

IEEE SA

STANDARDS
ASSOCIATION



IEEE SA QUICK REFERENCE GUIDE

STANDARDS DEVELOPMENT PROCESS

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This quick reference guide is not intended to be a complete guide to the procedural development of a standard. Please consult the [IEEE SA Standards Board Bylaws](#), [IEEE SA Standards Board Operations Manual](#), [SC P&P](#), and [WG P&P](#).



STANDARDS DEVELOPMENT OVERVIEW

1 GETTING STARTED

An IEEE standards development project is started when there is a need for an idea or concept to be standardized.

2 INITIATING YOUR PROJECT

In order to initiate a standards development project, a Project Authorization Request (PAR) is submitted to the New Standards Committee (NesCom). NesCom reviews PARs then makes a recommendation to the IEEE SA Standards Board (SASB) as to whether or not the project should be approved. Once approved by the SASB, the PAR is the official document that authorizes work on a standards development project in IEEE.

3 DEVELOPING A STANDARD

Working Groups (WGs), which are open to all interested parties, are formed to develop IEEE standards. WGs follow either the individual or entity method type of participation.

Once the WG and Standards Committee (SC) reach consensus that the draft standard is complete, the consensus balloting process (Standards Association (SA) Ballot) can begin. One or more recirculation ballots may be required to resolve the SA Ballot comments received.

Upon completion of the balloting process, the draft standard is submitted to the Standards Review Committee (RevCom). RevCom verifies that proper procedures have been followed and makes recommendations to the SASB as to whether or not the draft standard should be approved as an IEEE standard.

If the draft standard is approved as an IEEE standard, it is published.

COMMON ACRONYMS AND DEFINITIONS

- **AudCom:** Audit Committee
- **NesCom:** New Standards Committee
- **MEC:** Mandatory Editorial Coordination
- **PAR:** Project Authorization Request
- **PM:** Program Manager
- **RevCom:** Standards Review Committee
- **SC:** Standards Committee
- **IEEE SASB:** IEEE Standards Association Standards Board
- **WG:** Working Group
- **CRG:** Comment Resolution Group
- **INDIVIDUAL-BASED:** This is a WG type in which the WG membership is comprised of individual technical experts. Their duty is to deliver their best technical judgment. Each individual gets one vote.
- **ENTITY-BASED:** This is a WG type in which the WG membership is comprised of representatives of entities. Entities are usually companies, universities, government agencies, or organizations that are IEEE SA Corporate Members. Designated representatives are expected to represent their organizations. Each entity gets one vote.

WORKING GROUP CHAIR FUNDAMENTALS COURSE



This course is for new and aspiring WG Chairs or as a refresher for those who have held the role in the past. Composed of 12 modules, Working Group Chair Fundamentals provides Chairs with a comprehensive set of tools that can be applied immediately in the administration of a Working Group.

[Learn more »](#)

BASIC PRINCIPLES OF IEEE STANDARDS DEVELOPMENT

As a global standards developing organization, IEEE supports and advocates for a set of standards development principles, executed by the IEEE Standards Association. These principles provide a community for voluntary cooperation among interested parties and stakeholders, and enable technical excellence, global interoperability, and innovation to foster economic growth and societal prosperity. These principles are:

DIRECT PARTICIPATION

where there are no intermediaries between the originators of a promising idea and the group of peers deciding the beginning of a best practice or standard, and where any individual or organization from any location worldwide has the ability to submit a proposal.

DUE PROCESS

where decisions are made with equity and fairness among all participants in a transparent manner and no party dominates or guides the process.

BROAD CONSENSUS

where all viewpoints are considered and addressed with decisions made by either a majority or supermajority of participants and where no individual or organization wields undue power in the creation of a standard.

BALANCE

where steps are taken to provide an opportunity for a multitude of stakeholders to participate, ensuring that the process is not dominated by a particular individual, organization, or interest group.

COHERENCE

where IEEE coordinates with industry, governments, associations, and numerous other organizations in the development of standards.

TRANSPARENCY

where the processes and procedures under which the standards are developed are broadly available so that participants understand the rules guiding engagement and decisions. Records of decisions and the supporting materials used in reaching those decisions are easily accessible.

