Vision

Just this week, my company opened nominations for our annual Simon Ramo award of excellent in Systems Engineering. A time when I reflect on the engineers and teams I’ve had the opportunity to serve this last year and reflect on the profession that chose me nearly 30 years ago. I look back on the work I’ve had the real pleasure of participating in that include DevSecOps, Model Based Engineering and engineering at the scale the Si did in his time. I delight in documented their achievements and nominating some truly outstanding teams of engineers. I also reflect on what we are doing now to continue to invest in the future.

What is happening now, around us all, is unprecedented in time. The speed of change is doing nothing but accelerating. We see that everywhere, in technical evolution, cyber security, how we live in a post COVID-19 world, and how we relate to each other respectfully, inclusively and meaningfully as people.

I joined INCOSE in 1997, drifted away and came back in 2012 when I joined the Chesapeake Chapter and I found comradery with other systems engineers and was proud to take the knowledge exam and become a Certified Systems Engineering Professional (CSEP). A few years later, I interviewed and was awarded an Expert Systems Engineering Professional (ESEP). In 2016, I joined the Certification Advisory Group (CAG) where I am currently the co-chair and will assume the chair for the 2nd time in 2021.

Membership in a large chapter and serving on the CAG, I’ve seen how INCOSE has evolved, but we are not at our destination. As the speed of change increases, so do we need to change and evolve to keep pace with the younger generations of systems engineers we are mentoring and growing. With all this change, we can be sure systems engineering of the future will not be the same as it is today. While the fundamentals will not change, we need to continue and accelerate the adaption to a model-based, multi-disciplinary, highly communicative discipline grounded in fundamental systems principles. If elected as your INCOSE Secretary, I will do my utmost to support this evolution by focusing on the following: Serving the membership and adopting new ways not just to communicate, but to collaborate, and accelerating our transformation.

Serve the membership: We are a volunteer membership organization. We contribute to INCOSE out of a sense of dedication, esprit, and love of our profession. We volunteer in the chapter, working groups, TechOps, sector meetings and events and at our premiere IW and IS! I’m in aw just thinking about everything and I really enjoy all that I’ve learned and all the discussions I’ve had with fellow systems engineers over the years at our events. Some of them pretty lively too! Service comes in many ways, but for brevity, let me focus on one aspect as an example case. Chapters are critical and we need to find ways to increase our collaboration of all the good things that are happening across the chapters, especially the student chapters, which enable us to engage future members and early engineers (not just systems engineers) and
demonstrate to them the value of INCOSE. We do this today, but we need more collaboration over what works and is beneficial to our society. We need to do this in an extraordinary period of change and awareness. We must provide resources, infrastructure, networking, and development for volunteers to maximize the impact of our chapters on our members and their communities.

**Adopting new ways to collaborate:** It’s hard to imagine how anyone’s life hasn’t been changed just in the last 6 months. How prevalent zoom is and how successfully we migrated from an in-person to virtual IS 2020 experience. We are in the midst of a communication and collaboration revolution, not led by paper documents, but by zoom, MS Teams, Adobe connect, Skype, SharePoint and tools like Mattersmost, Jabber and Slack. Tools we didn’t know even about well just a year ago! We need to keep on keeping on with the change and adopt it fully and transparently for the entire membership. The amount of knowledge we share with each other is truly astounding but it far surpassed by the amount of knowledge we have that we are not sharing. I propose pairing chapters across sectors so that both chapter leaders and members can collaborate with each other, lessons learned, systems engineer techniques and procedures and how to help each other in a global, interconnected way.

**Accelerate the transformation:** Clearly, a theme many of us recognize. Our transformation to a model based discipline is underway but needs to continue and indeed accelerate. We must foster experimentation, standardization, and information exchange. INCOSE also must help develop systems engineers who are competent and can fill the shortfall in expertise that is the greatest threat to our discipline’s continued success and growth. Acceleration will also depend upon engaging other stakeholders and organizations to foster a world-wide, multi-disciplinary community of systems practitioners, model creators, and model consumers communicating in new ways, using new tools (some of which only exist in someone’s mind, but will be commonly available to us tomorrow – will we be ready to adopt them?)

If elected, it is my intent to keep these tenants in mind as I serve as Secretary and help shape INCOSE’s strategic portfolio and realize our tactical actions. In a recent job interview, I was asked what my proudest professional achievement was. It was easy for me to answer: it was becoming an ESEP and encouraging and entire group of young engineers to follow in my footsteps to join in and participate through INCOSE chapters and working groups and eventually become certified as well. Many of them are our INCOSE future.

I am confident that my varied experiences, service, and demonstrated ability to identify and exploit new technologies and opportunities qualify me to serve as INCOSE Secretary. I hope that you will trust me to steward INCOSE’s communications, administration, interests and operations.

**Biography**

Emmet C. “Rusty” Eckman III currently serves as the U.S. Air Force (USAF) Unified Platform System Coordinator program director for the Cyber and Intelligence Mission Solutions (CIMS) division within Northrop Grumman’s Mission Systems sector. In this role, Eckman leads a high-performing team supporting the USAF effort to build a common cyber data and processing platform for U.S. Cyber Command’s Cyber Mission Force.
Eckman has more than 30 years of systems and software engineering expertise in support of the Intelligence Community. Prior to his current position, he was the CIMS division's business-facing director of engineering where he was responsible for the division's engineering staffing and processes, as well as the technical training of its engineers.

Throughout his 20 year career with Northrop Grumman, Eckman has held business development, engineering, strategy and program positions of increasing responsibility in multiple sectors of the company. Prior to that, he served as a DoD civilian.

Eckman charted a cohort program of INCOSE certification training that has significantly increased the number of trained and certified systems engineers at Northrop Grumman. The small group self-organizing cohorts, mentored by senior SEPs, allow the participants to learn at their own pace, and work together to take and pass the knowledge exam and become Associate Systems Engineering Professionals (ASEPs) or CSEPs. Northrup Grumman engineers replicated the cohort example expanded to other required technical certifications as well. The success of the cohorts is reflected in the significant increase in Northrop INCOSE SEPs.

Eckman is a retired U.S. Army Reserve lieutenant colonel having served domestically and as a combat veteran. He earned bachelor's degrees in computer science and political science from Millersville University of Pennsylvania and earned a master's degree in computer science from John Hopkins University. He is an INCOSE ESEP, Program Management Institute (PMP) Program Management Professional (PMP) and SAFe® Product Consultant (SPC). He is engaged to be married and father of two engineers: One a mechanical, systems and robotics engineer for General Dynamics and the other a post-graduate student in chemical engineering at Stanford. His hobbies include a passion for recreational and technical SCUBA diving and a deep interest in US philately, especially the 1861-1868 3 cent George Washington Issue with fancy cancellations and US Internal Revenue and Tax Paid stamps as well as running and service in men’s ministry.