

***Practical Software and Systems Measurement***

# ***Practical Software and Systems Measurement***

***A foundation for objective project management***



***System Development  
Performance Measurement (with  
a Particular Emphasis on  
Affordability) Workshop***

***August 1, 2012***

***Pete McLoone, Cheryl Garrison***

***PSM Users Group Conference***

***30 July – August 3 2012***

***Portsmouth, VA***

## ***Practical Software and Systems Measurement***

### **Workshop Goals**

- ***Provide participants with information on the four major industry teams on Affordability (NDIA, INCOSE, PSM, MORS) as well as the NDIA/PSM System Development Performance Measurement Project***
- ***Obtain participant feedback on emerging or traditional affordability measures particularly those summarizing the results of affordability analyses, as well as additional suggestions in this regard***
- ***Obtain participant feedback on a qualitative approach in the affordability space***
- ***Obtain participant feedback on techniques for addressing the following information needs: Requirements Verification & Validation, Testability, and Defects and Errors.***

# *Practical Software and Systems Measurement*

## *Workshop Participants*

- *Bill Golaz*
- *Garry Roedler*
- *Pete McLoone*
- *Cheryl Garrison*
- *Jim Stubbe*
- *Adam Hilburn*
- *Jim McCurley*

# ***Practical Software and Systems Measurement***

## ***Results: Affordability***

- ***For each performance parameter, Performance Parameter Values for each alternative vs. Life Cycle Cost of each alternative***
  - ***Should show confidence intervals around parameter and cost***
  - ***Should show current target for the performance parameter***
  - ***Should show current Life Cycle Cost baseline***
  - ***Should show Age of System at Retirement***
- ***Decided more of a need for a qualitative measure of the value of an alternative than a qualitative measure of affordability management***
  - ***Results would be represented by a spider chart with the spokes corresponding to the characteristics being evaluated***
- ***Recognized the need for a mechanism to analyze cost and value results across multiple parameters***

# ***Practical Software and Systems Measurement***

## **Results**

- **Requirements Verification and Validation**
  - *The information need statement needs clarification concerning whether intended focus was on up front requirements validation or back end system validation or both*
  - *MOE/MOP assessment might be a primary focus up front*
  - *NDIA Test and Evaluation Committee*
- **Defects and Errors**
  - *Phase Containment/Defect Removal Effectiveness addresses “finding defects early”*
  - *“reducing defects inserted” probably involves some root cause analysis of some subset of defects, perhaps those detected late in a release cycle*
- **Testability**
  - *Addressed via checklists utilized during development without any real direct measure*
  - *The SDPM project should drop this information need*

## ***Practical Software and Systems Measurement***

### ***Moving Forward***

- ***Results will be brought to the NDIA-PSM System Development Performance Measurement Core Team for consideration***
- ***PSM Affordability Measurement Project will work qualitative evaluation of value***
- ***Collaborate with NDIA Test and Evaluation Committee on Requirements Verification and Validation***