Human Readiness Levels: Linking S&T to Acquisition...

...and beyond
Human Systems
Operational Capability Scope

• Acquire
• Train
• Equip
• Enhance
• Protect

How do we ensure that complex systems developed today are ready and optimized for human interaction?

Mason et al., 2013
Human Readiness Levels

User-centered Requirements

System-centered Requirements

Transformation to overcome communication barrier

Human Systems Community

Developers
Decision Makers
Human Readiness Levels

• NDIA HSC and DoD HFE TAG have driven awareness and progress in quantifying human readiness

• Support transfer from R&D to system acquisition and deployment
Human Readiness...

of **Systems**: designed, developed, deployed

- Tool at the ‘human factors practitioner’ level that can be shared with decision makers
  - Minimize HS/HF related risks to project schedule and costs
  - Measure R&D outcomes
- Support enforcement of HSI standards through development and validation of HF anchors to measure and model maturity
- Decision makers can use anchors to assess and track HSI maturity in the acquisition, project management, or implementation phases
One approach to Quantifying Human Readiness of Systems

**Input of Human Factors Evaluation Data, emphasis on Issues**

- Conditions under which the issue was identified
- Related human factors anchors (FAA)
- Risk level of the issue
- Progress made toward resolving the issue
One approach to Quantifying Human Readiness of Systems

Analyze Human Factors Issues

• Calculate human factors readiness level based on 2 components:
  – Number of HF issues, prioritized by risk severity and probability
  – Degree issue has been addressed – solution conceptualized, implemented, validated?

Track and Predict

• Track each identified issue and its associated resolution recommendations over time (i.e., across multiple evaluations)
• Predict impact of adopting a recommendation on the system HFRL
Challenges remain

• Relationship between practitioner tool at detailed level to high level decision maker summary brief
  – Communication language and understanding
• Merger of strategic HRL and detailed approaches to quantify
• Baseline metrics/methods to set ‘thresholds’ for level achievement
  – Completing process is not enough – outcome of the process must be considered and tracked
Beyond System Evaluation...
Human Readiness… of training solutions

• Training Effectiveness Readiness Levels
  – How effective is the training system?
  – What parameters make it most effective?
  – Need for objective, consistent scale to compare across systems

• Again, not tracking process of evaluation, but outcome – has training demonstrated xx in training effectiveness

Baseline measurement needed!!!
What is threshold??
Human Readiness...

Personnel

What are metrics? What are baselines? Thresholds?