



**ANSI Comments on the  
Department of Transportation's  
Request for Information on  
Non-Traditional and Emerging Transportation  
Technology**

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The American National Standards Institute<sup>1</sup> (ANSI) welcomes the opportunity to provide input to the Department of Transportation (DOT) on DOT's request for information on projects, issues, or topics that DOT should consider through the Non-Traditional and Emerging Transportation Technology (NETT) Council. As the coordinator of the U.S. voluntary standardization system, ANSI works to advance standards-based solutions to national and global priorities.

#### **About the U.S. Voluntary Standardization System**

Market-driven and private-sector-led, the U.S. standardization system is dynamic and responsive because it thrives on the active participation and engagement of all affected stakeholders – including industry, government, standards developing organizations, academia, consumers, and others.

As one of the biggest users of standards, the U.S. government's active participation in standardization is of great importance. Through this public-private partnership, the U.S. is able to respond most effectively to the strategic needs of the nation on both domestic and international fronts.

Reliance on private sector leadership, supplemented by Federal government contributions to standardization processes as outlined in OMB Circular A-119, *Federal Participation in the Development and use of Voluntary Consensus Standards and in Conformity Assessment Activities*, remains the primary strategy for government engagement in standards development. The circular has guided Federal agency implementation of the *National Technology Transfer and Advancement Act of 1995* for more than two decades.

#### **About ANSI**

ANSI is a federation whose members are government agencies, trade associations, standards developing organizations, professional societies, companies, academic and international bodies, and consumer organizations looking to harness the power of standards to position themselves for long-term success. ANSI represents the interests of more than 270,000 companies and 30 million professionals worldwide. As the voice of the U.S. standards and conformity assessment system, ANSI empowers its members and constituents to strengthen the U.S. marketplace position in the global economy while helping to assure the safety and health of consumers and the protection of the environment.

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<sup>1</sup> [www.ansi.org](http://www.ansi.org)

Voluntary consensus standards for products, processes, and services are at the foundation of the U.S. economy and society. The United States has a proud tradition of developing and using voluntary standards to support the needs of our citizens and the competitiveness of U.S. industry globally.

In its role, ANSI oversees the creation, promulgation, and use of thousands of norms and guidelines that directly affect businesses in nearly every sector. Through its wholly owned subsidiary, the ANSI National Accreditation Board (ANAB), ANSI is also actively engaged in the accreditation of conformity assessment bodies – assessing the competence of organizations determining conformance to standards. Via its affiliate, Workcred, ANSI supports efforts to strengthen workforce quality by improving the credentialing system, ensuring its ongoing relevance, and preparing employers, workers, educators, and governments to use it effectively.

### **International Standardization**

ANSI promotes the use of U.S. standards internationally, advocates U.S. policy and technical positions in international and regional standards organizations, and encourages the adoption of international standards as national standards where they meet the needs of the user community. The Institute is the sole U.S. representative and dues-paying member of the two major non-treaty international standards organizations, the International Organization for Standardization (ISO) and, via our U.S. National Committee (USNC), the International Electrotechnical Commission (IEC). As a founding member of ISO, ANSI plays a strong leadership role in its governing bodies while U.S. participation, via the USNC, is equally strong in the IEC.

To formulate and advance consensus U.S. positions with respect to ISO and IEC work, ANSI accredits U.S. Technical Advisory Groups (TAGs) to ISO and approves USNC TAGs to IEC. The primary purpose of these TAGs is to develop and transmit, via ANSI, U.S. positions on activities and ballots of ISO and/or IEC Technical Committees (and, as appropriate, subcommittees and policy committees). ANSI's *International Procedures* provide the due process-based framework within which U.S. TAGs develop and coordinate U.S. positions.

ANSI is a permanent member of both the ISO Council and Technical Management Board. ANSI and its members participate in nearly 80% of ISO Technical Committees (TCs) and Subcommittees (SCs) and administer 14% of TC and SC Secretariats. ANSI's USNC is a permanent member of the IEC Council Board, Standardization Management Board, and Conformity Assessment Board. The USNC participates in over 92% of IEC TCs and SCs, and administers 13% of TC and SC Secretariats.

### **American National Standards**

Domestically, ANSI accredits standards developing organizations (SDOs) and approves standards from these organizations as ANS. To achieve the ANSI-Accredited Standards Developer (ASD) designation – the first step for developing ANS – SDOs must comply with ANSI's [Essential Requirements](#) and demonstrate commitment to a set of principles that includes openness, balance, due process, and consensus. The principles contained in the *Essential Requirements* are consistent with the World Trade

Organization (WTO) Technical Barriers to Trade (TBT) Agreement principles for the development of international standards. Conformance to these principles means that the U.S. can set an example globally for what open and trusted standardization looks like.

