

Aerospace Standards

Newsletter

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SAE International®

Creating globally harmonized standards. Moving industry forward.

A letter from the SAE Aerospace Council Chair...

2011 was a dynamic year of great change for our industry. With that in mind, I want to take this opportunity to thank all of our volunteers who contribute their time and talents to help create the standards that serve as vital technical documents for our industry. This past year saw many successes, large and small, and we have much to celebrate.

The global relevance of SAE's Aerospace Standards continues to grow and be recognized as we published over 700 new and revised standards in the past year. Participation on our technical committees by non-US experts grew by 12% in 2011 and the number of SAE standards referenced by the industry's regulatory bodies around the world has increased. In addition, SAE received its first standards tasking request from the European Aviation Safety Agency (EASA) and five tasking requests from the Federal Aviation Administration (FAA).

This year saw a number of exciting initiatives for the SAE Aerospace Standards Program. Our Counterfeit Electronic Parts standards efforts expanded further into materiel. And SAE has reached out to share our proven successes with other industry sectors. The program's foray into Integrated Vehicle Health Management (IVHM) now includes an IVHM Steering Group and a dedicated IVHM technical committee to address such things as an IVHM cornerstone document, the business case for IVHM systems, a volcanic ash document and a glossary of terms. And, we've continued valuable new standardization efforts on such topics as runway lighting, underwater locator devices, composites in aircraft design, Air Traffic Management (ATM) and the environment.

In 2012 we will continue growing and improving the world's largest aerospace standards program with a number of initiatives. We will continue to initiate new, globally relevant standards projects to meet industry's needs including standards to address the environmental challenges facing aerospace, standards for new materials and processes, and standards for new ways to facilitate manufacturing and testing. We will be working with the committees to implement an update and harmonization of all the policies and rules that govern our standards program. And, we will continue exploring ways to improve committee meetings, to better focus our efforts on projects and initiatives of clear relevance to the global aerospace industry, and ways to identify and address emerging industry needs.

Our success will depend on our collective ability to understand and act strategically upon those issues that are fundamental to our continued health as a consensus aerospace standards development organization. We can all

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2011 (through December 1, 2011)

The largest, most respected aerospace standards development organization.

SAE Document Publication Status	Number Published
Issued	125
Revised	586
Reaffirmed	793
Cancelled	52
Stabilized	151
To review recently published document titles, visit http://www.sae.org/standardsdev/aerospace/newastds.htm	

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be proud of the strides that the SAE Aerospace Standards Development Program made this past year. The Aerospace Council and all the Aerospace Technical Committees, thanks to the participation of the best experts from around the world, are constantly finding ways to ensure that SAE's standards are globally recognized, accepted, and used as key enablers for our industry.

As we continue on our successful SAE standards development journey, my very best to each of you in 2012!

Laura Hitchcock

External Standards Management, Strategy and Policy - The Boeing Company
Aerospace Council Chair, SAE International

Standard to provide updated and expanded guidelines for processes used to develop civil aircraft and systems

SAE International recently released a new aerospace standard, "ARP4754A: Guidelines for Development of Civil Aircraft and Systems," which seeks to address the need for aircraft systems to take into account the overall aircraft operating environment and functions.

The new standard provides updated and expanded guidelines for the processes used to develop civil aircraft and systems. With safety obviously the top priority for the aviation industry and consumers alike, standards like these help to create an even safer atmosphere for flight.

This standardization will benefit airplane original equipment manufacturers and developers of airplane systems and equipment as they complete the design process.

The standard was produced by **SAE International's Aircraft and Systems Development and Safety Assessment Committee, S-18, led by John Dalton**, a technical fellow at The Boeing Company. "This collaborative effort—with airplane manufacturers, systems developers, academia and other industry experts—underscores the commercial aviation's community's shared commitment to making air travel even safer," Dalton said.

For more information on ARP4754A, visit <http://standards.sae.org/arp4754a> or e-mail pr@sae.org.

Deterministic ethernet standard, SAE AS6802, released

SAE International's **AS-2 Embedded Computing Systems Committee** has completed a new industry standard that establishes Ethernet as a deterministic networking technology for time-, safety-, and mission-critical embedded systems and critical infrastructure applications. The new standard, "SAE AS6802: Time-Triggered Ethernet" can be downloaded from the SAE International website - <http://standards.sae.org/>.

With SAE AS6802, critical command and control systems, audio/video, and standard LAN applications can safely coexist in one network, without the limitations found in other real-time Ethernet technologies. By using capabilities described in SAE AS6802, Ethernet networks can efficiently and natively handle both synchronous and asynchronous communication.

