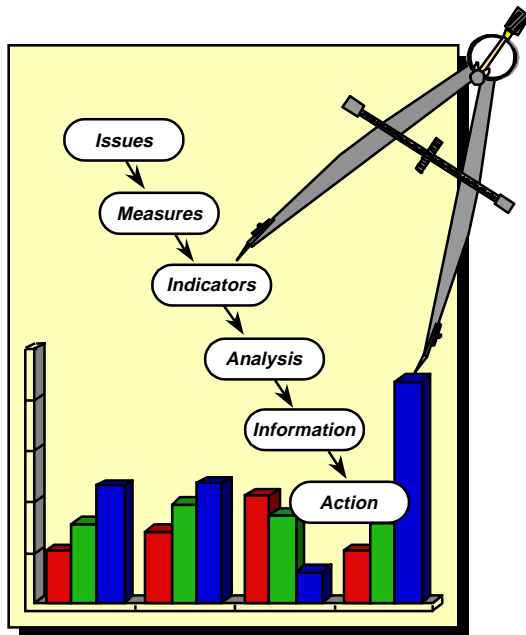# Practical Software Measurement
A guide to objective program insight

Systems Engineering Measurement

July 22, 1997

Joint Logistics Commanders
Joint Group on Systems Engineering

Office of the Under Secretary of Defense
Acquisition and Technology

Workshop Objectives

- *Identify Initial User Requirements To be Addressed in PSysM*

- *Assess Current Plans for PSysM Guidance and Products - Identify Realistic Schedule and Content for Planned Product Versions*

- *Establish Basis for Joint INCOSE - PSM Approach to Systems Engineering Measurement*

- *Establish PSysM Project Plan*

Workshop Background

- ## *PSM Guidance Focusing on Issue Based Measurement Developed Over Past 3 Years*

- ## *Interim INCOSE Guidebook Issued in 1996*

- ## *Collaboration of INCOSE and PSM Initiative*

PSysM Overview

- *<u>Objective</u> - Joint INCOSE-PSM Systems Engineering Measurement Products*

- *SE Products Based on Existing PSM Approach - Structure*

- *Foundation - PSM Derived Measurement Process With Specific SE Issues/Measures*

- *Link Systems and Software Analysis*

- *Joint Development - Implementation Team*

- *Phased Development Plan*

Key Discussion Topics

- **PSysM Measurement Principles**

- **PSysM Target Audience - Guidance Scope**

- **Specific Topics for Inclusion in PSysM**

- **PSysM Products and Product Formats**

- **PSysM Development Approach**

- **PSysM Training Requirements**

- **Participant Questions and Input**

Workshop Agenda

- *8:30 - 10:00   Review Current PSysM Project Background and Goals*

- *10:00 - 10:30 Break*

- *10:30 - 12:00 Initial Topics for PSysM*

- *12:00 - 1:00   Lunch*

- *1:00 - 3:00   Approach for PSysM Development*

- *3:00 - 7:00   Free Time*

- *7:00 - 9:00   Prepare Summary Briefing*

Intended Audience

- **System Engineering Project and Technical Managers**

- **PSM Technical Working Group Members**

- **INCOSE Metrics Working Group Members**

- **PSM Users with System Responsibilities**

Intended Output

- *Recommendations for Scope and Content of PSysM Guidance and Products*

- *Comments on the Proposed Approach to Development of PSysM*

- *Recommendations for Initial Measurement Topics to be Addressed*

- *Establishment of PSysM Project Plan*

System vs Software Issues

- **For Systems, interfaces become more complex and of major concern**

- **For Systems, the Human Element comes into play**

- **For Systems, Customer Satisfaction is a key measurement area for the system's developer**

- **Some measurements are unique to software (Lines of Code)**

- **Enginering disciples for both are not mature in some life cycle phases (e.g. the early phases)**

- **Basic management approach and concerns (cost, schedule, performance, quality, functionality) are the same**