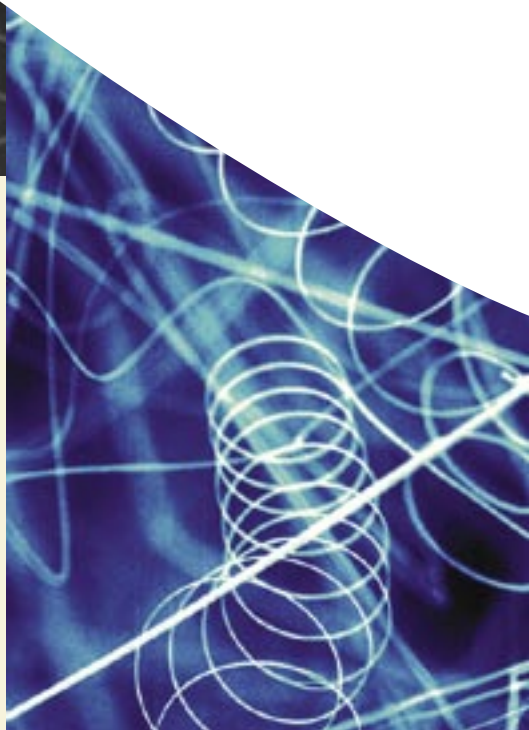
Global standards
for a global industry.

SAE International **Technical Standards Development Funding 2005**



SAE International™

In practice, a global standard is one that is used around the world. The true international development of a single set of global ground vehicle standards is another matter, one that is central in today's standards development program at SAE International.

One world.
One standard.

The SAE International Commitment
The technical standards program at SAE International seeks to ensure the successful creation, full use, and adoption of true global standards through:

- direct and full international access and participation
- ease-of-use in a collaborative design environment
- migration throughout the supply chain
- facilitation of global conformity, assessment and certification
- preservation of legacy data

Long gone are the simpler days of the very earliest horseless carriages. After more than a century of mobility, vehicle manufacturers today operate at enterprise status creating a marketplace of international partnerships and collaborations. A company's global operation is the overarching view. And as industry goes so must its standards: *global*.

Today's international ground vehicle standards derive from the harmonization of fractured and regionalized standards development systems, and industry is **paying the price.** No longer can the ground vehicle industry finance an after-the-fact process to harmonize competing standards or rely on the good fortune of a single standard to gain marketplace acceptance and "de facto" global status. True global standards development—a process which begins and ends with international participation and collaboration—*is* the SAE standards development process.

The costs of non-global standards

- multiple conformity assessments
- added regulatory requirements
- inefficiencies in redundant/ overlapping standards and standards infrastructures
- national vs. direct industry participation
- increased time-to-market

In its most wholesome sense, global standards for a global industry is the transformation of the full docket of industry's technical standards—its largest source of engineering data—into a single source woven from a world of cultures, businesses, and people. As the leading authority in **ground vehicle standards** development, SAE International now has a primary role in the long and difficult journey to true global standards development. **It is your corporate funding of the SAE International technical standards development program that will propel the full of industry's standards to its most desired state: one world, one standard…internationally developed, recognized, adopted, and used.**

SAE International ground vehicle standards meet the scientific, engineering, and regulatory needs of a world market. Its strong, robust and sharply focused program marshals the global frontier of advanced technology, safety and defense.

Included in the vast portfolio of important standards works-in-progress and recent accomplishments are:

SAE International has been appointed by the US Department of Energy (DOE) as the leading standards development organization (SDO) for automotive hydrogen fuel cell vehicle standards. Through its Fuel Cell Standards Committee and Subcommittees, SAE is developing an evolving hydrogen fuel purity guideline for vehicular refueling interfaces as this emerging technology advances toward commercial feasibility. Working groups are addressing hydrogen fueling interface issues including infrared (IR) communication systems; communication data for safe, full vehicular tank fills; and available nozzle geometry for high pressure hydrogen refueling devices and receptacles.

