

## United States Standards Strategy

OPEN AND INCLUSIVE • MARKET DRIVEN • SECTOR BASED • INNOVATION ENABLING • CONSUMER FOCUSED •  
GLOBALLY RELEVANT • MULTIPLE PATH

### I — Introduction

While the standards environment has changed since the inception of the *U.S. Standards Strategy* 20 years ago, standards are more essential today than at any time in our nation’s history. Voluntary consensus standards and consortia standards are at the foundation of the U.S. economy. The U.S. standards system promotes the public good, elevates national health and safety, enhances the competitiveness of U.S. industry, and contributes to a fairer and liberalized global trading system. All U.S. individuals and organizations, companies and families benefit from this system infrastructure, and everyone who benefits has a role in maintaining and improving the system.

The United States is a highly diversified society with a market driven economy, and its standards system encompasses and reflects this reality. The U.S. standards system framework of multiple and varied standards sources is strengthened whenever standards developers share a common vision for meeting stakeholder needs. It is important for public and private sectors to share this common vision, since they provide the people, the resources, the technical contributions, and the intellectual vitality that underpin the U.S. standards system. The active involvement of government at all levels, i.e., federal, state, and local, is key to both the development of the vision and the implementation of a standards strategy for the United States. Through this public-private partnership, the U.S. standards system is able to respond most effectively to the strategic needs of the nation, both domestically and internationally.

Standards are essential to a sound national economy and secure critical infrastructure, and to the facilitation of global commerce. The global standards landscape is rich with entities, systems, and processes, and both the U.S. government and private sector participate in international standards activities in a variety of ways: through treaty organizations where governments are members; through private, voluntary organizations where the United States is represented by a single “national body” organization; through professional and technical organizations whose membership is on an individual or organizational basis; and through consortia, whose membership is typically technology-, platform, or application-based.

The American National Standards Institute (ANSI), in its unique role as the leading U.S. organization for coordinating and promoting voluntary consensus standards in the U.S. and the U.S. representative in non-treaty international standards-setting bodies – the International Organization for Standardization (ISO) and, via the U.S. National Committee, the International Electrotechnical Commission (IEC) – and regional forums, brings together a cross-section of public- and private-sector<sup>1</sup> interests to reexamine the principles and strategies that guide how the U.S. develops and uses standards and participates in the international standards-setting process.<sup>2</sup> This *United States Standards Strategy* has emerged from these deliberations with a statement of purpose and ideals, and provides a vision for the future of the U.S. standards system in today’s globally competitive economy.

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<sup>1</sup> The word “sector” is used in two different meanings in this document. The first use divides the world into the “public sector” and the “private sector,” distinguishing between the roles of government and non-government. The second use refers to a technology area or industry segment where customer needs dictate a coherent and consistent approach to standardization. This use is sometimes called “industry sector” or “market sector” but the simpler term “sector” is used in this document to include all interested parties (government, academia, consumer interests, standards development organizations, professional societies, trade associations, etc.) and not just commercial interests. The context should make clear which meaning is applicable.

<sup>2</sup> While it is recognized that assessment of conformity to standards plays an essential role in the standardization system, a decision has been made to focus this strategy solely on standards and not address the many complexities associated with conformity assessment. See *United States Conformity Assessment Principles* at [www.ansi.org/uscap](http://www.ansi.org/uscap).

## II — Imperatives for Action

Technological growth and development, the need for evolving forms of security, challenges of population health, the increased importance of global availability of services, and much more impact the global economy and at a constantly-accelerating pace. All of this raises the stakes for standards development across a broad spectrum of available mechanisms and resources. Competition for the advantages that accompany a widespread adoption of technology and innovative processes is increasingly intense worldwide, and the impetus to develop globally accepted standards is greater now than ever before.

