STANDARDS DEVELOPMENT PROCESS

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EMB STANDARDS COMMITTEE (EMB STDS COM)

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IEEE STANDARDS ASSOCIATION
AGENDA

- IEEE SA Governance Structure
- Standards Committee and Working Groups
- Standards Development Process
IEEE SA
Governance Structure
IEEE GOVERNANCE

IEEE Members

Board of Directors (BOD)  Executive Director & Staff

Technical Activities
- Organizes 1,300+ Conferences Annually Worldwide

Publication Activities
- Publishes 30% of the World’s Electrotechnical Literature

Standards Association
- 7,000+ Individual Members
- 300+ Corporate Members
- 1,300+ Active Standards
- 600+ Projects

Member & Geographic Activities
- Serves 420,000+ Members in 190+ Countries

Educational Activities
- Over 600 educational courses in the IEEE Learning Network
IEEE STANDARDS ASSOCIATION

IEEE SA Board of Governors (BOG)

Standards Board (SASB)

Audit Committee (AudCom)
- Examines PARs & makes recommendations for their approval

New Standards Committee (NesCom)
- Provides oversight for the use of patents in standards

Patent Committee (PatCom)
- Makes recommendations for IEEE SA Procedures

Procedures Committee (ProCom)
- Reviews & makes recommendations for approval of IEEE Standards

Administrative Committee (AdCom)
- Oversees administrative functions of the SASB

Corporate Advisory Group (CAG)

Standards Review Committee (RevCom)

- Reviews & makes recommendations for approval of IEEE Standards
Standards Committees and Working Groups
IEEE SA Standards Board (SASB)

Standards Committee (EMB Stds Com)

Study Groups
- PARs

Working Groups
- PARs
- Standards, Amendments, Corrigenda

Administrative Committee

Other subgroups

For standards development activities
Standards Committees that are responsible for the development and maintenance of standards shall be one of the following:

- A Technical Committee within an IEEE Society/Council
- A Standards Committee or Standards Coordinating Committee of an IEEE Society/Council
- A Standards Coordinating Committee established by the IEEE Standards Board
- A Standards Subcommittee organized by or reporting to one of the above
- Other organizations as recommended by the IEEE SA BOG
WORKING GROUP OVERVIEW

- With PAR approval, a WG is defined, and it can officially begin its work to draft the standard.
- WGs are open to anyone interested in participating.
  - For individual standards projects, IEEE or IEEE SA membership is not required to participate.
  - For entity standards projects, IEEE SA corporate membership is required.
- WG meetings typically operate using Robert’s Rules of Order Newly Revised (RONR)
- WGs abide by General Data Protection Regulation Guidelines (GDPR)
- All WGs operate in accordance with a written set of policies and procedures (WG P&Ps) that has been approved by the EMB Standards Committee (EMB Stds Com).
- The WG P&P is the document that defines the WG officer roles, the preparation of agendas, meeting minutes, voting requirements, etc.
RESOURCES

- IEEE Standards development Life Cycle
- SA Working Group Chair Quick Reference Guide
- Best Practices for IEEE Standards Development
- Standards and the Law Reference Guide
- IEEE GDPR Volunteer Dashboard
- IEEE Electronic Meeting Guide
Standards Development Process
**TYPES OF IEEE STANDARDS PROJECTS**

IEEE standards are classified as:

- **Standards**
  - Documents with mandatory requirements
  - “Shall” indicates mandatory requirements to be strictly followed without deviation in order to conform to the standard

- **Recommended practices**
  - Documents in which procedures and positions preferred by the IEEE are presented
  - “Should” indicates a particular recommendation among several possibilities without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required
  - “May” indicates a course of actions permissible within the limits of a standard
  - “Can” indicates possibility and capability

- **Guides**
  - Documents in which alternate approaches to good practice are suggested but no clear-cute recommendations are made
  - “Should” indicates a particular recommendation among several possibilities without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required
  - “May” indicates a course of actions permissible within the limits of a standard
  - “Can” indicates possibility and capability
PRINCIPLES OF STANDARDS DEVELOPMENT

Standards development follow a well-defined path from concept to completion, guided by a set of eight basic principles:

1. Direct Participation
2. Due Process
3. Broad Consensus
4. Balance
5. Broad Openness
6. Coherence
7. Development Dimension
8. Transparency
STANDARDS DEVELOPMENT LIFECYCLE

