

State of the art in some SoSE EU Projects

SoSE 2012

Agenda

- 09:00 Keynote – Dr. Werner Steinhögl
- 09:45-10:15 Break
- Projects – presentations on SoSE Research impact
 - ROAD2SOS – Simon Ford
 - COMPASS – John Fitzgerald
 - DANSE – Bernhard Josko
 - T-AREA-SoS – Carys Siemieniuch
- Panel Session – priority areas for impact
 - Roberto Sacile, Werner Steinhögl, Dan Delaurentis, Cornelius Ncube

Panel Session

- Priority areas for impact
 - Roberto Sacile, Werner Steinhögl, Dan Delaurentis, Cornelius Ncube
- What are the priority areas for investment to achieve major impact through SoSE research?

Priority Areas

- Engineering for Emergence
- Enterprise SoS, Governance and Policy & Goals and Expectations in SoS
- Multi-heterogeneous Modelling & Multi-notation Approaches
- Architecture Patterns for SoS
- Trade-off Techniques for Integration of Legacy; Evolution
- Metric Identification/Validation; Global Metrics
- Theory for SoS
- Resilience
- Case studies

Collection of information and opinions

- Please leave your business card with Luminita or Vishal at the end of the session if we may contact you for your views on priorities and if we could approach you to be a member of our community of experts

ADDITIONAL INFORMATION



SoSE 19th July 2012



INCOSE Systems of Systems Working Group Webinar Series on Systems of Systems

- Monthly 1-hour webinars by leading practitioners, researchers, thinkers
- International participation time: 11am-12pm US Eastern Time
- LiveMeeting and telecon facilities provided by INCOSE-Connect
- Presentations recorded, available on INCOSE-Connect SoSWG site

Schedule of Upcoming Webinars

Date	Topic	Presenter
27 Jul 2012	<i>The Nature of a System of Systems</i>	Dr. Mark Maier, INCOSE Fellow, The Aerospace Corporation
31 Aug 2012	<i>Model Based Systems Engineering (MBSE) Relevance to Systems of Systems Engineering (SoSE)</i>	Dr. Ron Williamson, Raytheon
28 Sep 2012	<i>Systems of Systems Thinking</i>	Dr. Scott Workinger, Workinger Consulting
19 Oct 2012	<i>The System of Systems Implementer's View</i>	Dr. Judith Dahmann, The MITRE Corporation



For further information or to propose future topics, contact the webinar coordinator Eric Honour ehonour@hcode.com

