



Operational Guide for AESS Technical Panels and Technical Working Groups

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This Guide reflects the governing structure, procedures, and operational guidelines for Aerospace and Electronic Systems Society (AESS) Technical Panels (TPs) and Technical Working Groups (TWGs). It is designed to ensure consistency, productivity, and a clear framework for those intending to engage with AESS in fostering innovation and collaboration in the core areas of activity of the Society.

1. Introduction to AESS Technical Operations

The AESS Technical Operations is dedicated to fostering innovation and collaboration in various technical disciplines within the society's fields of interest. Through the establishment and maintenance of TPs and TWGs, AESS aims to:

- **Stimulate technological advances** through specialized research and initiatives.
- **Enhance member engagement** via technical networking opportunities.
- **Facilitate standards development, influential publications, and globally recognized conferences.**
- **Promote knowledge-sharing** through chapter meetings, educational activities, and professional development programs.

Each TP and TWG plays a pivotal role in directing AESS efforts toward advancing significant technologies and building professional communities in key technical areas.

2. Key Components and Performance Targets

2.1 Technical Panels (TPs)

Technical Panels are long-term entities focused on targeted areas of innovation and professional growth within the AESS fields of interest. Key features include:

- **Governance:** Operate under self-defined charters and bylaws.



- **Activity:** Convene at least twice a year, often during relevant international conferences.
- **Scope and Impact:** Prioritize technical collaboration, professional development activities, and initiatives that align with the AESS mission.

An existing TP must meet a minimum number of three **Key Performance Indicator (KPIs) targets** over a three-year evaluation period to retain its status and be granted renewal. The reference TP KPIs and associated targets include:

1. **Meetings:** Conduct at least four meetings annually, with proper documentation and minutes produced.
2. **Publications:** Publish at least three papers in AESS journals or magazine within three years. These shall demonstrably be the result of team efforts and coordination taking place within the TP.
3. **Research & Innovation (R&I) Initiatives:** Complete at least three documented successful initiatives over three years.
4. **Education or Training Programs:** Conduct at least three successful education/industry training programs. In addition to Distinguished Lectures (DL) inspired by the TP activities, these should include at least one lecture series or tutorial delivered during a major AESS event focused on TP core themes.
5. **Student Competitions/Industry Challenges:** Organize at least two student competitions or industry challenges over three years.
6. **AESS-Sponsored Conference Participation:** Make substantial contributions to at least one AESS-sponsored conference.

2.2 Technical Working Groups (TWGs)

Technical Working Groups focus on time-limited, specific problem sets or emerging domains, with potential for eventual transition to permanent TPs. An existing TWG must meet at least three KPI targets over a three-year evaluation period to justify renewal of the TWG. Reference TWG KPIs and targets include:

1. **Publications:** Publish at least two papers in AESS journals/magazines within three years.
2. **Meetings:** Conduct at least four meetings annually, with proper documentation such as minutes.



3. **Research & Innovation (R&I) Initiatives:** Achieve at least two documented successful initiatives over three years.
4. **Education or Training Programs:** Conduct at least two successful education/industry training programs.
5. **Student Competitions/Industry Challenges:** Organize at least one event or competition over three years.
6. **AESS-Sponsored Conference Participation:** Make substantial contributions to at least one AESS-sponsored conference.
7. **Lecture Series/Workshops:** Deliver at least one lecture series or tutorial during a major AESS event focused on TWG themes.

To transition to a Technical Panel, TWGs must achieve at least five of the KPIs listed above.

3. Creation and Operation of TWGs

3.1 Steps to Establish a TWG

Establishing a TWG involves the following steps:

1. **Terms of Reference (ToR):** A formal proposal (using the template in Appendix A) to outline the purpose, activities, and goals of the TWG. This must be submitted to the Vice President of Technical Operations (VP TechOps) for initial approval.
2. **Approval by the BoG:** Upon submission, the BoG Technical Operations Committee (TechOps Committee) evaluates the proposal. Approval requires a majority vote.
3. **Operational Guidelines:**
 - Conduct at least four meetings per year and keep minutes of each meeting for records.
 - Actively pursue initiatives aligned with strategic AESS goals as outlined in Section 2.2.



4. Advancement of TWGs to TPs

4.1 Evaluation Criteria

A TWG that has demonstrated sustained success over three years through at least five KPI targets (refer to Section 2.2) is eligible for nomination to become a Technical Panel. Evaluation will focus on:

1. **Strategic and Scholarly Impact:** Demonstrated relevance and significant contributions within AESS fields.
2. **Alignment with AESS Goals:** Contributions to AESS priorities, including thought leadership, education, and industry engagement.

4.2 Approval Process

1. **Pre-Screening:** The proposed TP charter and organization structure (using templates in Appendix B and Appendix C) must be pre-endorsed by the VP TechOps and pass a preliminary evaluation by the TechOps Committee (majority vote).
2. **BoG Plenary Session Approval:** The proposed TP is successively submitted to the BoG in plenary session (either at the Spring or Fall meeting). Approval requires a majority vote of the BoG. Only one new TP can be approved per session.