SAE AS6802 describes Layer 2 Quality-of-Service (QoS) enhancements for Ethernet. Network devices implementing this protocol service can extend Ethernet capabilities by providing distributed fault-tolerant synchronization, robust TDM-style bandwidth partitioning, and synchronous communication with fixed latency and micro seconds-jitter.

SAE AS6802 capabilities are currently being used in Ethernet-based architectures for avionics, vetronics, and energy production applications. This standard is used to design robust, less complex distributed systems and architectures tolerant to faults, at lower lifecycle cost.

SAE International's AS-2 Embedded Computing Systems Committee addresses all facets of embedded computing systems – design, maintenance, and in-service experience. The committee is part of SAE International's Avionic Systems Group, which develops some of the key system architecture, design and networking standards, reports, and recommended practices for commercial and military avionics.

Cooperative dialog continues between SAE and CAPE

SAE International and China Aerospace Polytechny Establishment (CAPE) met at CAPE's Headquarters in Beijing, China during the week of 19 September to continue the cooperative dialog begun during a CAPE delegation visit to SAE World Headquarters in March 2011. The discussions in March outlined several areas of potential cooperation between SAE and CAPE regarding SAE aerospace standards acceptance and use in the China aviation market.

The week began with a workshop conducted by SAE International standards staff on Tuesday 20 September. Approximately 70 aviation leaders/engineers from AVIC (Aviation Industry Corporation of China), CAEC (China Aviation Engine Corporation), COMAC (Commercial Aircraft Corporation of China), and CAPE – representing all major facets of the Chinese Aviation industry - were on hand. The workshop outlined the value that SAE standards deliver to the global aviation market and outlined numerous ways that CAPE can facilitate the derivation of this value for the China Aviation Market. A substantial interactive dialog between SAE and the China representatives took place at the workshop.

Throughout the remainder of the week, SAE International and CAPE negotiated and agreed upon a framework agreement for four major areas: standards process training, technical training, standards/technical consulting and workshops, and standards introduction and translation. This agreement is meant to stand alone as a guide for specific future agreements to be negotiated separately by the appropriate SAE and CAPE stakeholders.

Since these meetings, the framework agreement has been signed by both SAE International and CAPE and negotiations are continuing for specific cooperative activities to begin in late 2011, 2012, and beyond. One noteworthy activity is the agreement of CAPE to host an SAE International Standards Week in the Spring of 2013 – including the Spring 2013 SAE Aerospace Council Meeting, several committee meetings, workshops and other training opportunities.



The Cape delegation and Gary Schkade, Director, Asia Pacific Business Development, SAE International at the CAPE workshop.



Edward Manns, Manager, Aerospace Standards, SAE International outlines the value that SAE standards can deliver to the global aviation market.

SAE International

The Standard for Aerospace Innovation

SAE International knows that it is people who advance technology. Since 1916 it has worked hand-in-hand with the aerospace community to find solutions to its most common problems through such globally adopted technical documents as Aerospace Standards (AS), Aerospace Material Specifications (AMS), Aerospace Industry Reports (AIR), and Aerospace Recommended Practices (ARP)—becoming the world's largest, most respected aerospace standards development organization.

While its rich standards development history enables SAE International to offer an array of capabilities to serve industry's growing need for future harmonized solutions, a full suite of learning resources – including lifelong engineering education, technical publishing, and events – work to ensure the pipeline of future engineering talent and keep today's practitioners at the forefront of professional growth.

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SAE International offers new book on Integrated Vehicle Health Management

Based on an initial idea from the **SAE Integrated Vehicle Health Management (IVHM) Steering Group**, SAE International is now offering a highly-anticipated new book that addresses both basic and advanced concepts critical for the understanding and support of the developing field of IVHM.

"Integrated Vehicle Health Management: Perspectives on an Emerging Field," edited by **Ian K. Jennions**, is a unique and groundbreaking book collaboratively written by experts from academia, research and industry. The book's thirteen chapters represent the collective voice of the most qualified authorities in the field.

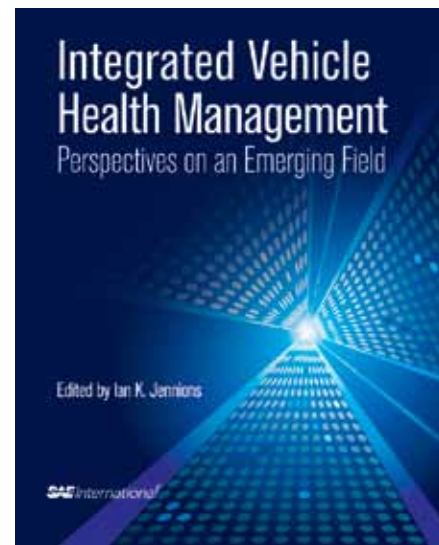
The perfect introduction to the field for engineers, executives, academic instructors, and students, the book includes a single definition and taxonomy of IVHM. In addition to the basic principles of the field, the text identifies how and where IVHM should be implemented, as well as a look at the commercial value of IVHM. Additional highlights focus on algorithms and their impact on IVHM, IVHM future directions and issues, and a case study on Integrated Health and Usage Monitoring Systems, commonly known as IHUMS.