SoSE 19th July 2012

For More Information

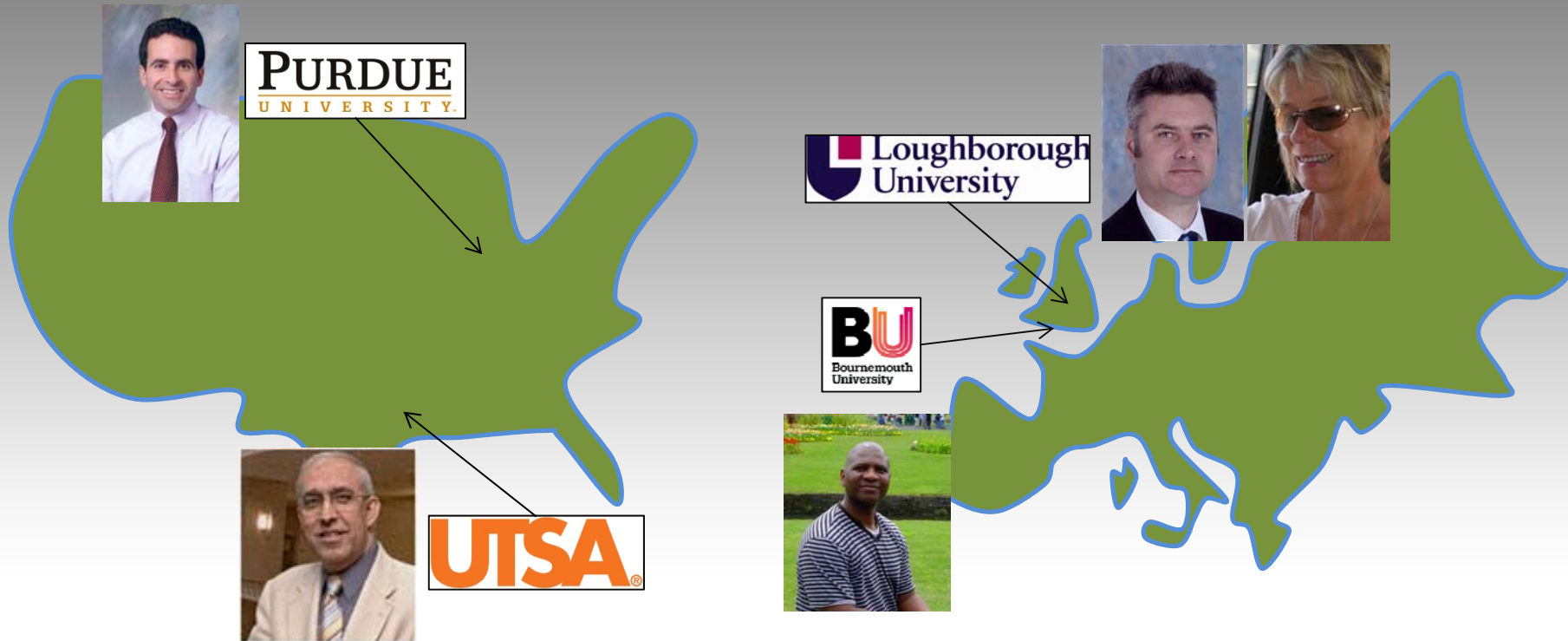
www.t-area-sos.eu



SoSE 19th July 2012



T-AREA-SoS



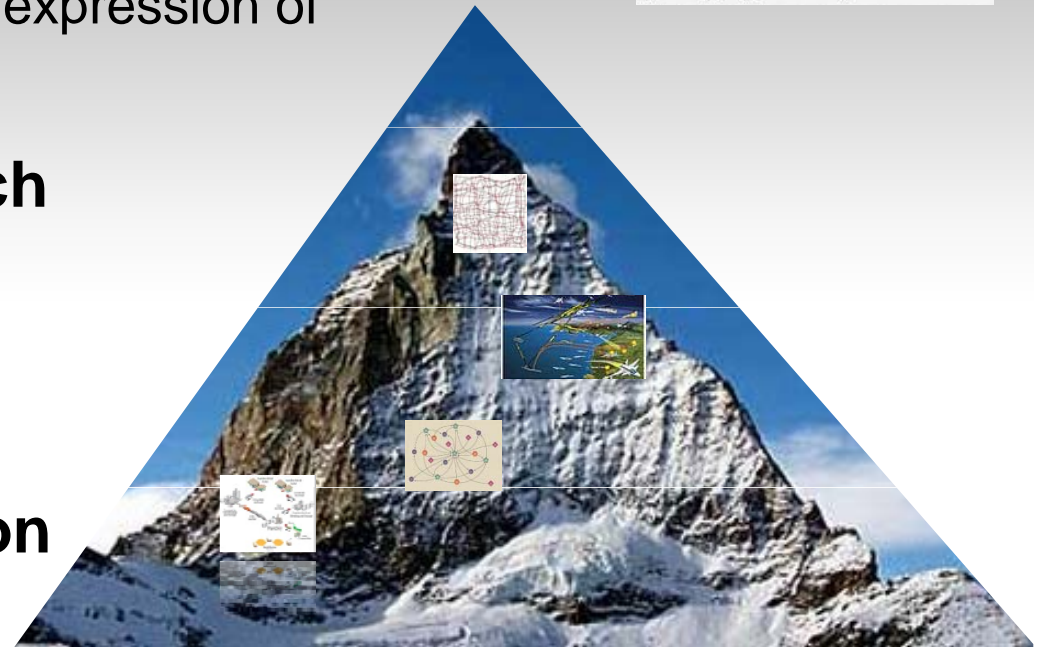
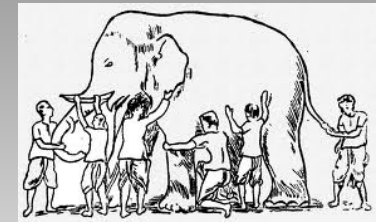
Trans-Atlantic Research and Education Agenda in Systems of Systems

