METIS – II
5G Radio Access Network Design

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(on behalf of the project consortium)

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METIS-II Objectives & Partners

1. Develop the overall 5G radio access network design
2. Provide the 5G collaboration framework within 5G-PPP for a common evaluation of 5G radio access network concepts
3. Prepare concerted action towards regulatory and standardisation bodies

19 Partners:

- Operators: NTT Docomo, Orange, DTAG, Telefonica, Telecom Italia
- Vendors: Ericsson, Nokia, Huawei, Alcatel-Lucent, Samsung, Intel
- Academia (in Europe): KTH, Uni Valencia, Uni Kaiserslautern
- SMEs: iDate, Janmedia
- Non-European partners: NYU, Winlab, ITRI

Project coordinator: Olav Queseth, Ericsson

Technical manager: Patrick Marsch, Nokia

METIS-II 5G RAN Design

METIS-II will develop the overall 5G RAN design, focusing particularly on designing the technology for an efficient integration of legacy and novel radio access network concepts into one holistic 5G system

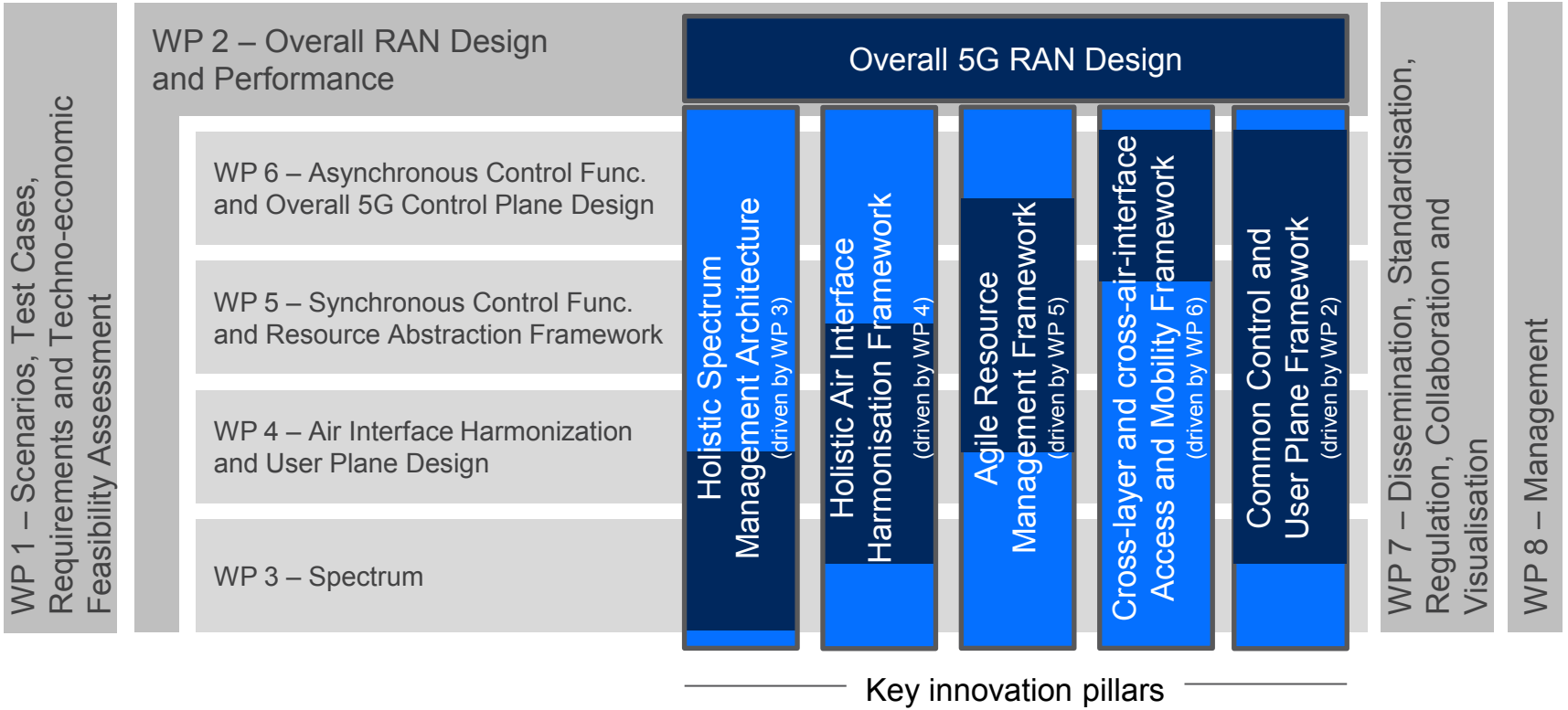
The 5G RAN design description will contain:

- a summary of the potential spectrum usage foreseen and spectrum roadmap recommended in 5G,
- a description of the air interface variants expected to be introduced in the context of 5G, and the air interfaces to be evolved from existing standards,
- a description of how tight novel air interface variants are expected to be integrated with each other and with legacy technologies (e.g. LTE evolution and Wi-Fi), to which extent they should be harmonized or have common functionality in the protocol stack, and on which level different transmission forms should be aggregated,
- a clarification of various key RAN design questions in 5G
- a description of a comprehensive control and user plane design of a 5G RAN, to the level of detail corresponding to "technology readiness level 2"

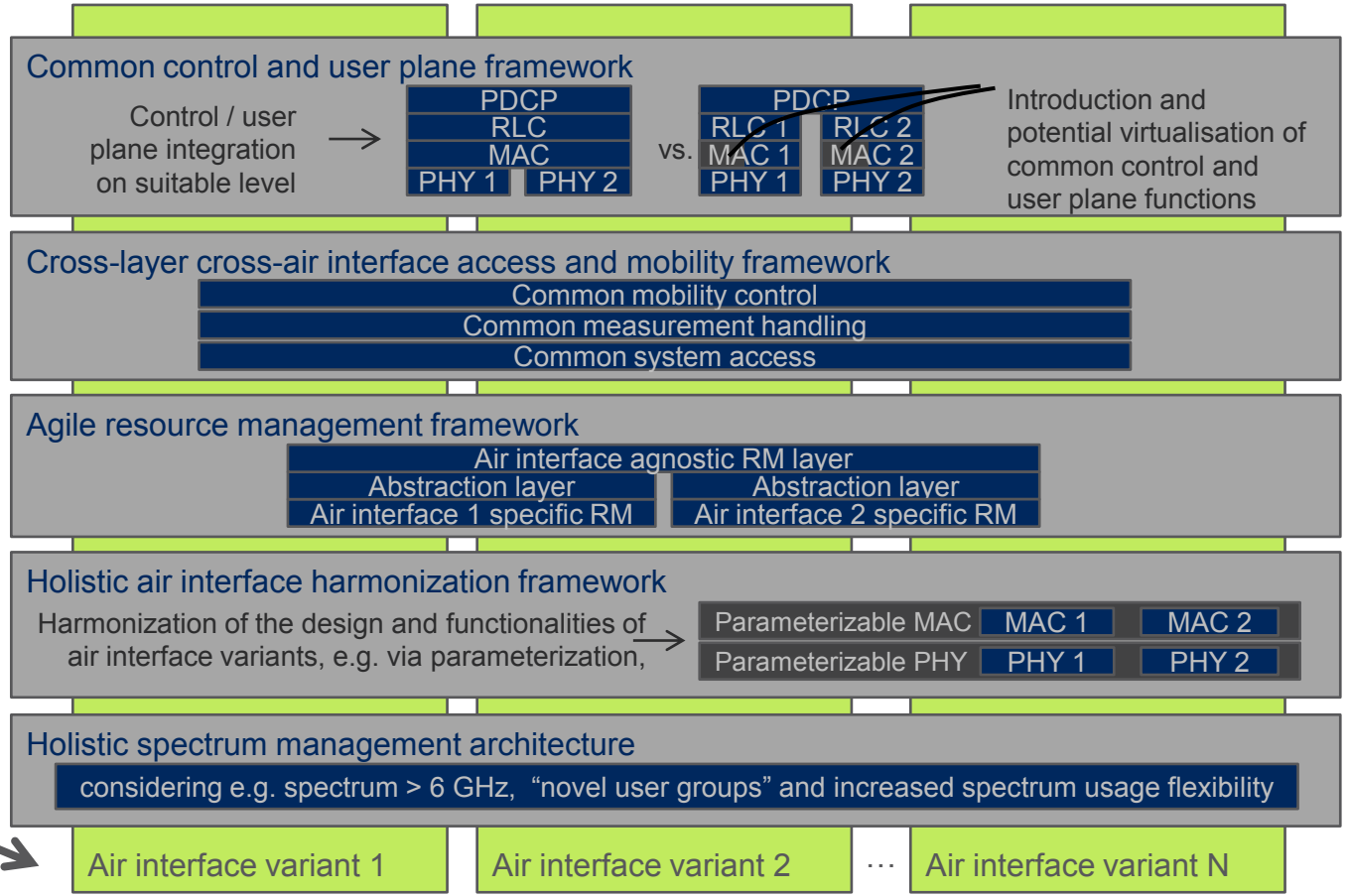
Protocol layers in focus:

- **PHY** will be investigated from harmonization / integration perspective
- **MAC, RLC, PDCP, RRC** functionality (or 5G equiv.) will be designed in detail

METIS-II Project Structure

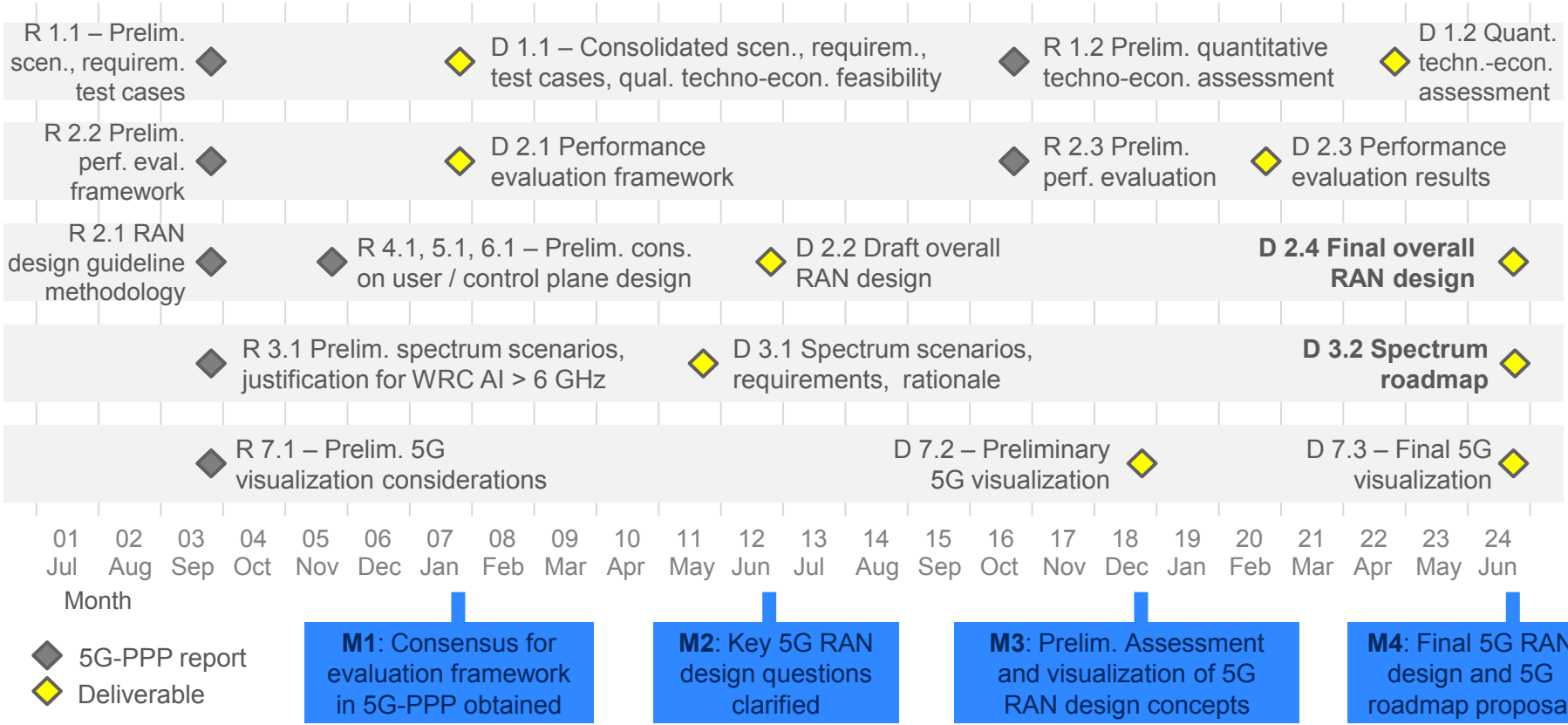


METIS-II Details on Key Innovation Pillars



Air interface details studied in other projects, e.g. METIS, FANTASTIC-5G, mmMAGIC

METIS-II Milestones and Key Deliverables



METIS-II Key Output Expected

- Month 7 (Jan 2016):
  - Consolidated scenarios, requirements and test cases for 5G
  - Performance evaluation framework for global comparison of 5G RAN concepts
- Month 11 (May 2016):
  - Spectrum scenarios, requirements, rational for < 6 GHz
- Month 12 (June 2016):
  - Draft overall RAN design
- Month 24 (June 2017):
  - Final overall RAN design

All stated deliverables are expected to be already consolidated or at least discussed within 5G-PPP before publication