Jennions is a Professor and Director of the IVHM Centre, Cranfield University, U.K. He joined the Centre when it was founded in 2008 and has led its development and growth in research and education over the last three years. Over a 25-year span, he has worked for a number of companies in the gas turbine industry. His experience includes working for Rolls-Royce, General Electric and Alstom in various technical roles where he gained expertise in aerodynamics, heat transfer, fluid systems, mechanical design, combustion and, more recently, IVHM. A contributing **member of the SAE IVHM Steering Group**, he has a Mechanical Engineering degree and a PhD in CFD both from Imperial College, London.

Individual chapters of the book cover:

- The Development of Maintenance and the Role of Integrated Vehicle Health Management
- An Introduction to Integrated Vehicle Health Management – A Perspective from Literature
- The Business Value of Implementing Integrated Vehicle Health Management
- Health Management Systems Engineering
- Basic Principles
- Algorithms and their Impact on Integrated Vehicle Health Management
- Design Tools and Toolkits
- Structural Health Monitoring and Management
- Vehicle-Level Reasoning Systems: Integrating System-Wide Data to Estimate the Instantaneous Health State
- Integrated Vehicle Health Management Operations Rooms
- IHUMS and Real Results: A Case Study from the UK
- Future Directions and Issues

The 120-page hardbound book is also available in eBook formats pdf, epub, and prc. For more information, including free front and back matter, or to order "Integrated Vehicle Health Management: Perspectives on an Emerging Field," visit: <http://books.sae.org/book-r-405>



Committees have process for establishing qualified product list

A number of SAE Aerospace Standards Committees have established Qualified Product Groups (QPGs) in order to develop Qualified Product Lists (QPLs) – documents which list qualified manufacturers that have met the product qualification test requirements to a specified industry standard for specific part numbers and plant locations.

The Aerospace QPL program, administered through the Performance Review Institute (PRI), an affiliate of SAE International, manages the review process of submitted materials reviewed by QPGs and maintains a list of manufacturers' parts which have been qualified.

Committees which currently have Qualified Product Groups include: **G-9 Aerospace Sealing Committee; AMS-CE Elastomers Committee; G-8 Aerospace Organic Coating Committee; E-34 Propulsion Lubricants Committee; G-3 Aerospace Couplings, Fitting, Hose and Tubing Assemblies; E-25 Propulsion Systems Standards; AMS Commercial Aircraft Composite Repair; and AMS P-17 Composite Materials Committee.** QPGs assess whether manufacturers' products comply with the relevant standards issued by those committees.

Current PRI Qualified Product Lists include fluid fittings, fluid hoses, elastomeric seals, sealants, organic coatings, propulsion lubricants, propulsion systems, and composite repair materials. Existing QPLs are accessible online by signing up for a free user name and password at www.eauditnet.com and clicking "Online QPL" under the "Resources" heading.

Qualified Product Lists provide benefits to both users and suppliers. A QPL published and maintained by PRI enables users to avoid the costs associated with maintaining internal QPLs and reduces the necessity for second-party testing and reporting of test results. Suppliers benefit because a QPL utilizes a consistent approach to the qualification of a product, eliminates redundant testing, and provides initial qualification data to a wider industry base.

Any SAE technical committee interested in establishing a QPG should contact Laura Feix, Aerospace Standards Engineer, at lfeix@sae.org. Appendix D of the Aerospace Council Organization and Operating Procedures provides guidance for preparing QPLs to standards and specifications. The initial steps to create a QPG include soliciting users to serve on the group and preparing a formal request and presentation for the PRI Qualified Product Management Council, which manages the qualification process. For additional information, visit www.pri-network.org and click on "Qualified Products" and then "Qualified Product List" for documents and guidelines related to establishing a QPG.

Consensus Based Standards and More from SAE

In addition to its world renowned consensus based and globally adopted technical standards SAE provides a full complement of standards capabilities:

- Consensus Standards
- Committee Management
- Standards Consortium
- Administration Database Creation and Management
- Accreditation and Certification

In-Flight Propulsion Measurement Committee activities discussed at SAE Aerotech Congress

The **SAE E-33 In-Flight Propulsion Measurement Committee** has recently published a revision to AIR1678, and continues work on a number of other documents in progress.

