IEEE Aerospace Electronic Systems VP Industry Relations

Mike Noble

2022 AESS Fall Board of Governors Meeting

21-22 October 2022

Edinburgh, Scotland

1. Addressed industry panels at AESS conferences

2. Discussed industry tailored short courses; more work to do before we may identify a pilot

3. Discussed industry socials/recruiting events at AESS conferences

4. Will hold Industry mentoring webinar (TBS) before end of CY

5. Tested IEEE Industry Relations Platform (IRP) and provided feedback

6. Supported IEEE RESEARCH GROUP ON ISSUES OF AUTONOMY AND AI FOR DEFENSE SYSTEMS

7. Expanded Industry Innovation award nomination pool; set approach to follow in the future

8. Discussed Industry Ambassador program – more research and engagement necessary

9. Drafted script for IR portion of 50th video

1. Growing industry sponsorship of IEEE and AESS
   a. Codify and promulgate government-industry conference panels
   b. <mark>Develop another program to grow industry engagement / sponsorship</mark>
   c. Develop ways to measure impact of these initiatives on sponsorship and membership

2. Serving our industry members.
   a. <mark>Grow relevance to industry engineers</mark>
   b. Engage our society leadership and members from industry to understand what new programs we could add
   c. Implement a pathfinder new or modified program

3. Strengthening ties to corporate IEEE.
   a. <mark>Expand our engagement to leverage corporate initiatives and resources</mark>
   b. Maximize AESS support for the Institute writ large

IR Committee Objectives for 2022

	Growing industry sponsorship of IEEE and AESS	Lead	Status
A	Grow company-focused short courses	Butler	Discussed with IR committee and Luke, working a call with Joe Fabrizio. Discuss at BoG meeting
	(Tie to DLs, grow providers, partner across committees)		
	Serving our industry members		
B	Codify and promulgate industry panels at conferences	Coraluppi	Confirm with Conference Committee these panels are codified; promulgate to other AESS conferences like DASC and AUTOTESTCON
C	Reintroduce industry sponsor recruiting events at conferences	Farina	Targetting 2023 Radar conference; coordinate with the chair and IEEE legal
D	Partner with YPs on a mentoring session pathfinder	LoMonte	Converged on a webinar session in Nov/Dec
	Improve AESS website to be more useful for practioneer	CANCEL	Too hard to do and not worth the effort. Focus IR committee site on a summary of the committee POCs and objectives. Do not try to create something practioneers will reference regularly.
	Strengthening ties to corporate IEEE		
E	Join Industry Relations Program (IRP) pilot	Noble	Coralupi, LoMonte, and Noble participating in the pilot program
F	Support Ariel Conn and Wolfgang Koch panel on Ethical and technical challenges in the development, use, and governance of autonomous weapons systems	Coraluppi	Stefano participating in panel discussions. No formal actions for now.

- Precedence
  - Joe has done an OTHR course for LM and BAE in Australia. They asked Joe to do it.
  - Luke is setting something up with LM Australia, they've asked for a bunch of forms
- Status
  - Arranging discussion with Joe Fabrizio about his experience.
  - A company offering would "close" the course to other AESS (unusual for AESS)
  - Need to get a company at the lead for a pathfinder
  - Luke Rosenberg is the chair and should be kept in the loop
  - Mailchimp is being sent out to AESS members advertising the Short Course program
- Questions
  - Did Joe sign an NDA? Did Joe or LM/BAE initiate? What's the history of Joe's LM/BAE course? LM/BAE paid IEEE and IEEE paid Joe?
  - Luke has reached out to all of the DLs to see if they'd be willing to turn their DLs into a short course … most of the DLs do NOT want to do it.
  - Can we incentivize DLs to create a short course? Particularly if there's industry pull.
  - Systems council paid $1000 for someone to create a tutorial. BoG would have to approve any funding of DLs to generate a short course.
  - Do we need to incentivize/pay DL to create the short course
- Discussion
  - Generally IEEE pays travel but not a "salary" (maybe a honorarium or stipend). Every case is different.
  - Leverage instructors who are working and recognized in a field and can leverage their industry connections. Review list of instructors and ID
  - Leverage industry POCs from committee contacts (near term) and IRP (long term)

Update industry outreach status, identify pilot course/company (if possible), solidify pilot plan

5

I'm writing on behalf of the Institute of Electrical and Electronics Engineers (IEEE) and the IEEE Aerospace and Electronic Systems Society (AESS). We are a professional society of nearly 5,000 members whose technical fields of interest are in complex systems for space, air, ocean, and ground-based applications. Our goal is to engage the worldwide technical community in a full spectrum of professional development including publications, conferences, technical panels, special interest groups, distinguished lectures, short courses, networking, mentoring, and other activities that are valuable for career advancement.

