RT-171: Mission Engineering Competencies

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Goals & Objectives

• Identify competencies for mission engineering that are truly unique, showing where there is separation from the generally demanded acquisition competencies or systems engineering competencies.
• Identify critical overlaps between mission engineering and systems engineering competencies.
• Develop a mission engineering competency model that supports the DoD engineering community but also provides input to each acquisition career field (e.g. program management, test & evaluation, etc.) unique to their responsibilities to support and manage mission engineering.
• Conduct a gap analysis comparing Defense Acquisition University’s (DAU) current curricula against the competency requirements.
• Provide recommendations on creating a mission engineering curriculum.

Methodology

• To develop the competency model, this research draws heavily from the Helix methodology, which is based on a grounded theory approach using a combination of interviews with 32 mission engineers and an extensive literature review that covers:
  1) mission engineering definition and organizational support, 2) identification of competencies and gaps, and 3) future vision.

Future Research

• Future research opportunities include:
  • Finding the “right” people and the “right” team
  • Competition with private industry creates a shortage of the needed skills and competencies in the government workforce
  • Need to fix a dysfunctional acquisition process
    • A coalition of the willing to work together to ensure all the services are participating with a truly joint solution
    • Funding a mission test capability is a real challenge; no one program has the resources to assess the end-to-end effects to accomplish the mission
  • Educating DoD personnel in both the acquisition and operational contexts on what mission engineering is, but in order to do that, the appropriate courses and materials need to be developed
  • Exploring the processes of mission engineering and the skills and talents necessary for the process
  • Observing mission engineering in practice with an emphasis on operational domain knowledge

Contacts/References

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