

**Call for Papers**  
International Workshop on  
**Cloud Technologies and Energy Efficiency**  
**in Mobile Communication Networks**  
**(CLEEN 2022)**  
*How cloudy and green will mobile network and services be?*  
In conjunction with PIMRC 2022, 12–15 September 2022, Virtual Conference

**Scope and Objectives:**

This workshop explores novel concepts to allow for flexibly centralised radio access networks using cloud-processing based on open IT platforms, exploiting network virtualization and multi-access edge computing technologies that are recognized as key enablers for the definition of future 5G systems. The aim is to allow for a guaranteed high quality of experience for mobile access via efficient management of cloud resources and services, and to allow for a future network evolution focused on energy efficiency and cost-effectiveness. In fact, all future innovative network solutions will be conceived and deployed with a long-term perspective of sustainability, both in terms of energy consumption of the mobile network, its related interoperability with terminals and the cost efficiency of the different deployment and management options. This requires new concepts for the design, operation, and optimization of radio access networks, backhaul networks, operation and management algorithms, and architectural elements, tightly integrating mobile networks and cloud-processing. The emerging paradigm of distributed cloud environment is also a key topic. This workshop will cover technologies across PHY, MAC, and network layers, technologies which extrapolate the cloud-paradigm to the radio access and backhaul network, and will analyse the network evolution from an energy efficiency perspective. It will study the requirements, constraints, and implications for mobile communication networks, and also potential relationship with the offered service, both from an academic and industrial point of view.

We solicit original submissions in the following areas:

- Centralized / decentralized PHY and MAC processing
- Flexible assignment of functionality in mobile networks
- Joint operation and optimization of radio access and backhaul networks for cloud-based mobile networks
- Integration of cloud-services into green heterogeneous wireless networks; Management of cloud-based/cloud-operated heterogeneous networks providing access to cloud-services
- Task offloading and distributed computing environments
- Energy efficiency vs. QoS vs cost-efficiency trade-offs
- Architectural evolution of mobile networks and cost-effective deployment strategies for evolved heterogeneous wireless network
- Multi-access Edge Computing and related enablers (e.g. new interfaces, protocols, node-to-node communication, D2D communication, innovative cache support, ...), including Multi access technologies
- Service and energy management aspects of cloud-based mobile networks
- Energy harvesting for MEC services
- Integration of O-RAN and MEC architectures
- Resource allocation techniques; interference analysis, avoidance, and mitigation for heterogeneous networks
- Testbeds and performance evaluation for cloud-based mobile communication networks
- Machine learning and Artificial Intelligence for cloud efficiency

<p><b>Important Dates:</b> Paper Submission: 17/06/2022 Acceptance Notification: 08/07/2022 Camera-Ready: 01/08/2022 Workshop: September 12th, 2022</p> <p><b>Submission Guidelines:</b> Accepted papers will be part of the Conference Proceedings and they will appear in IEEE Xplore. A full version of each paper has to be submitted through the <a href="#">EDAS system</a> under the workshop track. Guidelines for submission can be found in the CLEEN2022 website.</p> <p><b>Organising Committee:</b></p> <p><u>General Chairs</u> Dario Sabella (INTEL, Germany) Emilio Calvanese Strinati (CEA LETI, France)</p> <p><u>TPC chair</u> Miltiadis Filippou (Intel, Germany)</p> <p><u>Publicity co-chairs</u> Pablo Serrano, UC3M, Spain Zdenek Becvar (Technical University Prague, Prague)</p> <p><u>Steering committee</u> Antonio De La Oliva, UC3M, Spain Carlos J. Bernardo (UC3M) Maurizio Mayer (AICT, Italy) Chuan Heng Foh (University of Surrey, IEEE ComSoc TCGCC, UK) Antonio Manzalini (TIM, Telecom Italia group, Italy, IEEE SDN chair) Jinsong Wu (Universidad de Chile, IEEE ComSoc TCGCC, Chile) Xavier Costa, NEC Eurolabs, Germany Tao Chen, VTT, Finland</p>	<p><b>Technical Programme Committee (TBC):</b></p> <p>Fredrik Tillman, Ericsson, Sweden Tapio Rautio, VTT, Finland Dieter Ferling, Nokia Bell Labs, Germany Pablo Serrano, UC3M, Spain Marco Di Girolamo, Hewlett Packard Enterprise Dirk Wubben, University of Bremen, TBC Fabio Giust, Athonet, Italy Giovanni Stea, University of Pisa Konstantinos Samdanis, Huawei, Germany Carla Fabiana Chiasserini, Politecnico di Torino Antonio De Domenico, CEA-LETI, Grenoble Josep Vidal, UPC, Spain Lynda Mokdad, University of Paris, France Hacene Fouchal, Université de Reims, France Ranga Rao Venkatesha Prasad, EWI, TUDelft, The Netherlands. Zdenek Becvar, CTU, Prague Navid Nikaein, EURECOM, France Franco Vatalaro, AEIT, Univ Roma Tor Vergata, Italy Panagiotis Vlacheas, WINGS ICT Solutions Loreto Pescosolido, IIT, Italy Simone Mangiante, Vodafone, UK Matthieu De Mari, Singapore University of Technology and Design (SUTD) Xavier Costa, NEC Eurolabs, Germany Alain Mourad, Interdigital, UK Nicola Di Pietro, CEA-LETI (France) Luca Cominardi (Adlink, UK)</p>
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