

1 PURPOSE

The Infrastructure Working Group Charter is to bring together designers, builders, and operators of economic and physical infrastructure systems to advance the application of systems engineering.

This Working Group aligns with the strategic aim of INCOSE to advance the application of systems engineering outside its core aerospace and defense domain.

2 GOAL

Develop products to capture systems engineering best practices tailored to the infrastructure domain. Share best practices within the Working Group and make a footprint to the Infrastructure domain at large by developing products. Specific initiatives include:

- Webinars – 4 scheduled for 2011 - Short Term
- Products – One currently under review by INCOSE (A Primer for the application of systems engineering in large infrastructure projects) – Short Term
- Products – One under development: Sustainability and Asset Management in the Infrastructure Sector - Mid Term
- Collaboration with US (ASCE) and International Organizations (NETLPSE and SMART Infrastructure Facility) – Mid Term
- Develop a metamodel for infrastructure – Mid Term
- Bring Construction Companies into INCOSE – Long Term

3 SCOPE

This Working Group will address mostly physical infrastructure issues with a concentration on the construction of infrastructure facilities in the energy (e.g., power plants, water and wastewater facilities, energy grid, etc), transportation (e.g., railroads, highways, seaports, airports, etc.), and communications domains. The Working Group will leverage international systems engineering best practices and produce documents to assist developers and builders of infrastructure systems. This Working Group will collaborate with other domain specific Working Groups such as the Transportation Working Group, the Power and Energy Systems Working Group, the In-Service Working Group, and the Resilience Systems Working Group.

4 SKILLS AND EXPERTISE REQUIRED

Engineering degree, systems engineering experience, and experience with the construction of infrastructure facilities. Seeking members from the Construction Industry (requires assistance from INCOSE to reach out to Large Construction Companies)

5 MEMBERS, ROLES AND RESPONSIBILITIES

List the names of members and briefly describe their responsibilities.

- Lead: Alain Kouassi

- Responsibilities – Chair Working Group meetings; produce meetings; responsible for status reporting to the Assistant Director for Industry
- Co-Leads: Neil Snyder and Mike deLamare
 - Responsibilities – Responsible to act in the absence of the Chair
- Product Development Leads: Erik Aslaksen and Steven Sanders
- Membership – Significant contributors – 12 members
- Membership at large – 50 members

6 OUTCOMES (PRODUCTS/SERVICES)

Product – A Primer on the Application of Systems Engineering in Large Infrastructure Products

Product – Sustainability and Asset Management in the Infrastructure Sector

Product – A Metamodel for Infrastructure

7 APPROACH

The general approach that will guide this Working Group includes:

- Monthly teleconferences
- Bi-monthly webinars
- Leadership roles of members
- Decision making
- Norms or ground rules
- Accountability
- Participation at Symposia and Workshops
- Challenges

8 MEASURES OF SUCCESS

Overall of success for the Working Group

- Membership growth
- Membership composition (international)
- Membership composition (construction industry members)
- Number of enterprises involved in products development
- Number of products/services under development
- Number of products/services delivered

9 RESOURCE REQUIREMENTS

Support from INCOSE in reviewing documents, making them INCOSE-ready document, marketing, and publishing these products

Support from INCOSE in membership participation at NETLIPSE meetings (in Europe) and Construction Trades meetings

Resource outside INCOSE – MOU with ASCE

Infrastructure support – Webex for webinars; telecoms; Microsoft LiveMeeting; phone bridges for remote participants at IS and IW.

Annual Budget Request - \$10,000 for conferences attendance, and documents publication.

10 DURATION

No end is planned for this Working Group. This Working Group Charter will remain in effect until rescinded by the signatory.

11 SIGNATURES

Alain Kouassi

Date 6/15/11

1st Level of Approval



Technical Director, INCOSE

Date August 2011

2nd Level of Approval (Note this will be added by the INCOSE Technical Director when deemed appropriate.)

Chairman, INCOSE Board of Directors

Date

Revision History

<u>Date</u>	<u>Revision</u>	<u>Description</u>	<u>Author</u>
6/15/11	1.0	Initial Draft.	Alain Kouassi