

Module I

International Standardization
Introduction and Overview



Module I: Learning Objectives

- This module provides a general overview of international standardization, including:
 - Definition of basic terms and concepts
 - An overview of the benefits of participation in international standardization
 - An introduction to the:
 - i. Role of the U.S. National Committee of the International Electrotechnical Commission (USNC/IEC)
 - ii. Key international standards organizations
 - iii. Key regional standards organizations

Module I: Disclaimer

- The information contained in this self-taught learning module is intended as a summary of [documents and procedures](#) frequently used within the IEC and the USNC/IEC.
- For additional information about content addressed in this module, please contact the USNC staff (usnc@ansi.org).
- Additional information is also available via [USNC/IEC Education & Training](#).

Reference Materials & Source Documents

- [ISO/IEC Directives, Part 1: 2021](#)
Procedures for the technical work
- [ISO/IEC Directives, Part 2: 2021](#)
Rules for the structure and drafting of International Standards
- [ISO/IEC Directives, Part 1:2021 + IEC Supplement:2021](#)
Procedures specific to IEC
- [IEC Statutes and Rules of Procedures](#)
IEC membership and participation procedures
- [USNC Statutes: 2018](#)
- [USNC Rules of Procedure: 2005](#)
- [Model Operating Procedures for USNC/IEC TAGS: 2019](#)
- [Guide for U.S. Delegates to meetings of ISO and the IEC](#)
- [IEC Code of Conduct \(Patent Policy included\)](#)
- [IEC Diversity Statement](#)

Standardization is a global activity encompassing a myriad of interests



Standards
Developers and
Conformity
Assessment Bodies



Commercial
Interests



Government
Interests



Consumers,
Educational
Institutions, and
General Interests

One Standard, One Test, Accepted Everywhere



In a global marketplace, the objective of the standardization process must be a single, technically valid and globally relevant standard with a single test of conformance to that standard. This will allow products to be distributed for worldwide commerce without change or modification.

Definitions

- **Standards**

- *Formal technical documents for generally accepted products, procedures, and policies*

- **Standardization**

- *Use of common products, processes, procedures, and policies to facilitate attainment of business objectives*

- **Conformity Assessment**

- *A process whereby a product, process, service, or system is evaluated against a standard*

Definitions (cont.)

- Consensus
 - General agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interests and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments.

Source: ISO/IEC

Guide 2

IMPORTANT NOTE: *Consensus does not imply unanimity*

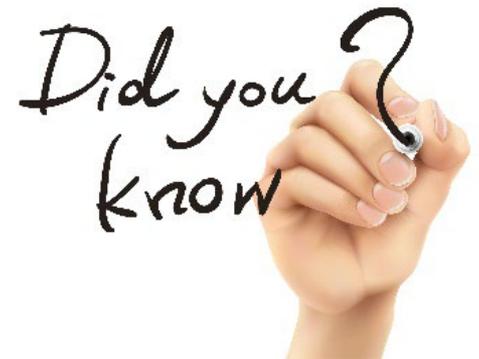


“Standards and technical regulations affect over 80 percent of global commodity trade”

Source: Benjamin H. Wu, Asst. Secretary for Technology Policy, U.S. Department of Commerce Testimony before the U.S. House of Representatives, Committee on Government Reform, May 13, 2005

Did you know...

- In accordance with the World Trade Organization's Technical Barriers to Trade Agreement, International Standards are:
 - developed within procedures intended to ensure global consensus
 - developed and applied on a voluntary basis, but are increasingly adopted or referenced by governmental bodies
- These standards shall be globally relevant and not “give preference to characteristics or requirements of specific countries or regions when different needs or interests exist in other countries or regions.”
- The World Trade Organization (WTO) fosters international trade based on, among others, conformity assessment practices that balance regulated public protection and heightened industrial competition.



Q: Why should one participate in the development of international standards?

