

Global Action Report

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U.S. initiatives in the
international standardization
& conformity assessment arena

Trends,
Actions and
Accomplishments



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Third edition - December 1999

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previously titled *The U.S. Voluntary Standardization System: Meeting the Global Challenge*

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A publication of the American National Standards Institute

**Great things are not done by impulse,
but by a series of small things brought together.**

- Vincent Van Gogh -

December 1999

Dear Colleagues:

Now is the time for the U.S. to intensify its focus on global markets.

Each day advancing technology encourages more cross-industry competition. Unlike a few years ago, *world trade* now means *competition from anywhere*. Survival depends upon competing effectively, not just within a country's borders, but on a global scale. U.S. industry must factor into its strategic planning process a consideration of who future competitors *will be* — not simply who they are today — regardless of where in the world they may be located.



As the global marketplace changes and advances, the U.S. must continue to ensure that a position of prominence is maintained. A strong U.S. voice must be heard in all arenas developing standards that describe requirements for our products, processes, or technologies. We need to guarantee that our national positions are effectively represented to the standardization and regulatory bodies making decisions critical to U.S. interests.

Toward this end, private-sector parties interested in standards and the U.S. government are engaged in a dialogue regarding what makes most sense for a U.S. "National Standards Strategy." The National Institute of Standards and Technology (NIST) - American National Standards Institute (ANSI) summit, *Toward A National Standards Strategy to Meet Global Needs*, held on 23 September 1998, served as a national forum for the discussion of issues and a catalyst for the development of a plan regarding the creation, support and use of national and international standards.

As a means of identifying trends in the international arena, and areas of U.S. success, ANSI staff have prepared this "Global Action Report" as a "point-in-time view" to:

- identify recent trends that have led to new policies, procedures — and opportunities — for U.S. influence in the standards arena;
- examine the current status of U.S. involvement in international and regional standardization and conformity assessment activities; and
- note examples of U.S. success in various industry sectors.

This publication reinforces the messages many of us heard at the September 1998 ANSI-NIST standards summit . . . now, more than ever before, U.S. businesses and organizations must become clearly focused on those activities that are market-driven, add value, and protect the safety and health of society.

Standardization is the vehicle for accommodating the needs of converging markets and ever-more-rapid technological implementation. This report will be a useful tool in progressing the development of a national standards strategy that will help enhance the success of U.S. business and guarantee improved quality of life for every American.

Sincerely,

Henry Line
Chairman, ANSI International Committee
and Vice-Chairman, ANSI Board of Directors

**Change is an opportunity
to take advantage of an innovative nature**

- Unknown -

Members and Friends:

As I meet with ANSI's various constituencies — from government officials, standards developers and consumers, to industry leaders and representatives of the domestic and international standards and conformity assessment arenas — I am impressed by the vitally important and widespread role our work plays in the lives of consumers and in the U.S. and world economies.



Standardization activities have contributed directly to pervasive globalization of the marketplace. As a result, the U.S. must continually make thoughtful choices in what to harmonize, and how to harmonize standards on a global basis. At the same time, our efforts must preserve the improvements good standardization has already introduced in public health, safety and the environment.

Through years of concentrated effort, the ANSI Federation has positioned itself at the forefront of global standards and conformity assessment initiatives and we are consistently recognized as a dominant player in the international arena. While we may take pride in these past successes, to guarantee our continued leadership U.S. interests must also recognize that we are at the beginning of a process not at the conclusion.

As we begin a new millennium, the standards community must present a strong, determined and united front, advocating public and economic value standards and providing a leading voice in setting those standards globally. ANSI members must always keep in mind the Institute's ultimate goals: facilitation of the domestic and global trade of goods and services; advancement of the competitiveness of U.S. business; and the assurance of safeguards for enhanced quality of life, safety, health and protection of our environment.

Our talk of going "forward" will be dominated by talk of going "backward" (*Re-invent. Re-engineer. Re-structure. Re-organize. Re-vitalize. Re-focus. Re-think. Re-tool.*). Business leaders, feeling the competition of global markets and technology, are adopting many different ways to meet these new challenges. Some are seeking a fresh, uncluttered vision of their corporate identities and organizational goals (*re-invention*). Others seek to streamline their businesses by overhauling their processes in a way that replaces inefficiency with organizational effectiveness (*re-engineer*).

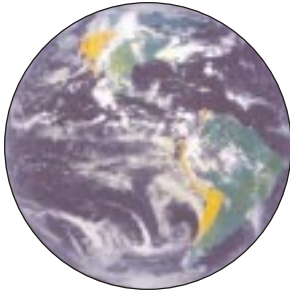
ANSI, too, is going through a series of "re-" events. Our own re-engineering program was introduced mid-decade and the Board of Directors recently approved a re-invention project. Our global agenda is about re-starting, not through some voyage into the past, but by building on the best and shedding the rest.

As you review this *Global Action Report*, you will note that we have already achieved a number of significant accomplishments. Our past successes correspond directly to the dedication and support of our membership — and so will our future achievements. We are an organization whose strength comes from a commitment to cooperative work expressed by a diverse, positive group of individuals and organizations.

I look forward to working with you all in the new century and to further great successes.

Sincerely,

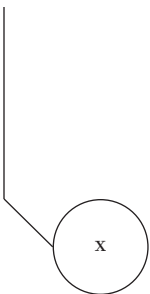
Mark W. Hurwitz, Ed.D., CAE
ANSI President and Chief Executive Officer



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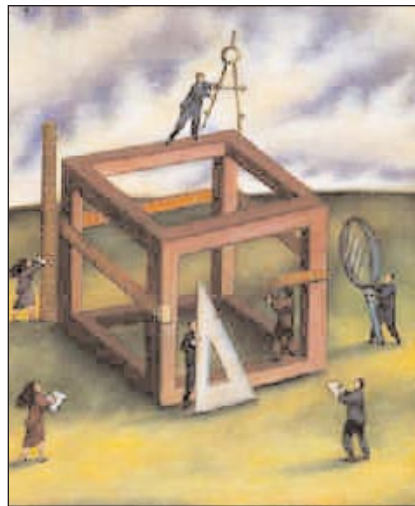




Introduction

Standardization is making headlines more today than ever before — partly due to regulatory and procurement reform, partly due to the rapid growth of technology industries, and partly due to increased focus on a global marketplace.

Many U.S. industries have recognized that success and growth — along with the corresponding growth of U.S. jobs — depends upon export markets.¹ Even companies that have no export plans find new foreign competitors facing them each year.

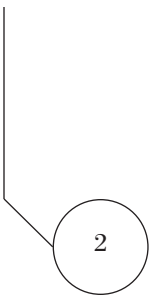


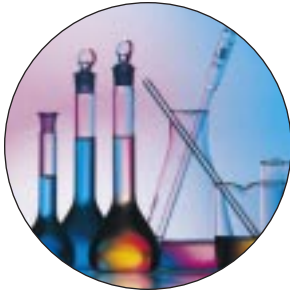
Consider, too, that products and services intended for worldwide distribution are affected by foreign national, regional and international standards and conformity assessment policies. When used as a non-tariff barrier to trade, standards and standardization impact directly upon an organization's ability to access foreign markets.

ANSI is in a unique position to influence how developing nations establish their standards and conformity infrastructure and integrate themselves into a global economy. To the extent that the U.S. can assist developing regions, by far the most populous of the world, in the establishment of their standards and conformity infrastructures, we also facilitate access of U.S. goods and services to those growing markets. As we proceed with this harmonization we must protect the improvements we have made in public health, safety and the environment through solid standardization. At the same time, and certainly as in all periods of transition, we must find ways to recognize different, but comparable, safety standards and health standards.

To ensure continued success, one must recognize that this is the beginning of a process, not a conclusion. Our goals must remain focused on the facilitation of domestic and global trade of goods and services, advancement of the competitiveness of U.S. business, and the assurance of safeguards for enhanced quality of life, safety, health and protection of our environment. Most importantly, we, the standards community, must seek to forge and present a strong, determined and united front, arguing for public and economic value standards, and for a leading voice in setting those standards globally.

¹ More than 11 million U.S. jobs are already directly supported by exports.





Chapter 1

A New Environment

On the eve of the new millennium, global trade between nations is growing at a rate three to four times faster than that of national economies.² Such growth has resulted in the increased distribution of business operations (including design, manufacturing, marketing, and customer service operations) across national borders, as well as never-before-seen levels of collaboration, necessary for these operations to be successful.

As a result, U.S. and foreign interests agree that global industries require:

- standards that will enable companies to produce and sell products acceptable in any market, and
- recognition of conformity tests conducted on products in the manufacturing nation.

Standards and conformance tests applied on a global level play a key role in efforts to support international commerce. Consequently, effective U.S. participation and leadership in international standards development activities and policies is crucial to the competitiveness of U.S. businesses. This conclusion is supported by statistics referenced in remarks to the American National Standards Institute (ANSI) Board of Directors' Meeting (March 18, 1998) by Mr. Ray Kammer, Director of the National Institute of Standards and Technology (NIST):

- The U.S. Department of Commerce currently estimates that standards relate to about \$150 billion in U.S. exports, and that they serve as barriers to trade for an additional 20-40 billion dollars.
- Estimates from as long ago as 1993 suggest that U.S. industries participating in international standards activities were responsible for a trade surplus of \$26 billion.
- Those industries for which there were no international standards or no strong U.S. participation may have contributed to a trade deficit as high as \$100 billion.

In recent years, governments have reached agreements to reduce tariffs and quotas in the interest of facilitating international trade. With such progress has come recognition by all parties that standards implemented only at the national level present significant potential trade barriers. Business and industry is becoming more and more aware of the need to participate in the development — and influence the content — of standards that can be adopted globally without change.

² Excerpt from the current Long Range Strategies document of the International Organization for Standardization (ISO).

The World Trade Organization (WTO), in its Agreement on Technical Barriers to Trade (TBT), promotes harmonization of technical regulations on as wide a basis as possible via the development of international standards by appropriate international standardizing bodies (ISBs). The WTO TBT Agreement characterizes ISBs as "... those organization whose membership is open to the relevant bodies of at least all WTO members." The WTO recognizes global organizations such as the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), and the International Telecommunications Union (ITU), as well as other special purpose organizations, as ISBs.

The Agreement also states that standardizing bodies of WTO member nations must make every effort to avoid duplication of, or overlap with, the work of other standardizing bodies in the national territory of the member country or with the work of relevant international or regional standardizing bodies.

Throughout its entire history, the American National Standards Institute (ANSI) has been working to facilitate the voluntary consensus standardization activities of the United States. To this end ANSI has, and continues to:

- pursue its traditional coordination role to avoid duplication or conflict in the content of American National Standards (ANS);
- promote and facilitate U.S. participation in international standardization;
- promote the advancement of U.S. standards to the international community; and
- encourage the adoption of international standards as national standards where these meet the needs of the U.S. user community.



The ANSI Federation is a unique partnership that welcomes to its ranks both manufacturing and service businesses, professional societies, trade associations, standards developers, academia, government agencies, and consumer and labor interests. ANSI demonstrates a firm commitment to global standardization and conformity assessment programs. In 1998, nearly 23% of the Institute's funds were devoted to administration of international standards programs and dues payments to ISO and IEC. ANSI budget allocations for international programs have been increasing during recent years and are now averaging between 20-25% annually.

Regionally, unification of the European Economic Area (EEA) has presented additional challenges for U.S. businesses interested in competing effectively in that market. Technical agreements implemented in the region may place businesses from outside Europe at a competitive disadvantage.

Increased marketplace and regulatory emphasis on mechanisms for assessing conformance to standards has also become evident. In line with the philosophy of "one global standard accepted by all," organizations doing business across national boundaries are actively promoting recognition of conformity tests conducted on products in the manufacturing nation.

Looking again at the European Union (EU) as a case in point, one notes that nearly 50% of U.S. products exported to Europe require some type of EU certification, in addition

to country-specific requirements. In 1997, American and European automobile manufacturers estimated that differing regulatory and certification requirements may add "more than ten percent to the design and development cost" of a motor vehicle. Similarly, experts in the electronics industry estimate that duplicative testing and certification requirements add an extra ten percent to the cost of selling their products in Europe. Certifying that telecommunications equipment and information technology products meet EU requirements costs U.S. businesses nearly \$1.4 billion annually.

Adoption of international agreements over unique national procedures will level the playing field and benefit global enterprise by reducing duplicative marking requirements and certification costs. Business expenses — and ultimately cost to the consumer — will decrease only if nations or regions abandon unique testing and/or marking programs in favor of international replacements.