Revised in May, "AIR1678B: Uncertainty of In-Flight Thrust Determination," defines and illustrates the process for determination of uncertainty of turbofan and turbojet engine in-flight thrust and other measured in-flight performance parameters.

The E-33's committee's activities were the focus of a presentation given by **committee member Vincent Billerot** at the SAE Aerotech Congress and Exhibition in October. Billerot, Head of Engine Performance Research and Development at Airbus Operations SAS, discussed the committee's main activities, and spoke about the committee's in-progress documents, including AIR5771 (The Measurement of Engine Performance in Altitude Test Facility), AIR6007 ((In-Flight Thrust Determination for Aircraft with Thrust Vectoring), and AIR6064 (Reverse Thrust).

The committee addresses all facets of in-flight thrust measurement and its uncertainty through the review of current industry methods and procedures, and determines whether the need for additional methods exists. Participants in the committee include OEMs, suppliers, processors, consulting firms, government, academia, and others across the aerospace and defense industries.

SAE talks counterfeit part mitigation at GlobalSpec's online Aerospace Technology Conference

SAE International was the supporting organization for GlobalSpec's Aerospace Technology Online Conference, which was held on November 16.

This free online conference covered new trends, technologies and solutions in design and assembly, materials, engines and flight control, and electrical and electronic components. GlobalSpec is the leading specialized vertical search, information services, e-publishing and online events company



serving the engineering, technical and industrial communities

The event's keynote video presentation was given by Bruce Mahone, SAE International's Director of Washington Operations, Aerospace. Mahone's keynote focused on SAE standards on counterfeit avoidance and mitigation.

In 2008, SAE was tasked by NASA and the Department of Defense for solutions in keeping

illegitimate electronic parts out of the aerospace industry. Since then, SAE has worked to develop a suite of standards which reduce the risk of counterfeit parts entering distributors' inventory.

"SAE AS5553: Counterfeit Electronic Parts: Avoidance, Detection, Mitigation" outlines processes for electronic design/parts management, supplier management, procurement, part verification, materials control, and response strategies when suspect parts are found.

Additional forthcoming counterfeit parts standards will be: ARP6178 ("Counterfeit Electronic Parts: Tool for Risk Assessment of Distributors"); AS6081 ("Counterfeit Electronic Parts: Avoidance Protocol, Distributors"); and AS6171 ("Test Methods Standard; Counterfeit Electronic Parts").

At the November GlobalSpec online conference, SAE also participated in the event's virtual exhibit hall, providing information on counterfeit parts standards, as well as aerospace standards development in general, and other SAE aerospace programs. The keynote can be viewed on demand at <http://www.globalspec.com/events/eventdetails?eventId=98>

Nominate a deserving individual for an SAE award

As our most valued resource, those engaged in SAE's mission are best qualified to identify outstanding achievements made by their peers. Look closely at those with whom you work. Honor their excellence and celebrate their dedication and consider nominating them for one of the following SAE awards related to the work of the SAE Standards Development process. Submit nominations at www.sae.org/awards Need assistance with an award nomination? Contact the SAE Awards staff at awards@sae.org, 1-877-606-7323 (U.S. and Canada only) or 1-724-776-4970 (outside U.S. and Canada).



Nomination deadline: December 31

Technical Standards Board Outstanding Contribution Award

Administered by the SAE Technical Standards Board, this award recognizes individuals for outstanding service in the technical committee activities of the Society. This includes valuable contributions to the work of SAE technical committees, unusual leadership in the activities of an SAE technical committee, significant contributions as a representative of the Society to the accomplishments of technical committees of other organizations or of government agencies, and outstanding contributions to SAE technical committee work in the form of research, test methods and procedures, and/or development of standards.

SAE Aerospace Chair Award

This award recognizes outstanding leadership demonstrated by chairs of committees under the Aerospace Council and Air & Space Group. The award may be presented in recognition of performance over an extended period of time or for a singular accomplishment. It is sponsored by the SAE Aerospace Executive Committee.

Franklin W. Kolk Air Transportation Progress Award

This award recognizes an individual for unique and outstanding contributions to air transportation and/or to the work of the aerospace technical committees in developing aerospace standards, specifications, technical reports, and data through cooperative research. It is administered by the Aerospace Council.

SAE Aerospace Engineering Leadership Award

This award honors an individual at the corporate official level for outstanding contributions to the field of aerospace engineering through his/her leadership skills. It recognizes an individual who has applied their leadership skills in aerospace engineering to make contributions leading to great positive impact on the aerospace community. It is administered by the Aerospace Engineering Leadership Award Board.

Clarence L. (Kelly) Johnson Aerospace Vehicle Design and Development Award

This award recognizes individuals who have distinguished themselves by making significant contributions during their career in the innovative design and development of advanced aircraft and/or spacecraft. It is made possible through a fund established by the Lockheed Advanced Development Company and is administered by the Johnson Award Board under the auspices of the Aerospace Council.