I am reaching out to industry leaders working in areas of advanced technology. Our goal is to make technology more available to industry through various initiatives including short courses in areas that are important to you. We hope to make you aware of courses available to your company and request suggestions on topics you might value. IEEE has the ability to arrange various learning experiences in the form of Distinguished Lectures and specific short courses. I am attaching a list of lectures and classes that could are offered today. If you have interest in any of these existing courses, we can make arrangements with you on how best to present the material to your team.

There may be other topics of interest to your company. IEEE has been offering lectures and courses for years but this initiative is to make the topics of greater use to your needs and I hope to enlist your assistance. If we were to bring such lectures or courses to your area, would you want to host them at your facility or would you prefer to engage local IEEE chapters or student groups? Are there lectures or courses that your staff would be interested in offering to students or other industry partners?

IEEE has provided lectures and classes to organizations at no cost but be thoughtful about whether the company would like to fund the development of material that is especially tailored to your needs. Would lectures or courses be better if recorded, virtual, or presented in-person? Each topic would have dissemination questions whether the material is proprietary or company sensitive.

I hope this letter finds you well. If there is someone there who is best suited to work with the IEEE, please let me know or introduce us.

▶ Industry panels at Radar and Aerospace conferences

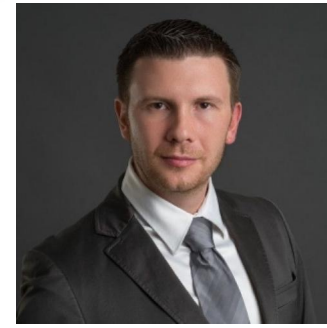▶ Significant industry participation at AUTOTESTCON and DASC

Maintain dialogue with Conferences committee to support industry panels at each AESS conference

▶ Discussion on holding industry recruiting events at conferences. Need to identify a conference or conferences. The purpose is to engage industry companies and potentially secure sponsorships.

▶ IR Committee own or conference and conference chairs? Agreed to the latter.
  – AESS create the mechanism and setup the framework in which the conferences can execute this initiative. Essentially create an opportunity for the conferences to do this. The details should be left up to the conference organizers.

▶ Identify 1-2 conferences as pilot program/pathfinders.
  – One option is RadarConf'23 in San Antonio, TX, USA on 1-5 May 2023. Reach out to Garret Hall - SWRI/AESS Lone Star Section Chapter/previously involved with YP
  – What were the lessons learned at RadarConf'22? It was tried but didn't get much mileage.

▶ Potential networking/social event to follow industry panel talk with YP, students, industry

▶ **ACTION**: Amanda and Mike present idea at the RadarConf'23 meeting

▶ **ACTION**: Mike to check with IEEE Legal

Solidify plans with Braham during this board meeting

- ▸ Pathfinder webinar in Nov/Dec focusing on establishing and managing a career in industry
  - – Originally planned for Sep but couldn't get organized in time
- ▸ Build off Dale's 9/29/22 presentation "Engineering in the Real World"
- ▸ 90 minute moderated discussion
  - – Each speaker gives an introduction and bios
  - – Seed with a handful of discussion topics managed by moderator
  - – Proctor field questions from audience and feed to moderator
  - – Record and post on AESS site
- ▸ Leverage strong group of industry veterans on the AESS board as panelists for initial pilot

Solidify plans during this meeting including date/time, platform, panelists, proctor, and mooderator

▸ Rob Fish is Chair

▸ Don Tan is Vice Chair

▸ Patrick Russoniello, Senior Corporate Development lead for IEEE, has been a good POC but has departed

▸ Marc Beebe is acting POC until Patrick is backfilled

▸ Sponsor programs like
  – Industry Relations Platform (IRP) pilot
  – Industry Ambassadors program

▸ https://www.ieee.org/about/corporate/industry-engagement-committee.html

Continue working with IEEE Industry Engagement Committee on areas of collaboration and opportunities to expand industry participation and value

IEEE Industry Engagement Committee

Related information

Industry Engagement Committee facilitates industry engagement activities across IEEE, identifies and acts on opportunities, gaps, and overlaps across IEEE, launches initiatives, and recommends to the IEEE Board needed development of products and services that meet the needs of industry, government, and industry professionals.

