The background is a light blue illustration of a smart city. It includes various icons and labels: 'CONNECTED CITY' at the top, 'CONNECTED THINGS' on the left, 'CONNECTED HOUSE' on the left, 'CONNECTED HEALTH' on the right, and 'CONNECTED PEOPLE' and 'TRANSPORTATION' at the bottom. The scene depicts houses, a hospital, a car, a bicycle, and people, all interconnected by a network of lines and Wi-Fi symbols.

**Jean-Pierre Bienaimé**  
*Secretary General, 5G Infrastructure Association*

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

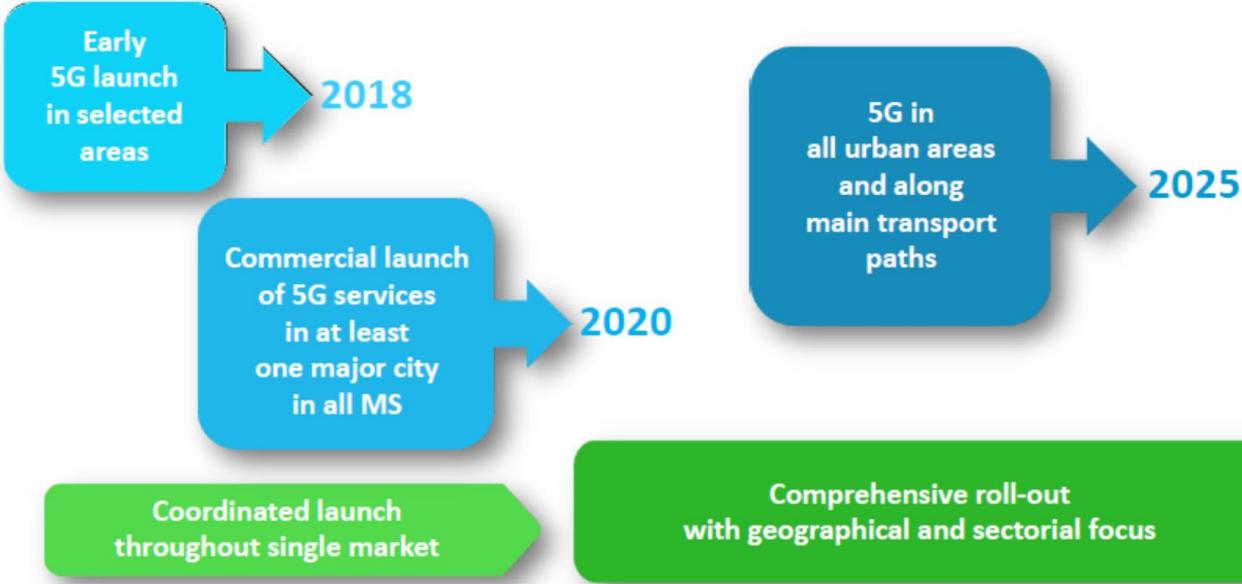
# Summary

- 5G PPP Projects & Trials Roadmap
- Verticals commitment
- 5G PPP input to 3GPP Standardisation
- International cooperation
- Key events
- Future orientations

**5G Infrastructure PPP  
Roadmap – 5G Manifesto – 5G Action Plan**



**5G Action Plan: European strategy for 5G introduction**



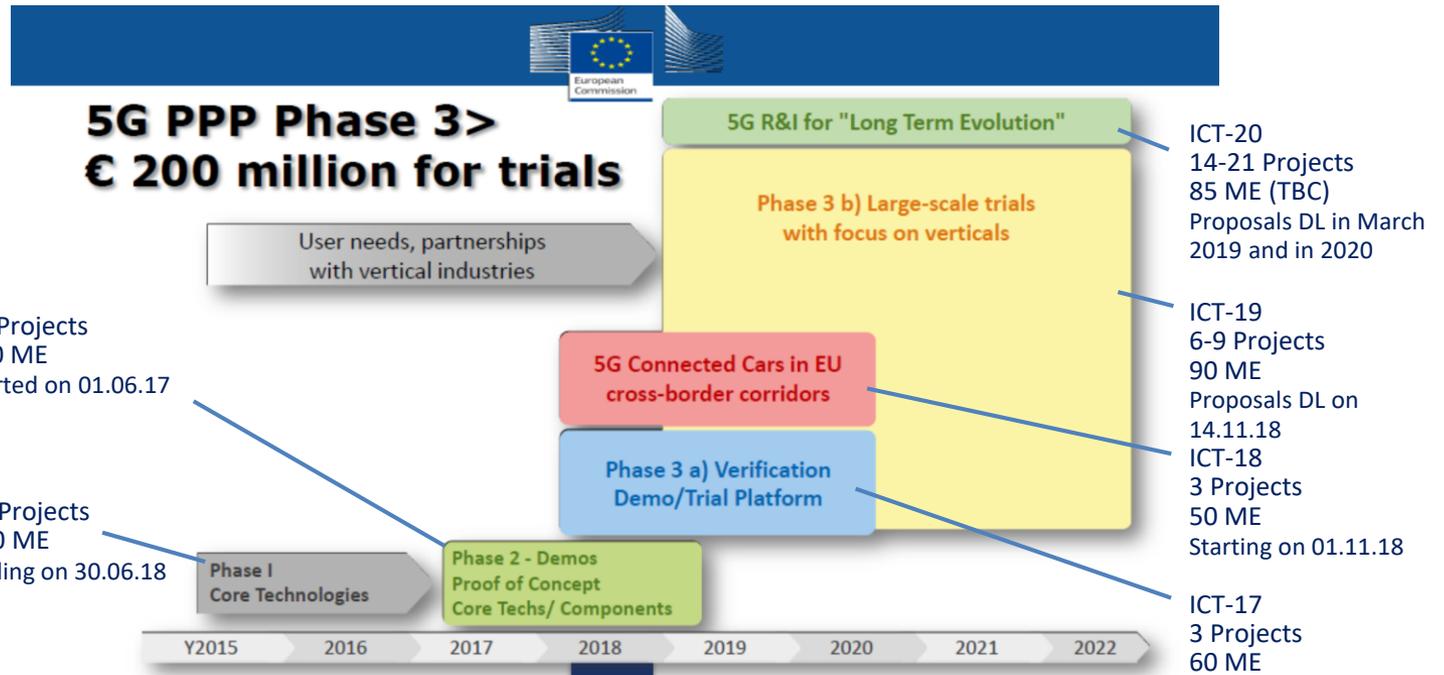
EC DG CNECT - Peter Stuckmann – 5<sup>th</sup> Global 5G Event (G5GE) – 16-17.05.18 – Austin

