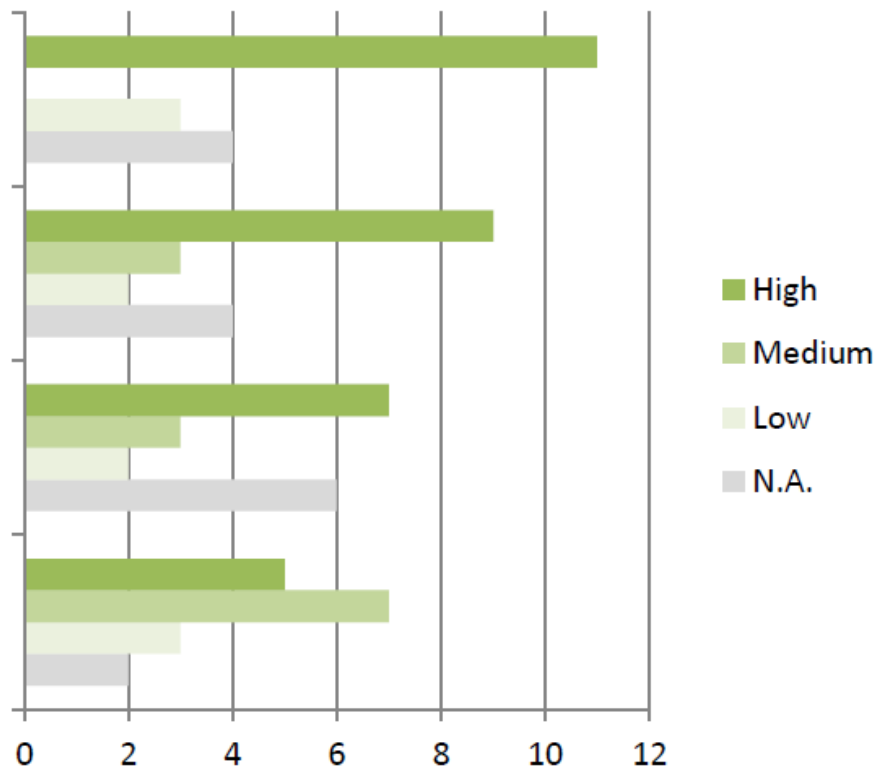
Performance KPIs

P1: Providing 1000 times higher wireless area capacity and more varied service capabilities compared to 2010.

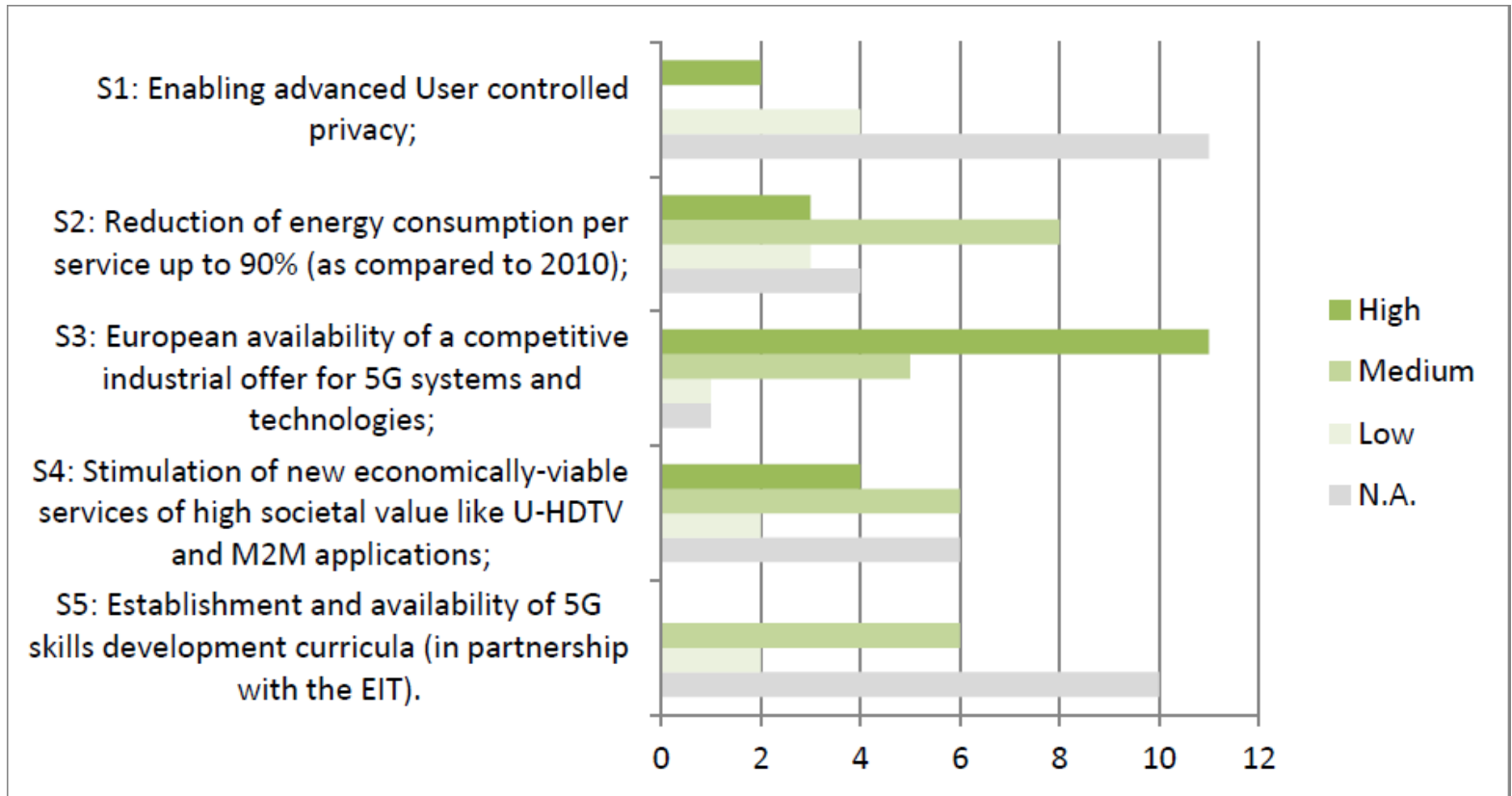
P2: Reducing the average service creation time cycle from 90 hours to 90 minutes.