- To facilitate the adoption of globally-accepted standards that will promote interoperability and commercial acceptance across the electrotechnical industry
- To gain access to international markets; promote the protection of consumers by improving safety and health standards in the electrotechnical industry; safeguard the environment
- To anticipate emerging standards and their impact on technology and global markets



Q: Why should one participate in the development of international standards? (cont)



- Standards are strategic business tools which help develop new global markets for electrical and electro-technology-related products and services.
- U.S. participation helps ensure international market access to U.S. technology and helps to eliminate non-tariff trade barriers.
- International standards are frequently adopted as, or used as the basis for, national and regional electrotechnical standards.
- Participation keeps one on the cutting edge of current technology and market trends.

The Big Three



International Electrotechnical Commission:

IEC was founded in 1906 to promote international cooperation on all questions of standardization in the fields of electricity, electronics and related technologies.

International Organization for Standardization:

The purpose of ISO (founded in 1947) is to facilitate the internationalization and unification of standards and related activities over almost the entire range of technology (except that covered by IEC).



International Telecommunications Union:

The purpose of ITU (founded in 1865) is to promote international cooperation on all questions of standardization in the fields of telecommunications and radio communications.

International Electrotechnical Commission

- The International Electrotechnical Commission (IEC), based in Geneva, Switzerland, is a global non-governmental organization that prepares and publishes international standards for all electrical, electronic and related technologies.
- Through its members, which are known as “National Committees”, the IEC promotes international cooperation on all questions of electrotechnical standardization and related matters, including the assessment of conformity to standards.



International Organization for Standardization

- The IEC's sister organization, ISO, is a non-governmental organization and network of the national standards bodies of countries, one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.
- ISO acts as a bridging organization in which a consensus can be reached on standards and conformity assessment solutions that meet both the requirements of business and the broader needs of society, such as the needs of stakeholder groups like consumers and users.



International Telecommunications Union

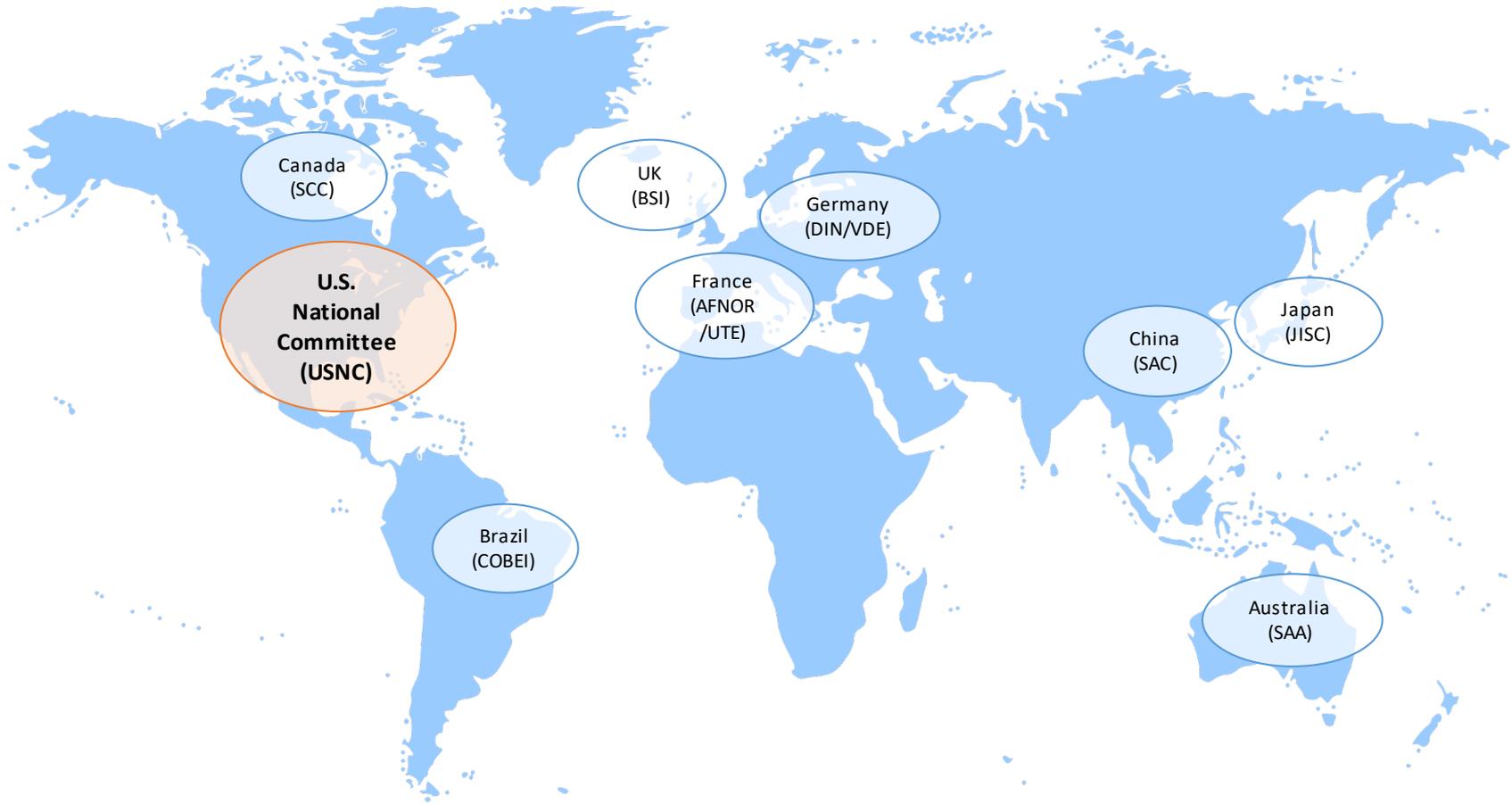
- ITU is a world-wide organization which brings governments and industry together to coordinate the establishment and operation of global telecommunication networks and services.
- ITU is responsible for standardization, coordination and development of international telecommunications including radio communications, as well as the harmonization of national policies.
- The ITU differs from ISO and IEC in that it was founded on the principle of cooperation between governments and the private sector



