SAE-ISO JOINT WORKING GROUP ENGAGED IN SAE J3061 REVISION

[This article was originally published in Automotive Engineering]

In Summer 2016, SAE International and the International Organization for Standardization (ISO) finalized discussions to jointly publish standards. The idea moved swiftly ahead with both SAE and ISO approval of a Partner Standards Development Organization (PSDO) Agreement, and the collaboration kicked off in late 2016.

Through the agreement, SAE and ISO are cooperating on mutually agreed and relevant automotive standards covered by two ISO committees: Road Vehicles (ISO TC22) and Intelligent Transportation Systems (ISO TC204).

The PSDO Agreement allows work items to be initiated by experts from either SAE or ISO, but must be approved by both to proceed as a joint work item. The organization that already has published standards in the area considered for joint development takes the lead. However, the development considers both SAE and ISO processes for balloting and approval.

When complete, the joint standards will be independently published by both ISO and SAE. The agreement provides room for each party to withdraw from the process and continue on its own.

“We got together with ISO to make sure that there was coordination and collaboration on areas of mutual interest,” said SAE’s Tim Weisenberger, Project Manager, Technical Programs, who also serves as liaison between the two groups.

“While SAE is an international organization and we publish standards that are used world-wide, the PSDO Agreement gives us a broader reach internationally and allows SAE’s standards to more deeply impact the global auto industry,” he explained. “It also allows us to harmonize standards efforts in discipline areas that are common to both SAE and ISO.”

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Four areas of common interest were identified: wireless power transfer, vehicle-to-grid wireless power transfer communication, vehicle automation levels, and automotive cybersecurity. This last area is the first of these to become a joint work item. For the past 17 months, the ISO-SAE Automotive Cybersecurity Engineering Joint Working Group (JWG) has been developing the working draft, currently titled “ISO/SAE 21434 Road Vehicles - Cybersecurity Engineering.” The JWG is comprised of more than 100 experts from SAE and 12 ISO nations representing OEMs, suppliers, academia, government, and the security sector.

The aim is to develop a risk-based, process-driven approach to weaving cybersecurity into the entire product development lifecycle. Thus the standard can be used by industry to make vehicles more secure in a systematic way.

This was the approach of the SAE J3061 Cybersecurity Guidebook for Cyber-Physical Vehicle Systems published in January 2016. The Joint ISO-SAE work item revises the SAE J3061 standard (in SAE’s view) and “gives it more depth and international breadth,” Weisenberger said.

The JWG is jointly led by two co-conveners—Lisa Boran of Ford Motor Co. (SAE) and Gido-Scharfenberger-Fabian of Carmeq and the Germany delegation (ISO). It is divided into four Project Groups (PGs): PG1- Risk Management; PG2- Product Development; PG3- Operations, Maintenance and Other Processes; and PG4- Process Overview and Interdependencies. Each PG also has chairs and vice-chairs shared equally from SAE and ISO, thus achieving joint leadership and buy-in from all experts. ISO and SAE also share administrative support.

The JWG meets three times a year and rotates meeting locations between Europe, the U.S., and Asia. The most recent meeting was March 5-9 on the San Antonio campus of the Southwest Research Institute. SwRI and Synopsys, Inc. are meeting sponsors.

The document specifies requirements for cybersecurity risk management for vehicles, their components and interfaces. Risk management, including threat assessment and risk analysis must occur throughout the systems engineering process and continue through decommissioning.

A cybersecurity process framework is defined. It includes a common language for communicating and managing cybersecurity risk among stakeholders. The document is applicable to road vehicles that include E/E systems, their interfaces and their communications.

Importantly, the standard will not prescribe specific technical solutions related to cybersecurity because it must account for new threats and vulnerabilities that can arise.

The San Antonio meeting reviewed comments and updated the draft work item. The next face-to-face meeting will be in...
SAE INTERNATIONAL, CHINA ITS INDUSTRY ALLIANCE WILL COLLABORATE TO DEVELOP AUTOMATED DRIVING STANDARDS

SAE International signed a Memo of Understanding (MOU) with the China ITS Industry Alliance (C-ITS) to collaborate in development of standards for V2X technology, automated driving, and mobility on demand.

