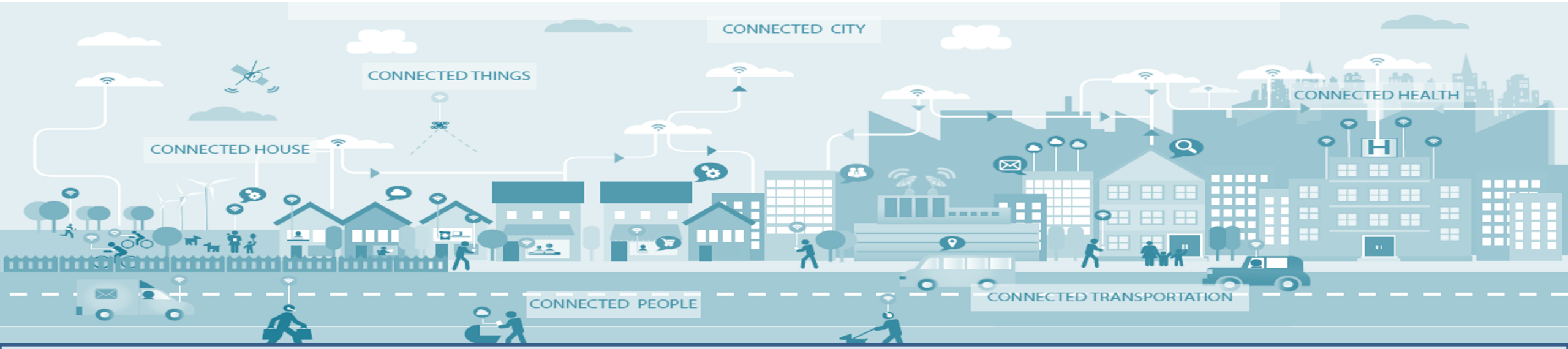
The 5G Infrastructure
Public-Private Partnership

