

SAE INTERNATIONAL

Global Ground Vehicle Standards

Automated & Autonomous & Unmanned
Ground Vehicles

Bill Gouse
Washington DC



SAE Standards Program

Consensus Standards Development

Cooperative Research & Consortia

Conformity Assessment

SAE STANDARDS DEVELOPMENT

- Enhance safety
- Create common language
- Facilitate trade through reduced regulations
- Harmonize global markets
- Improve the environment
- Increase productivity of processes
- Permit common interfaces
- Promote uniform testing or performance
- Reduce costs



Key Focal Points of Constituents Driving Product Portfolio

Achieving regulatory compliance and mitigating liabilities are major drivers for the CV, AV, HAV, Autonomous community of developers and manufacturers. **Safety, Security, Ethics**

Incorporation of SAE products into regulations (IBR), i.e. SAE J3016, SAE J3018, ...into mainstream industry practices, new areas, global firsts, i.e. SAE J3061.

Improving productivity, efficiency, reliability, safety, and reducing total overall life cycle ownership costs of the vehicle or equipment.

Pace to enable technical progress.

Collaborative community platforms, workforce development and knowledge management.

Hill Focus – Both Chambers

- **Manufacturers – May 28th (E&C)**
- **NHTSA – September 12th (E&C)**
- **SAE (cc'd)**

SAE activities:

Automotive

Commercial Vehicles & Equipment

Cyber Map

NHTSA Recall – 2015

Vulnerability to malicious action:

“safety defect – unreasonable risk”



NHTSA Authority

Media Pressure (trade, political, and mainstream)

Legacy, Current, Future Products

Rulemaking vs Enforcement

Best Practices

Identify

Protect

Detect

Respond

Recover

GAO Report

Authority beyond NHTSA, FMCSA

Other Agencies

National Security Interest

Safety of Vehicle, Occupants and Road Users (others?)

Scope

Design

Product

Dealer / Service

Operations

Supply Chain

Life Cycle

Conception

Design

Manufacturing

Sales

Use

Maintenance

Incident Response

Resale

Export

Decommission

Federal Automated Vehicle Policy

Emphasizing areas of potential consensus standards, potential conformity assessment.

Shift in certification approach? Self-Certification towards Type-Certification?

Consideration for expanded exemptions.

Potentially significant requirements in the areas of Functional Safety, Data Collection, Reporting, Responsibility.

States considering and developing legislation on Autonomous / unmanned operation

SAE Cooperative Research Program (CRP)

Joint venture projects where numerous organizations pool their resources to study a pre-competitive technical area where results are shared by the participants.



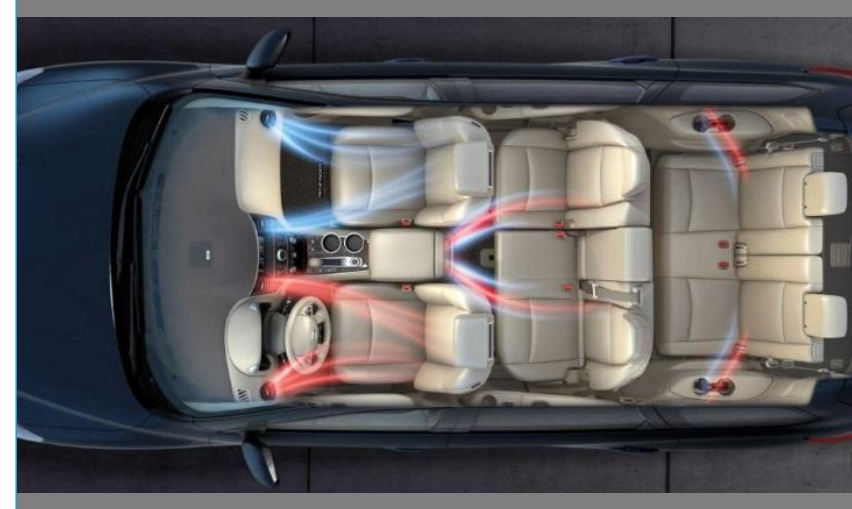
**Pressure to Do More with Less
Industry Must Join Together to
Share Expertise, Costs and Avoid
Duplication
Cooperative Ventures Make Sense!**



SAE Cooperative Research Program (CRP)

Cooperative Research Program Funding

- **Funded separately from standards**
- **Pooled funds or Federal / State / MPO funds**
- **US or International**
- **Data is proprietary to funding partners**
- **Combination of government contracts and industry participation fees**
- **Projects set up as distinct joint ventures**



- **Flexible**
- **Customized to Meet Required Needs**
- **Take Advantage of SAE's Already Established Infrastructure**
- **Capture Cost Share Where Needed**
- **Business Services**
- **Access to Industry Experts**



MOTIVATION:

- Pace of innovation outpacing the government's ability to acquire technology
- Engaging with the government complex, inefficient and expensive for industry
- Traditional government acquisition processes hinder the ability to rapidly innovate
- Procurement costly and time-consuming for both industry and government

DEFENSE ARSENAL AUTOMOTIVE OTA SCOPE



Program Framework

Ensure compliance to select SAE standards

- Level playing field for claims
- Increased confidence for consumers/regulatory agencies

Manufacturer self certification

Monitored by third party witnesses/expert panels/SAE technical standards committees or tested at accredited facilities under direction of SAE

SAE maintains registered/certified results official database

SAE INTERNATIONAL

THANK YOU

Bill Gouse

S.William.Gouse@sae.org

202.281.5844