However, awareness and understanding of relevant international and regional agreements also brings pressure to bear on the manner in which the U.S. conducts its own assessments of conformity. As a result, ANSI's Conformity Assessment programs have been expanded to bring increased attention to issues such as the:

- increasing role of conformity assessment as a national competitiveness issue;
- growing number of sectoral and local U.S. certification and accreditation programs, and
- potential impact of international standards and agreements on the traditional U.S. approaches to conformity assessment.

Enhanced awareness helps to minimize industry-specific approaches to conformity assessment issues. The Institute's unique position and relationship with both domestic and global entities (see Figure 1) offers unique opportunities to address the plethora of changes taking place in today's competitive environment. As a linkage connecting U.S.

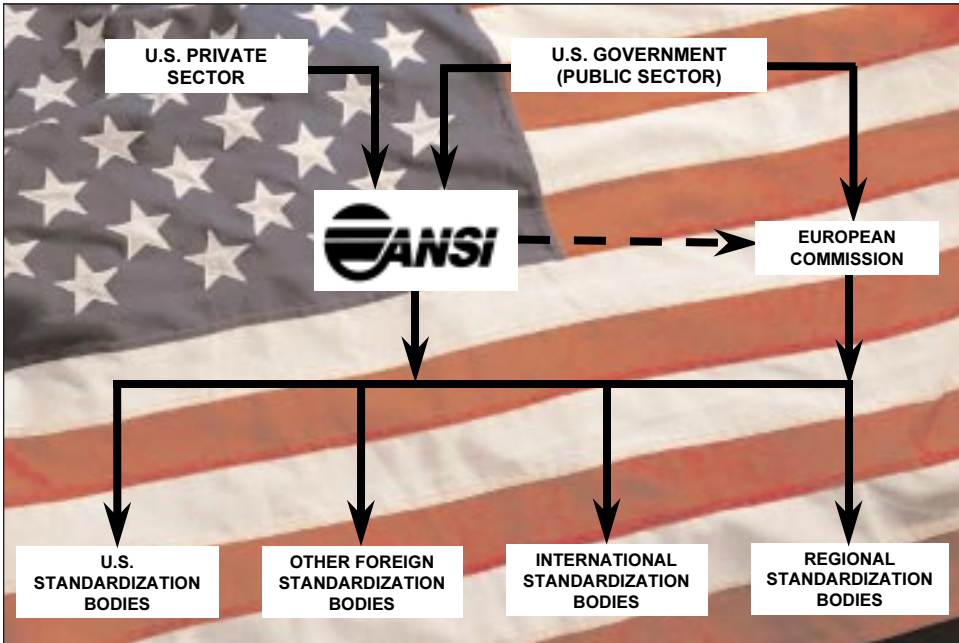
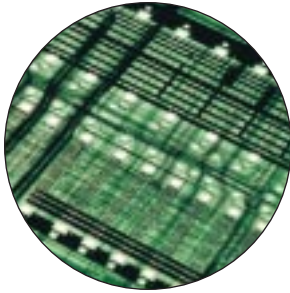


Figure 1
ANSI's Relationships with
Global Standards Organizations

industry, organizations, consumers and governmental bodies to global work teams, ANSI helps these groups to remain informed, connected and focused on relevant standards and conformity assessment issues.

Our discussion of recent trends in the standards and conformity assessment arena must certainly include the changing role of U.S. government (federal, state and local) in voluntary consensus activities. For many years, the Office of Management and Budget (OMB) Circular A-119 enunciated a federal policy that encouraged agencies to participate in private sector voluntary standards organizations and to use voluntary consensus standards for regulatory and procurement purposes when appropriate. Recently, Congress responded to a growing need to strengthen that policy and passed several laws mandating federal agencies to rely upon voluntary consensus standards whenever feasible. Increased government reliance is indicative of the changing role, prominence and use of national and international voluntary consensus standards.

As a Federation, we serve as a network of concerned U.S. interests — from both the private and public sectors — representing a considerable resource of information, experience and influence. We continually strive to identify and work with new and emerging technology and service areas to explore the benefits of national and international standardization. And through our members and staff, we stand ready to provide information, introductions, expertise or advice, to any constituent in need.



Chapter 2 Standardization

When competing in a global market, speed is the name of the game. Staying up-to-date on the latest technological advancements is not optional — it is essential. Goods and services must be ready for immediate delivery, particularly when the technology has a short life span.

However, new product and service development may rely upon technical information standardized for international use. When this is the case, it becomes critical that the standards development process respond in a timely manner.



With the U.S. leading the way, member nations clearly indicated to ISO and IEC that change was imperative if the organizations were to remain relevant in a world where the role and prominence of standardization was evolving. Industry was setting the pace for standards development, but the needs to be met through the process varied widely from one sector to another.

In general, industry was demanding that standards be written in direct response to market needs. Just as any other product, standards need to be timely, actionable and responsive to the changing dynamics of the marketplace — yet they must also offer assurance of safeguards for enhanced quality of life, safety, health and protection of our environment.

Fortunately, both ISO and IEC were already engaged in long-range strategic planning activities. The strong messages received from their member nations immediately focused attention on the need to develop new international procedures that would:

- add enhanced flexibility to the standards development process;
- allow technical content to reach the market in a shorter timeframe,³ and
- capitalize on agreements already made in industry-specific forums.

The U.S. assumed a leadership role in the "re-engineering" of ISO and IEC and was instrumental in introducing expedited procedures and alternative deliverables within the

³ Recent trends indicate that the average ISO standards development time is decreasing across all industry sectors.

international standards system. ANSI continues to represent U.S. interests on the ISO Long-Range Strategies Group and regularly contributes to discussions regarding updates to the strategic agendas of both ISO and IEC.

What follows is an explanation of how these enhancements to the international standards development system will pave the way for expedited development and approval processes and for international policy changes benefiting all constituents. Though these processes have not been in place long enough to report on demonstrated examples of success, significant savings in time and resources are expected.

2.1 Enhancing Participation in the Work of ISO and IEC

2.1.1 Background

Members of ISO and IEC are nations. Each nation is represented at the ISO or IEC table by a single organization most representative of standardization in its country. In ISO, those organizations are known as member bodies; in the IEC, members are known as national committees.⁴ Only one body in each country may be recognized as the "official" member of ISO or IEC.

All member bodies are entitled to participate and exercise full voting rights on the technical and policy committees they care about most. Nations desiring active involvement in standards development work register as Participating "P" members of a Technical Committee (TC) or Subcommittee (SC); interested participants register as Observer "O" members; those with no interest have no obligation to participate, though they do retain the right to submit comments at various points in the standards development process. All actions taken within ISO and IEC are voted upon by the official national body representative.

Through ANSI, the official U.S. representative to ISO, and via the U.S. National Committee to the IEC, the United States has immediate access to the international standards development processes. However, ANSI does not itself develop technical positions; rather it facilitates position development by establishing consensus among qualified groups. The Institute ensures that its guiding principles — consensus, due process and openness — are followed by accredited U.S. Technical Advisory Groups (U.S. TAGs).

A U.S. TAG, comprised of Subject Matter Experts (SMEs) in the industry, has as its primary purpose the development and submission, via ANSI, of U.S. positions on activities and ballots of the international technical committee. In many instances, U.S. standards are taken forward, through ANSI or its USNC, to the ISO or IEC where they are adopted in whole or in part as international standards. Since the work of international technical committees is carried out by volunteers from industry and government, not ANSI staff, the success of these efforts often is dependent upon the willingness of U.S. industry and the U.S. government to commit the resources required to ensure strong technical participation in the international standards process.

In facilitating U.S. involvement internationally, ANSI's primary responsibilities include:

- informing potentially interested parties of relevant international standardization opportunities and initiatives;

⁴ For ease of reference, the term *member body* will be used throughout the remainder of this text as a reference to either an ISO member body or an IEC national committee.

- ensuring that a consensus view of the nation's interests is presented during international negotiations leading to standards agreements;
- payment of membership dues, thereby providing America's share of financial support for the central operations of ISO and IEC.

2.1.2 Current Status of U.S. Involvement and Influence

U.S. interests also recognize that the only sure way to influence the content of a proposed standard is to be present at the standards development table. As a result, the U.S. participates actively in a large number of technical committees.

- The U.S., via ANSI's USNC, participates in 91% of all IEC technical committees and administers 17% of the key IEC committees and subgroups⁵;
- ANSI participates in nearly 80% of all ISO technical committees and administers 16% of the key ISO committees and subgroups⁶, and
- ANSI is a strong participant and holds key leadership positions in the ISO and IEC Joint Technical Committee 1 on Information Technology (ISO/IEC JTC 1).

Technical activities, especially those related to U.S. export categories, are vitally important to America's global competitiveness. Table 1 (*see pages 10-11*) indicates the top ten major export/import categories as identified by the U.S. Department of Commerce Survey of Current Business. For each category an indication is made regarding U.S. membership in an international standards body and the level of U.S. influence vis-a-vis a leadership position (either chairman, chief administrative officer, or both).

2.1.3 Monitoring and Oversight of New Work Areas

The Federation regularly monitors and influences the emerging needs for new international standards activities. As an example, on November 5, 1998 ANSI and the American Consulting Engineers Council hosted a North American regional seminar to explore the topic of standardization in the field of consulting engineering. On May 10, 1999 ANSI's Consumer Interest Council hosted the ISO Consumer Policy Committee (COPOLCO) and an open workshop to explore standardization initiatives to meet the needs of older persons. ANSI also monitors potential standardization in fields such as protection of personal data and privacy, risk management systems and consumer complaint handling management systems. We also explore the need for standardization for services including tourism, hotel certification, hospitality, exhibition management, banking and insurance, and personal financial planning.

On occasion, the Institute's influence is called upon to ensure that technical activities do not occur when these activities are considered to be contrary to the interests of U.S. constituents. As an example, in 1996, ANSI held a national workshop to establish a U.S. consensus position regarding the creation of a new ISO committee for occupational health and safety management systems. The activity was seen by many as subject matter more appropriate for domestic (i.e., national) rather than international standardization; many nations already had regulations to cover occupational safety and health. The U.S. position, which stated that international standards were considered to be

⁵ A complete listing of the Technical Advisors for IEC activities in which the U.S. is an active participant is available via ANSI Online at www.ansi.org/public/db_list.html.

⁶ A complete listing of the Administrators and Chairs of US/TAGs for ISO activities in which the U.S. is an active participant is available via ANSI Online at www.ansi.org/public/db_list.html.

Table 1: Top U.S. Export/Import Categories and Corresponding Level of Participation in International Standardization Activities of the ISO and IEC

Export/Import Category	Export/Import Figures (in \$M)	U.S. Participates in ISO/IEC	U.S. Holds Leadership Position
Automotive vehicles, engines, & parts - Passenger cars; trucks, buses and special purpose vehicles; engines and engine parts; other parts and accessories	65,002/128,938	YES	YES
Chemicals excluding medicinals	42,472/26,897	YES	
Consumer durable goods (manufactured) - Household and kitchen appliances and other household goods - Toys, shooting and sporting goods, including bicycles - Television and video receivers - Radio and stereo equipment, including records, tapes and disks	33,154/81,502	YES YES	
Consumer nondurable goods (manufactured) - Textile apparel and household goods, except rugs - Footwear of leather, rubber and other materials - Medical, dental and pharmaceutical preparations, including vitamins	34,090/80,780	YES NO (Note 1) NO (Note 2)	YES
Electric generating machinery, electric apparatus, and parts	24,113/24,479	YES	
Energy products - Coal and related fuels - Fuels and lubricants - Petroleum and products	15,533/80,278	YES YES YES	YES YES
Foods, feeds and beverages (agricultural) - Meat products and poultry - Grains and preparations, Wheat, Corn, Soybeans, Vegetables, fruits, nuts and preparations	51,203/26,484	YES (Note 3) NO (Note 4)	

unnecessary, was carried forward to the management bodies of ISO and was seen as a significant factor in the decision to abandon the proposal at this point in time.

Industry concern about the proliferation of proposals for new management system standards resulted in the formation of an ISO coordination group to ensure the concurrent development and revision of ISO standards in the fields of quality and the environment. The U.S. is represented on this coordination group, as well as on the ad hoc group charged with development of guidelines for the creation and maintenance of management systems standards. ANSI's International Committee coordinates U.S. position development and facilitates consideration of relevant proposals within ISO.⁷

⁷ The International Committee (IC) develops policies for the Institute with respect to international and regional standardization, certification and related activities.

