

Enabling a Smart and Equitable Agriculture Ecosystem with Accessible Tech and Data Tools

Industry Connections Activity Initiation Document (ICAID)

Version: 1.0, 24 May 2022

IC22-005-01 Approved by the CAG 7 June 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: [Jack Marck](#)

Email Address: jack@gener8tor.com

Employer: Entity Name

Affiliation: Chair, Central Illinois Chapter, IEEE; Managing Director, Illinois AgTech Accelerator

Name: W. John MacMullen

Email Address: wjohn@illinois.edu

Employer: University of Illinois, Urbana-Champaign

Affiliation: Executive Director, Midwest Big Data Innovation Hub

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.

This activity aims to bring together a variety of cross-sector stakeholders in the agricultural production space to assess data challenges and opportunities that involve data collection involved with producer planning and operations. The desired outcomes include understanding producer and supply chain data management needs to support better data sharing and integration across the lifecycle of production.

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.).

Describe the related work.

Align with and/or build on IEEE P2992™ Recommended Practice for Data Expression, Exchange, and Processing in Smart Agriculture

Potential harmonization with the US FDA Food Safety and Modernization Act (FSMA) Section 204, “Enhancing Tracking and Tracing of Food and Recordkeeping” (see [US FDA overview](#)).

3.3 Previously Published Material

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

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.

We believe that understanding agricultural supply chain data needs will benefit both small producers (farmers) and large operations (agribusiness), related suppliers, including hardware and software vendors, as well as academic researchers and data standards developers. Understanding gaps in data and data infrastructures may also help funding agencies and venture capital firms prioritize new investments in the food supply chain space.

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

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

Addressing the agricultural supply chain data needs described above may help the industry move toward standards that better represent user-driven marketplace needs and may improve time-to-market of supply chain cyberinfrastructure, which could drive improvements in food safety, supply chain integrity and transparency (such as provenance and traceability) to address problems such as foodborne illnesses.

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: 06/2024

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.

We plan to collect stakeholder input through virtual or hybrid meetings, and produce consensus documents, such as a stakeholder gap analysis (first 9 months) and recommendation report (last 3 months of year 1). Year 2 activities will be driven by Year 1 outcomes and stakeholder needs.

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?

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.

Specify funding requirements and sources, if any.

No funding requirements at this time.

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?

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

IEEE Committee Name:

Chair's Name:

Chair's Email Address:

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 working group will organize an executive committee with the 2 organizing members acting as co-chairs. We will host an inaugural meeting with potential partners to recruit other critical executive committee roles including at a minimum a Secretary, a Membership Chair, and a Program Chair. We will consider adding executive committee roles on an as-needed basis in response to emergent need and in recognition of significant contribution.

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.

Specify the policies and procedures document to be used. Attach a copy of chosen policies and procedures. Abridged Individual IC P&Ps

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.

Specify types of entities or groups of individuals.

The activity will be broadly inclusive of the wide range of stakeholders in this space, including academic researchers, government agencies, agricultural producers of varying sizes, professional societies, and industry, including hardware and software developers and service 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.

125 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 Name	Employer	Affiliation
Jennifer Clarke	University of Nebraska	National Agricultural Producers Data Cooperative
Jack Marck	Illinois AgTech Accelerator	IEEE Central Illinois Chapter
Jessica Wedow	University of Illinois	Center for Digital Agriculture / NSF AI Institute for Future Agricultural Resilience, Management, and Sustainability (AIFARMS)
D.K. Panda	The Ohio State University	NSF AI Institute for Intelligent CyberInfrastructure with Computational Learning in the Environment (ICICLE)
Baskar Ganapathysubramanian	Iowa State University	NSF AI Institute for Resilient Agriculture (AIIRA)
Monica Poelchau, Ph.D.	USDA-ARS National Agricultural Library	AgBio Data Consortium
Caterina Caracciolo	FAO (Food and Agriculture Organization of the UN)	Research Data Alliance (RDA)
Nirav Merchant	University of Arizona	Cyverse
Bruce Rasa	AgVoice	Ag-focused Startup
Aaron Ault	Purdue University	Open Ag Data Alliance (OADA)

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

IEEE Committee Name: IEEE Sensors Council

Chair's Name: Troy Nagle

Chair's Email Address: t.nagle@ieee.org

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