Signing the MOU were Jack Pokrzywa, Director of Global Ground Vehicle Standards for SAE International; and Xiaojing Wang, Chair of the China ITS Industry Alliance. The agreement was signed on January 24, during the SAE Government/Industry Meeting in Washington, D.C.

C-ITS is the leading industry organization in China promoting the research and deployment of ITS technology.

“We are pleased to partner with China ITS Industry Alliance,” Pokrzywa said. “As V2X and automated technology continues to evolve and advance, technical standards will need to be developed in a harmonized, collaborative and global mode. Both organizations represent large technical constituencies.”

“The Memorandum of Understanding marks a milestone of ITS industry collaboration between China and the United States,” Mr. Wang said. “It will deepen our partnership in intelligent transportation standards development and foster the advancement of ITS industry.”

Through the agreement, SAE International and C-ITS agree to conduct harmonized technical standardization efforts, where feasible, in vehicle-to-everything (V2X) technology, automated driving, and mobility on demand. In addition, the two organizations agree to keep each other aware of positions taken on technical issues to better serve the needs of their members. This will be done through:

• Joint V2X and automated driving standards workshops and conferences in the United States and China, to identify gaps and develop appropriate standards and specifications to meet Chinese and the U.S. markets
• Collaborative research projects and technical exchanges in technical areas in V2X, automated driving and mobility on demand.

FOR UPCOMING STANDARDS TECHNICAL COMMITTEE MEETINGS

A current schedule can be found on the SAE website.

sae.org/standards/
GOVERNMENT/INDUSTRY PANEL LOOKS AT DEVELOPING COMMON TERMINOLOGY FOR SAFETY AND AUTOMATED SYSTEMS

A Plenary Roundtable Discussion titled “Advanced Environmental and Safety Technologies – Getting the Customer OnBoard” was held on January 25 during the SAE Government/Industry meeting in Washington, DC.

The panel was moderated by Jake Fisher, Director of Auto Testing, Consumer Reports. Panelists were: Austin L. Brown, Executive Director, Policy Institute for Energy, the Environment, and the Economy, University of California Davis; Alexander Edwards, President, Strategic Vision, Inc., Wesley L. Lutz, 2017 NADA Vice Chairman, Michigan President,Extreme, Chrysler/Dodge/Jeep, RAM Inc.; Chris Reed, Vice President, Components Engineering & Overseas Chief Vehicle Engineer D-Platform Crossovers, Nissan Technical Center NA; and David S. Zuby, Executive Vice President & Chief Research Officer, Insurance Institute for Highway Safety.

One of the items discussed was the benefits that could be derived from the creation of a common nomenclature for Advanced Driver-Assistance Systems and automated systems. For example, there are currently many different names for forward collision warning systems, stability control systems, emergency braking systems, and lane departure prevention systems. Consistent messaging from the government, automakers, and dealers would increase the public’s understanding and recognition of the value of these innovative emerging technologies. SAE is leading an initiative to develop a common vocabulary of terms.

SAE standards will play a role in educating the public about the differences between the levels of vehicle automation. In 2014, SAE developed a six-level classification system in J3016 (“Taxonomy and Definitions for Terms Related to On-Road Motor Vehicle Automated Driving Systems”), ranging from Level 0 (no automation) to Level 5 (full automation), which became the internationally adopted standard. SAE is developing icons and other explanatory material that could be used by various organizations and companies to communicate the meaning of these levels to the public.
NEW COMMITTEES, NEW COMMITTEE CHAIRS

Welcome, New Chairs! Thank you and know that your volunteer efforts are greatly appreciated.

