Alliance for Best Practices and Standards in Smart Cities
Industry Connections Activity Initiation Document (ICAID)
Version: 1.0, 10 November 2020
IC20-026-01 Approved by IESS SMDC 18 December 2020

Instructions

- Instructions on how to fill out this form are shown in red. It is recommended to leave the instructions in the final document and simply add the requested information where indicated.
- 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: Joel Matthew Myers
Email Address: joel.myers1@gmail.com
Employer: DOMILA LTD (Ireland)
Affiliation: Chair of IEEE IoT Initiative Smart Cities; Member of the Steering Committee of IEEE SA Foundational Technologies; Member of the Committee of the IEEE SA AI-driven Innovation for Cities and People.

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.

For Smart Cities, technology is no longer just a solution for providing more efficient resources and municipality services. It has evolved into something far more panoptic. It has become "People-Centric", with a strong awareness to improve the many facets of our lives within a city, including social well-being. It is projected that by 2025 smart cities will be a $2.46 trillion market (source: Frost & Sullivan, CA, USA - 2018), bringing a wealth of incredible technology solutions and opportunities for new economies and job markets to develop and fill the gap in areas where work is dying out. However, such opportunities come with a great responsibility. Today, over 55% of the world's population live and work in cities and by 2050 that number is forecast to reach 66% (source: The 2018 Revision of World Urbanization Prospects, United Nations, 2018). Therefore, how we use technology in our cities has and will continue to have a huge impact on humanity. As technologists, we must work hand-in-hand with city leaders, stakeholders and citizens, engaging their participation from the start of any process of building a smarter city, in order to resolve problems that are deemed to be priority by the cities themselves and their communities. This collaborative approach also guarantees a much stronger use of best practices and standards, as well as acceptance and adoption of smart city solutions by locals. In order to become "People-Centric" we must provide technologies that bring people and social and business communities closer together, physically, not just virtually, so they can thrive. In an environment that is green, secure, protecting our privacy, and which promotes social well-being.

Under the COVID-19 pandemic, local has taken the lead over global, where cities have become the focus of attention in understanding that it is critical to ensure support for local economies and social communities, where technology can provide sustainable and resilient solutions that permit cities to become more independent of global processes.

Today, one of the key issues faced by smart cities is the lack of interoperability. There is a poor alignment and adoption of existing best practices and standards that can provide interoperability across city solutions; single nations; and global regions such as Africa and Latin America. There is strong political and commercial pressure to cave into silos-based solutions which often lead to lack of interoperability. This has become a big issue across most verticals, but during COVID-19 a critical problem when sharing vital data across healthcare platforms.

On the other hand, for the technology industry, cities across the world, which have already taken the first steps in becoming smart cities, offer an enormous wealth of use cases with both positive and negative results. Results and data that must be the basis of understanding

What we understand clearly, is that communications and close collaboration between the technology industry and smart cities is urgently required, in order to resolve the above issues, take advantage of the knowledge and expertise that has already gained both sides, and listen to the priorities of cities. During the virtual IEEE World Forum IoT – Standards session on Smart Cities the exact same conclusion was the key takeway underlined by all the speakers. A call for close collaboration.

In order to achieve this, the "Alliance for Best Practices and Standards in Smart Cities", the proposed new working group, would work in collaboration across technology and smart city

leadership and stakeholders to bridge the gap, alongside academia which often lead the way in smart city research and piloting on the ground.

Specific to this Industry Connections program, the primary goal is to develop a close collaboration between the technology industry and smart city leaders and stakeholders leading to the following key deliverables:

- Provide cities with a better understanding about standards and how to use them in developing an RFP for smart city frameworks and projects

- Identify existing best practices, and new best practices based on real use cases that have been piloted/launched in cities, where IEEE SA / IoT and the cities themselves are involved from the outset

- Create a database of uses cases and results that can then be studied, and lead to best practices and KPIs.

- Collaborative publications on lessons learnt on smart city projects to date.

- Set down a schedule of priorities for standards that need to be created, also based on the effects of COVID-19 in cities, the need for rebalancing global/local and the need for local sustainability for local economies and resilient solutions across verticals

In practice the working group will formalize a strong collaboration and close the gap between what is going on in technology, through IEEE, and what is happening on the ground within urban environments, by bringing onboard city leaders and stakeholders that offer critical experience and know-how in city priorities, the practicalities of designing and implementing smart city strategies and frameworks, use cases and projects, results, opportunities and concerns on data and security/privacy. A collaboration that will help improve adoption of standards by cities, greater interoperability and transparency between cities and regions, the development of best practices and KPIs from real cases, and help guide priorities of where new standards are required in urban environments.

The working group will bring onboard technology/standards experts, both within IEEE and externally, together with an international network of smart city leaders and stakeholders through the "Global Cities Alliance" managed by the IEEE IoT Initiative Smart Cities under its 6 regional chairs: North America, Latin America, Europe, MEA, India and Asia. The "Global Cities Alliance", initiated in October 2020, already has 50+ cities onboard, and is aiming to have representation from over 100 cities by the end of this year. Two weeks ago an IEEE Smart Cities Survey was sent out to IEEE SA and IEEE IoT membership across the world to create the first step in the process of creating this strong alliance with cities. A global network of cities whose experience and expertise in smart cities will provide a far greater understanding and synergy, bringing perspectives from highly diverse people, societies and cultures, in order to build solutions that best address these diverse needs and best practices and standards that may reach across global regions to better connect them.

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.).