### *Globally*

- Global standardization goals are achieved in the United States through both sector-specific and cross-sector activities and through alliances and collaborative processes and projects that engage companies, associations, standards developing organizations, and consortia. Increasingly, new standards development challenges (additive manufacturing, Internet of Things, nanotechnology, autonomous vehicles, etc.) as well as horizontal issues such as artificial intelligence, privacy, and security require significant cross-sectoral collaboration, and new models are evolving to serve these needs.
- The U.S. market-driven, private sector-led approach to global standardization is substantially different from the approach favored in many other countries. However, standards developed in accordance with the principles identified in the *U.S. Standards Strategy*, which are also consistent with the World Trade Organization (WTO) Agreement on Technical Barriers to Trade, are widely accepted globally, and thus are international standards.
- Emerging economies understand that standards are synonymous with development, and request standards-related technical assistance programs from donor countries. Increasingly, the U.S. and its trading partners utilize such programs to influence the selection of standards by these economies, to improve the prosperity, health and safety of people, and to create favorable trade alliances.
- Laws and policies that protect patents, trademarks, and other intellectual property are not universally or rigorously applied. The standardization process must respect the rights of intellectual property owners while ensuring implementers and users have access to the intellectual property rights (IPR) incorporated into standards.
- Governments rely on private sector developed standards to support efficient regulatory activities. While these standards may be incorporated by reference, either in part or in their entirety, these standards retain their copyright protection.
- When standards are utilized as non-tariff barriers to trade, the ability of U.S.-based companies and technologies to compete in the international marketplace is adversely affected.
- Standardization, and the manner in which agreements are reached between suppliers and customers, continue to evolve and are influenced by advances in technology. Stakeholders must continue to explore accelerated processes of standards development and recognition that enable worldwide participation of stakeholders and facilitate an innovative environment that reflects changing needs in the global marketplace.
- Academia, governments and all sectors of industry have included open source software as part of their information technology practices as either implementers or developers. Standards and open source development practices can accomplish similar goals, such as interoperability, but also each have their own strengths which are complementary but distinct. Some standards developers are incorporating open source collaborative development practices and open source technologies to aid in the development of their standards. In addition, standards organizations are exploring increased interaction and collaboration with open source and other software foundations and associations.
- Services-based solutions represent a significant and rapidly growing factor in the global economy and workforce-entities, public and private, are operating in a comprehensive services-driven environment. Operators have diverse needs and priorities for standardization for services, systems, and personnel. In particular, digital services are growing ever more pervasive, as evidenced by cloud computing as an example. The *United States Standards Strategy* provides the flexibility to all sectors to establish appropriate service standards that meet these unique and emergent needs.

### ***At home***

- Investment by public and private sectors in the development of standards is directly related to the health and resilience of the economy. These resources include R&D to catalyze technology breakthroughs that are then incorporated into technical contributions to globally relevant standards.
- Users of standards are increasingly aware of their importance and require a U.S. system that can produce and deliver standards with maximum efficiency and minimum cost, eliminate duplication, and optimize the benefits of a decentralized system.
- Government agencies at the federal, state, and local levels are encouraged to rely on voluntary consensus standards that have been developed in accordance with accepted principles, and to participate in the development of these standards when the standards bear directly on the ability of the government to fulfill public duties.
- The national interest in emerging areas of standardization,<sup>3</sup> demands a new level of coordination and effort, and will require the development of new ways for the public and private sectors, as well as large numbers of standards development organizations and consortia, and consumer interests, to work together in order to preserve national competitiveness.
- The U.S. government has enhanced and re-affirmed its efforts to coordinate agency standards activities and engagement and continues to recognize the integrity of the existing U.S. standards process both through active participation in standards development and as a user of standards for more efficient and effective regulatory and procurement activities.

### **III — Principles**

It is well established in the community of nations that standards should meet societal and market needs and should not be developed to act as barriers to trade. The U.S. standards system is based upon the following set of globally accepted principles for standards development<sup>4</sup>:

- ***Transparency***  
Essential information regarding standardization activities is accessible to all interested parties.
- ***Openness***  
Participation is open to all affected interests.
- ***Impartiality***  
No one interest dominates the process or is favored over another.
- ***Effectiveness and Relevance***  
Standards are relevant and effectively respond to regulatory and market needs, as well as scientific and technological developments.
- ***Consensus***  
Decisions are reached through consensus among those affected.
- ***Performance Based***  
Standards are performance based (specifying essential characteristics rather than detailed designs) where possible.
- ***Coherence***  
The process encourages coherence to avoid overlapping and conflicting standards.
- ***Due Process***  
Standards development accords with due process so that all views are considered and appeals are possible.
- ***Technical Assistance***  
Assistance is offered to developing countries in the formulation and application of standards.

In addition, U.S. interests strongly agree that the standardization process should be:

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<sup>3</sup>As example, additive manufacturing, the Internet of Things, artificial intelligence, autonomous vehicles, resilience, privacy and cybersecurity.

