

## 5G Infrastructure PPP: The next generation of communication networks will be “Made in EU”.

- Building the foundations of the next decade communications networks
- Addressing the future “connectivity” needs in key societal and economic domains
- Boosting European industrial leadership in telecommunications



### What is the challenge?

The European telecommunications industry has been historically in the forefront of the global competition since the early days of the GSM technology, and still represents approximately 40% of the worldwide market of nearly €200 billion in 2012 in terms of network infrastructure supply. The challenge for the 5G Public-Private Partnership (5G PPP) is to secure Europe’s leadership in the particular areas where Europe is strong or where there is potential for creating new markets such as smart cities, e-health, intelligent transport, education or entertainment & media.

The 5G PPP will deliver solutions, architectures, technologies and standards for the ubiquitous next generation communication infrastructures of the coming decade. It will provide such advancements as 1000 times increase in wireless capacity serving over 7 billion people (while connecting 7 trillion “things”), save 90% of energy per service provided, and create a secure, reliable and dependable Internet with zero perceived downtime for services.

### What is the PPP in 5G Infrastructure about?

The 5G PPP brings together a broad range of stakeholders from the communications technology sector and from its extended value chain including the user industries or actors from the microelectronics and IT sectors. Together they have created a shared vision for the next generation of communications infrastructure beyond 2020, a multiannual strategic roadmap for research & innovation which will be updated yearly until 2020. Its objectives include actions

for leveraging 5G research to improve competitiveness and innovation with the ultimate aim of stimulating economic growth and more job creation in other industrial sectors. The 5G PPP brings a long term commitment from both the private and the public actors to invest in achieving these objectives and the PPP will play a key role in formulating the research and innovation priorities to be supported in Horizon 2020.

### What results and benefits do we expect?

The 5G PPP will result in a stronger, more competitive and more innovative telecommunications industry through a closer cooperation between all key actors including the research and academic institutions and the end-users. The ultimate benefits are to provide solutions to important societal challenges as identified in the Digital Agenda for instance drastic energy reduction in network operations and optimised radio frequency usage. This will make the European society and economy smarter and more efficient for the benefits of European citizens and beyond.

Results of this collaboration will be:

- A competitive portfolio of technologies and solutions meeting the anticipated changes, based on global standards and generating a significant amount of intellectual property. It should also foster the new skills required to compete in the 21<sup>st</sup> century.
- The introduction of innovative business models based on more powerful and open networks.

- Large technological and business validation trials, which take into account all barriers and issues, including regulatory ones and those related to security of critical communications infrastructures.

### What will the new total budget be?

The total budget devoted by the public side to the 5G Infrastructure PPP is expected to be around €700 million in Horizon 2020, which is mirrored by around €700 million committed by the private side. In addition to this, the telecommunications industry will invest outside the partnership five to ten-times this amount in activities contributing to the objectives of the PPP. The budget for the first call is 125 million.

### How will it be managed or run?

The 5G Infrastructure PPP is a contractual PPP, which means that, while the private side, under the leadership of industry will set the strategic research & innovation agenda, the responsibility for implementation will remain with the European Commission which will follow the rules of Horizon 2020 in terms of calls, selection, negotiation, contracting of project proposals as well as monitoring and payments of funded projects. The private side of the PPP, which includes the industry, research and academic players and other organisations, is responsible for:

- providing inputs on the scope of the research and innovation actions which will be addressed in the work programmes of Horizon 2020,
- making main recommendations on strategic adjustments,
- monitoring the overall performance, outputs and impact of the PPP.

The private side in the PPP is organised through the 5G Infrastructure Association which represents a broad membership coming from more than 800 different companies and institutions.

### What has the (cPPP or related) achieved so far?

The 5G Infrastructure PPP will become operational at the beginning of 2014; however, it will directly benefit from the activities of the existing Net!Works European Technology

## Success Story

The investment of the EU Framework Programme funds in mobile communications research has strongly contributed to job creation in Europe and improvements in living standards and economic growth on a global scale. The level of return on investment achieved by the key collaborative research projects has few, if any, parallels in other sectors and contributes to the export power of European industry: it is sufficient to think of the impact of 3G UMTS and the more recent LTE standard which had their origin as EU funded collaborative projects.

In particular, the ongoing FP7 project METIS is already paving the way for the “vision” for 5G by identifying future usage scenarios ([www.metis2020.com](http://www.metis2020.com)), based on extensive analysis of trends in user demands and on the already known challenges such as low energy consumption and lower costs. METIS predicts that 5G networks will be at least 10 times faster, accessible in all conditions, efficient in handling very large number of devices, highly reliable and providing high levels of super real-time experience.

Web site link  
[www.metis2020.com](http://www.metis2020.com)



Platform (ETP) the think tank that was instrumental in creating and structuring the European communications technology community, ensuring a close cooperation between industry and the research and academia sectors. In October 2013, the Net!Works ETP joined forces with ISI (the Integrated Satellite Initiative) to launch a new combined ETP, integrating the two constituencies, in view of supporting the 5G Infrastructure PPP.

### Useful link

Networks ETP: [www.networks-etp.eu/](http://www.networks-etp.eu/)