Export/Import Category	Export/Import Figures (in \$M)	U.S. Participates in ISO/IEC	U.S. Holds Leadership Position
Metals & nonmetallic products	33,370/47,759		
- Steelmaking materials		YES	YES
- Iron and steel products		YES	YES
- Nonferrous metals		YES	YES
- Non-monetary gold		NO (Note 4)	
- Other precious metals		NO (Note 4)	
Non-electric capital goods including parts and attachments, but excluding automotive	196,164/189,684		
- Oil drilling equipment		YES	YES
- Mining and construction machinery		YES	
- Industrial engines, pumps and compressors		YES	
- Machine tools and metalworking machinery			
- Measuring, testing, and control instruments			
- Computers, peripherals and parts		YES	YES
- Semiconductors		YES	
- Telecommunications equipment		YES	YES
- Scientific, hospital, and medical equipment and parts		YES	YES
Transportation equipment (except automotive)	30,792/14,616		
- Civilian aircraft, engines, parts		YES	YES
- Civilian aircraft, complete, all types		YES	YES
<hr/> <p>Note 1 ISO recently formed (early 1998) a new committee to address this Export/Import Category.</p> <p>Note 2 ISO does not develop international standards in the field of this Export/Import Category.</p> <p>Note 3 The U.S. only recently became an active participant in the ISO committee related to this Export/Import Category.</p> <p>Note 4 The U.S. does not participate in the ISO committee related to this Export/Import Category.</p>			

2.1.4 Monitoring and Oversight of On-Going Work and Justification of New Work

ISO has endorsed the creation of industry sector boards, composed of high-level industry, government and trade representatives as well as representatives from consumer groups, with a view to achieving better service in the monitoring of ongoing work and the justification of new work. Pilot projects for sector boards in certain fields of industry will take place before introducing this new technical structure to the whole ISO system. It is recognized that flexibility is needed to ensure that the unique characteristics of individual sectors and different geographical regions are adequately represented.

The ISO Technical Management Board (ISO/TMB), responsible for all matters concerning the organization, coordination, strategic planning, and programming of the

technical work of ISO, has also initiated a pilot project with several ISO committees, to develop draft business plans for their work, taking into account the overall business environment and the needs of markets to be addressed by the standards. Technical committees have been requested to prepare their business plans by December 31, 1999 at the latest. The ISO/TMB expects that the development of business plans will help to further focus the work of ISO committees on essential areas and to thereby increase their overall performance.

The ISO/TMB also intends to reexamine the mechanisms for introduction of new work projects. For this purpose, a "business case template" will be developed for committees to support the ordering of priorities for new work items. Emphasis will increase on completing high priority standards projects, and offer alternatives when consensus on complete technical solutions cannot be reached.

The ISO/TMB also recognizes that market relevance is not restricted to ongoing and new work, but it also involves standards maintenance. The ISO systematic review procedure has been overhauled, so the decisions to confirm, revise and withdraw standards are based on the actual implementation and use of each standard in question.

2.1.5 Efforts to Enhance U.S. Influence through Leadership Positions

The U.S. was a founding member of both ISO and IEC and continues to play an active role in their governance and technical committee leadership. The U.S. benefits from leadership positions by:

- highlighting national prominence/leadership in the particular technology area of the committee;
- highlighting national support for and interest in international standardization;
- ensuring the quality and integrity of the administration of the international standards effort.

As noted in 2.1.1, technical position development is coordinated by ANSI-accredited U.S. Technical Advisory Groups (TAGs) to ISO and and USNC-approved TAGs to IEC technical committees. Delegations of U.S. subject matter experts, selected by the appropriate U.S. TAG, represent ANSI and the USNC at international meetings and have as their primary objective the acceptance of U.S. positions by an international standards committee.

Because our ultimate goal is to ensure strong U.S. representation and effectiveness in the international arena, U.S. interests have taken actions to obtain and hold key leadership positions in international committees. This leadership takes the form of U.S. personnel serving as chairmen, secretaries or conveners of ISO/IEC committees. We contribute at a very high level of effort and productivity to international standardization activities;⁸ but for the system to work, all committee officers must be suitably trained in the ISO working methods and procedures. ANSI members and staff serve as valuable resources to educate, train or otherwise assist new delegates.

⁸ U.S.-held technical committee secretariats have the shortest average elapsed time in developing ISO standards. Since 1992, seventeen new ISO standards development committees have been established. Of these new committees, seven were proposed by the ANSI Federation on behalf of U.S. interested parties. Table 2 identifies these new technical subject areas and indicates those areas where the U.S. has assumed the role of committee secretariat.

Table 2: New ISO Technical Subject Areas and Secretariat Responsibilities

ISO Committee	Subject Area	Secretariat
204	Transport Information and Control Systems	ANSI (SAE)
205	Building Environment Design	ANSI (ASHRAE)
206	Fine ceramics	Japan *
207	Environmental Management	Canada
208	Thermal Turbines for Industrial Application	Germany
209	Cleanrooms and Associated Controlled Environments	ANSI (IEST)
210	Quality management and Corresponding General Aspects for Medical Devices	ANSI (AAMI)
211	Geographic Information /Geomatics	Norway
212	Clinical Laboratory Testing and In Vitro Test Systems	ANSI (NCCLS)
213	Dimensional and Geometric Product Specifications and Verification	Denmark
214	Elevating Work Platforms	ANSI
215	Healthcare Informatics	ANSI (ASTM)
216	Footwear	Spain
217	Cosmetics	Iran
218	Timber	Norway
219	Floor Coverings	United Kingdom
220	Cryogenic Vessels	France
<p>*NOTE: In a cooperative agreement with Japan, and in recognition of the prominence of U.S. work in this field, the U.S. holds the chairmanship of ISO TC 206.</p>		

2.1.6 U.S. Influence through Liaison Organizations

Though member nations have the power of vote in ISO and IEC, organizations with an interest in specific technical activities also regularly take part in the work; these groups are known as organizations in liaison. A seat at the standards development table provides liaisons with a voice — and often a considerable amount of influence.

In an effort to encourage more active participation by industry-specific forums, ISO approved in 1998 the addition of a new category of liaison. This new membership classification, known as a *Category D* liaison allows organizations such as manufacturers associations, commercial associations, industrial consortia, user groups, professional and scientific societies, etc., to participate in standards development at the ISO Working Group (WG) or project level.

Driven largely by U.S. interests, this new membership category will do much to enhance the international standardization system by bringing all directly and materially affected parties — and the result of their work — to the international standards table. Category D liaisons will join the ranks of more than 535 international entities already registered as official liaisons to ISO and IEC.

2.2 Standards Development in ISO and IEC

In response to the demands that standards be written in direct response to market needs, and that they be relevant and responsive to the changing dynamics of today's global marketplace, ISO and IEC engaged in an aggressive "re-engineering" process. Several actions were approved for immediate implementation:

- All ISO committees were instructed to implement business plans with a view towards enhancing responsiveness to newly emerging requirements;
- Procedures were revised to require a detailed review of market need and justification prior to the approval of new work item proposals; and
- Ongoing standards review and maintenance activities were intensified to ensure continued market relevance of new and existing documents.

The efforts of these, and similar activities have resulted in expedited standards development systems and procedures.

2.2.1 Portfolios of Technical Documents

An ISO or IEC standard is normally developed using a six-stage process to build consensus among all participating member nations. During 1998, 379 new or revised IEC standards were published. More than 1,000 new and revised International Standards, representing 41,221 pages in English and French, were added to the ISO portfolio.

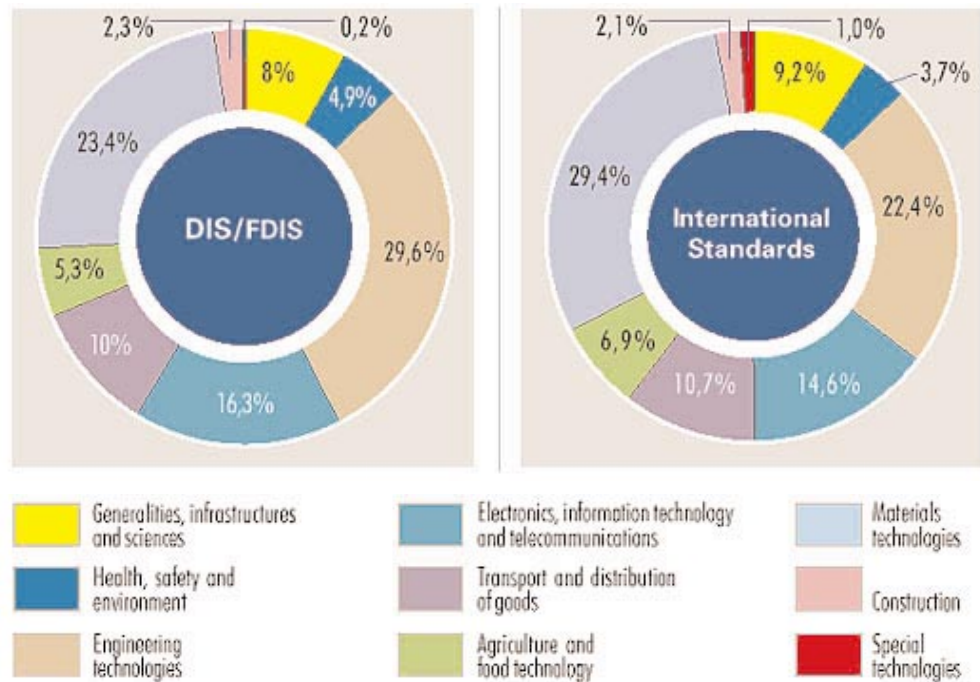


Figure 3
Portfolio of Draft International Standards and ISO standards by Technical Sector
(as of 12-31-98)

2.2.2 The Six-Stage Development Process

The full six-stage process begins when proposed new work items (NPs) are balloted by participating members of the relevant committee. If approved, responsibility for preparation of a working draft (WD) is delegated to a group of experts known as the Working Group (WG). Successive drafts are considered until the group is satisfied that the best solution has been proposed. During the consensus-building phase a Committee Draft (CD) may be distributed for comments and, if appropriate, voting by the national body members of the committee. Successive drafts may be considered until consensus is reached on the technical content.

Once consensus has been attained, the text is finalized for submission as a Draft International Standard (DIS) in ISO or a Committee Draft for Vote (CDV) in IEC. Once approved for progression to DIS or CDV ballot there should be very few, if any, technical comments. The draft International Standard is circulated to all ISO or IEC member bodies for voting and comment. Approval is granted if a two-thirds majority of the members of the committee are in favor and not more than one-quarter of the total votes cast are negative. Documents receiving comments during the balloting period will be referred back to the responsible committee for further consideration. When determining consensus, ISO and IEC also consider whether there is sustained opposition to substantial issues. When a DIS/CDV has been approved, a revised text is prepared for a final "proof text" ballot, known as the Final Draft International Standard (FDIS). If this ballot is approved the Central Secretariat will publish the document as an International Standard.

This six-stage process can often take two and one-half to three and one-half years from start to finish.

2.2.3 Streamlined Procedures Speed Approval Process

New, streamlined procedures have been introduced to increase flexibility and to allow technical content to reach the market in a shorter timeframe. These streamlined procedures recognize three different levels of consensus in the elaboration of an ISO International Standard: Consensus of (1) the subject matter experts in the working group; (2) national bodies participating in the TC or SC, and (3) all national bodies of the international standards organization.

Each industry sector now has the flexibility to choose an approach most appropriate for their needs. If a draft under consideration is considered to be sufficiently stable, the committee responsible for development of the text may expedite the approval process in one of the following scenarios:

- **Scenario One:** The committee may agree to ballot a document as a Draft International Standard (DIS) without having first considered the text as a Committee Draft (CD). This option might be used if the committee were presented with a document at the outset of development that is sufficiently stable and acceptable to by-pass interim development stages.
- **Scenario Two:** The committee may eliminate the Final Draft International Standard (FDIS) ballot and proceed directly to publication. This option is only available if the DIS ballot text received 100% approval. The option is not available for standards undergoing ISO/CEN or IEC/CENELEC parallel processing.
- **Scenario Three:** A document submitted by authorized parties (usually a national body, Category A liaison, or technical committee) may be processed

immediately for fast-track DIS ballot. This scenario eliminates the need for approval of initiation of the fast-track ballot by the ISO Technical Management Board (ISO/TMB).

As always, approval of the organization authoring the submitted document is required before the document may be processed under either ISO's or IEC's fast track procedures. (NOTE: This option is currently under a two-year trial period.)

Table 3 illustrates the variable time savings (in best case situations) when stages in the process can be eliminated.

