



The 5G Infrastructure Public-Private Partnership

Phase 2 Pre-structuring Model

Verticals Workshop - 09.11.15 - Brussels

Dr. Didier Bourse

Outline



- Model Approach
- Model Scope & Coverage
- Model Specificities
- Model Roadmap
- Model TAs Portfolio
- Phase 2 Pre-definition Plan
- Phase 2 Next Steps

 <https://5g-ppp.eu/5g-ppp-phase-2-pre-structuring-model/>

Phase 2 Pre-structuring Model Model Approach (1/4)



- PPP is an ambitious programme with ambitious KPIs
- More than a group of standalone projects working together through Concertation & Clusters meetings and activities
- Pre-structuring Model
 - Ensuring that the right set of projects (portfolio) will work together
 - Intra-phase and through phases (70+ projects in the full programme)
 - Model presenting features to guarantee smooth integration of new projects in existing coordinated programme
 - Model focused on Phase 2 projects portfolio and related projects, not on proposals
 - Model defining Targeted Actions (TAs)
 - Rationale, Objective, Scope and Expected Impact
 - Model specific (added value) but not prescriptive
- Model to be widely accepted by the Community and to be recommended by Association and EC as « reference » platform and guidelines for the further development of proposals
- Evaluation of proposals to consider the model as input to the evaluation process
 - Avoiding duplication (“hype effect”) and coverage gaps issues in the portfolio

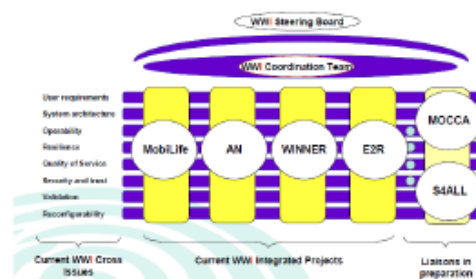
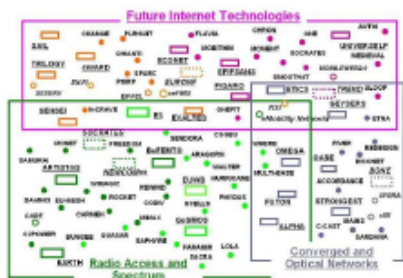
Phase 2 Pre-structuring Model Model Approach (2/4)

H2020 5G Infrastructure PPP PPP Pre-structuring Model Approach (3/5)

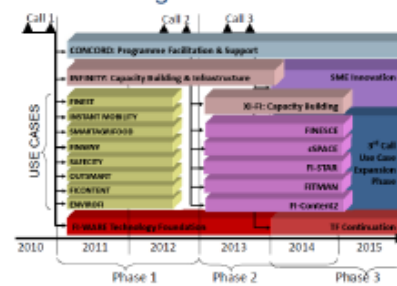
Projects Pre-definition & Specification

- Standalone Projects
- Potential connections between Proposals
- Clusters and Concertation
- Loose Coupling
- Coordination of set of proposals
- Tight connections between proposals
- Clusters and Concertation for projects outside of the initiative
- Joint events / meetings based on WWI momentum
- No joint technical KPI