New and recent initiatives in electrical systems and lighting include:

The EMI and EMR Standards Committees have released the publication of a 2004 edition of the *Surface Vehicle Electromagnetic Compatibility (EMC) Standards Manual (HS3600).* This reference is the most current, single source for all SAE documents pertaining to the measurement of electromagnetic characteristics of vehicles, motorboats, agricultural machinery, earthmoving machinery, and other types of internal-combustion-engine-driven equipment.

Vehicle Architecture For Data Communications Standards Committee has released *J2602, LIN Network for Vehicle Applications.* The standard improves the interoperability and interchangeability of LIN devices within a network by resolving those LIN 2.0 requirements that are ambiguous, conflicting, or optional. It will also assure full serial data communication among all connected devices regardless of supplier.

SAE task forces are currently studying improved pedestrian detection low beam lighting, advanced stop lamps, and side mirror turn signal lighting. The work includes a revision of FMVSS 108 and a petition to NHTSA for a harmonized low beam.

The Wire Harness Covering Task Force has published *J2192, Performance Specification for Physical Protection of Wiring Harnesses* to fill a much needed request from the OE and supplier communities.

The Cooperative Research and Standards Development Programs at SAE International are working together in developing and testing the appropriateness of standards prior to industry adoption. New projects include emergency vehicle lighting studies, vehicle exterior sound level testing, high strain rate plastics testing, gage Reliability & Repeatability studies, otologic trauma studies, and IRCRP (Improved Refrigerant 134a Cooperative Research Project) systems performance and emissions as supported by the US EPA.

The Engine Power Test Code Committee completed revisions to *SAE J1349, Engine Power Test Code—Spark Ignition and Compression Ignition—Net Power Rating,* to accommodate the development of electronic controls which recognize the transient nature of automotive engine operation. The committee is currently developing a new standard for the certification of engine power to the *J1349* standard. Patterned off European witness testing, the standard will allow manufacturers' voluntary certification of engine power ratings.

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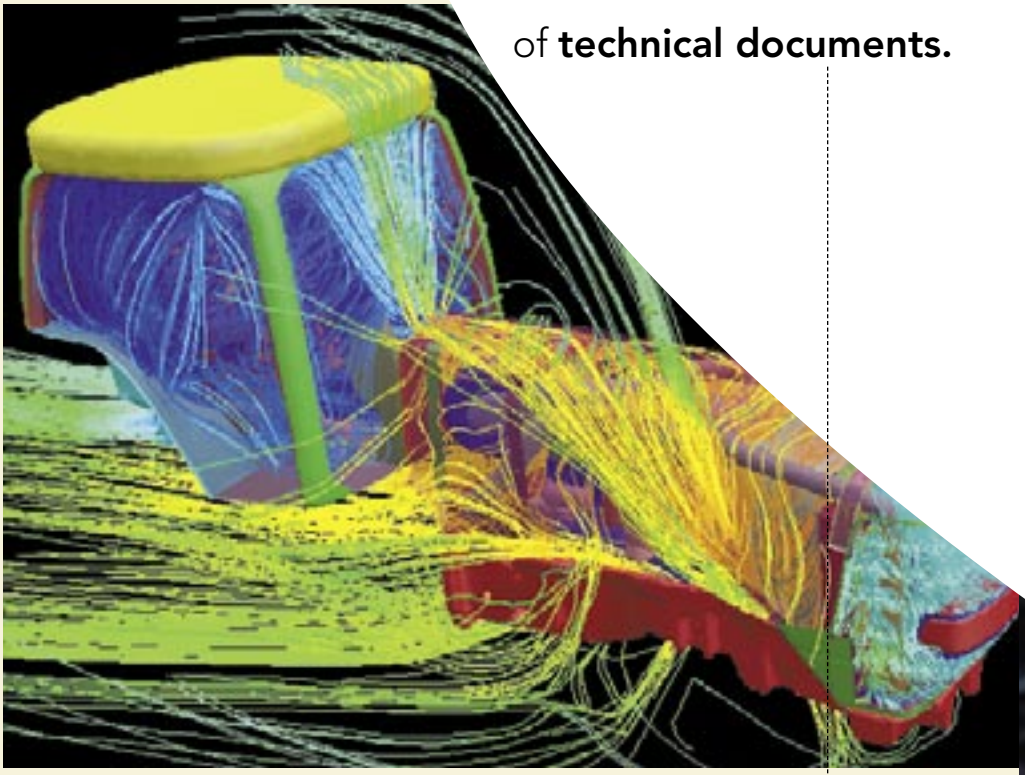
Through sophisticated use of today's internet technology, the standards development process at SAE manages and tracks document creation/ revision from inception to public notice to balloting, publication and distribution—all on www.sae.org. Known as "Forums", this special area of the site facilitates worldwide access and discussion for the development of true global standards.