Newly-formed committees

- ISO_SAE Automation Taxonomy and Definitions Joint WG
- Brake Definitions and Nomenclature Task Force
- DSRC MAP SPaT Work Group
- Trust Anchors and Authentication Task Force
- Radiator Nomenclature Task Force
- EPB Sizing Task Force
- Wireless Power Transfer CRP
- J578 Color Requirements for Optically Combined Lamps
- Driver Metrics, Performance, Behaviors and States Committee
- Driver Vehicle Interface (DVI) Committee
- Advanced Driving Assistance Systems (ADAS) Committee
- Automated Driving Systems Committee
- Vehicle Lane Deviation Warning Task Force
- Hardware-in-the-Loop Working Group
- ADS Data Logger Task Force

New chairs

- Robert Czajkowski, J578 Color Requirements for Optically Combined Lamps
- Tom Golub, J1939-21 Data Link Layer Task Force
- Doug Oliver, Communication Transceivers Qualification Requirements TF
- Reza Kavian, Battery Materials Testing Committee
- Ethan Lee, Driver Vision Standards Committee
- Terry Nostrant, J1939-01 On-Highway Equipment Control and Communication TF
- Mark Laleman, J1979 Review Task Force
- Paul Hamburg, J1930 Electrical Electronic Systems Diagnostics Task Force
- Christopher Clark, Cybersecurity Assurance Testing Task Force
- Kathleen Allanson, Controls and Displays Standards Committee
- Jofran Pastor, Fuels and Lubricants Council
- Barbara Birkenshaw, Children’s Restraint Systems Committee
- Robert Stockwell, Fuels and Lubricants TC 1 Engine Lubrication
- Joseph Jaklic, Lighting Systems Steering Committee
- Michael Piscitelli, Lighting Standard Practices Committee
- Dennis Novack, Signaling and Marking Devices Stds Comm
- Ronald Wathan, Test Methods and Equipment Stds Committee
- Thomas Schumacher, International Cooperation Committee
- Thomas Heck, J175 Lateral Impact Test Task Force
- Angelo Patti, Interior Climate Control Steering Committee
- Lawrence Wei, Interior Climate Control MAC Supplier Committee
- Curtis Vincent, Interior Climate Control Vehicle OEM Committee
- Christopher Seeton, Interior Climate Control Fluids Committee
- Matthew Robere, Brake Materials Environmental Task Force
- Richard Mihelic, Truck and Bus Aerodynamics Terminology Task Force (J2971)
- Steve Moss, Safety Test Instrumentation Stds Comm
- Michael Tucker, Radiator Nomenclature Task Force
- Jack Jensen, Human Biomechanics and Simulations Standards Committee
- Nicolas Saunier, Co-Chair of Surrogate Measures of Safety Committee
- Aliaksai Laureshyn, Co-Chair of Surrogate Measures of Safety Committee

PLEASEx JOIN US FOR THE NEXT SAE INTERNATIONAL STANDARDS LEADERSHIP WORKSHOP ON JUNE 19-20, 2018 AT SAE INTERNATIONAL IN WARRENDALE, PA.

This is an opportunity for our committee Chairs, Vice Chairs and Secretaries to get together and share ideas, increase cross committee communication, and gain feedback from other SAE committees. This will be the 6th leadership workshop conducted, and everyone seems to walk out having learned something new!

If you have any questions or would like to attend, please contact your staff representative.
VOLUNTEER RECOGNITION: DOCUMENT SPONSORS

The following individuals have recently served as active committee members and have dedicated their time and talent in guiding the development of standards documents from the preparation of all drafts through balloting and publication. THANK YOU.

THANK YOU.

Alan Pearson
Angela Wolynski
Angelo Patti
Bruce McKie
Charles Groepler
Chris Wasik
David Engelbert
Donald Raitzer
Donald Smolenski
Donald Yuhas
Eric Denys
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Richard Scholer
Richard Topping
Robert Kado
Robert Krouse
Robert Schade
Roger Gault
Ronald Crawford
Scot Reeder
Stephen Pamas
Terry Vant Hof
Timothy West
Vern Caron
Will Roberts

SAE STANDARDS DEVELOPMENT COMMITTEES SEEKING EXPERTS AND VOLUNTEERS

- Vehicle Lane Deviation Warning Task Force (under Active Safety Systems Standards Committee) – Contact Nikki Ameredes at nikki.ameredes@sae.org
- Hardware-In-The-Loop working group (under Active Safety Systems Standards Committee) – Contact Nikki Ameredes at nikki.ameredes@sae.org
- Embedded Software Standards Committee (in need of chair) – Contact Lorie Featherstone at lorie.featherstone@sae.org
- Automated Commercial Vehicle Systems Committee – Contact Jana Light at jana.light@sae.org
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