



SAMSUNG

European 5G PPP R&D

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Steering Board , 5G PPP Initiative
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Presented by Dr. Mythri Hunukumbure



EC co-funding through Horizon 2020 5G PPP Program is acknowledged

5G PPP in Horizon 2020 of the EU



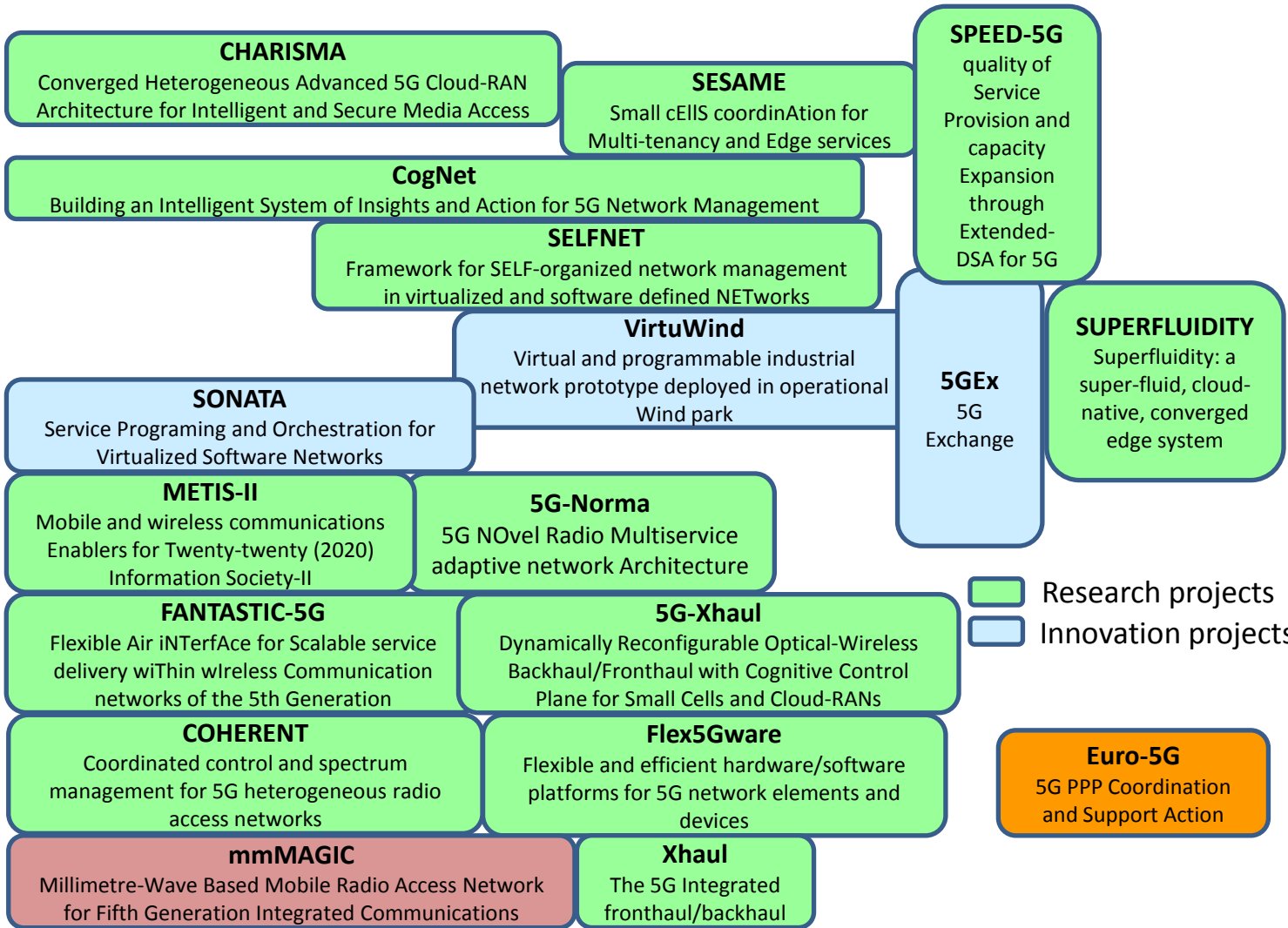
- 5G PPP is a research program in Horizon 2020 of the EU dedicated to 5G system research
- Budget for 2014 – 2020 time frame
 - Up to 700 million € public funding
 - Matched by private side including leveraging factor 5 of additional private investment results in private value of about 3.5 billion €
- Research program is addressing all building blocks of a future communication network and a huge number of huge cases from vertical sectors
- 5G Infrastructure Association vision paper to be published at Mobile World Congress 2016 in Barcelona
- First set of projects started on July 1, 2015



