Technical Operations Smart Objectives

VP: George Schmidt

Committee: M. Braasch, S. Coraluppi, H. Griffiths, L. Ligthart

(Appendix contains 26 slides from the 7 Panels)

April 27, 2018

Renaissance Oklahoma City

Technical Operations
3-Year Goals

- 1. Review all technical panels for relevance, activity and leadership. Seek revitalization of those technical panels that may be dormant or lagging, and drop those whose relevance or currency has expired

- 2. Identify topics and potential leaders for new areas within our fields-of-interest where technical collaboration would be beneficial

- 3. In collaboration with Conferences, identify and recruit AESS members from technical panels to participate in organizing AESS conferences

- 4. In collaboration with Member Services, promote interaction between technical panels and local AESS chapters to increase AESS member participation in these activities

- 5. Develop guidance in the form of best panel practices from initial proposal through operation and recognize outstanding technical panels

- 6. Finish analysis relative to Panel and DL distribution and collaborate with Education for implementation

2018 Technical Operations Objective

S – Continue review of all Panels

M – Jan: Reviewed Panel Chair inputs and provided feedback
April: Revised inputs rec'd, will provide feedback May
Sept. Review Chair BoG inputs and provide feedback in Oct

A – Assigned to: Technical Operations Committee

R – Relevant to which goal(s)? 1, 3, 4, 5, 6

T – Time period for performance: Continues all of 2018

2018 Technical Operations Objective

S – Develop a plan for a new IEEE Conference on UAV Technologies and Applications that would involve all Panels

M – Sept: Preliminary personnel/task assignments

A – Assigned to: Schmidt, Socci, Davis

R – Relevant to which goal(s)? 2, 3

T – Time period for performance: From May onwards

2018 Technical Operations Objective

S – Develop an annual publication from each Panel that is a current Technology Assessment and Forecast for that area

M – May: Coordinate with Publications on Format/Content. June: Issue call for authors via Panel Chairs. Oct: First submissions

A – Assigned to: Schmidt, Willett

R – Relevant to which goal(s)? 1,2

T – Time period for performance: Continuous from May 2018

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2018 Technical Operations Objective

S – Develop a Panel best practices document covering the period from initial Panel proposal through actual Panel operations

M – Performance metric for measuring progress

A – Assigned to: Schmidt, Griffths, Ligthart

R – Relevant to which goal(s) and how? 1,5

T – Time period for performance: April-Nov 2018

2018Technical Operations Objective

S – Prepare a list of 2018 Panel Meetings, dates, and locations to see the geographical overlays with chapter locations for possible meetings with both groups

M – Performance metric for measuring progress: List completed

A – Assigned to: Schmidt

R – Relevant to which goal(s) and how? 4

T – Time period for performance: Jan-April 2018

2018Technical Operations Objective

S – Complete GAP analysis relative to DLs and Panels and work with Education to include recommendations for DLs and for DLs to be members of Panels

M – At the end of the year, compare the number of DLs with technical interests associated with a Panel and actually on the Panel

A – Assigned to: Schmidt, Kramer

R – Relevant to which goal(s) and how? 2, 4, 6

T – Time period for performance: Fall 2018

Motions

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- That the Board cancel the Aerospace Systems Integration Engineering Panel and the Target Tracking Systems Panel

- That the Board is in favor of each Panel producing an annual Technology Assessment and Forecast that AESS members can use is assessing the current state of the art and future technology requirements.

Appendix

- 26 slides from the 7 Panels. Feedback is welcome.