Guiding Principles of International Standards

- International standards should meet societal and market needs and should not be developed to act as barriers to trade
- ISO and IEC follow globally accepted principles of standards development:
 - Transparency
 - Openness
 - Impartiality
 - Effectiveness and relevance
 - Consensus
 - Performance-Based
 - Coherence
 - Due Process
 - Technical Assistance

National Committees Participating in the IEC

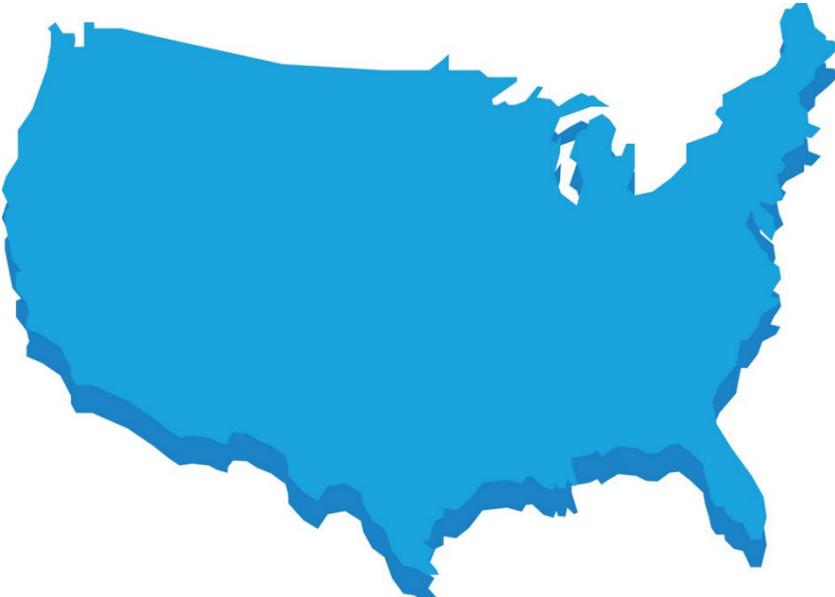


U.S. National Committee of the IEC

- The U.S. National Committee of the International Electrotechnical Commission ([USNC/IEC](#)) is a committee of the American National Standards Institute ([ANSI](#)).
- The USNC serves as the official U.S. member of the IEC and represents and coordinates the U.S. involvement in electrotechnical bodies associated with the IEC on behalf of ANSI.



