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# A National Standards Strategy for the United States

## I Introduction

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. The American National Standards Institute (ANSI), the coordinator of the U.S. standards system, has brought together public and private sector<sup>1</sup> interests to make this happen.

But the system is facing new challenges. Increasing global concern for health, safety and the protection of the environment combined with dramatic increases in world trade and competition from other countries have altered the standards landscape. At the national level Congress has directed federal agencies to rely on voluntary consensus standards where compatible with their mission, raising the importance of national standardization processes for both the market and society.

## II Imperatives for Action

The standardization world has changed. We can't assume that U.S. technology and practices will automatically be adopted everywhere, nor can we assume that within the U.S. everyone will be satisfied with "business as usual."

Internationally -

- The European Union is aggressively and successfully promoting its technology and practices to other nations around the world through its own standards processes and through its national representation in the international standards activities of the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC) and the International Telecommunication Union (ITU).
- Emerging economies with the potential for explosive growth are looking to ISO and IEC for standards. In some sectors these standards do not reflect U.S. needs or practices.

The exclusion of technology supporting U.S. needs from international standards can be a significant detriment to U.S. competitiveness. The U.S. will lose market share as competitors work hard to shape standards to support their own technologies and methods. Equally important, standards are the basis for protection of health, safety

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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 where customer needs dictate a coherent and consistent approach to standardization. This use is sometimes called 'industry sector' or 'market sector' but we have chosen to use the simpler term "sector" to include all interested parties and not just commercial interests. Most standards are related to specific sectors (e.g., information technology, automotive) and are not applicable to the needs of other sectors.

and the environment. When our standards in these areas are not accepted elsewhere, we all lose.

At home –

- U.S. public and private sector interests have reduced their investment in the development of globally accepted standards because of downsizing and deregulation.
- Customers of standardization want more for their money – a reduction in the duplication and overlap that sometimes results from a decentralized system, and better options for the delivery and utilization of standards.
- Government<sup>2</sup> agencies demand evidence that voluntary consensus standards meet high principles so that they can rely on them for both regulation and procurement.

### III Principles

U.S. interests strongly agree on the principles necessary for the development of national or international standards to meet societal and market needs.

In successful standards processes

- Decisions are reached through **consensus** among those affected.
- Participation is **open** to all affected interests.
- **Balance** is maintained among competing interests.
- The process is **transparent** – information on the process and progress is directly available.
- **Due process** assures that all views will be considered and that appeals are possible.
- The process is **flexible**, allowing the use of different methodologies to meet the needs of different technology and product sectors.
- The process is **timely**; purely administrative matters do not slow down the work.
- Standards activities are **coherent**, avoiding overlap or conflict.

Successful standards processes yield the right results:

- Standards are **relevant**, meeting agreed criteria and satisfying real needs by providing added value.
- Standards are **responsive** to the real world; they use available, current technology and do not unnecessarily invalidate existing products or processes.
- Standards are **performance-based**, specifying essential characteristics rather than detailed designs.

### IV Our Strategic Vision

U.S. leadership in implementing these principles nationally and internationally will turn visions into reality.

Internationally -

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<sup>2</sup> The term “government” in this paper means government in all places and at all levels. Where more specificity is intended, qualification is provided – thus “U.S. government” means the part or parts of the U.S. Government relevant to the discussion. The paper does not attempt to identify specific agencies and functions within any government designation beyond this.

- There is at most one globally applied standard and one globally accepted test, with conformity assessment processes appropriate to the needs of the parties, for each characteristic of a product, process or service.
- Governments use voluntary consensus standards in regulation and procurement.
- The system provides fair treatment for U.S. products and services, accommodating flexible standardization solutions.
- For some technology sectors, ISO and IEC are the preferred organizations within which to achieve one global standard. Other sectors utilize other organizations to achieve that goal. The U.S. confirms its commitment to contribute consistently and effectively in all international standardization activities.
- The standards development and delivery processes have been re-engineered to include full implementation of electronic tools, providing the potential for accelerating the work while reducing costs and making the resulting standards available in more convenient and responsive ways.

At home –

- A cooperative process involving industry, government and consumers in the U.S. produces coherent and unified messages and well coordinated U.S. positions internationally.
- All stakeholders participate in development of U.S. consensus positions.
- The coordination function of ANSI is strengthened to minimize duplication and overlap of national standards development and to develop coherence with international standards where beneficial. All materially affected interests recognize the importance of this function and support ANSI's role.
- Public and private sector management recognize the value of both national and international standardization and fund them appropriately.

