

Sustainability for Connectivity & Telecom Systems Industry Connections Activity Initiation Document (ICAID)

Version: 1.0, 26 August 2022

IC22-010-01 Approved by the CAG 12 October 2022

Instructions

- Instructions on how to fill out this form are shown in red. Please leave the instructions in the final document and simply add the requested information where indicated.
- Spell out each acronym the first time it is used. For example, "United Nations (UN)."
- Shaded Text indicates a placeholder that should be replaced with information specific to this ICAID, and the shading removed.
- Completed forms, in Word format, or any questions should be sent to the IEEE Standards Association (IEEE SA) Industry Connections Committee (ICCom) Administrator at the following address: industryconnections@ieee.org.
- The version number above, along with the date, may be used by the submitter to distinguish successive updates of this document. A separate, unique Industry Connections (IC) Activity Number will be assigned when the document is submitted to the ICCom Administrator.

1. Contact

Provide the name and contact information of the primary contact person for this IC activity. Affiliation is any entity that provides the person financial or other substantive support, for which the person may feel an obligation. If necessary, a second/alternate contact person's information may also be provided.

Name: Sudhir Dixit

Email Address: sudhir.dixit@ieee.org

Employer:

Affiliation: Basic Internet Foundation & Wireless World Research Forum

IEEE collects personal data on this form, which is made publicly available, to allow communication by materially interested parties and with Activity Oversight Committee and Activity officers who are responsible for IEEE work items.

2. Participation and Voting Model

Specify whether this activity will be entity-based (participants are entities, which may have multiple representatives, one-entity-one-vote), or individual-based (participants represent themselves, one-person-one-vote).

"Individual-Based".

3. Purpose

3.1 Motivation and Goal

Briefly explain the context and motivation for starting this IC activity, and the overall purpose or goal to be accomplished.

Aligning technical innovation with sustainability is an integral part of IEEE’s mission to advance technology for the benefit of humanity, and many diverse individuals and communities of IEEE—from around the world—are using their expertise and know-how to help develop solutions for critical sustainability issues the planet faces today. Connectivity and telecom systems play a central role to achieve sustainability goals. In its Vision 2030 SDG (Sustainability Development Goals) the United Nations has proclaimed access to the Internet as a basic human right and has said that these goals cannot be achieved without affordable access to the Internet by everyone on this planet for the betterment of humanity.

The ICAID will be focused on all Information and Communication Technology (ICT) standards, products, services, and organizations that are actively involved in ICT industry, either by the means of Research and development, manufacturing, end-user services, and experiences.

The ICAID will include the development of requirements, frameworks, best practices, guidance, and supporting techniques and tools related to the achievement of sustainable development considering smartness and resilience, to help all Cities and Communities and their interested parties such that both rural and urban areas become more sustainable.

The ICAID will provide a platform to engage industry experts to develop ideas and recommendations that would result in standards, best practices, and technical reports for telecommunications equipment and environments in the areas of deployment, energy efficiency, environmental (including health and safety) impacts, power, and protection. The work products will enable vendors, operators, and their customers to deploy and operate reliable, environmentally conscious communications and computing technologies.

Describe the motivation and goal.

3.2 Related Work

Provide a brief comparison of this activity to existing, related efforts or standards of which you are aware (industry associations, consortia, standardization activities, etc.).

- IEEE Sustainable Development Task Force (SDTF) – this IC activity has been inspired by discussions within the IEEE SDTF on broader IEEE engagement in sustainability activities (education, global development, etc.). As a sub-topic of the larger sustainability vision, the IC activity will coordinate and participate with the SDTF which may take on operational aspects of SDTF concepts as and when needed.
- Global Power Systems Transformation Consortium – IEEE (primarily PES and SA) is engaged as a member of this global consortium that is engaged with the acceleration of renewables, particularly in developing

nations, and in collaboration with power system operators globally.

- IEEE Sustainable ICT Initiative - Launched in early 2015 through the support of the IEEE Future Directions' New Initiatives Committee, the Sustainable ICT initiative's mission statement has been defined as to build a holistic approach to sustainability through ICT by incorporating green metrics throughout IEEE technical domains. The Initiative has submitted 9 PARs.