KEY STEPS IN STANDARDS DEVELOPMENT

- EMB Standards Committee is formed. EMB Stds Com P&Ps approved by the IEEE Standards Association Board (SASB).
- EMB Stds Com uses the IEEE SA baseline WG P&Ps template to develop and approve WG P&Ps for all WGs to follow.
- EMB Stds Com authorizes a PAR (via NesCom) for SASB approval.
- PAR approved and call for participation (CFP) issued, as needed.
- Program Manager works with WG Chair to provide WG tools (e.g., website, email reflector, document repository)
- WG meets and appoints officers in accordance with the WG P&Ps
- WG develops the draft standard and obtains permission for previously published material prior to being included in the draft.
- WG obtains consensus to move draft forward to Standards Association (SA) Ballot.
- WG Chair submits draft standard for Mandatory Editorial Coordination (MEC).
- WG Chair initiates and oversees SA balloting and Public Review.
- WG Chair submits draft standard (via RevCom) for SASB approval.
- IEEE SA Editor performs final editing. Standard published. Complimentary copies are provided to WG members.
- EMB Stds Com maintains the standard.
ETOOLS

1. MyProject
   It is the IEEE Standards Association’s web-based tool used by IEEE members, staff, and other individuals who want to participate in the standards process.

2. iMeet Central
   A web-based, password-protected collaboration platform offered to standard development groups. iMeet provides many tools including secure file sharing, forum, project management and more.

3. WordPress
   WordPress is an online, open-source website creation tool

4. Webex
   Webex is a web/teleconference service.

5. Listserv
   IEEE Listserv is the preferred email list management tool for Working Group email communication. Through this list, the WG can communicate with individuals interested in the WG activities.

6. vTools Events
   This tool is managed by Members and Geographic Activities and is used for scheduling and managing events and meetings.
STANDARDS DEVELOPMENT MEETINGS

Meetings shall be conducted in compliance with the following:

- WG Policies and Procedures (P&P’s)
- IEEE SA Antitrust and Competition Policy
- Patent Policy
- Copyright Policy
- Robert’s Rules of Order
- GDPR

Do not discuss the following at WG meetings:

- Interpretation, validity, or essentiality of patents/patent claims
- License rates, terms, or conditions. (Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed)
- Setting product prices, allocation of customers, or division of sales markets
- The status or substance of ongoing or threatened litigation
KEY CONSIDERATIONS WHEN DRAFTING A STANDARD

- The content of the draft must remain within the title, scope, and purpose of the approved Project Authorization Request (PAR).
- The Working Group may appoint a technical editor. The technical editor gathers working group-approved technical contributions and ensures technical consistency throughout the draft standard.
- Develop an outline of the draft; this will serve as the structure for the standard.
  - Topics in the outline will become clauses and sub-clauses.
  - The development of the outline should take no longer than 3 months or 6 months from PAR approval.
- Avoid writing the document in working group meetings. Use working group meetings only to review important points in the draft and resolve areas of disagreement.
- IEEE SA editors are available to answer questions on style and formatting.
- Divide each topic or clause among the WG members.
  - Subgroups can be created to develop sections of the draft or to discuss a specific topic.
  - Subgroups report back to the WG.
- Approval of material may need to be voted on, check WG policies for voting requirements.
- Keep track of the contributions and contributors.
- Refer to IEEE SA Standards Style Manual and utilize IEEE Templates.
- The Working Group Chair shall request a Letter of Assurance (LOA) from potential essential patent holders and obtain all copyright permissions.
- Do not make the draft public. Do not share the draft with people who are not participants of the working group (See draft sharing policy).
PRE BALLOT ACTIVITIES

Mandatory Editorial Coordination (MEC)

MEC is preliminary review of your draft by IEEE SA editorial staff to identify problems that would prevent the document from moving forward into the IEEE SA balloting process

- The MEC is initiated by the Working Group (WG) Chair
- Ensures that basic elements of the document, such as draft labeling, copyright statements and releases are all handled properly in the draft.
- Is required prior to the start of an IEEE SA Ballot in order to ensure conformance with IEEE requirements
- IEEE SA Editor will review and provide comments or guidance to the WG Chair, copying the Program Manager (PM)
PRE BALLOT ACTIVITIES CON’T

SA Ballot Invitation

- SA Ballot invitation is initiated by the Working Group (WG) Chair, or designated individual with authority in myProject™
- At minimum, the interested participants who have indicated interest in this project, along with the EMB Stds Com and WG of this project, will receive invitation
- WG officers and members are not automatically added into the ballot group and need to join the SA ballot group
- Balloters classify their relationship relative to the scope of the draft standard (e.g. producer, user, academic, government).
- Ballot groups shall be balanced
- Ballot groups must have at least 10 members for Individual ballots and 5 members for Entity ballots.
SA BALLOTING

