Workshop on Dependable wireless 6G communication

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IMPORTANT DATES:

Submission deadline:
July. 01st, 2024

Author notification:
August. 22nd, 2024

Final submission:
September. 5th, 2024

DESCRIPTION

Digital transformation of the industrial processes together with the advent of Industry 5.0 that emphasizes sustainability, resilience, and a human-centric approach is expected to bring a radical change to the manufacturing industry. At the same time, 6G as the next generation of wireless technology is envisioned to intelligently interconnect humans and machines from the physical world and their digital representations in the virtualized digital world. Advancements in cloud and edge computing, artificial intelligence, and robotics, also opens new dimensions in revolutionizing these processes. Moreover, digital twinning of the physical entities enables support for engineering, maintenance, reconfiguration, and recycling of industrial automation systems. Accordingly, numerous visionary use cases are expected to emerge requiring deterministic and dependable communication capabilities. The challenge of bounded low-latency communication is being addressed by standardization bodies such as IEEE 802.1, IETF DetNet, 3GPP time-sensitive communication, and industrial alliances such as 5G-ACIA. Ultra-reliable and low-latency communication has been an important aspect of 5G communication that enables the support for determinism and integration with deterministic communication technologies and will further be developed under the 6G vision. Innovation and development are therefore needed in all supporting technologies. Communication through 6G technologies will enable and foster advancements in multiple industry verticals and is going to play a pivotal role in improving system efficiency and availability.

This workshop as an initiative of EU funded SNS project DETERMINISTIC6G and European Cooperation in Science & Technology (COST) The Intelligence-Enabling Radio Communications for Seamless Inclusive Interactions (INTERACT) aims at understanding the trends and vision of industry 5.0 use cases and corresponding latest developments in wireless communications.

FOCUS ON:

The focus topics of the workshop are:

- Use cases and communication requirements posed for 6G systems by industry verticals
- Advancements in wireless communications for cyber-physical system applications
- Communications technologies enabling human-machine interaction and their continuum with the virtual world through digital twins
- Enhancements towards 6G on integration of time-sensitive networks (TSN) and deterministic networking (DetNet)
- Channel measurements and channel modelling
- Routing and scheduling algorithms for reliable and real-time IoT
- Wireless communication trade-offs in reliability, latency, and service availability for cyber-physical systems
- Safety and security aspects, jamming prevention, detection and mitigation techniques for dependable wireless communication
- Trustworthy edge and cloud computing architectures and services for data offloading of computationally intensive applications
- Advanced artificial intelligence and machine learning techniques enabling extremely dependable networked systems
- Experimental deployment and validation of 5G communication and gap analysis leading to the development of 6G systems

SUBMISSION OF PAPERS:

Authors are invited to submit original contributions written in English that have not been published or submitted for publication elsewhere. Technical papers must be formatted using the IEEE 2-column format and should be 5 pages (without overlength charge) and up to 2 additional pages are allowed with the purchase of additional page charges in the amount of $100 USD per additional page at the time of registration and final paper submission. Papers should be submitted through the trackchair submission system using the link https://vtc2024fall.trackchair.com/.