1 https://s3.amazonaws.com/sustainabledevelopment.report/2019/2019_sustainable_development_report.pdf

- IEEE Future Networks Initiative (FNI) – Launched in December 2016 as a cross-society initiative (among 20 societies and ISA) to drive the vision and solutions for 5G and beyond 5G (leading to 6G), whose technical work resides in 15 Working Groups under the International Network Generations Roadmap (INGR) initiative, including such topics as energy efficiency, spectrum issues, and connecting the unconnected. IEEE FNI is also holding the second edition of a Global CTU Competition and a Summit in November 2022, both funded and sponsored by the IEEE NIC and several corporate sponsors.

Apart from the above IEEE efforts there are activities in various other industry forums. The work under this ICAID initiative will actively liaise with these industry forums.

- ITU
- NGMN
- ETSI
- ATIS
- ISO
- Oasis Consortium
- Green House Gas Protocol
- The Green Grid

Describe the related work.

3.3 Previously Published Material

Provide a list of any known previously published material intended for inclusion in the proposed deliverables of this activity.

There are numerous IEEE published papers, standards, presentations, roadmaps, white papers, etc. that are relevant to sustainable infrastructure, power sector transformation and related topics. These will be considered with some level of curation to accomplish the objectives of this document through tangible deliverables and the establishment of IEEE leadership and public visibility.

List the previously published material, if any.

3.4 Potential Markets Served

Indicate the main beneficiaries of this work, and what the potential impact might be.

- Any communication and information processing ecosystem and architecture being developed for the world.

Describe the potential markets.

3.5 How will the activity benefit the IEEE, society, or humanity?

Describe how this activity will benefit the IEEE, society, or humanity.

- Achieve IEEE's goal of becoming the leader in the connectivity and telecom space.
- New projects to be delivered across diverse sectors
- New activities, projects, programs can be the outcome of the program. This is an excellent opportunity to extend the reach and depth of future generation applications and services across several industries.
- Practices/guidelines that will help solution deployment across different interfaces, vendors, and frameworks.
- New key performance indicators (KPIs) to measure and quantify societal impact accompanied with financial benefits.

4. Estimated Timeframe

Indicate approximately how long you expect this activity to operate to achieve its proposed results (e.g., time to completion of all deliverables).

Expected Completion Date: 09/2024

IC activities are chartered for two years at a time. Activities are eligible for extension upon request and review by ICCom and the responsible committee of the IEEE SA Board of Governors. Should an extension be required, please notify the ICCom Administrator prior to the two-year mark.

5. Proposed Deliverables

Outline the anticipated deliverables and output from this IC activity, such as documents (e.g., white papers, reports), proposals for standards, conferences and workshops, databases, computer code, etc., and indicate the expected timeframe for each.

All the below aspects can be considered

- New proposals for standards based on the identification of issues – 2023
- RRSA (Rapid Reaction Standardization Activity) – 2023, 2024
- Identification and developing technologies for 6G -2023, 2024
- Workshops and Events for community building and promotion of ideas– 2023, 2024
- Webinars for community buildup and promoting the program– 2022, 2023, 2024
- Collaboration initiatives with other organizations- 2022, 2023, 2024
- Social KPIs (2022, 2023)
- Best practices manual(s) with recommendations (2024)

5.1 Open Source Software Development

Indicate whether this IC Activity will develop or incorporate open source software in the deliverables. All contributions of open source software for use in Industry Connections activities shall be accompanied by an

approved IEEE Contributor License Agreement (CLA) appropriate for the open source license under which the Work Product will be made available. CLAs, once accepted, are irrevocable. Industry Connections Activities shall comply with the IEEE SA open source policies and procedures and use the IEEE SA open source platform for development of open source software. Information on IEEE SA Open can be found at <https://saopen.ieee.org/>.

Will the activity develop or incorporate open source software (either normatively or informatively) in the deliverables? **No**

Not known at this time. But, most probably not, because the effort investment required is substantial and will take a long time. However, it may be possible to launch a separate and sister activity if there is sufficient interest from the partner organizations and if they are willing to commit to providing sustained resources. In addition, it will be necessary to define and develop specific requirements and deliverables that the open source software might constitute in the context of ICAID.

