

Technical Operations Strategic Planning

AESS Officers Strategic Planning Meeting

January 23, 2016

San Antonio Marriott Riverwalk



Walt Downing

VP Technical Operations, AESS

Technical Operations Mission & Vision

- **Mission Statement** - AESS Technical Operations will form technical panels in the Society's fields of interest to stimulate technological advances and member engagement in technical networking, standards development, publications, conferences, chapter meetings, and other professional development activities.
- **Vision Statement** – Organize and conduct the world's best technical activities in the Society's fields of interest.

Strategic Analysis

- What is our **current status**?
 - Strengths and Opportunities
 - Some strong legacy panels
 - Some emerging panels with promising futures
 - Conferences seeking more member involvement/engagement
 - Members seeking training and professional development
 - Chapters seeking speakers and workshops
 - Students seeking experiential training (i.e. projects)
 - Challenges
 - Some panels are in limbo
 - Some lack of alignment with other AESS activities
 - Some technical panels and conferences only loosely affiliated with AESS
 - Time demands on volunteers
 - Weak connections with students and young professionals

* New items

Strategic Objective 1

Develop and implement a technical panel review process

Activities:

- Develop matrices identifying alignment of technical panels with AES conferences, distinguished lecturers, IEEE standards, etc.
- Perform gap analysis on these matrices to identify opportunities to increase alignment
- Review and evaluate technical panels (Blue/Green/Yellow/Red) on alignment metrics
- Share these metrics with technical panels and work to continually improve scores

Strategic Objective 1

Metrics/Scorecard

	Aerospace Control & Guidance Systems	Aerospace Systems Integration Engineering	Avionics Systems	Cyber Security	Gyro and Accelerometer	Radar Systems	Space Systems	Target Tracking Systems	Unmanned Aerospace Vehicles
Technical Panels									
Chair	Phil Hattis	Koti Tatipamula	Paul Kostek	Kathleen Kramer	Randall Curey	Maria Greco	Cosimo Stallo	Dale Blair	Vince Socci
Vice Chair or Co-Chair	James Forbes	Dante Bolatti			Reese Sturdevant		Marina Ruggieri	John Glass	Phillip Hall
Number of Members						30-45			
Number of Committees	Ad Hoc	"4-7"	5	None Currently	2	7	3 "Areas"	4	Ad Hoc
IEEE Standards					Sensors - 292, 293, 517, 528, 529, 647, 671, 813, 836, 952, 1293, 1431, 1554, Systems - 1559, & 1780	Terminology - 521 & 686 Ultrawideband Radar - 1672			
Meetings per Year	Semi-annual	2+	2+	2+	6 meetings/yr.	4+	2+	2+	2+
Conference Participation			DASC, ICNS & PLANS?	DASC & ICCST		Multiple	Aerospace & RAST		
Responsibility for AES Awards						Nathanson & White	Resnik		
Distinguished Lecturer Coverage	4	12	2	?	1	10	3	11	1+

Strategic Objective 2

Expand technical panel participation in all AESS sponsored conferences

Activities:

- Utilize gap analysis to identify conferences that lack AESS member participation
- Identify cognizant technical panel for each conference and encourage increased participation
- Encourage all technical panels to participate in at least one AESS conference per year

Strategic Objective 2

Metrics/Scorecard

	Financial Cosponsors	Next Conference	Last Held	AESS Attendees	AESS Technical Panel
AES Financially Sponsored/Cosponsored Conferences					
IEEE Aerospace Conference		March 5-12, 2016 Big Sky, MT	March 7-14, 2015 Big Sky, MT		Space Systems
Position Location and Navigation Symposium (PLANS)	ION	April 11-14, 2016 Savanah, GA	May 5-8, 2014 Monterey, CA	19	Avionics Systems
IEEE International Radar Conference (RadarCon)		May 1-6, 2016 Philadelphia, PA	May 11-15, 2015 Crystal City, VA	133	Radar Systems
IEEE AUTOTESTCON	IEEE IM Society	September 12-15, 2016 Anaheim, CA	November 2-5, 2015 National Harbor, MD		Board of Directors
IEEE/AIAA Digital Avionics Systems Conference (DASC)	AIAA DATC	September 25-30, 2016 Sacramento, CA	September 13-18, 2015 Prague, Czech Republic	14	Avionics Systems
Integrated Communication, Navigation, and Surveillance Conference (ICNS)	AIAA DATC	April 16-17, 2017 Herndon, VA	April 21-23, 2015 Herndon, VA		Avionics Systems
IEEE Radar Conference	IEEE GRS Society		October 27-30, 2015 Johannesburg, South Africa		Radar Systems

- Aerospace Control and Guidance Systems Panel is separate 501.c.3 that conducts semiannual meetings with technical sessions and short courses that are not affiliated with IEEE.
- Gyro and Accelerometer Panel meets for two days every two months to develop sensors and systems standards.
- Radar Panel and Space Panel are actively engaged with several meetings and conference in their fields of interest
- Aerospace Systems Integration Engineering Panel is engaged with IEEE Systems Council and conferences
- Cybersecurity Panel and UAV Panel are engaged with other IEEE and Professional Society conferences.