- Balloting shall begin within 6 months of when the ballot invitation closes.
- Working Group Chair submits draft for balloting in myProject system. The SA Ballot opens when the PM approves the request.
  - Balloters are notified that ballot is open
  - The initial ballot is opened for at least 30 days
  - Balloters can approve, disapprove, abstain
- Consensus must be reached for the standard to move forward (75% approval rate /75% response rate)
- Public Review
  - The 60 day Public Review period begins once the initial SA ballot is initiated and will be based only on the initial balloted draft. The online Public Review system is used to facilitate the process;
    - allows systematic feedback on initial SA ballot drafts by a broad, inclusive community.
    - Any materially interested person, anywhere can sign up as a Public Review commenter and submit comments against the initial ballot draft
  - Does not need to be an IEEE or SA member to submit comments
SA BALLOTING – COMMENT RESOLUTION AND RECIRCULATION

Comment Resolution
After SA Balloting, the WG shall:

- Form a “Comment Resolution Group” (CRG) to review and resolve the comments
- Consider all comments received from the SA Ballot through the comment resolution process.
- Conduct recirculation ballot(s) as needed

Recirculation Ballot
Required if substantive changes were made to the draft, or if there are any unresolved Do Not Approve (with Comments) votes (not editorial comments).

- Until 75% approval is achieved, comments can be based on any part of the document.
- Once 75% approval is achieved, comments shall be based only on the changed portions of the draft, portions of the draft affected by the changes, or portions of the draft that are the subject of unresolved comments associated with Do Not Approve votes.
- Recirculation ballots are opened for at least 10 days
- Balloters have the opportunity to change their vote, and those who did not vote previously can cast their vote at this time
SUBMITTAL TO REVCOM

RevCom Submittal Process

- The draft standard is ready to submit to the IEEE SA Standards Board for approval when the following is met:
  - Consensus is achieved
  - All comments are responded to
  - All comments accompanying *Do Not Approve* votes have been circulated to the ballot group.
  - WG Chair, Standards Committee Chair, or a designee submits the draft with source material and other documentation to RevCom in myProject.

RevCom Review Process

- RevCom members review the draft, ballot results and submit comments in myProject.
- For more details on the RevCom Review Process click [here](#).
- The WG Chair or Standards Committee Chair should respond to RevCom comments in a timely manner.
- RevCom provides its recommendation to approval/disapprove the draft standard to the SASB.
- SASB makes the final determination on the approval of the draft standard.
  - *WG must not change the draft after the last ballot. Editorial changes are allowed by IEEE SA editors during final editing.*
PUBLISHING THE STANDARD

- After the IEEE SASB approves the standard, an IEEE SA editor edits the document to ensure that the standard is grammatically and syntactically correct using American English.
- The editor ensures that the document meets the rules in the IEEE Standards Style Manual.
- The IEEE editor works with a primary contact for the WG (usually the WG Chair or technical editor).
- The primary contact is responsible for reviewing the edited and formatted pages to ensure that no errors have been introduced into the document during the editorial and publishing process.
- The contact will also receive the final standard to review and approve prior to publication.
- After review and inclusion of any changes, the document is published as an IEEE standard.
- WG members receive complimentary PDF copies of the standard.
MAINTAINING THE STANDARD

- Standards must have a revision approved by the IEEE SA Standards Board prior to the close of year 10 in order to remain active.
- Any standard without an approved revision will become inactive after year 10.
- A revision action can result in:
  - Changes to the standard
  - Changes to only the references or bibliography
  - No changes
    - If no changes are made, the standard will retain its designation (i.e., the year will not change).
    - The title page will reflect the fact that a maintenance action occurred but no changes were made.

- In between revisions of a standard, the EMB Stds Com may develop:
  - Amendments: Documents that contain new material to an existing IEEE standard and may contain technical corrections to that standard.
  - Corrigenda: Documents that only contain technical corrections to the standard.
ADDITIONAL RESOURCES

Standards Board Bylaws http://standards.ieee.org/develop/policies/bylaws/
SASB Primary Governing Documents:
  - Copyright Policy: http://standards.ieee.org/ipr/copyright.html
  - Copyright FAQs: http://standards.ieee.org/faqs/copyrights.html
  - Refer to the IEEE SA Style Manual for document structure.
    https://development.standards.ieee.org/myproject/Public/mytools/draft/styleman.pdf

SASB Operations Manual on comment resolution:
http://standards.ieee.org/develop/policies/opman/sect5.html#5.4.3.3
WG Fundamental Training Module
https://iln.ieee.org/Public/ContentDetails.aspx?id=AE404C2328DA4A39AAD7AB5117681F05
Public Review: Support material will be available in the help tab on the Public Review system
http://publicreview.standards.ieee.org/public-review-web/public-app