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# 5G Infrastructure PPP Projects Phase 1 / Phase 2 / Phase 3

+ additional Strategic Objectives in EC WP2020



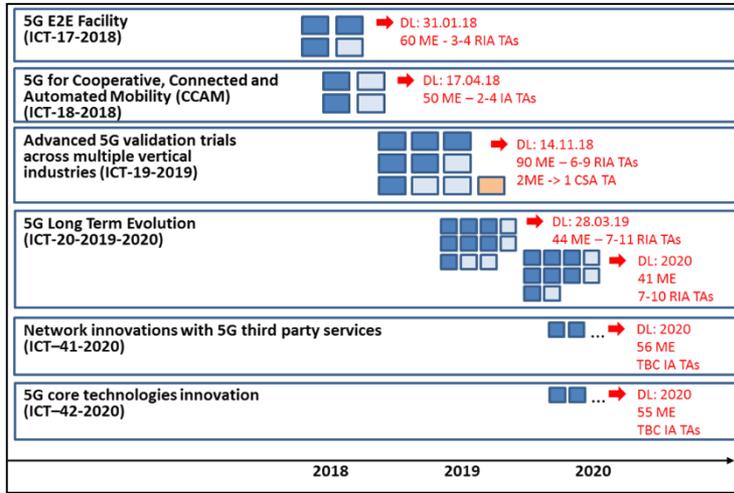
EC DG CNECT - Peter Stuckmann – 5<sup>th</sup> Global 5G Event (G5GE) – 16-17.05.18 – Austin

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18-19 October 2018, Tokyo

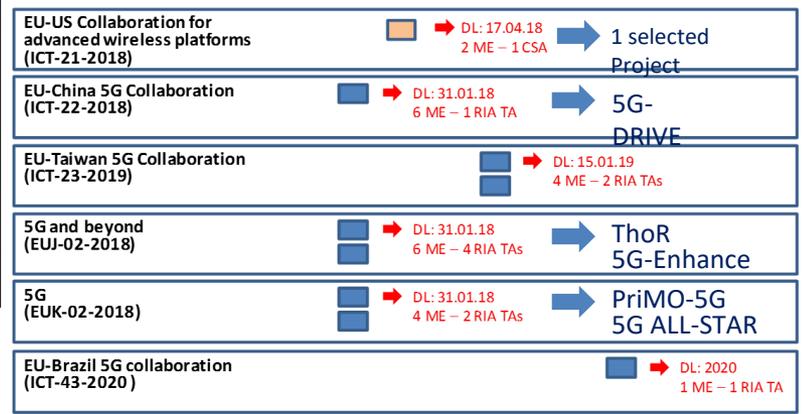
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# 5G Infrastructure PPP PPP Phase 3 – Pre-Structuring Model (PSM)

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- ➔ 5G-EVE, 5G-VINNI and 5GENESIS
- ➔ 3 selected Projects – Starting (a priori) on 01.11.18
- ➔ 6-9 projects to be selected – Starting (a priori) on 01.06.19