Table 3: ISO Standards Development
Time Estimates Using Procedural Options Allowing for Elimination of Stages

Scenario	Development Time Estimate	Time Savings
Normal (6-stages)	2.5 - 3.5 years	None
No Committee Draft (CD)	1.8 - 2.8 years	0.7 years
No Final Draft International Standard (FDIS)	2 - 3 years	0.5 years
No CD or FDIS	1 year	2.5 years
Fast Track DIS (with FDIS)	1 - 1.5 years	2 years
Fast Track (no FDIS)	1 year	2.5 years

2.2.4 New Deliverables Recognize Different Levels of Consensus

In addition to the expedited procedures introduced in 2.2.3, and due in large part to the efforts of countless U.S. experts, three new deliverables have been introduced within ISO that will provide industry with an opportunity to take advantage of standardization work developed in external bodies:

- **Publicly Available Specifications (PAS)**
A normative document representing the consensus of a working group.
- **Technical Specifications (TS)**
A normative document representing the consensus within an ISO committee.
- **Industry Technical Agreements (ITA)**
A normative document developed via a workshop outside the ISO and IEC technical committee structure (so long as a designated ISO or IEC member body has administered the workshop).

Utilized by those ISO technical committees for which speed of standards development is a paramount consideration, the new deliverables permit technical documentation to flow through the development process with reduced requirements for transparency and consensus. However, even upon publication, the documents are *not* called “standards.”

PAS and TS are developed within an ISO or IEC committee structure, but require a lower level of consensus than do traditional International Standards carrying the ISO or IEC logos. Neither PAS nor TS have the same status as International Standards and should not be regarded as such. However, committees have the option to continue work on PAS or TS; subsequent revisions may proceed through the normal standards development process into a full consensus-based International Standard.

An ITA is developed with the input of market players who negotiate in a workshop setting the contents of the particular normative document. The ITA enables a more rapid response to requirements for standardization in areas where ISO does not have existing technical structures or experts. The ITA essentially moves a normative document into the marketplace relatively quickly with the opportunity that it will soon establish itself as a de facto standard; the option then exists of transforming it into a full International Standard at a later stage.

2.2.5 Information Technology to Expedite Standards Development

In 1996, recognizing that the electronic age had arrived, ISO established a new ad hoc group called the Information Technology Strategies Implementation Group (ITSIG). Its mandate was to recommend and take actions as needed to plan and coordinate the use of computers and telecommunications technology throughout the ISO system.

The ITSIG Guide, published in 1997, provides a common vision as well as a consistent framework and a practical model for the use of IT tools throughout the standardization process. ITSIG has also delivered ISO "templates", which are the electronic forms to be used when drafting an ISO standard. All FDISs (Final Draft International Standards) are now required to be delivered in an electronic format, and as of June 1999 all DISs (Draft International Standards) are required to be delivered in electronic format. As a result of these efforts, during the preceding two years the average processing time for FDIS has been reduced from seven (7) months to two and one-half (2.5) months.

Migration to full electronic delivery of standards was achieved in 1998 for ISO, and in 1999 for IEC. What has been achieved over the last few years has been done without an increase in staff, but with an increase in production of more than 19 percent. In fact, ISO's in-house improved standards processing time was achieved even with a four-percent (4%) staff reduction.

Currently, a number of other projects are being launched, including a web-based server to provide a single IT environment for ISO committee work, direct access to the ISO Central Secretariat IT resources, an online comprehensive library of ISO standards development resource materials and information, and easier input to the ISO Central Secretariat publishing system. In the not too distant future, it is hoped that all ISO committees worldwide will be working electronically, possibly by the end of 2000.

2.3 Technical Program Management

Strong technical program management has become another crucial factor in improving the timely delivery and market relevance of international standards.

Formal service agreements, addressing the allocation of responsibilities and performance expectations for the administration of assigned committee secretariats, are now required between ISO and its member bodies. Strict performance guidelines are being established to ensure the efficiency of committee secretariats; as a result, ISO development activities are expected to progress in a more timely, efficient and cost effective manner. ISO and IEC continue to build and enhance various electronic tools, instructions and training materials to help in this regard.

There has also been a decentralization of specific functions performed by ISO staff in Geneva, Switzerland. Decentralization is expected to lead to the more efficient management of ISO standards development efforts and will allow ISO to focus its resources in Geneva on more value-added services.

2.4 One Global Standard Accepted by All

Recognizing the importance of harmonized — if not identical — international and national standards, ISO and IEC have established mechanisms to monitor and track the national adoption/implementation of international standards. This information has been incorporated into the five-year period review and maintenance process for International Standards.

ISO and IEC have also recently revised their guidance document (ISO/IEC Guide 21:1999) regarding appropriate methods for the regional or national adoption of international standards. This document defines a set of criteria for indicating the degree of equivalence between national standards and related International Standards. This system will ensure greater consistency in the ways countries indicate national/international equivalence, thereby improving communication, reducing confusion and facilitating trade.

ANSI has developed its own procedures to assist in the harmonization of national and International Standards. In relation to requirements established by the WTO TBT Agreement, ANSI's *Procedures for the Development and Coordination of American National Standards (ANSI Procedures)* require ANSI-accredited standards developers to take into consideration any relevant International Standards during the development or revision of an American National Standard (ANS).

U.S. interests, on a case-by-case or sector-by-sector basis, determine which of the following procedural options, if any, are appropriate:

- If appropriate for application in the U.S., International Standards may form the basis of proposed national standards submitted for approval as an ANSs. Once a document has been approved at the international level, the International Standard may be submitted to the Federation for ANS approval. An ANSI-accredited standards developer must submit the request. The procedures to be followed are, presently, identical to those for other U.S.-developed standards submitted to ANSI for recognition as an ANS. However, ANSI's Executive Standards Council (ExSC) has undertaken a project to develop expedited procedures for the national adoption of International Standards.
- In some cases U.S. interests may request that draft text(s) move through the international and domestic approval processes simultaneously. Specific ANSI procedures are available to help ensure that the national and international review and approval processes are synchronized to the greatest possible extent.

Use of these synchronized procedures signifies that standards written at the international level may be concurrently processed at the national level so that both the International and American National Standard will be identical.

- ANSI also works to support the advancement of U.S. national standards as International Standards. The texts may be submitted for adoption, in whole or in part, on a case-by-case basis.

Though sufficient data is not yet available to confirm a trend in increased adoption of international standards as ANS, both staff and ANSI constituents have observed that the frequency of identical or harmonized adoption of international documents as ANS appears to be increasing.

In some cases there may be a reason for adopting an American National Standard that differs from, or conflicts with, an existing international standard. These reasons may include, but are not limited to:

- national security requirements;
- the prevention of deceptive practices;
- human safety and health, animal or plant life or health, or the environment;
- fundamental climactic or other geographic factors; or
- fundamental technological problems.

The WTO TBT Agreement recognizes that these are legitimate reasons for regional or national deviations from international standards.

Further, the developers of national standards submitted for consideration and adoption by ISO and IEC have raised a concern regarding intellectual property. The current policy indicates that ISO or IEC (as appropriate) would assume copyright of the published International Standard. However, the developers responsible for creation of the base document are often interested in retaining their intellectual property.

ANSI is actively working with groups both nationally and internationally to ensure that the organization first responsible for the work is recognized and that revenues generated by the sales of applicable standards are shared equitably.

ANSI-accredited standards developers that wish to retain intellectual property rights should make this known before submitting their standards for adoption by ISO or IEC. ANSI will support any accredited standards developer's request for assistance in this regard.

Recently, ISO has held discussions with four major U.S.A. standards developers to examine possible working relationships of mutual benefit to ISO and these developers. It has been recognized within ISO that there are potential negative effects if significant interests in any large country do not contribute to the relevant ISO work. Recognizing that U.S. standards developers are highly competent and widely respected organizations, it was recommended that ISO be very flexible with regard to its processing rules, and carefully negotiate the details of mechanisms to accept the work of these standards developers. The initial discussions were regarded as very positive and appropriate "pilot projects" are being advanced.



Chapter 3 Regional Activities

As U.S.-based companies expand into new international markets they more clearly recognize that traditional trade barriers — which to a large extent have been reduced, if not eliminated, through years of successful trade negotiations — are no longer a primary concern. Rather, the critical issue is a lack of knowledge and understanding of how to successfully access and influence standardization activities in regions of the world where they hope to do business.

The essential objectives of standardization at the world level and at the regional level are the same:

- to facilitate the international exchange of goods and services through the harmonization of national standards,
- strict implementation of harmonized standards at the national level, and the
- withdrawal of conflicting standards.

This chapter will explore ANSI Federation initiatives to increase coordination with regional standardization bodies leading to additional opportunities for expansion into global markets.

3.1 International Committee Takes the Lead

Through the efforts of ANSI's International Committee (IC), members of the Institute are informed of activities of interest and given the opportunity to exert U.S. influence in the global standards arena. The IC, which reports to the ANSI Board of Directors, serves as the policy-setting body of the Institute relative to the international and regional voluntary standards processes. The IC monitors international standards, testing and certification developments; develops policies for the Institute with respect to international standards, certification and related activities; and appoints delegates to all international organizations with which ANSI is affiliated at the policy level, unless otherwise delegated (e.g., the U.S. National Committee to the IEC is responsible for such matters for the IEC).

In 1996, the IC formed three Regional Standing Committees (RSCs) — one each for Europe (later to include the Middle East), the Americas and the Asia-Pacific region — for the purpose of improving response time and broadening the participation of ANSI Federation members in policy position development regarding standards and conformity assessment activities in regional standards bodies. The IC continues to serve as the overall coordinating body to ensure consistency in ANSI policy positions worldwide. A

member of the IC chairs each RSC and its membership is drawn from the overall ANSI membership. Each RSC meets as necessary, though activities are conducted primarily by correspondence.

3.1.1 RSC-Americas

The primary activities of the RSC-Americas include the coordination and development of positions for ANSI delegations to meetings of the Pan American Standards Commission (COPANT) and responses to initiatives from the North American Free Trade Agreements (NAFTA), the Inter-American Accreditation Cooperation (IAAC), Pan-American Health Organization (PAHO) and Free Trade Area of the Americas (FTAA). This coordination includes interaction with the Office of the U.S. Trade Representative (USTR) and the National Institute of Standards and Technology (NIST). The RSC-Americas will also identify volunteers to represent ANSI at Latin American/Caribbean meetings/conferences.

3.1.2 RSC-Asia-Pacific

The primary activities of the RSC-Asia-Pacific include position development and coordination for ANSI delegations to the Pacific Area Standards Congress (PASC), responses to initiatives arising from the Asia Pacific Economic Cooperation (APEC) Committee on Trade and Investment Subcommittee on Standards and Conformance, and related PASC Standing Committee issues. This coordination includes interaction with the Office of the U.S. Trade Representative (USTR) and the National Institute of Standards and Technology (NIST). The RSC-Asia-Pacific will also identify volunteers to represent ANSI at appropriate meetings and conferences.

3.1.3 RSC-Europe

The primary activities of the RSC-Europe include the organization and preparation for the annual ANSI-European meetings, interaction with participants in the Trans-Atlantic Business Dialogue (TABD), and exchange of information with the U.S. Federal government on Mutual Recognition Agreement (MRA) activities. The RSC-Europe will designate volunteers to represent ANSI at meetings/conferences being held in Europe and will also function as a sounding board on any European and Middle Eastern standards-related information that comes up in Congress or another entity.

3.2 U.S. Initiatives with Regional Standards Bodies

3.2.1 Europe

Recognizing the importance of free trade amongst the peoples of Europe, the member states of the European Union (EU) approved in 1985 a proposal to form a "Single European Market" that would remove all barriers to the circulation of goods, services, capital and labor within the European Community.

In the following years nearly 300 European Commission (EC)



"Directives" have been approved to support implementation of a unified internal market. These directives are not detailed, but rather contain information regarding general "essential requirements." European regional standards setting bodies are responsible for establishing the voluntary standards, which elaborate on the essential requirements.

Standards bodies in the member states are obliged to adopt European standards and withdraw conflicting national standards. Harmonized, European-wide standards in key product sectors are now replacing the thousands of differing national standards that existed in member states. Today, the European standardization system has more than 5,000 standards.

Under the New Approach, the European Commission mandated that the private sector be responsible for development of European technical standards. Three regional standards organizations were assigned the task:

- CEN** the European Committee for Standardization, produces European standards in all areas except for electrotechnical and telecommunications;
- CENELEC** the European Committee for Electrotechnical Standardization, works to produce a single set of harmonized electrotechnical standards in Europe; and
- ETSI** the European Telecommunications Standards Institute, determines and produces telecommunications standards.

CEN, CENELEC and ETSI constitute a European forum for standardization that organizes participation of all parties concerned in the development and standardization programs. These parties include national government authorities, the Commission of European Communities (commonly known as the European Commission, or the EC), the European Free Trade Association (EFTA), public bodies, manufacturers, trade unions, users and consumers. These parties come together in hundreds of technical groups to prepare European standards through procedures that guarantee respect for the principles of openness and transparency, consensus, national commitment, technical coherence at the national and European level, and correct integration with other international work.