<sup>4</sup>Adherence to these core principles can also mitigate antitrust liability for those engaging in “standards development activity” as defined in the Standards Development Advancement Act of 2004.

- **Flexible**, allowing the use of different methodologies to meet the needs of different technology and product and service sectors; and to meet convergent needs across sectors where technically relevant;
- **Timely**, so that developed standards meet market expectations and timing; and
- **Balanced** among all affected interests.

#### **IV — Our Strategic Vision**

Working from these principles, the U.S. standards community is strongly committed to the following strategic vision for standards development, globally and at home.

##### ***Globally***

- There is universal application of the internationally recognized principles for the development of globally relevant standards.
- There is global acceptance of relevant voluntary consensus standards developed through a variety of processes such as direct participation and national member body representation, regardless of the domicile of the standards developer.
- Governments participate in standards development and rely on voluntary consensus standards as much as possible in regulation and procurement, rather than creating unique requirements.
- The system is diverse and inclusive and supports flexible standards solutions.
- The U.S. is committed to standardization that meets global needs. Standards activities are conducted by the private sector in response to the needs of industry and the public, involving participation by Federal, State and local government bodies, in venues selected for their ability to meet those needs. Our standards system is strong and inclusive, and serves the nation well globally in terms of trade, market access, global needs and national competitiveness.
- Electronic tools are used effectively for the optimized production of global standards and to facilitate their dissemination throughout a global economy.
- Where a single national body organization represents the U.S. in an international organization, the U.S. national body promotes the *U.S. Standards Strategy* in both governance and technical programs. Examples include ANSI membership in the International Electrotechnical Commission (IEC), via the U.S. National Committee, and in the International Organization for Standardization (ISO). In treaty-based organizations, the U.S. State Department and its preparatory process ensures U.S. viewpoints are advanced, for example at the International Telecommunication Union (ITU).

##### ***At home***

- A cooperative process involving all stakeholders produces technically superior and coherent standards solutions within and across sectors that promote and strengthen U.S. global competitiveness.
- All U.S. interests work together to eliminate redundancy and overlap.
- Public- and private-sector management recognize the value of standardization at national and global levels and provide adequate resources and stable funding mechanisms to support such efforts.
- The U.S. standards system responds quickly and responsibly to provide standards that address national and international needs.

#### **V — Moving Forward**

***The strength of standardization in the United States is supported by a dynamic infrastructure.***

Standardization activities encompass both sector-specific and cross-sectoral approaches. The focus comes from the participants — industry, government agencies, public interest organizations, and talented individuals — who understand what is needed, and the standards developers through which they work to meet those customer needs. Both sectoral and cross-sectoral approaches allow interested parties to address priority issues and develop working methods that fit the problems at hand, since no single path in standards development can satisfy all needs. This

allows efficient standards development and fosters innovation and competition. When cross-sectoral issues that require broad stakeholder collaboration arise, the infrastructure provided by the American National Standards Institute provides facilitation and mediation.

In any area of standards development, marketplace diversity means that in many cases there is no simple prescription that can be applied to fit all needs. Communities of interest must develop their own plans; the purpose of this strategy is to provide guidance, coherence, and inspiration without constraining innovation, creativity or effectiveness. The *U.S. Standards Strategy* therefore consists of a set of strategic initiatives with broad applicability that will be applied according to their relevance and importance to particular sectors and other communities. Today's challenge is to bring these areas of expertise together to address issues that cut across sectors and communities, and to bring together diverse parties to develop not only standards but roadmaps for suites of standards. Stakeholders are encouraged to develop their own initiatives where needed, and this strategy suggests some that have widespread applicability.

As new standards opportunities continue to arise, the challenge will be to preserve the strengths of the diverse United States approach while developing innovative ways in which standards developers, consortia, open source software projects, and other emerging communities of open collaboration, together with government, can collaborate most productively.