Subir Chowdhury Medal of Quality Leadership

This award is conferred upon a leader from academia or industry of recognized ability who has contributed their substantial skills and talent to accomplish the goal of advancing and promoting the principles and application of "quality" in Mobility Engineering professions.

Marvin Whitlock Award

This award annually recognizes an individual for significant technical contributions and/or innovation related to operational availability of aircraft. Operational availability includes areas such as repair design, tooling, maintenance practices, logistics, inspection, modification and safety. It is administered under the auspices of the SAE Aerospace Council.

Mike Roberts Named First Recipient of AAQG Mike Gallagher Award

The Americas Aerospace Quality Group (AAQG) named Mike Roberts of The Boeing Company as the first recipient of the annual Mike Gallagher Award on September 14th.

This award recognizes outstanding contributions to the aviation, space and defense industry related to standards development, oversight and maintenance of the International Aerospace Quality Group (IAQG) Industry Controlled Other Party (ICOP) scheme in the Americas sector.



Mike Roberts (second from right) and his family being honored at the September ceremony where he received the AAQG award. **Mike also serves on SAE's G-14 Americas Aerospace Quality Standards Committee.**

Mr. Roberts was chosen by a group of his peers based on the significance of his contributions, the impact and influence he has had on the industry, and in recognition for his leadership qualities and depth of participation in furthering the objectives of the organization.

The AAQG is a cooperative organization within the aerospace industry in the Americas (including North, Central and South America). Its processes are established in a set of agreed, documented, operational procedures. IAQG is a worldwide cooperative organization of

prime aerospace industry companies which pool and exchange their experiences to jointly develop processes and standards for high quality products. It is sponsored by the Aerospace and Defense Industries Association of Europe (ASD), the Society of Japanese Aerospace Companies (SJAC), and SAE International

The AAAG Leadership Team established the Mike Gallagher Award to honor the memory of Mike Gallagher and the tremendous impact he had on the aviation, space and defense industry.

To learn more about the AAQG, please visit <http://www.sae.org/aaqg/>

Standards Development Leader and Partner

SAE has become the world's largest standards development organization by partnering with industry for nearly 100 years to discover solutions to its common problems. Today, it works with companies – and other SDO's around the world—to create and harmonize standards for the advancement of the global aerospace industry.

- AeroSpace and Defence Industries Association of Europe (ASD)
- Society of Japanese Aerospace Companies (SJAC)
- NATO Standardization Agency (NSA)
- European Organization for Civil Aviation Equipment (EUROCAE)
- International Air Transport Association (IATA)
- National Center for Advanced Materials Performance (NCAMP)
- Federal Aviation Administration (FAA)
- European Aviation Safety Agency (EASA)
- International Civil Aviation Organization (ICAO).

Congratulations! Volunteer spotlight: SAE Awards

SAE International Technical Standards Board Outstanding Contribution Award

Steven De Cenzo, staff engineer and lead casting specialist in the Materials and Process Engineering Group of Honeywell Aerospace, was honored during the SAE AeroTech Congress held in Toulouse, France, this past October. He served as a supplier and consultant member of the Aerospace Materials Division Commodity Committees and is now an alternate member for Honeywell Aerospace. He is a member of the Aerospace Metals and Engineer Committee (AMEC), the AMEC Surface Enhancement Subcommittee and the Ground Vehicle Surface Enhancement Committee.

Billy M. Martin, principal engineer at Cessna Aircraft Company, was honored with the SAE International Technical Standards Board Outstanding Contribution Award. He serves as the current chair of the SAE AE-2 Lightning committee.

SAE International Arch T. Colwell Merit Award

Klaus Fritz, a senior systems engineer with Diehl Aerospace GmbH, was honored during the SAE International 2011 AeroTech Congress held in Toulouse, France.

The Arch T. Colwell Merit Award recognizes the authors of papers of outstanding technical or professional merit presented at a meeting of SAE International during the calendar year. Papers are judged primarily for their value as new contributions to existing knowledge of mobility engineering. Fritz was honored for his SAE International technical paper, "System Dependency Analysis Supporting Common Cause Analyses of Complex Aircraft Systems."

Fritz is an active participant of the SAE committee S-18 Safety Assessment for Airborne Systems & Equipment. He also supports the EUROCAE working group 61.

