

Looking Ahead to the 19th Term

The Future of Industrial Automation



ODYA™

Leadership - Technical Review Board

1. Daniel Amirsadeghi, Molex
2. Rudy Belliardi, Schneider Electric
3. Paul Didier, Cisco Systems
4. Dr. Jörg Hähnicke, Endress+Hauser
5. Dr. Ludwig Leurs, Bosch Rexroth
6. Shinji Murayama, Omron
7. Dave VanGompel, Rockwell Automation
8. Joakim Wiberg, HMS Industrial Networks (*)

* chairperson

Leadership - Officers

- **President and Executive Director – Katherine Voss**
- **Chief Technology Officer – Joakim Wiberg**
- **Secretary – Christopher Lynch**
- **Treasurer – Jürgen Weinhofer**

Leadership - Board of Directors



Michael Höing
Weidmüller Interface



Fabrice Jadot
Schneider Electric



Dr. Jürgen Weinhofer
Rockwell Automation



Masaru Takeuchi
Omron



Dr. Thomas Bürger
Bosch Rexroth

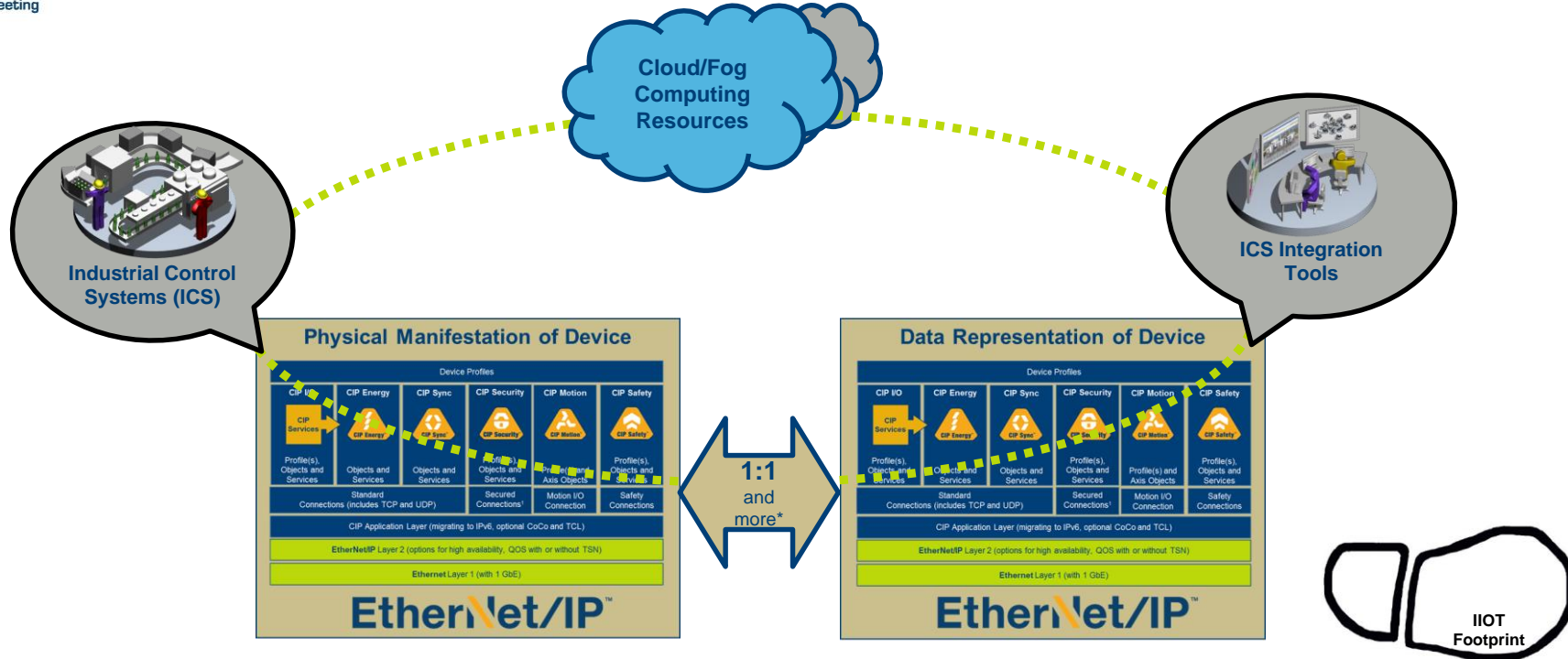


Dr. Rolf Birkhofer
Endress+Hauser



Dave Lagerstrom
Turck

Strategic Technologies



Strategic Technologies

Building on EtherNet/IP's leading position requires that ODVA stakeholders monitor, and work together, to adapt to opportunities and threats.

