

# 美国标准化体系的发展前景



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# The Future of Standards Development in the United States



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# 当今美国的自发标准体系



美国的标准体系在很大程度上要依赖于私营领域。政府一般不督促标准制定的过程，而是作为一名积极的参与者及合作伙伴。

- 400 家私营领域的标准制定组织
  - 制定各个领域的行业标准：健康与安全、财产与环境保护以及为实现协作而制定的标准
  - 与各标准组织相互合作 — ASTM, ASME, IEEE, NFPA, UL
- 美国国家标准协会
  - 标准制定者的资格认定
  - 批准美国国家标准，但自身并不参与标准制定
- 目前自发标准的数量达 30,000 个：
  - 其中有 10,000 个成为美国国家标准

# United States Voluntary Standards System Today



*The US system relies heavily on the private sector. While the government generally has not driven the process, it has served as an active participant and partner.*

- 400 private-sector standards development organizations
  - develop standards that serve health and safety, protection of property and the environment, and interoperability objectives
  - collaborate with one another—ASTM, ASME, IEEE, NFPA, UL
- American National Standards Institute
  - accredits standards developers
  - approves American National Standards; does not write standards
- 30,000 current voluntary standards:
  - 10,000 are American National Standards

# 当今美国的自发标准体系



联邦政府、各州和当地政府负责制定并发布采购规范、强制性法规、规则和规定，但是在自发标准中，他们所充当的角色则不同。

- 美国政府：
  - 参与标准制定组织的组建过程
  - 提供测量设备和技术基准作为对标准中某些要求的支持
  - 参考适用标准，而不是制定自己的技术要求。
- 主要机构包括：
  - 美国标准与技术研究院、国防部、消费品安全委员会、食品和药品管理局、环保局、职业安全健康管理局和国土安全部

# United States Voluntary Standards System Today



*Federal, state, and local governments develop and issue procurement specifications and mandatory codes, rules, and regulations, but they play a different role in voluntary standards.*

- The US government:
  - participates in the development process of standards development organizations
  - provides the measurement structure and technical basis underpinning some of the requirements in standards
  - references applicable standards rather than developing technical requirements of its own.
- Key agencies:
  - NIST, DOD, CPSC, FDA, EPA, OSHA and DHS

# 当今美国的自发标准体系



国家技术转化与促进法 (NTTAA) 鼓励美国政府机构参与到自发统一标准的制定和应用中来。

## 目标:

- 减少政府开支并减轻遵守机构规定带来的负担
- 鼓励制定可满足国家需要的自发统一标准
- 通过标准的统一来支持美国各行各业的发展、行业竞争力及工作效率
- 保持各项要求的相关性

# United States Voluntary Standards System Today



*The National Technology Transfer and Advancement Act (NTTAA) encourages US government agencies to participate in the development and use voluntary consensus standards.*

## Objectives:

- reduce government costs and the burden of complying with the agency regulation
- encourage development of voluntary consensus standards that meet national needs
- support growth, competitiveness, and efficiency of US industry through harmonization of standards
- maintain the relevancy of requirements

# 当今美国的自发标准体系



公开、平衡、一致和正当的程序是美国国家标准程序的基本原则。

优势：

- 全面的专业水准
- 能够体现各利益相关方的需求
- 制定的标准“不偏不倚”
- 国际力量的参与
- 自下而上法

# United States Voluntary Standards System Today



*Openness, balance, consensus, and due process are the fundamental principles of the American National Standards process.*

## Advantages:

- Comprehensive expertise
- Stakeholders' needs are reflected
- Produces “balanced” standard
- International participation
- Bottom-up approach

当政府开始采纳私营领域的标准时，所有利益相关方自然会从中受益

- 在自发统一标准的制定过程中，程序上的负担将减轻
- 标准制定成本和（对政府而言的）采购成本有望降低
- 生产商和供应商们遵守标准的负担将减轻
- 有利于产品的跨辖区销售

# United States Voluntary Standards System Today



*Benefits accrue to all stakeholders when governments use private-sector standards*

- fewer procedural burdens in the voluntary consensus standards development process
- standards development costs and purchase costs (for the government) may be lowered
- compliance burden for manufacturers and suppliers is reduced
- facilitates selling of products across jurisdictions

# 美国标准化体系的前景



- 标准体系的基本原则将不会改变。
- 标准的作用不会降低，标准的发展将由受影响的相关利益方推动。
- 市场将推动新兴技术领域内的标准制定。
- 标准的制定过程必须反映出以技术为动力的领域（企业联盟等）的产品上市的时间敏感性。
- 美国政府越来越依赖于私营领域制定的标准。
- 技术的发展也促进标准的制定过程不断完善。
- 美国本土标准组织制定的标准正在为其他国家所采纳。
- 对标准统一性问题的关注力度将不断加大。
- 美国政府将设法解决影响到贸易的标准相关问题。

# The Future of Standards in the United States



- Fundamental principles of the system will not change.
- Role for standards will not diminish and will be driven by affected stakeholders.
- The market will drive standards development in emerging technologies.
- The development process must reflect time-to-market sensitivities of technology-driven sectors (consortia, etc...)
- The US government increasingly relies on private sector-developed standards.
- Technology is being used to improve the process.
- Standards of US-domiciled standards organizations are being used overseas.
- The focus on standards harmonization will increase.
- The US government seeks to address standards-related issues that affect trade.