***1 – Strengthen participation by government at all levels in development and use of voluntary consensus standards through public-private partnerships***

Government reliance on voluntary consensus standards continues to grow. Public Law 104-113, the *National Technology Transfer and Advancement Act (NTTAA)*, and the accompanying Circular A-119 from the White House Office of Management and Budget (OMB) remain the cornerstone at the federal level for promoting the use of voluntary consensus standards, while still maintaining flexibility for agencies to best meet their missions. In this context, the Circular also recognizes the contributions of standardization activities that take place outside of the voluntary consensus process for use by agencies. Our vision of the future involves building on our successes in this area and encouraging government, consumers, and industry to engage standards developers as partners to create solutions to support national objectives. The key to such partnerships is participation, which requires support and resources from government policy makers at all levels. Tactical initiatives include:

- *ANSI, standards developers, government, and industry* should partner to identify proposed, coordinated solutions where government interests could be addressed by the use of private sector-developed standards and work together for a common solution.
- *Government* should work with the private sector to address common standards-related needs and, where feasible, engage actively in the development of standards to address these needs. Greater alignment between departments and agencies should also be sought where relevant.
- *ANSI and standards developers* should provide state and local governments with ways to easily identify where their interests are being addressed and mechanisms for participating in relevant standards development activities.
- *The U.S. government* should use existing relationships with state and local government and its responsibilities under NTTAA to support greater use of standards that deliver favorable technical and economic outcomes and are widely used in the marketplace.
- *ANSI and standards developers* should raise awareness of policy makers of the benefits of standards developed through open, transparent, consensus-based processes and the importance of participating in their development to deliver solutions.
- *ANSI, standards developers, government, and industry* should cooperate in identifying solutions that continue to enable reasonable access to standards that are incorporated by reference into codes and regulations for affected parties, while maintaining the copyright protection of those standards.

***2 – Continue to address the environment, health, safety, and sustainability in the development of voluntary consensus standards***

Consideration of the environment, health, safety and sustainability has always been a key concern of the U.S. standards system and will continue to be so in the future. It is important to take a balanced approach to ensure that

the needs of all stakeholders are considered and that decisions are based on a preponderance of objective evidence. Active participation by government, consumers, and industry on standards is essential to forge the trust and synergy needed to develop standards that meet society's needs today and tomorrow. Tactical initiatives include:

- *Standards developers* should establish specific guidance to encourage participants to consider the environment, health, safety and sustainability as integral aspects of their work.
- *Government* should participate in standards development efforts to ensure that they meet public objectives related to the environment, health, safety and sustainability.
- *Industry* should participate in standardization activities and consider the environment, health, safety and sustainability while ensuring that the resulting standards add value and meet market needs.
- *ANSI* should foster consideration of environmental, health, safety and sustainability requirements in U.S. and international standards where appropriate.
- *Consumers* should increase participation in the development and implementation of standards to ensure that they meet public objectives related to the environment, health, safety and sustainability.

### ***3 – Improve the responsiveness of the standards system to the views and needs of consumers***

The representation of consumer<sup>5</sup> interests in the U.S. standards system is essential. Today's consumers are concerned about such issues as product compatibility; energy efficiency and sustainability; quality of products and services; ease of use and accessibility; the environment, health, and safety; deceptive trade practices; privacy and authenticity; redress; and social responsibility. The continued growth of the online market means more information and more choices are available to consumers. With its emphasis on balance, openness, and transparency, the U.S. standards system provides a valuable forum for the consumer voice to be heard. However, there are challenges to involving consumers in the standards system, and innovative methods need to be piloted and incorporated to encourage and facilitate their participation. Tactical initiatives include:

- *Standards developers* should identify, encourage, and support appropriate consumer representation on their committees; make virtual attendance at meetings possible through electronic means such as teleconferencing or collaborative meeting tools; and actively solicit consumer comment during public reviews.
- *Industry* should use consumer research as one basis for standardization initiatives and decisions.
- *Government* should strengthen its consumer-related programs and initiate standards information and participation programs as appropriate.
- *ANSI* should work with consumer organizations to educate them about standardization, and encourage and support their participation in standards development.
- *ANSI, standards developers, government, and industry* should devote efforts and resources to initiatives that help educate the public about the importance of standards to U.S. health, safety, and competitiveness.

### ***4 – Actively promote the consistent worldwide application of internationally recognized principles in the development of standards<sup>6</sup>***

A key goal of international standardization is to define requirements that products and services should meet to be acceptable in all markets. To ensure broad acceptance, members of the standards community have made considerable progress in establishing internationally accepted principles on how such standards are to be developed. Our strategy seeks to encourage the consistent interpretation and application of these principles. Tactical initiatives include:

- *The U.S. standards community* should work to improve global relevance by promoting participation in standards processes by a broad cross-section of both domestic and international stakeholders, particularly in markets where the relevant products, services, and systems are used.

