19th Annual Meeting and General Session

October 11, 2018
Agenda

- Call to Order
- Report on the Affairs of the Corporation
- EtherNet/IP on the Move: Efforts to Bring EtherNet/IP to the Process Industries
- Election and Break
- Fireworks in the Ether: Emerging Technologies and Standards for Industrial Ethernet
- Looking Ahead to the 20th Term
- Adjourn

*Member Luncheon immediately following the meeting.*
19th Term in Review

Katherine Voss, President and CEO
Joakim Wiberg, Chief Technology Officer
Ecosystem

337 Members
>9.5% growth in 19th Term
Ecosystem

International Footprint of ODVA Operations
(TSP = ODVA Authorized Conformance Test Service Provider)
International Presence

China

- CIP Safety Published in July 2017 as GB/Z 34066-2017
- Participated in IIOT Summit – Shanghai
- EtherNet/IP Seminars in:
  - Hangzhou
  - Kunming
  - Qingdao
  - Shenyang
  - Zhenzou
International Presence

Europe

- Exhibits at
  - ACHEMA
  - Hannover Messe
  - SPS IPC Drives

- Press Conferences and Media Briefings
  - Bad Neuenahr
  - Hannover
  - Nürnberg

- Seminars and Training
  - Frankfurt
  - Malmö
International Presence

Japan

- Exhibits at
  - Industrial Open Network Fair
  - System Controls Fair

- Seminars and Training
  - EtherNet/IP (Tokyo 4X)
  - ODVA College: (Nagoya)
Korea

• TAG Korea held the 2nd “ODVA EtherNet/IP, DeviceNet & IIoT Technology Seminar & Exhibition.”

• Ongoing work to publish articles in trade press.
India

- February 2018: First EtherNet/IP Quick Start for Vendors Training Course held in Bengaluru with 60 registrants from 9 companies
- Target for future events to be northern and southern India.
- Focus on vendor development in the 20th term
International Presence

See ODVA Technology and Standards, combined with Products from ODVA Members in Action Around the World

Today and Tomorrow Demo’d Live at ACHEMA 2018!
Technology and Standards
– ODVA Technology Development Overview
– Technical Review Board Roster
– Technical Working Groups
– Key Accomplishments
– Key Planned Activities for Next Term
Technical Review Board Roster

CTO/Chair, Joakim Wiberg, HMS Industrial Networks (Member elected)
Daniel Amirsadeghi, Molex (Member elected)
Rudy Belliardi, Schneider Electric
Mirko Brcic, Endress+Hauser
Paul Didier, Cisco Systems
Dr. Ludwig Leurs, Bosch Rexroth
Shinji Murayama, Omron
David VanGompel, Rockwell Automation
Adrienne Meyer, staff liaison from ODVA

Several TRB members also participate in SIGs
Active Special Interest Groups and Working Groups

- **CIP**
  - System Architecture – Dave VanGompel (Rockwell Automation)
  - CIP Safety – Bruce Brown (Rockwell Automation)
  - Common Industrial Cloud Interface – Stephen Briant (Rockwell Automation)
  - Energy Applications – Rick Blair (Schneider Electric)
  - Machinery Information – Rainer Beudert (Schneider Electric), Steve Zuponcic (Rockwell Automation), Ludwig Leurs (Bosch Rexroth)
  - Time Synchronization and Distributed Motion – Steve Zuponcic (Rockwell Automation)
  - Conformance – Qi Zeng (ODVA)
  - Motor Control and Circuit Breaker – John Caspers (Rockwell Automation)

- **EtherNet/IP**
  - Process Industries – Olivier Wolff (Endress+Hauser)
  - Physical Layer – Bob Voss (Panduit)
  - Infrastructure – George Ditzel (Schneider Electric)
  - System Architecture – Brian Batke (Rockwell Automation)
  - Implementors Roundtable – Kevin Knake (HMS Industrial Networks)

- **DeviceNet**
  - DeviceNet of Things – Thomas Peter (Weidmueller)
  - Physical Layer – Brad Woodman (Molex)

- **Integration to other networks**
  - IO-Link – Frank Moritz (SICK)
  - Modbus – Todd Snide (Schneider Electric)
# Highlights of Accomplishments in the 19th Term

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<thead>
<tr>
<th><strong>Topic</strong></th>
<th><strong>Deliverable</strong></th>
<th><strong>Working Group</strong></th>
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<td>Integration of Process Field Devices</td>
<td>Mapping of HART device data into CIP</td>
<td>SIG for EtherNet/IP in the Process Industries</td>
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<tr>
<td>Machine-to-supervisory communication</td>
<td>Machine Object</td>
<td>SIG for Machinery Information</td>
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<td>Switchgear</td>
<td>Device profiles for motor control and circuit breakers with supporting control and energy statistics</td>
<td>SIG for Motor Control and Circuit Breaker</td>
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Highlights of Accomplishments in the 19th Term

• **Topic of CIP Security**
  – Certificate enrollment
  – CIP Security Demo at SPS/IPC/Drives in Nuremberg, and Hannover Fair
    • Displayed a cyberattack and how CIP Security defends against it
    • Three Members participated
      – Rockwell Automation
      – HMS Industrial Networks
      – Danfoss
  – The first products expected to come in for conformance testing in 2018Q4
Highlights of Accomplishments in the 19th Term

Topic of Conformance Test for EtherNet/IP (CT15)

- Automated Test Enhancements
  - CIP Modbus Device and CIP Modbus Translator Device Profiles Test
  - CIP Motion Test for Motion Controllers and Motion Devices
  - SNMP Object Test
  - File Object Test update
  - Port Object Test update for Associated Communication Objects attribute
  - Broadcast List Identity MaxResponseDelay Test
  - CT can be run from GUI or Command Line
  - Circuit Breaker Profile and Circuit Breaker objects test
  - Identity Object Test (new attributes)
  - Support Parameter Group Object revision 2
  - MDAO and Motion I/O test for new Ses

- Plus addition of several manual tests
Highlights of Accomplishments in the 19th Term

Topic of Conformance Test for DeviceNet (CT29/30)

- New Common Service Test:
  - Get_Member Service Test for Basic and Extended Format
  - Get_Attribute_List / Set_Attribute_List Test
  - Set_Attributes_All for some CIP objects
- Port Object Test update (Associated Communication Objects attribute)
- Time Sync Object test update
- File Object Test update
- Circuit Breaker Profile and Circuit Breaker objects test
- Identity Object Test (new attributes)
- Support Parameter Group Object revision 2
### Key Activities Underway

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<td>Mapping of IO-Link device data into CIP</td>
<td>SIG for IO-Link Integration</td>
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<tr>
<td>Cybersecurity</td>
<td>Device Authentication and Authorization for CIP Security</td>
<td>SIG for EtherNet/IP System Architecture</td>
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<tr>
<td>Device Integration</td>
<td>Requirements for Digital Artifact</td>
<td>Ad Hoc Committee for Project xDS</td>
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Key Activities Underway

**Topic of EtherNet/IP Performance**

Addition of features for Time Sensitive Networking
- Add optional profile within CIP Sync Object definition to support 802.1AS-Rev synchronization (contingent on completion by IEEE 802.1 Working Group of the 802.1AS-REV specification)
- Define TSN Gateway for CIP Sync-to-802.1AS-Rev Time to permit integration of non-TSN systems with TSN systems.
- Add support for Preemption (802.1bu)
- Add support for Stream Reservation (802.1Qcc)

Add Gigabit Ethernet to the EtherNet/IP physical layer specifications.