标准将继续为“买卖交易”和法规提供基础

- 标准是制造商获得成功的基础
  - 通过保证产品质量、性能和安全性的最低要求，来营造一个合理竞争的市场环境
- 零售商和原始设备制造商(OEM)对某些行业认证产品的需求说明了标准的重要性

# The Role of Standards



*Standards continue to provide the basis for “buyer-seller transactions” and for regulation*

- Standards are the foundation of success for manufacturers
  - provide a level playing field by establishing minimum requirements that ensure product quality, performance, and safety
- Retailer and OEM demand for certified products in particular sectors illustrate the importance of standards

# 新兴技术的标准体系



市场需求推动了新兴技术相关标准的制定。

- 代用能源和燃料电池
- 安全、化学和辐射探测系统
- 生物测定学和纳米技术
- 信息技术和消费电子产品的融合

*Market needs drive the development of standards for emerging technologies.*

- Alternative energy and fuel cells
- Security, chemical and radiation detection systems
- Biometrics and nanotechnology
- Information technology and consumer electronics convergence

美国政府机构将更多地采用自发统一标准，同时力求加强公私间合作

- 1997-2000 年：
  - 采用的自发统一标准增加了 10 倍。
  - 自发行业标准取代政府唯一标准的数量增加了两倍。
- 2000 年。
  - 采用了 5,453 个自发统一标准（是 1999 年的两倍）。
  - 仅制定了 16 个唯一标准，同时取消了 537 个现有标准（较 1999 年降低了 82%）。

# The Government and Private Sector Standards



*US government agencies continue to increase their use of voluntary consensus standards and look to enhance public-private collaboration*

- In 1997-2000:
  - use of voluntary consensus standards increased ten-fold.
  - tripled the number of voluntary consensus standards substituted for government-unique ones.
- In 2000:
  - used 5,453 voluntary consensus standards (double that in 1999).
  - developed only 16 unique standards and eliminated 537 existing ones (an 82% decrease over 1999).

技术和互联网为改进标准的制定过程以及保证股东在国际上的广泛参与开辟了途径。

- 在国内或国际上，技术使管理流程得到了精简，提高了审批机制的效率。
- 互联网为国际利益相关方增强参与美国和国际标准的制定过程开辟了途径。

*Technology and the Internet offer ways to improve standards development processes and to ensure widespread participation of stakeholders around the globe.*

- At national and international level, technology shortens *administrative processes* and increases efficiency within the *approval mechanism*.
- The internet offers a way for international stakeholders to increase their *participation* in US and international standards development processes.

美国标准组织所制定的标准被国际上广所泛采用。

- 许多国家在采购和法规制定过程中会采用、使用和借鉴美国标准组织制定的标准。
  - ASME 锅炉压力容器规范
- 制定美国国家标准所采用的程序和原则符合WTO 技术性贸易壁垒协定对“国际标准”的定义。
  - “...以保证透明、公开、公正和统一以及有效性和恰当性、相关性...”

*Standards of US-domiciled standards organizations are used internationally.*

- Standards developed by US organizations are adopted, used, and referenced in other countries, both for procurement and regulation.
  - ASME boiler pressure vessel code
- The process and principles used to develop American National Standards meet the WTO TBT definition of an “international standard”.
  - “...to ensure transparency, openness, impartiality and consensus, effectiveness and relevance, coherence...”

各个行业对自身产品市场准入的关注是统一标准形成的驱动因素。制造商们希望通过一项标准认证即可在全球市场被接受。

- 市场的全球化发展主导着对全球性标准的需求。
- 然而市场所推动的应当是广泛认可的国际标准。
- 并非所有标准都需要是国际标准。
- 但是标准应当是全球性的，而且是基于合理的技术要求而制定的。

# International Organizations and Standards Harmonization



*Industry's interest in market access for its products is the primary driver for harmonization. Manufacturers want to comply with one standard and have their products accepted globally.*

- Globalization of the marketplace dictates the need for global standards.
- But the market should drive international consensus-based standards.
- Though not all standards will be international.
- And standards should be globally relevant and based on technically sound requirements.