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<sup>5</sup> Consumers are defined as those individuals who use goods or services to satisfy their individual needs, rather than companies, government agencies, or other organizations that use goods or services.

<sup>6</sup> "Internationally recognized principles," including those highlighted in the Principles section of this document, are contained in the WTO Agreement on Technical Barriers to Trade agreement and the WTO TBT Committee's Decision on Principles for the Development of International Standards. The text can be viewed online at [http://www.wto.org/english/docs\\_e/legal\\_e/17-tbt.doc](http://www.wto.org/english/docs_e/legal_e/17-tbt.doc).

- *Stakeholders in the U.S. standards system* should seek, directly or through the U.S. national body where representation is by country, to reinforce the sectoral approach, where relevant, to standards development in regional and international forums and highlight the benefits of this approach; and to encourage cross-sectoral collaboration, where appropriate.
- *The U.S. government* should continue to foster and support the unique character and strengths of the public-private partnership in standards development as it pursues trade and other international agreements, international regulatory harmonization, and legislative and regulatory approaches.
- *The U.S. government and industry* should strongly and visibly coordinate their work in bilateral, regional, and international forums to promote the consistent interpretation and application of internationally recognized principles on standardization in trade agreements.

U.S. stakeholders participate in standards development bodies around the world to achieve multiple objectives. The goal of all international standards forums should be to achieve globally relevant and internationally recognized and accepted standards that support trade and commerce while protecting the environment, health, safety, and security. To advance this goal, *U.S. stakeholders* should pursue the following tactical initiatives:

- Promote the consistent application of principles as elaborated in the TBT Agreement for developing standards in international standards development organizations, including the principles on global relevance.
- Work with all stakeholders to ensure that voting procedures in international standards development bodies respect all views.
- Encourage standards development forums to work together to address the need for cross-sector standards for converging technologies that affect the interests of various stakeholder communities.

#### ***5 – Encourage common governmental approaches to the use of voluntary consensus standards as tools for supporting regulatory needs***

Many standards are developed that support regulatory needs, or are used to do so even if the standards were not initially developed to meet a specific regulatory need. Governmental approaches to regulation, however, often differ, resulting in incompatible national and regional standards that add unnecessary expense and may limit trade. Global commerce will be facilitated if governments would apply common approaches to the use of standards as tools to support regulatory needs. Standards developed through a voluntary consensus process have proven effective at meeting both regulatory and market needs in a variety of sectors. Tactical initiatives include:

- *Governments* should be encouraged to adopt compatible approaches to using standards to meet regulatory needs, and partner with all stakeholders to develop standards that have global acceptance.
- *Standards developers and industry* should work with governments to develop voluntary consensus standards that support multi-jurisdictional regulatory needs.
- *ANSI and government* should work together to improve the understanding among domestic and international stakeholders of the benefits of using voluntary consensus standards in regulation.

#### ***6 – Work to prevent standards and their application from becoming technical trade barriers to U.S. products and services***

Technical standards have become more prominent as potential barriers to market access for products and services. Differing technical standards can significantly raise the cost of exporting to and importing from international markets or even prevent market access. The facilitation of global trade requires that more attention be given to preventing standards and their application from becoming market access barriers, and to addressing barriers that do arise. Tactical initiatives include:

- *The U.S. government* should work with its counterparts in other countries and through intergovernmental organizations to ensure that standards facilitate global trade, and to minimize potential trade barriers, requirements for duplicative tests, and requirements for multiple conformity assessment systems.
- *The U.S. government* should work with other WTO members to seek full implementation of the Technical Barriers to Trade (TBT) Agreement and annexes as well as decisions taken in the WTO TBT committee. No additional principles or criteria other than those in the TBT Committee Decision on International Standards are used in order to recognize a standard as an international standard. Criteria that are not relevant to determining

whether a standard is an international standard include: (a) the domicile of the standards body; (b) whether the standards body is non-governmental or inter-governmental; and (c) whether the standards body limits participation to delegations.<sup>7</sup>

- *Government and industry* should identify and eliminate or minimize the effect of technical barriers to trade that result from technical standards and their application.
- *U.S. bodies* should work with their counterparts in other countries to ensure that standardization is not used to develop trade barriers in organizations where representation is on a national basis.

