Global Initiative on Digital Transformation of Pandemic Surveillance

Industry Connections Activity Initiation Document (ICAID)

Version: 2.0, 11 February 2022

IC20-005-02 Approved by the CAG 14 March 2022

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: Grace Li
Email Address: grace.xd.li@ieee.org
Employer: 0xSenses Corporation
Affiliation: 0xSenses Corporation

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.

The outbreak of the COVID-19 pandemic reminds us that pandemic surveillance is a globally important topic. At present, pandemic surveillance is mainly conducted within the healthcare industry especially the public health sector. However, with the latest advancements in digital technologies such as blockchain,

we should be able to improve the *efficiency* and *transparency* of pandemic surveillance by building an "omnidirectional" platform that integrates the data interfaces of multiple industries (not only healthcare, but also other industries such as travel & transportation, telecommunications, retail, etc.) to better detect and respond to a pandemic.

The purpose of this activity is to initiate a global effort to enable the digital transformation of pandemic surveillance, which includes the following objectives:
- To develop standards, recommended practices and guides for cross-industry data sharing and interactions using a digital approach for the purpose of efficient and transparent pandemic surveillance;
- To develop open-source reference implementations for the new systems and applications needed in the digital transformation of pandemic surveillance;
- To solicit commitments and reach consensuses among key stakeholders regionally and globally to advocate the digital transformation of pandemic surveillance on a global basis.

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 Blockchain Against Corruption Working Group (CTS/BSC/BACWG)
- IEEE P2141.1 Standard for the Use of Blockchain in Anti-Corruption Applications for Centralized Organizations
- IEEE P2141.2 Standard for Transforming Enterprise Information Systems from Centralized Architecture into Blockchain-based Decentralized Architecture
- IEEE P2141.3 Standard for Transforming Enterprise Information Systems from Distributed Architecture into Blockchain-based Decentralized Architecture

IEEE Blockchain for Government Affairs Working Group (CTS/BSC/BGAWG)
- IEEE P2418.8 Standard for Blockchain Applications in Governments

Unlike the related work above, this activity will focus on the efficiency and transparency of cross-organization / cross-industry collaborations from the pandemic surveillance perspective. This activity may leverage the related work above for the efficiency and transparency within a single organization.

3.3 Previously Published Material

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

N/A

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

Today, the whole world is mainly in a peaceful era. Pandemic is the No. 1 killer facing mankind. The topic addressed by this activity is one of the world's top relevant topics.

This activity will fully embrace the concept of open-source and open-access, minimize or eliminate the paid-use of patents, and employ a non-profit business model for public good, in order to serve the broadest diversity of mankind.

With the success of the activity,
- The world would benefit from the greatly improved efficiency and transparency of pandemic surveillance regionally and globally;
- The profession would get a highly visible reference case of transforming the industries and the society with digital technologies (especially blockchain).

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

IEEE has been dedicated to advancing technology for humanity. Meanwhile, IEEE SA has been positioning itself as a truly global SDO and expanding its global influence. The two keywords "humanity" and "global" are both well reflected in this activity. With the success of the activity, the IEEE would expand its influence into non-traditional areas (from the IEEE perspective) and would be more well-known globally for advancing technology for humanity.

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: 03/2024

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.

- New PARs for the digital transformation of pandemic surveillance *(Optional: open-source elements in one or more PARs)*;
- Open-source reference implementations for the new systems and applications needed in the digital transformation of pandemic surveillance;
- Workshops, webinars, white papers, reports, or articles to promote the digital transformation of pandemic surveillance regionally and globally;
- Commitments and consensuses from key stakeholders regionally and globally to adopt and support the digital transformation of pandemic surveillance *(Optional: joint announcements, MOUs, or an entity-based alliance)*.

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? Yes

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.

Anticipated expenses include but are not limited to marketing, legal, finance, travel, public events, group meetings and other general and administrative overhead. Given the "not-for-profit" and "for-public-good" nature of the activity, we will seek financial sponsorship and support from participating companies, government grants, charitable foundations, and other organizations.

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.).

This activity will be managed by an executive committee consisting of a chair, a secretary, and other officers as needed. The chair will be Grace Li.

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 ICCom review and approval of the P&P is required. If option (c) or (d) is chosen, then ICCom approval of the use of the P&P is required.

(a) modified baseline *Industry Connections 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.

We will seek support and participation from World Health Organization (WHO), Chinese Center for Disease Control and Prevention (China CDC), U.S. Centers for Disease Control and Prevention (U.S. CDC), other national or regional CDCs, and major service providers and data owners in various industries that are relevant to or can contribute to pandemic surveillance.

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.

50

8.3 Initial Participants
Provide a few 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 Name	Employer	Affiliation
Grace Li	0xSenses Corporation	• 0xSenses Corporation
Frankie Zhang	SGC Shenzhen	• Self • SGC Shenzhen • China Institute of Communications (through its Blockchain Committee)
Matt Chen	Chinese Academy of Sciences Suzhou Institute of Biomedical Engineering and Technology	• Chinese Academy of Sciences Suzhou Institute of Biomedical Engineering and Technology • China Institute of Communications (through its Blockchain Committee)

Xiaolei Chang	SLP Big Data Center	• Research Institute of Tsinghua University in Shenzhen • Shenzhen Tsinghua University Alumni Association • Tsinghua Shenzhen International Graduate School • China Institute of Communications (through its Blockchain Committee)
Xiaowen Chu	Hong Kong Baptist University	• Hong Kong Baptist University • China Institute of Communications (through its Blockchain Committee)
Bin Yang	Tsinghua University	• Institute for Artificial Intelligence, Tsinghua University • Institute for Network Behavior, Tsinghua University • Institute for Precision Medicine, Tsinghua University • Nanjing Tsing-Tec Information Technology Co. Ltd • Beijing Tsing-Cloud Technology Co. Ltd • Institute for Artificial Intelligence, E-Town Beijing • Institute for Artificial Intelligence Industry, Shenzhen • China Institute of Communications (through its Blockchain Committee)

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.