New committee chairs in 2011

On behalf of the SAE Aerospace Standards Development Program, thank you to the following individuals who have volunteered to lead these committees in 2011:

Billy Martin, Cessna; AE-2, Lighting Committee

Greg Newman, DFW Inc; AS-2, Embedded Computing Systems Committee

Mary Frost, Airbus, AE-5, Aerospace Fuel, Oil and Oxidizer Systems Committee

Richard Gaines, Cessna; AC-9, Aircraft Environmental Systems Committee

Robert Busto, FAA; AC-9C, Aircraft Icing Technology Committee

Richard Newman, U.S. Navy; S-7, Flight Deck Handling Qualities Standards for Transportation Aircraft Committee

Colister Dickson, Lockheed Martin; AMS B, Finishes Processes and Fluids Committee

Diego Alonso Tabares, Airbus; AGE-2C, Vehicles, Maintenance and Aircraft Servicing subcommittee

Steve Bastas, United Airline, Co-Chair of G-12M, Methods Subcommittee of the G12 Aircraft Ground Deicing Committee

Duncan Chase, Rolls-Royce PLC; E-32, Aerospace Propulsion Systems Health Management Committee

Mark Chappell, Aerospace Testing Alliance; S-15, Gas Turbine Performance Simulation Nomenclature and Interfaces Committee

Greg Newman, EFW Inc.; AS-2, Embedded Computing Systems

Diego Alonso, Tabares; AGE-2C, Air Cargo & Aircraft- Vehicle Maintenance and Aircraft Servicing

Volunteer recognition: 2011 Document Sponsors

The SAE Standards Development Program thanks its Document Sponsors. These individuals have served not only as active committee members but 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.

A. W. Patterson	Lockheed Martin Aeronautics Co	Dr Van B. Nakagawara	Civil Aerospace Medical Institute
Alan Fletcher	WPAFB	Eric Adair	3M
Alan Miklos	Glenair	Frank Starke	Airbus Operations GmbH
Alan Peter Schofield	Greene Tweed & Co	G A McLean PhD	Civil Aerospace Medical Institute
Alfred W Patterson	Lockheed Martin Aeronautics Co	Gabriel Sampson	Averest Incorporated
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Dr Robert Keller	Freudenberg Nok GP	Ken Christian	HellermannTyton
Dr Ronald E Zielinski	Polymod Technologies Inc	Ken Sabo	Lockheed Martin Aeronautics Co
Dr Shlomo Antika	ExxonMobil	Kenneth J Clark	Magnesium Elektron

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Randy Camp	Boeing Commercial Airplanes	Walter Deutscher	Aerospace Consultancy
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		William E Reisenauer	LED Specialists Inc

New! Corporate Sponsorship of SAE Standards Technical Committee Meetings

Build your company's brand – target very specific technology niches – support standards development

SAE is the world's largest aerospace standards development organization. Its consensus based program is the forum through which the global industry collaborates on and sets expectations for vehicle reliability, quality, safety, efficiency, and compliance.

Thousands of engineers from companies throughout the supply chain and around the world serve on some 250 SAE technical committees developing, revising, and keeping current more than 8,400 technical standards—standards that address the full spectrum of aerospace business from design, integrate, build and operate to such critical issues ranging from fuel to weather.

Whether your organization is involved in SAE standards activities or not, you can put your company's name directly in front of those that create industry's standards—while they are creating them—by purchasing one of many sponsorship opportunities now offered around SAE Aerospace Standards Technical Committee Meetings.

For sponsorship levels and opportunities available contact:
SAE Sales 1.724.772.4078 or Aerospace Standards 1.724.772.8542
On the web, go to www.sae.org/standards and "Technical Committee Meeting Schedule"



SAE International

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SAE aerospace standards committees formed this past year

These Aerospace Standards Committees were established in 2011:

The **G-20 Airport Lighting Committee** was formed at the request of U.S. Federal Aviation Administration to address how Enhanced Flight Vision Systems (EFVS) will operate as airports transition to energy-efficient lighting for runway and approach lighting. Traditional airport lighting relies on incandescent lamps which emit infrared spectrum. It is this infrared which EFVS sensors on aircraft can see, and then help pilots guide airplanes to safety in low visibility conditions. However, as a result of recent energy legislation and to lower costs, airport lighting is transitioning to LED (light-emitting diode) lamps which do not emit infrared, leaving the EFVS sensors "blind" and unable to aid navigation. The G-20 Committee is addressing how to find a middle ground wherein airports can save energy and EFVS systems can remain viable. This committee is chaired by **Ken Elliot**, Jetcraft Avionics LLC.

The **G-21 Counterfeit Materiel Committee** is chartered to address aspects of preventing, detecting, responding to, and counteracting the threat of counterfeit materiel. The committee will develop standards suitable for use in high performance/high reliability applications to mitigate the risks of counterfeit materiel. Standards will document recognized best practices in materiel management, supplier management, procurement, inspection, test/evaluation methods, and response strategies when suspect of confirmed counterfeit materiel is detected. This committee is chaired by **Wayne Moss** of NAVSEA.