Device data is increasing in value. CIP provides a rich, context-based repository for device data and thus provides the opportunity to increase the value proposition of EtherNet/IP based on its device data. In order to capture this value, ODVA specifications must be enhanced to include a modern, robust electronic data technology to support data-driven workflows for device integration and a standard reference model for the production and consumption of digitized device data. The result will benefit vendors and users of EtherNet/IP through value-added services made possible by context-rich device data aligned with workflow needs.

Introducing “Project xDS”

What is Project xDS?

Project xDS is the name of ODVA's collective activities to define, create and proliferate the successor to ODVA's current electronic artifacts for device integration and conformance testing of ODVA CONFORMANT™ devices, the Electronic Data Sheet (EDS) and Statement of Conformance (STC) files.

Project xDS was approved by ODVA's Board of Directors at its Regular Meeting on October 12 and 13, 2016.

The first phase of Project xDS proceeds with two parallel activities:

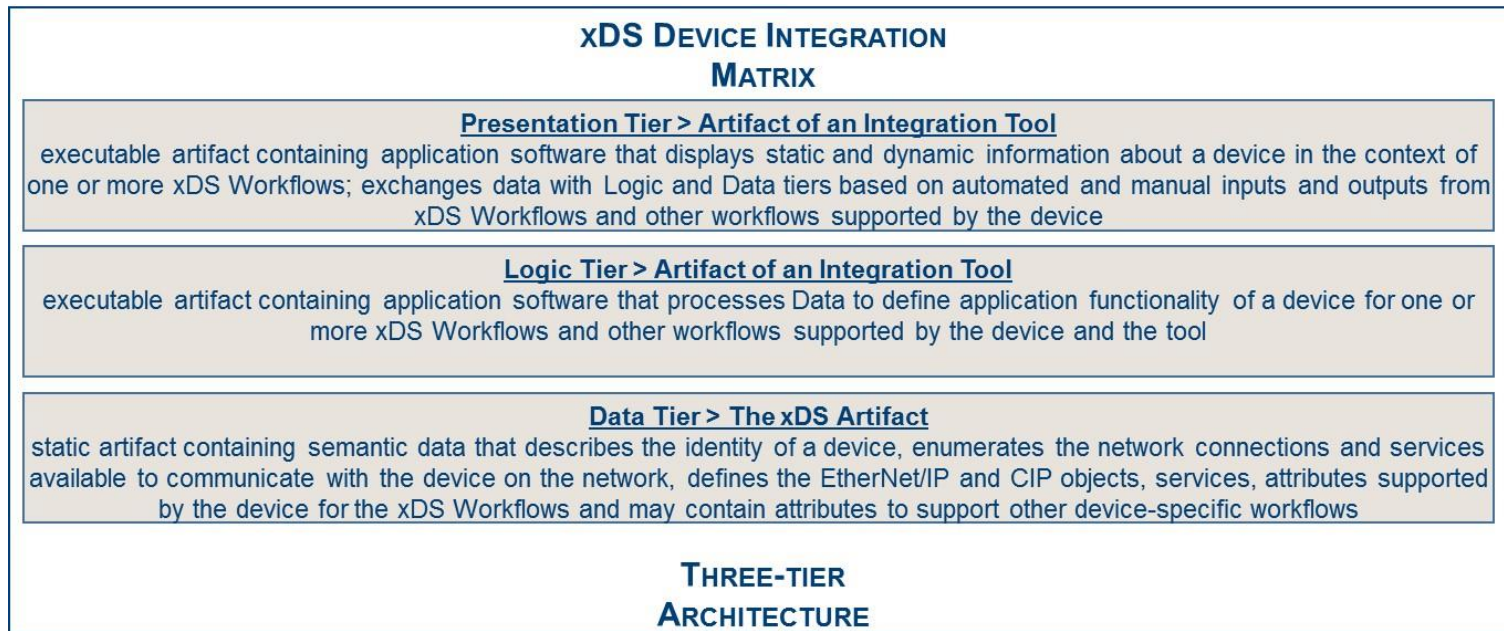
1. An Ad Hoc Committee for Project xDS shall be constituted to define and prepare the detailed work plan for Project xDS for review by, and feedback from, ODVA leadership and then for approval by ODVA's Board of Directors.
2. ODVA's future vision of digitized artifacts for EtherNet/IP device data, as defined by this presentation, shall be distributed for review and comments from key stakeholders in the Project including, but not limited to, ODVA's Technical Review Board, Ad Hoc Committee for Project xDS (Ad Hoc Committee), principal members and technical staff. The Ad Hoc Committee shall review and integrate the stakeholder comments into its detailed work plan.

