

SAE Aerospace Avionic Systems Group

Fall issue 2013
October



REFRESHED SAE BRAND AND NEW LOGO!



REFRESHED ASG BOARD AND NEW CHAIRMAN!

Hello—I would like to introduce myself, I am Bill Elliott. If you have not heard, I am now the ASG chair. First, I would like to thank Dave Zika for his six years of exemplary service as the ASG Chair. His successes have been many and will be hard to top by anyone in the near future. Dave spent a lot of time and effort into his chairmanship with the full backing of his company. I hope to be able earn your respect and admiration as Dave was able too. Next time you see Dave, please thank him for his service and leadership as the ASG Chair.

I believe in the standardization process and the SAE's commitment to standards development. I do not see any necessary changes being needed to the ASG at this time but would appreciate any feedback or ideas that you would be willing to share. Please feel free to approach me with your suggestion, criticisms, concerns or issues. Please let me know if there is anything I can do to help you in your participation in the standards development process. The ASG is only as good as its members. I look forward to working with you all over the next three years.

Bill Elliott

We would also like to welcome Christopher Winslow as the new ASG Vice-Chair.

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AS-1 Aircraft Systems & Systems Integration

AS-1 Steering group

Chair - Dave Neel – Lockheed Martin

Vice-Chair – Robert Boman – Lockheed Martin

Secretary – CJ Toombs – US Navy

AS-1 Provides avionics standards in the field of aircraft systems and systems integration. AS-1 compromises three committees:

AS-1A Avionics networks

AS-1B Aircraft-Store Integration

AS-1C Avionic Systems and Subsystems.

The AS-1 committees have fourteen active projects within the various task groups.

Richard Clutterbuck, Chairman of the AS-1B6 – Fuze Systems Task Group announced his retirement at the end of September. Richard was the Chairman of AS-1B6 from its inception and was responsible for leading the effort to develop Airborne Weapon Fuze Interface Standards to support a request from the NATO Air Armaments Group for interface standards to support interoperable and interchangeable fuzes across NATO countries. In addition, Mr. Clutterbuck participated in other aircraft/weapon interface standards committee to assure fuze capability was properly supported. We all wish Richard a long and happy retirement after his years of service to SAE.



AS-1A Committee Status

Chair - Sam Lassini – GE

Vice Chair – Gary Warden

AS-1A2 HS1760 Task Group

Chair: Sam Lassini, GE Aviation

Vice-Chair: Gary Warden, SRB Consulting

Secretary: Dixie Branch, Northrop Grumman

AS5653B has been balloted and approved with only a couple minor editorial comments to be resolved in the October meeting. We expect final publication before the end of the year. This newest revision has several enhancements including expanding the allowed topologies to include the point-to-point topology. This allows for the simplest of implementations while still allowing for interoperability between the key core system components with those from more complex switched architectures. Also included in this newest revision are standardized methods for communicating to the Principal switch from the Network Controller. This will facilitate standardized methods for system initialization.

There are three companion documents to AS5653B being worked in committee for the validation of the three major active components that comprise an HS1760 system. The Validation Methods for AS5653 Network Controller is being developed in document AS6089. The Validation Methods for AS5653 Network Terminals is being developed in document AS6088. And the Validation Methods for AS5653 FC-AE-Switch is being developed in document AS6090.

The latest balloted and approved AS5653B standard defines a switch architecture that meets mixed mode critical systems requirements in that it offers two independent virtual channels over the same physical links that allows high-bandwidth lower priority traffic on the same physical links as low-latency higher-priority traffic without either bandwidth stream affecting the performance of the other outside a very well-known deterministic latency and jitter boundary.

