SMSWG Meeting

26 October 2015

Agenda

- Welcome
- SMSWG Membership Update
- Review Recent Activities:
  - NWC15
  - INCOSE IS 2015
  - Coupled MBSE-FE Applications Conference (Turin, Italy)
- Discuss Upcoming Activities:
  - INCOSE IW 2016
  - SMS Seminar
  - NAFEMS Americas Conference
- SMSWG Deliverables:
  - Terms & Definitions
  - Article for NAFEMS Benchmark Magazine
  - "What is SMS?" Flyer
- Around the Table
  - Resume SMSWG Strategy & Roadmap Discussions
  - Other Business
- Close

SMSWG Participation

144

members

82

unique member companies

Americas	70%
Europe	19% ⬇
Asia / Pacific	8% ⬆
other/undeclared	3%

aerospace or defense	22% ⬇
automotive	16% ⬆
academia	3% ⬆
consulting	10%
energy	2%
medical	1%
other industry	6%
solutions & services	34% ⬆
standards	4% ⬆
undeclared	2% ⬆

RECENT ACTIVITIES

NWC15

- San Diego, CA
- June 21-24, 2015

- Highlights:
  - Four Sessions

1F Systems Engineering 1 — Room F

13:30 Chairman Welcome

13:35 **Predictive Evaluation of the Fuel Economy vs. NVH Trade-Off using Co-Simulation**
M. Felice, J. Liu (Ford Motor Company, USA); J. Zema
L. Forasté Gómez (Gamma Technologies, USA);
M. Platten (Romax Technology, GBR); W. Sun (MSC. Software, USA)

13:55 **A Primer on Model Based Systems Engine**
B. Brothers (Dassault Systemes Simulia Corp., USA)

14:15 **Determination of Functional Intersectio between Multiple Tolerance-Chains by the Use of the Assembly-Graph**
F. Litwa, M. Gottwald, J. Forstmeier (Daimler, GER); M. Vielhaber (Saarland University, GER)

14:35 **Model Based Systems Engineering: Successful Requirements Development, Systen Design, Process Integration and Design Optimi for Systems Engineering**
S. Kleiner, M. Krastel (:em engineering methods, GER)

14:55 **State-Aware Calibration for Inferring Systematic Bias in Computer Models of Comple Systems**
S. Atamturktur, A. Brown (Clemson University, USA)

2F Systems Engineering 2

16:00 Chairman Welcome

16:05 **Model-Learning for Power Consumption Simulation through Control Signals**
P. Eberspächer, A. Lechler (University Stuttgart, GER); A. Verl (Fraunhofer-Gesellschaft, GER)

16:25 **Integrating Physical Interaction and Sign Flow Simulation with Systems Engineering Mode**
C. Bock, (National Institute of Standards and Technolog USA); I. Matei (Palo Alto Research Center, USA); R. Bar (Engsys, USA)

16:45 **Simulation of Hydraulic Downhole Drillin Tool Validated with Experimental Data and Case Studies is used to Optimise Drilling Programmes Conduct Design Sensitivity Analysis**
I. Milsom, D. Minett-Smith, N. Holmes (Weatherford Inte national, GBR); V. Coveney (University of Bath, GBR)

17:05 **Using System Simulation to Generate Validated Loss Coefficients for System Simulation**
J. Murray (Mentor Graphics, GBR)

17:25 **Discussion**

6F Systems Engineering 3

17:20 Chairman Welcome

17:25 **Automatic Generation of Standardized System Models from 3D-Simulations in a Systems Engineering Context**
D. Hartmann (Siemens, GER);
M. Mahler (Siemens Industry Software, GER)

17:45 **A Platform Approach for Enabling Syste Engineering – Unmanned Aerial System Use Ca**
K. Patel, F. Chauvin, G. Fanmuy (Dassault Systèmes, F E. Bolognini (Dassault Systèmes, USA)

18:05 **A Parametric Virtual Prototyping Proces for the Conceptual Design of Complex Systems**
S. I. Briceno, A. Ramamurthy, D. N. Mavris
(Georgia Institute of Technology, USA) **

