



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

# System of Systems

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[www.incose.org/IW2022](http://www.incose.org/IW2022)

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## MEMBERS

275 Members, 20 Core

## CO-CHAIRS

Judith Dahmann (jdahmann@mitre.org)

Alan Harding (alanharding@gmail.com)

## INCOSE CONNECT ADDRESS



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

## INCOSE WEB PAGE



<https://www.incose.org/incose-member-resources/working-groups/analytic/system-of-systems>

# Charter Summary



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## WG PURPOSE/MISSION

The purpose of the working group is to advance and promote the application of Systems Engineering to Systems of Systems (SoS), often referred to as SoS Engineering (SoSE).

BKCASE describes SoS Engineering as "an opportunity for the systems engineering community to define the complex systems of the 21st Century. While systems engineering is a fairly established field, SoSE represents a challenge for the present systems engineers at the global level. In general, SoSE requires considerations beyond those usually associated with engineering to include socio-technical and sometimes socio-economic phenomena."

SoS and SoSE are topics that interest a significant number of INCOSE members globally, both individuals and organizations. Therefore we believe that a WG forum to share understanding of SoS and SoSE issues, good practice and background, and contribute to maturing BKCASE will provide a service to the wider INCOSE community.

## WG GOAL(S)

The goal of the working group is to expand and promote the body of knowledge of SoS and SoSE its benefits within the Systems Engineering community.

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## WG SCOPE

This WG addresses the application of Systems Engineering to all types of Systems of Systems (SOS) in all domains. We see diversity as particularly important in this knowledge area, as do the WG members.

Activities will generally cover the following:

- Understand and share what we mean by SoS in our various contexts
- Develop guidance and advice
- Inform and up-skill practitioners
- Exert influence on BKCASE, SE Handbook, SE Vision 2035, Standards etc.
- Develop the practice of SE for SoS.
- Work in partnership with other groups addressing aspects of SoS (e.g. INCOSE WGs, IEEE, NDIA).
- Understanding and applying insights from relevant research

## OUTCOMES (PRODUCTS/SERVICES)

The standing outcome/actions planned by the SOSWG are as follows:

1. SoS webinar series, a program of monthly webinars, open to all INCOSE members, as a forum to share information on SoS.
2. SoS inputs to SEBoK, SE Handbook, SE Vision 2035
3. SoS inputs to International Standards
4. SoS technical products that share information for practitioners and aspiring practitioners e.g. SoS Primer, Guide to SoS standards
5. SoS Panels, Research Roundtables and Papers at INCOSE conferences and related technical conferences e.g. IEEE SOSE.

# IW Outcomes



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## IW Outcomes

### Update working group on ongoing activity

- Webinars
- Upcoming Conferences - IEEE 2022, SoSE 2021, IS 2022
- SE Input to Handbook
- Update on SE Vision 2035
- SEBOK - SoS Knowledge Area
- SoS and Complexity Initiative

## PLANNED ACTIVITIES AFTER IW

### New Initiatives

Paper on Cyber Security from SoS perspective

Input to new version of ISO 24748-2 Guide to 15288

IEEE SoSE Panel Proposal - SE Vision 2035 - SoS perspectives/opportunities/realization

Relationship between SoS, Capability Engineering, Mission Engineering & Complexity

### Planned cooperative sessions at IS 2022

-Smart Cities Exchange

-Agile WG: Scaled Agile Framework/DEVSECOPS - Lessons for/applications to SoSE

-DEIX WG: Digital thread through SoS

-Productline WG Engagement

## PLANNED WORK PRODUCTS AFTER IW

### Monthly Webinars

### SoS Reflection on Use of INCOSE Products

# IW Outcomes

- Requirements Working Products
- SE Tools Database
- Professional Development Portal
- SE Education Ecosystem
- SE Heuristics



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