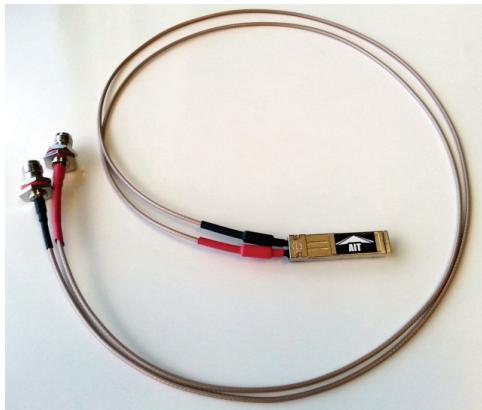
A very nice feature to an AS5653B compliant system is that the dual-channel system reduces the initial cost of system design and system verification, as well as reducing the total life cycle cost of the end system. This is achieved primarily because the networked system is essentially plug-and-play in operation. This is because there are no scheduling requirements put upon the system architect to make the system work as long as the allowed jitter of one frame time per switch hop is acceptable. Needless to say, no frames are ever dropped due to congestion. The system automatically handles the flow of frames, restricting frames from being sent on a link unless there is an available buffer to receive the frame at the end of the link. So the physical link may be

AS-1 (continued...)

100% utilized with high-bandwidth applications and yet low-latency applications may still transmit and get the bandwidth and priority they need to make their delivery on time, every time. And again, this is done without the system architect forcing it to be possible by clever scheduling. The primary burden of the system architect in scheduling is reduced to making sure that no physical link is oversubscribed in total bandwidth allocation.

There are a number of companies who now offer Commercial-Off-The-Shelf (COTS) products compliant to the AS5653A standard.

Components of this system include a HS1760 compliant switch, a network controller, and network terminals as end-devices. Below is pictured a representative cable that will pass a 1.0625 gigabaud frequency signal compliant to the AS5653A or AS5653B output voltage levels to guarantee reliable transmission over 100 feet of 75 ohm single ended coax with up to five connectors between the two end-devices being connected.



Above is a product that implements a AS5653A NC and NT or two NCs or two NTs packaged for laboratory environments. A AS5653A compliant switch with at

least 15 ports will be available from the same vendor for laboratory environments by the end of the first quarter 2014. Upgrades to AS5653B compliance will shortly follow.

AS-1A3 MIL-1394 Task Group

Chair – Floyd Fazi – Lockheed Martin

Vice Chair – Richard Mourn - DAP Technologies

Secretary – Robert Clements BAE Systems

The group is being reactivated to update documents based on lessons learned on F-35 and X-47 over the past five years. The bus is now in use on over 100 aircraft and is being considered for other programs. The objective of the standardization of the bus is to provide proven practices to implement IEEE-1394 in military aerospace platforms. The primary document, AS-5643 IEEE-1394b Interface Requirements for Military and Aerospace Vehicle Applications, is a hybrid specification that used an IEEE-1394b PHY and an IEEE-1394a Link Layer currently operating at speeds up to 400 megabits/second over a copper implementation.

Since the last meeting in fall of 2008, the network has been used as a vehicle system network by the Air Force, Navy and Marines.

The group has been conducting teleconferences to collect new questions to add to the frequently asked question section of AIR5654, IEEE-1394b for Military and Aerospace Vehicles – Applications Handbook. These questions have also allowed us to identify changes to all of the Mil-1394 documents. The primary standard AS-5643 will be updated to delineate requirements based on proven methods . The handbook will be updated to incorporate new frequently asked questions and provide updates to all of the existing questions. The handbook explanations of AS5643 system design considerations, bus timing and scheduling will also be updated based on lessons learned over the last five years. In addition to AS5643 and the handbook, AS5643/1 - S400 Copper Media Interface Characteristics Over Extended Distances will be updated along with the associated test plan for AS5643/1. The group will also decide if slash sheets need to be created for fiber optic and/or higher speed copper interfaces.

We hope you will participate in the update of these documents which began over 10 years ago when the contractors for the Joint Strike Fighter (F-35) asked the SAE to formulate a specification. The current companies participating include BAE Systems, Beta Transformers, Dap USA, Dassault Aviation, DDC, GE Aviation, Lockheed Martin, Moog, Northrup Grumman, Pulse

AS-1 (continued...)

Engineering, Tyco Electronics, WL Gore and NAVAIR.