Note: EC WP2020 data to be confirmed in 4Q18

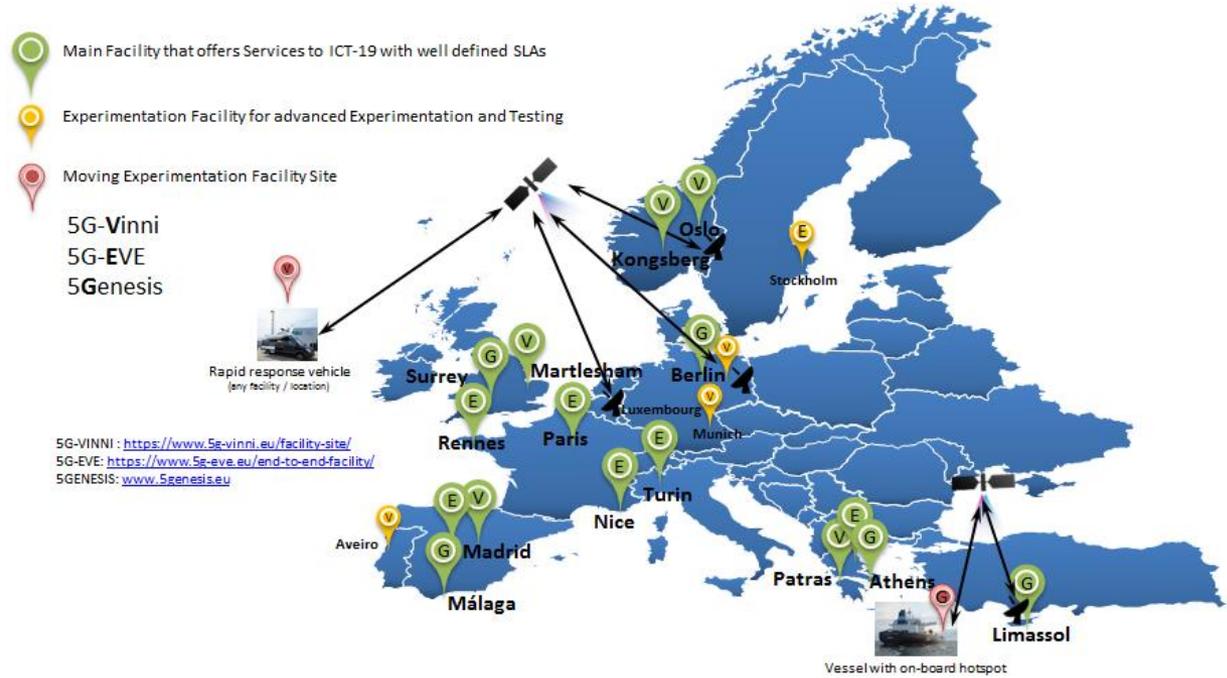
➔ EC ICT 2018 to be organized on 04-06.12.18 in Vienna  
<https://ec.europa.eu/digital-single-market/en/news/attend-ict-2018>

<https://5g-ppp.eu/phase-3-pre-structuring-model/>

# 5G Infrastructure PPP Programme Perspectives – ICT-17 Platforms Cartography

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5G-VINNI : <https://www.5g-vinni.eu/facility-site/>  
 5G-EVE: <https://www.5g-eve.eu/end-to-end-facility/>  
 5GENESIS: [www.5genesis.eu](http://www.5genesis.eu)

# 5G Infrastructure PPP Brokerage Platform 2018

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- ➔ For idea owners or proposal leaders
- ➔ For offers of expertise
- ➔ Links to browse submitted proposal ideas and expertise offerings

<https://5g-ppp.eu/brokerage-platform-new/>

**3GPP-PCG#41 & OP#40**  
**18-19 October 2018, Tokyo**

# OBJECTIVES WITH VERTICALS

- Enhance vertical sector engagement in 5G-PPP
- Promote relevant funding H2020 Calls within vertical industries
- Gather verticals feedback on 5G needs and potential barriers for adoption
- Raise awareness of 5G potential

# Verticals Background

- Verticals are to key to 5G success and adoption in Europe – verticals engagement part of 5G IA statute
- Strategic goals of **Vertical Engagement (VE)** activities:
  - attract verticals within 5G PPP orbit
  - support 5G PPP Phase 3 trial phase
  - gather vertical feedback on 5G vertical use cases
- A Reference Whitepaper “**5G Empowering Vertical industries**” was produced by the Vision WG and presented at MWC’16
- A **VE strategy document** defined priority sectors with focus on:
  - Vertical events attendance to promote 5G and 5G IA
  - Partnerships (MoUs) with industry fora representing vertical sectors
  - External Communication