BROAD OPENNESS

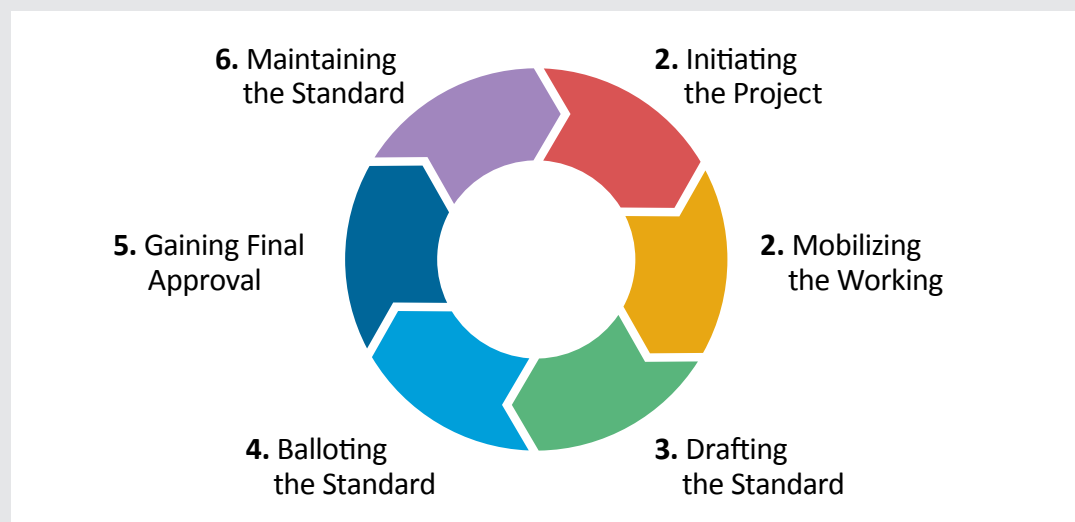
where, from the beginning of the process, appropriate notification is given to a global audience and to all potential stakeholders regarding the opportunity to engage. Public comment periods are provided prior to final approval and adoption of all standards.

DEVELOPMENT DIMENSION

where participants in developing countries are encouraged to engage electronically in the development of IEEE standards by, for example, submitting comments during a formal consensus ballot without extensive or long-distance travel. Anyone in the world can participate in developing IEEE standards, and IEEE makes an effort to reach out to both individuals and entities in developing countries.

THE STANDARDS DEVELOPMENT LIFECYCLE

IEEE standards are developed using a time-tested, effective and trusted process that is shown in the below [six-stage lifecycle diagram](#). This quick reference guide provides details on the 6 stages.



STAGES OF STANDARDS DEVELOPMENT

STAGE 1: INITIATING THE PROJECT



PROJECT AUTHORIZATION REQUEST (PAR)

The first step is to determine what type of document should be developed. It can be one of the three types of IEEE standards documents:

- **Standards:** Documents with mandatory requirements.
- **Recommended practices:** Documents in which procedures and positions preferred by IEEE are presented.
- **Guides:** Documents in which alternative approaches to good practice are suggested but no clear-cut recommendations are made.

These levels of requirements are often shown by the use of particular “standards verbs,” i.e., “shall” for requirements, “should” for recommendations, and “may” for guidelines. (more information can be found in the IEEE SA Standards Board Operations Manual and the IEEE SA Standards Style Manual) Figuring out what level of requirement is needed helps determine what kind of document should be developed.

TIPS FOR SUBMITTING A PAR

- [A sample PAR form](#)
- [FAQs on the PAR form](#)
- [NesCom conventions](#) serve as a guideline to some of the internal procedures that NesCom observes as part of its review and recommendations concerning IEEE SA PARs.
- Review the [PAR submittal deadlines](#) for the upcoming [NesCom agendas](#).

STAGES OF STANDARDS DEVELOPMENT

STAGE 2: MOBILIZING THE WORKING GROUP

Once a PAR is approved, a Working Group (WG) can officially begin its work. WGs are open to anyone who wishes to participate. Although IEEE or IEEE SA membership is not required to participate in individual-based WGs, IEEE SA corporate membership is required to participate in entity-based WGs. Information about membership can be found [here](#).