The **AE-7M Aerospace Systems Model-Based Engineering Committee** will prepare and maintain SAE documents needed to model, simulate, integrate, analyze, verify, validate, and optimize electrical power systems. The committee's objectives include standardizing modeling and simulation practices to facilitate model-based engineering, and providing a forum for exchange of technical information between subsystem suppliers, system integrators, and end users. This committee is chaired by **Jon Zumberge**, Wright Patterson Air Force Base.

Gain a competitive advantage. Impact your bottom line. Invest in standards.

Standards. The workhorse documents that commonize practices, processes, and products throughout the aerospace industry are also paramount to the advancement of technology. Standards documents are more than the practices of today. They account for history and anticipate the future of technology, regulation, and business. The direct benefits of standards are simple in concept but extraordinary in their global impact toward ever-safer, cleaner, more efficient worldwide transportation.

Technical standards enable and enhance:

- consistent and clear expectations for product performance and reliability
- regulatory compliance
- consistent product quality
- compatibility and interoperability
- more efficient procurement

Standardization also:

- lowers trade barriers
- lowers purchasing costs
- decreases design time
- promotes innovation
- increases new technology speed to market

Because industry can rely on standards for globally harmonized solutions to common issues, individual companies can devote more time and resources to advance their proprietary technology. In this way, standards help foster competition, which advances the collective technology of industry and in turn, creates the need for new and revised standards. This has been the cycle for nearly a century of aerospace standards solutions.

And, at the heart of those solutions is SAE International, the world's largest, most respected aerospace standards development organization (SDO). From design to build, operate, and maintain, SAE International works hand-in-hand with the global aerospace community to advance industry.

While participation in the standards development process helps the advancement of the industry it can also contribute to the advancement of your company and personal career.

Corporate Benefits


- Input into the direction of the standards
- Competitive intelligence through advance knowledge of standard direction
- Advance warning of pending regulations and influence over the technical basis of the regulation
- Product liability protections
- Strong relationships with customers and suppliers
- Association with the leading society for advancing mobility technology

Individual Benefits

- Professional development from working contact with peers
- Peer recognition for advancing your industry's sectors technologies
- Excellent networking and learning opportunities from product developers/users around the world
- Discover emerging technologies
- Contribute to the industry's body of technical knowledge

To learn more about SAE Technical Standards Development—and for a schedule of Technical Committee meetings—visit us on the web at www.sae.org/standardsdev

Become a better you. Volunteer for an SAE Standards Development Committee.



SAE International's counterfeit electronic parts risk mitigation standards. Protection in a suite of standards.

End Users

Do you PURCHASE electronic components for integration into aerospace assemblies or equipment?

Implement a control plan to reduce the risk of counterfeit parts entering your inventory.

- ▶ Use SAE AS5553 Counterfeit Electronic Parts; Avoidance, Detection, Mitigation. (Published 2009)

Adopted by NASA & the DoD

Evaluate whether your distributors can detect counterfeit parts from entering *their* inventories.

- ▶ Use SAE ARP6178; Tool for Risk Assessment of Distributors. (Available late 2011)

Go a step farther: Specify suppliers comply with AS6081 to meet AS5553 flow-down requirements.

Distributors

Do you DISTRIBUTE, supply, or sell electronic parts and/or components to the aerospace market?

Tell your customers that you have a system in place to mitigate the risk of counterfeit parts.

- ▶ Certify to SAE AS6081 Counterfeit Electronic Parts; Avoidance Protocol, Distributors. (Available late 2011)

And, consider using ARP6178 in conjunction with AS6081 to self-asses your suppliers.

Test Providers


Do you TEST electronic components or certify distributors to AS6081?

Accreditation ensures standardized testing of suspect electronic parts.

- ▶ Use SAE AS6171 Test Methods Standard; Counterfeit Electronic Parts. (Available early 2012)

STOP illegitimate electronic parts from entering the supply chain, your inventory, your design

AS5553 is a solution for fake parts issues in any market where electronics failure is not an option.



Ground-breaking standards in response to industry need since 1916.
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Become a better you. Volunteer for an SAE standards development committee.