ANSI's many checks and balances, including impartial audits, accreditation requirements, and an appeals process, underpin the integrity of the ANS process, regularly assuring adherence to the Institute's procedures and safeguarding the value of the ANS designation. This voluntary consensus standards process is time-tested, and has been relied on by many government agencies to the benefit of the public, government, industry and many other stakeholders. ASDs meet the definition in OMB Circular A-119, *Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities*, of "voluntary consensus body."

### **ANSI Collaboratives**

More than twenty years ago, ANSI launched the standards collaborative model to address the needs of both government and private-sector stakeholders for a mechanism to coordinate and accelerate the development of private sector-led standards and conformity assessment programs to address national and global priorities. While each collaborative is unique, several have addressed cross-sector needs in emerging technology areas ranging from nanotechnology and nuclear energy to electric vehicles, additive manufacturing, and unmanned aircraft systems. In each of these instances, federal agencies have been active participants and have publicly acknowledged the valuable role and contributions of ANSI-led collaboratives.

Particularly in rapidly evolving technology areas, effective and responsive standards and conformity assessment are critically important, demanding even greater investment, leadership, engagement, and public-private partnership.

One example of how ANSI's collaboratives are bringing standards-based solutions to complex and emerging technology areas is ANSI's [Unmanned Aircraft Systems Standardization Collaborative \(UASSC\)](#). An estimated 7 million drones are expected to be flying in the U.S. by 2020, and this rapidly expanding market is projected to reach 51 billion dollars by 2025. However, all of that depends upon the safe and effective integration of drones into the national airspace.

In December 2018, the UASSC – a group of 175 cross-sector organizations – published a roadmap identifying areas where standardization is needed to support the safety, performance, and continued growth of the industry. *Standardization Roadmap for Unmanned Aircraft Systems* identified some 60 gaps or standardization needs. As noted in the roadmap, there are many complex issues to be addressed in order for the potential of drone technology to be fully realized, most of which are centered around non-interference with manned aviation and ensuring the safety of the flying public and persons and property on the ground. To further advance the industry, the UASSC officially launched its Phase II roadmapping effort in September 2019. An updated version is expected to be published in June 2020.

## ANSI National Accreditation Board (ANAB) Accreditation of Conformity Assessment

ANSI's work in the conformity assessment arena includes a complete portfolio of third-party accreditation programs under its wholly owned subsidiary, ANAB. These programs are conducted in accordance with widely accepted international standards and include accreditation of management system certifiers, certification bodies, calibration and testing labs, product certification bodies, personnel credentialing organizations, forensic test and calibration service providers, inspection bodies, greenhouse gas validation and verification bodies, reference material producers, and proficiency test providers.

### Input Specific to *Federal Register* Questions

Specifically, we would like to address the following questions posed in the November 26 *Federal Register* notice:

- **Question 1:** *Are there existing Federal transportation laws or regulations that inhibit innovation by creating barriers to testing, certifying or verifying compliance, or operating non-traditional and emerging transportation technologies?*

As DOT is well aware, current National Highway Traffic Safety Administration (NHTSA) regulations limit opportunities for the deployment of autonomous vehicles. ANSI applauds DOT's mid-2019 solicitation of public comments on a pair of proposed rules seeking to remove regulatory barriers to the deployment of autonomous vehicles. ANSI flagged these proposed rules for member comment via our weekly newsletter, *What's New*.

We also note DOT's ongoing review of petitions from two companies — GM and Nuro — for exemptions from Federal Motor Vehicle Safety Standards (FMVSS) for specific types of autonomous vehicles. GM's Cruise subsidiary is seeking permission to deploy a fleet of robotaxis with no steering wheels or pedals in San Francisco. AV startup Nuro is seeking large-scale deployment of its compact delivery vehicles, currently in pilot phase with Kroger and Domino's. These vehicles are electric-powered with automated driving systems.

Work is ongoing in the private sector on voluntary guidelines for vehicle design and testing protocols that could support future DOT regulatory changes to address new automated driving systems while maintaining adequate levels of safety. UL 4600, *Standard for safety for the evaluation of autonomous products*, is one example of a standards-based approach in this space. UL4600 was projected to be published by the end of 2019 or early 2020.

Also in 2019, 11 industry leaders across the automotive and automated driving technology spectrum published "Safety First for Automated Driving," (SaFAD), a white paper outlining a non-binding organized framework for the development, testing, and validation of safe automated passenger vehicles. The white paper emphasizes safety by design and references a number of ISO standards.

What these private sector-led approaches have in common is that they lay out a framework within which to operate, rather than a set of specifications, as technology evolves rapidly. This should theoretically allow regulators to then set guidelines, while industry players ensure that they meet them.