8/8/2022

Radar Systems Panel
2018 Planned Activities

Braham Himed

16 April 2018

IEEE
Advancing Technology for Humanity

Radar Systems Panel (RSP)

- Organization:
  - The Radar Systems Panel (RSP) is a technical panel of the IEEE Aerospace and Electronics Systems Society (AESS) and its activities are in line with the purposes of the AESS society
  - Panel is composed of IEEE members who are representatives of industry, government, educational institutions, and professional societies, and who are active in the field of Radar

- Purpose
  - Sustain and oversee the program of IEEE Radar Conferences
  - Manage the nomination and selection of candidates for IEEE Awards in the field of Radar
  - Promote and support publications in the field of Radar
  - Promote educational activities in the field of Radar
  - Encourage the submission of nominations for IEEE Fellows and Senior Members in the field of Radar
  - Provide periodic revision of IEEE Standards pertaining to the domain of Radar

Most Significant Accomplishments

- First Radar Summer University – Coincided with 2017 IEEE Radar Conference, held in Seattle, WA, with over 75 students attending

- Sponsored radar conferences in Philadelphia, PA (2016), Guangzhou, China (2016), Seattle, WA (2017), Belfast, UK (2017), Oklahoma City, OK (2017), and Brisbane, Australia (2017)

- Increased membership diversity with attraction of more women, young engineers and scientists, and from under-represented regions

2018 Planned Activities

- New Activities:
  - Cement Radar Summer School as part of RadarConf xxxx and Radar xxxx series (xxxx is the year)
- Panel Membership
  - 41 Active Members and 12 Emeritus Members
  - List sent to Judy
- Committees
  - Radar Conference Committee
  - Awards Committee
  - Standards Committee
  - Education Committee
  - Nomination and Appointments Committee
  - Waveform Diversity Committee
  - Civilian Radar Committee
- Panel Meetings
  - IEEE RadarConf 2018 in Oklahoma City, OK (April 2018)
  - Radar 2018, Brisbane, Australia (August 2018)
- Are you interested in participating with distinguished lecturer selections in your technical area? Yes
- Do you see any opportunities for inter-Panel collaboration: Yes, especially in Autonomy and Cyber
- Any issues/topics you wish to bring up in this space? No
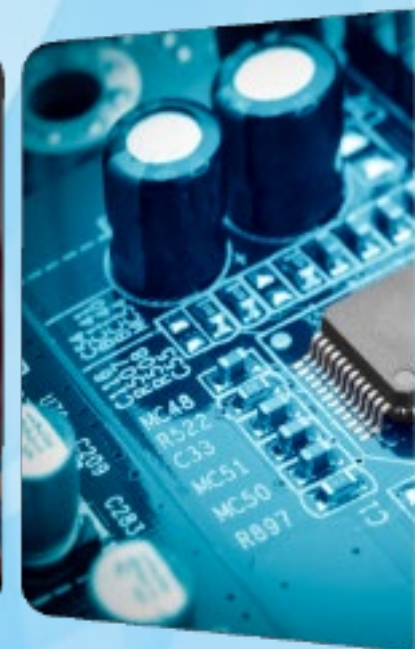
IEEE AESS UAS/UAV Tech Panel Progress Report – March 2018

Vince Socci, IEEE UAS/UAV Technical Panel Chair, National Instruments RTT BDM

3 Mar 2018

socci@ieee.org

IEEE

Advancing Technology for Humanity

2017 Achievements
Reinvigorate a viable tech panel

- THANK YOU to the tech panel for an awesome 2017. We accomplished much, including:
  - Delivered drone operator training program
  - Started IEEE UAS standards group
  - Participated in FAA UAS ID rules committee
- For some exciting entertainment, take a look at some of the project submissions from our drone course:
  - https://youtu.be/74qOw49YKuc
  - https://youtu.be/BFFf3FkHCZc
  - https://youtu.be/n7unx0Ifb5U
  - https://youtu.be/mJdwM-wgozA

2018 Goals
Build a sustainable Tech Panel

- Annual (2018) activities:
  - Create a regular cadence for Tech Panel meetings
  - Publish a global technology outlook
  - Grow participation in UAS standards in collaboration with non-IEEE organizations
- Near-term (3-year) strategy:
  - UAS student programs (e.g. BYO drone, drone racing, UAS workshops)
  - IEEE-led UAS conference
  - Lead global standardization of UAS operations
- Organizational goals:
  - Tech panel communication/coordination platform for collaboration
  - Grow membership to 20+ with global footprint coverage
  - Tech panel presence in AESS publication (e.g. "Dronetalk" in Systems Magazine)

