

The Industrial Internet Consortium (IIC) held its 2018 first-quarter member meeting February 5th ~ 8th in Reston, Virginia, near Washington, D.C. It was as busy and productive as usual, with over 45 working or information sessions, 30 testbed sessions, IIC Connect and other activities. (IIC Connect is a series of twenty-minute meetings between members to help build—and use!—the ecosystem. There were over forty meetings this time.)

At the end of the meeting, we held our first Global Event Series (GES) event at MITRE's offices in McLean, VA. The purpose of the Global Event Series is two-fold. First, we want to partner with key organizations around the globe, and second we want to present thought-leading advancements that are accelerating the adoption of the industrial internet. This [February event](#) focused on challenges and innovations in energy and smart grid, which is our current focus.

Let's focus first on, ahem, 'focus'. The IIC is explicitly interested in all vertical domains that can be considered 'industry'.¹ For example, we have an interest in manufacturing, transportation and energy, to name just a few. We wish to add value to operational technology experts in all these domains, and more. But we are also interested in *interoperability* between those domains. An electric vehicle, for example, needs to interoperate with transportation infrastructure, and it needs to interoperate with the electric (smart) grid. Moreover, this electric vehicle comprises a large number of manufactured components as well as an astonishingly large amount of software. These components have to be able to interoperate *with every single sector*, and each sector has its own architectural requirements, yet they all need to work together. Testing for interoperability is a primary reason for IIC's testbed program.

This poses a problem for the IIC: We can't do everything at once. While there is value in breadth (otherwise how could talk about interoperability?), we have to have enough depth to be able to talk credibly about how IIoT can be usefully incorporated into a given vertical. Then we might be able to be useful.

¹ We have built a taxonomy of vertical domains and sectors to help us organize use cases, among other reasons, but the 'taxonomy' is necessarily an enumeration based on an abstraction: what does it mean to be 'industrial'?

The technical drivers for IoT and IIoT are much the same: low-costs sensors and computing, facile management of large amounts of data analytics and so on. But the business drivers are different. In consumer-oriented IoT, cost is key, while in *industrial* IoT, return on investment is more important. Similarly, security is important in IoT, but a failure of security in an industrial setting can be fatal.

For example, we would likely consider 'Retail', with point-of-sale terminals and little else to be mostly an IT system. Connect it to a global supply chain with additive manufacturing, logistics and automatic re-stocking and the business drivers cause the system to have 'industrial-strength' requirements. That's what would make this system 'industrial', not that it's a retail application.

Focus on Energy

This is why the IIC has instituted ‘focus areas’, which are vertical domains where we contact the experts, build liaisons with their various bodies and companies, inspire testbeds and so on. This takes time, of course, at least six months, we think. After that, they should be able to operate from their own momentum and we can turn to another. Our current focus is *energy*.

Because these verticals and systems are global, we must partner with bodies that are experts in that area. This includes technical work, of course, but it also involves stimulating interest. This is the background for our first GES event focused on Energy and Smart Grid, partnering with the US-based National Institute of Standards and Technology (NIST) where we enjoyed a keynote presentation from: Stan Schneider, CEO of Real-time Innovations and Chris Greer, Director of the Smart Grid Program office at NIST. Other presentations included The MITRE Corporation, followed by lunch, networking and demos. Post-prandial activity included three interactive panel discussions on Standards and Architecture, Security and Testbeds.

The GES will continue with its focus on Energy on May 25th in Helsinki immediately following the 2Q2018 Member Meeting. Watch [this space](#) for additional information.

GROUP ACTIVITIES

Our groups continue to make progress on their activities and deliverables. A few highlights include:

The newly formed Automotive and Automotive Security Task Groups (a potential focus area?) got off to a strong start with their first full member-meeting sessions in Reston. The task groups are providing IIoT guidance to the automotive industry vertical and direction to the IIC’s activities in automotive.

The [Security Working Group](#) met with IIC liaison organizations with the intent of making progress toward turning requirements into standards.

The Smart Factory Task Group offered a webinar “[Create a Green Patch in Your Brownfield: Getting Started with IoT in Manufacturing](#)” as a companion to the recently released [whitepaper](#) on the topic.

The Business Strategy Task Group released the video interview “[Capitalizing on the IIoT: Using the Business Strategy & Innovation Framework](#)”. The video highlights the IIC [Business Strategy and Innovation Framework](#) and how its approach of offering guidance and best practices derived from industry experts facilitates an organized, disciplined approach to moving forward with IIoT.

The Liaison Working Group formed an Open Source Task Group that will identify open source-related requirements in IIC deliverables; including open source requirements identified in the [I³C initiative](#), technical reports, toolkits, use cases, testbeds and best practices.

The Mining Task Group published an on-demand webinar “[Applying IoT in Mining: Current Capabilities & Future Pathways](#)”. This is the first webinar of a series focused on the challenges and opportunities of the industrial internet in mining.