AS-1B Committee Status

Chair - Rick Wild – Lockheed Martin

Vice Chair – Alan White – Lockheed Martin

AS-1B1 – Micro Munitions Interface Task Group

Chair - Sam Lassini - GE

Vice Chair - TBD

Secretary – Dixie Branch – Northrop-Grumman

AS-1B1 continues the maintenance of AS5726, Interface for Micro Munitions, and is compiling a working draft with errata items as well as additional clarifications and expansions of some technical aspects of the standard, in particular in the area of power specification.

In the process of maintaining AS5726, the Task Group is developing explanatory material on the intended use of features of AS5726 as well as initial lessons learned from lab and field trials that will be compiled in a handbook, scheduled to be released concurrently with the upcoming rev A of AS5726.

AS-1B1 also continues to work jointly with AS-1B2 to develop a suite of validation documents for all three primary weapon interface standards (MIL-STD-1760, AS5725, AS5726).

Participation in AS-1B1 remains quite active and members of the weapon interface community are strongly encouraged to attend.

AS-1B2: Aircraft/Store Interface Standards Users Group

Chair - Joseph P. Cammarota – Raytheon

Vice Chair – Fred Benedick – WINTEC

Secretary – Dave Noa – ITT Corporation

The Aircraft/Store Interface Standards User Group supports the MIL-STD-1760 aircraft/store interface standard and the SAE AS5725 Miniature Mission Store Interface (MMSI) standard. This includes work on validation documents for interface implementations and development of working drafts for suggested revisions to the standards, as well as providing a forum for discussing implementation issues and sharing lessons learned.

Work on validation documents for MIL-STD-1760E aircraft and store interfaces and for AS5725 carriage and store interfaces is ongoing and nearing completion. Evolving documents which will incorporate this work include AS47643 - Validation Methods for MILSTD-1760E Aircraft Station Interfaces, AS42702 - Validation Methods for MIL-STD-1760E Mission Stores, AS5748 - Validation Methods for AS5725 Miniature Mission Store Interfaces, and AS5749 - Validation Methods for AS5725 Miniature Store Carriage Interfaces. Joint working sessions are held as necessary with the AS-1B1 Micro Munitions Interface Task Group to efficiently address test/validation considerations that are common across the range of MIL-STD-1760, MMSI, and IMM interfaces.

Work also continues toward definition of a Fiber Optic interface capability for MIL-STD-1760, using the currently reserved Fiber Optic contact spaces. Previous group discussions on this topic have resulted in an evolving concept based on the use of expanded beam fiber optic contacts and Dense Wavelength Division Multiplexing (DWDM) techniques over single mode fiber. The use of DWDM technology allows for a number of independent high speed information channels (potentially both digital and analog) between platforms and stores, using different optical wavelengths. This evolving concept will be refined as necessary at future meetings, and corresponding changes to MIL-STD-1760 for incorporation of the fiber optic interface will be developed and recommended for inclusion in the MIL-STD-1760E working draft. The group will be coordinating with AS-3 and AE-8 to ensure an approach is ultimately defined which can be implemented with intermateable, suitable and reliable components.

A MIL-STD-1760E Working Draft is being maintained to reflect changes and additions recommended by the group for the next revision of MIL-STD-1760. A planned future activity is to develop recommended changes and additions to the existing MIL-HDBK-1760 document to bring it up to date with MIL-STD-1760E.

AS-1B3: Aircraft-Store Systems Integration Task Group

Chair - Herbert Schlatt - Cassidian

Vice Chair – Jens Schmidt – Diehl BGT Defence

Secretary – Robert Boman – Lockheed Martin

The Aircraft-Store Systems Integration Task Group works to develop and document methods for increasing interoperability of aircraft/stores, at the avionic systems level.

AS-1 (continued...)

The support to MiDEF (MIL-STD-3014) continues. The custodian of the standard seeks advice from the group when changes and additions to the data registry are proposed. These are discussed during the group meetings and recommendations made to the custodian.