> See full Committee Charter (PDF, 104 KB)

Follow IEEE Industry Engagement on:
- Facebook
- LinkedIn
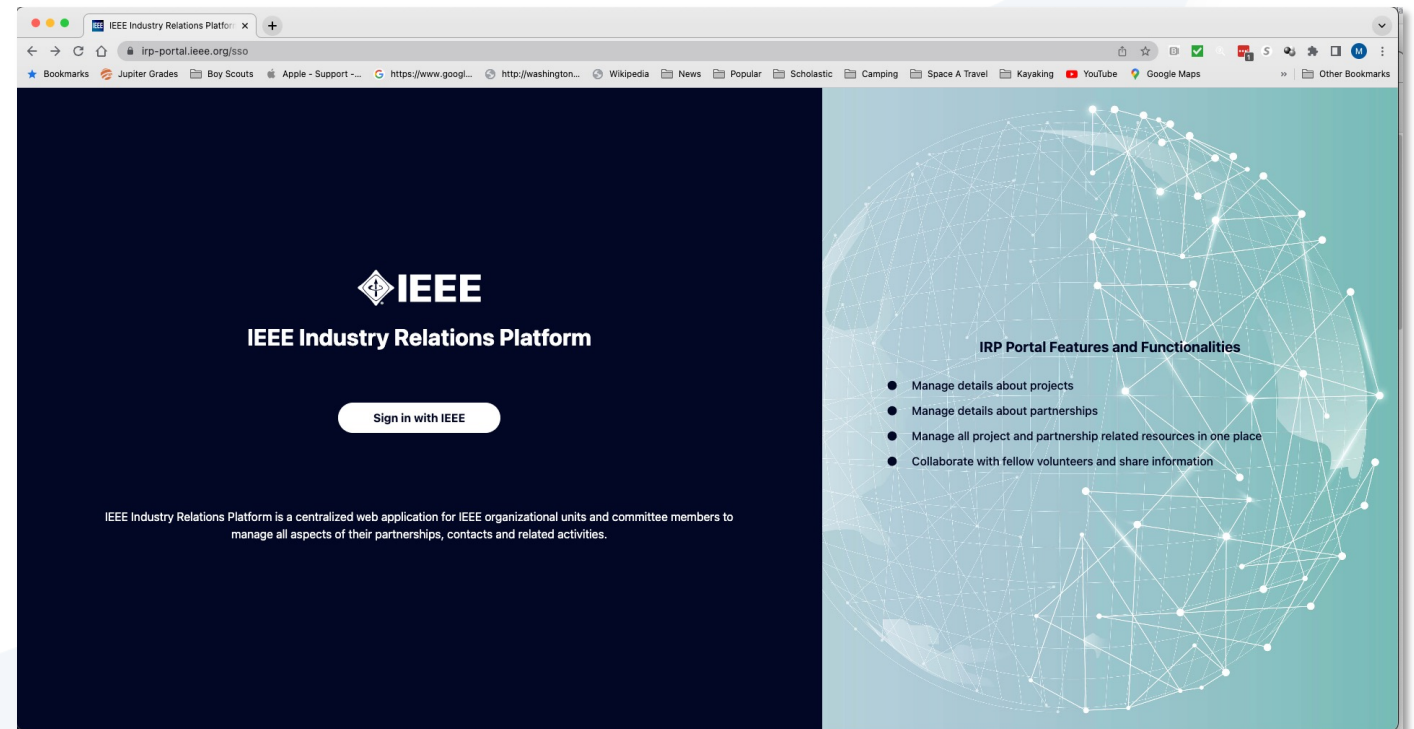- Instagram
- Twitter

