OpenRIT 6G

Open Research Infrastructures and Toolkits for 5G/6G R&D (OpenRIT 6G) International Workshop Series

GLOBECOM

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This Workshop is part of IEEE Global Communications Conference (GLOBECOM)

Important Dates

Workshop Paper Submission Deadline:	Paper Acceptance Notification:	Camera Ready:
5 August 2024	*1 September 2024*	*1 October 2024*

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We solicit original papers including but not limited to: see https://openrit-6g.org/call-for-papers/

Call For Papers

Based on the experiences gained with 5G and in the light of current international discussions about the beyond 5G evolution, aka 6G and NextG, it becomes clear, that we won´t have an "one generic network infrastructure fits all different vertical application needs" environment, but we rather have to envisage an open environment of federated highly customized private and public networks taking advantage of virtualized modular network architectures.

The complexity is fueled by the increasing diversity of access and backhaul technologies, the deeper / native integration of AI in networking and applications, changing value chains and increasing diversity of operation models, and the desire to create local eco systems to maintain digital sovereignty in a world of increasing political conflicts.

How do we setup corresponding open research and development infrastructures for both industry and academia and what related toolkits and cooperation and federation concepts are needed, to enable efficient and sustainable research in the different regions of the world.

The need for a scientific instrument, as a reference to a rigorous methodology developed in many scientific domains, is justified by the emergence of the future Internet including beyond 5G and 6G infrastructures that require adapted and well-tailored tools for testing and developing trust and confidence regarding the design and deployment phase. Experimental platforms should be able to address the end-to-end scenario, integrating all technologies and components but should also enable small-scale, low-cost testbeds for students.

In this regard, the emphasis on open, vendor-neutral technology and application testbeds, along with supporting software toolkits, is key to education and skill development. This focus is evident in different regional research centers, which aim to foster local ecosystem development. There is also a growing interest in small-scale, portable testbeds that allow students to engage with the latest networking technologies in their own environments. This approach is particularly important for developing countries to align with the 6G vision of creating a network for everyone and to support the United Nations Sustainable Development Goals (UN SDGs).

Such open platforms will allow researcher and industry to question scientific challenges regarding the future technologies and services. They will be based on a technology roadmap that will be consolidated on the basis of the analysis of several inputs provided by the community regarding the wireless technology advances, that are pertinent to the evolution of new radio (NR) and core network (CN) over the next decade 2020-2030.

It is important to note that initiatives exist at the international level with ambitious projects like EU ESFRI SLICES (2021-2040, 150M€), in the US (NSF PAWR 2017-2025 120M$, NSF FABRIC 2019-2024 20M€), BRIDGES (2021-2024, 2.5M$) and China (CENI 018-2022 190M€), and efforts also developing in Japan. In addition, open-source communities developing important components are of utmost importance for test platforms, including O-RAN, ONF and OAI. We are seeking original, previously unpublished papers empirically addressing key issues and challenges in experimental digital infrastructures, including wireless, IoT, edge, cloud and applications. We are particularly interested in papers describing developments, lesson-learned and new results obtained through platforms for at-scale research mentioned above.