

# 5G and beyond

The proposals should address one of the two following areas:

**1) Large-scale demonstrations and trials towards 5G applications:** The objective is to research, develop and test technologies to enable applications developers and researchers to take advantage of the 5G integrated access/core network infrastructures and testbeds in Europe and Japan, in order to showcase the adaptability of the latest 5G systems, technologies and early version of the IMT-2020 standards.

The area of large-scale demonstrations and trials towards 5G applications, should showcase the adaptability of the 5G infrastructure to the 5G KPI's and the use of the integrated environment to contribute to global R&D and standardization efforts of 5G systems by having an open environment for the trials.

The focus should be on trials and demonstrations of 5G applications in the use cases of Enhanced Mobile Broadband (eMBB) and Broadband Access in Dense Areas. Typical applications scenarios could cover

The next phase of 5G activities running during the 2018-20 period covers both in EU and in Japan, technologies and systems demonstrations and trials. The challenge is hence to demonstrate technologies and system interoperability for 5G applications of interest in the two regions in early version of the IMT-2020 standards, but also to go further to address long-term challenges beyond 5G.

The overall goal is to evaluate in real setup innovative end-to-end 5G systems built on the outcomes of previous phases of the 5G R&I. The optimisation of the frequency bands and their usage with different coverage requirements as well as the validation of geographic interoperability are key targets.

- Large-scale joint demonstrators converging towards open 5G applications.
- Global interoperability demonstrations for 5G networks.

- Support of common standardisation roadmaps for 5G starting with 3GPP Release14, including coordinated and common standards in the SDN/NFV domain. Standardization impact through EU and Japanese research efforts are addressed through H2020 as well as 5GPF (5G Promotion Forum) and should also be relevant in the context of the 5G spectrum process for WRC-19
- Joint contributions to global 5G specifications for IMT-2020 in relevant organisations (e.g. 3GPP, ITU-R), especially in view of 5G phase 2 standardisation (beyond eMBB) and spectrum harmonization for IMT-2020.
- Open new prospects for wireless technologies in terms of applications and use of novel spectrum.
- Relevant results for wireless links in the millimeter or sub-millimeter wave bands in support of the identification of frequency bands above 275 GHz for use by a

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