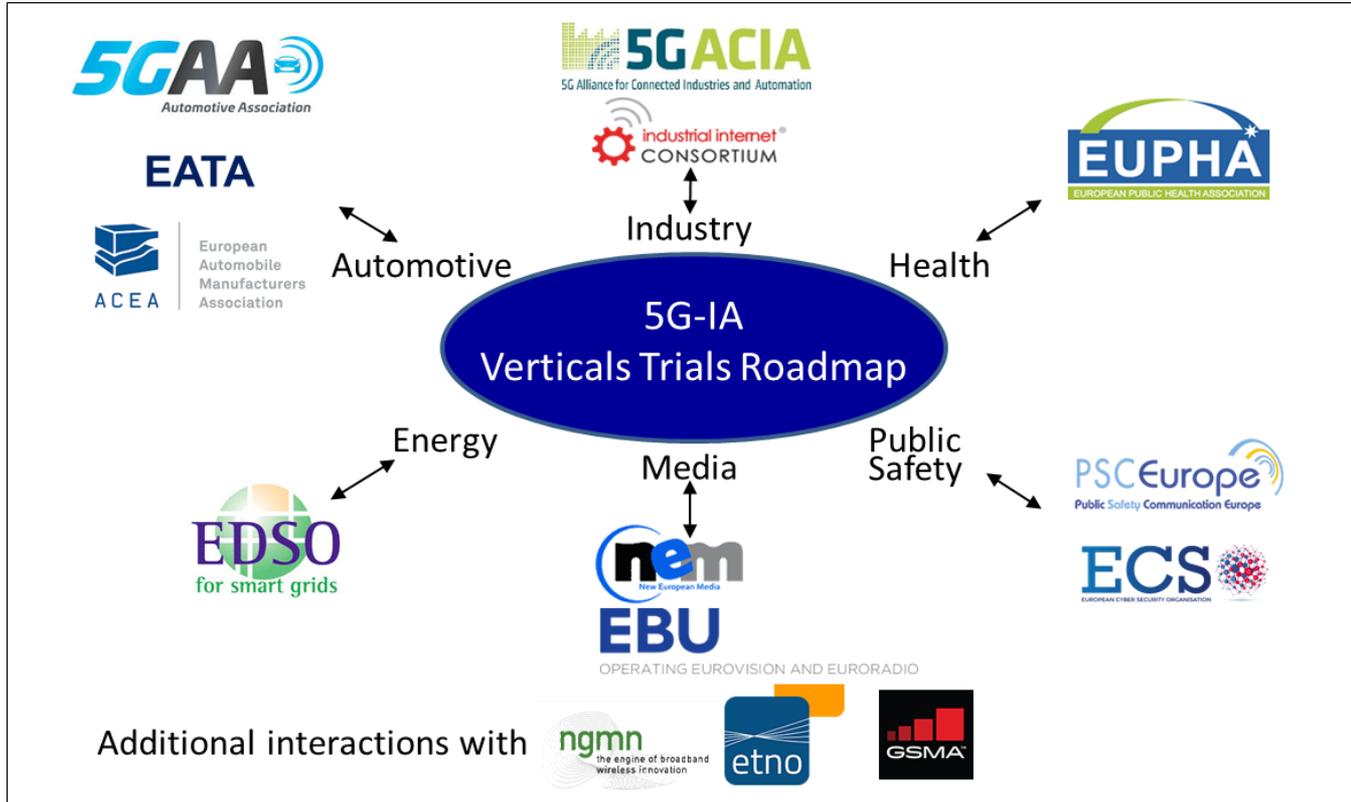
# 5G IA Vertical Task Force (VTF)



Source: 5G Infrastructure Association: 5G Empowering vertical industries. White Paper, 2016, [https://5g-ppp.eu/wp-content/uploads/2016/02/BROCHURE\\_5PPP\\_BAT2\\_PL.pdf](https://5g-ppp.eu/wp-content/uploads/2016/02/BROCHURE_5PPP_BAT2_PL.pdf).

- ❑ Dedicated Board Task Force to make engagement more effective
- ❑ **Strategy document** created:
  - ❑ **Priority Vertical Sectors**
  - ❑ **Industry fora** to be addressed
  - ❑ **Relevant B2B industry events**
- ❑ **Bottom up** activities on verticals recorded in a **Tracker document** to trigger future top down actions – “one stop shop” document on all vertical related activities in 5G PPP

