



19th Annual Meeting and General Session

October 11, 2018

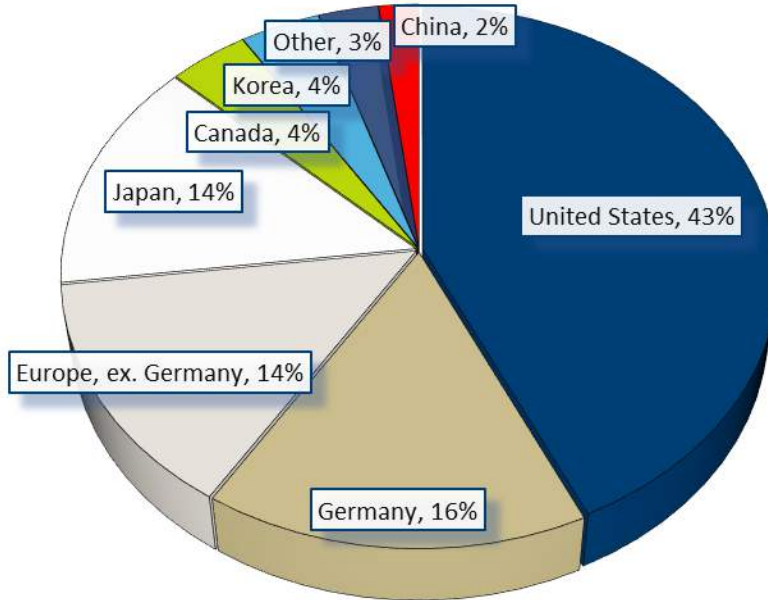
- Call to Order
- Report on the Affairs of the Corporation
- EtherNet/IP on the Move: Efforts to Bring EtherNet/IP to the Process Industries
- Election and Break
- Fireworks in the Ether: Emerging Technologies and Standards for Industrial Ethernet
- Looking Ahead to the 20th Term
- Adjourn

Member Luncheon immediately following the meeting.