7J Simulation & Systems Eng. — Room J

11:00 **Discussion Session:**

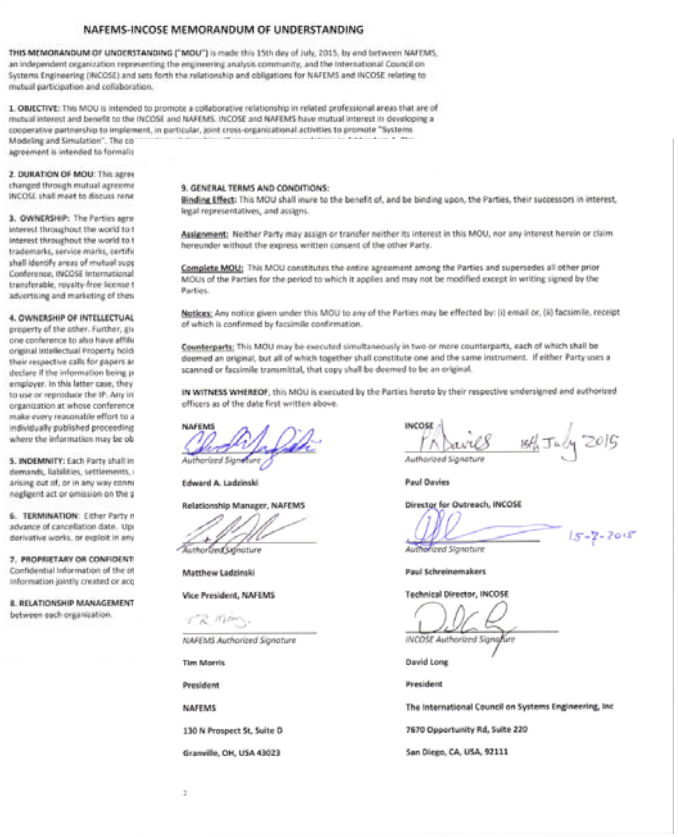
Simulation & Systems Engineering: A Roadmap for Future Collaborations between NAFEMS and INCOSE

Three years ago, NAFEMS and the International Council on Systems Engineering (INCOSE) formed the Systems Modeling & Simulation Working Group (SMSWG) to advance engineering simulation and model based systems engineering. Through this collaboration, the SMSWG has started writing a white paper on the Functional Mock-up Interface, as well as collating an exhaustive list of terms & definitions in an effort to support international standards and develop a joint approach for interfacing with other organizations in related professional areas. Individuals attending this session will have an opportunity to learn more about INCOSE, provide feedback on the SMSWG's deliverables, as well as influence the roadmap for future SMSWG activities.

Moderated by the NAFEMS SMS Working Group / INCOSE

INCOSE IS 2015

- Seattle, WA
- July 13-16, 2015
- Highlight:
  - 3-year MOU signed!



NAFEMS-INCOSE MEMORANDUM OF UNDERSTANDING

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is made this 15th day of July, 2015, by and between NAFEMS, an independent organization representing the engineering analysis community, and the International Council on Systems Engineering (INCOSE) and sets forth the relationship and obligations for NAFEMS and INCOSE relating to mutual participation and collaboration.

1. OBJECTIVE: This MOU is intended to promote a collaborative relationship in related professional areas that are of mutual interest and benefit to the INCOSE and NAFEMS. INCOSE and NAFEMS have mutual interest in developing a cooperative partnership to implement, in particular, joint cross-organizational activities to promote "Systems Modeling and Simulation". The co
agreement is intended to formali

2. DURATION OF MOU: This agre
changed through mutual agreem
INCOSE shall meet to discuss rene

3. OWNERSHIP: The Parties agre
interest throughout the world to t
interest throughout the world to t
trademarks, service marks, certifi
shall identify areas of mutual sup
Conference, INCOSE International
transferable, royalty-free license t
advertising and marketing of thes