The committee continued the work on an update of AS6030 based upon lessons learned from a NATO activity to define a "System Interface Control Plan".

As part of the SAE documents re-affirmation process, the group continued an update of AS5609 Platform/Store Common Interface Control Document Format. It will correct some issues and incorporate some additions proposed by group members and UML notation examples in the functional section of the document.

AS-1B5 – Common Launch Acceptability Region Task Group

Inactive

AS-1B6 – Fuze Systems Task Group

Chair - Ingo Beckmann

Vice Chair – TBD

Secretary - TBD

After the publication of AS5716A, Standard Electrical and Logical Interface for Airborne Fuzing Systems, the Fuze Systems Task Group (AS-1B6) has begun to work on AIR6234 Handbook for Standard Electrical and Logical Interface for Airborne Fuzing Systems (AS5716A) since the start of 2013. In preparation for the October AS-1 meeting in Portland, ME, a working draft of the handbook has been sent to all AS-1B members. The work on AIR6234 is mainly organised by sharing drafts via email and telephone/video conferencing in between AS-1 meetings.

AS-1B7 – Fuze Mechanical Task Group

Inactive

AS-1C Committee Status

Chair – John Park – Lockheed Martin

Vice-Chair – Michael G. Block - Navy

The AS-1C Committee has developed interface standards for EO/IR platforms.

Since the group formation, we have published AS6129 EO/IR Electrical Interface Standard, AS6135 EO/IR Data Exchange Interface Standard, AS6165 EO/IR Maintenance and Test Interface Standard, and AS6169 EO/IR Mechanical Interface Standard. These standards are already being used in US DOD procurement programs.

The Committee is now working to maintain / update the standards and is focusing on developing handbooks and verification and validation documents.

NAVAIR (US Navy Naval Air Systems Command) has an effort called SPIES (Sensor/Platform Interface and Engineering Standards) which is led by NAVAIR 4.5.6 (EO and Special Mission Sensors, Imaging, Optics, Lasers, and Magnetics Division). The SPIES effort was kicked off by PEO(A) (Admiral Eastburg at the time). As part of the SPIES effort, NAVAIR 4.5.6 helped to establish and continues to support the SAE AS-1C effort to standardize the interface between EO/IR sensors and aircraft, resulting in development and release of SAE standards AS6129, AS6135, AS6165, and AS6169. In August, Vice Admiral Dunaway, (Commander, Naval Air Systems Command), published an article in the Proceedings of the US Naval Institute outlining his vision for NAVAIR in the area of creating Integrated Warfighting Capabilities(IWC) [1]. This concept (IWC) is often referred to as Integration and Interoperability (I&I). VADM Dunaway highlighted the SPIES effort as an effort where NAVAIR is making encouraging progress in enhancing systems I&I.

AS-1C has recently completed 5-year reviews of two documents;

Stabilized - AS8700: Installation and Test of Electronic Equipment in Aircraft, General Specification for

Re-affirmed - AS4911: Requirements Document for Sensor/Video Interconnect Subsystems, with Rationale

"Creating Integrated Warfighting Capabilities", Vice Admiral David Dunaway, Proceedings US Naval Institute, August 2013.

AS-1C1 – EO/IR Signal Sets Task Group

Chair - John Park

Vice-Chair – Michael G. Block

Secretary – Mike Perry

AS-1C1 task group is working to standardize the EO/IR sensor electrical and physical interfaces that facilitate the transfer of power, sensor data, command and control and safety signals needed for future EO/IR sensor sys-

AS-1 (continued)

tems.

AS-6129 EO/IR Electrical Interface Standard was issued for publication on 05 December 2012.

AS-1C2 – EO/IR Sensor System Maintenance and Test Interface Task Group

Chair – Harvey Sokoloff

Vice-Chair – Vicente Mahoney

Secretary – Mike Perry

AS-1C2 task group is working to standardize the EO/IR sensor maintenance and test interface.

AS-6165 EO/IR Maintenance and Test Interface Standard was issued for publication on 05 December 2012.