- Very tight pre-definition and integration



FI-PPP Programme Architecture

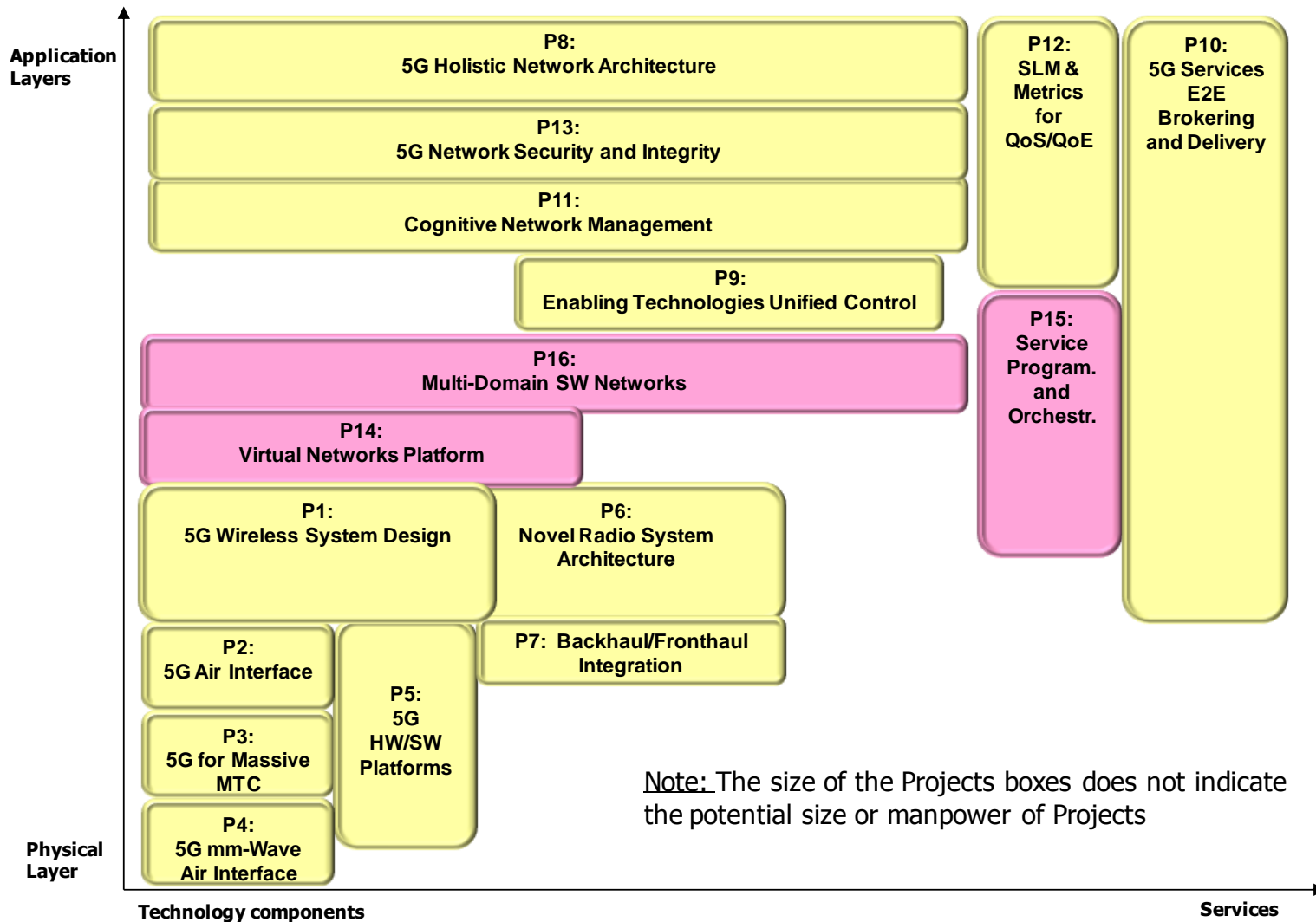


FP6-like
FP7-like

FP6 WWI

FI PPP

Phase 2 Pre-structuring Model Model Approach (3/4)

