

Session 5.0

Improving Your SMC Job Effectiveness



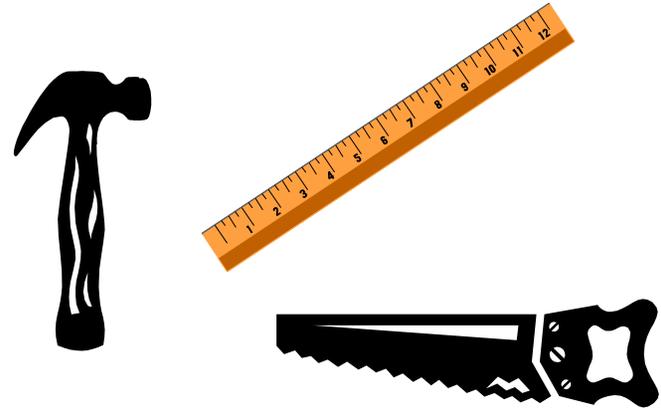
Session 5 Key Messages

- **Personal effectiveness in Acquisition/technical oversight can be enhanced by a execution “framework” utilizing three core systems management competency areas**
 - Planning, Assessment, and Communication
- **Core competencies are demonstrated at many different mission levels in support of the overall systems acquisition effort**
- **Core competencies exercised at the Government Team SEM level can be illustrated by analogy with the “managing architect” for a building project**
- **The acquisition management/SE experience pool at SMC is very strong, and should be accessed to every extent possible to provide guidance in self-improvement planning**

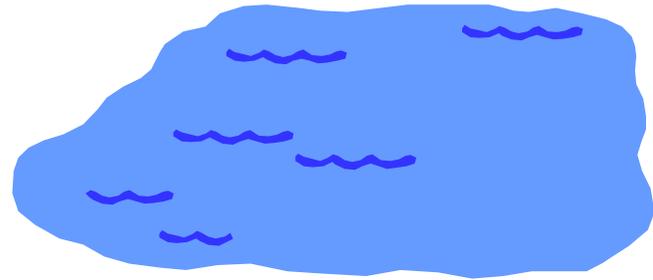


Effective Acquisition/Systems Management

- The Framework



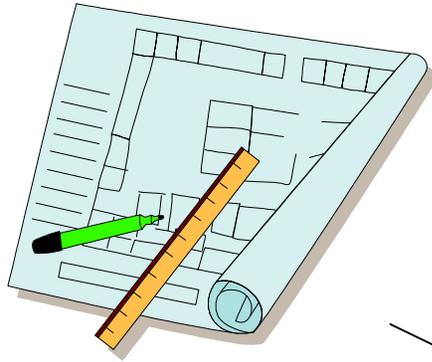
- The Experience Pool



Good Acquisition/Systems Management Practice Develops Under a Good Framework and Builds on the Experiences of Others



