

Supporting Systems Engineering Through Education and Training

Presented to the NDIA Systems Engineering
Conference

October, 2005

San Diego, California



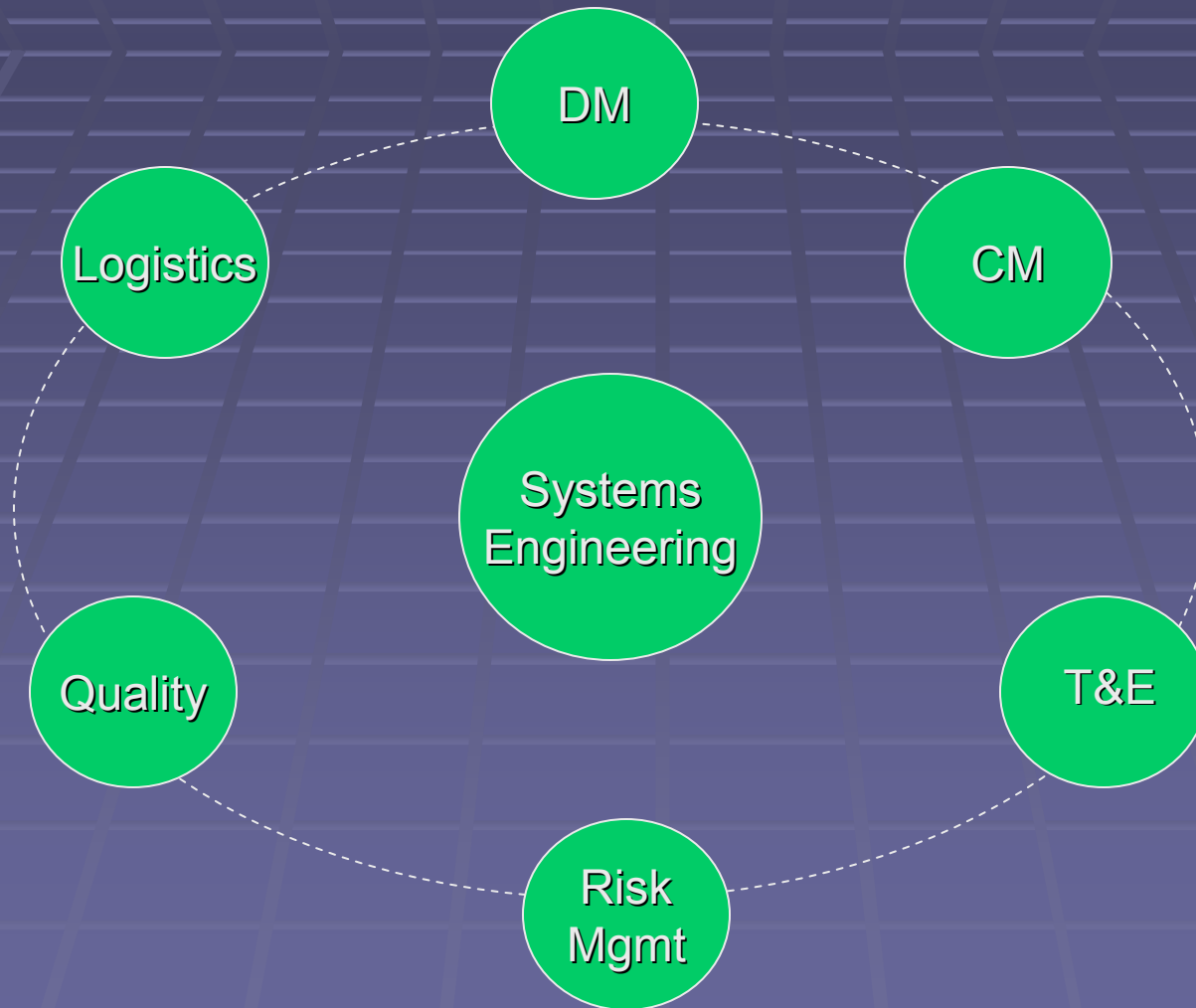
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AGENDA

- Problem statement
 - The challenge
- Essential challenges of training and education
 - Target environments
- How DM can help
 - A prototype case
- The benefits of standardizing practices across disciplines

SE Relationships

Integrating Specialty and Discipline Groups



Problem and Challenge Statements

- As baby boomers retire, the result is the loss of experienced and senior professionals in many fields – and systems engineering is no exception
- Capturing the domain expertise is key to providing a pathway for new or younger personnel
- Data Management is uniquely postured to provide the mechanism, support, and methods for managing training materials
- Data Management has also lead the pathway to training and outreach
- This capability supports the propagation of systems engineering expertise to standardize the SE discipline across organizations
- Training creates standardization of practices across organizations

Essential Challenges of Training

- Distance learning and onsite training
- Creating modules for associated domains
- Capturing the expertise of practitioners
- Supplementing the college curriculum
- Penetrating academia

Capturing Domain Expertise

- Knowledge engineering
 - Writing down the methods
 - Tacit experience is invaluable
- Educational opportunities
 - Curriculum development
 - Crossing relevant boundaries
- Standards development
 - Consensus agreement
 - Exponential influence

How DM Can Help

- Extending our prototype
 - DAU
 - Industry
 - Academia
- Managing training materials
 - Organizing, communicating

Elements of the DM Solution

- DAU web-based courseware
- Outreach to our discipline and others
- A new standard and associated handbook
- Community of Practice
- Practitioner training
- College-level training
 - Two year program, four year program, focus is now on a post-graduate area of focus program

We are creating a prototype in Alabama to extend to other areas

DM Education and Outreach Approach

- Continuous learning courses
- Web-based education
- Creating courses through subject matter experts
- The role of continuing education in certifying good data managers and good DM processes
- DAU – for Industry and Government

Benefits of Standardizing Processes

- Creates understanding
- Improves communication
- Strengthens practices
- Clarifies goals and objectives
- Unifies practitioners

Summary

- DM has a stake in SE's successful future
- Reinvention and improvement of domains are vital
- Challenges are significant
- Education and outreach are key