AS-1C3 – EO/IR Mission Avionics Data Exchange Task Group

Chair – Robert Schoenberger

Vice-Chair – Cary Jaikaran

Secretary – Gary Thom

AS-1C3 task group is chartered to identify, define and standardize protocols and data exchanges for airborne EO/IR sensor to platform interfaces needed for future EO/IR sensor systems.

AS-6135 Interface Standard, Airborne EO/IR Systems, Data, was issued for publication on 05 December 2012.

AS-1C4 – EO/IR Mechanical/Environmental Interface Task Group

Chair – Mike Mozzo

Vice-Chair – John Miller

Secretary – Mike Perry

The AS-1C4 Task Group has defined mechanical interfaces for turreted electro-optical / infrared sensors. Eleven standardized mechanical interfaces have been agreed upon to accommodate turrets that span four weight classes and two types of egress configurations. In addition to defining eleven mechanical designs, AS6169 also defines areas for both electrical and cooling connectors for each of the four weight classes and egress

configurations.

AS-6169 EO/IR Mechanical Interface Standard was issued for publication on 14 February 2013.

...From <http://topics.sae.org/>

Edison2 sees opportunity in disruptive thinking



The CEO and founder of the company that won the Automotive X-Prize believes there is room for a new energy-efficient Very Light Car category that employs a highly configurable architecture.

SAVE THE DATE! - AeroTech 2015

SAVE THE DATE! SAE 2015 AEROTECH CONGRESS AND EXHIBITION

September 22-24, 2015
Seattle Convention Center
Seattle, Washington

Executive Leadership provided by:



2013 SAE AeroTech Congress & Exhibition; by the numbers...

Host Company: Bombardier Aerospace

Total registration: ~1832 registrants - 31 different countries
(Top Five Countries includes: U.S., Canada, France, UK and Germany)

Total presentations: 419 (62 presentations from Bombardier) 3 via Webex

Total Papers: 236

Total Exhibitors: 102 (22 Student Posters)

Technical Tours: **Sold Out**

- a. Bombardier Challenger Facility: 40
- b. Bombardier Saint-Laurent Manufacturing Center: 40
- c. Bombardier C-Series Mockup: 30

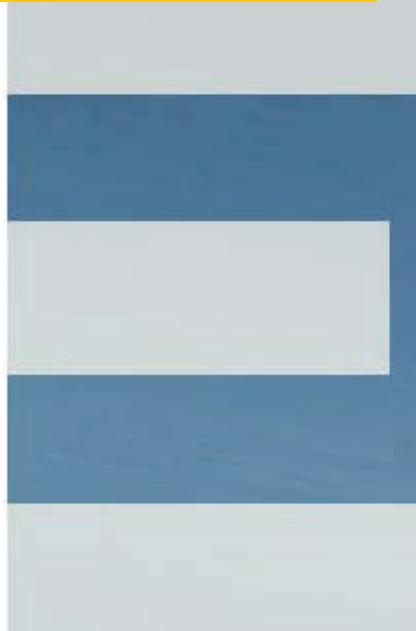
Total number of Aerospace Awards: 34 (25 at luncheon and 9 at banquet)