Horizon 2020 5G PPP Call 1 selected projects



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



mmMAGIC overview (1/2)

Co-funded by the EC under the Horizon 2020 5G PPP - Research and Innovation Framework Programme

Duration : July 2015 – July 2017 + 6 pro-bono months, 19 Partners

Project coordinator: Samsung, Maziar Nekovee

Technical manager: Ericsson, Peter von Wrycza

WP1: Intel, **WP2:** HHI, **WP3:** Nokia, **WP4:** Huawei, **WP5:** Samsung), **WP6:** Samsung

Vendors: Samsung, Ericsson, Alcatel-Lucent, Huawei, Intel, Nokia

Operators: Orange, Telefonica

Leading research institutions: CEA-LETI, Fraunhofer HHI, IMDEA Networks

Universities: Aalto University, University of Bristol, Chalmers University of Technology, TU Dresden

SME: Qamcom

Test equipment manufacturers: Keysight Technologies, Rohde & Schwarz

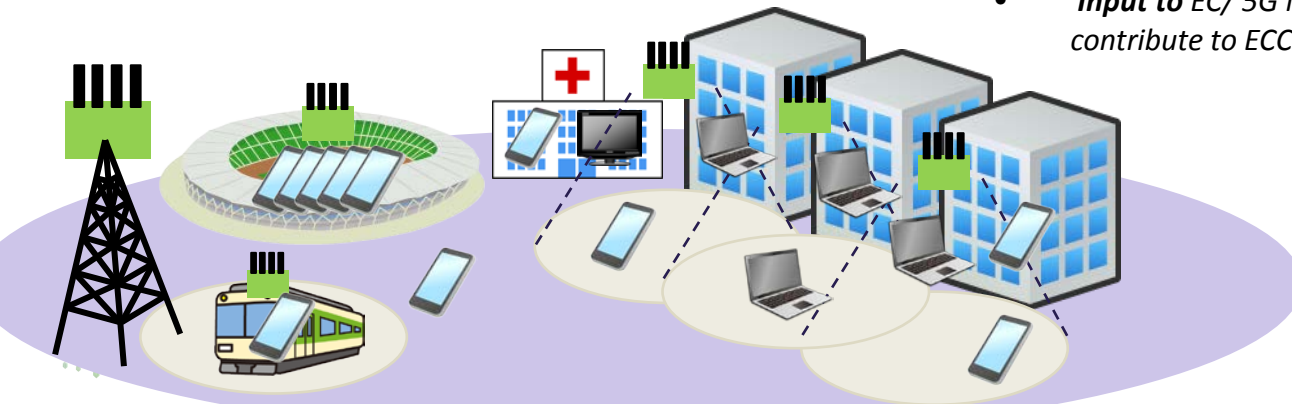
Advisory board: ANFR (FR), BNetzA (DE), FICORA (FI), PTS (SWE), Ofcom (UK), ETSI, Sony Mobile, BMW, U. Ilmenau



