International Council on Systems Engineering
Delaware Valley Chapter Meeting (Non-members welcome to attend)

Speakers: **1. Oliver Hoehne: "Implementing an Effective Modular Open Systems Approach [MOSA] Framework – Insights into the Application of MOSA to Non-Defense Industries".**

2. Jim Armstrong: "Improving Integration: Thinking Beyond the Physical Architecture".

Date: **Wednesday Evening, June 14, 2017**

Agenda:
6:00-6:30: Arrival and check in
6:30-6:45: Welcome to Drexel & Introductions
6:45-7:15: Oliver Hoehne presentation and discussion
7:15-7:45: Jim Armstrong presentation and discussion
7:45-8:15: Networking with the students
8:15-8:30: Chapter business

Location:
Drexel University
Pearlstein Building Learning Center, Room 308
32nd & Market Streets

RESERVATIONS

INCOSE Members and Nonmembers: James Finney jameswfinney@yahoo.com
Drexel & Other Students Contact: Chris Morse cmorse@coe.drexel.edu
University of Penn Students Contact: Dr Pete Scott peter.crosby.scott@comcast.net

Meal Choices: Boxed sandwiches available, Served with Potato Chips, Whole Fruit and a Cookie. Indicate your selection when making Reservation

1) Smoked Turkey and Swiss Cheese
2) Ham and Swiss Cheese
3) Roasted Vegetables and Cheese

Cost: $10 for INCOSE Members and Nonmembers; Students are Free (Just present your student ID)

Deadline for Reservations is Friday, June 9th

Abstracts and Bios

Oliver Hoehne is a Technical Fellow, Systems Engineering, a Project Manager, and the U.S. Global Technical Excellence Sector and Practice Lead on Systems Engineering, Communications and Control Systems for WSP, a company with 30,000+ employees, in 500 offices across 39 countries. Mr. Hoehne is a certified Project Management Professional (PMP) and Systems Engineering Professional (CSEP) with over 20 years of extensive international and domestic experience in Software and Systems Engineering across industries, and has worked in leading Systems Engineering, Integration & Testing (SEIT) roles on several multi-billion dollar programs.

Abstract:
Introduction: The DoD Better Buying Power (BBP) 3.0 continues the emphasis on open systems architectures and modularity, focusing on providing technical enablers and tools that can be employed by the acquisition workforce and industry to enhance technology insertion, accelerating and simplifying the delivery of advanced capability into systems without replacing entire systems, resulting in systems with highly cohesive, loosely coupled, and severable modules that can be openly competed.

Credibility: One of the most effective and successful non-defense MOSA applications has been the integration of the multi-national trans-European high-speed rail network. As European rail service reaches back to the 1830s, many different national and non-compatible standards for track, power, signals, communications, safety, etc. were developed that were posing numerous integration challenges. In the 1980s and 1990s individual European countries started building their own high-speed rail lines that were nationally funded and operated. Today however, many European countries such as France, Spain, Italy, Germany, Belgium, the Netherlands, the United Kingdom, and others successfully operate cross-border high-speed rail service. This was achieved mainly by a regulatory European framework of mandatory and voluntary harmonized standards such as the Technical Specifications for Interoperability (TSI) with the purpose of ensuring interoperability of the European high-speed network, strikingly similar to the MOSA vision and principles the U.S. DoD is striving for.

Presentation Content, Approach & Benefits: The presentation will briefly review the current DoD acquisition challenges and MOSA objectives before discussing effective ways to design MOSA systems and the elements of a successful MOSA framework, as applied to the European high-speed rail network. Emphasis will be on the five DoD MOSA principles that will be presented in detail: establish an enabling environment, employ modular design, designate key interfaces, use open standards and certify conformance. All five principles have been addressed by the regulatory European framework and the Technical Specifications for Interoperability, resulting in the desired DoD benefits of interoperability, tech refresh, competition through platform and vendor independence, innovation, and cost savings. The

presentation will provide useful MOSA insights and lessons learned that can be applied to current and future DoD acquisitions.

"Improving Integration: Thinking Beyond the Physical Architecture"

Jim Armstrong is an Industry Professor at Stevens Institute of Technology in the School of Systems and Enterprises. He has a BS in Mechanical Engineering from Rensselaer Polytechnic Institute, an MS in Systems Management from the University of Southern California, and PhD from Stevens. Jim has practiced systems engineering for 50 years performing various roles including configuration management, test, deployment, chief engineer, program manager, and program element monitor. For the last 28 years, he taught, consulted, and appraised systems engineering and project management in industry and government. He has contributed to many of the systems engineering standards and models. Jim is active in INCOSE and is a regular presenter at the International Symposium.

Abstract:
The emphasis in most descriptions of systems integration is the assembly of the physical architectural elements. While this is certainly the end objective, there are several traps and pitfalls to this focus. One mitigation is increased consideration of other architectural views, particularly the functional architecture which has particular value in systems of systems and services. This paper discusses the origins, issues, and possible solutions to this situation.

For further information about the International Council on Systems Engineering please visit the INCOSE website at http://www.incose.org/ and the Delaware Valley Chapter website at http://www.incose.org/ChaptersGroups/Chapters/ChapterSites/delaware-valley/chapter-home

Location Directions and Parking:
There is a train station at 30th and Market Streets, a subway station at 34th and Market, and a trolley station at 33rd and Market. The Pearlstein Building Learning Center building is at the corner of 33rd and Market Streets on the South side.
For those driving, you can park at the Drexel Parking Garage; entrance located on Ludlow Street between 33rd and 34th Street – Cost $8 (Directly around the corner from Market Street and Pearlstein Learning Center)