6. Funding Requirement

Outline any contracted services or other expenses that are currently anticipated, beyond the basic support services provided to all IC activities. Indicate how those funds are expected to be obtained (e.g., through participant fees, sponsorships, government, or other grants, etc.). Activities needing substantial funding may require additional reviews and approvals beyond ICCOM.

No expenses are anticipated apart from the basic support from IEEE. Nevertheless, some nominal seed funding may be required to organize some meetings, and workshops to launch the initiative. Although, premature to estimate, it may be possible to procure some industry sponsorships for the events if there is sufficient interest and buy-in.

7. Management and Procedures

7.1 Activity Oversight Committee

Indicate whether an IEEE Standards Committee or Standards Development Working Group has agreed to oversee this activity and its procedures.

Has an IEEE Standards Committee or Standards Development Working Group agreed to oversee this activity? No

If yes, indicate the IEEE committee's name and its chair's contact information.

IEEE Committee Name: Committee Name

Chair's Name: Full Name

Chair's Email Address: who@where

Additional IEEE committee information, if any. Please indicate if you are including a letter of support from the IEEE Committee that will oversee this activity.

IEEE collects personal data on this form, which is made publicly available, to allow communication by materially interested parties and with Activity Oversight Committee and Activity officers who are responsible for IEEE work items.

7.2 Activity Management

If no Activity Oversight Committee has been identified in 7.1 above, indicate how this activity will manage itself on a day-to-day basis (e.g., executive committee, officers, etc.).

Executive Committee of this program will manage the activities and rely on the active participation of the volunteers.

7.3 Procedures

Indicate what documented procedures will be used to guide the operations of this activity; either (a) modified baseline *Industry Connections Activity Policies and Procedures* ([entity](#), [individual](#)), (b) *Abridged Industry Connections Activity Policies and Procedures* ([entity](#), [individual](#)), (c) Standards Committee policies and procedures accepted by the IEEE SA Standards Board, or (d) Working Group policies and procedures accepted by the Working Group's Standards Committee. If option (a) is chosen, then ICom review and approval of the P&P is required. If option (c) or (d) is chosen, then ICom approval of the use of the P&P is required.

Option (b) Abridged IC Activity Policies and Procedures.

8. Participants

8.1 Stakeholder Communities

Indicate the stakeholder communities (the types of companies or other entities, or the different groups of individuals) that are expected to be interested in this IC activity and will be invited to participate.

Industry Players, OEMs, ODMS Telcos, Technology Providers, Academia, Government bodies, Solution Providers

8.2 Expected Number of Participants

Indicate the approximate number of entities (if entity-based) or individuals (if individual-based) expected to be actively involved in this activity.

~25 Individuals

8.3 Initial Participants

Provide a few of the entities or individuals that will be participating from the outset. It is recommended there be at least three initial participants for an entity-based activity, or five initial participants (each with a different affiliation) for an individual-based activity.

Use the following table for an individual-based activity:

Individual	Employer Affiliation	Affiliation
Josef Noll	University of Oslo	University of Oslo, Norway
Pranav Jha	Indian Institute of Technology	IIT Bombay, India
Marvin Arias	National University of Engineering	National University of Engineering, Nicaragua
Ashutosh Dutta	Applied Physics Laboratory, JHU	APL, Johns Hopkins University, USA
Roman Lara	ESPE, Ecuador	ESPE, Ecuador
Fisseha Mekuria	CSIR, South Africa	CSIR, South Africa
Peter Lindgren	Aarhus University	Aarhus University, Denmark
Matti Latva-aho	University of Oulu	University of Oulu, Finland
Sudhir Dixit	Basic Internet Foundation, Norway	Basic Internet Foundation, Norway
Merouane Debbah	TII, Abu Dhabi, UAE	TII, Abu Dhabi, UAE

8.4 Activity Supporter/Partner

Indicate whether an IEEE committee (including IEEE Societies and Technical Councils), other than the Oversight Committee, has agreed to participate or support this activity. Support may include, but is not limited to, financial support, marketing support and other ways to help the Activity complete its deliverables.

Has an IEEE Committee, other than the Oversight Committee, agreed to support this activity? No

If yes, indicate the IEEE committee’s name and its chair’s contact information.

IEEE Committee Name: Committee Name

Chair’s Name: Full Name

Chair’s Email Address: who@where

Please indicate if you are including a letter of support from the IEEE Committee.