Global Ground Vehicle Standards

Automated & Autonomous & Unmanned Ground Vehicles

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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
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”
Cybersecurity

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
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
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!
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

Vehicle Safety Technologies
Vehicle Light Weighting

Autonomous Vehicle and Intelligent Systems
Advanced Energy Storage

Overarching Automotive Technology Areas

Automotive Cybersecurity
Connected Vehicles
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
THANK YOU

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