

The Industrial Internet Consortium (IIC) held its 2018 fourth-quarter member meeting November 12th ~ 15th in Beijing, China. It was as busy and productive as usual, with 23 testbed sessions and 58 working sessions. This note describes progress through that meeting.

IoT SOLUTIONS WORLD CONGRESS

This was a short 'quarter'. Between the meeting in Chicago, September 10 ~ 13 and the Beijing meeting November 12 ~ 15 was just eight busy weeks. Not only that, but IIC and Fira Barcelona once again hosted [IoT Solutions World Congress](#), October 16th ~ 18th. This event is dedicated to joining IoT providers with industry to help them increase productivity using this disruptive IoT technology.

Now in its fourth year, the event has grown to become the global reference for industrial IoT where IIC members and other IoT industry leaders participate in presentations, exhibits and panel discussions, announce new products and share use cases with business outcomes. The exhibition covered 32,000 m², with 341 exhibitors and 16, 250 visitors from 120 countries. Our IIC Member Pavilion had seventeen members' innovations, one testbed and an automotive security demonstration. You can find a playlist of the topics covered on the [IoT SWC YouTube Channel](#). It's yuuuuuge!

THE IIC RESOURCE HUB

And because it is so huge, we chose it as the venue to announce IIC's "Resource Hub".™ Please have a [poke around](#). Everything (bar one item, see below) is open to anyone without a login. (The login button is there for IIC members to add content.)

The motivation for the resource hub is *actionable intelligence*. Over the four-and-a-half years of IIC's existence we have published foundational frameworks such as the the [Industrial Internet Security Framework](#), then moved on to best practices such as [Endpoint Security Best Practices](#), which are both shorter and more directed.



But that's not enough, when you consider the volume of pages we have produced. Who has time to read over a thousand pages to get an insight or two? Busy project managers and engineers certainly don't, which is the rationale for the "Project Explorer". You can see the related keynote presentation [here](#).

Introducing the IIC's Resource Hub

The *Project Explorer* is an actionable intelligence tool used to characterize an IIoT system from assets in the field to the cloud and the user, in terms of buckets that represent risk. For example, a project with tens of assets has less risk than one with tens or hundreds of thousands, or millions. Similarly, risk differs with asset values of hundreds, thousands, hundreds of thousands or more euros. And so on through the entire canvas, all the way up to the user.



There are three levels of the Project Explorer questionnaire: quick, standard and detailed. The last is available only to IIC members (that's the exception noted above). You can load a sample project just to see how it works, or you can enter details about your own project. None of that data is sent to IIC, but is stored in your browser to maintain your privacy.

You can download an assessment report as is or in a Request for Proposal format to hand to your suppliers.

Once the system characterization is complete, you are presented with a summary and a detailed summary, which is just the data you entered—hardly earth-shattering—but then you are pointed to related readings that include:

- testbeds that relate to your project,
- insights from testbeds that may be of value,
- architecture patterns that have been used in projects with your profile,
- project management practices that pertain and
- enabling technologies and services.

You can click through these to learn about information that applies specifically to what you are doing, a considerably less arduous task than reading the 170 pages of the entire Security Framework to find the meaning of endpoints and then read another 50 pages about best practices. Better to go straight to the beef!

ACTIONABLE INTELLIGENCE ON *YOUR* PROJECT

How do you know what you don't know? By definition, you can't, but a checklist does help a lot. The canvas shown above and the project assessment provides that checklist, as well as the pointers to the related readings, but that only helps an individual. There is significant risk that project members have different understandings. A detailed assessment, undertaken by *all*

project members and stakeholders, followed by a group meeting to compare results will expose differences in understanding and allow for reconciliation. Perhaps I thought the number of assets was considerably higher than you did? Why? Let's come to a common understanding. Were we offered different related readings? (That is, would it actually make a difference?) Should we look at both? By looking at each element of the checklist and coming to a common understanding, you can reduce the risk on your project.

Lack of common understanding is a risk, more generally speaking, especially because IIoT projects employ many technologies. Finding information when you don't know what it's called can be tough. Accordingly, we provide a graphical index to the [Body of Knowledge](#) (BoK) with descriptions of each element for fast access. There is also a list of items for which you might be searching: foundational documents, insights, white papers and "BoKlets", small items of information, including individual contributions, that may be of interest. Each item is relatively small and linked further so that you can dig deeper in the areas that interest you.

Similarly, project members use terms differently. At both the top and the bottom of the hub home page is the [Vocabulary](#). This is in English, but we will shortly load a rendition in German. We hope to build versions in many languages to continue to support our role as a global hub. As far as possible, we use existing terms from international organizations, and we avoid where possible inventing our own.

Once project members understand their project, they still have the issue of finding components that they need. The [Ecosystem](#) is a growing directory of IIoT products, services, researchers and end users defined by our members' self-categorizations, making experts searchable by their area of expertise. The ecosystem is organized by broad areas:

- end users,
- government and consortia,
- hardware,
- media and analysts,
- megavendors,
- research and academic,
- services and
- software,

each of which is broken down further. A veritable cornucopia of valuable information.