The following committees are seeking participants. If you possess the expertise in any of the listed areas—or you know of a colleague who may be interested in being involved—contact Senior Standards Specialist Kerri Rohall at krohall@sae.org

- S-7, Flight Deck and Handling Qualities Standards for Transport Aircraft
- A-5, Aerospace Landing Gear Systems Committee, specifically in of airline participation
- AE-5, Aerospace Fuel, Oil and Oxidizer Systems
- AE-7, Aerospace Electrical Power and Equipment
- AE-8C1, Protective Devices
- AGE-2C, Vehicle Maintenance and Aircraft Servicing
- AGE-2D, Packaging, Handling and Transportability
- A-4, Aircraft Instruments
- E-25, General Standards for Aerospace & Propulsion Systems
- E-33, In-Flight Propulsion Measurement
- EG-1A, Balancing
- EG-1B, Hand Tools
- G-11, Reliability, Supportability and Probabilistic Methods
- AMS K, Non-destructive Methods and Processes

How can becoming a volunteer help you “become a better you?” See page 13 to learn of the many individual, corporate, and industry benefits volunteering can bring.

Upcoming technical committee meetings

This list is current as of publication. For updates/changes and meetings beyond May 2012, go to <http://www.sae.org/standards/aerospace/schedule>

January 11-12	G-20, Airport Lighting Committee, Washington, DC, USA
January 16-19	AS-1, Aircraft Systems and Systems Integration, Solomons Island, MD, USA
January 17-18	Registration Management Committee (RMC) Meeting, San Diego, CA, USA
January 23-27	S-18, Airplane Safety Assessment Committee, San Diego, CA, USA
January 24-26	AE-2, Lighting Committee, New Orleans, LA, USA
January 24-26	Aircraft Seat Committee, Salt Lake City, UT, USA
Jan 24-28	S-18 Safety Assessment For Airborne Systems & Equipment Hollywood, FL, USA
January 30-February 2	A-4, Aircraft Instruments, Melbourne, FL, USA
January 30-February 2	G-10, Aerospace Behavioral Engineering Technology (ABET) Committee, Melbourne, FL, USA
February 28 – March 1	S-16, Turbine Engine Inlet Flow Distortion, Salt Lake City, UT, USA
March 6-7	AE-8 Executive Committee, San Antonio, TX, USA
March 6-8	E-36, Electronic Engine Controls, Monterey, CA USA
March 6-8	G-11 SHM, Structural Health Monitoring and Management (AISC), London, UK
March 7-9	G-3, Aerospace Couplings, Fittings, Hose and Tubing Assemblies, Charleston, SC, USA
March 12-15	G-14 AAQSC, AAQG, RMC and Team Meetings, Phoenix, AZ, USA
March 20-21	AGE-2, Air Cargo and Aircraft Ground Equipment and Systems Committee, Houston, TX, USA
March 26-29	AMS Metals Group Committee Meeting, Monterey, CA, USA
March 27-29	E-32, Aerospace Propulsion Systems Health Management, Atlanta, GA, USA
March 27-28	S-15, Engine Performance Presentation for Electronic Digital Computers, Fort Worth, TX, USA

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April 10-12	AE-7, Aerospace Electrical Power and Equipment, Seattle, WA, USA
April 16-20	AC-9 and AC-9C Committees, Ft. Walton Beach, FL, USA
April 16-19	Avionic Systems Group (AS-1, AS-2, AS-3, AS-4), Minneapolis, MN, USA
April 16-18	E-25, General Standards for Aerospace and Propulsion Systems, Alexandria, VA, USA
April 23-26	E-34, Propulsion Lubricants, Charleston, SC, USA
April 24-26	AE-8A, Systems Installation and AE-8D, Wire and Cable Committee Meetings, Charleston, SC, USA
April 26	AMS M, Aerospace Greases Committee Meeting, Charleston, SC, USA
May 3-10	G-12, Aircraft Ground Deicing Committee, Prague, Czech Republic
May 8-10	A-5, Aerospace Landing Gear Systems Committee, Durango, CO, USA
May 9-11	A-10, Aircraft Oxygen Equipment Committee Meeting, Savannah, GA, USA
May 15-18	AE-8C1, Connectors and AE-8C2, Terminating Devices Committees, Las Vegas, NV, USA
May 15-17	Aircraft Seat Committee, San Diego, CA, USA

Acknowledgement: 2011 Corporate Support

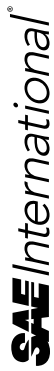
SAE International wishes to acknowledge those companies who contributed to the funding of this year's SAE Standards Development Program. Thank you for helping write the future of the aerospace industry.

Thank you.

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Aerofit, Inc.	Israel Aircraft Industries. Ltd.	PPG Aerospace
Air BP Lubricants	IPECO, Inc.	Pratt & Whitney Corporation
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Amphenol Fiber Systems International	JBT Aerotech	Rolls-Royce Corporation
AMSAFE Aviation	Joslyn Sunbank Company, LLC	Safe Flight Instrument Corporation
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		Woodward Governor Company

SAE Aerospace Council Organization Chart

Match your expertise with the many SAE Technical Standards Development Committees that are writing the common engineering requirements for the advancement of the aerospace industry.



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