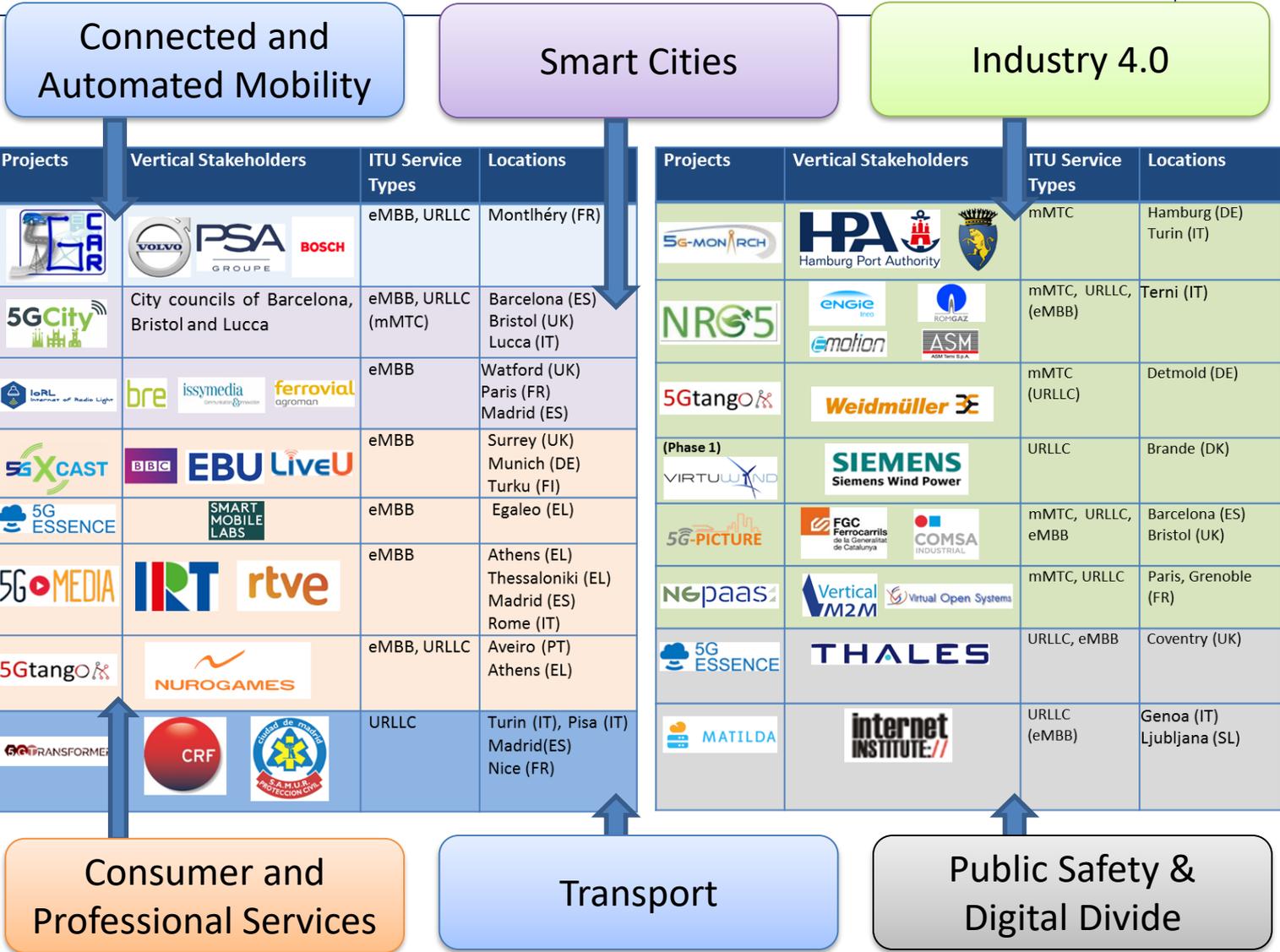
# 5G IA – 5G PPP Vertical Perspectives & Cooperation



<https://5g-ppp.eu/5g-trials-roadmap/>

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# 5G PPP Phase 2 – Vertical Trials & Pilots



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# WEBSITE

<https://5g-ppp.eu/verticals/>

- ❑ Projects, events, white papers, news items, etc. all “tagged” with relevant vertical name
- ❑ Click on chosen icon/link to return all info related to your vertical from the website



## 5G-IA Pre-Standardization Working Group

Standardization Tracker on 5G PPP with real-world verticals  
(Global5G.org; ends 12/2019)

- Focus on 3GPP Rel-16 & verticals
- Tracking 8 vertical clusters in phase 2:
  - automotive
  - smart cities
  - media and entertainment
  - industry – Industrial IoT
  - health
  - public safety
  - energy
  - transport and logistics

..... More coming in phase 3.

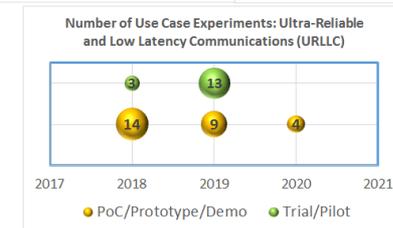
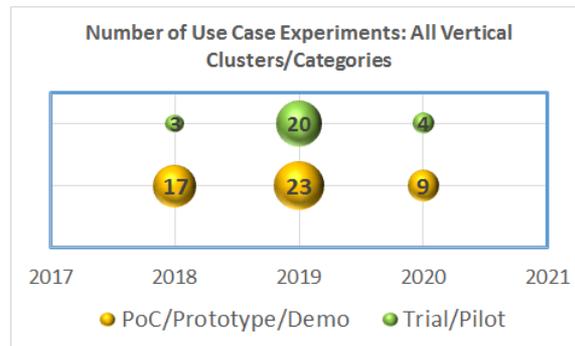
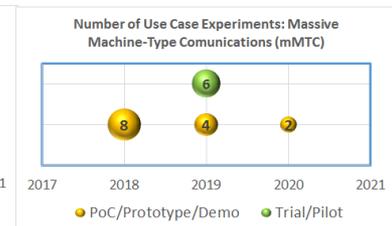
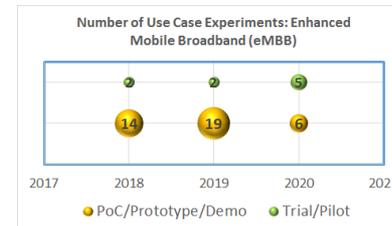
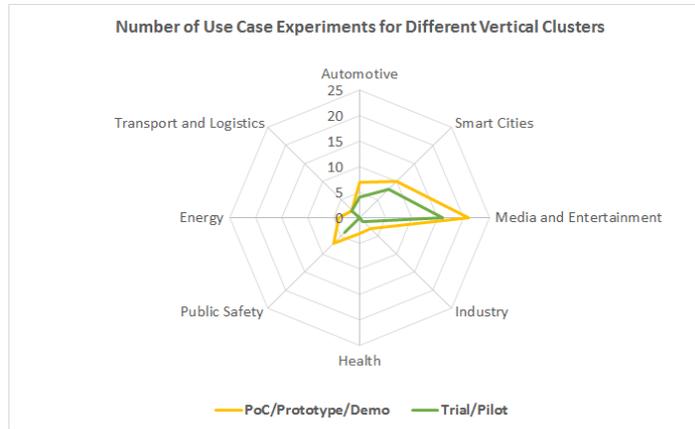
**Vertical coverage is good fit with 3GPP support of verticals (current and expected)**

