Overview of ANSI Standardization Collaboratives – Supporting Emerging Technologies

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ANSI
American National Standards Institute

American National Standards Institute (ANSI)

- Founded in 1918, ANSI is a private non-profit membership organization whose mission is to enhance U.S. global competitiveness and the American quality of life by promoting, facilitating, and safeguarding the integrity of the U.S. voluntary standardization system

- ANSI members include businesses, professional societies and trade associations, standards developing organizations (SDOs), government agencies, and consumer and labor organizations

- Official U.S. representative to the International Organization for Standardization (ISO) and, via the U.S. National Committee, the International Electrotechnical Commission (IEC)

Purposes of the Institute
(selected excerpts from ANSI Constitution and By-Laws)

- To serve as the national coordinating institution for voluntary standards, conformity assessment and related activities in the United States of America . . .

- To provide the means for determining the need for new standards and conformity assessment programs; to promote activity by existing organizations competent to resolve the need; and to work toward establishment of suitable groups for these purposes where such do not already exist

- To cooperate with departments and agencies of federal, state and local governments in achieving (i) optimum compatibility between government laws and regulations and the voluntary standards of industry and commerce . . .

- Represents U.S. globally
- Accredits standards developing organizations (SDOs) and approves American National Standards
- Accredits & approves technical advisory groups (mirror committees) for ISO / IEC technical work
- Accredits conformity assessment bodies

- Provides education and training services
- Offers neutral forum for coordination & identification of standards needs and priorities (ANSI Standardization Collaborative)
- Serves as a bridge between U.S. public & private sectors
- Ensures integrity of the standards and conformity assessment system
- ANSI doesn't develop standards

Examples of ANSI-accredited SDOs

ASTM International

SAE International — Society of Automotive Engineers

Institute of Electrical and Electronics Engineers

Consumer Technology Association — CES

Underwriters Laboratories Inc.

National Fire Protection Association — NFPA

American Society of Mechanical Engineers — ASME SETTING THE STANDARD

American Institute of Aeronautics And Astronautics — AIAA Shaping the Future of Aerospace

Alliance for Telecommunications Industry Solutions — atis

American Society of Agricultural and Biological Engineers — ASABE

American Petroleum Institute — energy API

And more than 200 additional organizations

Benefits of Standards and Conformance to Standards – Key for New Technologies

- Spur innovation and drive business growth

- Enable interoperability of products, processes, and systems

- Lower research and development costs

- Promote quality and efficiency throughout global supply chains

- Reduce time to market

- Protect safety, health, and the environment

- Reduce liability and regulatory compliance risks

- Demonstrate that products perform as claimed

- Create public trust and foster widespread acceptance

www.standardsboostbusiness.org

ANSI Standardization Collaborative

- An ANSI Standardization Collaborative is a mechanism to advance cross-sector coordination in the development and compatibility of standards and conformance programs needed to support emerging technologies and national/global priorities

  - Coordinate efforts of both the private- and public-sectors

  - Identify existing standards and standards in development

  - Define where gaps exist based on stakeholder needs

  - Recommend additional work needed, timeline for its completion, and organizations that can perform the work

- Helps to inform resource allocation for standards participation, avoid duplication of effort, drive coordinated standards activity

ANSI Standardization Collaboratives

1994

Information Infrastructure Standards Panel

2003

Homeland Defense and Security Standardization Collaborative

2004

Nanotechnology Standards Panel

2005

Healthcare **Information Technology** Standards Panel

2006

ID Theft Prevention and **ID Management** Standards Panel

2007

Biofuels Standards Coordination Panel

2007

ANSI Network on **Chemical Regulation**

2009

Workshop Toward **Product Standards for Sustainability**

2009

ANSI-NIST **Nuclear Energy** Standards Coordination Collaborative

2010

The Financial Management of **Cyber Risk**

2011

ANSI **Electric Vehicles** Standards Panel

2012

ANSI **Energy Efficiency** Standards Coordination Collaborative

2013

ANSI Network: **Smart and Sustainable Cities**

2016

America Makes & ANSI Additive Manufacturing Standardization Collaborative

Examples of ANSI Collaboratives
(f/k/a Standards Panels)

ANSI Homeland Defense and Security Standardization Collaborative

(Formerly *Homeland Security Standards Panel*)   www.ansi.org/hdssc

Works to identify existing consensus standards, or, if none exist, assist government agencies and those sectors requesting assistance to accelerate development and adoption of consensus standards critical to homeland security and homeland defense. Seeks broad engagement with the Department of Homeland Security (DHS), Department of Defense (DOD), National Institute for Occupational Safety and Health (NIOSH), state agencies, and other relevant entities.

Nanotechnology Standards Panel   www.ansi.org/nsp

Established at the request of the Office of Science and Technology Policy, Executive Office of the President, to facilitate the development of standards supporting nomenclature/terminology; materials properties; testing, measurement and characterization procedures; and health, safety and environmental issues. Efforts are primarily focused on the coordination of U.S. interests in the international standardization arena, particularly within IEC TC 113 and ISO TC 229.

Examples of ANSI Collaboratives (contd.)