Meeting Schedule

Date/Time	Venue	Agenda Focus Topics	Notes
10 FEB 18 **10-11AM EST**	Virtual online	Event project planning	
14 APR 18 **10-11AM EST**	Virtual online	Publications, Conferences	
09 JUN 19 **10-11AM EST**	Virtual online	TBD	
11 AUG 18 **10-11AM EST**	Virtual online	TBD	

Activity Planning

- Meetings
  - TP will participate in FAA UAS symposium in March and Exponential in May
- Conferences
  - Working to participle in World Forum of IoT in 2019
  - Possible joint work in GHC
- Chapter Outreach – Need to get AESS Chapters chair involved
  - They can be a source for content, contribution, publication
  - Get events to replicate in other chapters
  - Get AESS BoG chapters chair involved
- Publications – Phil and Kai working on articles
- Public Imperatives – Support ISO, ANSI, CTAP and IKO

Navigation Systems Panel

- Mike Braasch

Navigation Systems Panel Objectives

- ▣ Deepen AESS involvement in PLANS
  - – Responsible Individual: Mike Braasch
  - – Actions: Draft proposal for new MOU with ION; return to financial co-sponsorship
  - – Schedule: Negotiate new MOU with ION by late Summer 2018 for PLANS 2020

- ▣ Solicit excellent PLANS papers for AES Trans and Mag
  - – Responsible Individual: NSP committee
  - – Actions and Schedule: Committee members will identify excellent PLANS 2018 papers by the end of May 2018 and contact the responsible author; confirm at Summer NSP meeting

- ▣ Encourage Senior Membership
  - – Responsible Individual: NSP committee
  - – Actions and Schedule: Ongoing action at each meeting

Navigation Systems Panel (NSP)

Accomplishments: 1) Committee formation (Sum 17); 2) AESS-organized track at PLANS 2018; 3) Meetings held Oct 17 and Jan 18

Objectives: Deepen AESS involvement in PLANS (return to financial sponsorship); Solicit excellent PLANS papers for AES Transactions and Magazine; Encourage Senior Membership among nav folks

New activities in 3 years: Continue strong AESS support of PLANS, paper solicitation, promote Senior Membership and Fellow nominees

# of active committee members: 10

Subcommittees? None

Scheduled meetings: Quarterly via telcon

Distinguished lecturer participation? Happy to serve!

Inter-Panel Collaboration? We need to engage with the UAV panel

Cyber Security Technical Panel

Kathleen Kramer
Submitted to: George Schmidt, VP- Technical Operations

April 2018

Cyber Security (Technical Operations Panel)

- **Significant Accomplishment**
  - Special Issue on Cyber Security in Aerospace Systems for SYSTEMS Magazine
    - 2-part Special Issue November 2017 and March 2017
    - 3 guest editors
    - Drew from DASC and ICCST. Reviews used effectively to maintain quality.
  - Unique application of knowledge and effort (cyber security of aerospace systems) of wide-interest topic for aspects specific to our fields of interest.
    - AIAA started "Protocol" newsletter nominally on this, but it has NO information specifically related to aerospace systems.

- **Objectives**
  - Two panel meetings per year incorporated into program of DASC and ICCST.
  - Video tutorial, DL topic update, applying tracks at conferences. (Relate to AESS Conferences, Meetings, Activities, Publications)
  - (Increase AESS reputation and visibility in cyber)

- **Committee Members (7+10)**
- Kramer (Chair) - 16 others, including these 6 (2 BoG, 2 DASC TPCs, 2 ICCST chairs) and submitters to special issue from conference.