TESTBEDS

Testbeds provide an environment for companies and multi-disciplinary stakeholders to team up, prove out complex systems and gain real-world experience. With 26 [Approved IIC Testbeds](#) and more in the pipeline, participants are generating best practices, insights, priorities, use cases and recommendations for SDOs. Please also see this video: [Why Build Testbeds?](#)

The [Testbed Working Group](#) recently published the [Smart Manufacturing Connectivity for Brown-field Sensors Testbed: Initial Deployment. Report after Completion of Phase 1](#). See more on the [Smart Manufacturing Connectivity for Brown-field Sensors Testbed](#) (SAP SE and TE Connectivity).

This quarter, the [Track and Trace Testbed](#) (Bosch, Cisco and SAP SE) became the first IIC testbed to [generate requirements](#) for a new IIoT standard for tracking and tracing assets, thereby improving the sharing of data from IIoT sensors. In response, the Object Management Group issued an RFP based on these requirements: SENSR.

The IIC's Testbed Badge Program was developed to promote further interaction and IIoT knowledge sharing between IIC testbed teams and the host of IIC groups. Each testbed can earn a badge on completion of the criteria set out by the associated group. The badges below were approved this quarter:

Approved	Business Innovation	Business Strategy
Collaboration	Community	Connectivity
Implementation	Industrial Analytics	Networking
Open Source	Security	Standards
Use Case		

GROUP ACTIVITIES & PUBLICATIONS

IIC groups continue to make progress on their various activities and deliverables. You can find a complete list of IIC publications on the [Technical Papers, Publications and White Papers](#) page.

We held another [IIC Connect](#) event during the meeting. It attracted 27 participants and resulted in 25 interactive sessions. Demand was high and more sessions will be scheduled at future IIC quarterly meetings to offer members greater opportunity to connect with one another.

The [Liaison Working Group](#) expanded to [40 liaisons](#) with new liaisons [Alliance of Industrial Internet](#) and [Linaro](#). IIC liaisons span standards development organizations (SDOs), open-source communities, technology and industry-focused consortia, alliances and government agencies.

We established a China regional team in partnership with Alliance of Industrial Internet to support members in China. Significant progress has also been made on the various translations and world-wide distribution of IIC publications (e.g., a Japanese translation of the IIC's Endpoint Security Best Practices White Paper [[English](#) and [Japanese](#)] which was published on 2018-11-05).

GLOBAL EVENT SERIES

Along with our partner, Alliance of Industrial Internet, we held a [Future of the Industrial Internet](#) forum at the JW Marriott Hotel in Beijing, China ([Photos](#)) on 2018-11-16. It was co-hosted by

Introducing the IIC's Resource Hub

[Huawei](#) and the [China Academy of Information and Communications Technology](#). Representatives from the Ministry of Industry and Information Technology of China, IIC members: ABB, All, Aingura IIoT, CAICT, China Wanxiang, DELL/RSA, Huawei, Moxa, RTI, Thingswise and Wibu-Systems and the following guests: 360 Enterprise Security Group, China Huangeng Group, First Automotive Works, Haier and Tsinghua University presented or participated in one of our panel discussions.

WEBINARS

No webinars were held this quarter. Nonetheless, you may receive notifications about upcoming webinars by subscribing to the IIC [BrightTALK channel](#).

NEWS & MILESTONES

With over 6,200 media mentions and press coverage in the last year, IIC testbeds and member companies generate significant recognition. Find media coverage for this quarter and past quarters at the [IIC Recent News Webpage](#).

On 2018-10-16 during IoTSWC, Dr. Richard Soley, CEO of the Object Management Group and Executive Director of the IIC, was interviewed on a podcast. During the podcast, entitled [Helping Industrial IoT Become a Reality](#), Dr. Soley shares stories and examples of notable work underway, the potential for productivity gains across industries and the view that manufacturing represents the industry with the most to gain from connecting assets and advanced analytics. In addition, Dr. Soley also discussed the launch of the IIC's new Resource Hub and its importance in the propagation of IIoT.

MEMBER ENGAGEMENT AWARD

The winner of the new Member Engagement Award was Dan Isaacs, Director of Strategic Market Development at Xilinx. Dan was recognized by his peers for his significant contributions to growing IIC membership by bringing in new members and engaging them in our work.

Dan has also led in the [Security Claims Evaluation Testbed](#) and the [Smart Factory Machine Learning for Predictive Maintenance Testbed](#) where Xilinx is a co-sponsor. Dan also co-chairs the Automotive Security Task Group and has contributed elsewhere.

Congratulations, Dan!



NEW MEMBERS

Please welcome new members this quarter:

- [Arm](#)
- [ConsenSys](#)
- [DXC Technology](#)
- [IIoT-OXYS](#)
- [OSIsoft](#)

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 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.