

Cooperative Research Program

Sample Projects

PROJECT	Alternative Refrigerants (CRP150 and CRP1234yf)
SCOPE	Evaluation of new refrigerants with a GWP of less than 150. Toxicology risk assessment, chemical compatibility and system efficiency issues are being studied.
PURPOSE	Produce test results to allow participants to move forward with the development of standards and designs of next generation A/C systems.
PARTICIPANTS	More than 35 organizations representing automotive OEMs, A/C component suppliers and refrigerant manufacturers.

PROJECT	I-MAC (Improved Mobile A/C Systems)
SCOPE	Studies and testing to develop design concepts to cut emissions of HFC-134a in mobile A/C systems by 50%, improve efficiency of HFC134a systems by 30%, and reduce vehicle heat loads by 30%.
PURPOSE	Gather data to enable the participants to apply future design considerations to automotive A/C systems and the development of over ten new mobile A/C system standards.
PARTICIPANTS	Over 40 organizations representing US, European and Japanese OEMs, A/C component suppliers, refrigerant manufacturers, US EPA and various trade organizations.

PROJECT	High Strain Rate Polymer Testing
SCOPE	Testing and statistical analysis of high strain rate testing of various plastic polymers.
PURPOSE	Development of a standard to enable data comparison among companies and develop analytical models to eliminate repetitive testing.
PARTICIPANTS	More than 19 organizations representing automotive OEMs, suppliers and polymer manufacturers.

PROJECT	Non-Blinding Emergency Vehicle Lighting
SCOPE	Study the day and night use of emergency warning lights including issues of color, intensity, visibility and flash rates to mitigate the disorientation of motorists.
PURPOSE	Gather data to allow development and refinement of SAE Standards and their possible adoption by US government agencies.
PARTICIPANTS	Over 14 organizations representing warning lighting suppliers, US Government agencies and universities.

PROJECT	Otologic Trauma
SCOPE	Study the hearing loss effects and issues of in-vehicle subjects following the deployment of automotive airbags.
PURPOSE	Gather valuable background data to assist in the development of standards and future designs of inflatable restraint systems.
PARTICIPANTS	More than ten organizations representing automotive OEMs, suppliers, a healthcare facility and a US government agency.

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Sample Projects (cont.)

PROJECT	H2 Fuel Cell Containment Safety-SAE J2579 Vehicular Hydrogen Systems
SCOPE	Perform qualification and routine testing on hydrogen containment vessels designed for 70 MPa service.
PURPOSE	Validate proposed methods and aid in investigating key alternatives for inclusion in the SAE J2579 standard for vehicular hydrogen containment vessels designed for 70 MP service.
PARTICIPANTS	Over 40 organizations representing US, European and Japanese automotive OEMs and suppliers, researchers, and the US Department of Energy.

PROJECT	Performance Evaluation of 70 MPa Hydrogen Station Breakaways, Hoses, Fittings and Nozzles
SCOPE	Develop tests to examine the performance of existing hydrogen station dispenser breakaway to nozzle assemblies against current draft standards with conditions expected in "real life" service that are not covered in current standards.
PURPOSE	The data gathered will substantiate minimum performance criteria, validate proposed methods, and investigate key alternatives for inclusion in standards pertaining to performance of vehicular hydrogen fuel dispensing stations.
PARTICIPANTS	Organizations representing US, European and Japanese automotive OEMs and suppliers, researchers, and the US Department of Energy.

PROJECT	Dedicated Short Range Communication (DSRC) Data Dictionary and Message Sets SAE J2735
SCOPE	The DSRC Message Set and Data Dictionary specifies standard message sets, data frames and data elements for use by applications intended to utilize the 5.9 GHz Dedicated Short Range Communications for Wireless Access in Vehicular Environments.
PURPOSE	The message set and data dictionary will be used in applications that transfer information between vehicles and between roadside devices and vehicles.
PARTICIPANTS	Organizations representing automotive OEMs, suppliers, and US Research and Innovative Technology Administration.

PROJECT	Dedicated Short Range Communication (DSRC) Implementation Guide
SCOPE	Develop a DSRC implementation guide to provide assistance and guidance on best practices with the SAE J2735 DSRC Data Dictionary and Message Sets in conjunction with VII applications.
PURPOSE	The guide will help the implementer to understand how to use the messages and explain implementation options for combining the DSRC (and ATIS and ITIS) elements to understand interface design issues and to understand how to implement DSRC message dispatching and use the DSRC message framework.
PARTICIPANTS	Organizations representing automotive OEMs, suppliers and the US Research and Innovative Technology Administration.

PROJECT	Intelligent Transportation Systems (ITS) Standards Testing
SCOPE	Provide feedback to the ITS Standards working groups so that they can correct any problems in the standards and improve future versions.
PURPOSE	Comprehensive testing and appraisal of ITS standards to promote the use of ITS technologies and products.
PARTICIPANTS	Organizations representing automotive OEMs, suppliers, and US Research and Innovative Technology Administration.

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Sample Projects (cont.)

PROJECT	NIOSH Truck Anthropometric Study
SCOPE	Measure and track anthropometric and work-space data to update the anthropometric database on U.S. truck drivers.
PURPOSE	Help manufacturers to design ergonomically sound truck cabs for today's trucking population, which in turn will help reduce driver's exposure to the factors/conditions related to many fatal and non-fatal injuries in the trucking industry.
PARTICIPANTS	Heavy truck OEMs; suppliers to the heavy truck industry for seating, restraints, mirrors, digital human models; and the National Institute for Occupational Safety and Health (NIOSH).
PROJECT	CAESAR
SCOPE	Measure more than 3,000 general population subjects in North America and Europe using traditional anthropometric measurements and 3-dimensional scanning to develop a current database of human body measurements.
PURPOSE	Create a 3-dimensional database of human measurements to assist manufacturers in the design of ergonomically sound products.
PARTICIPANTS	US Air Force as well as more than 45 commercial organizations representing the mobility (automotive, aerospace, and trucking) clothing, furniture, seating, and computer modeling industries.