

## All aboard!

The 5G train is on its way to a smart new world and Europe is in the driver's seat.

This vision of a ubiquitous communication network, known as 5G, will connect people, things and services like never before as we move towards a 'truly networked' society – unleashing creativity and innovation in Europe.

The 5G-PPP will deliver solutions, architectures, technologies and standards for the ubiquitous next generation infrastructures of the coming decade. The work will:

- Reinforce Industry Competitiveness
- Speed up Advanced ICT Services
- Stimulate innovative R&D Activities
- Improve Quality of Life and Services
- Overcome the Digital Gap in Europe
- Open New Innovation Opportunities



**5G-Infrastructure-Association**

&

**5-Alive**

### For more information

**Website:** [www.5g-ppp.eu](http://www.5g-ppp.eu)

**5G-ppp contact:** [info@5g-ppp.eu](mailto:info@5g-ppp.eu)

**5G-Press contact:** [press-contact@5g-ppp.eu](mailto:press-contact@5g-ppp.eu)

This material has been designed and printed with support from the 5-Alive project and the 5G Infrastructure Association. The 5-Alive Project has received funding by the European Commission's Horizon 2020 Programme under the grant agreement number: 643973.

The European Commission support for the production of this publication does not constitute endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



**5G**

the express train  
to your  
smart  
interconnected  
world



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

## Drivers for change—the why and how of 5G

Hop on and become a driver for change. 5G will create a single digital economy – sparking more innovation and helping people solve some of the world’s most complex problems. It is more than an evolution of mobile broadband. 5G’s infrastructure will be ready for multi-tenancy, enabling operators and other players to collaborate in new ways using a sustainable and scalable technology.

Europe is working with forward-looking businesses to make 5G a reality through substantial investments in research and innovation – creating growth and jobs. SMEs are well poised to reap the huge opportunities presented by 5G as service developers and providers will have easier access to the market. The 5G Infrastructure Public Private Partnership (5G PPP) is a part of that strategy to achieve a competitive advantage in the global marketplace.

*“European collaborative research is already producing results that take us closer to a global 5G vision.”*

(Werner Mohr, Chairman,  
5G Infrastructure Association)

## The engine—network technology

5G, or fifth-generation communication system, represents a major leap forward to a truly converged network. 5G has the potential to:

- **Boost wireless speed (10 to 100 times faster)** – download a high-definition movie to your mobile in a few seconds; instant response times boost business innovation and new services.
- **Cut energy use by 90%** – greener and more efficient networks leading to massive cost savings.
- **Accelerate innovation** – deploy innovative network applications, for example security software, as fast as developers create them, reducing the time-to-market from months to minutes.
- **Deliver tailor-made business support** – networks adapt performance (throughput, latency, availability...) to the quality of service required for your applications to work efficiently.
- **Lead to secure and reliable internet services** – gives more control over your privacy and how data are shared.
- **Deliver seamless interconnectivity** (supported by 1000 times more available capacity than in 2010) – no dropped connections when moving from indoors to outdoors or between transport Modes (car, train, plane, bus), whether on a fixed or mobile network.
- **Higher spectrum bands** –bands above 6 GHz will be investigated to support high-bandwidth mobile data services.

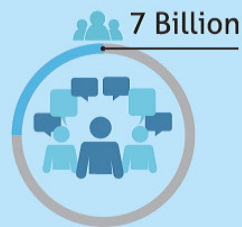
## The carriages—linked networks, computers and storage spaces

The transition to 5G is ongoing. It will enable plenty of new services, such as:

- **Augmented reality** – finding your way around by following an arrow overlaid on the road ahead.
- **Tactile internet** – doctors using wearable technologies to accurately perform remote surgery on a patient through local actuators; playing immersive games and feeling the power, literally!
- **Smart transport** – connected cars communicating with each other and monitoring road conditions for safer travel.
- **eHealth** – instant information on your health for better, proactive treatment.
- **Internet of things** – sensor networks connecting everything, from houses and cars to watches and clothes; start a washing machine from work or monitor your business premises at home; better yet, extract valuable information from Big Data; save energy, time and money.
- **Network as operating system (OS)** – 5G will integrate telecom, computing and storage resources into one programmable and unified infrastructure, allowing for optimised and more dynamic use of all distributed resources.



increasing wireless capacity  
1,000 times



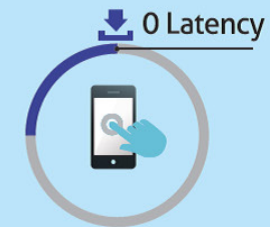
connecting 7 billion people



connecting 7 trillion things



saving 90% energy



perceiving zero downtime