## 5G-IA Pre-Standardization Working Group (2)

- Standardization Tracker (spreadsheet) + upcoming online version
  - Vertical focus: blueprint to track contributions and scope
  - Online guides to help verticals engage with 3GPP & other SDOs
  - Iterative analyses. In-depth report in May 2019 (Global5G.org)
  - Measures to monitor impacts (currently internal to 5G IA)
- Complementary to online Verticals Cartography
  - Real-world verticals: Volvo/Peugeot; BBC/EBU; Bosch, Leonardo
  - Next steps: tailor to external verticals with focus on benefits of 5G
- Strong community engagement: 3GPP experts (consolidated); increasingly targeting verticals and associations
- Some funding to support industry engagement

**3GPP Plenary #82 is excellent opportunity to create a partnership on engagement with verticals & facilitate new members & contributions**

# Online Vertical Cartography & Latest Analysis



Evolving into a map of the EU with curated content for verticals, <https://www.global5g.org/cartography>

## 5G PPP Standardization Milestones

- Projects Phase 1 (June 2015-Feb 2018): 3GPP
  - **210 out of 317 contributions:**
  - 3GPP RAN 1; RAN3; RAN4
  - SA1; SA2; SA3; SA4; SA5; SA6
- Projects Phase 2 (June 2017 – 2019/20): 3GPP
  - 42 out of 75 contributions
  - **21** of these contributions are to **SA2**
  - Other contributions: RAN 2 & 3; SA4-5; CT1 & 4
  - More contributions are being tracked through new inputs from projects
  - Vertical associations and 3GPP: analysis and engagement to extend reach

**Strong basis for future work and synergy between 3GPP & 5G PPP**

# International cooperation



- **Inter-Regional Cooperation sessions:**

- Seoul G5GE, Nov 2017
- Singapore IEEE Globecom, Dec 2017
- Austin 5GE, May 2018
- Santa Clara IEEE 5G World Forum, July 2018

- **India:**



- **MoU between 5G-IA and TSDSI** (« Telecommunications Standards Development Society, India ») signed in April 2018
- Cooperation programme and joint event in 2019

# International cooperation: IEEE 5G World Summit

## Worldwide industry Fora sessions - 9th July

### 5G Trends and Industry Collaborations: Regional Visions and Inter-Regional Cooperation Activities

- **Regional visions:** While the 5G standards process assures ubiquity and interoperability, regional considerations may create different visions of 5G as operators analyze their spectrum portfolio, develop 5G trials, use cases with verticals, and other technological considerations surface.
- **Spectrum, standardisation and deployments roadmap towards Full 5G vision and IMT-2020:** What is the target spectrum and candidate bands and when will it be decided? What is the image of 5G first deployments (Dense urban, Rural, Stadium...). What is the roadmap for 5G deployments? And how to make 5G first deployments successful?
- **International industry cooperation:** What are the possible cross-continental collaborations and joint inter-regional projects toward the success of 5G?

### Co-Chairs

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(<http://iee-wf-5g.org/files/2018/01/Bienaimé.jpg>)

