

## **Workshop on "Last-mile" Challenges and Standardization Opportunities in Smart Infrastructure**

**Workshop Date: Jan 04, 2022**

### **Background**

The world is undergoing an unprecedented pace of urbanization; and if present trends continue, the world urban population will rise at a phenomenal rate in the next few years. This rapid scale of urbanization will need smarter, sustainable cities based on smart infrastructure that are able to effectively and efficiently manage city utilities and services for its citizens. Electric grids, water distribution systems, transportation systems, communication infrastructure, waste treatment plants, commercial buildings, hospitals, homes, and education centers are existing vital facilities and infrastructure components that shape the liveability standard of a city. On the other hand, in rural communities last mile connectivity has always been a challenge. As the cities are becoming smarter, the rural parts also need last mile intelligent solutions. In the future, newer infrastructures and services will also bring benefits and create opportunities of added value to its people. An efficient and effective management of these existing and new city-wide and rural systems' requires digital transformation and harmonization of its traditional infrastructure.

### **Rationale**

The 5th edition of LastMileS workshop, to be held in conjunction with COMSNETS 2022, is a cross-cutting forum where technology, techno-commercial and governance aspects will converge under the overarching theme of "Last-mile Challenges and Standardization Opportunities in Smart Infrastructure". LastMileS will bring together researchers, practitioners, smart-city stakeholders and thought-leaders, in a collaborative discussion mode, to present their latest innovations in the area of an appropriate "last-mile" communication, networking, and data transfer framework; with a deep focus on enabling digital transformation and harmonization of smart infrastructure to help bring down the CAPEX and OPEX in the upcoming smart cities deployments around the world.

The workshop format will include invited talks and peer-reviewed paper presentations. Hence, we welcome submissions that provide a systems approach to smart infrastructure; which address the complex interplay of various technical aspects within the "last-mile" service delivery purview at large scale. While the work may not necessarily be addressed at large scale, however, the scope of the idea and solutions must be able to address the last-mile problems at large scale. We are particularly looking for papers reporting on experimental results of deployed systems, summaries of challenges or advancements, measurements, and innovative applications; with a clear focus on standardization elements.

Topics of interest include, but are not strictly limited to:

- Practical experiences from “large-scale, city-wide” deployments, measurements, case studies, and applications
- System design/architectural nuances and best practices for “large-scale city-wide” deployments
- Interoperability and harmonization challenges in “large-scale city-wide” systems, and standardization models
- “Last-mile” system (i.e., device, network, topology, data, configuration, mobility, and fault) management and troubleshooting at “large-scale”
- Programming and debugging methodologies at “large-scale”
- Dependability, adaptation, intermittency, and assembly methodologies at “large-scale”
- Trust, security, privacy, and authentication methodologies at “large-scale”
- Energy harvesting/scavenging methodologies and best practices for “decade long” operational life-time
- Middleware design methodologies for “large-scale” systems
- Edge-driven computing models and light-weight virtualization for heterogeneous data traffic and QoS requirements
- Last mile system (i.e., device, network, topology, data, configuration, mobility, and fault) challenges in rural scenarios

Two types of submissions are solicited:

Full papers: Maximum length of 6 pages, including title, author list, abstract, all figures, tables, and references. At least one author of each accepted paper must register for the workshop and present the paper.

Vision abstracts: Extended abstract that offers a future vision for a research and standardization direction in this space, of maximum length of 3 pages. The abstract should include title, author list, narrative (the vision statement), and references. At least one author of each accepted abstract must register for the workshop and participate in a future visions session. The session will include short talks by authors of accepted abstracts, followed by discussion.

### **Submission Guidelines**

- LastMileS invites submission of original work not previously published, or under review at another conference or journal.
- Submissions (including title, author list, abstract, all figures, tables, and references) must be no greater than 6 pages in length for Full papers, and must be no greater than 3 pages in length for Vision abstracts. A minimum number of 3 pages are required.
- Reviews will be single-blind: authors name and affiliation should be included in the submission.
- Submissions must follow the formatting guidelines as given on IEEE Website; and those that do not meet the size and formatting requirements will not be reviewed.
- All papers must be in Adobe Portable Document Format (PDF) and submitted through the LastMileS workshop submission site on EDAS.

- All workshop papers (full papers - both regular and invited) will appear in conference proceedings and submitted to IEEE Xplore as well as other Abstracting and Indexing (A&I) databases.

Papers can be submitted through EDAS:

**Important Deadlines**

Submission: 10th November 2021

Notification of Acceptance: 30th November 2021

Camera Ready: 10th December 2021

Workshop Date: 4th January 2022