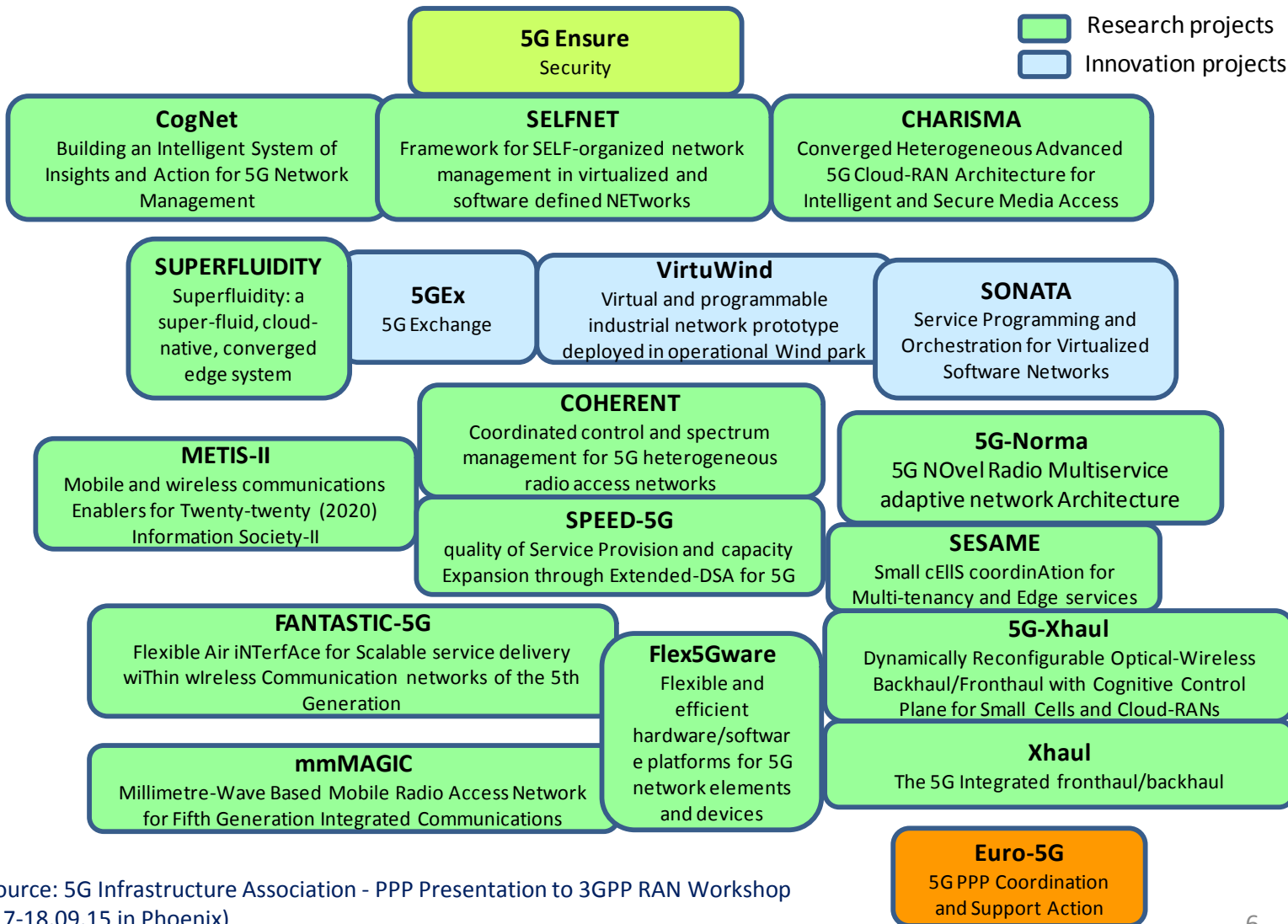


Note: The size of the Projects boxes does not indicate the potential size or manpower of Projects

Phase 2 Pre-structuring Model Model Approach (4/4)



Research projects
 Innovation projects



Source: 5G Infrastructure Association - PPP Presentation to 3GPP RAN Workshop (17-18.09.15 in Phoenix)

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

Phase 2 Pre-structuring Model Model Scope & Coverage



- Model addressing EC WP2016-17 5G Infrastructure PPP Strategic Objectives (http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-leit-ict_en.pdf)
- ICT-07-2017: 5G PPP Research and Validation of critical technologies and systems
 - RIA Strand 1: Wireless Access and Radio Network Architectures/Technologies
 - RIA Strand 2: High Capacity Elastic – Optical Networks
 - RIA Strand 3: Software Networks
 - CSA
- ICT-08-2017: 5G PPP Convergent Technologies
 - IA Strand 1: Ubiquitous 5G Access Leveraging Optical Technologies
 - IA Strand 2: Flexible Network Applications
 - RIA: Cooperations in Access Convergence
- EUJ-01-2016: RIA 5G - Next Generation Communication Networks
- EUK-01-2016: RIA 5G - Next Generation Communication Networks

Phase 2 Pre-structuring Model Model Specificities



- Model fully capturing the Phase 2 specificities
 - 5G requirements and targets from Verticals markets and stakeholders
 - Experimentation and validation of 5G technologies and developments
 - Cross-projects interworking (/Clause 41.4)
- Model considering Phase 2 impact / outcomes at programme level
 - Coordinated standardisation contribution
 - Projects contributions to WGs to reach the programme KPIs
 - Participation to a demonstration of 5G Infrastructure PPP project functionalities, potentially inside a large EC booth in MWC 2019 (EU flagship Phase 2 demonstration)
- Model considering dedicated open “Blue” TAs that would clearly reinforce the Model, as identified from Evaluators / EC Officers perspectives
 - Inclusion of outstanding / disruptive TA not identified in the Model
 - Inclusion of a second instance of a defined TA in the Model
 - Not creating gap(s) in the Portfolio
- Model capitalising on Phase 1 experience (incl. Phase 1 preparation survey feedbacks)