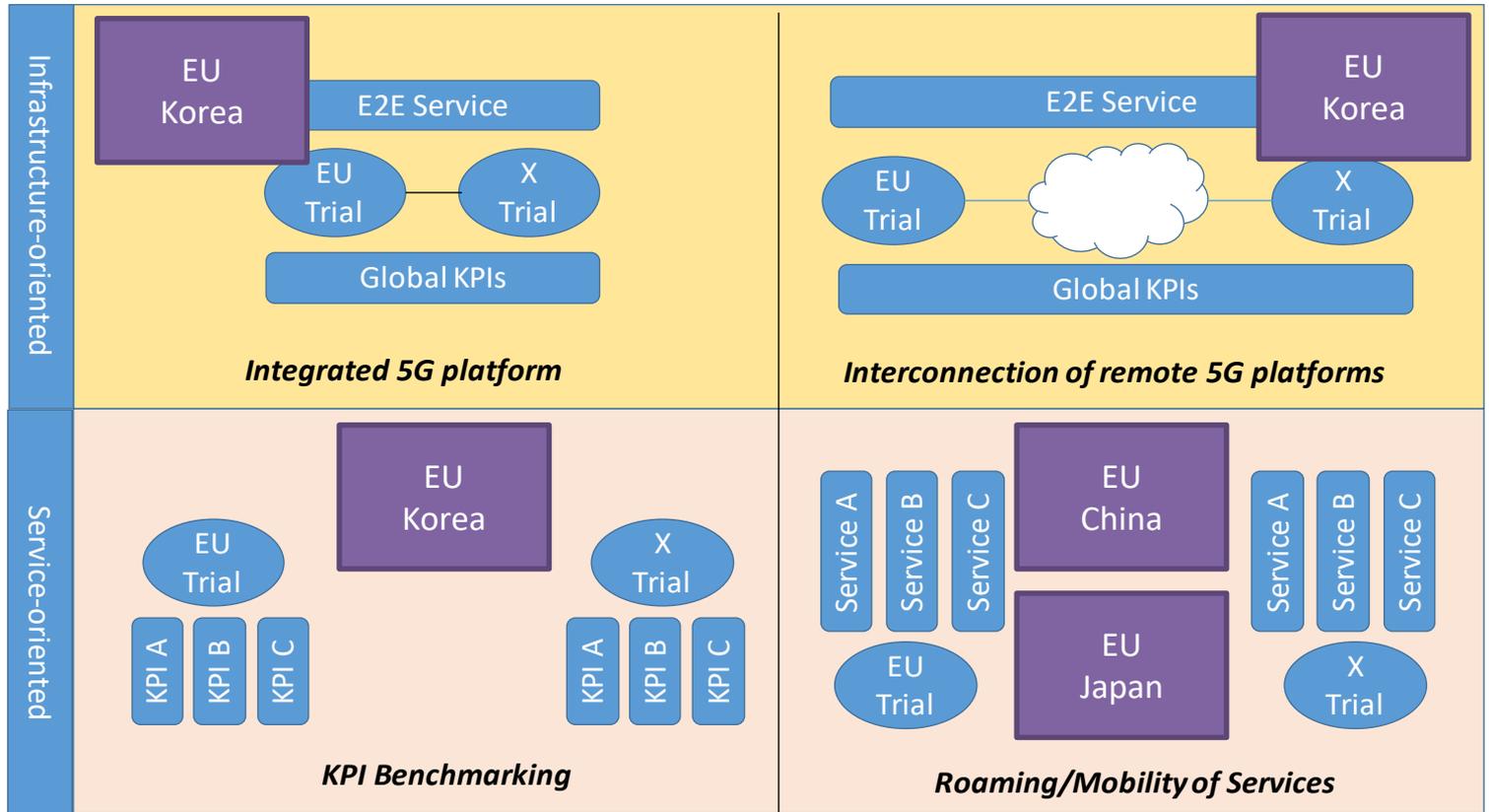
**Jean-Pierre Bienaimé**  
Secretary General, 5G-IA



([http://iee-wf-5g.org/files/2017/05/latif\\_ladid.jpg](http://iee-wf-5g.org/files/2017/05/latif_ladid.jpg))

**Latif Ladid**  
Founder & President, IPv6 Forum  
IEEE 5G Initiative Co-Chair, Conferences

# Inter-regional Activities: EU-X Trials





# 7<sup>th</sup> Global 5G Event and EuCNC 2019 – 5G PPP ICT-19 Projects Introduction



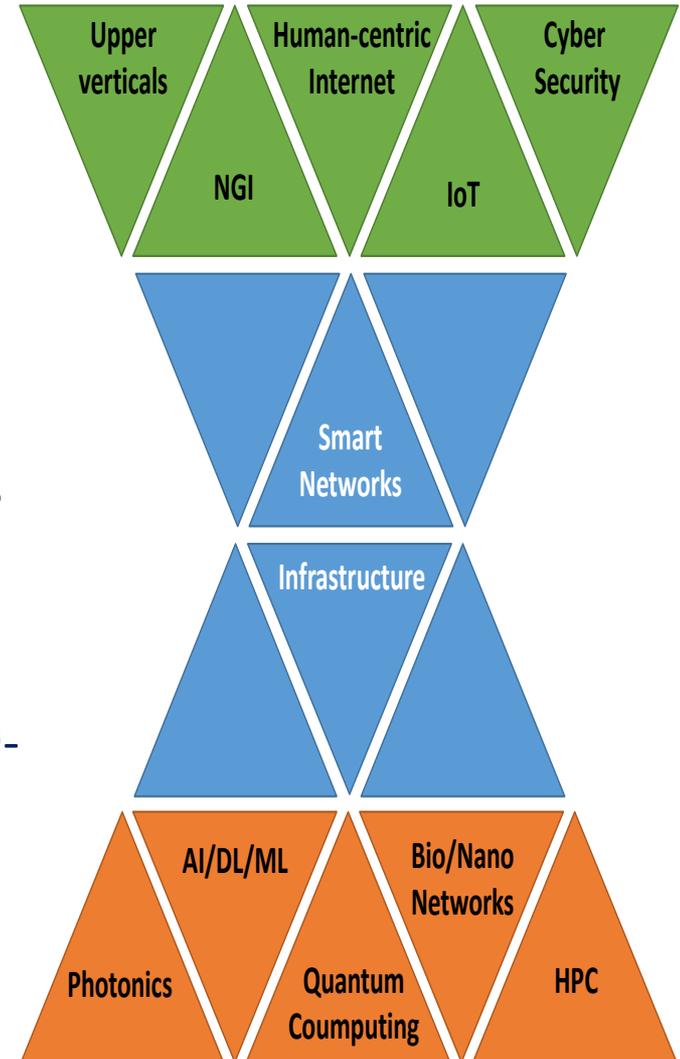
<https://5g-ppp.eu/> and <https://www.eucnc.eu/announcement-eucnc-2019/>