**7 – Strengthen international outreach programs to promote understanding of how U.S. voluntary, consensus-based, market-driven standards can benefit businesses, consumers, and society as a whole**

Our national standards process offers enormous benefits to businesses, consumers, and society, facilitating innovation and strengthening economic competitiveness. But this process is not well understood by many outside the United States. U.S. stakeholders should do more to help foreign stakeholders understand the benefits of the approach embodied in the U.S. standards system. Tactical initiatives include:

- *U.S. stakeholders* should promote policies and procedures in international forums that encourage the development of standards that are voluntary, consensus-based, market-driven, and globally relevant.
- Outreach efforts should be focused on countries that are developing or re-structuring their standards systems and offer important market opportunities.
- Special attention should be given to using newer technologies to encourage remote/virtual participation. This will facilitate contacts with non-U.S. stakeholders — particularly in developing markets — and will enhance their participation in standards-related activities.
- *ANSI* should play a leadership role in promoting dialogue with foreign standards organizations and in reinforcing outreach efforts of industry, standards developers, the U.S. government, and other stakeholders.

**8 – Continue to improve the tools for the efficient and timely development and distribution of voluntary consensus standards**

Today, the U.S. standards system is defined by its use of online collaborative tools to support timeliness, relevancy, and compatibility of standards while maintaining adherence to our principles. In the spirit of process improvement and in response to changing customer needs and evolving new technologies, all stakeholders in the U.S. standards system should continue to work together to build on these successes. Tactical initiatives include:

- *Standards developers* should continue to improve the working processes for voluntary consensus standards development and use state-of-the-art tools to facilitate global participation.
- *Industry, government, and consumers* should provide standards developers with feedback on their needs and how well standards developers are meeting those needs.
- *U.S. participants* should encourage similar improvement in the processes and tools used in the organizations where they participate.

**9 – Promote cooperation and coherence in standards activities**

The diversity of the decentralized U.S. standards system encourages competition and innovation, and is responsive to different customer needs. The power of the system lies in a broad spectrum of approaches, flexibility, and collaborative mechanisms. Tactical initiatives include:

- *ANSI* should review its procedures to make sure that standards receiving the American National Standard (ANS) designation are relevant, and to ensure that good faith efforts are made to minimize conflict with other standards.
- *Traditional standards developers, consortia, and open source communities* should consider collaboration and information exchange opportunities to identify areas of need to make standardization processes more efficient and coherent.

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<sup>7</sup> See USMCA: <https://ustr.gov/usmca>



- *Industry, consumers, and government* should proactively engage with multiple standards developers to increase efficiencies in standards development activities and encourage interoperability among products, processes, and systems.
- *ANSI* should be proactive in engaging with other communities, including open source communities, in constructive, rich conversations related to cooperation and collaboration with the traditional standards developer community.
- *Government* should provide timely information on proposed regulatory actions in order to minimize conflict with existing or proposed standards.

***10 – Promote and encourage a standards-literate workforce by building standards awareness and competence among various communities***

In recognition of the intrinsic role of standards as enablers of innovation, technology commercialization, resilient infrastructure, and U.S. competitiveness, efforts to build a standards-literate workforce should be prioritized in the United States. Standards education programs should be inclusive and address the needs of groups within the United States appropriately. Tactical initiatives include:

- *Standards developers, industry, academia, ANSI and government* should collaborate to develop new or enhance existing standards education programs that build awareness the value of standards and the standardization process to U.S. prosperity and quality of life. Education, training, and retraining programs should be tailored to relevant audiences: industry executives, individuals who participate in the development of standards, implementers of standards, university and college students, young and emerging professionals, and other interested parties.
- *Education providers* should develop educational modules or significantly enhance educational resources in collaboration with educational systems that introduce the concept of standards and their importance to younger students (K-12) in an effort to familiarize them with standards activities early on and foster their interest and involvement when they choose a career path.
- *Academia at universities and colleges within the United States* should work to incorporate consideration of standards in fields of study such as engineering, health care, science, data science, technology, government and public policy, business, economics, and law.
- *Industry and standards developers* should develop or significantly enhance early and mid-career training programs that introduce the concept of strategic standardization, value of standards, and the standards professionals to private sector company leaders.
- *All stakeholders* should use information and communications technology to the fullest extent possible to facilitate the development of e-learning and standardization education programs.

