IEEE Systems Council
VP of Technical Operations AdCom Report

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Current Status & Achievements

▶ Presently, eight formal Technical Committees in existence

- **Analytics and Risk TC** (Chair: Desheng Dash Wu) – **Status**: portal upgraded adequately

- **Cyber Physical Systems TC** (Chair: Dr. Shiyan Hu) – **Status**: portal upgraded adequately

- **Human System Integration TC** (Chair: Dr. Holly Handley) – **Status**: Additional report recently added (Presently has 40 members, where half are active)

- **Intelligent Transportation Design TC** (Chair: None at this time but still trying) – **Status**: No activity for quite some time

- **Networked Systems TC** (Co-Chairs: Dr. Cecilia Metra and Dr. Nelson Fonseca – **Status**: These a new Co-Chairs trying a restart of this TC.

- **Systems Biology and Biomedical Systems TC** (Chair: Bernard Fong) – **Status**: portal upgraded (Presently has 17 members)

- **Systems Education TC** (Chair: Charles Pickar) – **Status:** Attempting restart

- **Security and Privacy in Complex Information Systems TC** (Chair: Dr. Pierangela Samarati) – **Status:** Limited activity (Presently has 37 members)

Challenges

▸ Several TCs lack many members and there are no active campaigns to recruit additional members.

▸ Several TCs have widely different structures on how their websites are laid out?

▸ The TCs don't operate to a common set of rules and regulations. I produced a set of guidelines for forming a TC and what rules they would follow as guidance.

▸ The IEEE Robotics and Automation Society has guidance for TCs. They were a major mentor in the guidelines that I produced. Excellent portal on "Establishing a New Technical Committee" is at: https://www.ieee-ras.org/about-ras/volunteer-resources#TC

▸ Should our TCs be actively engaging with other TCs in different IEEE societies? Perhaps some of our TCs should disband and start newer, more relevant ones?

▸ Investigate possibility of expanding into two more areas: (1) a Standards TC and (b) a CubeSat Miniaturized Satellite TC
  - Low interest so far in having the Standards TC
  - Hope is to possibly have a CubeSat Miniaturized Satellite TC

Challenges

▸ Several TCs having difficulties

- The Primary Representatives for the IEEE Computer Society (Cecilia Metra) and the Communications Society (Nelson Fonseca) have agreed to share duties as the new Co-Chairs for the Networked Systems TC.

- Dr. Piuri is attempting to contact the IEEE Intelligent Transportation Society since they are a IEEE SC Society Member to provide a Chair. Alternative is to send out a call to our entire AdCom for possible volunteers to be a Chair.

- Dr. Holly Handley of the Human System Integration TC will serve as Chair for no more that one more year

- Charles Pickard (Systems Education TC) is trying to revive this TC.

Technical Committee Action Items

- ▸ Continue to have all TCs keep their sites current and balanced in their content

- ▸ Continue to urge TCs to expand their membership

- ▸ Continue to urge TCs to plan regular meetings and/or engage in teleconferences addressing issues of importance relevant to their focus statements

- ▸ Investigate having much closer interaction between IEEE SC TCs and TCs of other IEEE Societies

- ▸ CPSoS Roadmap Proposal effort ongoing.

- ▸ Investigate earlier recommendations by Walt Downing (who collaborated with Dick Fairley of INCOSE) to have a closer working relationship between INCOSE and the TCs.
  - Recommendations are listed in Walt's April 2019 AdCom presentation given in Orlando, Florida, USA

IEEE ILN Current Status and Options

▸ In March and July 2020, conducted telecon with Ms. Marguerite Corazza, who is the Director of the IEEE Continuing Education Product & Design Services (within the IEEE Educational Activities Department).

▸ A summary is:

- The IDL would like us to join as a "Content Provider". The ILN does not profit from any course that we upload. We keep any enrollment fees.
- There are now 743 courses available with ILN from 27 Societies/Councils.

▸ **First Option (Two Paths)**

- Use ILN for **dissemination** only at no cost (we would not use their storage capability but only their indexing capability).

- Use ILM for **hosting and dissemination** for a minimum cost of $1,000 (USD) per year to purchase lots of 250 licenses (at $4.00 each) for potential users of our products. Example: If over 250 users for all of our products, a fee of $4.00 for each license is added for each access.

- They have an attractive interface capability with all other Societies.

IEEE Resource Center Status and Options

▸ In August 2020, conducted a telecon with Ms. Melissa Handa, IEEE Senior Program Manager.