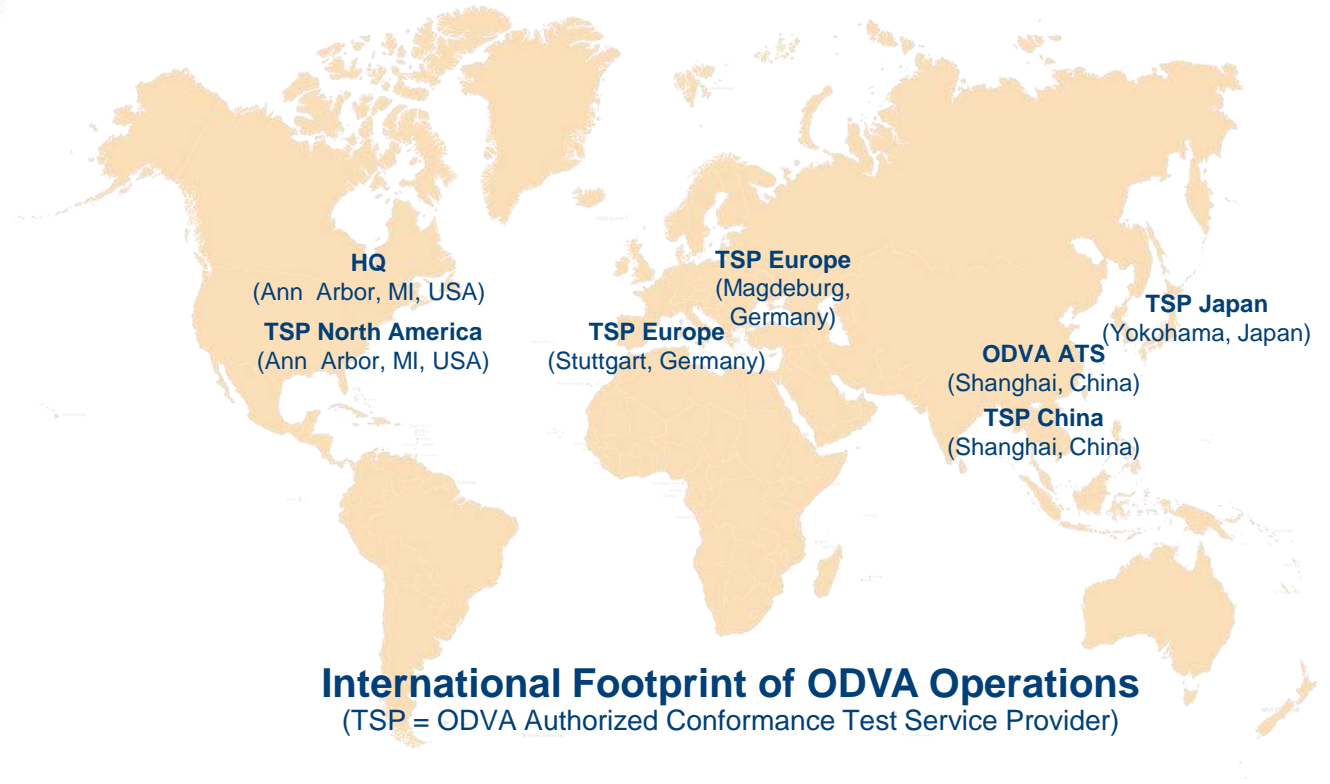
19th Term in Review

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



337 Members
>9.5% growth in 19th Term

The logo features the letters 'ODVA' in a large, bold, blue font with a yellow diagonal slash through the 'V'. Below it, the word 'MEMBER' is written in a smaller, blue, sans-serif font.



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



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



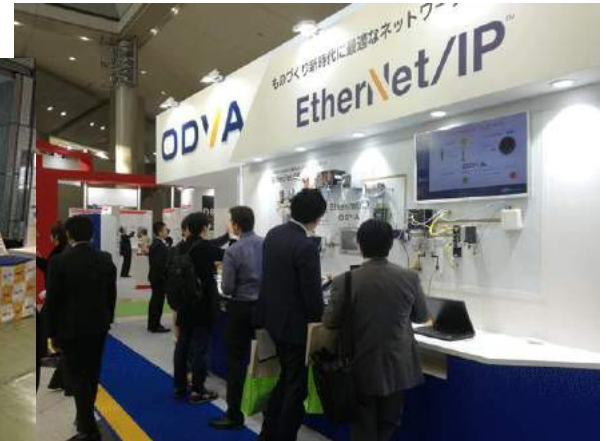
Europe

- Exhibits at
 - ACHEMA
 - Hannover Messe
 - SPS IPC Drives
- Press Conferences and Media Briefings
 - Bad Neuenahr
 - Hannover
 - Nürnberg
- Seminars and Training
 - Frankfurt
 - Malmö



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.

International Presence



제목: 2018 산업사물인터넷(IIoT)을 위한 최적화 4.0 개념과 ODVA 최신정보 동향(2)

ODVA는 산업 자동화에 사용되는 정보통신 기술(ICT)에 상용화 기술(COTS)을 적용한 경우이다. ODVA는 4차 산업혁명을 선도하기 위한 산업사물인터넷(IIoT)을 위한 최적화 4.0 개념과 ODVA 최신정보 동향(2)을 주제로 ‘2018 산업사물인터넷(IIoT)을 위한 최적화 4.0 개념과 ODVA 최신정보 동향(2)’이라는 제목으로 발행했다. (편집자 주)

글, 오석영 대표, ODVA TAG Korea

【간행물 1번에서 이어집니다】

THE COMMON INDUSTRIAL PROTOCOL (CIP) 기술

동향
 인공지능 적용 확대에서 시작하는 네트워크는 점점 개방화되어 갈수록 변화되어 5G, 4G, 클라우드를 통해, 웹, 모바일 인터넷 기반 인접하게 볼 수 있다. 이러한 네트워크는 높은 성능, 높은 대역폭을 제공한다. 물리적으로 연결되는 인터넷 연결은 인터넷을 통해 연결되는 것이다. 물리적으로 연결되는 것은 물리적으로 연결된 것 같을 뿐이지만, 물리적으로 연결되는 것은 물리적으로 연결된 것이다.

자주 사용하는 여러 가지 다른 네트워크를 하나의 네트워크로 연결하고, 그 후 어떤 네트워크든 그 네트워크를 통째로 볼 수 있다. 또한, 이러한 네트워크를 하나의 네트워크로 볼 수 있다. 이러한 네트워크를 하나의 네트워크로 볼 수 있다. 이러한 네트워크를 하나의 네트워크로 볼 수 있다. 이러한 네트워크를 하나의 네트워크로 볼 수 있다.

물리적으로 연결된 네트워크는 물리적으로 연결된 것이다. 물리적으로 연결된 것은 물리적으로 연결된 것이다. 물리적으로 연결된 것은 물리적으로 연결된 것이다. 물리적으로 연결된 것은 물리적으로 연결된 것이다.