A summary of initiatives relating to U.S. interface with the European standardization activities follows:

- CEN and CENELEC have recognized ANSI and its USNC as their primary liaison in the United States.
- ANSI has established and maintains positive working relationships with the parties associated with European regional standardization; these relationships have served U.S. interests well.
- The Institute makes available all European draft standards from CEN and CENELEC for public review and comment by directly and materially affected U.S. interests. In addition, the U.S. has the commitment of CEN and CENELEC leadership that U.S. comments will be considered and addressed by the appropriate committee.
- Since 1989, ANSI delegations have met 14 times with delegations from the European standards organizations and the EC. These meetings have been very positive in maintaining working relationships and in resolving specific issues.
- U.S. delegations to ISO technical meetings, and other interested parties, often request guidance regarding implementation of the Vienna Agreement for

technical cooperation between ISO and CEN. In direct response to these requests, and with a further goal of encouraging U.S. industry's active participation and influence in the harmonization of international and regional documents, ANSI published a guidance document entitled *American Access to the European Standardization System*. First published in late 1996, a supplement was prepared in August 1998.

- ANSI works on an ongoing basis with U.S. government departments and agencies in relation to EU issues. The Institute also has an excellent ongoing relationship with officials at the U.S. Mission to the European Union in Brussels.
- Both ISO and CEN and IEC and CENELEC have formed joint management coordination/supervisory groups to oversee their joint relationships in standards development work. The Vienna Agreement for ISO and CEN, and the Dresden Agreement for IEC and CENELEC, govern both joint groups, respectively.

Despite generalized comments that the U.S. and other non-European countries have been disadvantaged in ISO due to the ISO/CEN Vienna Agreement and alleged block voting, the facts show a much different story. As of July 1, 1998 (the most recent data available):

- The total number of active work items in ISO was 6,431;
- The total number of active work items covered by the ISO/CEN Vienna Agreement was 1,054;
- The total number of these work items covered under ISO lead was 756;
- The total number of these work items covered under CEN lead was 298;
- Less than 5% of the entire ISO active work program is under CEN lead;
- More than 83% of the entire ISO active work program (not including published ISO standards not under current revision), is not affected by the Vienna Agreement.

Therefore, there are statistically few problematic issues regarding implementation of the ISO/CEN Vienna Agreement. However, ANSI recognizes that if an industry sector is among those that experience a difficulty, or if the Agreement is being misused in the relevant committees, then all of these favorable statistics provide little comfort. In this case, ANSI stands ready to use its working relationships with ISO and CEN to attempt resolution of such problems.

Specific case studies illustrating the success of ANSI and U.S. business interests to address concerns related to European regional standardization are detailed in the ANSI publication *American Access to the European Standardization System*. The document (with its 1998 Supplement) is available electronically via the Reference Library on the ANSI Online website (www.ansi.org).

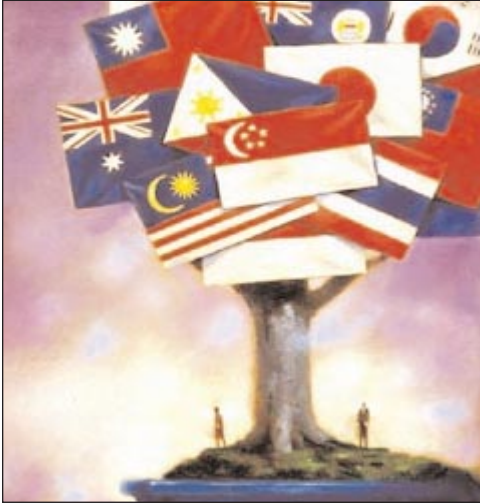
3.2.2 Pacific Rim

In 1972, representatives of national standards bodies of the Pacific Rim nations, on both sides of the Pacific Ocean, met in Honolulu, Hawaii, to plan for and suggest a programme leading to development of a voluntary, independent organization of Pacific area national standards organizations. In 1973, the first meeting of the organization,

which was named the Pacific Area Standards Congress (PASC), was held in Honolulu.

ANSI participates in PASC as the U.S. member body. Working with other PASC members, the U.S. has effectively promoted a number of important resolutions concerning international standardization, the work of ISO and IEC, and communication and interrelationships among PASC members.

As an example, with the formation of the Asia-Pacific Economic Cooperation (APEC) and its Committee on Trade and Investment's Subcommittee on Standards and Conformity (APEC/SCSC), PASC responded by forming a Standing Committee to work with APEC/SCSC on issues of alignment of standards, as well as working to support more direct participation of PASC members in ISO and IEC.



Unlike ISO and IEC, or CEN and CENELEC, PASC does not develop standards. PASC seeks to strengthen the ability of PASC members to participate in the ISO and IEC organizations. In this manner, PASC offers its member countries an important strategic counterbalance to the unified efforts of the Europeans. PASC is concerned not only with standards preparation but also with conformance to standards.

Further information on PASC, and ANSI's participation in it, may be found on *ANSI Online* (web.ansi.org/rooms/room_65/default.htm or www.pascnet.org).

3.2.3 South / Latin America

The Pan American Standards Commission (COPANT) was formed in the 1940s to coordinate and promote South American standards, to facilitate cooperation, and to encourage the exchange of goods and the provision of services. Its membership is essentially composed of countries from North, Central and South America and the Caribbean Islands. The U.S., via ANSI, uses COPANT as a vehicle to promote trade and investment in the Western Hemisphere.



COPANT has recognized the importance of international standards and has begun to more actively focus on participation in the work of ISO and IEC. While COPANT does engage in some standards development work, its members have agreed that development of regional standards should be minimized and, whenever possible, international standards should be the focal point for the standards needs of the COPANT region. Government initiatives have helped in this regard. The work within the context of the North American Free Trade Agreement (NAFTA) and the more recent Free Trade Area of the Americas (FTAA) have brought to bear the importance

of international standards and the region's participation in, and application of, this work.

COPANT also recently approved a proposal for a cooperation agreement with the Council for Harmonization of Electrotechnical Standardization of the Nations of the Americas (CANENA) for the development and harmonization of standards and testing for conformity assessment in the electrical sector. RSC-Americas will nominate representatives to participate on behalf of ANSI, along with representatives of the ANSI Board Committee on Conformity Assessment.

Further information on COPANT, and ANSI's participation in it, may be found on *ANSI Online* (web.ansi.org/rooms/room_64/default.htm or www.copant.org).



Chapter 4 Relationship with Government

A strong U.S. position in the global marketplace depends upon a strong partnership between the private sector and the federal government, particularly when it comes to standards and standards development. On September 23, 1998, the National Institute of Standards and Technology (NIST), an agency of the Department of Commerce, signed an updated memorandum of understanding with ANSI to enhance and strengthen the U.S. voluntary standards system through strong public-private sector interaction (the first MoU was signed in July 1995). The ANSI-NIST memorandum of understanding has been particularly useful in coordinating the activities of federal agencies in the transition to voluntary consensus standards.

The trend of federal agencies relying more heavily on the use of private sector voluntary standards for acquisition, regulatory reform and conformity assessment is largely due to passing of the National Technology Transfer and Advancement Act (NTTAA) (Public Law 104-113). This law requires federal agencies to increase their reliance upon and participation in the voluntary consensus standards and conformity assessment systems. A revision to the Office of Management and Budget (OMB) Circular A-119 guides U.S. government agencies in their implementation of the NTTAA and will help reinforce government participation in the voluntary standards system. The importance of a strong partnership between the private- and public-sectors was strengthened over several months by the lively debate over revisions to OMB Circular A-119.



Over 35 government agencies are members of the ANSI Federation. ANSI's Government Member Council provides all government members with a forum in which they can concentrate their unique perspective on the standards and conformity assessment issues facing the Federation. Their representatives serve at all levels of the U.S. voluntary standards system, which includes ANSI policy committees, national and international standards development committees — frequently in leadership positions — and as members of ANSI delegations to international meetings.

4.1 Cooperation and Interchange Between the Public and Private Sectors

U.S. private sector and public sector interests have a long history and positive working relationships in the standardization community. A very positive relationship continues

with NIST and the Department of Commerce. Also, the Environmental Protection Agency and the Food and Drug Administration are strong supporters of voluntary standardization — the EPA through grants to the Federation and the FDA through new legislation strengthening its reliance on voluntary standards in protecting public health and safety.

The Department of Defense continues its acquisition reform process, eliminating military-unique specifications whenever possible. Other agencies, such as General Services Administration and the Department of Energy, are using non-government standards extensively.

The ANSI/Occupational Safety and Health Administration (OSHA) Memorandum of Understanding also outlines a mutual understanding of the roles of each organization and provides the basis for positive ongoing communication and cooperation.

4.2 Legislative Initiatives

Several laws were approved which make it clear that federal agencies shall rely upon private voluntary standards whenever feasible. Foremost among these laws is the National Technology Transfer and Advancement Act (Public Law 104-113) introduced earlier in this chapter. Signed into law in early 1996, this landmark legislation contains the following key provisions pertaining to standards and conformity assessment:

- All Federal agencies and departments shall use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments;
- Federal agencies and departments shall consult with voluntary, private sector, consensus standards bodies and shall, when such participation is in the public interest and is compatible with agency and departmental missions, authorities, priorities, and budget resources, participate with such bodies in the development of technical standards;
- Exception - If compliance is inconsistent with applicable law or otherwise impractical, a Federal agency or department may elect to use technical standards that are not developed or adopted by voluntary consensus standards bodies if the head of each such agency or department transmits to the Office of Management and Budget an explanation of the reasons for using such standards. Each year, beginning with fiscal year 1997, the Office of Management and Budget shall transmit to Congress and its committees a report summarizing all explanations received in the preceding year under this paragraph.

This legislation is having a dramatic impact upon the way federal agencies do business in the standardization area. Other laws and policies that reinforce the strong public-private partnership approach to standards and conformity assessment in specific sectors or areas of interest include the following:

- The Consumer Product Safety Act
Under the Consumer Product Safety Act, the Consumer Product Safety Commission is specifically to rely upon voluntary consensus consumer product safety standards rather than promulgate its own standards. The relevant portion of the law is set forth below:

"...The Commission shall rely upon voluntary consumer product safety standards rather than promulgate a consumer product safety standard prescribing

requirements described in Subsection (a) whenever compliance with such voluntary standards would eliminate or adequately reduce the risk of injury addressed and it is likely that there will be substantial compliance with such voluntary standards." (Source: Section 7(b)(1) of the Consumer Product Safety Act (15 USC 2056; PL 92-573; 86 Stat. 1207, Oct. 27, 1972, as amended in 1981.)

- The Health Insurance Portability and Accountability Act of 1995
This Act requires the Secretary of Health and Human Services to adopt standards developed by ANSI-accredited standards developers whenever possible.
- The Telecommunications Act of 1996
The first major overhaul of U.S. telecommunications law in almost 62 years, the act contains several provisions that propel the Federal Communications Commission (FCC) toward reliance upon private sector standards. In particular, the FCC is seeking to ensure that the standards development process in the telecommunications area is open and consensus-based - the very things provided for by ANSI accreditation requirements.
- The Food and Drug Administration (FDA) Modernization Act of 1997
This act contains provisions which allow the FDA in some instances to accept manufacturers' declarations of compliance to certain standards during the evaluation of pre-market submissions for electrical medical devices. This is expected to result in a substantial reduction of time-to-market for some medical devices, while still ensuring that fundamental regulatory health and safety responsibilities are met.
- Milspec Reform
In 1994, Secretary of Defense William Perry announced that one of the Department of Defense's (DoD's) top priorities would be to move away from military-unique specifications and standards (milspecs) and toward reliance upon private sector standards. "Moving to greater use of performance and commercial specifications and standards is one of the most important actions that DoD must take to ensure we are able to meet our military, economic, and policy objectives in the future," Perry said. The so-called "Perry Initiative" is transforming the way the Defense Department does business.

Federal, state and local governments and agencies have formally adopted thousands of voluntary standards produced by the ANSI Federation, and the process appears to be accelerating. As an example, the Occupational Safety and Health Administration (OSHA) works closely with ANSI and its accredited standards developers, referencing over 200 of the 800 existing American National Standards for safety and health.

From the private sector's perspective, if government works within the ANSI system industry will be able to provide input or direction for many of the regulations it must meet. Simultaneously, regulatory agencies will be able to meet their responsibilities more economically and efficiently.

NIST, as coordinator of the Interagency Committee on Standards Policy, regularly collects data to report on U.S. government implementation of the OMB Circular A-119. On February 16, 1999, the OMB issued its first Annual Report, as required by the National Technology Transfer Advancement Act of 1996 (NTTAA, P.L. 104-113). The report addressed the Federal government's use of voluntary consensus standards during fiscal year 1997, the first full fiscal year in which the NTTAA was in effect. *Please note that not all federal government agencies responded to NIST's request for information.*

ANSI thanks NIST for their permission to publish excerpts of their data in this document.