U.S. National Committee of the IEC: Guiding Principles



- governance
- administration
- management
- guidance
- authority
- diplomacy
- influence

USNC/IEC's Mission

The **USNC/IEC** mission is to coordinate the effective participation in the development of IEC standards and conformity assessment systems to facilitate trade and to promote global safety, efficiency, reliability, and interoperability in the fields of all electrotechnologies. Provides a framework for USNC stakeholders to advocate for U.S. interests in international and regional electrotechnical-related matters.



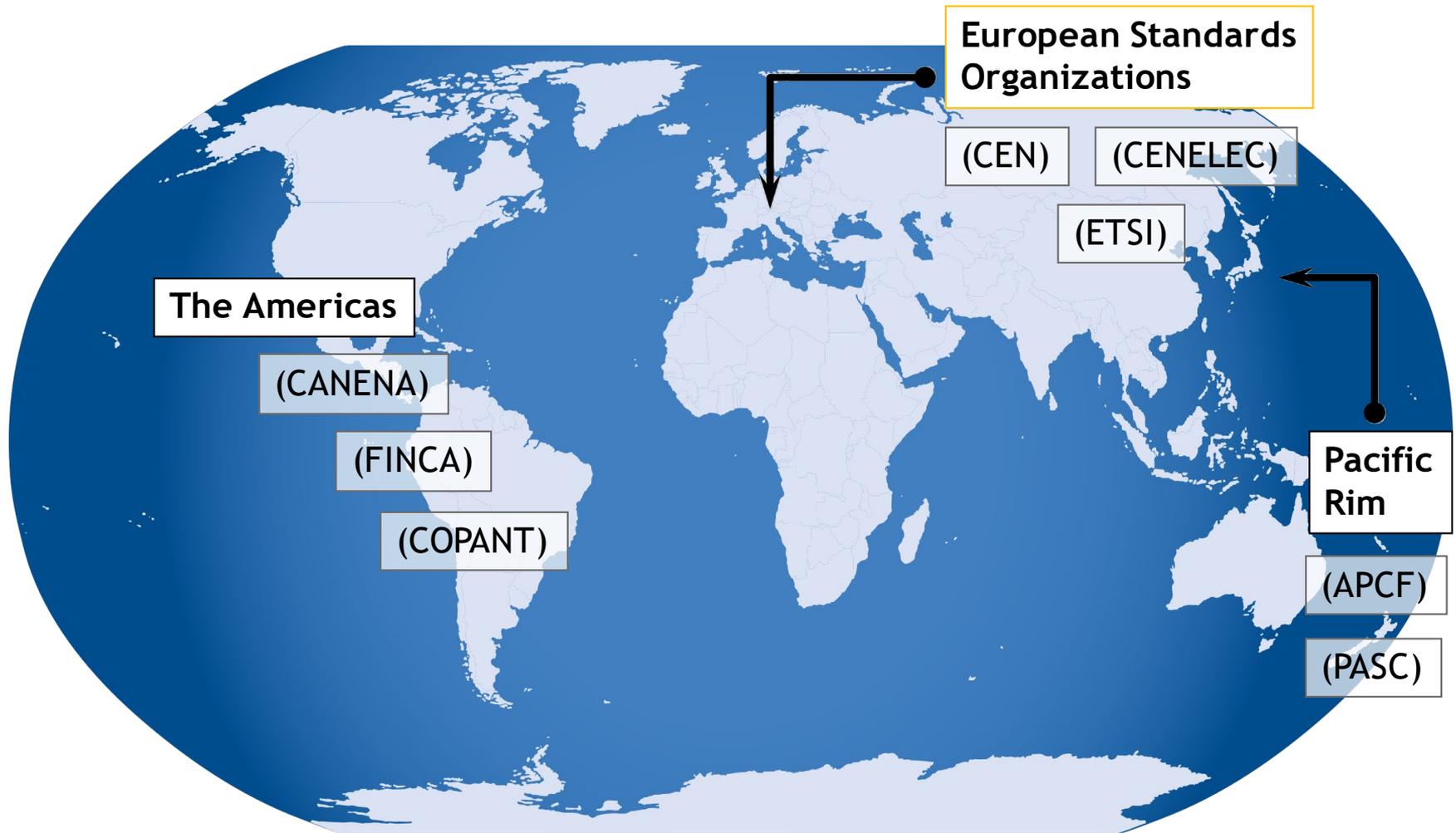
U.S. National Committee of the IEC

- Represents the U.S. in the development, promulgation and use of globally-relevant standards for the electro-technical industry
- Engages in the assessment of conformance to standards such as testing, certification and accreditation
- Serves as a conduit to the global standards-setting community
- Is a totally integrated committee of the American National Standards Institute (ANSI)
 - ANSI provides administrative support to the USNC

USNC/IEC's Scope of Work

- Electrotechnologies
 - Electronics
 - Magnetics and electromagnetics
 - Electroacoustics
 - Multimedia
 - Telecommunication
 - Energy production and distribution
- Associated general disciplines
 - Safety, security, and the environment
 - Dependability, design and development
 - Measurement and performance
 - Terminology and symbols
 - Electromagnetic compatibility

Regional Standards Organizations



Importance of global cooperation and collaboration

- Active participation in both international and regional standards-setting activities provides U.S. electrotechnical industry experts with. . .
 - The ability to influence domestic and international policy
 - A chance to benefit from unique networking opportunities and exchange experiences with international colleagues
 - A forum for the presentation of the U.S. industry positions
 - Opportunity to comment upon proposals submitted by others
 - Ability to work actively and multilaterally towards the abolishment of technical barriers to trade and expand U.S. access to international markets



Join Us!

- The USNC operates over 170 IEC Technical Advisory Groups (TAGs)
- Over 2,000 experts are currently involved in TAG activities in the U.S.
