

## Special Programs related to Smart Manufacturing in SICE2017

September 19 - 22, 2017 in Kakuma campus of Kanazawa University

<http://www.sice.or.jp/sice2017/>



Plenary Talk: 9:45–10:45, Wednesday, September 20 @1F Lecture Hall

Title: Future Control System Architecture Enabling I4.0/Smart Manufacturing

Service-oriented (Machine) Control Architecture in the context of Smart Manufacturing -

Speaker: Dr. Alois Zoitl (SC65B/WG15 (Function Block) Convenor, fortiss GmbH)

Abstract: Future machines and plants more adaptable flexible changeable to accommodate shorter product life cycles and fluctuating markets. New automation and control architectures are need for this. Key aspects of such architectures is a much higher modularization of production facilities and a strong decoupling of the involved entities. Service-oriented architectures have shown in classical IT systems that they can achieve such properties. Especially they were successful in combining legacy systems with new systems and bringing flexibility to both. Furthermore, these systems require much more software in the machines and plants. In this talk, we investigate these demands and present according architectures for implementing them and show which standards can already help and what new standards are needed on order to achieve the vision of smart manufacturing.



URL: <http://www.sice.or.jp/sice2017/plenary.html#PT1>

Sponcered by JEMIMA (Japan Electric Measuring Instruments Manufacturers' Association)



Workshop: 14:50–17:50, Tuesday, September 19 @Main Meeting Room

Title: International standardization activities & trends on Smart Manufacturing in IEC & ISO  
<in Japanese>

Organized by IEC/TC65 Japanese National Committee

Speakers: Prof. Fumihiko Kimura (Chair of ISO.TC184 Japanese National Committee)

Mr. Toru Ishikuma (JNC delegate of IEC/SEG7 & Secretary of IEC/TC65-JNC; Azbil corporation)

Mr. Kiyotaka Takahashi (JNC delegate of ISO/IEC JTC1/WG10; Hitachi, Ltd.)

Abstract: IEC TC65 and ISO TC184 are intentionally considering furure Smart Manufacturing, and established joint working group to determine use cases and reference architecture. Lastest activites and trends on Smart Manufacturing are presented by active experts of IEC and ISO.

URL: [http://www.sice.jp/info/info\\_news/news\\_20170630.html](http://www.sice.jp/info/info_news/news_20170630.html)

Registration: [http://www.sice.or.jp/bukai\\_web\\_appli/cgi-bin/bukai\\_step12.cgi?eventvalue=sice\\_web\\_appli¥¥¥¥IECTC65\\_2017-0919-kanazawa.txt](http://www.sice.or.jp/bukai_web_appli/cgi-bin/bukai_step12.cgi?eventvalue=sice_web_appli¥¥¥¥IECTC65_2017-0919-kanazawa.txt)

### Related sessions and events: (details in the next page)

- WeA12: Organized Sessions by SICE International Standardiztion Committee
  - Date: 11:15-12:45, Wednesday, September 20 @Main Meeting Room
  - Title: "International Standardization and its applications for Smarter Society"
- WeB12&WeC12: Organized Sessions by SICE Technical Committee on Instrument & Control Networks
  - Date: 13:45-16:30, Wednesday, September 20 @Main Meeting Room
  - Title: Sustainable & Cooperative Data Exchange in Industrial Control Systems & Networks
- Smart Manufacturing International Symposium on Industrial Network 2017
  - Date: 11:00-12:30&13:30-15:00, Thirsday, September 21 @Main Meeting Room

## ● **WeA12: Organized Sessions by SICE International Standardization Committee**

**Date: 11:15-12:45, Wednesday, September 20 @Main Meeting Room**

**Title: International Standardization and its applications for Smarter Society**

- #1: International Standardization and its applications for Smarter Society [Hisanori Hayashi (Yokogawa Electric Corp.), Hisashi Sasajima (FieldComm Group), Yoichi Takayanagi (Toshiba Corp.), Hiroo Kanamaru (Mitsubishi Electric Corp.)]
- #2: Function Blocks to Realize Connection of Any Devices All Over the Plant [Hisashi Sasajima (FieldComm Group)]
- #3: Smart Device Contributing to Realizing Smart Society, and the Relating International Standards [Takuya Iijima (Toshiba Corp.)]
- #4: International Standardization and its applications in industrial wireless network to realize Smart Manufacturing [Toshi Hasegawa (Yokogawa Electric Corp.)]
- #5: Bridging Functional Safety and Cyber Security of SIS/SCS [Hiroo Kanamaru (Mitsubishi Electric Corp.)]
- #6: International Standardizations Related to Energy Management and Its Influences to Industrial Automation [Tomoyuki Ikeyama (Yokogawa Electric Corp.)]