Table 5: U.S. Government Participation in Private-Sector-Led Consensus Standards Development Activities

Agency	Number of Voluntary Consensus Standards Bodies in which Agency Participates	Number of Agency Employees Participating
DOC	141	386
OCA	4	1
CPSC	46	22
DOD	86	Over 600
DOE	75	871
EPA	11	200
FCC	10	44
GSA	100	54
HHS	140	242
HUD	9	8
DOI	38	109
DOJ	1	6
DOL	10	28
NASA	47	154
ARCHIVE	20	18
NCS	17	16
NSF	2	3
NRC	16	165
STATE	1	6
DOT	133	292
TREASURY	10	25
VA	28	26
Totals	945	3,276

Table 6: U.S. Government Agency Adoption of Private-Sector-Led Voluntary Consensus Standards

Agency	# of Vol. Cons. Stds. Used Since 10/96	# of Vol. Cons. Stds. Substituted for Govt Unique Stds.	# of Govt Unique Stds. Used in Lieu of Vol. Cons. Stds.
DOC		33	
OCA			
CPSC	0	0	
DOD	73 ^A	58	
DOE	10 ^B	0	0
EPA	31 ^C	4 ^D	0
FCC	1	0	0
GSA	4	0	0
HHS	72	0	5
HUD	0		
DOI	205	0	0
DOJ			
DOL	6		
NASA	E	92	
ARCHIVE	20	0	0
NCS	5		
NSF	0	0	0
NRC	54	0	0
STATE			
DOT	54		2
TREASURY	3	0	
VA	0	0	0
Totals	543	187	7

^A Total number of DOD-adopted voluntary standards is 7527.

^B Total number of DOE-adopted voluntary standards is 809.

^C EPA's 31 final regulations reference at least one or more voluntary standards.

^D EPA report provides additional information.

^E NASA has "identified" 414 standards for potential adoption.

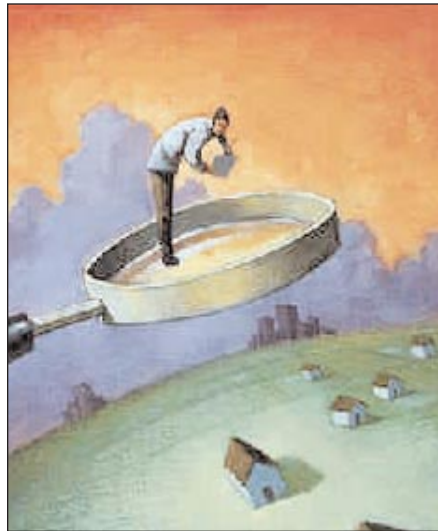


Chapter 5 Conformity Assessment

The term "conformity assessment" is used to describe any activity concerned with determining (either directly or indirectly) and attesting that relevant requirements are fulfilled. The resulting assurances may be incorporated in a supplier's declaration or in a third party program.

In the standards arena, conformity assessment involves evaluating products, processes or services to determine if they adhere to a set of specified requirements. Certification that a manufacturer adheres to the product requirements of a voluntary consensus standard provides a measure of confidence in the product or service. Resolving standardization and conformity assessment issues is critical to ensuring U.S. success in a world marketplace.

In line with ANSI's activities to promote global acceptance of U.S. products and services by reducing duplicative marking requirements and certification costs and by ensuring a level playing field, the Institute's Vice President of Conformity Assessment, John Donaldson, is providing leadership as Chairman of the ISO Conformity Assessment Committee (CASCO).



CASCO is the central point within ISO for conformity assessment activities. The group prepares international guides and International Standards relating to the practice of testing, inspection and certification of products, processes and services, and to the assessment of management systems, testing laboratories, inspection bodies, certification bodies, accreditation bodies and their operation and acceptance. CASCO is also actively promoting mutual recognition and acceptance of national and regional conformity assessment systems, and the appropriate use of International Standards for testing, inspection, certification, assessment and related purposes.

Although ANSI does not conduct tests or technical evaluations, it does accredit other organizations to serve as third-party product and personnel certifiers. In partnership with the Registrar Accreditation Board (RAB), ANSI provides interested U.S. parties with a recognized program for the accreditation of registrars and auditor training course providers for ISO 9000 (quality) and ISO 14000 (environmental) management systems. This joint program gained international recognition during 1998 when the International Accreditation Forum (IAF) evaluated the Quality Management System (QMS) program and found it to meet all applicable international requirements for competent operation.

The ANSI Federation's principal conformity assessment goals are as follows:

- to provide a policy forum to represent U.S. interests at the domestic, regional and international levels, addressing such issues as the mutually supportive roles of the public and private sectors, cooperation/coordination with U.S. government representation of U.S. interests in relevant multilateral and bilateral trade negotiations, U.S. access to foreign conformity assessment systems, and the role of manufacturer's declaration vis-a-vis independent third party activities, etc.;
- to provide and assure U.S. interests full access to the private sector international and regional organizations that set requirements on conformity assessment programs and operating such programs;
- to collect and disseminate timely, accurate information on national, regional and international conformity assessment, and
- to provide a private sector based national accreditation mechanism for conformity assessment programs (such as product and quality management systems) that facilitate sectoral approaches to satisfy U.S. needs for products and services to flow freely in both domestic and foreign markets.

The Institute's expanded programs in the area of conformity assessment have resulted in:

- establishment of the above-referenced ANSI-RAB program for accreditation of registrars of quality and environmental management systems;
- U.S. membership in the International Accreditation Forum (IAF), and establishment of an organizational commitment to expand ANSI's role in national accreditation organizations in other countries, with the ultimate goal of reaching mutual recognition agreements based on principles and practices reflected in our programs;
- completion of major policy positions on public/private sector cooperative programs to advance U.S. access to foreign conformity assessment programs;
- expansion of the level of U.S. involvement in the relevant international fora where conformity assessment issues are discussed and programs are operated;
- frequent meetings and dialogue with the European Commission on U.S. access to the European market;
- publication of comprehensive accurate information on the European approach to assessment of conformity;
- sponsorship of national educational events to raise general awareness of conformity assessment issues and domestic implications of international trends;
- establishment of a Board Committee on Conformity Assessment;
- high level staff support for the ongoing ANSI accreditation program for certification programs; and
- organizational leadership in the creation of a national forum for all materially interested parties on conformity assessment.

5.1 Recent Accomplishments

5.1.1 ANSI - Registrar Accreditation Board (RAB) Cooperative Relationship and the National Accreditation Program (NAP) Related to Management System Standards

1997 was the first full year of ANSI's cooperative relationship with the Registrar Accreditation Board (RAB) to provide accreditation services for registrars and course providers on quality and environmental management system standards.

The program uses internationally accepted guides and procedures as the basis for the national accreditation of registrars of management systems. As a result, the industrial clients of accredited registrars have confidence that these registrars are competent and that the quality and environmental management system registrations will be accepted both in the U.S. and the global marketplace. The ANSI-RAB program also provides accreditation for auditor course providers. In recognition that international acceptance of U.S. registration to ISO 9000 and ISO 14000 will be a key to continued U.S. competitiveness, high priority has been placed within the program on cooperation and dialogue with counterpart accreditation activities in other countries and internationally. This effort has led to a multi-lateral mutual recognition agreement among 16 nationally based accreditation systems including the ANSI-RAB program. The program is also positioned to serve as the "competence demonstration" element relating to quality system assessments as required as part of formal government to government mutual recognition agreements for regulated products.

ANSI-RAB also signed an agreement with the Standards Council of Canada recognizing the equivalence of each other's QMS programs and agreeing to share evaluation results. Accredited product certification programs increased nearly 15% and nine states now recognize ANSI accreditation as a requirement in selected areas.

5.1.2 Accreditation of Certification Programs

The ANSI program for accrediting certification programs was established in the early 1970s in response to a need for national recognition of effective certification programs, as a private sector mechanism for self-regulation and market value enhancement, and as a mechanism to be used by government agencies for purchasing and regulatory compliance purposes. While historically the majority of U.S. products have been backed by a manufacturer's declaration of its product's conformity to particular requirements, use of third party certification has been found appropriate particularly in the health, safety, and environmental areas.



The ANSI accreditation process includes an initial assessment followed by continuing surveillance of a certification program in order to ensure compliance with ANSI criteria. For example, accreditation of water quality additive certification programs illustrates one of the "value added" measures of such a national program. The U.S. Environmental Protection Agency establishes requirements for drinking water quality but each individual state is responsible for the standards enforcement. The American Water Works Association and the Association of State Drinking Water Administrations have recommended that each state accept ANSI accreditation of drinking water additive certification programs rather than develop their own accreditation programs.

U.S. suppliers have frequently encountered foreign certification requirements as a condition of market access. U.S. suppliers' interest in using U.S.-based certification programs to demonstrate conformity with the foreign requirements is growing. This has led to the desirability of increasing the world wide acceptance of product certifications performed in the U.S., and to the promotion of reciprocal agreements between U.S. and foreign certification organizations. The use of national accreditation systems to assess the competence of such certification programs is also growing as a factor in establishing the equivalency of certification programs around the world.

ANSI's policies and procedures for accrediting certification programs were revised in 1992 to be consistent both with the relevant international standards and guides, and with expected obligations for conformity assessment programs under the Uruguay round on GATT negotiations. The Institute is also working cooperatively with foreign national accreditation systems to establish the commonality of the processes with the ultimate goal of completing private sector to private sector mutual recognition agreements. In addition, ANSI has offered its accreditation program as a tool for U.S. government use in establishing competence of certification programs when government to government mutual recognition is involved, as in the case of products subject to European Commission Directives. Thus, a high priority has been placed on securing world-wide acceptance of certifications performed by U.S. certification organizations when certification is a factor in foreign market access.

ANSI has accredited programs in the following areas:

Automotive lifting devices	Personal protective and safety equipment
Bottled water and packaged ice	Plastic piping systems and components
Building and institutional furniture	Plumbing products
Class II biohazard cabinetry	Sanitation products
Drinking water additives	Sealed insulating glass
Drinking water treatment units	Solar energy
Electric appliances and accessories	Swimming pools, spas and components
Electrical products	Treated wood
Food service equipment	Wastewater treatment units
Gas appliances and accessories	Windows and doors
Manufactured products and recreational vehicle plumbing products	

5.1.3 National Cooperation for Laboratory Accreditation (NACLA)

For many of the same national and international considerations leading to ANSI's role in accreditation programs for certification and registration, the Institute instructed the Board Committee on Conformity Assessment (BCCA) to initiate an effort to bring focus and coordination to the many U.S. based laboratory accreditation programs. ANSI, with other interested parties, is a founding member of the National Cooperation for Laboratory Accreditation. Incorporated in 1998, NACLA's mission is to bring efficiency and economy to laboratory accreditation in the U.S. ANSI is committed to supporting this effort.



Conclusion

A Milepost - Not a Destination

The value of standardization is difficult to quantify. Each project delivers its own unique cost savings or new market opportunities. The value equation differs for each participant. Yet hundreds of the world's most successful organizations continue to devote millions of dollars, francs, yen, lire, etc. to standardization each year. Why do they make this investment? What benefits are received?



When faced with the question "Why participate in standardization activities?" many global organizations respond with a short list of answers. In summary, internationally recognized standards and conformity assessment activities facilitate their ability to:

- develop new global markets and ensure foreign market access of their technology;
- obtain technology information, spot future market trends and network with other affected organizations;
- reduce time and costs in the product development cycle, including a reduction in the cost of component and materials acquisition through multi-sourcing;
- enhance public perception of good corporate citizenship and raise consumer confidence in a product or service by ensuring compliance with a "globally-recognized solution" to technical, safety and health, environmental, and other issues;
- minimize anti-trust and product liability exposure;
- reduce delays and costs of multiple tests or marking requirements in the export of goods and services;
- manage the impact of global standards and conformance requirements on an organization.

Standards lend economic benefit because consumers want products that will work together. When products are interoperable and safe consumers are satisfied. Satisfied consumers will buy again. Industry is satisfied when sales are good. It's a win-win situation.

This publication has attempted to illustrate:

- the value and tangible benefits of global standardization initiatives;

- the changing roles and prominence of standards and standardization;
- the growing awareness of standardization and conformity assessment programs, and
- the specific actions taken and successes realized by ANSI in relation to international standardization and conformity assessment.

Yet it must be recognized that this *Global Action Report* is written as a point-in-time view. Business and international commerce are fluid and dynamic. New industries, products, partnerships, regulations and opportunities are continually introduced; with these changes come new standards needs and challenges. Voluntary consensus standards systems and conformity assessment programs must be ready to respond.