Resources

Dialog

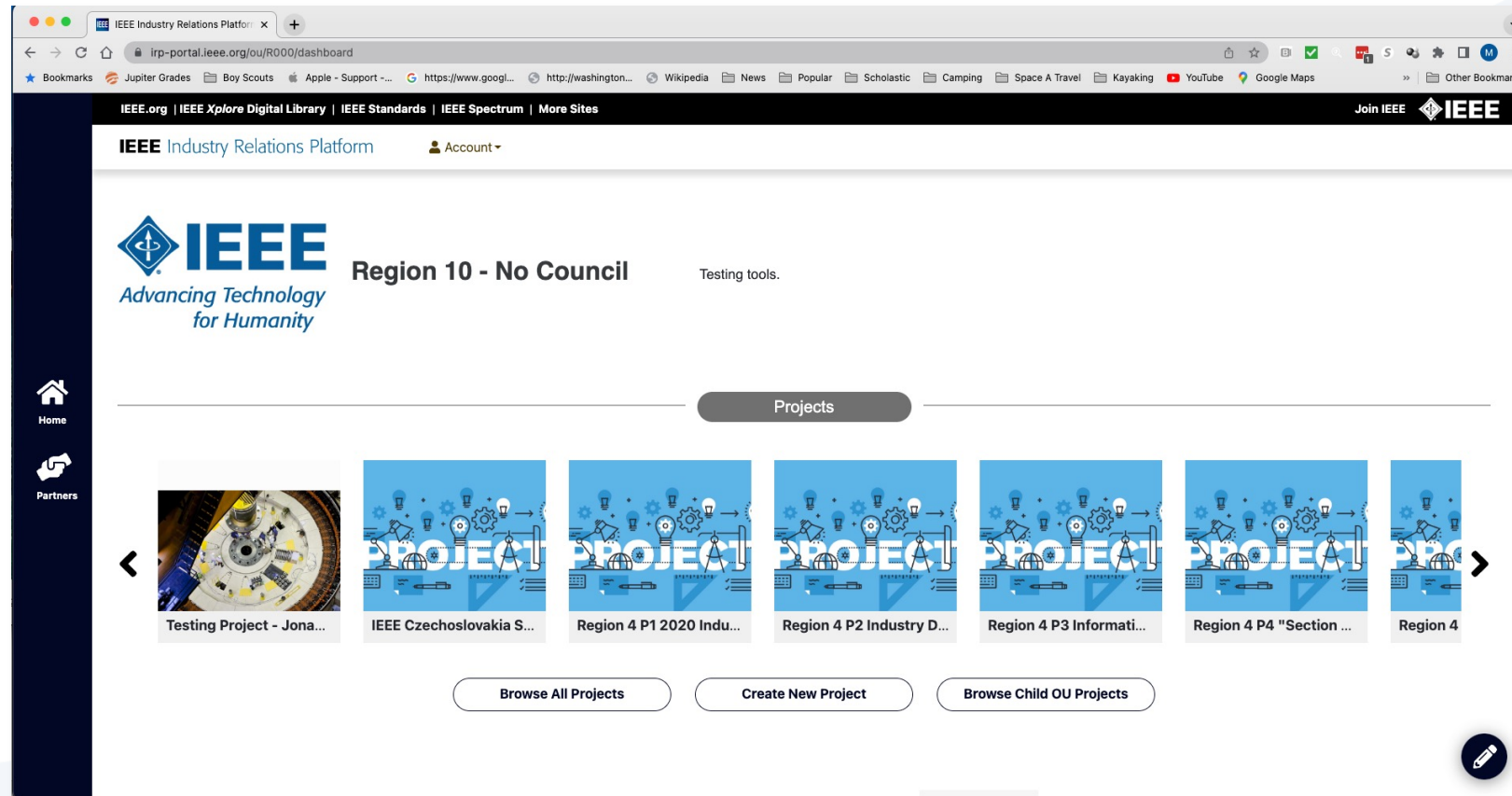> IEEE for Industry   > Calls for Proposals   > IEEE Job Site   > Industry Engagement Guidelines