- Every year hundreds of U.S. experts participate in international IEC Technical Committee meetings, directly affecting the development of international standards
- Get involved!!! Contact the USNC staff to learn how to join a TAG and make a difference (usnc@ansi.org).

Internet Resources

International

[IEC - International Electrotechnical Commission](#)

[ISO - International Organization for Standardization](#)

United States

[USNC - United States National Committee of the IEC](#)

[ANSI - American National Standards Institute](#)

Internet Resources (cont)

Regional

[CANENA - Council for Harmonization of Electrotechnical Standards of the Nations of the Americas](#)

[COPANT - Pan American Standards Commission](#)

[FINCA - Forum of IEC National Committees of the Americas](#)

[CENELEC - European Committee for Electrotechnical Standardization](#)

[ETSI - European Telecommunications Standards Institute](#)

[PASC - Pacific Area Standards Congress](#)

[APCF - Asia-Pacific Cooperation Forum](#)

Further Training Activities

The USNC holds Instructor-Led Training Courses throughout the year. Contact the USNC staff (usnc@ansi.org) to find out when and where the next one is taking place.



USNC Constituent Training Program

Module 1 *Complete*

The USNC Team



Tony Zertuche

USNC General Secretary
Director, International Policy (ANSI)



Betty Barro

USNC Program Administrator



Adelana Gladstein

USNC Sr. Program Manager



Mackenzie Connors

USNC Program Administrator



Megan Pahl

USNC Sr. Program Administrator



Debbie Negron-Badillo

USNC Meetings Coordinator

USNC Staff Contact Information

Tony Zertuche
Director, International Policy
& USNC General Secretary
tzertuche@ansi.org
(212) 642-4892

Adelana Gladstein
Sr. Program Manager
agladstein@ansi.org
(212) 642-4965

Megan Pahl
Sr. Program Administrator
mpahl@ansi.org
(212) 642-8907

Betty Barro
Program Administrator
canuszewski@ansi.org
(212) 642-4963

Mackenzie Connors
Program Administrator
canuszewski@ansi.org
(212) 642-8927

Debra Negrón-Badillo
USNC Meetings Coordinator
dnegron@ansi.org
(212) 642-4936

USNC of the IEC

American National Standards Institute

25 West 43rd Street

Fourth Floor

New York, NY 10036

usnc@ansi.org

www.ansi.org/unc | www.ansi.org | webstore.ansi.org