ANSI is well aware of the evolving nature of the businesses, organizations, government bodies and consumers we serve. We remain committed to providing the best possible service to enhance U.S. participation in new or existing international standardization and conformity assessment activities. Through your active participation and involvement, the U.S. will help to shape a world of expanding international trade, healthy competition, rapid technological growth and unparalleled opportunities for global prosperity.



Annex 1 A Look at the ANSI Federation

History

The organization that is now the American National Standards Institute (ANSI) was founded on October 19, 1918 as the American Engineering Standards Committee (AESC) to ensure that U.S. voluntary standards would be produced in a manner which eliminated or minimized waste, duplication of efforts and conflicting standards. The founding organizations included the American Society of Civil Engineers (ASCE), American Institute of Mining and Metallurgical Engineers (AIMME), American Society of Mechanical Engineers (ASME), American Institute of Electrical Engineers (now called the Institute of Electrical and Electronics Engineers (IEEE)), and the American Society of Testing and Materials (now referred to as ASTM). Invited by these five engineering societies to join them as founders, the U.S. Departments of War, Navy, and Commerce were instrumental in establishing the organization that exists today as ANSI.

In 1906 the International Electrotechnical Commission (IEC) was founded to develop standards for the electrical and electronics industries. Through the United States National Committee (USNC), the U.S. has been an active participant in IEC since its inception.

In 1946 the need for an international organization to develop standards in all other technical fields was identified. In that year, following a meeting in London, the Institute (then called the American Standards Association) joined with the national standardizing bodies of twenty-five other countries to form the International Organization for Standardization (ISO).

The mission of ISO is to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services, and to developing cooperation in the spheres of intellectual, scientific, technological and economic activity. ANSI's chief executive officer was named ISO's first president. Since its origination, the U.S., via ANSI, has been a strong, active leader in ISO.

Although the Institute has undergone a number of name changes during its 80+ years of existence, its principal goals have remained unchanged: the administration of the U.S. private sector voluntary standardization system, the provision of a national consensus process to approve American National Standards, and the representation of U.S. standards interests in the international standardizing bodies.

Functions

As coordinator of the U.S. private sector-administered voluntary standardization system, ANSI is unique in that it does not develop standards, but rather, facilitates development of consensus within qualified standards developing groups. The Institute provides a forum where the private and public sectors can cooperatively work together

toward the development of voluntary national consensus standards. All of the major standards developing organizations are members of the Institute; a huge percentage of the standards developed in the U.S. originate within the members of the ANSI Federation. Currently, there are more than 260 ANSI-accredited standards developers working within the Federation. This distributed characteristic of the U.S. system and its strong marketplace orientation are among its greatest strengths.

The Institute's functions include:

- serving as the national body for voluntary standardization activities in the United States, through which standards developing groups may cooperate in establishing, approving and improving standards based on a consensus of all interested parties;
- promoting the voluntary standardization system as a means of advancing the national economy, benefiting the public health, safety and welfare, and facilitating domestic and international trade and commerce;
- establishing, promulgating and administering procedures and criteria for the recognition and approval of American National Standards;
- encouraging existing organizations to develop and submit standards for approval; and
- representing the interests of the U.S. voluntary standards system in international non-treaty standardization organizations.

Membership

The ANSI Federation is a unique partnership that welcomes to its ranks both manufacturing and service businesses, professional societies, trade associations, standards developers, academia, government agencies, and consumer and labor interests. ANSI membership includes approximately 650 companies, 30 government agencies and more than 250 technical, trade, labor and consumer groups. The strength of the ANSI Federation lies in this diversity, the expertise of our membership and their willingness to work together for the benefit of the U.S. There are virtually thousands of companies that have representatives participating in national and international standardization activities.

ANSI provides the infrastructure in which its members are able to participate in policy direction at both the national and international levels. Each ANSI member is entitled to participate on the relevant ANSI membership council and has the opportunity to be considered for participation on other ANSI policy-making groups. ANSI membership by companies, organizations and government agencies supports the Institute's efforts to:

- promote a self-regulated and strong privately administered voluntary national and international standards system.
- provide national and international recognition of standards, which in turn contributes to credibility and strength in domestic and international commerce.
- assist companies in reducing costly and time-consuming duplication through the development of cohesive, timely and relevant standards, as well as assuring product quality and safety.

- provide an integrated set of standardization policies and strategic services required by the various U.S. industrial sectors to successfully compete in a global economy.
- facilitate participation in the development and establishment of national consensus standards that are widely accepted by all sectors and that are often adopted by government for its use in both procurement and in regulatory programs.

Organizational Structure

The overall organization of the ANSI Federation has proven inherently flexible to meet a broad range of constituency interests. The direction taken in managing and coordinating a particular standardization technology is solely dependent upon the needs expressed by the interested parties in any one particular sector. In some sectors, there is a strong need for national standards (e.g. safety and health), in other sectors there is a strong need for global standards (e.g. information technology). The system is responsive to the needs of all sectors.

Figure 5 provides an overview of the organizational structure of the ANSI boards, councils and committees that are referred to in this publication and its annexes. Additional information on these groups is available via the *ANSI Online* web site (www.ansi.org).

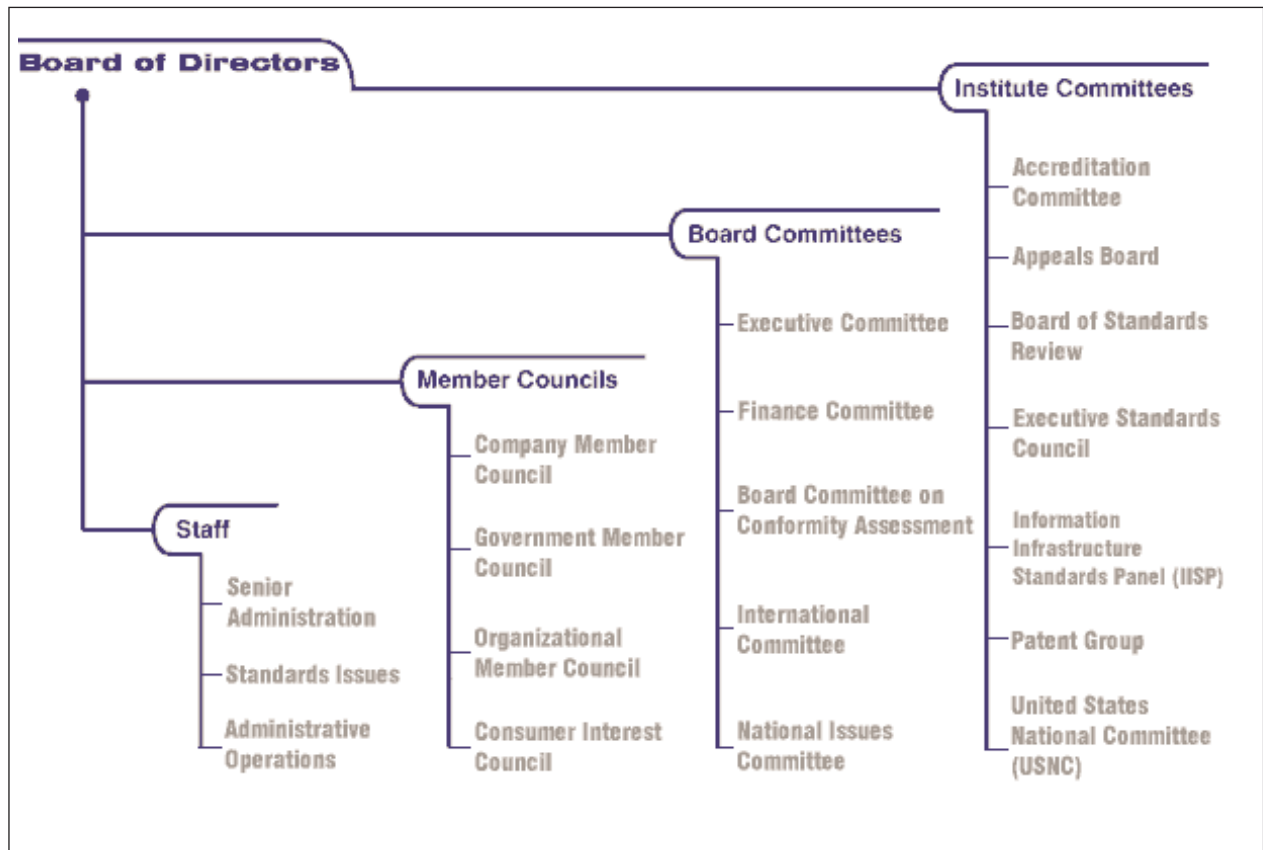


Figure 5
Organizational Structure of ANSI Boards and Councils

The ANSI Board of Directors

The activities, affairs and property of the Institute are managed and controlled by a Board of Directors. As of January 1, 1998, the Board consisted of over 50 senior level representatives from various elements of the Institute's membership: industry, government, trade associations, professional societies, consumer representatives and academia. From among these representatives a chairman and four vice-chairmen are elected. In practice, the Board members are directly involved in the governance of the Institute by their participation in one or more Board committees. The following Board committees provide opportunities for U.S. interests to participate in and influence international standardization and conformity assessment:

National Issues Committee

The National Issues Committee (NIC) develops policies or positions for the Institute with respect to broad-based domestic standards issues. The NIC is composed of members of the ANSI Board of Directors concerned with domestic standards issues.

International Committee

The International Committee (IC) develops policies for the Institute with respect to international and regional standardization, certification and related activities. In addition, it continually monitors international developments that may impact the U.S. ability to compete in the global market of the future. The IC is composed of members of the ANSI Board of Directors concerned with international standards issues.

ANSI International Forum

Several years ago the *ANSI International Forum (AIF)* was created as an arm of the International Committee (IC). AIF members are the U.S. chairs and secretaries of ISO technical committees and subcommittees as well as the Chairs and administrators of U.S. Technical Advisory Groups to ISO. This group, a valuable resource of practical experience and insight into the implementation of ISO policies and procedures, is called upon by ANSI in the consideration and development of recommended ANSI positions on procedural and technical issues that affect all ISO standards developing committees.

U.S. Technical Advisory Groups

Directly and materially affected parties may participate in the development of U.S. consensus positions for international (ISO and IEC) activities through their involvement with a U.S. Technical Advisory Group (U.S. TAG). TAGs are accredited with the primary purpose of developing and transmitting, via ANSI or its USNC, U.S. positions on issues coming before the international technical committee.

TAGs for ISO activities are accredited by the ANSI Executive Standards Council (ExSC) and operate in compliance with the *ANSI Procedures for U.S. Participation in the International Standards Activities of the ISO*. U.S. TAG Administrators appointed by ANSI are responsible for ensuring procedural compliance by the U.S. TAG and for coordination of U.S. TAG activities.

In IEC, a Technical Advisor (TA) with the support of a Technical Advisory Group, has primary responsibility for developing U.S. positions. The U.S. National Committee to the IEC and its Executive Committee coordinate overall activities.

United States National Committee of the International Electrotechnical Commission

The United States National Committee of the International Electrotechnical Commission (USNC) is responsible for U.S. representation in the IEC and other electrotechnical bodies associated with the IEC on behalf of the Institute, with oversight

by the Board of Directors. The USNC includes representatives from industrial groups, government bodies and professional societies. It has an executive committee composed of its president, three vice presidents and fifteen additional members elected by the USNC. The USNC manages its technical work by appointing a technical advisor (TA) and a supporting Technical Advisory Group (TAG) for each IEC technical committee and subcommittee in which the U.S. has membership.

Board Committee on Conformity Assessment

The Board Committee on Conformity Assessment (BCCA) serves as the single focal point for coordinating, developing and maintaining ANSI's activities addressing conformity assessment. The committee makes policy recommendations to the Board of Directors related to conformity assessment and provides oversight for ANSI's operational programs. The BCCA is composed of members of the ANSI Board of Directors concerned with conformity assessment issues.

Membership Councils

The Institute has three councils representing the various elements of its membership, and each ANSI member is considered a member of the relevant councils. These councils are the Company Member Council (CMC), with its Executive Committee (CMCEC); the Government Member Council (GMC); and the Organizational Member Council (OMC).

These councils consider specific issues from their unique perspectives, and their major activities include:

- advising the ANSI Board of Directors on policy, organization, planning and priorities with respect to standards, conformity assessment and other related matters;
- serving as channels of communication for presenting the views of their members on policies and programs of the Institute;
- assisting in implementing programs to attract an adequate and widely representative body of members in these membership groups; and
- recommending to the nominating committee of the Board of Directors candidates for membership on the Board from each membership council.

