SE Research Gaps & Opportunities
“Industry Perspectives”

Bridging the Gap Between Systems Engineering and Manufacturing

Dr. Al Sanders
Chairman AMEC Committee
NDIA Manufacturing Division
“Virtual Manufacturing” Frontier

Current State Reality

- Systems Eng
- Design Engineering
- Manufacturing

"User" Needs

- Requirements Analysis
- Conceptual Design
- Preliminary Design
- CAE/CAD/CAM Based Design
- Test & Evaluation

"Virtual Wall"

Future State Vision

- "Function Centric"
- "Geometry Centric"
- "Operation Centric"

“Virtual World”

Re-Architecting Product Development for the Information Age

- "Fit-Form-Function-Operation Centric"

Engineering

- "User" Needs
- M&S-Based Trade Studies

Manufacturing

- "Producer" Needs
- Next-Gen SE Tools and Design Methodologies

“M&S-Enabled” Concurrent Engineering