[DO NOT MODIFY OR DELETE: ICAID template approved by the IESS SMDC on 8 October 2020]

IEEE SA STANDARDS ASSOCIATION

Mention the initial work of the Steering Committee of IEEE SA Foundational Technologies to identify these standards?

IC20-003 AI-driven Innovation for Cities and People
IC20-019 Digital Resilience – Tools and Methods to Support Response and Recovery from Crises
IEEE P1950.1, IEEE P1951.1 and IEEE P2413.1

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

None

3.4 Potential Markets Served
Indicate the main beneficiaries of this work, and what the potential impact might be.

Cities are the new working group's primary market.

Offering:

- a stronger relationship between the technology industry and smart cities (together with academia) that will result in improved communications and understanding of the best practices, KPIs and standards that can be adopted by cities.

- wider access by technology industry to smart city experiences, expertise on the ground, tested use cases and results

- greater understanding of where technology needs to provide its next standards, based on urban priorities for local economies and social communities

3.5 How will the activity benefit the IEEE?

Building a stronger city collaboration with IEEE and the technology industry will bring greater understanding of what is happening in cities today and what requires greater focus. This will drive new collaboration with our global IEEE membership and greater involvement by city leadership and stakeholders in IEEE events and activities, such as conferences, world forums, webinars, publications, and so on.

The collaboration also offers an environment to communicate IEEE's ethics and technical standards to city leaders and stakeholders, in order for them to be adopted as a fundamental part of smart city strategies and projects. The working group will also provide cities with a platform to promote their use cases and develop them into global best practices and standards through IEEE. We expect that the result will be an injection of synergies across IEEE initiatives.

◆IEEE

In addition, the entire IEEE SA will benefit from this program, as it resonates strongly with IEEE standards projects. IEEE has been the driver of the term "From Principles to Practice". Putting these concepts into practice requires a strong collaboration with cities themselves. Concluding, this IC Activity would function as a bridge in support of the good work that the IEEE community has achieved and complements the ECPAIS and other related work at the same time.

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: 12/2022

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.

   I.   Inventory of existing Smart City Standards based on verticals and use cases: IEEE and non-IEEE (delivery by month 3)
  II.   Inventory of existing best practices and KPIs for Smart Cities (delivery by month 6)
 III.   Blueprint of Smart City Standards for city leaders to use within RFPs (delivery by month 9)
 IV.   Database of global smart city use cases, status and results, identifiable by city, country, region, verticals and use cases (delivery by month 18)
  V.   Shared Statement of Priorities: for required best practices, KPIs and standards (delivery by month 24)

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.

Will the activity develop or incorporate open source software (either normatively or informatively) in the deliverables?

No

6. Funding Requirements
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.

This Industry Connections Initiative will be self-funded, with IEEE-SA administrative support. Where additional funds may be needed for identified work products, then it will also seek support by outside contributions from other partners in the Initiative.

7. Management and Procedures

7.1 Activity Oversight Committee
Indicate whether an IEEE committee of some form (e.g., a Standards committee) has agreed to oversee this activity and its procedures.

Has an IEEE committee agreed to oversee this activity?:
Yes - leadership from IEEE IoT Initiative – Smart Cities, and workforce from IEEE Communications Society - COM/NetSoft-SC - Virtualized and Software Defined Networks, and Services Standards Committee

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

IEEE Committee Name: IEEE IoT Initiative – Smart Cities
Chair's Name: Joel Myers
Chair's Email Address: joel.myers1@gmail.com

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.).

Two Co-Chairs, and one chair for each of the subgroups.
● Co-Chair: Joel Myers
● Co-Chair: Lindsay Frost

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,* (b) Standards Committee policies and procedures accepted by the IEEE SA Standards

Board, or (c) Working Group policies and procedures accepted by the Working Group's Standards Committee. If option (a) is chosen, then ICCom review and approval of the P&P is required. If option (b) or (c) is chosen, then ICCom approval of the use of the P&P is required.

Modified baseline Industry Connections Activity Policies and Procedures.

IEEE SA standards ASSOCIATION

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.

Primary: Cities around the world (CTOs and CIOs of municipalities; smart city leaders, e.g. from academia; and smart city stakeholders, e.g. community engagement groups)

Example types of participants may be independents or individuals that work for city networks, industry, standards Bodies, and financial Institutions, such as the ones outline below:

- ITU
- JTC1
- ETSI
- Smart Africa
- Open Agile Smart Cities (OASC)
- 100 Resilient Cities (100RC)
- UNESCO
- TM Forum
- World Bank
- European Development Bank

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.

10/15

8.3 Initial Participants
Provide a number 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
Lindsay Frost	NEC, Germany	NEC, Germany
Fawzi Behmann	TelNet Management Consulting Inc., USA	Director, North America Region, IEEE ComSoc
Rosaldo Rossetti	University of Porto, Portugal	University of Porto, Portugal
Sokwoo Rhee	National Institute of Standards and Technology (NIST), USA	National Institute of Standards and Technology (NIST), USA

IEEE

Nim Cheung	Senior advisor, Hong Kong	Senior advisor, Hong Kong
Victor Larios	Universidad de Guadalajara, Jalisco, Mexico	Universidad de Guadalajara, Jalisco, Mexico
Adam Drobot	OpenTechWorks, USA	OpenTechWorks, USA
Mohamed Essaaidi	ENSIAS, Rabat, Morocco	ENSIAS, Rabat, Morocco
Joel Myers	IEEE IoT Initiative – Smart Cities	