Phase 2 Pre-structuring Model Model Roadmap

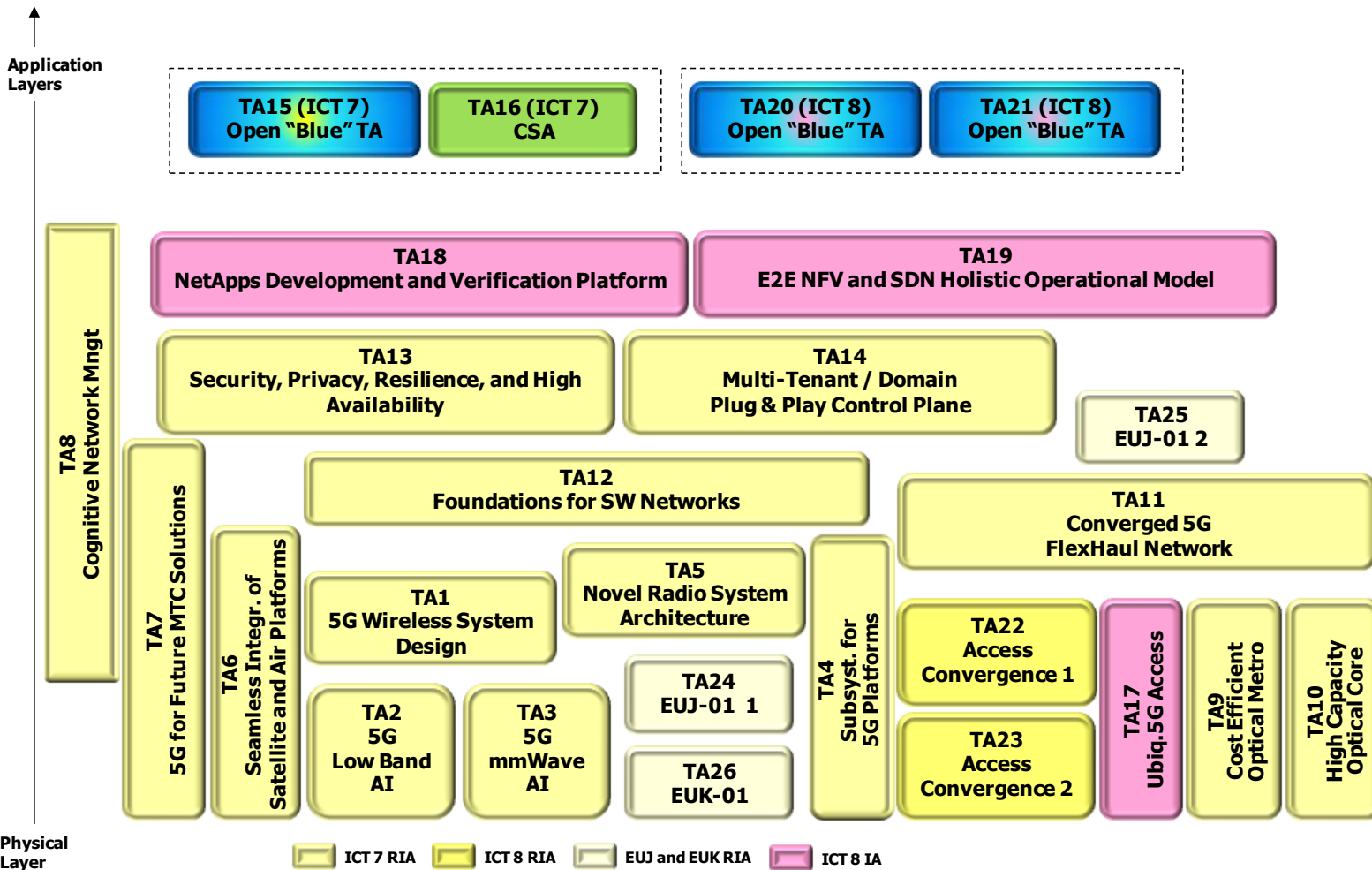


- Model version 1.0 released on 02.11.15
 - Model including 14 TAs defined by Association and 1 « Blue » TA in ICT 7
 - Model including 5 TAs defined by Association and 2 « Blue » TAs in ICT 8
- Open Consultation to be organised by 5G Infrastructure Association on the basis of Model version 1.0
- Forthcoming PPP Info Days and Awareness events incl. specific discussions on the Model
 - Detailed definition of Info Days and Awareness Events in the coming weeks
- Model version 2.0 to be released the latest on 07.03.16
- Model version 2.0 to benefit from the Open Consultation and all interactions organised during Info Days and Awareness Events
 - Model to include 14 TAs in ICT 7 (fully defined TAs or also incl. « Blue » TA)
 - Model to include 7 TAs in ICT 8 (fully defined TAs or also incl. « Blue » TAs)
- Phase 2 Call opening on 10.05.16 (20.10.15 for EUJ and EUK)
- Phase 2 Call deadline on 08.11.16 (19.01.16 for EUJ and EUK)

Phase 2 Pre-structuring Model Model – TAs Portfolio (1/2)



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



Note: The size and the orientation of the TAs boxes do not indicate the potential size or manpower of future Projects

Phase 2 Pre-structuring Model Model – TAs Portfolio (2/2)



TA1: 5G Wireless System Design



Rationale

Standardisation and introduction of 5G will be done in phases. The TA 5G Wireless System Design addresses forward compatibility, in particular in the radio segment but also for related computation and storage resources. Proposals should address new topologies including D2D and mesh networks, utilisation of different spectrum ranges and paradigms, service-specific C- and U-planes, and support of new services with not yet known requirements.

Objective

- To continue the evolution of the 5G wireless system to ensure forward compatibility for all 5G use cases and enable later deployment of the additional services beyond 2020
- To support new business and service models for the telecom industry, e.g. verticals integration and Over-The-Top providers
- To prepare test-bed environments to show and evaluate first 5G prototype(s)
- To provide close cooperation with relevant 5G-PPP projects and harmonised action towards bodies standardising 5G

