

The Industrial Internet Consortium's (IIC) first-quarter member meeting held virtually from March 8th ~ 11th was a great success with:

- 209 attendees,
- 26 working sessions,
- nine testbed sessions,
- eight plenary sessions, seven industry track sessions, two keynotes (e.g., CargoO2AI: Port of Montreal Turning to AI in Its Fight Against COVID-19),
- a joint Startup Fast Pitch Event with RIoT (115 attendees, six IIC member judges and five startup participants),
- a Virtual Technology Center Tour,
- a smart manufacturing use case and testbed workshop,
- a virtual networking reception (with a pianist and cooking demo),
- a joint half-day Smart Manufacturing Workshop with Global Industry Organizations (76 attendees) and
- a partridge in a pear tree.¹

THE CONSORTIUM OF CONSORTIA

IIC's parent organization, the Object Management Group[®] (OMG[®]), is an international, open membership, not-for-profit organization, founded in 1989. Initially, OMG focused on building standards, where vendors could collaborate in a neutral space with antitrust concerns. It now has 249 specifications, thirteen of which have been adopted by ISO. It has 325 member companies worldwide.

OMG standards are driven by vendors, end-users, academic institutions and government agencies. OMG "task forces" develop enterprise integration standards for a wide range of technologies and an even wider range of industries. OMG's modeling standards, including the Unified Modeling Language[®] (UML[®]) and Model Driven Architecture[®] (MDA[®]), enable powerful visual design, execution and maintenance of software and other processes.

At OMG's standards' development program, specification adoption is the starting point rather than the end of the process. Our "No Shelf-ware" policy bars all proposed specifications that do not have an implementation plan from being adopted by OMG. This guarantees that all OMG specifications are immediately useable. In addition to the specification itself, we focus on the whole product: with corresponding seminars, workshops, certification, books and more.

¹ Taken from a list in the [Twelve Days of Christmas](#).

OMG initiated the Industrial Internet Consortium[®] (IIC[™]) on 2014-03-27, which makes us almost seven human-years old (49 dog years and 343 technology years). On 2020-05-18, we announced Digital Twin Consortium[™], with a new type of membership, the so-called zero-stage membership. This type of membership is offered free (for one year only) to start-ups with no revenue. We have now made that membership level available in the IIC.

In addition, OMG also hosts programs such as the Consortium for Information & Software Quality[™] (CISQ[™]), BPM+ Health and communities such as the DDS Foundation.

The members of each program include hundreds of organizations including software end-users in multiple vertical markets (from finance to defense and aerospace) and virtually every large organization in the technology industry. Each program has a one member/one vote policy that ensures that every member organization—whether large or small—has an effective voice.

Each program hosts four technical meetings throughout the year, at present all virtually. These meetings give members and interested nonmembers, the opportunity to collaborate in a centralized location (or, these days, online), learn about technology and processes at tutorials, and attend special information-day events on currently trending hot topics. Technical meetings are merely checkpoints with the bulk of the work between members taking place electronically via email, teleconferences, and on wikis.

OMG programs maintain liaison relationships with dozens of other organizations. The IIC program, for example, has liaisons with these organizations. We even have liaison relationships that allow for joint work between OMG's several programs!

Stepping back a little, IIC has a liaison, for example, with oneM2M. To allow for joint work, we set up a private group to which all IIC and oneM2M members have access. IIC members have access to all of IIC's work; oneM2M members have access only to this group. This group then published a white paper aligning IIC's IIRA with oneM2M's architecture framework.

Similarly, we have set up a group within the IIC Security Working Group to work on a single project with DTC: Trustworthiness. This enables cross-collaboration, reduces rework (often inconsistent) and saves member representatives' time.

But these are formal structures; they do not allow for a single expert to provide input if their company is not a member of both programs. So, OMG set up a cross-collaboration program. This program allows each member company to send individuals to named groups in another program. The number of individuals is set by the membership level.

OMG therefore has become the consortium of consortia. 32 years is a long time in the technology business, but OMG has grown to meeting the technical challenges and deliver ecosystems where people can collaborate to advance the industry (and avoid antitrust issues). And because now people can collaborate across multiple programs in several different ways, it is yet more valuable.

END USER ENGAGEMENT

Our Industry Leadership Councils (ILCs) are executive roundtables of innovative strategists representing organizations who meet regularly to set the vision for next-generation solutions in their respective industries. The Manufacturing ILC produced the first in a series of technical briefs aimed at help manufacturing leaders keep pace with rapid emergence of new technology. The ILC meets quarterly and includes representatives from major companies; additional end user companies are welcome. The general criteria for participation in an ILC are a director-level role or higher as well as actively implementing or using an IIoT solution in the corresponding field. The ILC also seeks to form an Energy ILC, focused on utilities and distributed energy management. If you have participant recommendations you may visit the ILC webpage above or contact either Howard Kradjel or Cheryl Rocheleau.