5. Renewal and Discontinuation of TPs and TWGs

5.1 TP Renewal

TPs that meet the performance criteria listed in section 2.1 are automatically renewed on a yearly basis, subject to the three-year evaluation cycle described above. Conversely, TPs that do not meet the minimum KPI targets are considered for discontinuation. The VP TechOps, in consultation with the BoG TechOps Committee, identifies relevant cases where such discontinuation conditions apply.

5.2 TP Discontinuation

The VP TechOps tables any applicable TP discontinuation proposals at the first available BoG plenary meeting (Spring or Fall). A majority vote from the BoG in plenary session is required to discontinue an existing TP.



5.3 TWG Renewal

TWGs are initially approved for three years. After this period, continuation of the TWG requires the approval of the VP TechOps, subject to the following conditions:

- The TWG must meet at least three KPI targets from Section 2.2.
- Justification for renewal must be provided with supporting documentation.

5.4 TWG Discontinuation

The VP TechOps tables any applicable TWG discontinuation proposals at the first available TechOps meeting (mid-year or end-of-year TechOps Summit). A majority vote from all active TechOps Committee members is required for TWG discontinuation.

6. Leadership and Coordination

VP of Technical Operations

The **VP of Technical Operations** is responsible for overseeing the creation, operation, and evaluation of TPs and TWGs. The VP also acts as the primary contact for all TP and TWG stakeholders.

Roles and Responsibilities of TP/TWG Leaders

1. Chairs and Vice Chairs:

- Chairs/Vice Chairs are elected through a **majority vote** of current members, with an initial mandate not exceeding **three years**, renewable once.
- They coordinate activities, facilitate meetings, and ensure adherence to AESS objectives.

2. Panel/TWG Members:

- Candidates must submit the following to be considered for membership:
 - Statement of purpose.
 - Detailed CV.
 - At least one letter of recommendation from an existing AESS member.
- Selection is conducted via **majority vote** of current TP members.



- Retention requirements (e.g., participation in meetings and/or activities) are set individually by each TP to align with their operational culture.

6. Funding

Budget Allocation Details

1. **Up to USD 4,000 per financial year can be allocated for normal operations**, including regular and recurring activities outlined in the TP's charter that are not funded by other means.
2. **Up to USD 8,000 per financial year can be allocated for special initiatives** beyond regular TP activities, focusing on AESS mission-related work like multidisciplinary research, student competitions, and multi-panel collaborations (e.g., activities linked to the AESS Super Topic).

Application and Approval Process:

1. Funding applications must be submitted by the TP Chairs to the VP of Technical Operations.
2. Applications must contain detailed motivation/rationale, technical scoping, and budget information.
3. TPs may pool their individual budget allocations to support collaborative activities involving multiple TPs.
4. The BoG Technical Operations Committee will review these applications and approve or reject them through a majority vote.

Applications can be submitted at any time during the year. However, funds allocated shall be spent in the calendar year they are allocated (TechOps Committee decision).

6. Reporting, Awards, and Other Recognitions

6.1 TP and TWG Reports to the BoG

Each TP and TWG is required to report on their activities to the VP TechOps on a semi-annual basis, at least two weeks before the BoG Spring and Fall meetings. The inputs from the TPs and TWGs are summarized by the VP TechOps in their formal addressal to the BoG in plenary session. The full presentations are included in the BoG meeting minutes as supplementary



material. The templates required for TWG and TP semi-annual and yearly reports are provided in Appendix D through G.

6.2 Technical Panel of the Year Award

Each calendar year, the Technical Panel of the Year Award is conferred to the TP demonstrating the most significant activities, achievements, and impact. Evaluation is conducted by the BoG TechOps Committee based on the submitted TP reports for the Spring and Fall BoG meetings (cumulative assessment). Decisions are made by a majority vote and are based on the TP overall annual performance, as captured in the templates provided in Appendix D and Appendix E.

6.3 Other Recognitions

Based on documented outstanding performance, the BoG in plenary session or the TechOps Committee might consider TP or TWG for additional recognition or commendations.

7. Appendices

- **Appendix A:** TWG Terms of Reference Template.
- **Appendix B:** TP Charter Template.
- **Appendix C:** TP Organizational Structure Template.
- **Appendix D:** TP Semi-Annual Template for BoG.
- **Appendix E:** TP Annual Report Template for BoG.
- **Appendix F:** TWG Semi-Annual Template for BoG.
- **Appendix G:** TWG Annual Report Template for BoG.

8. Further Information and Points of Contact

The AESS Technical Operations presents its members with significant opportunities to engage in collaborative and innovative technical initiatives. These efforts, driven by the collective contributions of TPs and TWGs, enable the Society to achieve its mission of advancing aerospace and electronic systems technology for the benefit of humanity.

For more information or assistance:

- Visit the [AESS Technical Operations Committee Website](#).



- Contact the **VP of Technical Operations**, relevant **Panel Chairs**, **TWG Chairs**, or the **BoG Representatives**.

Prepared by:

Roberto Sabatini, IEEE Fellow
Vice President, Technical Operations
IEEE Aerospace and Electronic Systems Society
<https://ieee-aess.org/contact/roberto-sabatini>
Full Professor, Department of Aerospace Engineering
Khalifa University of Science and Technology
PO Box 127788, Abu Dhabi, UAE
T: +971 2 312 5656
roberto.sabatini@ku.ac.ae