- Pilot went live in July

- Stefano, Lorenzo, and I are participating in review of it

- Feedback survey is due by end of October

- Informational Videos: bit.ly/IRPUserGuide

- Subodha Charles is IEEE POC

- Patrick Russoniello
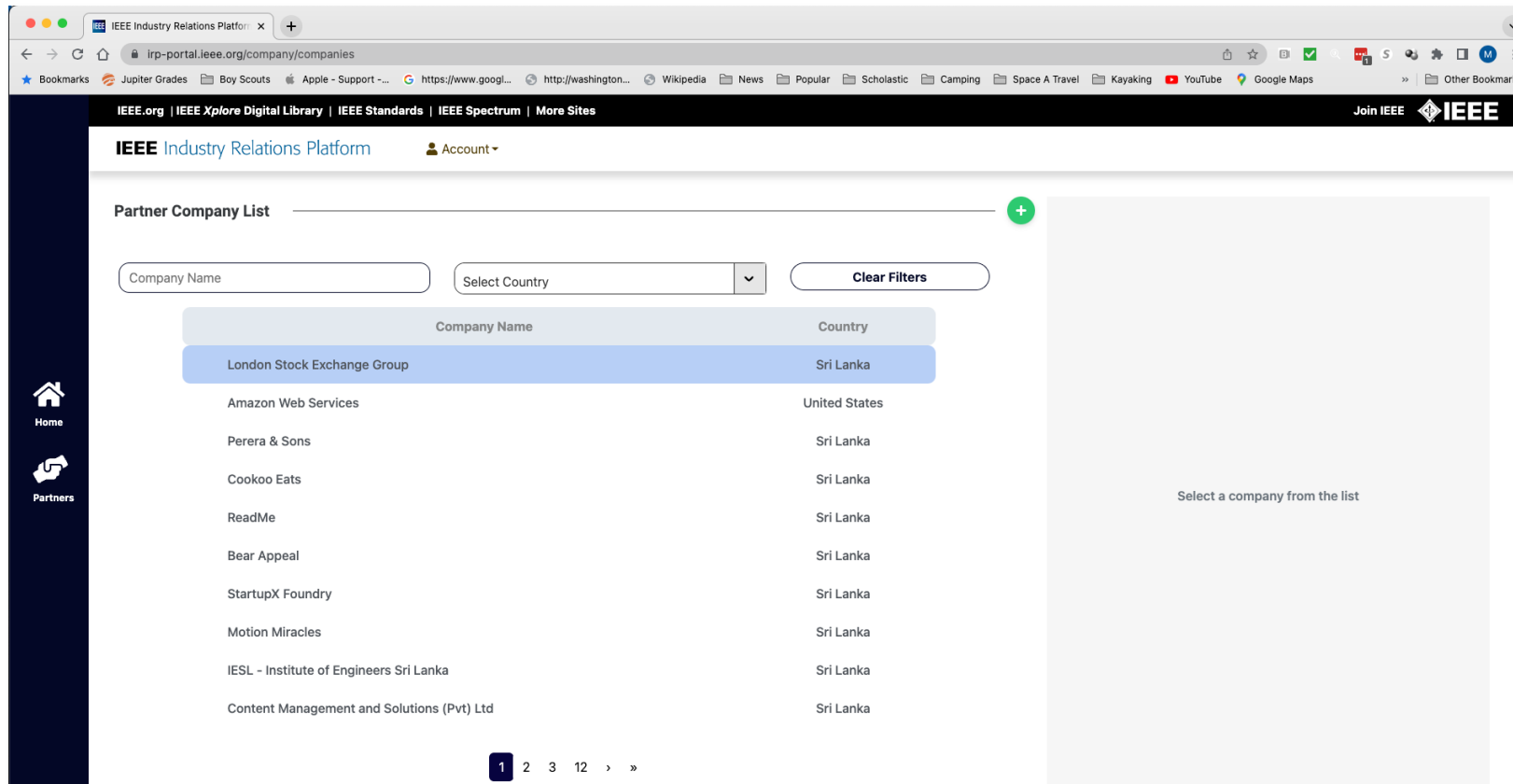

Potential value to Member Services, Education, and perhaps Conference committees

▶ Due to the nature of IEEE Organizational Units (OU) where committees last for a limited number of years and volunteer turnover, tracking industry engagement activities and capitalizing on opportunities has been a challenge. OUs tend to have weak and ad-hoc relationships with industry.

▸ Industry Relations Platform (IRP) developed in this project is a centralized web application for IEEE OUs and volunteers to manage all aspects of external entity partnerships, their contacts, and related activities.

IRP Is basically a Customer Relations Management (CRM) tool for IEEE OUs to track, maintain, and increase engagement with industry

▶ Introduced by Ariel Conn after the last BoG

▶ Ariel Conn and Wolfgang Koch joined our February IR committee meeting to discuss

▶ Provided inputs to their study

▶ Stefano staying engaged

▶ https://standards.ieee.org/industry-connections/autonomy-ai-defense/

Consider other emerging technology areas for similar initiatives
Standing action for fall board meetings

Ethical and technical challenges in the development, use, and governance of autonomous weapons systems

By an independent group of experts convened by the IEEE Standards Association:

Emmanuel Bloch

Ariel Conn

Denise Garcia

Amandeep Gill

Ashley Llorens

Mart Noorma

Heather Roff

Other activities

1. Industry innovation award
2. Industry Ambassador program
3. 50th anniversary celebration

◢ Ultimately received more than one nomination

◢ Lesson: need to exercise our network and send personal invitations to industry seniors to submit nominations

◢ Extended deadline to ensure multiple submissions

◢ Lesson: expand missionary work at conferences and pubs, and send personalized invitations to nominate sooner (now)

IEEE AESS Industrial Innovation Award

ⓘ Description   👥 Recipients

Description

To recognize an individual or team at any level who were industry employees whose technical contributions have resulted in significant advances in integrated electronic systems and large-scale integrated interoperable systems within the scope of the Society.

Prize

$1,500 USD honorarium (up to a maximum of $4,500 USD per award), a plaque, and certificate for each awardee. In the event that there are more than three awardees, the maximum prize shall be divided equally among all awardees.

Funding

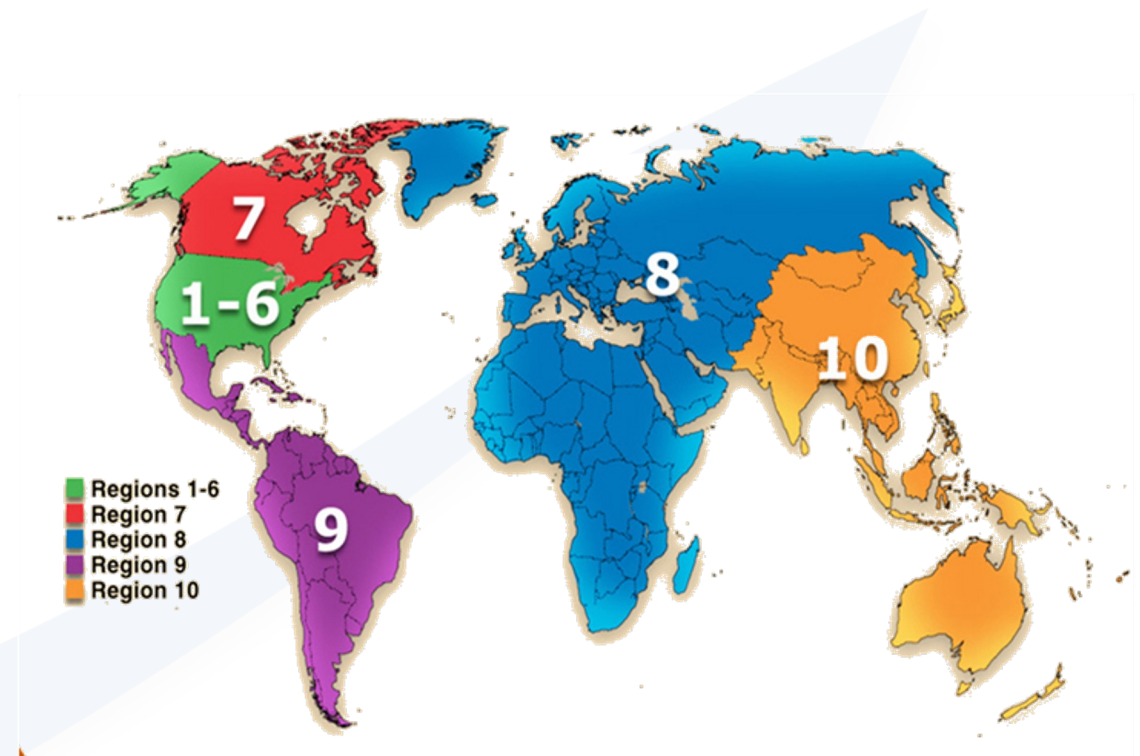Funded by the IEEE Aerospace and Electronic Systems Society

Presentation

At a convenient IEEE AESS conference

**Coordinate between IR and Awards on status;
with Conferences and Publications for publicizing award**

- Due to "soft launch" in Q3 this year

- Appears Regions 8 and 9 have programs underway

- http://ieeer8.org/wp-content/uploads/2021/03/AfI-IA-Orientation-Workshop-2021.pdf

- https://r9.ieee.org/iec/ambassadors-program/

Regions 1-6
Region 7
Region 8
Region 9
Region 10

Follow up with Patrick and regional POCs to programs to evaluate promulgation across regions