The business case for Project xDS, and its definition, has been developed and vetted through various means including ODVA workshops to define use cases and requirements for ODVA's electronic artifacts for device integration and conformance testing, joint meetings with other organizations pertaining to technology and standards for ICS Integration Tools, experience of the ODVA staff with EDS and STC files, and meetings of ODVA's Board of Directors.

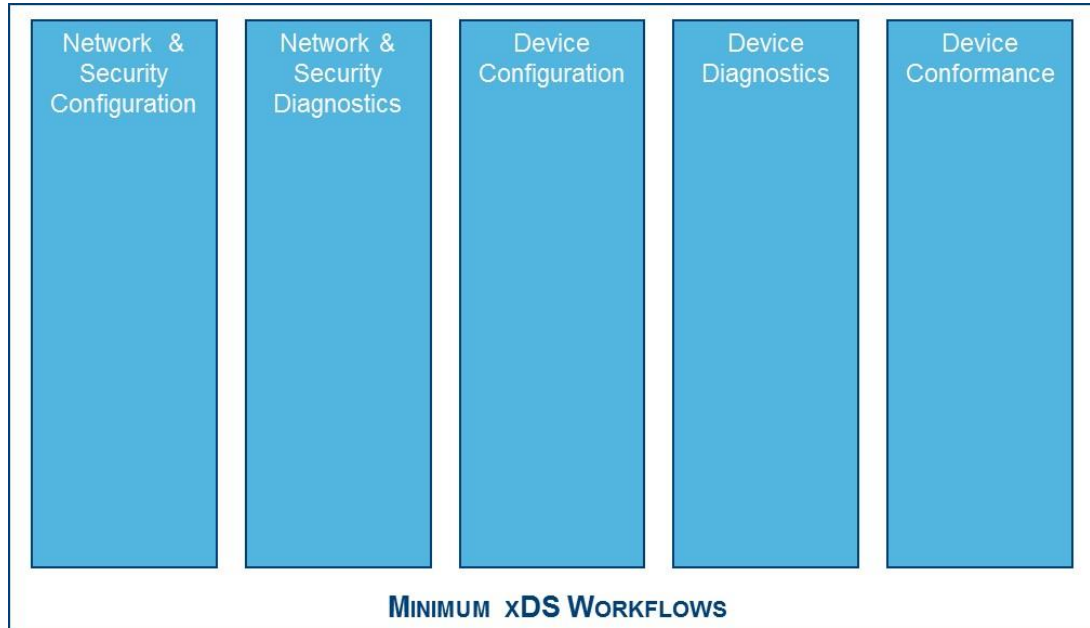
Guiding Principles for Project xDS

- 1) EtherNet/IP shall be the ODVA network technology of primary focus.
- 2) The Vendor Value Proposition shall:
 - Make integration of EtherNet/IP devices in vendor ICS Integration Tools as simple and re-usable as possible;
 - Eliminate the need for different artifacts for device integration and another for ODVA conformance testing;
 - Support an approach to technical implementation by developers that is scalable from simple to complex devices and from device to system suppliers; and
 - Provide methods to simplify adoption by device vendors.
- 3) The User Value Proposition shall:
 - Mandate, as of a date to be determined, that the xDS artifact shall be provided for all ODVA CONFORMANT™ EtherNet/IP devices;
 - Mandate use of all data provided in the xDS artifact by scanners and by Device Integration Tools used in ICS systems with CIP sub-nets;
 - Minimize the amount of optional device data in the xDS artifact;
 - Mandate that a vendor shall obtain and maintain Declarations of Conformity for its xDS artifacts (in addition to the EtherNet/IP device whose data the xDS artifact defines); and
 - Allow one xDS artifact for a product family.