美国是国际和地区统一标准制定活动的积极参与者。

- 美国
  - 既有通过政府的方式也有通过私营领域利益相关方的方式进行参与
  - 积极参与 ISO 和 IEC 众多领域内以及其他区域性标准（如 CANENA、PASC 以及 ETSI）的标准制定活动
  - 领导新兴技术领域的标准制定。

# International Organizations and Standards Harmonization



*The United States is an active participant in international and regional harmonization activities.*

- The United States
  - participates through both government and private sector stakeholders
  - is active in a wide-ranging scope of ISO, IEC and other regional standards development activities, such as CANENA, PASC, and ETSI
  - provides leadership in standards development in the fields of emerging technology.

有些情况下，业界需要地区性标准而不是国际标准。

- CANENA 是西半球统一标准制定工作的一种途径。
- 电缆接头标准是行业统一标准的典范。
  - 统一了加拿大的 CSA、UL 以及墨西哥的接头要求。
  - 经过历时数年的大量工作，一个统一的三国标准终于在 2003 年 11 月问世。

# International Organizations and Standards Harmonization



*From time to time, industry seeks regional standards instead of international standards.*

- CANENA is a venue for standards harmonization in the Western Hemisphere.
- Wire connectors standard is an example of harmonization serving industry well.
  - Effort to harmonize Canada's CSA, UL's, and Mexico's connector requirements.
  - Extensive work over several years led to a harmonized tri-national standard published in November 2003.

国际协议有助于保证标准对贸易的促进作用，而不会阻碍贸易的发展。

- 技术性贸易壁垒 (TBT) 协议
  - 国际贸易协议中首次提到的标准问题
  - 提供了有关标准制定、采纳和应用的框架
- 美国贸易协定法案 (1979) 实施了 TBT 协议。
  - 重申了国民待遇、国际标准和以性能为基础的标准的的应用

*International agreements help ensure that standards facilitate, rather than impede, trade.*

- Technical Barriers to Trade (TBT) Agreement
  - first time standards issues addressed in international trade agreement
  - provides framework regarding standards development, adoption, and use
- The Trade Agreements Act of 1979 implemented the TBT Agreement in the United States.
  - reiterated national treatment, use of international standards, and performance-based standards

美国政府力图解决与标准相关的贸易壁垒问题，对业界所关心的扩大出口所面临的~~最大~~难题之一——国外标准和技术规范这个问题做出回应。

- 2004年5月，美国商务部在报告中对如何改进商务部的现有标准程序提出了建议。
- 其中主要的建议之一就是与国外政府的沟通。
  - 国家和地区间就标准问题的积极对话能够防止标准演变为贸易壁垒。

*The US government aims to address standards-related trade barriers in response to industry concerns that foreign standards and technical regulations are among the biggest challenges to expanding exports.*

- May 2004 US Department of Commerce report recommends how the department could improve its existing standards programs.
- One key recommendation focuses on communications with foreign governments.
  - A more active standards dialogue between and among countries and regions could help prevent standards becoming trade barriers.

- 私营领域是美国标准体系的领导力量，美国政府充当着合作者、使用者和利益相关方的角色。
- 美国法律巩固了由私营领域担任领导力量的结构，由此形成了灵活、适应性强的体系。该体系优点突出、可带来实际效益。
- 来自内部和外部的因素都将对美国标准体系的日后发展产生影响。
- 但是基本原则是不会改变的，标准的作用也不会削弱，市场和社会的需求将继续推动标准的发展。

# What Does it All Mean?



- The US system is one in which the private sector leads and the US government is a partner, user, and stakeholder.
- US law reinforces the private sector-led structure, which produces a flexible and adaptable system with notable advantages and tangible benefits.
- That there are both internal and external factors that will influence the future of the US standards system.
- But the fundamental principles will not change, the role of standards will not diminish, and market and societal needs drive standards development.

- 美国政府对私营领域的依赖性日益增大。
- 技术进步可以改善标准的制定程序，保证所有股东的利益能够得到体现。
- 美国标准组织制定的标准具有全球性，其中有许多已成为了国际标准。
- 市场的全球化发展正在引发对国际标准的需求，同时我们也见证着国际标准和地区标准的进步。
- 标准的制定必须要促进而不是阻碍贸易的发展。

# What Does it All Mean?



- The US government increasingly turns to the private sector.
- That technological advances promise to help improve the standards development process and ensure all stakeholders' interests are reflected.
- That standards of US organizations are relevant globally and many are international standards.
- That globalization of the marketplace is driving the need for global standards, and that we're seeing progress in this area at both the international and regional levels.
- That standards development must be done in a way that facilitates, rather than impedes, trade.

# 谢谢!



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# Thank You!



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