

Transport: The New Frontier in Systems Engineering

The **2011 INCOSE International Symposium** will be held from **June 19 – 23** in **Denver, Colorado** at the Hyatt Regency Denver. The INCOSE Transportation Working Group (Transport WG) has a program of events planned, including industry roundtable session, panel and paper presentations, a technical tour and networking events. This document provides further details on the Transport WG program and will be updated on a periodic basis.

Anticipated Key Attendees:

This year, we are anticipating the following attendees for our program:



Nout Verhoeven
Manager Railtech
ProRail, Netherlands



Joyce Hong Pek Foong
Systems Assurance & Integration
Land Transport Authority, Singapore



Anne O'Neil
Chief Systems Engineer
New York City Transit, USA



Duncan Kemp
Lead Systems Engineer for Rail
Department for Transport, UK



Kuldeep Gharatya
Head of Systems Engineering /
Integration
London Underground, UK



Joyce van den Hoek Ostende
Manager Plan Development
ProRail, Netherlands

Anticipated Participating Organizations:

This year, we are anticipating the following organizations to participate:

ProRail



Land Transport Authority

MTA New York City Transit



Rijkswaterstaat

RTD

Department for
Transport



CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION

Network Rail



Transport WG program highlights:

This year, our program will include:



Transport WG technical tour

This year our technical tour provides two for the price of one! We will be visiting the Colorado Department of Transportation's Traffic Management Center (TMC), which was designed and implemented using a Systems Engineering approach. Our CDOT tour guide will show us the functions of the center, its interfaces, how SE was used and some of the system challenges they faced. While we are at the TMC, we have also arranged for Denver RTD (the local transit agency in Denver) to attend and give a presentation and walk-through of its forthcoming new bus operations center, which is also following an SE approach to design and implementation. **Space Limited! RSVP required to icolangelo@delcan.com**



Transport WG Industry Roundtable

The Transportation Industry Roundtable gathers leading industry professionals and SE practitioners to exchange views and current practices related to key systems challenges faced by the industry.



Transport WG evening dinner

This year, the TransportWG is holding an evening dinner event at the [Avenue Grill](#) in downtown Denver, from 7-9.30pm. Last year's dinner was a lot of fun and we're looking forward to a similar evening this year, with an opportunity to get to know your fellow Systems Engineers in a relaxed, informal setting. The 4-course meal costs \$42 (USD), plus drinks, tax and tip. **RSVP required to Vlantz1@nc.rr.com by June 14th!**



Transport WG Working Session

An interactive working session to prioritize and progress current WG initiatives. Help shape the 2011-2012 direction of Transport WG efforts.



INCOSE IS11 Tutorials

INCOSE-sponsored tutorials covering SE fundamentals available throughout the weekend, with SE practitioner-level tutorials held Mon-Thurs. Refer to http://www.incose.org/symp2011/index.php?option=com_content&view=category&layout=blog&id=70&Itemid=2 for more information on tutorials.

Detailed Transport WG program highlights include:

This table provides a closer look at the TransportWG program:

When	What	Description
Sun June 19		
All day (Sat and Sun)	Systems Engineering Tutorials	Half/Full day tutorials covering SE fundamentals available throughout weekend
5-7pm	Transport WG welcome reception	Join Transport WG members for evening drinks at the hotel bar
Mon June 20		
1.30-5pm	Transport WG technical tour – CDOT Traffic Management Center (and Denver RTD Bus Operations Center presentation).	See how SE was used to develop CDOT's TMC and understand some its systems challenges. The tour will also include a slot for Denver RTD to present on its forthcoming Bus Operations Center, which is also using an SE approach to its development. <i>RSVP required – see above</i>
Tues June 21		
10am-12pm	Transportation Industry Roundtable	Facilitated discussion of relevant systems issues facing the transportation industry
1.30-3pm	Paper presentations – exploring SE competencies	
	<i>Would the real transportation Systems Engineer please stand up?</i>	Duncan Kemp, Dept for Transport, UK
	<i>Competencies required for successful acquisition of large, highly complex systems of systems</i>	Ken Kepchar, Chief SE, Fed. Aviation Adm, USA and James Armstrong, Stevens Institute, USA
3.30-5pm	Paper presentations – transportation best practices	
	<i>Tailoring the SE lifecycles: Goal oriented engineering phases</i>	Paul Brouwer, ProRail, Netherlands
	<i>A systems assurance perspective towards generic systems engineering</i>	Joyce Hong Pek Foong, Singapore Land Transport Authority, Singapore
7-9:30pm	Transport WG evening dinner	Join us for an evening of networking with colleagues in downtown Denver at the Avenue Grill. <i>RSVP required – see above</i>
Wed June 22		
10am-12pm	Panel – <i>Soft-skills: what you haven't been told about developing successful systems</i>	Moderator: Adrian Terry, The Advanced Problem-Solving Partnership Ltd., UK
1.30-3.15pm	Panel – <i>I know what I want! Supply chain views on delivering requirements</i>	Moderator: Jon Elphick, Atkins, UK
3.30-5:30pm	Transport WG Working Session	Interactive session to prioritize and progress current WG initiatives
7pm onwards	INCOSE Banquet	Join your fellow symposium attendees at the INCOSE banquet