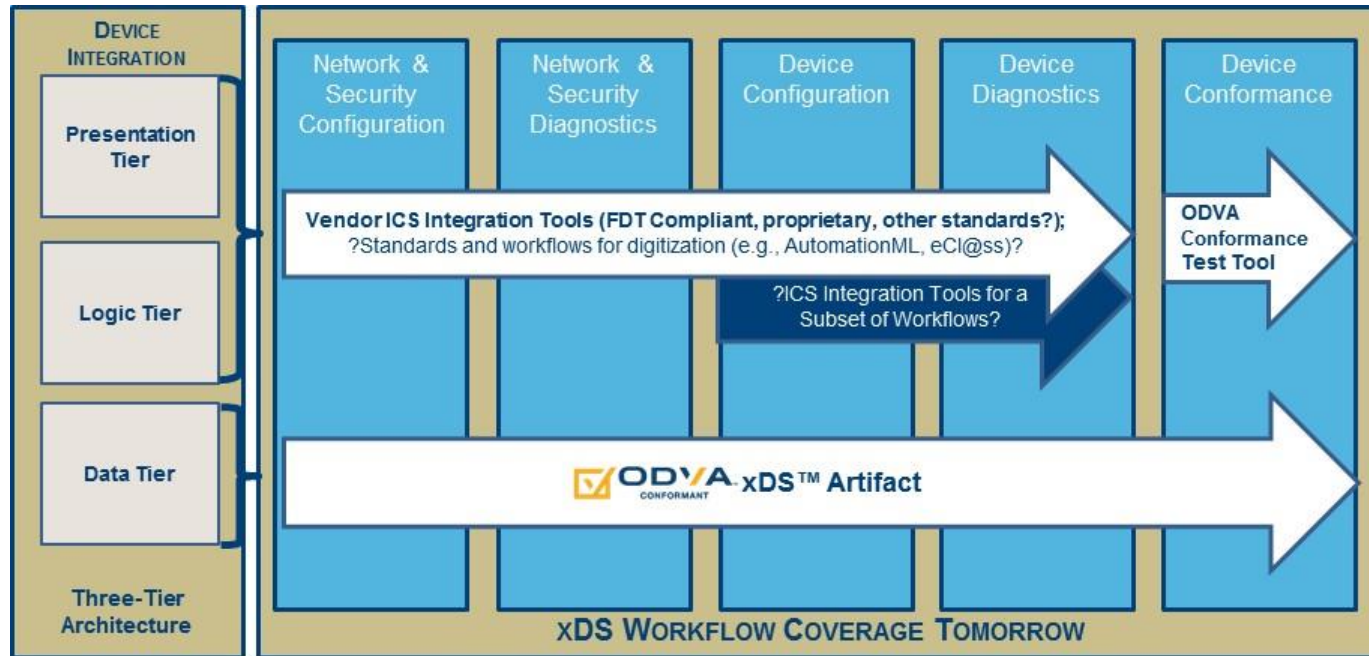
Organizing Framework for Project xDS



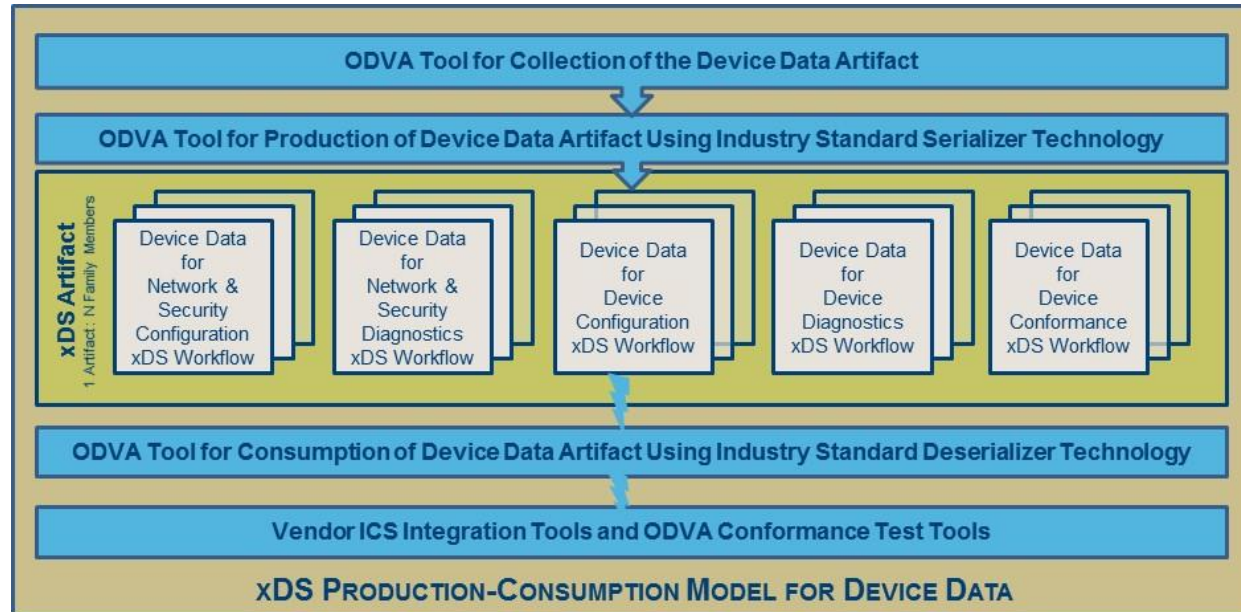
Organizing Framework for Project xDS



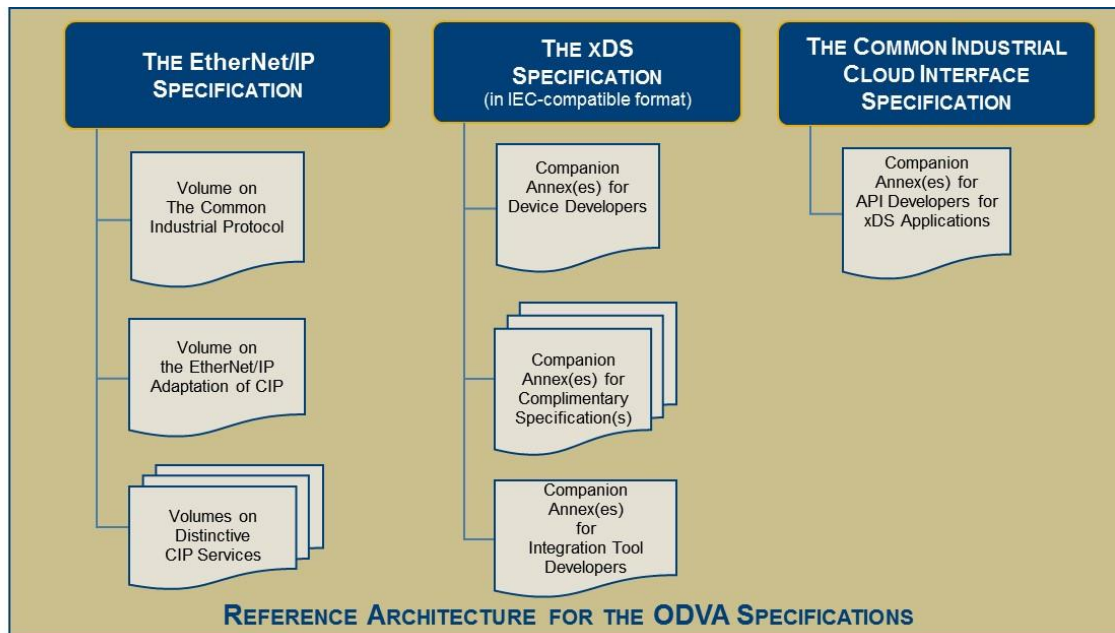
Organizing Framework for Project xDS



Organizing Framework for Project xDS



Organizing Framework for Project xDS



Ad Hoc Committee is Next Step for Project xDS

- 1) Develop an initial set of target Use Cases and minimum requirements to refine and achieve the benefits for the Vendor and User Value Propositions.
- 2) Map what EDS and STC does today to the xDS concept and identify gaps in device data and workflow coverage (Recommendation from Workshop 2016Q3: As a starting point, review The CIP Annex from The FDT2 Specification and align the xDS concept).