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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

Today's ODVA Member Speakers

		
		
Vivek Hajarnavis	Vineet Roy	Chatrapathi

ODVA PUB00174R24, EtherNet/IP Quick Start for Vendors, © 2018 ODVA 2



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

International Presence



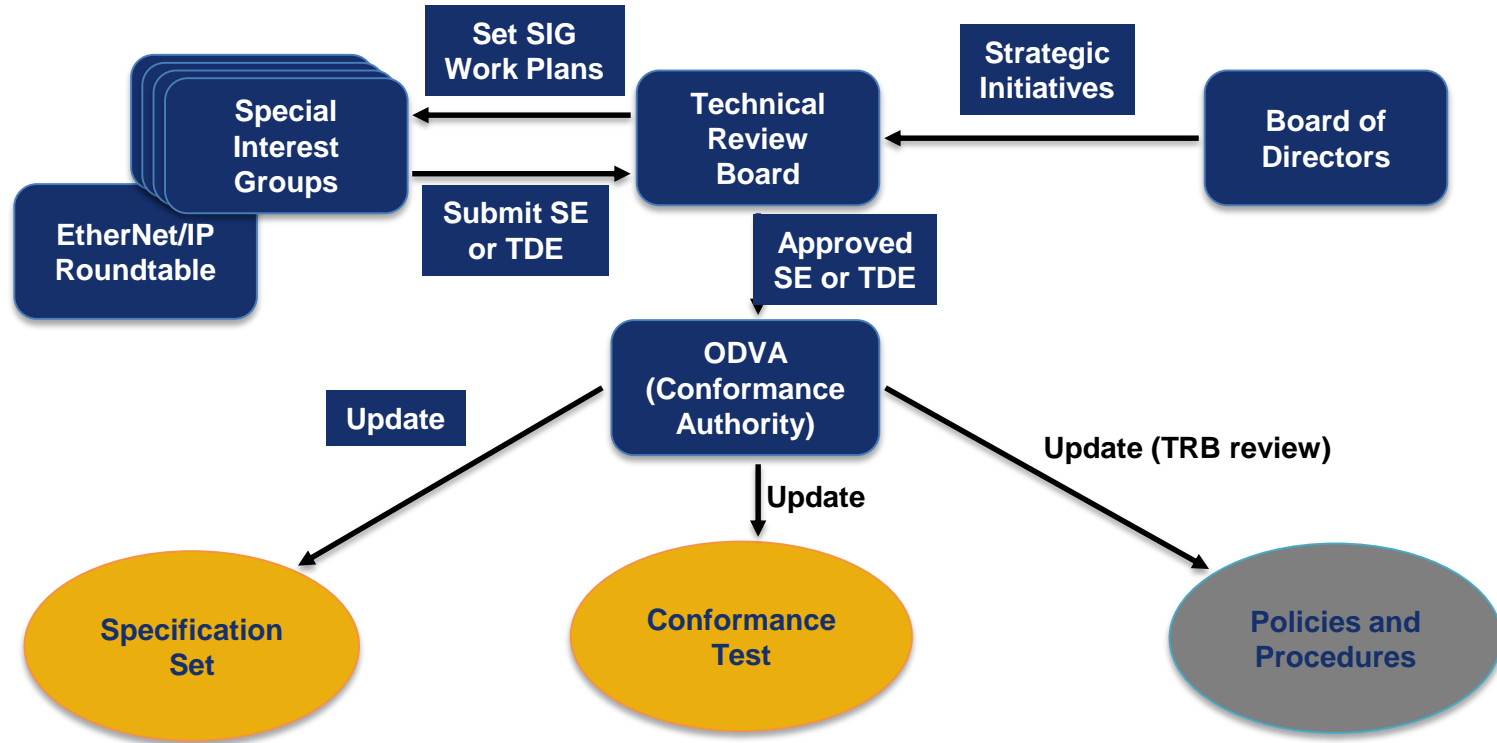
**Today and Tomorrow
Demo'd Live at AICHEMA 2018!**



Technology and Standards

- ODVA Technology Development Overview
- Technical Review Board Roster
- Technical Working Groups
- Key Accomplishments
- Key Planned Activities for Next Term

ODVA Technology Development Process



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

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

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



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 ListIdenty 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**

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

Topic	Deliverable	Working Group
Integration of Sensors and Actuators for Factory Automation	Mapping of IO-Link device data into CIP	SIG for IO-Link Integration
Cybersecurity	Device Authentication and Authorization for CIP Security	SIG for EtherNet/IP System Architecture
Device Integration	Requirements for Digital Artifact	Ad Hoc Committee for Project xDS

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.