

# Review of Best Practices for Technical Leadership Development

NDIA Systems Engineering Conference 26 October 2017

Dr. Wilson N. Felder
Industry Professor, and Director, SERC Doctoral
Fellows Program
School of Systems and Enterprises



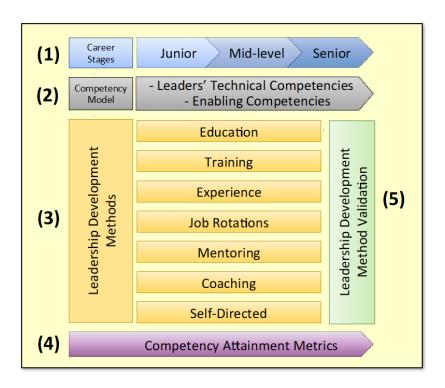


# Review of Best Practices for Technical Leadership Development from Organizational Benchmarking

### Context



- ★ Part of SERC Technical Leadership Research Topic
- ★ Co-sponsored by DAU and DASD(SE)
  - Developed a technical leadership development framework
  - Defined three career levels
  - Vetted a set of 24 competencies



Conducted a set of organizational benchmarking visits

## Methodology



- ★Identified organizations with "best-in-class" reputations for technical leadership development
- ★Conducted benchmarking visits with each
- ★Interviewed one or more SME managers familiar with the organization's approach to technical leadership development
- ★Structured, competency based interview protocol
- ★Open-ended discussion

### **Organizations**



- U.S. Navy Quality Management
- ONR
- U.S. Navy Strategic Systems Program
- NAVSEA
- Sandia
- Raytheon Missile Systems

- NASA Marshall Space Flight Center
- DAU Southeast Region
- U.S. Army ARDEC
- Lockheed-Martin
- Gulfstream
- Accenture
- Missile Defense Agency

#### Caveats



- ★Not a human subject study, so no personal data were collected
- ★Observations by/opinions of SMEs at organizational level within agency/company
- ★Not for attribution at any level
- ★Results were incorporated in the TLDF study

## Synopsis of Best Practices Found



- ★Local tailoring
- ★Emerging leader ownership of process execution
- ★Evidence based metrics
- ★HR/line organization/project organization collaborated as equal partners
- ★Other observations:
  - Starts before first day of work
  - → Continuous across career stages
  - All used many methods to impart competencies

### **Local Tailoring**



- ★Tailored geographically
- ★Tailored organizationally

# Emerging Leader Ownership of Process Execution

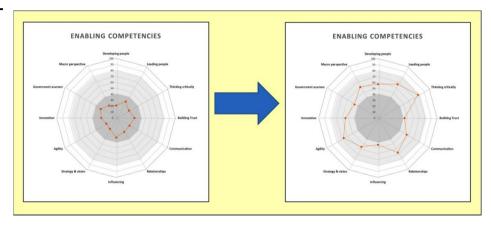


- ★Tools are provided to emerging leaders to track and manage their own competency attainment
- ★Workshops and group meetings to cement progress and maintain commitment

# Metrics from Evidence Based Competency Achievements



- ★Competency attainment plotted on spider/radar charts by participant
- ★Evidence from tangible achievements noted



- ★360° Feedback provides quality assessment of claim
- ★Process separate from performance assessment and is not used to make salary decisions

# HR/Line/Project Collaboration



- ★Support for leadership development is from executive leadership level
- ★HR, functional management, and project management all provide support and encouragement as a team
- ★In some cases, these three entities collaborate in assigning emerging leaders to developmental positions

### **Additional Features**



- ★Application of multiple development methods
- ★Continuous development across career stages
- ★Starts before day one
  - "Making the offer sticky"

### Acknowledgments



The RT-149 team:

Dr. Wilson Felder, Pl

Dr. Steve Yang, Co-PI

Dr. Katherine Duliba

Dr. Mike Pennotti

Jeffrey Mo

### References



Felder, Wilson N., Steve Yang, Michael Pennotti, Katherine Duliba, and Cheuk Mo. "Leadership Development Framework for the Technical Acquisition Workforce." Technical Report. Hoboken, NJ: Systems Engineering Research Center, October 25, 2016.

Duliba, Katherine, and Wilson N. Felder. "Strengthening Systems Engineering Leadership Curricula Using Competency-Based Assessment." In 15th Annual Conference on Systems Engineering Research, 1–10. Redondo Beach, CA, 2017.

Duliba, Katherine A., Cheuk Y. Mo, Michael Pennotti, Steve Yang, and Wilson N. Felder. "A Technical Leadership Development Framework for Systems Engineers." In 14th Annual Conference on Systems Engineering Research. Huntsville, AL, 2016.



stevens.edu

### **Contact Information**



Dr. Wilson N. Felder

(240) 204-1145

Stevens Institute of Technology

wfelder@stevens.edu