▸ A summary is:

- 27 RCs contains 5,600 products and they offer to store, consolidate and distribute valuable society/technical community IP content for many products.
- Enables access to PDF & video products through a global portal.
- Enables registration for live events (webinars and tutorials).
- Enables automated quizzes & educational credits & certificates (PDHs/CEUs).
- Encourages membership in IEEE and IEEE societies.

▸ **Second Option (IEEE Resource Center)**

▸ Cost is basic $3,000 (USD) per year for **hosting** which includes initial design of website for free this year and this amount (plus maintenance and advertising) after that. Profits flow back to the owning Society or Council.

▸ Great interface, easy to use (e.g., https://resourcecenter.sscs.ieee.org/)

IEEE YouTube Status and Options

▸ A **third option** is to upload our own presentations of varying content, length and quality to YouTube.

▸ Many academic organizations use this option since it's very inexpensive, if any costs are incurred at all.

▸ Limited structured interface for searchability.

▸ Quality though can be very poor and there is no advertising or marketing capability at all.

▸ This option implies that SYSC chooses no-fee policy for every educational item forever.

▸ A **fourth option** is it use ILN for dissemination only and YouTube as repository.

▸ No cost.

▸ This option implies that SYSC chooses no-fee policy for every educational item forever.

SYSC Educational Cmte Recommendations

▸ **IEEE SYSC Education Committee Recommendations**

- Combine best capabilities of BOTH the ILN AND the IEEE Resource Center to our mutual advantage.

- Both platforms :

  - enjoy an excellent interface.

  - are easy to populate with our future products of all types.

  - allow for defining a marketing policy (fee) for each item,

  - have great flexibility with advertising and marketing.

- Use the ILN for **dissemination** (indexing) only.

  - No costs.

- Use the Resource Center for **hosting and dissemination**.

  - It has a cost effective flat rate of $3,000 (USD) per year.

- Use the ILN+RC approach outlined above has the advantage of having a lower cost. Each item in ILN is used 160 times/year on the average; 5 items will be used 800 times/year on average with a cost of $3,200 (USD) for SYSC.

IEEE SC Educational Products Motion

‣ **Motion:** "That the IEEE Systems Council implement a combined approach to using the IEEE ILN and the IEEE Resource Center in a synergistic fashion to incorporate the following capabilities:

- Educational videos, live and recorded webinars, tutorials, etc.
- Publications – Newsletters, Technical Reports, etc.
- Conferences – Presentations (video and slides), panel discussions, etc.
- Membership advertising and marketing.

Note: Costs to the IEEE Resource Center shall be in the amount of $3,000 per year for hosting and maintenance activities. No further costs are expected, although some compensation might be incurred for authors who produce specific courses and/or tutorials."

Example of IEEE Resource Center Screen

IEEE SC-SERC Current Status

▸ On 13 March, conducted telecom with Dr. Dinesh Verma of the Systems Engineering Research Center (SERC). There was a request for collaboration on several topics.

▸ First, Dr. Verma stated that the SERC is often asked to conduct research on tasks that require engagement with systems engineers and others in industry and government. He hopes to collaborate with the IEEE Systems Council on tasks for mutual benefit.

▸ Second, Dr. Verma stated that the SERC is often asked to organize research workshops on emerging topics of increased interest to the sponsors.

▸ Third, Dr. Verma called for collaboration on further developing the SERC Doctoral Fellows program. He stated that the SERC had developed partnerships with selected corporate organizations, called the SERC Doctoral Fellows Program. He hopes to collaborate with the IEEE SC on enhancing this program with increased corporate participation.

▸ Both Dr. White and Dr. Vincenzo Piuri have sent out emails with several excellent ideas on how to implement this request for collaboration.

▸ Further telecons with Dr. Verma are planned.

IEEE SC-SEBoK Current Status

▸ Steve had telcon with Dr. Robert Cloutier and Dr. Art Pyster on potential collaboration between the IEEE SC and the SEBoK community.

▸ Further telecons are planned between myself, Dr. Cloutier, Dr. Art Pyster, and any other interested IEEE SC members who would like to contribute.

▸ Latest edition (V.2.2) of SEBoK on internet as of 15 May 2020 at: https://www.sebokwiki.org/wiki/Guide_to_the_Systems_Engineering_Body_of_Knowledge_(SEBoK)

▸ **Unrelated Issues:**

- I was the Technical Program Chair for the recent Virtual IEEE/NDIA/INCOSE Systems Security Symposium 2020.

- Participated in the IEEE Thesaurus Forum and sent my inputs to the IEEE Thesaurus Editorial Board (TEB).

Questions?

Ideas for the Future?

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