



2022
Annual **INCOSE**
international workshop
HYBRID EVENT
Torrance, CA, USA
Jan 29 - Feb 1, 2022

Enterprise Systems

www.incose.org/IW2022

Enterprise Systems



2022
Annual **INCOSE**
international workshop
HYBRID EVENT
Torrance, CA, USA
Jan 29 - Feb 1, 2022

CHAIR

Tom McDermott (tom.mcdermott@incose.net)

MEMBERS

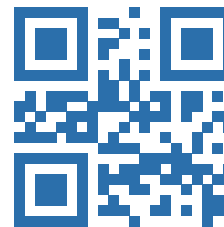
45

INCOSE CONNECT ADDRESS



<https://connect.incose.org/WorkingGroups/EnterpriseSystems/Pages/Home.aspx>

INCOSE WEB PAGE



none

Charter Summary



2022
Annual **INCOSE**
international workshop
HYBRID EVENT
Torrance, CA, USA
Jan 29 - Feb 1, 2022

WG PURPOSE/MISSION

The purpose of the INCOSE Enterprise Systems Working Group (ESWG) is to advance and to promote the application of Systems Thinking, Systems Science and Systems Engineering to understanding and managing the enterprise as a system. Enterprises are highly complex, sociotechnical systems of systems that depend on the intelligent interaction, creation, management and use of various forms of knowledge throughout their organizational policies, processes and structures. Failure to design, to operate and to remediate enterprises as systems, is the primary underlying cause of the gross inefficiencies, unintended consequences and systemic failures that routinely inflict substantial economic loss and societal harm. Systems engineering (SE) is an interdisciplinary methodology for understanding, designing and enabling system solutions for complex problems, and as such it is uniquely suited to offer understanding and solutions in the domain of enterprises. However, as applied to sociotechnical systems such as enterprises, SE must include an understanding of basic social sciences, human factors and other "soft" disciplines that may be unfamiliar to systems engineers who are more accustomed to focusing on physical, electronic and technical systems.

WG GOAL(S)

The WG will work to build a generic understanding of the elements and sub-systems and their various roles comprising enterprises, and a set of systems engineering methodologies for applying this generic understanding to analyzing specific organizations and their problems. This will involve establishing cross disciplinary teams and consultations involving systems engineers, enterprise architects, people from the life and social sciences, and practitioners in areas such as management consulting, organizational knowledge management, business process reengineering, and change management, amongst others. Over the short term, the WG will seek to assemble existing knowledge and theories relating to the enterprise as a system for inclusion in the SEBOK that is accessible to systems engineers. Over the intermediate term, the WG will collect and assess methodologies and templates to guide systems engineering approaches for intangible and tacit aspects of the enterprise as a system.

Over the long term, the WG will compile a comprehensive Enterprise System Management addition to the INCOSE Handbook and training and certification packages for Enterprise Systems Management.

Charter Summary



2022
Annual **INCOSE**
international workshop
HYBRID EVENT
Torrance, CA, USA
Jan 29 - Feb 1, 2022

WG SCOPE

It is the intent of the WG to focus narrowly on the enterprise embodiment of SE and to work closely with other WGs that can and will inform this area - System Sciences WG, Complex Systems WG, System of Systems WG, Human Systems WG, Enterprise Architecture WG, and others.

The initial scope of the WG will be to survey relevant scientific foundations, to assess and prioritize concepts, and to match them with systems engineering concepts and principles for incorporation in an Enterprise Systems Management Body of Knowledge. Amongst others, the following scientific domains appear to be directly relevant.

Major disciplines: Business Management; Organizational Behavior; Psychology, Sociology, Gaming Theory;

Other Social Sciences, more generally; Systems Engineering

Specialized fields: Systems Thinking and Systems Analysis; General systems theory; Soft Systems Methodology; Second order cybernetics; Social Systems Theory; Complexity Science

OUTCOMES (PRODUCTS/SERVICES)

To produce content for the SEBOK, handbook, and other INCOSE publications and training targeted at the enterprise implications of an for systems engineering. Establish common definitions and understandings of types of enterprises. Expand the role of systems engineering across all organizational disciplines.

IW Outcomes



2022
Annual **INCOSE**
international workshop
HYBRID EVENT
Torrance, CA, USA
Jan 29 - Feb 1, 2022

IW Outcomes

The WG has had a leadership turnover. We are looking for a new chair (Tom McDermott was co-chair) or at least a co-chair that would grow into the chair position.

This IW we are not having any dedicated meetings but are conducting two joint sessions.

The first (Saturday) with the Systems Science WG is exploring the selection of systems science approaches to address a complex enterprise development challenge. We have a real challenge from an external group that has asked for assistance in using a systems approach to address gun injury in the USA as a public health issue. The goal is to create a national enterprise that supports research, data collection, and policy to reverse trends of increasing gun injury and death. This is a complex socio-technical enterprise challenge and the goal is to help this group facilitate enterprise definition and development using appropriate methods from systems science and systems engineering.

The second (Monday) with the Social Science WG will look at digital enterprise transformation from a socio-technical systems perspectives. Two case studies on socio-technical enterprise transformation will be presented followed by a roundtable discussion attempting to define methods and projects in the area of socio-technical enterprise transformation.

PLANNED ACTIVITIES AFTER IW

Restart the ESWG, which has been mostly inactive the past 2 years, with new leadership and interested membership.

Support the gun injury enterprise development project with INCOSE membership participation in their activities and document the learning from this activity.

Define a set of activities joint with SocWG to guide enterprise transformation in socio-technical situations.

Complete the open CAB action: how can systems engineering inform and be applied to non-engineering functions in an enterprise.

PLANNED WORK PRODUCTS AFTER IW

to be determined.