Industry Ambassadors Orientation Workshop

Action for Industry Sub-Committee
IEEE Region 8
6th March 2021

AFI committee organisation

Pillar activities

Mentorship & Internship (*Danilo*, Toni)
Coordinate the mentorship & internship program - manage the lists, sent material for website update, communication
Entrepreneurship activities (*Mohamed*, Marios, Kithinji)
Coordinate entrepreneurship activities, innovation challenge, meetings with innovation hubs, startup activities
Communication & Website (*Maria*, John)
Source for material for the website, timely update of website, communication with IAs, communication to social media
Industry events & initiatives (*Kithinji*, Marios)
Look out for interesting activities/events for AfI involvement, represent AfI committee at the event
IA Coordination (*Frédérique*, John)
Liaison with IAs

What have you done as an Industry Ambassador that worked well for you and others can learn from you?

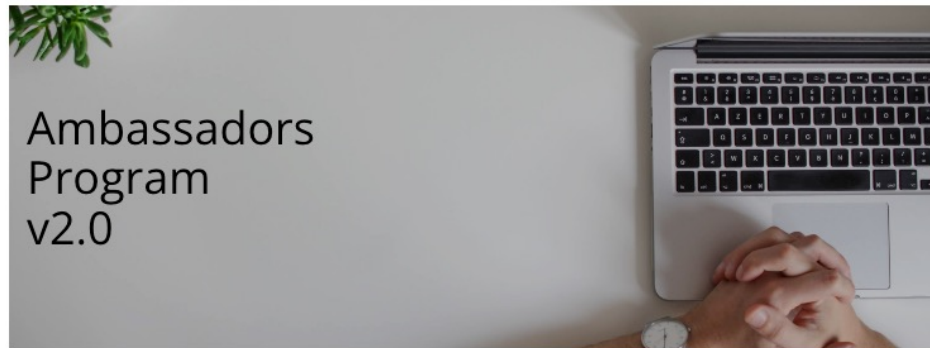**Industry Engagement Committee R9**

HOME   IEEE REGION 9   INDUSTRY ENGAGEMENT   SENIOR MEMBER FOLLOW UP PROGRAM   IEEE IEC R9 PODCAST   ACTIVITIES   CONTACT US

Ambassadors Program v2.0

The program consists of a series of virtual meetings, in which an IEEE ambassador will lead a conversation on a topic of interest to the members of his company and allied companies, seeking to generate alliances that generate added value for the ambassadors and for the industry, also promoting the interest of belonging to the **IEEE**.

Objectives

- Increase industry participation in IEEE Region 9 activities.
- Increase the volunteerism of IEEE members in industry-related activities.
- Achieve the participation of 20 IEEE ambassadors in the program in 2022.
- Achieve 250 volunteer hours from IEEE ambassadors.
- Achieve the linking of 20 companies to the program.
- Achieve the participation of 200 industry professionals in the sessions of the program.
- Increase recruitment and retention of industry-related IEEE members

Goals

The v2.0 ambassador program aims to become a bridge between the community of young professionals and industry in Region 9. Fostering best practices, strategic alliances, and active volunteering of members, while generating added value and encouraging active IEEE recruitment industry.

Message: AESS serves industry and practicing engineers through relevant conferences, periodicals, lectures, and short courses.

Theme 1: AESS leads the advancement of cutting edge technology of contemporary interest to industry and its customers through its refereed journals, conference presentations, and short courses, including company-sponsored courses

Theme 2: AESS brings industry leaders together through conference panels and other fora to share information and keep IEEE and AESS focused on the most pressing technologies for industry and their customers.

Theme 3: AESS educates and provides career services to practicing engineers ensuring a vibrant workforce underpinning the strength of the career field.

Media:: voice over still pictures, or videos

Section: 5. VP Industrial Relations

Pictures from the following events:
- Mark's industry sponsored short course
- Col Turnbull chaired industry panel at 2021 Aerospace conference
- Tim Grayson chaired industry panel at 2021 Radar conference
- Industry panels at 2022 Aerospace and Radar conferences

Author: M. Noble   Organization: Anduril

email: noble@ieee.org   Phone: 571-220-8517

▸ Invite 1-2 speakers from Platinum level sponsors to discuss how AESS has impacted

▸ Develop another list of industry sponsors – invite 10 to attend

▸ IR Committee members to reach out to their contacts at the following companies:
  – Steve: Raytheon, Northrop Grumman
  – Stefano: Lockheed Martin
  – Mike: MIT Lincoln Labs
  – Lorenzo: Telephonics
  – Alfonso: identify international companies that may have a presence in the NYC area

▸ Need to identify if we're going to invite government organizations. Need to include international companies in the 10 industry attendees (i.e. Saab).

