Applying Innovation in Industry

It has been 5 years since the establishment of the Industrial Internet Consortium. We've grown to become the largest industrial IoT consortium in the world. Our members are recognized leaders in development and adoption of IIoT and enabling technologies. We've set the stage for member company growth and reaching new markets, and established IIC as **THE place** to collaborate on projects that impact industry. We bring together the organizations and technologies necessary to accelerate the growth of the industrial internet. Most importantly, *we're evolving as an organization by turning our primary attention toward supporting technology end users across every industry*.

IIC members recognize that most organizations are under pressure to "move to the digital age." It is a tough proposition: integrating legacy systems and optimizing with machine learning and artificial intelligence; connecting factories, mines and power grids; addressing security and trustworthiness concerns; implementing distributed ledger technology, preparing for future technical challenges such as deep learning, blockchain and 5G.

Often, there are commonalities across vastly different vertical industries: the ability to monitor or gain visibility, the need to predict machine failures or reduce costs through data analytics. Some of the most innovative developments may yet be discovered by tailoring the same or similar solutions to different industries. Could there be mining use cases that could be practical for workforce safety among emergency first responders or within retail "big box" warehouses? Are there retail solutions that might be relevant in CPG manufacturing or Pharma? The possibilities are endless – so are the challenges.

IIC members address challenges like these every day. We are committed to solving end user problems through our ecosystem of experts and providing valuable facilitation services, regardless of the size of the IoT project.

> *The Industrial Internet Consortium (IIC) focuses on the acceleration and development of industrial IoT by working directly with industry end users and helps empower technology end users with the means to obtain and deliver ROI from their IoT systems.*

The Pivotal Role of End Users

Established in 2018, our End User Leadership Council was formed to share end user insights on implementation challenges and set the vision for the industry. Founding representatives from Boeing, B&R Automation, Bosch Rexroth, Church & Dwight, Deere & Co. and TRUMPF meet regularly to continue discussions with IIC leaders around key challenges, successes and

disappointments. Currently, we are seeking additional End User Leadership Council participants from varying industries who wish to join these dialogues.

What's in it for End Users?

Consider the value in accessing an ecosystem of experts who can comprehend your technical problems, and help you solve them by providing access to:

- Conversations around industry-wide issues and best practices
- Knowledge and strategic solutions by sharing challenges with peers
- Early notification of testbed insights and opportunities to participate in IIC testbeds
- Multi-disciplinary experts who help minimize disruption, improve productivity and increase ROI
- A neutral platform for collaborating with experts on proof of concepts
- Technology-focused Special Interest Groups
- Recognized, transformative leaders in your industry

End User Leadership Council meetings are facilitated by IIC senior staff members or leaders of IIC Working and Task Groups. Face-to-face (F2F) roundtable discussions, presentations, working sessions and panel sessions are offered during our regularly scheduled IIC Quarterly Meetings. Council members are provided with optional opportunities to maximize their F2F time at IIC meetings by contributing to panel discussions, presenting within technical working group sessions, and at public-facing events. Of course, there are always ample occasions for networking and business development. There is no cost to participate except the investment of your time and travel. To inquire or to get started, contact Kathy Walsh, IIC VP of Marketing, walsh@iiconsortium.org.

Announcing IoT Challenges

We are excited to launch a series of [IoT Challenges](#) aimed at solving real problems and advancing the validation of industrial intern*et applications and solutions. The* current Challenges are co-organized with the Trusted IoT Alliance*. We are currently designing two challenges.* If you are interested in becoming a Principal or Emerging Technology Partner, please click on the links below and complete the forms*.*

[IoT Challenges](#)

- [Smart Logistics Challenge](#), opened May 15, 2019

- [Smart Building Challenge](#), opened May 15, 2019

Connecting via Industry Events

The IIC's Global Event Series continues to offer world-class knowledge learning opportunities and are often aligned with vertical industries, featuring speakers from around the globe. A [Smart](#)

Manufacturing Forum was held on May 23, 2019, in partnership with two Science Foundation Ireland (SFI) Research Centres, Confirm and I-Form. The forum was hosted by IIC member, Cork Institute of Technology (CIT), at their Cork, Ireland campus and featured speakers from Wanxiang Group, CIT's Nimbus Research Centre, DELL EMC and Stryker Orthopedics. During the forum, attendees learned about trends, innovations and challenges in smart manufacturing from experts in artificial intelligence (AI), 3D printing, supply chain, security and industrial analytics.

The next Global Event Series will be hosted in Anaheim, CA on September 12, 2019.

In addition to the Global Event Series, IIC members can be found at other participating events such as IoT Solutions World Congress in Barcelona, the Open Edge Symposium in Long Beach, CA and the Smart Factory Expo in Tokyo, Japan.

New Liaison

Since the last Journal of Innovation publication, IIC has formed a Liaison Membership with the Linux Foundation's LF Edge. LF Edge brings together a software stack with the best of telecom, cloud and enterprise (representing location, latency and mobility differentiation) through projects including Akraino Edge Stack, EdgeX Foundry, Home Edge, Open Glossary of Edge Computing and Project EVE. Formalizing a relationship with the IIC builds a strong collaboration that further accelerates IIoT adoption, digital transformation and the edge.

New Publications

The Time Sensitive Networking for Flexible Manufacturing Testbed announced its Characterization and Mapping of Converged Traffic Types white paper at Hannover Messe on April 1, 2019. The white paper describes application traffic types that are found in industrial and process control systems, including different types of critical control traffic and other traffic that may be in a manufacturing network.

First published in 2015, the Industrial Internet Reference Architecture (IIRA) identifies and highlights common architectural concerns found in IIoT systems and classifies them into viewpoints along with their respective stakeholders. It then describes, analyzes and where appropriate, provides guidance to resolve stakeholder concerns according to the viewpoints. This new version of the IIRA published on June 18, 2019, version 1.9, provides standard vocabulary definitions for the viewpoints and functional domains and describes roles for human users. It also includes information about wireless communications for industrial automation systems.

Collaboration Tools

Resource Hub Enhancements

We are committed to providing the best experience for our member organizations, both in providing additional exposure to their products, brands and collaborative bodies of work. In the

second half of 2018, we launched the IIC Resource Hub which represents the body of knowledge and activities driven by IIC members converged into a public resource that arms the world with new tools in the IIoT strategic arsenal. The actionable intelligence and interfaces continue to expand and become more robust every quarter as we add new documents, enhance the explorers and provide insights. Added to our suite of web-based assessment tools, the Maturity Assessment Explorer joined the Project Explorer in May 2019. The Maturity Assessment tool enables users to understand their overall organizational readiness for IIoT and links to key IIC industry resources to help with the journey.

The Industry IoT Consortium

Five years after the Industrial Internet Consortium was established, we're "growing up." We understand the potential, we're deploying the technologies and the solutions, and integration of the latest supporting technologies (AI, Machine Learning, Time Sensitive Networking, 5G connectivity and others) continues to

> "The secret of change is to focus all your energy not on fighting the old but on building the new."
>
> *~Socrates*

evolve. We're now developing programs to support end-users from various industries by providing the resources they need to harness the potential. You've got to crawl before you can walk. And you've got to walk before you can run. Now is a great time to get on your way.

> ➤ Return to IIC Journal of Innovation landing page for more articles and past editions.

The views expressed in the *IIC Journal of Innovation* are the contributing authors' views and do not necessarily represent the views of their respective employers nor those of the Industrial Internet Consortium.