



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

***Please use Slides #2-8 for your introductions and slides #9-14 for your outbrief on Friday, 18 July***

*Practical Software and Systems Measurement*

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

*A foundation for objective project management*



***Measurement and  
Analytical Techniques  
in High Maturity  
Organizations***

***Dennis Goldenson &  
Jim McCurley (in absentia)***

***PSM Users Group Conference  
Tuesday 23 June 2009  
Orlando, Florida***

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

## ***Workshop Title***

- ***Use of Measurement and Analytical Techniques in High Maturity Organizations and Those Who'd Like to Get There – Insights from Six Sigma and Elsewhere***

## ***Objectives of the Workshop***

- ***Identify issues & problem areas that beg for better analysis***
- ***Identify analytical techniques that are appropriate to address those issues & problem areas***
- ***Clarify how best to communicate analytic results where they matter***

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## ***Workshop Format<sub>1</sub>***

- ***Agenda***
  - ***A summary of analytical techniques & their frequency of use in high maturity organizations***
  - ***Workshop participants' experience & expertise***
  - ***Discussion of next steps***
- ***Techniques***
  - ***Interactive discussion sharing workshop participants' experiences with challenging information needs that call for***
    - ***disciplined quantitative management***
    - ***& evidentially based, innovative process improvement***
  - ***Interspersed (if necessary / desired) with***
    - ***a review of survey data on incidence of use of various methods***
    - ***a brief review of relatively uncommon methods in our field***
  - ***Hopefully some of you have brought examples that you can show as well as tell...***
    - ***With those short descriptions of successful applications & lessons learned***

## ***Workshop Format<sub>2</sub>***

- ***A little more detail:***
  - ***Descriptions of analytical methods used (tried, contemplated or gave up on) to***
    - ***Understand/characterize the information needs (addressed or not yet explicitly stated)***
    - ***Analyze & report the results***
    - ***Manage the data & models for continued use***
  - ***As constrained by***
    - ***Data availability / quality / integrity***
    - ***Challenges (technical & organizational) to adoption & institutionalization***
  - ***Things you've done successfully & not so successfully***

## **Workshop Background**

- **PSM history: Build on ...**
  - *increasing recognition over the past few years that measurement is ... or should be informed by analysis appropriate to its intended use*
  - *the two workshops held in 2008 on “Mapping Analysis Techniques to Engineering & Management Problems” and “Measurement & Analysis in Lean Six Sigma”*
- **Where we're (still) heading: Identifying analytical techniques that are ...**
  - *understandable by their intended audiences*
  - *& methodologically defensible*

## ***Intended Output***

- ***More evidentially based presentations on experiences in use at future PSM conferences***
  - ***Also elsewhere***
- ***Leading to a PSM white paper(s)***
  - ***Other plans for the way forward for PSM***
- ***Continued (& increased) participation by PSMers in twice yearly series of SEI high maturity measurement & analysis workshops***



## ***Workshop Title***

- ***Use of Measurement and Analytical Techniques in High Maturity Organizations and Those Who'd Like to Get There – Insights from Six Sigma and Elsewhere***
- ***Dennis Goldenson, Jim McCurley (in absentia...), & Dave Card (in lieu of Jim...)***

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

### ***Workshop Participants***

- ***Dave Card, Det Norske Veritas – Scribe***
- ***Dennis Goldenson, SEI – Lead***  
***(& maybe facilitator)***
- ***Rick Welch, Northrop Grumman – Presenter***
- ***Susy Iype, ElanTech Systems, Inc.***
- ***Doug Mann, JSF JPO***
- ***Tom McMannes, DAU***
- ***Sean Murphy, BAE Systems***
- ***Beth Layman, Layman & Layman***
- ***Mimi Trinh, Lockheed Martin***

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## ***Summary [Notes Attached]***

- ***Brief introduction***
- ***Reviewed objectives***
  - ***Issues and problem areas that beg for better analysis***
  - ***Appropriate analytical techniques***
  - ***Communicate analytic results where they matter***
- ***Modified agenda***
  - ***Out of space ... see the next slide ...***

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

## ***Summary Continued: Modified agenda***

- ***Rick Welch described experiences with peer review effectiveness metrics ... with example slides as requested in the workshop description [slides attached]***
- ***Round robin to identify others' hot button issues & problem areas ... followed by discussion of appropriate analytical methods***
- ***Brief reviews of a few relatively uncommon analytical methods [slides attached]***
- ***Quick review of SEI survey data on the incidence of use of various analytical methods [same slides attached]***
- ***Next steps***

## ***Conclusions, Recommendations, and Results***

- ***Conclusions & Results: There's much more to learn in our field***
  - ***about analytical methods that are appropriate to our information needs***
  - ***with results that are practically meaningful & useful***
- ***Recommendations: See Next Steps***

## ***Next Steps/Action Items***

- ***Encourage more presentations with analytical results for future PSM conferences***
- ***A PSM white paper(s) ... in this lifetime***
- ***Workshop next year at PSM conference***
  - ***3 or so participants present methods & results ... in sufficient detail to learn from each other***
  - ***Invite individuals just getting started to come for Q & A***