Need to close on these invites and any speaking role ASAP

Recommendations for 2023

1. Pilot an industry focused short course building off Joe Fabrizio and Mark Davis experience

2. Support Conferences committee with Industry panels – topics, content, panelists, etc

3. Coordinate an industry social at the Radar 23 conference

4. Collect lessons from mentoring pilot, repeat and/or promulgate to the regions for follow ups

5. Stay engaged in Industry Relations Platform, leverage to establish a relationship with key sponsors

6. Consider panels to which AESS can contribute annually (e.g., during fall BoG)

7. Exercise networks (and ultimately leverage IRP) to solicit Industry Innovation award nominations; start early

8. Track Industry Ambassadors program, promulgate lessons from R8 and 9

9. Maintain relationship with IEEE Industry Engagement Committee, look for mutual leverage opportunities

SWOT for Industry Relations

Strengths

Solid industry support for IEEE subscriptions

Good participation from high tech companies in AESS domains

Tech focus well aligned with industry interests

Reduced prices for students and young professionals

World class technical journals

Conferences at the pinnacle of the academic community

Weaknesses

Meager industry senior support for IEEE / AESS

Employee participation is more tolerated than encouraged

Low government participation outside of laboratories

Web pages not regular resource for practioneers

Opportunities

Industry-focused products, e.g., interviews or invited articles

Team with other societies on initiatives of industry interest

Tailor hybrid events – talks and courses – to companies

Facilitated mentoring seniors – to – young pros / students

Publish info relevant to industry seniors in periodicals they read, e.g., fellows and Industry Innovation awards in Av Week

Threats

Open source publications in rapidly advancing fields, e.g., AI, put industry subscriptions at risk

Industry reticent to share information for competitive reasons

Perception of IEEE as strictly an academic institution

Bridging the Technology Transition Valley of Death

▸ PANEL DETAILS:

▸ The pace of innovation in the small satellite community is accelerating. This gives an opportunity for the Space Force to accelerate the transformation of the overall architecture - which will require equally rapid technology transition from Research and Development (R&D) to production and operations. R&D organizations are often chartered to perform revolutionary research (as opposed to evolutionary research) meaning there isn't always the key advocate/warfighter or program for transition identified upfront. Unfortunately, this often results in the "technology transition valley of death" where innovative minimally mature systems aren't adopted into the future enterprise and those potential capabilities are lost. Successful transition of a new technology or new capability to acquisition and operations requires warfighter demand, building partnerships, and securing funding. In addition, other key enablers to rapid transition include rapid prototyping and development, ridesharing and improved systems integrations processes. To bridge the valley of death, we'll need to rely on these enablers prove the "art of the possible" to potential stakeholders. This panel will address both successes and challenges of technology and capability transition from R&D organizations, using real-world examples of lessons learned. We will discuss the importance of not only looking at the systems engineering of the space vehicle, but system integration with ground systems and other rideshare payloads play a critical role to the success of not just a single mission, but the collective missions that will build our future architecture.

▸ SCHEDULED ON:

▸ Monday Afternoon, March 07 @ 01:00, in Amphitheatre

▸ SPEAKER:

▸ Eleni Sims , Mark Jelonek , Stephen Shinn , Stanley Straight , Lawrence Robertson

Radar Conference Industry Panel

RadarConf 2022 will hold an industry panel event.
Key leaders from industries worldwide will take questions directly from the audience.
Details of the event will be uploaded soon.
For more information, please contact the Industry Panel Chair

Tuesday, March 22nd 2022. Starts at 16:20

Chair: Charlotte Blair

Confirmed Panelists

▸ Kevin McSweeney, President, Telephonics

▸ Dominic Walker, CEO, Aveillant

▸ Tony Fischetti, VP Radar, STR

▸ Jim Day, Technical Director, Lockheed Martin

▸ Daniel Culkin, Director, Advanced RF Systems, NGMS

RadarConf'22
2022 IEEE RADAR CONFERENCE
... Where Radar Innovation Never Sleeps
21-25 March, 2022 | Times Square | New York City, USA | www.radarconf2022.org

Codify and expand industry panels
Consider interview(s) to publish in the magazine