## ● **WeB12&WeC12: Organized Sessions by SICE Technical Committee on Instrument & Control Networks**

**Date: 13:45-16:30, Wednesday, September 20 @Main Meeting Room**

**Title: Sustainable & Cooperative Data Exchange in Industrial Control Systems & Networks**

- #1: KPI Element Information Model (KEI Model) for ISO22400 using OPC UA, FDT, PLCopen and AutomationML [Kenji Kumagai (Industrial Automation Forum)]
- #2: FDT and AutomationML Collaboration [Glenn Schulz (FDT Group)]
- #3: Development of IoT Testbed using OPC UA and Database on Cloud [Makoto Okuda (Kanagawa Institute of Industrial Science and Technology)]
- #4: A Case Study of Data Acquisition from Field Devices using OPC UA and MQTT [Toru Mizuya (Kanagawa Institute of Industrial Science and Technology)]
- #5: Advance Physical Layer for digital communication within process industries [Tetsu Suzuki (Pepperl+Fuchs K.K.)]
- #6: Flow Configuration Software implemented on FDT2 standard [Jason Chan (Yokogawa Engineering Asia Pte. Ltd.)]
- #7: Track Attack Sources based on Traceback Honeypot for ICS Network [Yohei Tanaka (JPCERT Coordination Center)]
- #8: Model-based Cybersecurity for Control Systems: Modeling, Design and Control [Kenji Sawada (The University of Electro-Communications)]
- #9: UL testing standards to mitigate cybersecurity risk ~ UL's approach with complement to the other standards ~ [Radhika Chaturvedi, Yasumichi Kori (UL LLC)]

## ● **Smart Manufacturing International Symposium on Industrial Network 2017**

➤ **Date: 11:00-12:30&13:30-15:00, Thursday, September 21 @Main Meeting Room**

11:00-11:30 Session 1: Tutorial

- (1) Follow up, drill deep into & expand Plenary talk and two organized session themes in collaboration with international guests
- (2) Argue fruitful discussion, create friendship relation and obtain expertise through on-going activities regarding latest trend of smart manufacturing standardization and industrial network

11:30-12:00 Session 2: Follow up Plenary talk theme

- (1) Follow up the Plenary talk "Future Control System Architecture Enabling I4.0/Smart Manufacturing - Service-oriented (Machine) Control Architecture in the context of Smart Manufacturing" by Dr. Alois Zoitl
- (2) Confirmation and question about Plenary talk proposal

12:00-12:30 Session 3: Drill deep into and expand Plenary talk theme

Drill deep into Plenary talk theme

- Smart Manufacturing activity in each region
- The plenary talk proposal in relation with Industrie4.0
- Detail relation of Plenary talk proposal and Industrie 4.0 component

13:30-14:30 Session 4: Safety with Security

- (1) Follow up the industrial situations and requirements for safety and security
- (2) Drill deep into current international standardization activities on Safety and Security

14:30-15:00 Session 5: Wrap up

### **Speakers from overseas:**



**Mr. Glenn Schulz**  
(FDT Group Managing Director)  
He joined the FDT Group as Managing Director in 2009. Most recently, he was the Managing Director and Vice President of Engineering at Dörner. For thirteen years prior to that he was an executive at Rockwell Automation (NYSE:ROK) with responsibilities that included the Process Industry Asset Management businesses.



**Ms. Radhika Chaturvedi**  
(UL LLC Business Development Manager)  
She joined UL as a project engineer in 2005 and has performed various functions throughout her career. As a Business Development Manager within the Energy, Power and Technologies division of UL, she is responsible for the customer and business growth of cybersecurity and functional safety services for industrial controls, power distribution and transmission, as well as other industrial product categories.



**Mr. Jason Chan**  
(FDT Architecture and Specification Working Group, Yokogawa Engineering Asia (SGDC), Project Leader/Technical Architect)  
He is currently responsible for the standardization activities in the R&D department.