Total Banquet attendance: 190

Student Volunteers through McGill University: 10

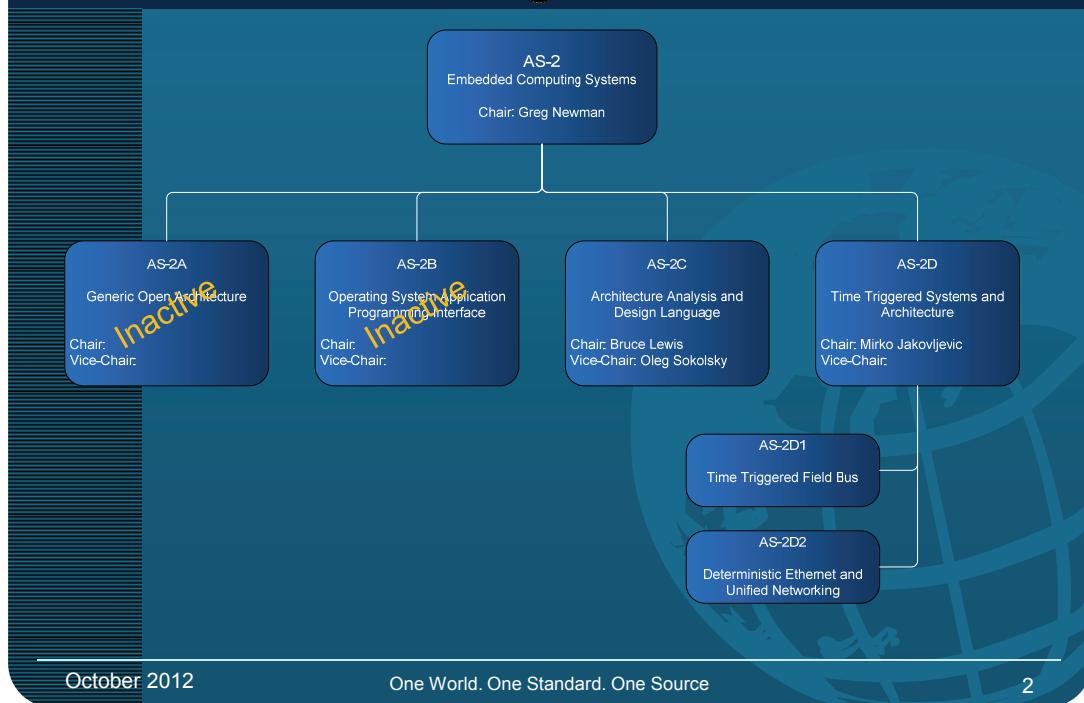
Mobile App Users: 373 users

Standards committees meetings: 19 committees plus Aerospace Council



AS-2 Embedded Computing Systems

AS-2 Organization



AS-2 Committee

- **Greg Newman, Chair**
Elbit Systems of America
greg.newman@elbitsystems-us.com

Staff/Executive	3
Consultant	0
Member - Producer	10
Member - User	12
Member - General	5
Staff Engineer	7
Liaison	21
Mailing List Recipient	67

Total = 125



October 2012

One World. One Standard. One Source

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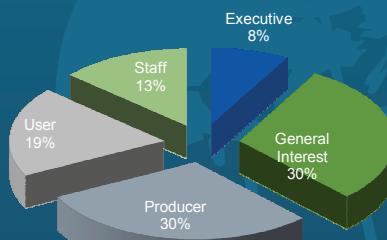
AS-2 (continued)

AS-2C Subcommittee

- **Bruce Lewis, Chair**
U.S. Army Missile Command
bruce.lewis@sed.redstone.army.mil
- **Oleg Sokolsky, Vice Chair / Secretary**
University of Pennsylvania
sokolsky@cis.upenn.edu

Staff/Executive	3
Member - Producer	11
Member - User	7
Member - General	11
Staff Engineer	5

Total = 37



October 2012

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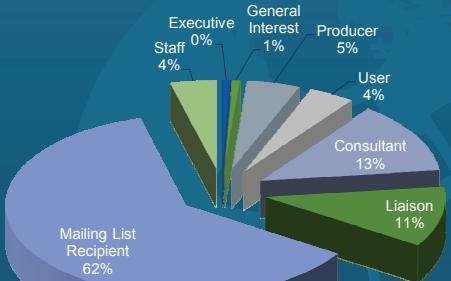
AS-2D Subcommittee

- **Mirko Jakovljevic, Chair**
TTTech
mirko.jakovljevic@tttech.com

Staff/Executive	1
Consultant	19
Member - Producer	7
Member - User	6
Member - General	1
Staff Engineer	6
Liaison	16
Mailing List Recipient	91

Total = 147

- Task Groups
- AS-2D1 - TT Protocol
 - AS-2D2 - TT Ethernet



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AS-3 Fiber Optics and Applied Photonics



Bill Woodward
AS-3 Chairperson

AS-3 Chairman's Corner

To support the growth currently being experienced in the aerospace fiber optic industry, AS-3 elected to increase the number of times they meet per year from two to three. The first AS-3 summer meeting was held in Colorado Springs, Colorado. While attendance was lower than a typical spring or fall meeting,

the amount of work that was accomplished was substantial. The teamwork and technical contributions from everyone that attended was remarkable, job well done! In addition, Dorothy did a fantastic job selecting an excellent facility and scheduling two working lunches that kept the momentum going.