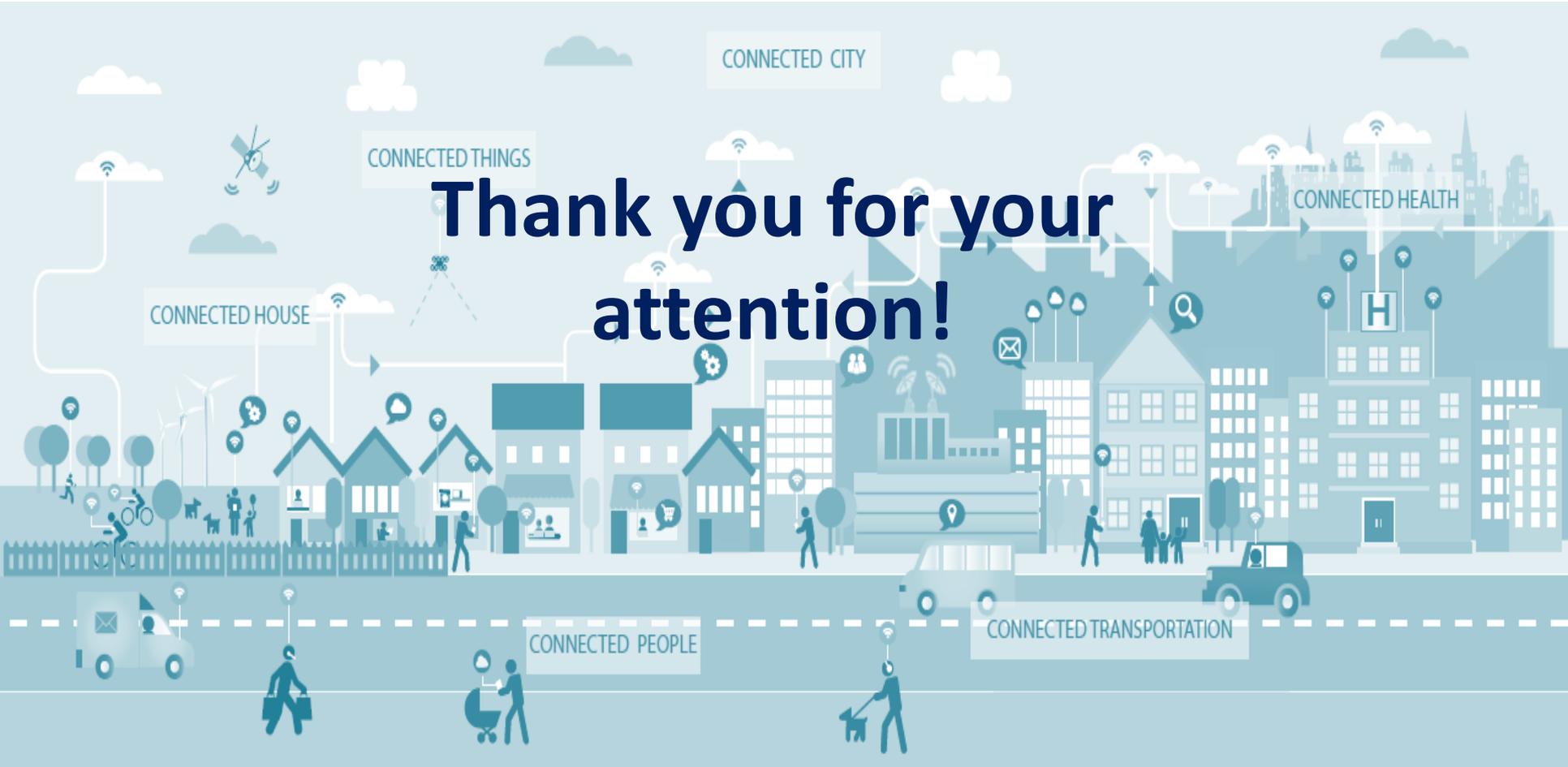
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# Lobbying for FP9-Horizon Europe with 5G-IA-Networld2020 Task Force

**Meetings at EC Commissioners Ansip, Oettinger, Gabriel, Moedas Cabinets and with DG CONNECT in April-June, advocating that Communication Infrastructures are critical to creating the future digital society, creating jobs and creating growth, that Europe needs to continue the good work started by 5G PPP, and that Europe should establish a new key area in FP9-Horizon Europe (2021-2027) on **Smart Networks** with a significant budget allocation.**





**Thank you for your  
attention!**

**3GPP-PCG#41 & OP#40  
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