Healthcare Information Technology Standards Panel   www.hitsp.org

Served as a national, volunteer-driven, consensus-based organization working to ensure interoperability of electronic health records in the U.S. Operated under contract to U.S. Department of Health and Human Services (HHS), HITSP completed Interoperability Specifications in priority areas including electronic health record laboratory results reporting, biosurveillance, consumer empowerment, and quality.

Electric Vehicles Standards Panel   www.ansi.org/evsp

Developed a standardization roadmap and standards compendium intended to enable the safe, mass deployment of electric vehicles and associated infrastructure in the United States.

Energy Efficiency Standardization Coordination Collaborative   www.ansi.org/eescc

Works to coordinate a U.S. approach to energy efficiency standardization activities in five target areas. Developed a standardization roadmap and standards compendium to help advance energy efficiency in the United States, particularly with regard to the built environment.

ANSI Collaboratives – Workshop Format
(example: HDSSC)

- Focus is on periodically getting together for information sharing
- Deliverable is a series of topical workshops held over the course of a year each of which will include a written report describing what was discussed and any recommendations
  - Format enables more timely information sharing but less in depth analysis than a roadmap in terms of formulating recommendations
- Less resource intensive than roadmap format on volunteers and staff
  - May be attractive to those interested in sponsorship opportunities, exhibiting, and networking
- Makes sense when there is a less urgent need for coordination and comprehensive analysis and issues can be addressed sequentially
- Option to renew as long as there continues to be value

ANSI Collaboratives – Roadmap Format
(examples: AMSC, EESCC, EVSP)

- Focus is on conducting an in depth gap analysis and formulating recommendations to address gaps where standards are needed

- Deliverable is a comprehensive roadmap developed over the course of a year describing the current and desired standards landscape
  - Identifies existing standards and standards in development, assesses gaps, makes recommendations to fill gaps, establishes priorities for action, suggests organizations to do the work

- More resource intensive than workshop format on volunteers and staff
  - Bi-weekly working group conference calls, expert authoring of roadmap

- Makes sense when there is a more urgent need for coordination and comprehensive analysis & issues need to be addressed simultaneously

- Option to do subsequent updates to track progress on recommendations

Structure of ANSI Collaboratives – Role of Co-Chairs

- Promotion
    - Speak about Collaborative activities at industry events
    - Respond to media inquiries in consultation with staff and ANSI's communications team as appropriate

- Plan, schedule and preside over meetings of the Collaborative and Steering Committee

- Provide strategic direction to staff as needed

- Help identify potential Steering Committee members and working group co-chairs as needed

Structure of ANSI Collaboratives – Steering Committee

Role

- Provide overall planning and strategic direction

- Identify / recruit participants

- Hear periodic progress reports

- Ensure work stays on schedule

Composition

- Co-Chairs (Private- and Public-Sector) and Staff

- Any Working Group Co-chairs

- Balanced Representation from Key Stakeholder Groups
  - Industry, SDOs, Government, Academia, Others

ANSI Collaboratives – Ingredients for Success

- Demonstrated need for coordination

- Broad stakeholder support

- Clearly defined objectives, timelines, and deliverables

- Committed leadership and participants

- Stable funding mechanism

America Makes & ANSI Additive Manufacturing Standardization Collaborative (AMSC)

- Launched in March 2016

- National Institute of Standards and Technology (NIST), U.S. Department of Defense (DoD), Federal Aviation Administration (FAA), several SDOs were instrumental in the formation of the AMSC

- Before AMSC there was no process for identifying priorities and interdependencies in the development of standards and specifications for additive manufacturing ("AM" a/k/a 3D Printing)

- A number of SDOs are engaged in standards-setting for various aspects of AM, prompting the need for coordination to maintain a consistent, harmonized, and non-contradictory set of AM standards and specifications

AMSC Purpose and Participation

- To coordinate and accelerate the development of industry-wide additive manufacturing standards and specifications, consistent with stakeholder needs, and thereby facilitate the growth of the additive manufacturing (AM) industry

- Charter does <u>not</u> include developing standards or specifications

- Participation open to additive manufacturing stakeholders that have operations in the U.S.

- Membership in America Makes and ANSI not a prerequisite

- More than 260 individuals from 150 public- and private-sector organizations involved

- Heavy engagement from aerospace, defense and medical sectors

AMSC Deliverables

- **AMSC Standardization Roadmap for Additive Manufacturing, Version 1.0 (February 2017)**

  – Identifies existing standards and specifications, as well as those in development, assesses gaps, and makes recommendations for priority areas where there is a perceived need for additional standardization

- **AMSC Standards Landscape**

  – A list of standards that are directly or peripherally related to the issues described in the roadmap

- Both available as free downloads on www.ansi.org/amsc

AMSC "Phase 2" Next Steps

- Promote the roadmap

- Help SDOs identify volunteers to write the needed standards

- Track SDO actions on the gaps and recommendations

- Update the roadmap (beginning Sept 2017)

  – Discuss needs of other industries

  – Recruit more materials experts

  – Identify potentially overlooked gaps

for more information

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