Our Vertical Task Groups exist to understand business and technology needs within an industry. They connect industry needs to requirements, testbeds, and guidance that enable technology deployment and digital transformation. We have vertical groups for automotive, energy, healthcare, mining, and smart factory.

Our Special Interest Groups create customer-validated requirements for the development of holistic solutions for industry, initiate technical validation projects for these requirements, initiate new industry standards to help harmonize the technology landscape and provide an efficient platform for vendors suppliers and industry organizations to shape the future of IIoT solutions jointly. For more information, please contact Stephen Mellor.

The Community Forum is an online venue for industry experts to exchange ideas, discuss IIoT problems and network as well as an IIoT beacon providing helpful, relevant content to technology users, vendors, integrators, technology experts, researchers, government entities and academicians. The Community Forum is a resource for follow-on conversations and webinars.

INDUSTRY PROGRAM

IIC Testbeds are where the innovation and opportunities of the industrial internet—new technologies, new applications, new products, new services, new processes, new business can be initiated, thought through and rigorously tested to ascertain their usefulness and viability before coming to market. Our testbed program has [26 approved IIC Testbeds](#) with more to come.

IIC Test Drives are solutions that may be deployed as pilots to trial a technology. Test Drives enable technology end users to learn about a technology in their facilities. Five test drives are approved; the latest is the Managing COVID-19 in the Workplace Test Drive.

IoT Challenges aim at solving real problems and validating solutions that address specific end-user-identified pain points. In these challenges, architects and solution providers compete to design industrial internet solutions that address high-profile real-world problems. The Next Generation Retail Lab project made a call for participation on 2021-03-03. The project is a

transformative innovation project promoted by Barcelona City Council, through [Barcelona Activa](#) and the Commerce Department, and the [Cercle Tecnològic de Catalunya](#) (CTecno), together with [CorEixample](#) retailers' association.

The [product catalog](#) encourages members to add products to the catalog, so that the public can shop for members' products.

GROUP ACTIVITY

The [Characteristics of IIoT Information Models](#) white paper published on 2021-02-23 provides a thorough overview of IIoT information models, surveys a presently relevant subset thereof and characterizes them using a carefully crafted meta-model with the enduring intent to capture commonalities and address the challenges of subsystem integrations using different ones.

The [BizOps for Digital Transformation in Industries](#) white paper published on 2021-02-25 introduces the IIoT solutions operator to the BizOps for Digital Transformation in Industry Process that facilitates the complexities of information and operational technology integration to the constraints of the physical world to realize digital transformation in products, operational processes and business models.

The [MILS Architectural Approach Supporting Trustworthiness of IIoT Solutions](#) white paper published on 2021-03-10 provides a meticulous overview for executives, business planners, architects and engineers of the cost-effective yet trustworthy construction of systems in an IIoT environment using the MILS architectural approach, case studies thereof and its various evolutions through the years.

The [Journal of Innovation](#) published its latest edition on *Innovations in Digital Twin* on 2021-03-25. This edition addresses such Digital Twin-related topics as web-based Digital Twin, driving adoption via open source, design and implementation, data processing and simulation as well as optimizing the manufacturing process and quality.

This next quarter the IIC expects to publish the following eight deliverables: *The Communications and Connectivity Security* white paper, *IIC Global Industry Standards Strategy* white paper, *Industrial Internet Artificial Intelligence Framework*, *Industrial Internet Connectivity Framework v1.x*, *Industrial Internet Networking Framework*, *Industrial Internet Reference Architecture v2.0*, *Industrial Internet Security Framework* (minor update) and the *Trustworthiness Foundation*.

Here is a complete list of IIC publications: [Technical Papers, Publications and White Papers Webpage](#).

WEBINARS

Visit our [Webinars](#) Web page for access to two hosted webinars this past quarter as well as a comprehensive list of past and future webinars.

NEW MEMBERS

Please welcome new members this quarter:

- [Armstrong Alliance Group](#)
- [Blockchain Technology Partners](#)
- [COSGIA](#)
- [Defentos](#)
- [ET&T Technology Co.](#)
- [GEOOWN](#)
- [Gyeongnam Technopark](#)
- [HASS IT Consulting](#)
- [Intellithink Industrial IoT Labs Pvt. Ltd.](#)
- [Iotics Inc.](#)
- [Mandela Mining Precinct](#)
- [MetaCX](#)
- [No.9 Intelligent Technology \(Shanghai\) Co., Ltd.](#)
- [Ramp Catalyst](#)
- [Rubus Digital Private Limited](#)
- [The Astral Consulting Group LLC](#)
- [VoltsUp Technologies Inc.](#)
- [Zemplee Inc.](#)

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. 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.
- **Establish a vision**—Members work to define future architectures and innovate technologies for IIoT.
- **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.