UASSC Organizational Matters

Jim McCabe
Senior Director, Standards Facilitation
American National Standards Institute

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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
- Institute of Electrical and Electronics Engineers
- Consumer Technology Association
- UL Underwriters Laboratories Inc.
- National Fire Protection Association
- American Society of Mechanical Engineers
- American Society of Aeronautics and Astronautics
- Alliance for Telecommunications Industry Solutions
- American Society of Agricultural and Biological Engineers
- American Petroleum Institute
- And more than 200 additional organizations

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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.
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.
Developing the Standardization Roadmap

- Determine how the roadmap will be organized
  - Main topics and subtopics
- Set up a working group (WG) structure that maps to that structure
- Outreach / call for participants
  - People can participate in as many WGs as they wish
- Identify WG co-chairs to facilitate discussions
- Set date/time for first WG “virtual” online meetings
  - Determine regular schedule of meetings, typically bi-weekly
Developing the Standardization Roadmap (contd.)

- Describe the relevant issue(s)
  - Volunteers needed to draft the text for WG review
- Identify published or in-development standards
- State any standards gap(s)
  - A “gap” means no published standard or specification exists that covers the particular issue in question
- Make a recommendation(s) how to fill the gap(s)
- Determine if additional R&D is needed
- Establish the priority for action (high, medium, or low)
- Identify an organization(s) that potentially can address the gap both for R&D and developing the standard
Making the **CASE** for the Priority Level

**Criteria**

- **Criticality (Safety/Quality Implications)** - How important is the project? How urgently is a standard or guidance needed? What would be the consequences if the project were not completed or undertaken? A high score means the project is more critical.

- **Achievability (Time to Complete)** - Does it make sense to do this project now, especially when considered in relation to other projects? Is the project already underway or is it a new project? A high score means there's a good probability of completing the project soon.

**Scoring Values**

- 3 - critical; 2 - somewhat critical; 1 - not critical

- 3 - project near completion; 2 - project underway; 1 - new project
Prioritization Matrix (contd.)

Criteria

- **Scope (Investment of Resources)** - Will the project require a significant investment of time/work/money? Can it be completed with the information/tools/resources currently available? Is pre-standardization research required? A high score means the project can be completed without a significant additional investment of resources.

- **Effect (Return on Investment)** - What impact will the completed project have on the AM industry? A high score means there are significant gains for the industry by completing the project.

Scoring Values

- 3 - low resource requirement; 2 - medium resource requirement; 1 - resource intensive

- 3 - high return; 2 - medium return; 1 - low return

Score rankings: Low Priority (a score of 4-6); Medium Priority (a score of 7-9); High Priority (a score of 10-12)
Co-Chairs’ Role

- 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
Steering Committee

Role
- Provide overall planning and strategic direction
- Identify / recruit participants
- Hear periodic progress reports
- Ensure work stays on schedule

Sample Composition
- Co-Chairs (Private- and Public-Sector) and Staff
- Working Group Co-chairs
- Small number of at-large members representing a balance of stakeholder interests
Ingredients for Success

- Demonstrated need for coordination
- Broad stakeholder support
- Clearly defined objectives, timelines, and deliverables
- Committed leadership and participants
- Stable funding mechanism
Recent Example

- 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 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](http://www.ansi.org/amsc)
American National Standards Institute

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Headquarters
1899 L Street, NW
11th Floor
Washington, DC  20036

New York Office
25 West 43rd Street
4th Floor
New York, NY 10036

T:  202.293.8020 T:   212.642.4900
F:  202.293.9287 F:   212.398.0023

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webstore.ansi.org