Every WG must have WG Policies & Procedures, which explains the roles of the officers, actions requiring a vote, and additional information. WG Baseline Policies & Procedures templates are available on the [Audit Committee \(AudCom\) website](#). For additional information, please contact your IEEE SA Program Manager (PM).

TIPS FOR WORKING GROUP MEETINGS

- Send out agendas and meeting notices in accordance with the WG Policies & Procedures
- Capture attendance and remember to [disclose affiliations](#)
- Establish quorum at the beginning of meetings; see WG Policies & Procedures
- Make a Call for Patents and review the Copyright Policy at the start of each WG meeting; see information on the [IEEE SA Patent Policy](#) and [IEEE SA Copyright Policy](#)
- Do not discuss commercial activities or terms
- Follow guidance on meetings minutes in the WG P&Ps
- Maintain a WG participant list
- The [Electronic Meeting Guide](#) contains best-practice suggestions for conducting electronic meetings

ACCESS ETOOLS AND RESOURCES

IEEE SA offers a variety of [eTOOLS](#) to assist in the standards development process. For assistance with requesting access to any of these tools, please contact your PM.

- **myProject:** Enables users to perform various functions such as manage activity profile, submit PARs, join ballot groups, and ballot, vote, and comment on SA Ballot drafts.
- **iMeet Central:** Web-based collaboration workspace to upload and share files, continue discussions via available fora, and manage timeline and milestones via calendar.
- **WebEx:** Web/Teleconference service offered at no cost to SCs and their WGs.
- **Listserv:** Email list management tool.
- **WordPress:** Public facing website for SCs and WGs.
- **Standards Dictionary:** A database of terms as defined in IEEE standards.
- **IEEE Xplore:** IEEE's platform for the IEEE store and subscriptions containing IEEE standards, journals, transactions, letters, magazines and conference proceedings, IET journals and conference proceedings, and IEEE educational courses.
- **IEEE SA Open:** A comprehensive open source development platform that harnesses the power of familiar open source development tools.

[View all eTOOLS »](#)

STAGES OF STANDARDS DEVELOPMENT

STAGE 3: DRAFTING THE STANDARD



When beginning to draft the standard, it is suggested that the WG first develop an outline. The outline will serve as the structure for the draft standard, and can help in creating writing assignments. [Obtain more information on drafting the Standard](#)

WGs must obtain permission to use material from previously published documents. Please see the copyright tips below for assistance.

IEEE SA EDITORIAL SUPPORT

To help WGs with the preparation of their documents, the IEEE SA has a professional staff of editors who offer guidance to WGs on all editorial matters such as document structure, word usage, references, definitions, and mathematical expressions. More information and obtaining assistance can be found [here](#).

THE IEEE SA STANDARDS STYLE MANUAL

The [IEEE SA Standards Style Manual](#) establishes preferred style for the preparation of proposed IEEE standards (drafts).

MANDATORY EDITORIAL COORDINATION (MEC)

[Mandatory Editorial Coordination \(MEC\)](#) is required prior to the start of a Standards Association Ballot in order to ensure conformance with IEEE requirements. All copyright permission letters must be submitted at this time.

COPYRIGHT TIPS

- Be familiar with the [IEEE SA Copyright policy](#).
- The WG Chair is responsible for obtaining permission to use previously Published material. [Permission Form templates](#) are available for requesting permission.
- Prior to presenting or submitting material from previously [published sources](#), participants shall inform the WG Chair of the need to request permission for use of the material, and should assist the WG Chair in obtaining that permission.
- Contact: stds-copyright@ieee.org for questions about the IEEE SA Copyright policy.
- Training on the IEEE SA Copyright policy is available. Contact stds-copyright@ieee.org to indicate interest.
- [FAQs on the IEEE SA Copyright policy](#)

STAGES OF STANDARDS DEVELOPMENT

STAGE 4: BALLOTING THE STANDARD

STEP 1 - IEEE SA BALLOT INVITATION

Once the WG has reached consensus on the completeness of the draft standard, the WG Chair:

1. Requests the SA ballot invitation be opened in myProject (minimum 15 days)
2. Concurrently, submits the draft standard for MEC review (up to 30 days)

STEP 2 - IEEE SA BALLOT

When the WG has met the requirements to move the draft standard to SA ballot per their WG P&Ps, the WG Chair or designee:

1. Incorporates any necessary changes from the MEC into the draft standard
2. Requests the initial SA ballot be opened in myProject

RECIRCULATION BALLOT(S)

The SC shall ensure that comment resolution occurs via a comment resolution group (CRG), which is a subgroup of the WG. The CRG shall consider all comments received. All substantive changes made since the last ballot of the proposed standard shall be identified and recirculated to the SA ballot group.

Once the draft standard has achieved 75% approval, comments in subsequent ballots shall be based only on:

- The changed portions of the balloted proposed standard
- Portions of the balloted proposed standard affected by the changes
- Portions of the balloted proposed standard that are the subject of unresolved comments associated with Do Not Approve votes

Each recirculation ballot is open for a minimum of 10 days. Balloters have an opportunity to review comment responses and changes to the draft standard, and are able to submit or update their vote. When the SA ballot process is deemed complete, the WG Chair submits the draft standard to RevCom through myProject. See [RevCom submittal deadlines](#) and guidelines.

PUBLIC REVIEW

The Public Review starts simultaneously with the initial SA ballot with a duration of 60 days. This allows interested parties with a copy of the draft standard to submit comments for consideration by the CRG but are not able to submit a vote. The CRG shall consider all of the Public Review comments and respond to the comments received.

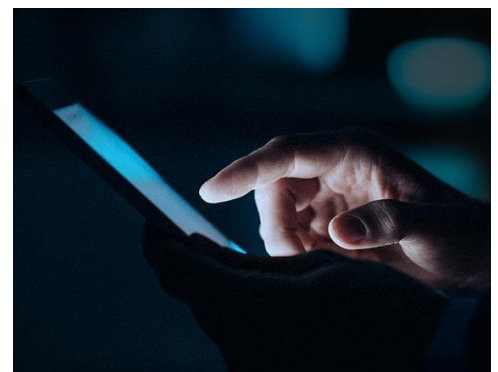
SA BALLOT TIPS

- No single voter classification can make up more than 33.3% of the ballot group.
- The initial SA Ballot is a minimum of 30 days.
- A 75% response rate needs to be achieved for a successful ballot. If not, the ballot will need to be extended in order to reach the minimum response rate.
- An approval rate of 75% needs to be achieved to reach consensus.
- Any substantive changes made to the draft standard will require a recirculation ballot.

COMMENT RESOLUTION TIPS

- Track changes on the draft standard as updates are implemented
- Don't make, or promise to make, any future changes to the draft standard.
- Don't cross reference the disposition detail of other comments

Note: See the [IEEE SA Balloting and Comment Resolution Process Guidelines](#) for further information.



STAGES OF STANDARDS DEVELOPMENT

STAGE 5: GAINING FINAL APPROVAL



Once the draft standard has been submitted to the Standards Review Committee (RevCom), RevCom ensures that procedural requirements of the IEEE SA have been met and makes a recommendation to the IEEE SA Standards Board. RevCom Conventions & Guidelines can be found [here](#).

After a standards project is approved by the IEEE SASB, the IEEE SA editor prepares the standard for publication, working in conjunction with the IEEE SA WG Chair and/or Technical Editor.

STAGE 6: MAINTAINING THE STANDARD

All approved IEEE standards must undergo and complete a revision process within ten years from the standard's approval year to retain active standard status.

WGs can evaluate changes in technology uses or impact to determine whether a revision is needed sooner than ten years.

See the [FAQs on the Maintenance of IEEE Standards](#) for more information.

ADDITIONAL RESOURCES

- [IEEE SA Standards Working Group Chair Fundamentals](#)
- [Editorial Resources/Training Videos](#)
- [myProject](#)
- [myProject User Guide](#)
- [FAQs](#)

IEEE SA

STANDARDS
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RAISING THE WORLD'S STANDARDS

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