Cyber Security (Technical Operations Panel)

- **Meetings:**
  - At 37th DASC in London September 2018 – [asked for] session on Wednesday, September 26, 2018
  - At 2018 ICCST in Montreal October 2018 – [asked for] session on Tuesday, October 23, 2018
- **Distinguished Lecturers**
  - Chair is one. Another DL is on panel, but security restricted. Need more coverage.
- **Other opportunities and issues**
  - Special issue was a truly unique contribution from AESS. Do more.
  - Chair is representing IEEE on the issue of Cyber Security Engineering Criteria to ABET. Panel role emphasized. Criteria moving forward.
  - DASC and ICCST are AESS conferences, but not as strongly affiliated as others. Panel has been beneficial to these ties.
  - Membership is "open" – this allows interested members, particularly conference track and tutorial leaders in niche to be involved but also brings "volunteers" whose interest is self- and center- promotion and provides little organizing support.
- **Assignments and Timelines**
  - Kramer, Letsu-Dake(DASC), Moore (ICCST) leads
  - Timeline is for 9/26 and 10/23 meetings

Gyro and Accelerometer Panel (GAP)

- Accomplishments
  - The revision of Std 1293, "IEEE Standard Specification Format Guide and Test Procedure for Linear, Single-Axis, Nongyroscopic Accelerometers," is complete and is ready to be submitted for balloting.
  - The Corrigenda for Std 529, "IEEE Draft Standard Supplement for Strapdown Applications to IEEE Standard Specification Format Guide and Test Procedure for Single-Degree-of-Freedom Rate-Integrating Gyros" was published 26 October 2017.
  - The PAR for Std 1780, "Draft Standard for the Specification of Inertial Measurement Units (IMU)", has been extended until December 2021. Std 1780 becomes the main focus of the panel now that Std 1293 is complete.

- Objectives
  - Complete resolution of the Industry Survey comments on the revision of Std 1293 and send out for ballot.
  - Complete 100% of IMU document first draft by 1 November 2018.
  - Submit a PAR for 528 revision by the end of the year.

- The GAP is satisfied with its activities related to standards development, and is not looking for new activities.

Gyro and Accelerometer Panel (GAP)

- The GAP has 20 active committee members; 10 of which are very active.
- The GAP has two standing committees: The Sensors Committee and the Systems Committee.
- Future Meetings

Dates	Location	Host
3/4 May 2018	Tucson, AZ	Raytheon
19/20 July 2018	Redmond, WA	Honeywell
13/14 September 2018	Charlottesville, VA	Erickson Enterprises
8/9 November 2018	Alamogordo, NM	Alamogordo IEEE Chapter

- I have not had any members express interest in participating with distinguished lectures.
- At this time, the panel does not see any opportunities for inter-Panel collaboration.

Gyro and Accelerometer Panel (GAP) Objectives, Assignments, and Milestones

- Complete resolution of the Industry Survey comments on the revision of Std 1293 and send out for ballot.
  - The sensors committee was responsible for resolving the Industry Survey comments, which was just completed.
  - The panel chair has the responsibility of initiating the ballot.
- Complete 100% of IMU document first draft by 1 November 2018.
  - The systems committee is responsible.
  - Homework is assigned and tracked as required.
- Submit a PAR for 528 revision by the end of the year.
  - The panel chair is responsible for obtaining the PAR.
  - Once the PAR is approved the revision will become the responsibility of the sensors committee.

Avionics Systems Panel

The 3 most significant accomplishments in the last 12 months. (ONE sentence each listed with proudest accomplishment first)

- Meeting at 36th DASC
- Article submitted to Systems Magazine from Jan Leuchter
- Student papers from DASC submitted to Systems

Your Panel's 3 most important objectives for the next 12 months.

- Add new members
- Joint Meeting with another Panel (UMS)
- Identify new Chair

What kind of new activities would you like to have the Panel involved in 3 years from now?

Commercial Space avionics

Number of active committee members. Has a list of members been sent to Judy?

List has been provided to judy

Your Panel meetings scheduled (where/when) for the next 12 months.