Strategic Objective 3

Promote collaboration between technical panels and chapters

Activities:

- Identify technical panel members and their local IEEE sections
- Develop matrix of technical panel membership vs. IEEE sections for regional coverage
- Analyze matrix to identify regions that have critical mass and ensure that there are local AESS chapters in these regions to promote further collaboration
- Survey local AESS chapters to identify which AESS fields of interest, if any, are predominant among their members
- Use this information to inform and encourage member participation in relevant technical panels

IEEE Central Texas Section

- New Joint Chapter SMC-AES
- Formed from existing SMC Chapter
- Kickoff Meeting on November 16, 2015
- Distinguished Lecture (George Schmidt) on January 22, 2016
 - Collaboration with AIAA
 - Live and WebEx
- SAMIEEE Central Texas Section Members
 - SMC ~ 86 members
 - AES ~ 124 members
- Web Presence
 - https://webinabox.vtools.ieee.org/wibp_home/index/CH05200
- Webcasting meetings to share with TP's and other chapters

IEEE
SMC

AESS

Strategic Objective 4

Promote synergy and collaboration with AESS Educational Activities to expand distinguished lecturer coverage and develop continuing professional development activities for all AESS fields of interest

Activities:

- Utilize gap analysis to identify needs for distinguished lecturers in specific fields of interest
- Utilize AESS chapter fields of interest and local experts to identify new distinguished lecturer candidates
- Explore concept of short courses proposed by educational activities to increase collaboration

Strategic Objective 4

Metrics/Scorecard

	Aerospace Control & Guidance Systems	Aerospace Systems Integration Engineering	Avionics Systems	Cyber Security	Gyro and Accelerometer	Radar Systems	Space Systems	Target Tracking Systems	Unmanned Aerospace Vehicles
Yaakov Bar-Shalom		X						X	
Erik Blasch	X	X						X	
Eli Brookner						X		X	
Larry Chasteen		X	X			X			
Fred Daum		X				X		X	
Mark Davis						X		X	
Saj Durrani		X					X		
Giuseppe Fabrizio		X				X		X	
Alfonso Farina						X		X	
Avid Roman Gonzalez							X		
Maria Sabrina Greco						X		X	
Hugh Griffiths						X		X	
Simon Haykin		X				X		X	
Wolfgang Koch	X	X				X		X	
Surendra Pal	X	X					X		
Tony Ponsford		X							
Bob Rassa		X							
George Schmidt	X	X	X		X				X

Strategic Objective 5

Prepare technical panel guidance in the form of best practices, techniques, and tools

Activities:

- Collect charters, strategic plans, and other relevant documents for each technical panel
- Identify best practices, techniques and tools used by most successful technical panels
- Prepare a technical panel handbook of these best practices, techniques and tools
- Share technical panel handbook with all technical panels
- Revise and update as necessary

Status: Selection of 2015 Best Technical Panel

Strategic Objective 6

Increase AESS member participation in all technical panels

Activities:

- Utilize gap analysis to identify AESS activities needing additional member involvement
- Utilize AESS chapter fields of interest and local experts to identify and engage emerging leaders
- Inform and invite AESS members to participate in AESS activities through improved communication efforts including letters, email, AESS website, QEB and social media

Strategic Objective 6

Metrics/Scorecard

Status

- Updating AES website with current information
- Preparing articles for 2016 QEB
- Increasing participation in social media activities
- Searching for ways to collaborate more effectively with student branches
- Completed ABET Program Evaluator Training and certified as a qualified IEEE Program Evaluator
- Planning to contact local IEEE-HKN chapters to discuss opportunities to increase student involvement in AESS
 - New undergraduate student representative is president of local HKN chapter

Financial Assessment

- How do the initiatives impact the AESS “**financially**” ?
 - Account for the AESS resources required to implement initiatives
 - Recommend what future investments should be made and why?
 - Formulate motions required to bring up to the board
- Student projects and especially competitions or challenges seem to be an effective means of engaging students in professional society activities (Formula SAE, ASCE Concrete Canoe, ASME Design Competitions, Collegiate Cyber Defense Competition, etc.)
- 2015 UAV/UAS student project is an interesting initiative that is worth watching and replicating if successful
- At the current time there are no other new initiatives requiring additional funding that impact AESS financially
 - Volunteer time is the most critical scarce resource, not money
 - Coordinating the activities of multiple volunteers is challenging and existing communication methods and collaboration tools are relatively inefficient or ineffective

Technical Operations – Summary

■ **Member Placement**

- Get members into TP's

■ **Chapters**

- TP speakers for Chapter meetings

■ **Conferences**

- Encourage TP's to plan and organize conferences

■ **Education**

- Identify DL's in all AESS Fields of Interest

■ **Standards**

- Get TP's engaged with IEEE-SA activities

■ **Awards**

- Develop TP Awards

■ **Communications**

- Publicize TP activities

■ **TP Development**

- Identify new and emerging fields of interest

■ **Student Branches**

- Increase student engagement