## **V Moving Forward**

The strength of standardization in the United States is a sectoral focus supported by a dynamic infrastructure. The sectoral focus comes from the participants – companies, government agencies, public interest organizations, talented individuals – who understand what is needed in their sector, and the standards developers through which they work to meet those customer needs. The sectoral approach allows interested parties to address their own issues and develop working methods that fit the problems at hand, since no single standardization system can satisfy all needs. This allows efficient standards development and fosters innovation and competition. When cross-sectoral issues arise, sector definitions change, or in venues where a single national voice is required the infrastructure provided by the American National Standards Institute (ANSI) provides facilitation and mediation.

A sectoral approach recognizes that there is no simple recipe that can be handed down to fit all needs. Sectors must develop their own plans; the purpose of a national strategy is to provide guidance, coherence and inspiration to those inside and outside the system without constraining creativity or effectiveness. The U.S. National Standards Strategy therefore consists of a set of strategic initiatives having broad applicability which will be applied according to their relevance and importance to particular sectors. Stakeholders are encouraged to develop their own tactical initiatives where needed and the national strategy suggests some which have widespread applicability.

**1. Build on the trend in government to use voluntary consensus standards through existing public/private partnerships.**

Recent years have seen a dramatic increase in governmental reliance on voluntary consensus standards. Domestically, our vision is coming true because of cooperative public and private leadership. Public Law 104-113, the National Technology Transfer and Advancement Act of 1995 (NTTAA), is the cornerstone for this at the Federal level, promoting increased use of voluntary consensus standards for both regulation and procurement. We are also making progress internationally; examples include reengineering at the International Telecommunications Union (ITU) and NATO's use of voluntary consensus standards.

Further progress can be made as standards developers in all sectors work with the appropriate governmental agencies to increase use of the voluntary consensus process. In addition, new initiatives can increase the use of voluntary consensus standards at the state and local level to reduce the cost to the public, government and business (including conformity assessment) without compromising public interests. Tactical initiatives include:

- *ANSI* should provide state and local government with ways to easily identify where their interests are being addressed, and mechanisms for participating in overall policy development;
- *Standards developers* should work with governmental organizations to support increased use of voluntary consensus standards in their areas of expertise;
- *U.S. Government*, in addition to its ongoing efforts in support of the NTTAA, should provide leadership in intergovernmental activities at the regional and global levels for closer cooperation with voluntary consensus standards processes;
- *U.S. Government* should use existing relationships with state and local government and their responsibilities under NTTAA to support greater use of voluntary consensus standards.

**2. Address the ongoing need for standards in support of health, safety and the environment.**

While U.S. standards have contributed significantly to improving safeguards for health, safety and the environment, the U.S. standards system must continue to incorporate technical excellence based on sound science. Tactical initiatives include:

- *Standards developers* should establish specific guidance to encourage participants to include health, safety and the environment as integral aspects of their work;
- *Government* should participate in standards development efforts to define technical specifications that meet public objectives, and encourage the same approach internationally;
- *Industry* should support participation in standardization nationally and internationally, and make sure that the resulting standards add value;
- *ANSI* should provide active coordination in the areas of health, safety and the environment for U.S. standards developers to ensure that the principles of openness, balance, due process and consensus are met;

- *ANSI and the standards developers* should also be proactive in international groups such as ISO, IEC and ITU that rely on national body representation.

### **3. Improve the responsiveness of the standards system to the views and needs of consumer interests**

The representation of consumer interests in standardization is important because standards are increasingly used to define parameters of products and services critical to consumers. Consumers have always been part of the U.S. standards development process, and principles such as openness and balance ensure that their voices can be heard. The U.S. standards system needs to continue to pay attention to consumers and make sure that their voices not only can be heard, but are heard. Tactical initiatives include:

- *Standards developers* should review consumer participation in their committees, determine if there is appropriate representation, and develop plans to address the results;
- *ANSI, standards developers and government* should establish initiatives to educate consumer organizations on investing in both technical and policy participation, and the methods available to do so;
- *ANSI* should explore with the standards communities of Canada and Mexico the possibility of establishing a regional body for consumer interests;
- *Industry* should use consumer research as the basis for standardization initiatives and decisions;
- *Government* should review its consumer-related programs and initiate standards information and participation programs where appropriate;
- *Consumer organizations* should establish programs to review information such as ANSI's Standards Action to identify areas where they need to be active.

### **4. Broaden the U.S. standards "umbrella" to include all those organizations that are contributing to the standards system**

Standards in the U.S. are developed by a variety of organizations ranging from those accredited by ANSI to special purpose industry consortia. This diversity is welcomed – the U.S. sees no need to force everyone into a single mold, and applauds the benefits that result. The U.S. process will be further strengthened when the talents of all these organizations are directed toward common objectives. As newer organizations develop their specifications, their work becomes the basis for action by the formal process when that adds value. Further linkages between these different types of organizations can therefore result in better standards.