5 PPP Technology Board: Current Status and future activities

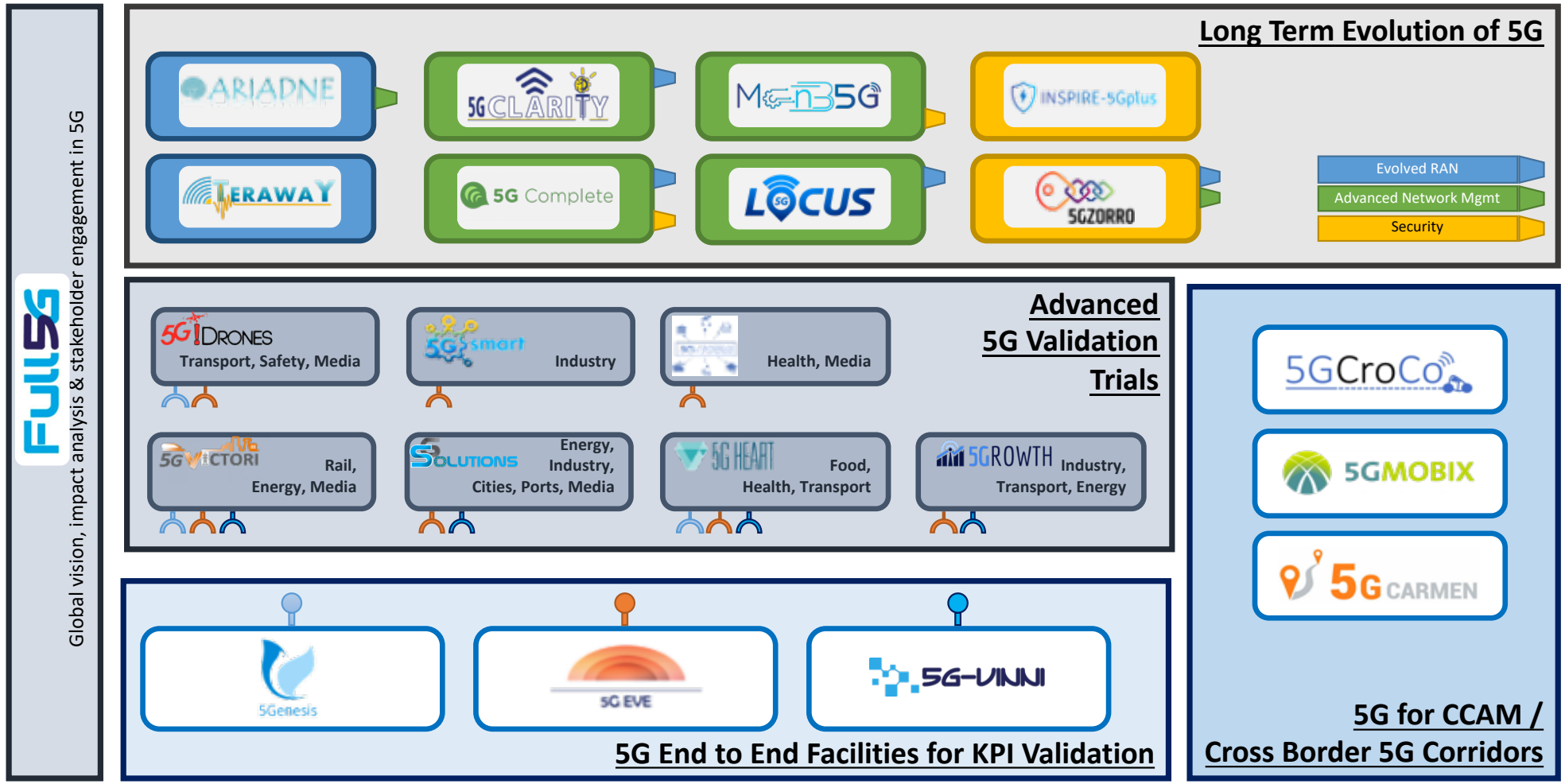


5G Experimentation Facilities and Vertical Trials
Current Status and Future Perspective

Dr. Alex Kaloxylos
TB chairman

14-10-2020

Phase III projects – Reference Figure



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Phase III projects – ICT20 Topics

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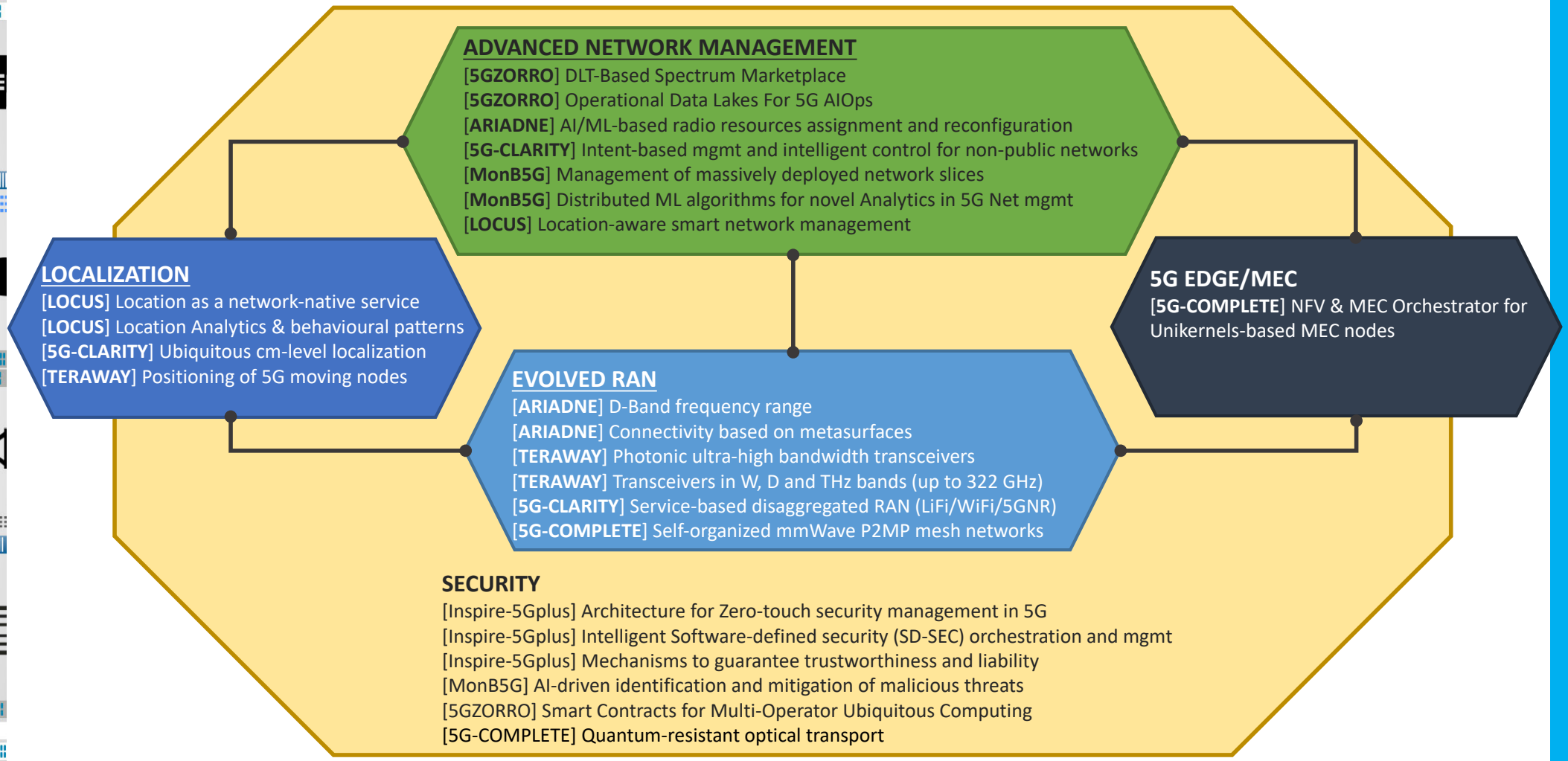