P3: Facilitating very dense deployments of wireless communication links to connect over 7 trillion wireless devices serving over 7 billion people.

P4: Creating a secure, reliable and dependable Internet with a “zero perceived” downtime for services provision.

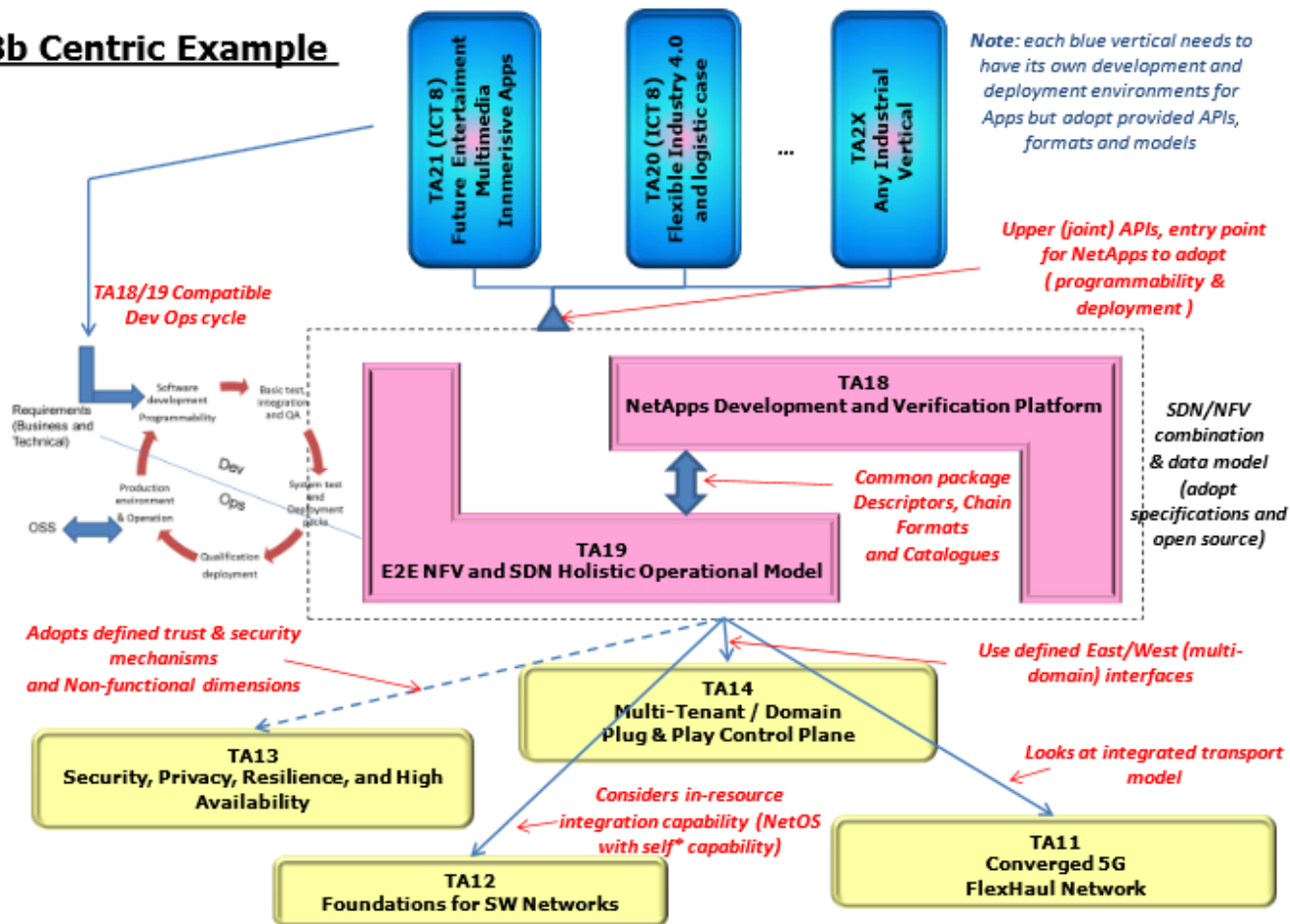


Societal KPIs



Coordinated technical choices: example taken from the pre structuring model

ICT-8b Centric Example





<http://5g-ppp.eu>

Thank you for your attention!



Governance of the programme



- The Steering Board provides guidance on the overall partnership initiative, including:
 - the cooperation between Actions and joint events to promote results of the Actions, concepts and systems,
 - recommend on collaboration and synchronisation of activities, including but not limited to on management of outcomes, common approaches towards standardisation, SME involvement, links with regulatory and policy activities, and commonly shared dissemination and awareness raising activities.
- The Technology Board organises technical meetings and workshops, and establish calls within the organisation for research proposals to address research gaps.