



INCOSE SE Measurement Working Group (MWG) Update

Rita Creel, Software Engineering Institute
Chris Miller, Systems and Software Consortium, Inc.

PSM Technical Working Group
23 March 2005



Topics

- ☐ Background
- ☐ Operating Concept
- ☐ INCOSE Product Development Concept
- ☐ Measurement Primer Update Project

INCOSE Background

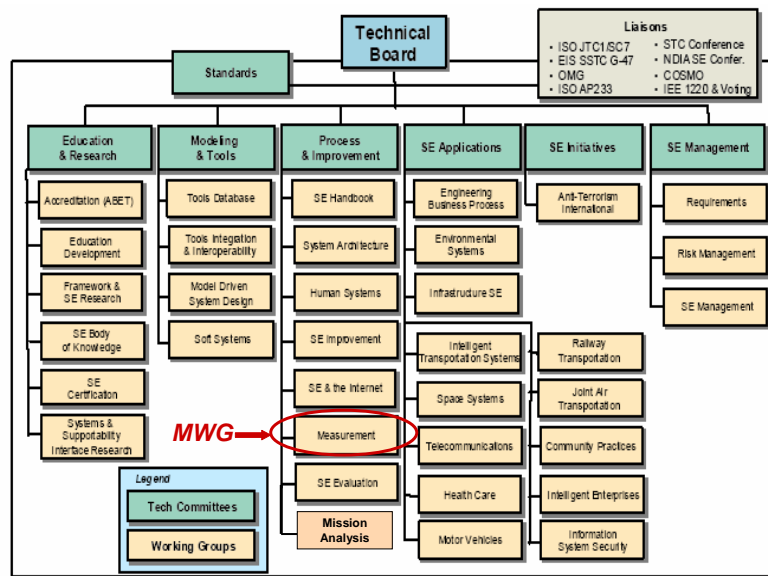
- ❑ International professional society founded in 1990 to
 - foster the definition, understanding, and practice of SE in industry, academia, and government
 - enhance systems engineering as an interdisciplinary approach
 - be a focal point for dissemination of SE knowledge
 - promote collaboration in SE research and education
 - assure the establishment of standards, guidelines, and handbooks focused on SE
- ❑ INCOSE now has over 5000 members, 50 chapters, and 40 corporate advisory board members

Enable the realization of successful systems

International Council On Systems Engineering

3

INCOSE Technical Community



International Council On Systems Engineering

4



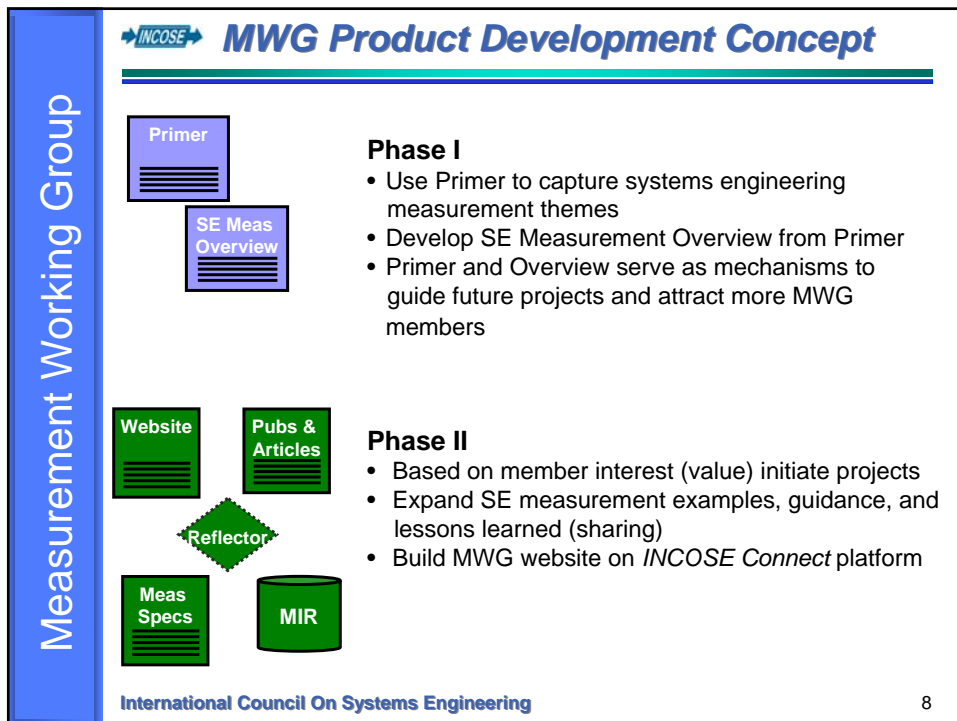
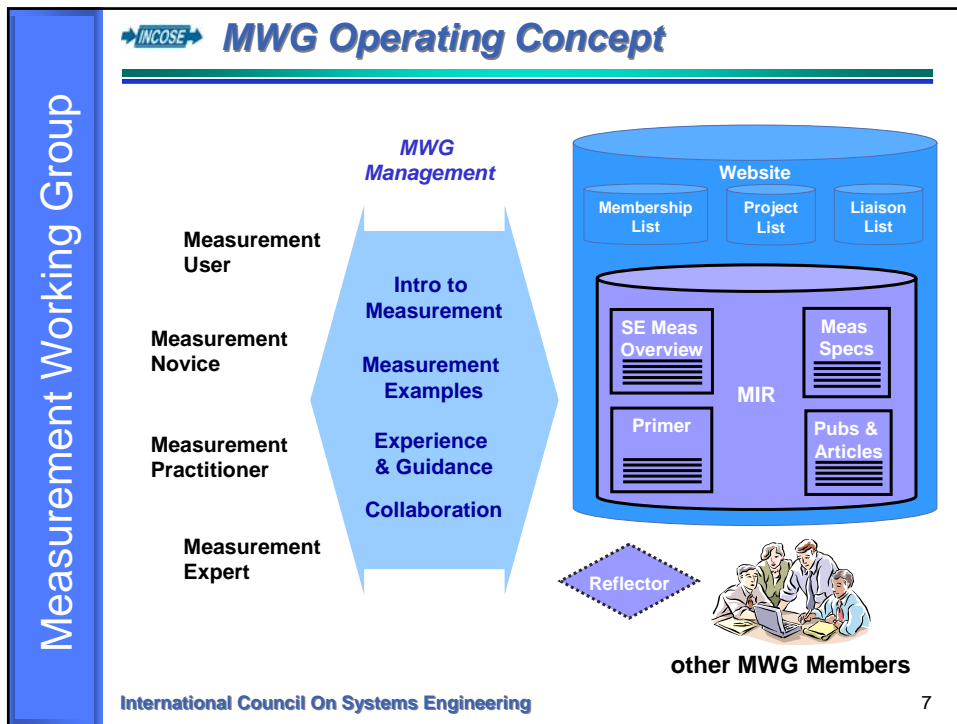
MWG Charter