***11 – Respect diverse funding models for the U.S. standardization system***

There is no single method of funding the U.S. standards system, and the U.S. recognizes the need to protect the pluralistic manner in which the standards system is funded. The tactical initiatives that support this strategy focus on the need to educate and influence policy makers and decision makers, and stress the need for the individual organizations that comprise the U.S. system to be able to maintain their various funding models.

Tactical initiatives include:

- *Standards developers* should seek the participation and support of industry and government for voluntary consensus standards development. They should educate public sector policy makers, corporate leadership, and consumers in the value of the diverse U.S. standards system, including their roles in the support of the National Technology Transfer and Advancement Act.
- *Government* should advance and respect policies at home and abroad that ensure the continued ownership and control of the copyrights and trademarks of standards developers, and the protection of intellectual property contributed in the standards development process.
- *Industry* should support standards development through participation of their experts, funding of research, and sharing of information useful in defining and setting standards requirements. They should also utilize, and support the use of, standards to produce goods, provide services, install products, and conduct all other aspects of business activity in their respective sectors.

- *All elements of the U.S. standards system* should support policies that allow U.S. standards developers to participate in international standards development activity without jeopardizing their copyrights and trademarks, and that recognize the flexible funding models that exist within the United States. These funding models are critical to the continued effectiveness, responsiveness, and strength of the U.S. standards system.
- *Governments* at all levels, in their consideration of policies and legislation, should recognize the societal benefits of standards development organizations and their role in public health and safety, enable participation of their experts, and share information useful in defining and setting standards requirements. They should also utilize, and support the use of, standards to meet regulatory and procurement requirements.
- *Government* should recognize its responsibility to the broader public interest by providing financial and legislative support, and by globally promoting the principles of our standards system. Global competitiveness of U.S. industry depends critically on standardization, particularly in sectors that are technology-driven.

## ***12 – Address the need for standards in support of emerging national priorities***

The U.S. standards system has contributed significantly to meeting a diverse range of private- and public-sector needs in a variety of industries. ANSI has risen to the challenge posed in areas as diverse as artificial intelligence, 5G, nanotechnology, and unmanned aircraft systems (UAS) through the creation of standards collaboratives that bring together all affected interest areas, both public and private sector, to achieve maximum impact for standards efforts. With cyber and other security threats on the rise, increasing competition in global markets, and the development of innovative technologies that promise economic growth and improved quality of life, the U.S. standards system must be prepared to respond to emerging national priorities as they are identified. Tactical initiatives include:

- *Government* at all levels should seek early collaboration with industry and standards developers to identify standards needed to meet emerging national priorities.
- *ANSI* should provide active coordination, where necessary, in areas relating to emerging national priorities to promote information sharing across all affected interest areas and minimize overlap and duplication of standards-related efforts.
- *Standards developers* should proactively identify standards work in existence, underway, or that could be initiated that could support emerging national priorities.
- *Industry* should participate actively in efforts to identify needed standards and in the timely development of those standards.
- *Government, industry, and standards developers* should be proactive in addressing international implications of standards in support of national priorities.

## **VI — In the Longer Run**

This document represents an architecture for achieving goals. The proof of this strategy, however, will lie in the achievement of those goals. In that sense the document is also a challenge to all those involved in the standards system — and those who are not currently involved but are affected by it — to make the vision a reality. This will happen only when the architecture is translated into action. What hangs in the balance is the competitiveness of U.S. industry, the vitality of the U.S. economy, a balanced global trading system, and the health, safety, and well-being of citizens.

The next steps will engage all concerned in the implementation of this strategy. Tactical issues must be addressed. This will require communication, cooperation, planning, and a commitment to action. In the longer run progress must be measured, and this strategy, like all plans made within the constraints of time, must be revisited and reevaluated. The American National Standards Institute will continue to serve as a mechanism for coordinating and updating the strategy at five-year intervals.

Open and accessible, the U.S. standardization system has contributed its technology, in gigantic proportions, to other standardization models and to other societies. It is committed, not only to interests within its own territory, but to international standardization, and to a global trading system that is balanced and without obstacles. This strategy is designed to strengthen the standards system of the United States and all who benefit from it.