Tactical initiatives include:

- *Standards developers* should review their own operations to see if alternative processes such as those provided by leading U.S. standards developers to support non-traditional standards groups would further strengthen standardization in their sectors;
- *ANSI* should review its accreditation process to ensure that it adds value, and investigate its applicability to broader constituencies;
- *U.S. Government* should encourage more use of the principles embodied in accreditation by recognizing the ANSI process as providing sufficient

evidence that American National Standards (ANS) meet Federal criteria for voluntary consensus standards.

- *Non-traditional standards organizations* should review their objectives to determine where closer interaction with the formal system will help add value to their efforts;
- *Industry* should review its activities in all standards developers to improve the overall effectiveness of standardization.

## 5. Work to improve processes internationally to more closely reflect our principles and vision

The U.S. recognizes that not all standards development reflects the ideals embodied in our principles and visions. Our objective, therefore, is for each part of the U.S. system to strive toward better implementation of those principles and visions – and to work toward similar improvements where we participate outside the U.S. Tactical initiatives include:

- *Standards developers* in the U.S. who provide for international participation should make sure that all viewpoints, including those from developing nations, receive proper consideration;
- *ANSI* should take the leadership in ensuring that our principles and visions – including the advantages of a sectoral approach and the desirability of globally accepted standards – are addressed in regional organizations such as the Pacific Area Standards Congress (PASC) and the Comisión Panamericana de Normas Técnicas (COPANT);
- *U.S. Government* should, in its interactions with other governments, support process improvements and encourage them to provide similar support for their voluntary consensus standards developers.

The majority of U.S. participation outside the U.S. takes place in ISO and IEC and therefore deserves special attention. Reviewing the work now underway to re-engineer the ITU, for example, can help introduce new 'best in class' processes. Tactical initiatives that should be undertaken by all organizations working in ISO and IEC – *ANSI, standards developers, industry, and government* – to further achieve the best standards to support trade and commerce while protecting health, safety and the environment include:

- Provide leadership in moving further toward flexible sector-based structure and management;
- Provide leadership in further streamlining their processes and operations, including further alignment and consolidation of functions where possible;
- Provide leadership in advancing U.S. principles, and initiate change where needed;
- Work to develop alliances with industry, national standards bodies, and governments in other nations to ensure that best processes are adopted;
- Consider separating technical development of standards (by directly participating technical experts ) from final approval (by national bodies), and review what organizational changes would be desirable;

- Review the Vienna and Dresden agreements<sup>3</sup> and determine whether they still address the best interests of all parties;
- Consider whether the current “one nation, one vote” – which ignores both decentralized and regional approaches to standardization – is still the most effective methodology for all sectors.

## **6. Work to harmonize the use of standards world wide as a tool for meeting regulatory requirements**

For products, processes and services having an impact beyond the U.S., we seek at most one globally applied standard and one globally accepted test with conformity assessment processes appropriate to the needs of the parties. Tactical initiatives include:

- *Industry and government* should identify needed new standards and pursue global solutions;
- *Standards developers* should work with other standards bodies to identify existing standards in need of harmonization and pursue those changes;
- *U.S. Government* should work with governments in other countries, and through intergovernmental organizations, to minimize the use of different standards for the same purpose, different or duplicative tests for the same standards, and the use of standards as non-tariff trade barriers;
- *ANSI and government* should improve understanding of the use of voluntary consensus standards in regulation.

## **7. Provide an outreach program to show those outside the U.S. the value of U.S. technology, standards and processes**

The decentralized system in the United States is not well understood. Not only can this disadvantage U.S. interests, but the benefits of our system – flexibility and relevance to users – are not always recognized by global interests even when they represent a better solution. It is in our interests to make sure that everyone understands the strengths offered by the U.S. approach. Tactical initiatives include:

- *Standards developers* should initiate education processes worldwide for their sectors to ensure that opportunities for direct participation in U.S.-based activities are available to all;
- *Standards developers* should partner inside and outside the U.S. in areas of mutual interest such as health, safety and the environment;
- *U.S. Government* should increase the level of standards-related resources available to other countries, particularly those countries where U.S. industry is competing for key business or where the possibility for strategic alliances exists;
- *ANSI* should provide leadership in informing those in other countries of the benefits and results of U.S. standardization efforts, reinforcing complementary efforts by U.S. standards developers and U.S. Government agencies;

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<sup>3</sup> The Vienna Agreement is a cooperative agreement between ISO and the European standards organization CEN that provides for development in one and approval, with parallel voting, in both. It also provides for ISO observers in CEN technical committees when work is being done there. The Dresden Agreement provides a similar framework for cooperation between IEC and CENELEC.

- *ANSI* should provide leadership in assisting other countries to improve their own standards development processes through education programs and support for other countries in acquiring ISO and IEC secretariats;
- *ANSI and standards developers* should provide leadership in coordination of sectoral initiatives with other nations.
- *Industry* should support the incorporation of U.S. needs in standards by working with industry outside the U.S.;
- *All participants* should work to make sure that those requiring standards in other nations understand the benefits of using the U.S.-based sectoral approach to meet their needs.