Support Action Sept 2011 – Aug 2013

Opportunities of European – American Co-operation in SoS

Objectives

- Identify research themes in SoSE
- Create an Expert Community
- Identify state of the art and gaps in research
- Create a common language and expression of the SoS concepts
- **Create a strategic research agenda in SoSE**
- Identify the skills for system developers and system users
- **Make recommendations on training and education**

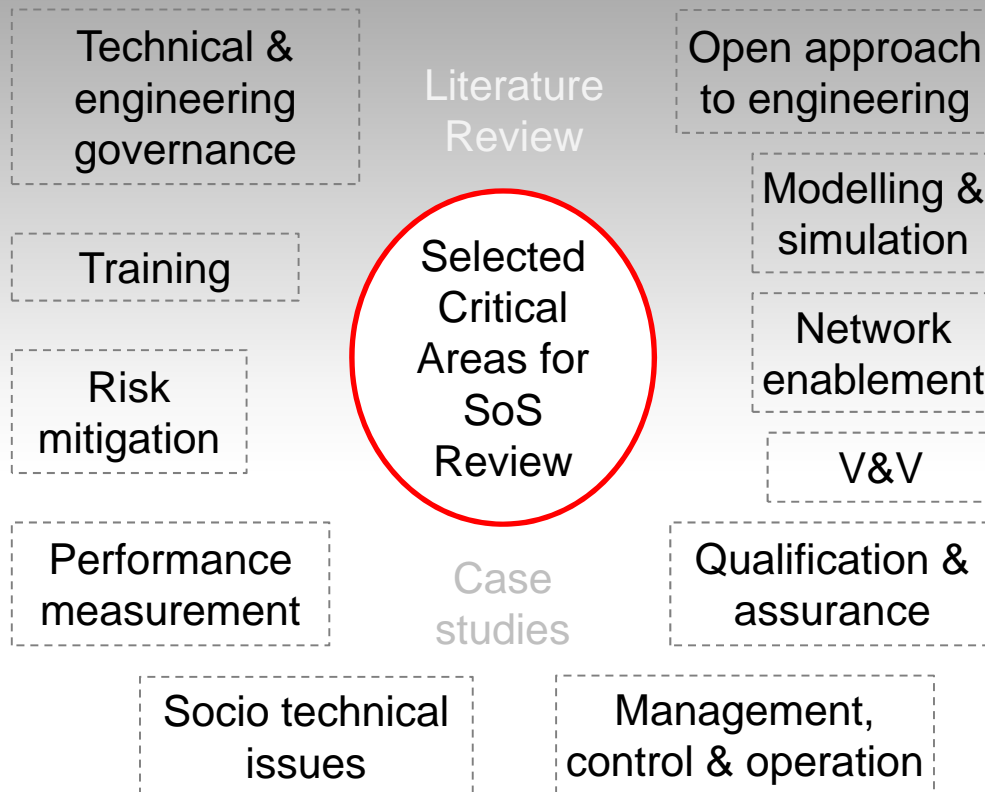


Top Research Challenges

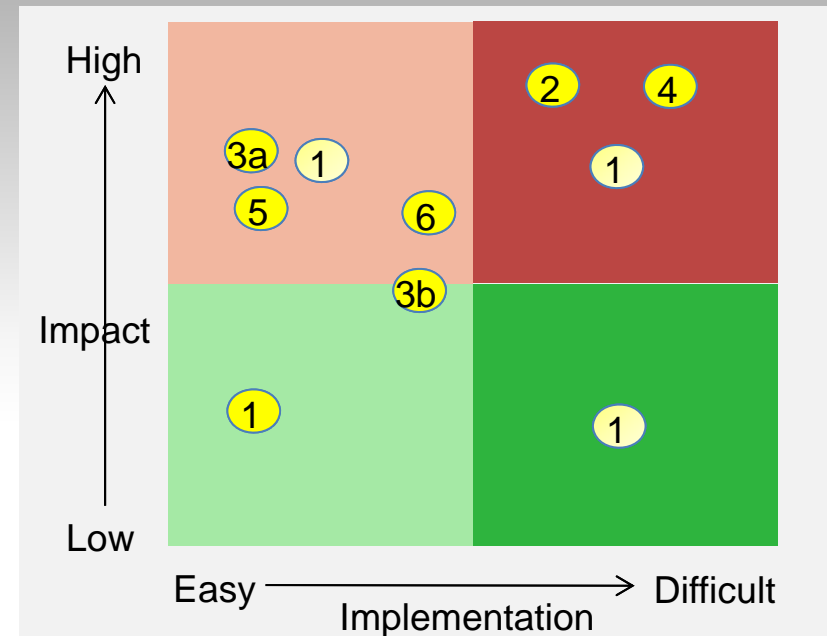
State of the Art Report

Systems design

Architectures



- 1 Emergence
- 2 Enterprise SoS
- 3a Multi-notation Approaches
- 3b Multi-heterogeneous Modelling



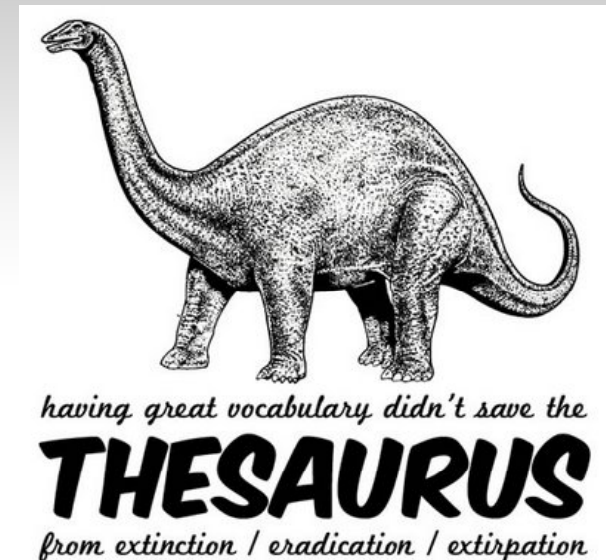
- 4 Architecture Patterns
- 5 Legacy Integration Techniques
- 6 Metric Identification/Validation



Next steps and outputs

- Expansion of Expert community
- Gaps and Requirements report
- Web-based Thesaurus

- Agenda setting workshops planned in
 - US (November)
 - Europe (January-ish)



Back-up Slide: State of the Art Report

- Part A: Review of SoS features which have been identified as critical to the design, instantiation, and performance of SoS.
- Part B: Case study analysis
 - Defence,
 - IT,
 - Transport,
 - Manufacturing
 - Emergency Response
 - Water Management.

Back-up slide: Areas identified as significant

- Engineering for emergence
- Enterprise SoS, governance & policy
- Multi-heterogeneous modelling
- Architecture patterns for SoS
- Multi-notation approaches
- Trade-off techniques for integration of legacy; evolution
- Metric identification/validation; global metrics
- How to prototype SoS?
- Scenario-based simulation and analysis
- Dynamic SoS
- Security of SoS implementation
- Capabilities / processes and competencies
- Techniques for validation of interoperability
- Goals and expectations in SoS
- Qualification of safety or security critical SoS
- Multi-level infrastructure consistency