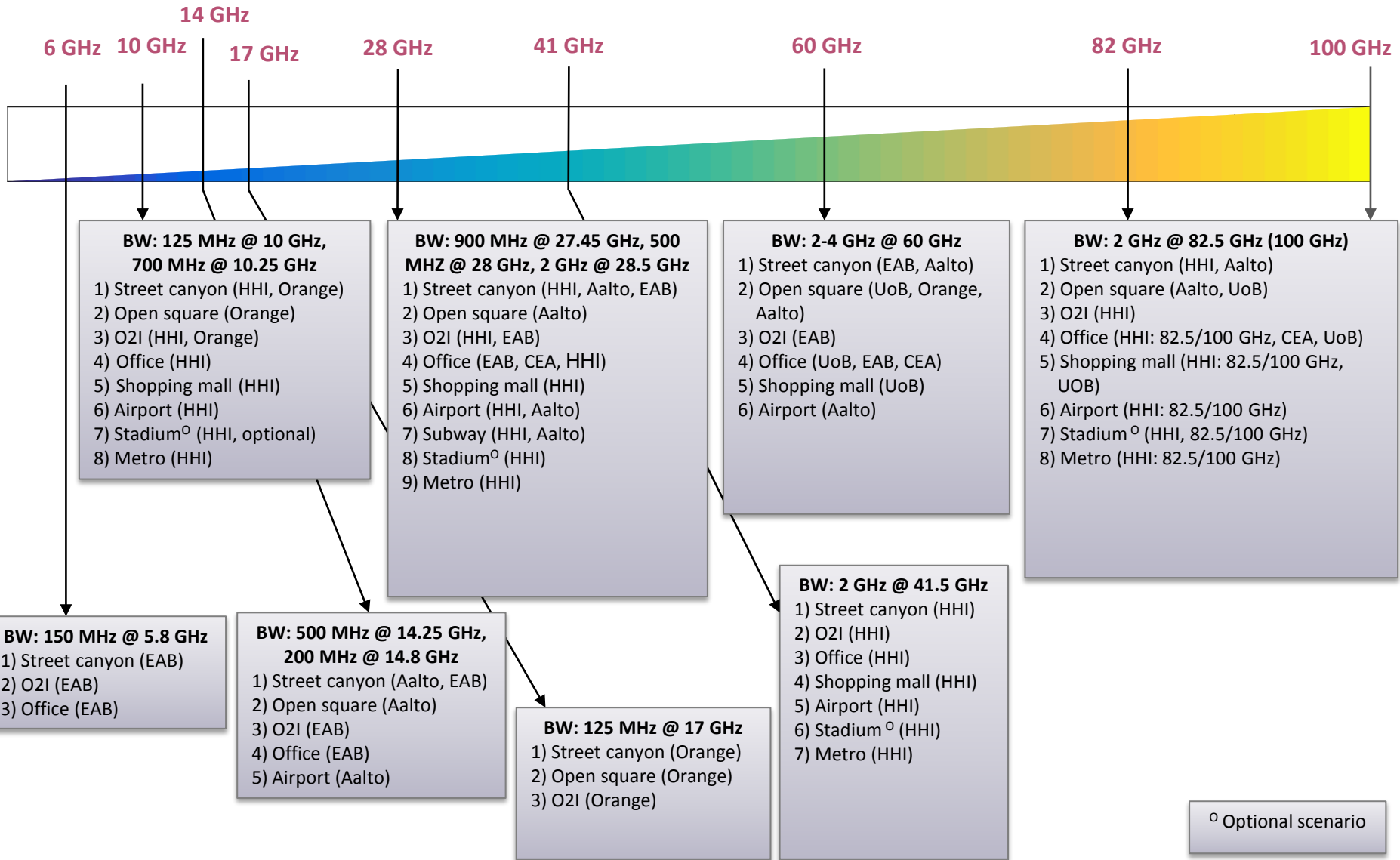
mmMAGIC kick-off meeting held at Samsung R&D UK, 7-8 July 2015

mmMAGIC overview (2/2)

- The overall objective is to develop key concepts and components of a **mobile radio access technology (RAT)** operating in wide contiguous bandwidth above 6 GHz (including mm-wave frequencies)
- Also investigating self-backhauling (and fronthauling for other 5G RAT)
- An integral component of an overall 5G multi-RAT architecture
- **Investigation** suitable frequency in the 6-100 GHz ("mm-wave bands) range (WP1)
- **Conduct** measurements and develop validated channel models for identified frequency ranges well-suited for 3G PP, ITU-R (WP2)
- **Develop** a novel radio interface concept (including multi-antenna technologies) for mobile access in frequency bands above 6 GHz that fulfils the general 5G PPP requirements as well as project specific KPIs; integrated across multiple RATs and network layers (WP3-WP5)
- **Demonstrate feasibility** and **assess viability** of mmMAGIC technologies through high fidelity software demonstrator, hardware-in-the-loop experimentation, and techno-economical analysis
- **Input to EC/ 5G infrastructure Association WG's; contribute to ECC , ITU-R and 3GPP above 6 GHz process**



mmMAGIC Measurement Bands and Scenarios



THANK YOU!

Find out more at <https://5g-mmmagic.eu>