4. OWNERSHIP OF INTELLECTUAL
property of the other. Further, giv
one conference to also have affili
original intellectual Property hold
their respective calls for papers ar
declare if the information being p
employer. In this latter case, they
to use or reproduce the IP. Any in
organization at whose conference
make every reasonable effort to a
individually published proceeding
where the information may be ob

5. INDEMNITY: Each Party shall in
demands, liabilities, settlements,
arising out of, or in any way conn
negligent act or omission on the p

6. TERMINATION: Either Party n
advance of cancellation date. Upo
derivative works, or exploit in any

7. PROPRIETARY OR CONFIDENT
Confidential Information of the ot
information jointly created or acq

8. RELATIONSHIP MANAGEMENT
between each organization.

9. GENERAL TERMS AND CONDITIONS:

Binding Effect: This MOU shall inure to the benefit of, and be binding upon, the Parties, their successors in interest, legal representatives, and assigns.

Assignment: Neither Party may assign or transfer neither its interest in this MOU, nor any interest herein or claim hereunder without the express written consent of the other Party.

Complete MOU: This MOU constitutes the entire agreement among the Parties and supersedes all other prior MOUs of the Parties for the period to which it applies and may not be modified except in writing signed by the Parties.

Notices: Any notice given under this MOU to any of the Parties may be effected by: (i) email or, (ii) facsimile, receipt of which is confirmed by facsimile confirmation.

Counterparts: This MOU may be executed simultaneously in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. If either Party uses a scanned or facsimile transmittal, that copy shall be deemed to be an original.

IN WITNESS WHEREOF, this MOU is executed by the Parties hereto by their respective undersigned and authorized officers as of the date first written above.

NAFEMS

Authorized Signature

Edward A. Ladzinski

Relationship Manager, NAFEMS

Authorized Signature

Matthew Ladzinski

Vice President, NAFEMS

NAFEMS Authorized Signature

Tim Morris

President

NAFEMS

130 N Prospect St, Suite D

Granville, OH, USA 43023

INCOSE

Authorized Signature

Paul Davies

Director for Outreach, INCOSE

Authorized Signature

Paul Schreinemakers

Technical Director, INCOSE

INCOSE Authorized Signature

David Long

President

The International Council on Systems Engineering, Inc

7670 Opportunity Rd, Suite 220

San Diego, CA, USA, 92111

MBS-FE Conference

- Title: Coupled MBS-FE Applications: From Classical Design to System Engineering
- Dates: October 20-21, 2015
- Location: Turin, Italy
- 28 Presentations

nafems.org/events/nafems/2015/eur-mbs/

UPCOMING ACTIVITIES

INCOSE IW 2016

- Date: January 30th – February 2nd, 2016
- Location: Torrance, CA

http://www.incose.org/newsevents/currentevents/2016/01/30/default-calendar/incose-iw-2016---torrance-ca-usa

2016 NAFEMS Americas Events

- Industry Series
  - Systems Modeling & Simulation
    - Troy, MI | April 27th
  - Automotive
    - Troy, MI | April 28th
  - Oil & Gas
    - Houston, TX | TBD
  - Aerospace
    - TBD | October

2016 Americas Regional Conference

- Dates: June 7th-9th
- Location: Seattle, WA
- Dedicated SMS Track
  - Abstract Submissions
  - Session Support

nafems.org/2016/americas

Terms & Definitions

- Overview:
  - Collection of 530 terms & definitions
- Status: First Draft Complete
- Next Steps:
  - Identify and group T&Ds, and release based on assigned priority level
  - Seeking volunteers for final review committee

Benchmark Article

- Overview:
  - Benchmark is a quarterly magazine published by NAFEMS
- Status: Started
- Next Step:
  - Seeking suggestions/contributions for January 2016 issue

“What is SMS?” Flyer

- Overview:
  - Intended to provide an introduction to a specific method or technology used in the field of engineering analysis and simulation.
  - Three A5 pages in length
- Status: First Draft In-Progress
- Next Step:
  - Complete initial draft and commence review process.

Around the Table

- Resume SMSWG Strategy & Roadmap Discussions
- Other Business

REFERENCE SLIDES