- 3) Select the Data Syntax Format based on best fit for the minimum xDS Workflows and the xDS production-consumption model.
- 4) Develop the Reference Architecture, including separation of the data contents from the encoding method; the Reference Architecture shall be submitted for review and approval by ODVA's Technical Review Board and Board of Directors.
- 5) Develop key Milestones for the Scope of Work including resource requirements and a projected timeline for completion; the Milestones shall be submitted for review and approval by ODVA Technical Review Board, officers and Board of Directors.

Looking to our Future Generation of Developers



Looking to our Future Generation of Developers

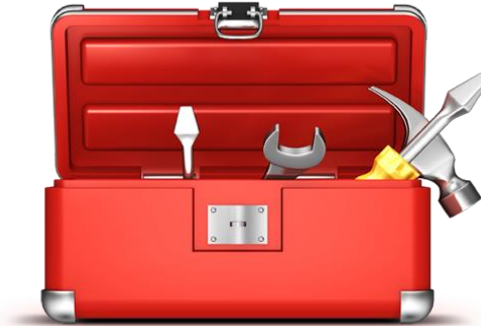


Looking to our Future Generation of Developers

Need For an Integrated Learning Environment



Online Community



EtherNet/IP™



Development Workflow

Looking to our Future Generation of Developers

Developer's ToolBox for EtherNet/IP is Now Available!



**New to EtherNet/IP?
Get the digital, Integrated
Learning Environment
designed to accelerate your
Know-How!**

Introducing ILE for EtherNet/IP Newbies!

- A self-guided course in EtherNet/IP
- Connects main concepts directly to the applicable content in the Specification
- Provides real-life examples

Looking to our Future Generation of Developers

What's in the Box?

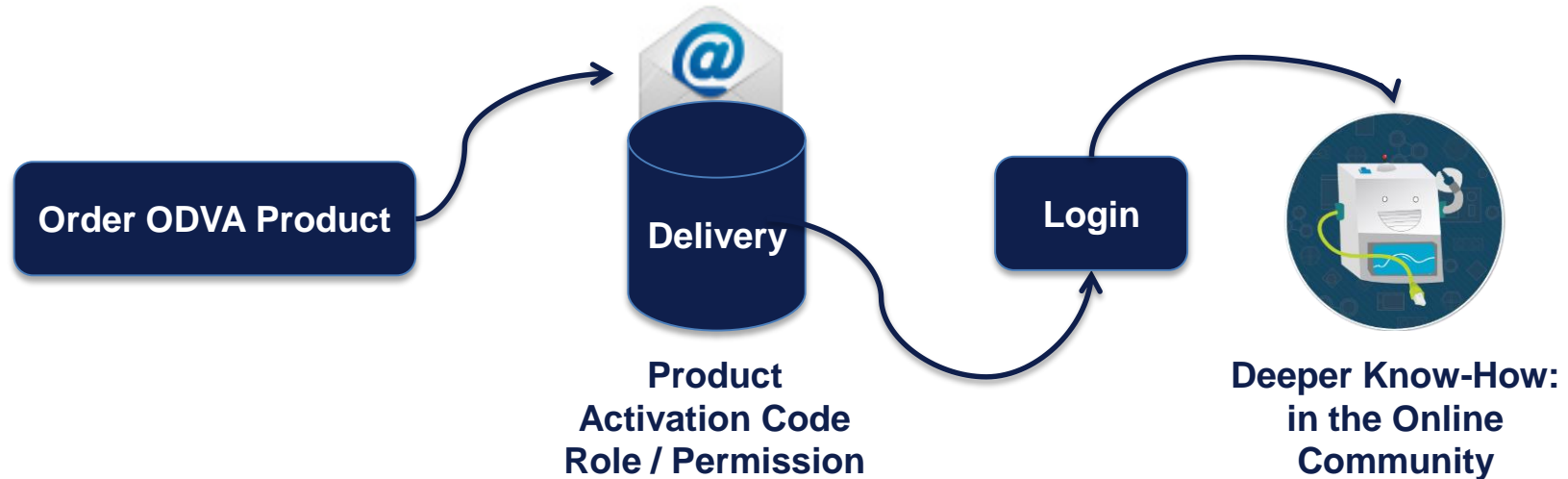
- EtherNet/IP Short Course (integrated with The EtherNet/IP Specification)
- Basic stack example
- Virtual devices
- Virtual Lab
- ...and Online Community Access in the Know-How Hub