A fourth group, the Consumer Interest Council (CIC), facilitates the representation of consumers' interest in the voluntary standards process and enhances the effectiveness and credibility of the ANSI Federation. Membership in ANSI is not a requirement for participation in the CIC.

Board of Standards Review

The Board of Standards Review (BSR) is responsible for approving new American National Standards and for acting on proposals to reaffirm, revise or withdraw existing American National Standards, based on evidence demonstrating that consensus has been achieved and due process was afforded to all directly and materially affected interests. Members of the BSR serve as individuals, not as representatives of any organization or company. The principal qualification for membership is the competence and ability to render impartial judgment based on evidence of consensus and due process, as described above.

Executive Standards Council

The Executive Standards Council (ExSC) promulgates and oversees the policies and procedures governing the development and coordination of American National Standards, and the criteria for the development and coordination of U.S. positions in the international standardization activities of the ISO and IEC. The ExSC accredits

standards developers who intend to submit their standards for consideration as American National Standards, and U.S. Technical Advisory Groups to ISO technical committees and subcommittees. Membership on the ExSC provides for representation from the four major ANSI membership interest groups (i.e., trade and professional organizations, government agencies, consumer groups and companies).

Standards Boards

A standards board (SB) is a standing organization within ANSI with planning and coordinating responsibilities for a defined scope of national and international technical activity. While standards boards neither develop nor approve standards, they provide a forum where developers and other concerned interests can discuss relevant issues such as developing technologies, coordination of interrelated standards, problems facing standards developers, possible solutions, overlap issues, etc. Standards Boards are completely self-funded by their members. Membership on standards boards is open only to ANSI members, except by special action of the Executive Committee of the ANSI Board of Directors.

Appeals Board

The Appeals Board is the final level of appeal within ANSI, and considers appeals by directly and materially affected interests who believe they have been or will be adversely affected, whether in the form of action or inaction, in the implementation of the Institute's policies and procedures. Appeals are considered based upon the evidence presented before the body that made the decision from which the appeal is taken (e.g. Board of Standards Review, Executive Standards Council, etc.). The Appeals Board is made up of individuals who have provided competent service to ANSI and the voluntary consensus standards system.

Information Available from ANSI

ANSI is a source of both technical and non-technical standards-related information. *ANSI Online* (www.ansi.org) is designed to provide convenient access to timely and relevant information on the ANSI Federation and the latest national, regional and international standards-related activities.

Through ANSI Online, the *Electronic Standards Store (ESS)* can be accessed for electronic purchase and download of published standards via the World Wide Web. Many national and international standards are now available for purchase and delivery electronically.

The *NSSN: A National Resource for Global Standards* (www.nssn.org) is one of the world's most comprehensive online databases providing information about approved standards and those under development. The NSSN provides users with a wide range of standards information from major standards developers, including developers accredited by ANSI, other U.S. private sector standards organizations, government agencies (including the Department of Defense), regional and international standards organizations.

Standards Action is a bi-weekly newsletter that announces standards development activities and solicits comments on draft national, regional, international and foreign standards. This publication is available via the ANSI Online web site (<http://web.ansi.org/standardsaction/>) or in hard-copy format via subscription.

Another on-line publication, the *ANSI Reporter*, is a prime source of timely information on the overall activities of the federation. This online web-magazine is published quarterly and provides updates on major national and international standardization policy activities, commentary and opinions on the marketplace and reports on the legislative and public policy impacts of varied standardization activities. The ANSI Reporter is available via ANSI Online at (<http://web.ansi.org/reporter/>).



Annex 2 Acronym Directory

Acronyms used in this publication include:

AAMI	Association for the Advancement of Medical Instrumentation
ACEC	IEC Advisory Committee on Electromagnetic Compatibility
ACET	IEC Advisory Committee on Electronics and Telecommunications
ACOS	IEC Advisory Committee on Safety
ACTPN	Advisory Committee for Trade Policy and Negotiations
AFNOR	Association Francaise de Normalization
ANSI	American National Standards Institute
ASHRAE	American Society of Heating, Refrigeration and Air-Conditioning Engineers
ASTM	ASTM (formerly the American Society of Testing and Materials)
BSI	British Standards Institution
BSR	Board of Standards Review
CA	IEC Committee of Action
CASCO	ISO Council Committee on Conformity Assessment
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
CIC	Consumer Interest Council
COPANT	Pan American Standards Commission
COPOLCO	ISO Council Committee on Consumer Policy
CPSC	Consumer Product Safety Commission
DIN	Deutsches Institut für Normung
DoC	U. S. Department of Commerce
EC	European Community
EEC	European Economic Community
EOTC	European Organization for Testing and Certification
ETSI	European Telecommunications Standards Institute
ExSC	Executive Standards Council
FCC	Federal Communications Commission
FDA	Food and Drug Administration
GSA	General Services Administration
HUD	U. S. Department of Housing and Urban Development
IC	International Committee
IEC	International Electrotechnical Commission
IEST	Institute of Environmental Sciences and Technology
INFCO	ISO Council on Information
ISO	International Organization for Standardization
ISONET	ISO Information Network
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
JISC	Japanese Industrial Standards Committee

JSA	Japan Standards Association
JTAB	ISO/IEC Joint Technical Advisory Board
JTC 1	ISO/IEC Joint Technical Committee 1- Information Technology
NCCLS	NCCLS (formerly the National Committee for Clinical Laboratory Standards)
NIST	National Institute of Standards and Technology
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
PASC	Pacific Area Standards Congress
REMCO	ISO Council on Reference Materials
SAE	Society of Automotive Engineers
SC	Subcommittee
TC	Technical Committee
TMB	ISO Technical Management Board
USNC	United States National Committee
U. S. TAG	United States Technical Advisory Group



Annex 3 References and Points of Contact

General Information

<i>ANSI OnLine</i>	www.ansi.org
<i>NSSN: A National Resource for Global Standards</i>	www.nssn.org
Education and Training Services	www.ansi.org/public/services/edu/ edu_blue.htm
Events Calendar	<a href="http://www.ansi.org/public/events/
events_new.asp">www.ansi.org/public/events/ events_new.asp
Membership Information	www.ansi.org/public/member.html
News	www.ansi.org/public/news.html
<i>ANSI Reporter</i>	www.ansi.org/reporter/
<i>Standards Action</i>	www.ansi.org/standardsaction/
ANSI Reference Library	<a href="http://www.ansi.org/public/library/internet/
resources.html">www.ansi.org/public/library/internet/ resources.html
Strategic Plan	<a href="http://www.ansi.org/public/ansi_info/
1999plan/sp99.html">www.ansi.org/public/ansi_info/ 1999plan/sp99.html
Vision Statement	www.ansi.org/public/about.html

National Standardization

Accreditation Methods Of Standards Developers	<a href="http://www.ansi.org/public/std_info/
acred_meth.html">www.ansi.org/public/std_info/ acred_meth.html
Accredited Standards Developers	www.ansi.org/public/db_list.html
<i>Procedures for the Development and Coordination of American National Standards</i>	<a href="http://www.ansi.org/public/library/
std_proc/default.htm">www.ansi.org/public/library/ std_proc/default.htm

*Procedures for the Development
of ANSI Technical Reports*

www.ansi.org/public/library/std_proc/default.htm

Appeals Board

www.ansi.org/rooms/room_61/default.htm

Board of Standards Review

www.ansi.org/rooms/room_60/default.htm

Executive Standards Council

www.ansi.org/rooms/room_59/

National Issues Committee

Under development

Directory of Other U.S.
National Standards Developers

www.ansi.org/public/library/internet/resources.html

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International and Regional

International Electrotechnical
Commission (IEC)

www.iec.ch

International Organization for
Standardization (ISO)

www.iso.ch

ISO/IEC JTC 1 Web Site

www.jtc1.org

Web-Based Information on
Regional Standardization in Europe

www.ansi.org/rooms/room_63/default.htm

*American Access to the
European Standardization Process*

www.ansi.org/public/library/eu_access/default.htm Web-Based

Information on
Regional Standardization in
Pacific Rim Countries

www.ansi.org/rooms/room_65/default.htm

or www.pascnet.org

Web-Based Information on
Regional Standardization in
the Americas

[www.ansi.org/rooms/room_64/
default.htm](http://www.ansi.org/rooms/room_64/default.htm)

or www.copant.org

Other International
Standards Development Web Sites

[www.ansi.org/public/library/
internet/intl_reg.html](http://www.ansi.org/public/library/internet/intl_reg.html)

International Committee

[www.ansi.org/rooms/room_54/
default.htm](http://www.ansi.org/rooms/room_54/default.htm)

ANSI International Forum

[www.ansi.org/rooms/room_19/
default.htm](http://www.ansi.org/rooms/room_19/default.htm)

U.S. National Committee
for the IEC

[www.ansi.org/rooms/room_22/
default.htm](http://www.ansi.org/rooms/room_22/default.htm)

*Operating Procedures of the
United States National Committee
of the IEC*

Not currently available via ANSI OnLine.
Please contact Charles Zegers of ANSI
staff (see below) to obtain copies of this
document.

*ANSI Procedures for
Participation in the International
Standardization Activities of ISO*

[www.ansi.org/public/library/
std_proc/finitnl.html](http://www.ansi.org/public/library/std_proc/finitnl.html)

*Guide for U.S. Delegates to
IEC/ISO Meetings*

Not currently available via ANSI OnLine
Please contact Steven Cornish of ANSI
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document.

*IEC/ISO Directives, Part 1:
Procedures for the Technical Work*

[www.ansi.org/public/library/
isoiec.html](http://www.ansi.org/public/library/isoiec.html)

*IEC/ISO Directives, Part 2:
Methodology for the Development of
International Standards*

Not currently available via ANSI Online.
Please contact ANSI's Customer Service
Department (Phone: 212-642-4900) to
obtain copies of this document.

*IEC/ISO Directives, Part 3:
Rules for the Structure and Drafting
of International Standards*

[www.ansi.org/public/library/ isoiec.html](http://www.ansi.org/public/library/isoiec.html)

*Guidelines for TC/SC Chairmen and
Secretariats for Implementation of the
Agreement on Technical Cooperation
between ISO and CEN (Vienna Agreement)*

www.iso.ch/dire/vaguide.html

Electronic Authoring Tools
for the Preparation Of ISO
and ISO/IEC Standards www.ansi.org/public/library/isoiec.html

IEC/ISO JTC 1 Directives,
Procedures for the Technical Work
of ISO/IEC JTC 1 www.ansi.org/public/library/isoiec.html

ISO/IEC JTC 1 Directives,
Transposition of Publicly Available
Specifications (PAS) into International
Standards - A Management Guide www.ansi.org/public/library/isoiec.html

ISO Memento
The ISO Memento in its hard-copy form
is not currently available online, but the
information contained therein is available
at www.iso.ch/infoe/comm/TC.html

ISO Catalogue www.iso.ch/infoe/catinfo.html

U.S. Participation by U.S.
Technical Advisory Groups (US/TAGs)
in ISO Activities www.ansi.org/public/db_list.html
or www.nssn.org

U.S. Participation by U.S.
Technical Advisors (US/TAs)
in IEC Activities www.ansi.org/public/db_list.html
or www.nssn.org

U.S. Secretariats of ISO Activities
Not currently available via ANSI OnLine.
Please contact Steven Cornish of ANSI
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U.S. Secretariats of IEC Activities www.ansi.org/rooms/room_22/public/direct1.pdf

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Government Relations

ANSI Government Member Council	www.ansi.org/rooms/room_51/default.htm
ANSI Public Policy News	www.ansi.org/public/news.html
DoD Standardization Program	www.dsp.dla.mil/
NIST Office of Standards Services	ts.nist.gov/ts/htdocs/210/210.htm
U.S. Government Inter-Agency Committee on Standards Policy	ts.nist.gov/ts/htdocs/210/215/icspdes.htm

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Conformity Assessment

ANSI Conformity Assessment	www.ansi.org/public/ca_act.html - www.rabnet.com/qr_dir.htm - www.rabnet.com/er_dir.htm
Board Committee on Conformity Assessment	www.ansi.org/public/str_man/bd_com/bcca.html
<i>ANSI Policy and Criteria for Accreditation of Certification Programs</i>	www.ansi.org/public/ca_act.html
<i>ANSI Manual of Operations for Accreditation of Certification Programs</i>	www.ansi.org/public/ca_act.html
<i>Operating Procedures of the Accreditation Committee</i>	www.ansi.org/public/ca_act.html
<i>Application For Accreditation of Product Certification Program</i>	www.ansi.org/public/ca_act.html
<i>Application Form For Accreditation of Certification Program</i>	www.ansi.org/public/ca/apply/intro.html

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