#### **8. Improve the standards process within the U.S. to address customer needs for efficiency**

No system is perfect. While the sectoral approach does provide maximum flexibility, it can develop inefficiencies. All parties in the U.S. standards process should continue to improve. Tactical initiatives include:

- *Standards developers* should increase their use of information technology to improve the working processes for standards development and make those processes increasingly available to those participants whose resource limitations prevent the use of the “meeting and paper” model;
- *Standards developers* should work toward the use of compatible tools, so that participants working in more than one standards developer will have the benefit of common tools and systems;
- *Standards developers* should use standards distribution systems that meet the needs of today’s customers – establishing, for example, cost effective mechanisms such as alerting systems and flexible licensing agreements so that both small and large organizations can take better advantage of electronic availability;
- *ANSI* should provide a forum for standards developers to work together so that everyone can take advantage of ‘best in class’ technologies and processes;
- *Industry and government* should encourage standards developers to emphasize these activities.

#### **9. Improve the standards process within the U.S. to address customer needs for coherence**

A sectorally based, decentralized system can sometimes lead to overlap in work programs and occasionally to overlapping or conflicting standards. In many cases this merely reflects a different set of customer needs for different sectors. However we need to guard against duplication of efforts and results where it does not add value. Tactical initiatives include:

- *ANSI* should provide an ‘early warning’ system to make sure that potential duplication can be identified as soon as possible and appropriately addressed, and provide facilitation and mediation services to effect a proper resolution;
- *ANSI* should review its procedures to make sure that standards receiving the ANS designation are relevant and do not conflict with other standards;



- *Standards developers* should work together to eliminate areas of redundancy, making the process more efficient as well as more coherent;
- *Industry* should be proactive at eliminating duplication by focusing their participation through fewer different organizations;
- *Government* should also be proactive through its participation and through development of early warning systems for proposed regulatory actions.

#### **10. Improve communications between various public and private elements of the U.S. standards system.**

A system with many partners can sometimes suffer from communications lapses. All participants in the U.S. should strive to improve both internal and external communications using advanced technologies. Tactical initiatives include:

- *Standards developers* should establish information dissemination mechanisms for interested parties outside their direct membership;
- *Government* should establish processes to ensure timely communication of standards-related needs and activities – both internal ones and those in intergovernmental activities – so that voluntary consensus processes can provide the best standards development support;
- *ANSI* should provide linkages between standards developers, government agencies, and others to ensure timely distribution of information to the widest possible audience.

#### **11. Make the value of standards development both apparent and real by educating public and private sector decision-makers about the value of standards and how to take advantage of the process.**

It is clear that management in both the public and private sectors are not sufficiently aware of the benefits of external standardization, or their current reliance on voluntary consensus standards, even when they are vigorously implementing standardization programs in their internal operations. An organized education process will provide broader participation, more effective participants, and higher quality standards. Tactical initiatives include:

- *Standards developers* should develop education programs for their sectors to address management and technical personnel in industry and government on the benefits of standardization;
- *ANSI* should develop a program to introduce standards and their effect on technology and trade into university curricula in business, engineering, and public administration;
- *Government* should develop and implement appropriate training programs for government personnel at all levels;
- *All participants* should develop case study evidence that demonstrates the value of relying on voluntary consensus standards in both regulation and procurement.

#### **12. Establish a stable funding mechanism for the standardization infrastructure**

Standards development systems around the world have in recent years come under increased financial pressure. The U.S. realizes that standards development must be a value-added process – if it meets public and private needs, then those who

want the results will ensure that the necessary funding is provided. Tactical initiatives include:

- *Standards developers*, as part of their education initiatives, should provide economic examples of how the process works;
- *Government* should pay its fair share of the process costs, not just as a major participant, but as the representative of the broader public interest;
- *ANSI* should sponsor a summit on funding, giving all parties an opportunity to address alternative methodologies and best practices in light of the needs of all parties;
- *Industry* should take steps to ensure that standards development in their respective sectors is appropriately funded.

## **VI In the longer term**

The proof of a strategy is in its execution. This document represents an architecture for achieving goals. The next step is for all concerned to address the tactical issues involved in making the strategy a reality. Doing so will require communications, cooperation and planning among all the concerned parties. The American National Standards Institute will continue to serve as a mechanism for coordinating, integrating, and reporting progress. ANSI should provide an annual report on actions taken in support of the strategy and, after a suitable time – perhaps three years – all of the parties to this strategy should reconvene to determine the progress that has been made, the actions needed to make further progress, and whether new situations dictate strategic revisions and offer new opportunities.