Since publishing its first automobile standard in 1912, the SAE International ground vehicle standards program has grown to become industry's most comprehensive, most fundamental, and most complete collection of **technical documents.**



Maintaining more than 2,000 technical standards, recommended practices, information reports, and resource documents, these works are authored, updated, and revised by more than 4,000 engineers, engineering managers, and other qualified mobility professionals from around the world. The full charter of their work is managed within the scopes of some 450 SAE Technical Committees and work groups, all reporting to the SAE International Technical Standards Board.

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Data integrity standards influence safety, communications, the environment, testing and more:

J1698, from the Vehicle Event Data Interface (VEDI) committee, establishes a common format for displaying and presenting crash-related data recorded and stored by electronic components now installed in many light duty vehicles.

The SAE Truck and Bus Control and Communications Network Subcommittee is developing several OBD II documents for heavy-duty vehicle implementation focusing on guidelines and requirements by the State of California Air Resources Board (CARB) and US Environmental Protection Agency (EPA).

J2629, Standard Formats for Presenting Acoustical Data, from the SAE Acoustical Materials Committee established a common method for reviewing data from suppliers for test procedures which evaluate the effectiveness of noise and vibration materials in automotive applications.

Several new SAE standards documents address important tire and wheel issues:

The Tire Pressure Monitoring Systems Committee is issuing *SAE J2657,* a recommended practice (RP) for tire pressure monitoring systems for light duty highway vehicles.

The Bi-axle Wheel Fatigue Test Committee has issued an improved method of comprehensive durability testing that will yield significant vehicle development cost savings and lead time reductions.

SAE J2530, Aftermarket Wheels—Passenger Cars and Light Truck—Performance Requirements and Test Procedures, bridges the gap between original equipment (OE) and aftermarket recommended wheel validation practices.

The Tire Tests for Road-Load Tire Model Parameters Task Force is addressing industry standards for a wide variety of laboratory tire tests.

The SAE Fluid Conductors & Connectors Technical Committee, in partnership with the Fluid Power Society (FPS), has developed a program for certifying the qualifications of workers who assemble hose and tube fittings. To be administered by the FPS and TESTS, the program consists of a study guide, hands-on test, and written test.

The Corrosion Task Force of the SAE Truck and Bus Council is addressing concerns over the increase in corrosion problems due to changes in chemicals used in ice and snow removal. The group is establishing practices to validate acceptable corrosion performance of heavy truck, bus and trailer components.

For more information about the work of SAE International Technical Standards committees, visit us on the web at **www.sae.org/standardsdev/groundvehicle**

SAE International is renowned for effective, relevant and coherent performance-based standards and its time-honored consensus-based process of transparency, impartiality, openness, and worldwide access. This is the rich and diverse tapestry of true international standards, the craft of SAE International. **It is your corporate funding that will ensure the most desired future state: global standards for a global industry.**

The SAE Motor Vehicle Council is restructuring to better serve the global standards needs of industry. Its five main systems groups will include: Powertrain, Vehicle Systems, Aftermarket, Electrical, and Chassis. The Council is currently realigning work items and identifying strategic opportunities for new standards development.

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Within the global ground vehicle industry, there is a shared understanding of the need for both cooperation and competition. And, industry's most fundamental cooperative is the SAE International Technical Standards program. Uniquely supported by the uncommon voluntary commitment of thousands of mobility engineering professionals, it is through the leadership of the **SAE Ground Vehicle Council** that the program is vital, strong and responsive.

SAE International **Ground Vehicle Council**

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The Council is committed to ensuring that SAE defines, facilitates and maintains a global technical standards system; improves its products and processes with effective policies, procedures and new technologies; manages and oversees a relevant volunteer technical standards organization.

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