- ❑ **Promote a shared understanding of and advancement of**
 - Systems engineering measures
 - Measurement practices
 - Measurement tools/support, and
 - The overall measurement process
- ❑ **Implement the charter by**
 - Collaborating with other organizations (e.g., PSM, COSYSMO, SEI, standards organizations)
 - Developing products that fill gaps in the current systems engineering measurement literature
 - Providing a mechanism to help systems engineers efficiently locate needed measurement resources



MWG Focus

- ❑ **MWG's focus is on the needs of current and potential users of its products and services**
- ❑ **Four categories of MWG users are:**
 - Users of measurement data (e.g., managers, systems engineers, executives, customers)
 - Measurement novices
 - Measurement practitioners
 - Measurement experts



INCOSE Measurement Primer Update – Working Outline

- Introduction
- Definitions of Common Terms
- Purpose of SE Measurement
 - ❖ Uses and benefits of measurement in systems engineering
- Evolution of SE Measurement
- A Systems Engineering Measurement Framework
 - ❖ SE roles and perspectives
 - ❖ SE measurement needs throughout the system lifecycle
- Implementing and Using the Framework
 - ❖ Data reporting and interpretation
 - ❖ Data analysis
- SE Measurement and Analysis in Practice
 - ❖ Critical DOs and DON'Ts
 - ❖ Effective Measurement Practices
- Glossary
- References
- Candidate Appendices (reference PSM material, where applicable)
 - ❖ Guidance for the measurement process and supporting infrastructure
 - ❖ Guidance for measurement in an acquirer-supplier context
 - ❖ Measure examples

International Council On Systems Engineering

9

INCOSE Measurement Primer Update – Approach/Status

- Approach
 - Divide development work across a team of primary writers
 - ❖ Chris Miller, Systems and Software Consortium, Inc.
 - ❖ Rita Creel, SEI
 - ❖ Timmie McArthur, The Aerospace Corporation
 - ❖ Jim Pearson, The Aerospace Corporation
 - ❖ Jeannine Sivi, SEI
 - ❖ Ricardo Valerdi, USC Center for Software Engineering
 - Request inputs/review from the larger MWG membership
- Progress to date
 - Prepared preliminary drafts of Primer sections at INCOSE International Workshop (IW) in January
 - Internal (writers' team) review in progress
- Next Steps
 - Review and continue content development
 - Merge, restructure, and review results

International Council On Systems Engineering

10



Invitation to Participate

Measurement Working Group

Join the Measurement Working Group (MWG) today!

Charter

Promote shared understanding and advancement of systems engineering measures, measurement practices, measurement tools/support, and the overall measurement process

Liaisons

- COSYSMO
- Practical Software and Systems Measurement (PSM)
- Other INCOSE technical committees / working groups
- Joint Lean Aerospace Initiative (LAI)
- Air Force Center for Systems Engineering
- ISO
- Value of SE

Activities

Projects/Products

- Measurement Primer
- SE Measurement Overview Briefing
- SE Measurement Examples
- Technical Performance Measurement Study
- SE Body of Knowledge (BoK) support
- Publications / Articles
- Website

For information on how to get involved, contact:

Chris Miller, MWG Chair
(703) 742-7284

miller@incose.org

International Council On Systems Engineering

11