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New Projects coming on board

ICT-42-2020: 5G-PPP 5G Core Technologies innovation

5GLOGINNOV	5GMETA	5G RECORDS	AFFORDABLE 5G
COREnect European Core Technologies for future connectivity systems and components	DRAGON	FUDGE-5G	Int5Gent

ICT-53-2020 call: 5G-PPP 5G for Connected and Automated Mobility (CAM)

5G BLUEPRINT	5GMED	5G ROUTES

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SNS PROGRAMME PROPOSAL

SMART NETWORKS & SERVICES

Draft proposal for a

European Partnership under Horizon Europe

Smart Networks and Services

Version 30 June 2020

Summary

The European communication networking and services sector is proposing the Smart Networks and Services Partnership to secure European leadership in the development and deployment of next generation network technologies and services, while accelerating European industry digitization. It will position Europe as a lead market and positively impact the citizens' quality of life, while boosting the European data economy and contributing to ensure European sovereignty in critical supply chains.

This document is supported by

5G IA INFRASTRUCTURE ASSOCIATION · NetWorld 2020 · Alliance for Internet of Things Innovation · CISPE.cloud · NESSI

- Proposal supported by different communities
  - representing significantly more than 1000 organisations from
    - Industry
    - SMEs
    - Research community (R&D centers and Universities)
- Proposal is allocated to
  - Horizon Europe
    - cluster "Digital, Industry and Space"
    - area of Intervention "Next Generation Internet" as the center of gravity
    - with some links to other areas such as "Key Digital Technologies" and "Artificial Intelligence" in other Areas of Intervention
  - CEF – Connected Europe Facility, sub-program on 5G deployments at major European transport routes

Source: SNS proposal. June 30, 2020, https://ec.europa.eu/info/sites/info/files/research_and_innovation/funding/documents/ec_rtd_he-partnership_smart-networks-services.pdf