LIAISONS

The [Liaison Working Group](#) continues to approve and pursue strategic technical relationships. There are thirty-five liaisons in place, one liaison newly approved and more are being considered.

Joint workshops are held from time to time between the IIC and a liaison organization. A liaison workshop was held with [oneM2M](#) on February 8th. The joint workshop explored:

- interoperability between emerging horizontal technologies that will enable scalability across vertical industries,
- how the IIC testbed program is helping to drive standards development and delivering insights into specific industry requirements and
- complex challenges, best practices and reasonable expectations for short and long-term success.

Two new strategic liaison agreements were signed: The [National Electrical Manufacturers Association](#) (NEMA), to align efforts to maximize interoperability, portability, security and privacy for the industrial Internet. The second is the [MulteFire Alliance](#) in which we will work together to promote the digital economy by harmonizing various aspects in the fields of the industrial internet.

TESTBEDS

[Testbeds](#) provide an environment for companies and multi-disciplinary stakeholders to team up and prove out complex systems and gain real-world experience. With 26 approved testbeds (and more in the pipeline), participants are generating best practices, recommendations and priorities for standards organizations. In our first-quarter meeting, there were fifteen testbed update presentations, along with concept testbed introductions and testbed platform presentations.

The [Testbed Working Group](#) recently announced the following:

- [Deep Learning Facility](#), targeting buildings and facilities and energy and utilities market segments. The testbed partners and IIC members are: Dell EMC, Toshiba and Wipro.
- [Connected Workforce Safety](#) will demonstrate how IIoT can be employed to improve worker safety and worker well-being, while facilitating safety compliance and enabling safe work practices. In turn, this testbed ensures safe work operations in industrial workplaces.

INDIVIDUAL CONTRIBUTOR AWARD

The Steering Committee instituted an [award program](#) to recognize some of the great work you can see being carried out in the IIC. The award category for this quarter was the Technical Innovation Award. The award was given to Mr. Dirk Slama (Bosch Software Innovations). Congratulations, Dirk!



Dirk was recognized by his peers for his leadership and innovative work for the [Business Strategy and Solutions Working Group](#). His nomination cited his ability to define and execute focused projects meaningful to the industry. Specifically, his contributions to business modeling and his initiative to build the I3C Portal as part of the [Industrial Internet Interoperability Coalition](#) (I³C), a member initiative with the Industrial Internet Consortium

NEW VIDEOS

We have seven new videos featuring and promoting the work of IIC Members. These are available on the IIC public website, and they may also be used by members to bring additional visibility to the work of featured employees and the overall IIC ecosystem. Be sure to check out these great promotional tools featuring many familiar faces:

- [Business Value of Membership](#)
- [Why We Build Testbeds](#)
- [Journal of Innovation](#)
- [IIoT Challenges & Opportunities](#)
- [Industrial Analytics Framework](#)
- [Security Demonstrator](#), in conjunction with Plattform Industrie 4.0
- Importance of Time Sensitive Networking/[TSN Testbed Demo](#)

Apart from all that, there were some holidays. We hope you enjoyed them!

NEW MEMBERS

Please join me in welcoming the following new members to the IIC:

- [Juniper Networks](#) (USA)
- [IRootech Technology Co., Ltd.](#) (China)
- [NetApp](#) (USA)
- [Aviage Systems](#) (China)
- [Secured Communicating Solutions Cluster](#) (France)
- [University of New Hampshire \(USA\)](#)

Come and join us! After all, one representative from the above said that his first meeting “exceeded his wildest expectations”. This could be you!

The Industrial Internet Consortium is the world's leading membership program transforming business and society by accelerating the Industrial Internet of Things. Our mission is to deliver a trustworthy Industrial Internet of Things in which the world's systems and devices are securely connected and controlled to deliver transformational outcomes. Founded by AT&T, Cisco, General Electric, IBM and Intel in March 2014, the Industrial Internet Consortium catalyzes and coordinates the priorities and enabling technologies of the Industrial Internet. The Industrial Internet Consortium is a program of the Object Management Group® (OMG®). Visit www.iiconsortium.org.

IIC members gain experience they could never have as a non-member. They experience member meetings unlike any local meet-up groups. Here are some key benefits of membership:

- **Networking**—Make the connections; find the needed expertise.
- **Information & News**—A fast pass to newsworthy industry developments.
- **Competitive edge**—Stay ahead of the competition, or take advantage of changes and developments that might otherwise have passed you by.
- **Create a market**—Join a collective voice supporting a single mission; create the disruption in the market and develop the business opportunities.
- **Success**—Members are building businesses and dedicating their professional lives to IIoT. They want to be successful, and they want others to succeed.
- **Professional development**—Grow your career, meet mentors and mentees, career prospects.
- **Solve important problems**—and help your partners and customers.
- **Events** – Capitalize on opportunities for continuous exposure to industry developments.