Scope

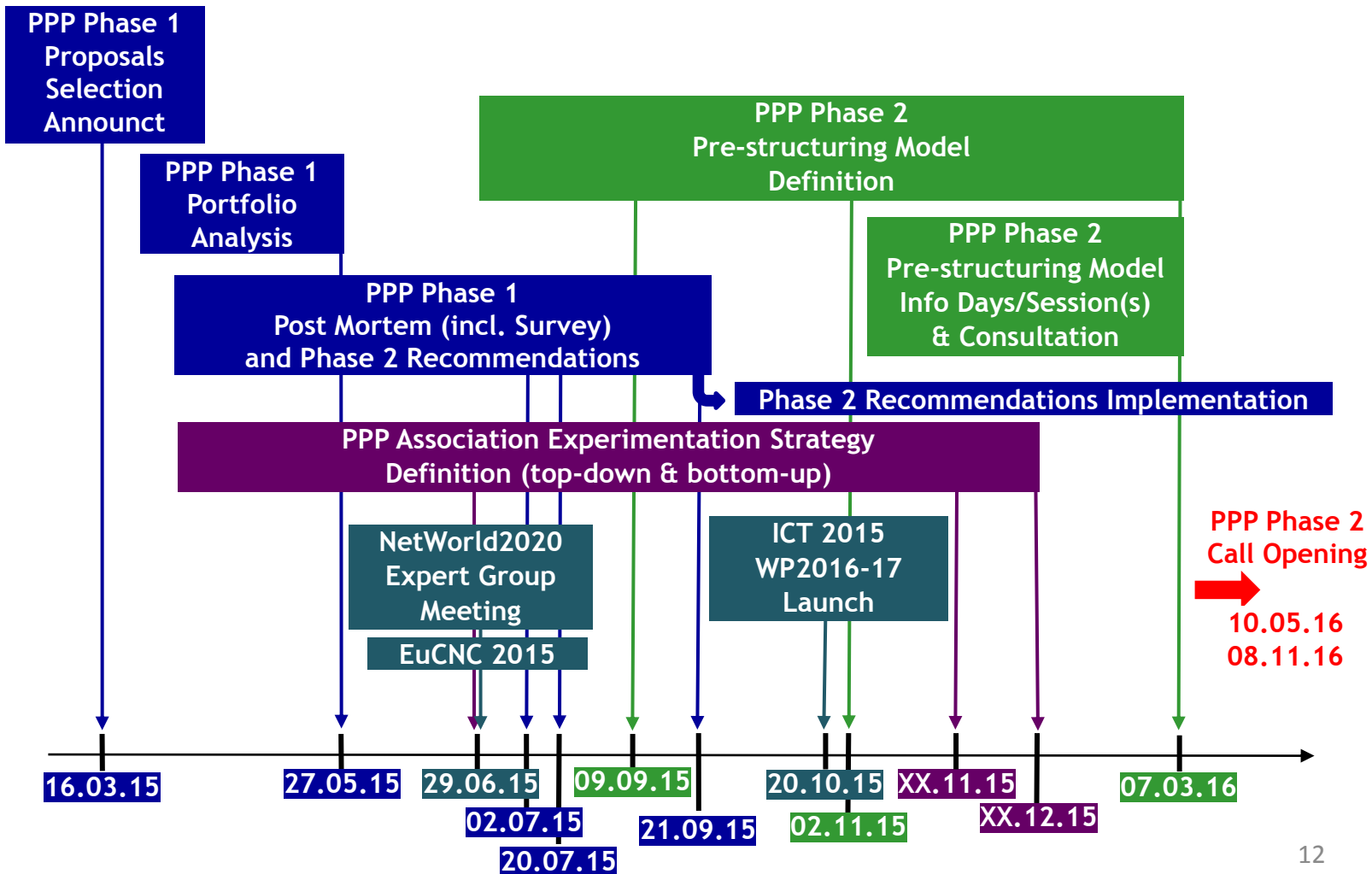
- A Multi-RAT 5G system that
 - Allows a continuous evolution of 5G wireless systems and provides a smooth migration from current technology
 - Addresses service requirements from mobile broadband, mission-critical services, IoT and verticals
 - Includes innovative spectrum usage concepts (e.g. LAA and LSA), flexible and full duplex system and energy efficient operations
- RAN architecture (radio and RAN interface evolution) and considerations about the CN/RAN logical split e.g. characteristics of RAN/CN interface evolution to support
 - Service-aware access and ultra-low latency Machine-Type communication
 - Advanced aspects of spectrum sharing, handling mobility and small cell discovery in a highly directional environment, sharing of spectrum between mobile access, fronthaul and backhaul
 - Ultra-dense deployments, D2D and mesh topologies
- Ensure overall KPI evaluation by providing an evaluation framework, preparing test-beds, and performing an overall assessment in close collaboration with other relevant 5G-PPP projects
- Study the business models for the 5G design, building on work conducted in METIS-II and other H2020 projects

Expected Impact

- Demonstrate the feasibility of 5G solutions meeting the requirements for integrated wireless communications well beyond 2020
- Impact on standardisation and regulation, e.g. 3GPP, IEEE, IETF, ITU, ONF, OPNFV, ETSI NFV/MEC
- Evaluation of 5G proposals submitted to the ITU with respect to IMT 2020 requirements from a 5G-PPP perspective
- Contribution to the forecasted EU booth in MWC 2019 showcasing the set of Phase 2 projects functionalities and capabilities

Phase 2 Pre-structuring Model Phase 2 Pre-definition Plan

Up-to-date Phase 2 Pre-definition Plan Roadmap



Phase 2 Pre-structuring Model

Phase 2 Next Steps



- Open Consultation to be organised by 5G Infrastructure Association on the basis of Model Version 1.0
- Forthcoming PPP Info Days and Awareness events incl. specific discussions on the Model
 - Detailed definition of Info Days and Awareness Events in the coming weeks
- Model Version 2.0 to benefit from the Open Consultation and all interactions organised during Info Days and Awareness Events
- Model to be widely accepted by the Community and to be recommended by Association and EC as « reference » platform and guidelines for the further development of Proposals
- Model to be provided as input to the Evaluation
- Brokerage Platform definition, design and implementation, to be worked out through Open Consultation and Info Days / Awareness Events
- Solid FAQ webpage to be developed and up-dated until the Call 2 deadline so that all Community members have access to the latest information



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

Thank you for your attention!