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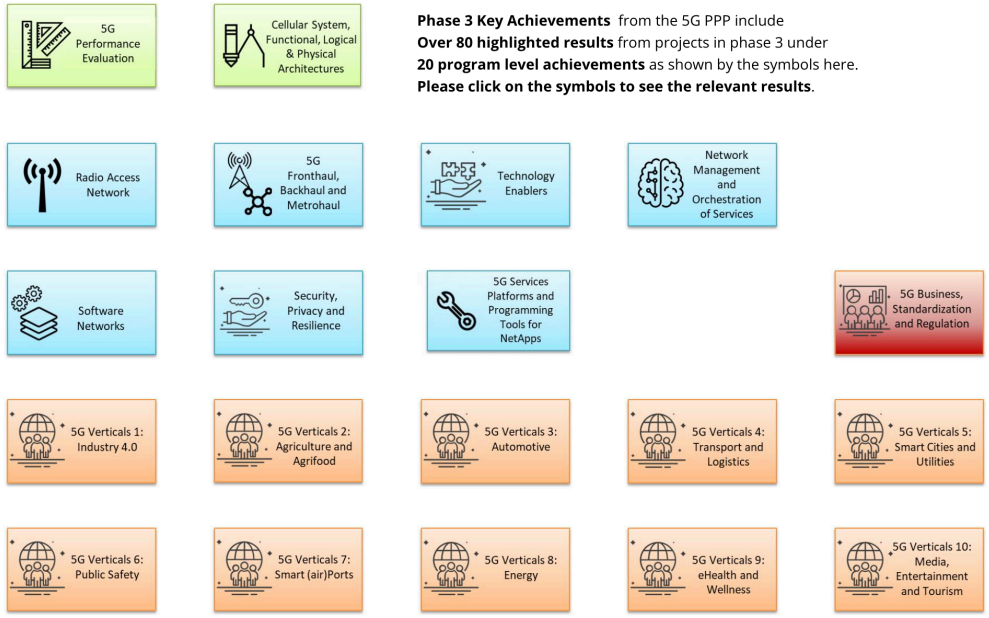
Key achievements v3.0
https://5g-ppp.eu/key-achievements-v3/



Cross 5G PPP Initiative Documents
Cross 5G PPP Initiative Documents

1	European Annual Journal 2020
2	5G Pan-EU Trials Roadmap Version 4.0
3	5G PPP Automotive WG Initial Proposal on how 5G Strategic Deployment can support Connected and Automated Mobility (CAM) in Europe
4	5G PPP Software Network White Paper: "Cloud Native and Verticals' Services – 5G PPP projects analysis
5	5G PPP Architecture White Paper Consolidated version 3.0
6	5G PPP Test, Measurement and KPIs Validation Working Group White Paper – June 2019: "Validating 5G Technology Performance – Assessing 5G Architecture and Application Scenarios
7	5G PPP Automotive White Paper: "Business Feasibility Study for 5G V2X Deployment", Version 2.0
8	5G PPP Annual Progress Monitoring Report
9	On-Board procedure to ICT-17 infrastructure projects
10	5G network support of vertical industries in the 5G PPP ecosystem

5G PPP Project Papers

	Title	Reference Information
5G-CARMEN	"LightEdge: Mapping the Evolution of Multi-access Edge Computing in Cellular Networks"	IEEE Communications Magazine, to appear

Top technical documents
https://5g-ppp.eu/top-ten-papers/

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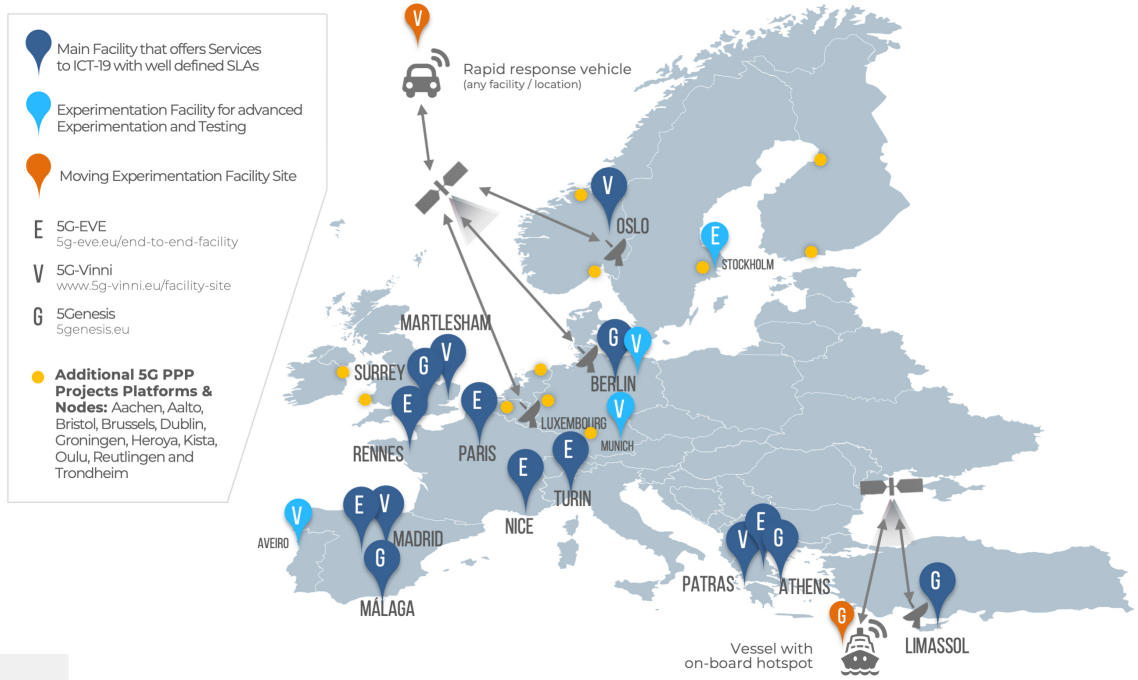
Work on cartographies