ICNS 2018, June Telecon, 37th DASC

Are you interested in participating with distinguished lecturer selections in your technical area?

Yes

Do you see any opportunities for inter-Panel collaboration.

Yes, have reached out to UMS Panel about possible joint activities

Avionics Systems Panel - Objectives

- Add volunteers to support DASC and ICNS
  - Status – On-going – Panel members
- Coordinated activities with other Panels
  - Status – On-going – PJKostek
- Identify new Chair
  - Status – in work - PJKostek

Space Systems Technical Panel

Cosimo Stallo

April 2018

Space Systems Panel Topics

- Vision of the panel is to create a reference point for technical and scientific initiatives related to the space world. Panel members belong to (civil and military) institutions, industry and academia. The promotion and involvement of IEEE and AESS in space activities through the Panel is also aimed.

- In the frame of the Space Systems Panel, key topics related to space can be highlighted to the scientific and industrial community by the organization and development of the following:

- Special Issues on Transactions and Journals

- Conferences and Workshops

- Editorial activities

- Seminars, Courses

- Books

- Promotion and Standardization

- Three Activities Areas:
  - Area 1   *Satellite Communications Systems*
  - Area 2   *Space Exploration and International Space Station*
  - Area 3   *Space-based Navigation Systems and Synthetic Aperture Radars*

Space Systems Panel

Near–Term Goals and Objectives
- Hold 2+ meetings/year
- Increase AESS reputation and visibility in space topics
- Relate to AESS Conferences, Meetings, Activities

AESS Activities
- Conferences – Aerospace Conference, MetroAerospace, with tracks related to panel are both fall.

Members
- Dario Schor (from University of North Dakota)

- Others – nice participation at Aerospace Conference

Journals and DLs:
Activities related to the role of Editor of Space Systems of the AES Transactions and for the Systems Magazine.
Foreseen 2 DLs in the space topics area.

Space Panel Report

➢Activities related to the role of Editor of Space Systems of the AES Transactions and for the Systems Magazine.

➢Organisation of training and thesis activities of students at the University of Roma Tor Vergata in the field of space systems.

➢Activities related to the co-chairing of Track 2 Space Missions, Systems and Architecture of the 2013 IEEE Aerospace Conference that will take place in Big Sky in March 2018.

➢The 15th edition of the Master Course in "Advanced Satellite and Communications Systems" is in progress at the University of Rome Tor Vergata, while the 16th edition is in preparation.

➢Activities related to projects, publications and teaching in the space system related topics.

➢Development and publication of several papers about space systems in conference proceedings and journals.

➢ Support to **Durban University Technology** (DUT) in South Africa in order to establish an ***Institute of Space Science***

The following activities, proposals and projects will be carried out in that Institute on the followings items:

1. *African Satellite Augmentation System (ASAS)* as a new project instead of the Extension of EGNOS on Central and South Africa;

2. *Road Traffic Control and Management*, which can reduce mortality on the roads up to 30% in Africa;

3. *Satellite DVB-RCS Scenario for Fixed and Mobile Solutions*, which provides Voice, Data and Video over IP (VDVoIP), IPTV, IPPC, enhanced Broadcast content, Broadband, fast Internet and all E-solutions (in particular E-education or E-medicine to cover all schools or clinics, respectively);

4. *Satellite Asset Tracking and Fleet Management (SATFM) and SCADA or M2M Systems* such as projects for Global Container Tracking (GCT), Global Vehicle Tracking (GVT), Global Wagon Tracking (GWT), Global Ship Tracking (GST), Global Aircraft Tracking (GAT), M2M and so on;

5. *Intelligent Transportation Systems* (ITS) such as Electronic Vehicle Registration (EVR) and so on;

6*. Stratospheric Communication Platforms* (SCP);

7*. SCP* for Transfer of energy from Solar cells in the Space to the Ground;

8. Development of *Multipurpose GEO/LEO Space Segment*;

9. *Homeland Security System (HSS).*