Going into the fall meeting AS-3 has a record 35 works in progress and 16 documents up for a 5-year review. Because of the growth being experienced, I expect we will add several new projects at the fall meeting. To meet the demand we will need to focus on the following:

Efficiently developing documents

Minimizing the document size when possible

Balloting documents as early as possible

Resolving comments as quickly as possible

AS-3 is the global leader in developing fiber optic and photonic standards for the aerospace industry. My goal for 2014 is to expand our global presence into the telecommunications industry. I am confident that the subject matter experts within our working groups can respond to the needs of both the aerospace industry and the telecommunications industry faster and more efficiently than any other international standards organization.

The Hunt for Big Foot at 14,000 Feet

At the summer meeting in Colorado Springs, Colorado, AS-3 took a road trip to Pikes Peak in the hunt for Big

Foot. On their journey up Pikes Peak Highway, to the 14,115-foot summit the team encountered breathtaking scenery and a gross shortage of guardrails. Few rides will keep passengers on the edge of their seat more than ascending and descending Pikes Peak Highway. Nothing gets a passengers attention more than rounding a sharp curve on a narrow road with no shoulder and a 6,000-foot drop to the next county.



The ride up and down are equally breathtaking. On the ride up there was no problem going slow. Six adults in an SUV with an engine that lacked low-end torque prevented any ambitious driving. However, the speed a vehicle could obtain on the ride down is extreme. Fortunately, the six-speed transmission and hill decent control in the rental SUV worked flawlessly. The team only became concerned one time when the ABS brakes automatically applied causing the vehicle to vibrate, each automatic application of the ABS after that was comforting.



In the end, we never found Big Foot(?) but all had a great time.

AS-4 Unmanned Systems

Scope

Develops interoperability standards for unmanned air, ground, surface and undersea systems and promotes participation, education, acceptance, and adoption within and by the unmanned systems communities.

AS-4A: Architecture Framework

AS-4B: Network Environmental

AS-4C: Information Modeling & Definition

AS-4D: Unmanned Systems Performance Measures



Counterfeit Electronic Components and its Impact on Small Business - Contributed Article by Christine Zika

Counterfeit Electronic Components and its Impact on Small Business

By Christine Zika

Counterfeiting is not a new problem. From fake “Coach” purses, bootlegged DVDs and phony twenty dollar bills, it stands to reason that if it can be copied, it will be copied or relabeled and sold as an original.

In 2010, the United States government found that counterfeit electronic components were having a far more reaching effect in government equipment than originally suspected. This finding prompted a near immediate response and in 2012 the US Government passed a law setting stricter guidelines and higher penalties for those supplying the Department of Defense counterfeit electronic components in any form.

In H.R.1540: NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2012 SEC. 818. DETECTION AND AVOIDANCE OF COUNTERFEIT ELECTRONIC PARTS, the law was established the definition of a counterfeit component; the establishment of procedures for detection and avoidance; and substantial penalties for those caught supplying counterfeit components.

At the SAE 2013 Counterfeit Parts Avoidance Symposium held in Montreal, Quebec, Canada September 27, 2013, a member in attendance was heard to say that this law will have one of the most significant impacts in business practices that he has seen in over 30 years in the aerospace industry.

For small businesses looking to be in the supply chain to the DoD, the most important aspect of this bill is the establishment of the definition of “Trusted Supplier” which will be examined by the Department of Defense whether

they are a contractor or a subcontractor and on all tier levels. This definition will apply to a business whether they are the original manufacturer, an authorized parts dealer or independent supplier.