In general, as DOT looks to reduce barriers to testing and certification, we believe it is important that the Department not create their own internal standards for conformity assessment requirements. Rather, in line with OMB A-119, DOT should leverage the standards available to them, such as the international standards **ISO/IEC 17025** (for the assurance of competence of testing laboratories) and **ISO/IEC 17011** (for the assurance of the competence of accreditation bodies to accredit testing labs) as a basis for competency.

- **Question 5:** *Do you believe that there are international bodies or organizations (at any level) that the Department should be working with to develop standards or best practices for potential application to non-traditional and emerging transportation technology in the United States?*

Both ISO and IEC have ongoing work in emerging technology areas, such as artificial intelligence and the Internet of Things (IoT), that is relevant to DOT interests. IEC/ ISO Joint Technical Committee (JTC) 1, *Information Technology*, is producing international standards for information and technology applications, including AI and the IoT. JTC 1 liaises closely with the International Telecommunication Union (ITU) and IEEE. Several standards have been published, such as ISO/IEC 21823, which defines the framework for the interoperability of IoT systems. Additionally, ANSI-accredited SDOs such as IEEE, SAE, and AIA develop globally-relevant standards in transportation-related fields.

ANSI applauds DOT participation in relevant standards-related work in these organizations as well as Department participation in ANSI at the policy level, helping to inform U.S. positions.

- **Question 6b:** *Are there State/local/Tribal occupational license regimes that govern the safe conduct of operators of non-traditional or emerging transportation technologies? Do they hinder or support innovation?*

Many experts believe that non-traditional and emerging transportation technology such as autonomous vehicles, hyper loop, tunneling, and other innovations will be a significant part of the future of the automotive industry. According to the National Council of State Legislatures (NCSL), as these technologies continue to develop, it will become necessary for state and municipal governments to address the potential impacts of these vehicles on the road. Many states have enacted legislation related to autonomous vehicles and drones. In 2018, 15 states enacted autonomous vehicle-related bills. Governors in Arizona, Delaware, Hawaii, Idaho, Illinois, Maine, Massachusetts, Minnesota, Ohio, Washington, and Wisconsin have issued executive orders related to autonomous vehicles.

According to the Center for the Study of Presidency and Congress, patchy and incompatible regulations across the states will have a detrimental effect on innovation and technical solutions at the forefront of a new transportation paradigm.

It is ANSI's position that states should rely on robust private sector-led standards in nontraditional technology areas. States should also rely on accredited certifications to grant licenses to personnel involved with the non-traditional and emerging transportation technology. Relying on national voluntary certification will facilitate interstate mobility by eliminating licensing barriers. In addition, industry-recognized certifications can expand economic opportunity without negatively affecting public safety. The process used to establish the competence of the personnel involved with emerging transportation technology should be based on the internationally accepted standard, ISO/IEC 17024: *General requirements for bodies operating certification of persons*.

We also suggest that the approach taken in the area of commercial driver's licenses be used as a model for the operators of non-traditional or emerging transportation technologies.

## Conclusion

ANSI welcomes DOT's solicitation of input. We encourage DOT's reliance on voluntary consensus standards and accredited conformity assessment bodies to support non-traditional and emerging transportation technologies. ANSI is committed to supporting the standardization and conformity assessment activities required to keep pace and foster the powerful benefits that standardization can provide. ANSI will continue to look at solutions that enable faster and more efficient standardization with even greater collaboration and cooperation across traditional and non-traditional stakeholder groups, governments, small and medium enterprises, consumer and all relevant interests. In addition, ANSI will continue strengthening its role as coordinator of cross-sector standardization solutions that meet these needs through flexible, collaborative models that include assessment of research and trends to anticipate key standards development needs for the United States and coordination of development and implementation of standards roadmaps to identify existing standards, gaps, and recommended activities in emerging technology areas. As the coordinator of the U.S. voluntary standardization system, we stand ready to support DOT and the nation by helping to facilitate private-sector-led standardization solutions to advance these technologies, as appropriate.

## Additional Reference Links

The following links may also be helpful as reference:

- What is ANSI?: [www.ansi.org/whatisansi](http://www.ansi.org/whatisansi)
- American National Standards Value: [www.ansi.org/ansvalue](http://www.ansi.org/ansvalue)
- American National Standards Key Steps: [www.ansi.org/anskeysteps](http://www.ansi.org/anskeysteps)
- ANSI Essential Requirements: [www.ansi.org/essentialrequirements](http://www.ansi.org/essentialrequirements)
- ANSI-Accredited Standards Developers and lists of proposed and approved ANS: [www.ansi.org/asd](http://www.ansi.org/asd)

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