Looking to our Future Generation of Developers

ToolBox Launch with New Digital Subscription Management System

- Improving the user experience for vendors and ODVA Members
- Streamline fulfillment and update process



Looking to our Future Generation of Developers

The beginning of an ODVA on-line community for developers

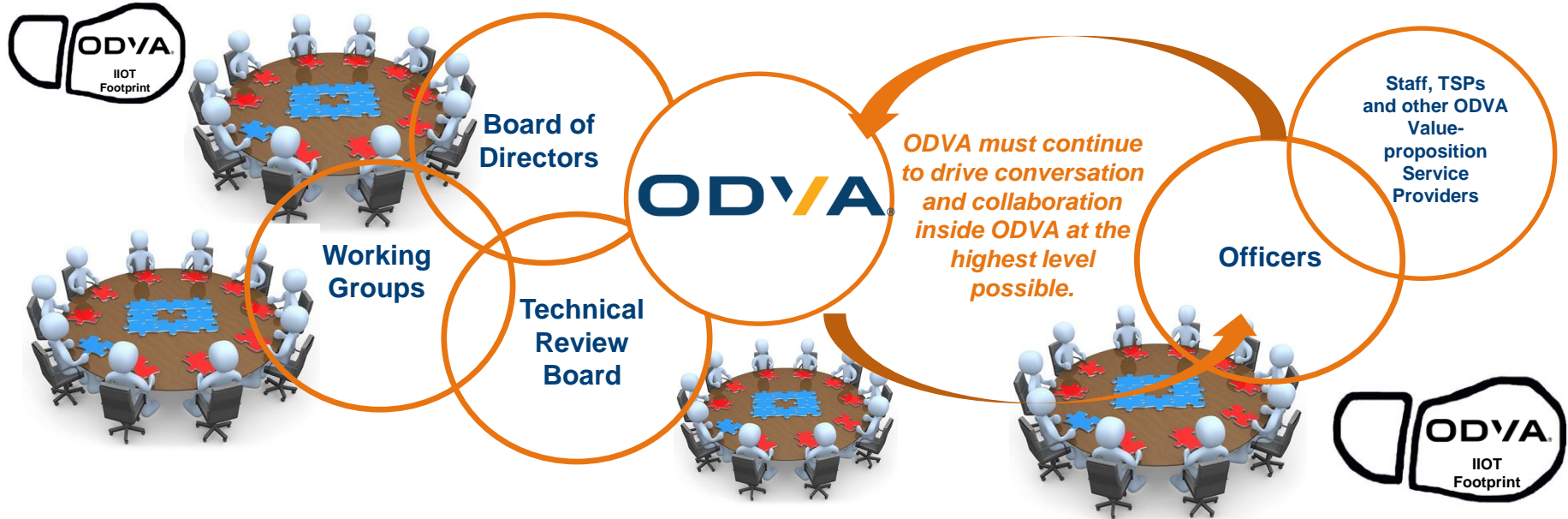
Know-How Blog	Product Tool Tips & Instructions	Conformance Q&A	My ODVA Subscriptions
<ul style="list-style-type: none">• Emerging trends• Implementation approaches• Roundtable report• Enabling tech. provider point of view	<ul style="list-style-type: none">• Dedicated self-serve content for each product• Searchable library of tips, FAQs	<ul style="list-style-type: none">• Common questions and tips from CA• Searchable library• Integrated contact form	<ul style="list-style-type: none">• Licenses for your current products• Activations to licenses• Integrated contact form

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The Future of Industrial Automation



ODVA™



Working together to make the 19th Term Great!



**See YOU in October 2018 at the
ODVA 2018 Industry Conference & 19th Annual Meeting of Members!**

Dates TBD.