https://5g-ppp.eu/5g-ppp-platforms-cartography/



Recent white papers

1. 5G Trials for Cooperative, Connected and Automated Mobility (CCAM) along European Cross-Border Corridors (October 2020)
2. 5G Strategic Deployment Agenda for Connected and Automated Mobility in Europe – (October 2020)
3. Empowering Vertical Industries through 5G Networks – (September 2020)
4. Business Validation in 5G PPP Vertical Use Cases – (June 2020)
5. On Board Procedure to 5G PPP Infrastructure Projects – (April 2020)
6. 5G PPP 5G Architecture White Paper – Consolidated Version – (February 2020)
7. 5G-PPP Software Network WG Paper: “Cloud-Native and 5G Verticals’ services” February 2020,
8. 5G network support of vertical industries in the 5G PPP ecosystem, February 2020

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Verticals White Paper: Demonstrated and planned 5G functionalities in verticals

5G Features	Automotive	Transportation	Media	Smart City	Healthcare	Smart Factories	Energy	Public Safety	(Air)Ports	Tourism	Agrifood
Network Slicing	X	X	X	X	X	X	X	X	X	X	X
Mobile Edge Computing	X	X	X	X	X				X	X	X
Functional Split in RAN		X	X								
Advanced Security	X			X					X		
Smart network management			X	X	X		X	X			
Location services & Context Awareness	X	X	X		X	X		X	X		
5G NR capabilities	X	X	X	X	X	X	X	X	X	X	X
Softwarization	X		X		X				X		
Service chaining		X	X		X						
Traffic steering			X								
Spectrum and Coverage	X	X	X								
Guaranteed QoS	X	X		X	X	X	X				

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Verticals White Paper: Demonstrated and planned 5G functionalities in verticals

5G Features	Automotive	Transportation	Media	Smart City	Healthcare	Smart Factories	Energy	Public Safety	(Air)Ports	Tourism	Agrifood
Network Slicing	X	X	X	X	X	X	X	X	X	X	X
Mobile Edge Computing	X	X	X	X	X				X	X	X
Functional Split in RAN		X	X								
Advanced Security	X			X					X		
Smart network management			X	X	X		X	X			
Location services & Context Awareness	X	X	X		X	X		X	X		
5G NR capabilities	X	X	X	X	X	X	X	X	X	X	X
Softwarization	X		X		X				X		
Service chaining		X	X		X						
Traffic steering			X								
Spectrum and Coverage	X	X	X								
Guaranteed QoS	X	X		X	X	X	X				

Verticals white paper: Lessons learned

5G PPP

5G PPP
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- 5G networks are not only about faster and more reliable networks.
- 5G is bringing on a level of flexibility in the deployment of new services, which have a diverse set of characteristics, for which 4G networks would not be able to support.
- Researchers are enabled to create rather novel services, parts of which can be even implemented over different network slices.
- 5G networks have been designed to be fully modular and allow the dynamic chaining of virtual functions and allocation of resources.
- These characteristics are the catalyst for the creation of an innovation ecosystem that is expected to shape the full digitization of vertical industries.

Upcoming white papers & TB eWorkshop

1. Edge computing for 5G networks
2. AI & ML in cellular networks
3. Indoor 5G networks

The next TB eWorkshop is being planned for the 9th & 10th of December 2020