The SAE-International Symposium which consisted of industry leaders in all aspects of the supply chain for DoD electronic equipment was held to try and get ahead of this ever increasing problem and make users as well as producers more aware of the problem. SAE-International has issued two standards documents concerning counterfeit components. AS5553, which has already been adopted by the DoD, addresses the issues of definitions and avoidance while AS6081 addresses the definition of a trusted supplier and the requirements that the trusted supplier must meet.

In AS6081, standardizes practices to: a. identify reliable sources to procure parts, b. assess and mitigate risk of distributing fraudulent/counterfeit parts, c. control suspect or confirmed fraudulent/counterfeit parts, d. and report suspect and confirmed fraudulent/counterfeit parts to other potential users and Authority Having Jurisdiction.

Through the mitigating risk process, companies seeking supplies will be viewing subcontractors under a microscope and looking to see what policies and procedures are in place, what training is available for detection of counterfeit components, file maintenance and distribution agreements. Believe it or not – they are now required to look at the truthfulness of a company’s website.

Now is the time for small businesses to act! Preparing now will ensure that you are ahead of the power curve when looking to supply electronic components for final use by the Department of Defense.

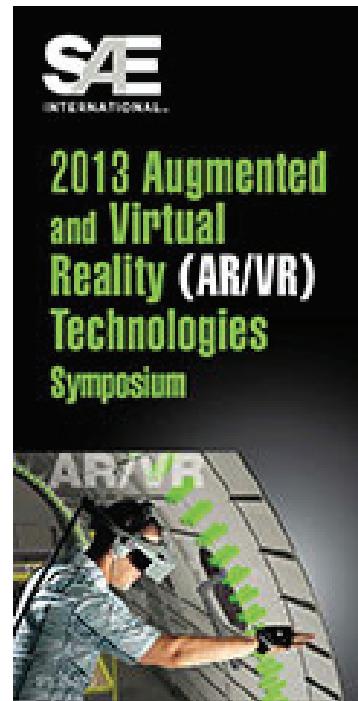
SAE Committee Leadership Workshop Announcement

Committee Leadership Workshop (formerly called Chairman's Workshop)

- June 17-18, 2014
- Chairman, Vice Chairman and Secretaries invited
- Location:

SAE International World Headquarters
400 Commonwealth Drive
Warrendale, PA 15096

- Workshop Goals
 - Increase cross committee communication
 - Gain feedback from committee leadership on issues
 - Provide committee leadership with guidance and training
 - Improve SAE committee leadership relationship
 - Clarify committee leadership roles



SAE Professional Development

- Seminars
- Engineering Academies
- SAe-Learning
- In House Training
- Customized Training Solutions



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SAE International

Aerospace Systems and Technology Week (AST)

SAE INTERNATIONAL

SAE 2014 AEROSPACE SYSTEMS AND TECHNOLOGY WEEK

September 23-25, 2014

Hyatt Regency, Cincinnati, Ohio

www.sae.org/events/ast

Hosted by General Electric



P136230



Meeting Contacts

Name: _____

Name: _____

Company: _____

Company: _____

Phone:

Phone: _____

email:

email: _____

Name: _____

Name: _____

Company: _____

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Meeting Notes

Meeting Contacts

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Company: _____

Company: _____

Phone: _____

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Meeting Notes

Contact Us

Visit the SAE website at www.sae.org.

Visit the SAE Aerospace ASG public pages at
www.sae.org/standardsdev/aerospace/aasd.htm

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Future Meetings

ASG Spring 2014 Meetings

April 2014

The Fess Parker - A Doubletree by Hilton Resort
633 E. Cabrillo Blvd., Santa Barbara, CA 93103



ASG Fall 2014 Meetings in Conjunction with Aerospace Systems and Technology Week



September 22-25, 2014
Hyatt Regency, Cincinnati, OH

Register for Meetings and Find Meeting Information at:

<http://www.sae.org/servlets/works/committeeHome.do?comtID=TEAASD>



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