Core Competency Framework

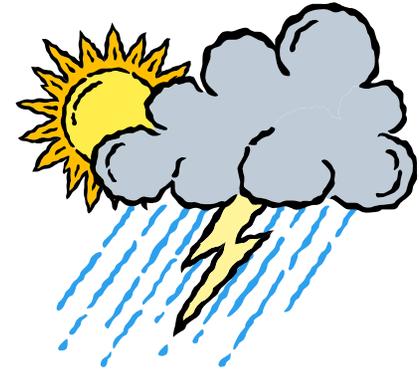


Plan



Assess

Environment



Communicate



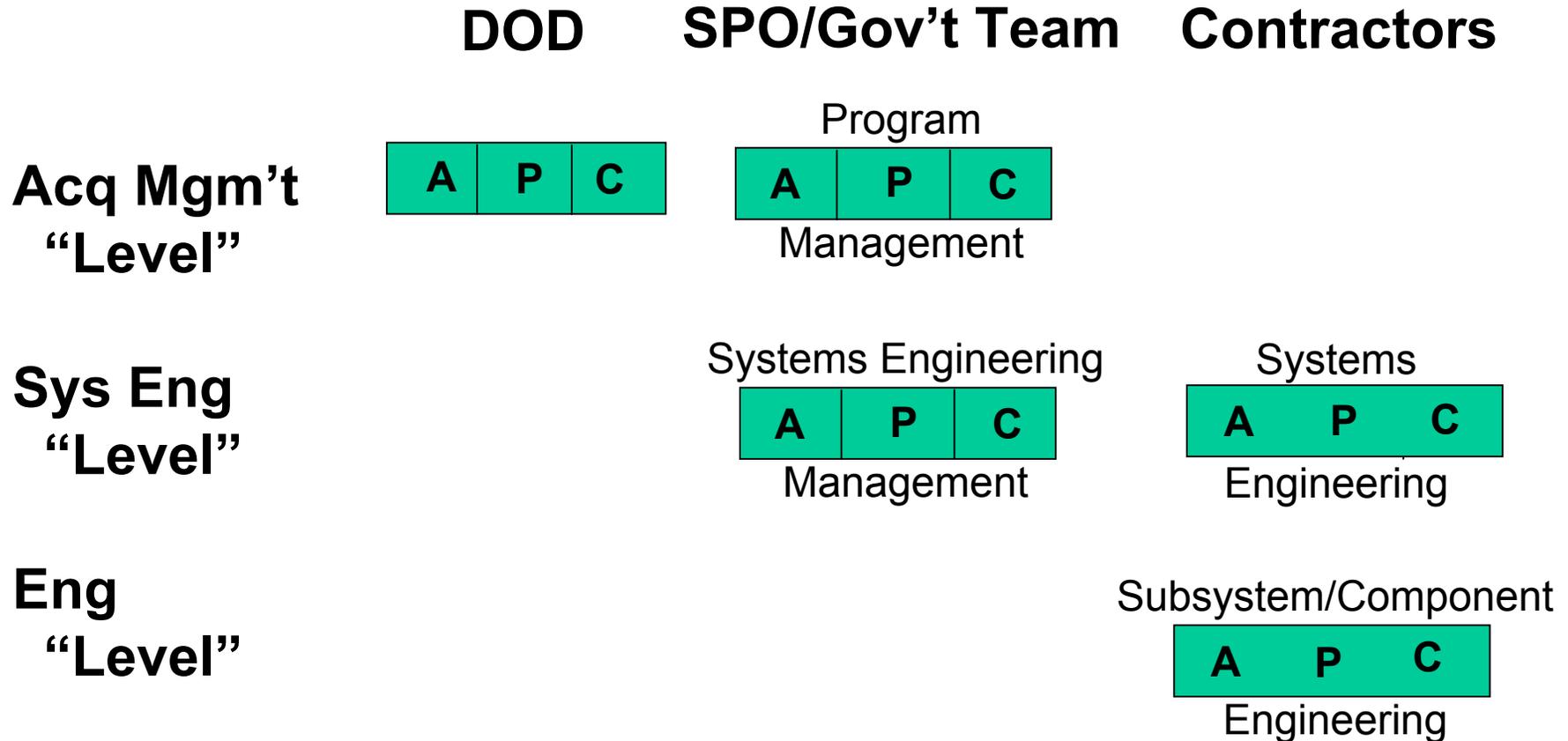
Systems Engineering ... a “Practical” Definition

Systems Engineering is the plan/replan function which strives to optimize the expenditure of resources in support of mission success in an ever-changing environment

- **Systems Engineering is Executed on Many Mission Levels**
- **Applying it to the contractor developer role can be viewed as SE**
 - **The contractor has “hands on” engineers to actually build**
- **Applying it to the Government Acquirer role can be viewed as “Systems Engineering Management”**



Core Competencies Apply to All Players at Different Levels



Systems Engineer to Engineer Characteristics

Engineer

- Defined Tasks
- Defined Boundaries
- Stove-piped Delivery of “X”
- Executor
- User of Resources

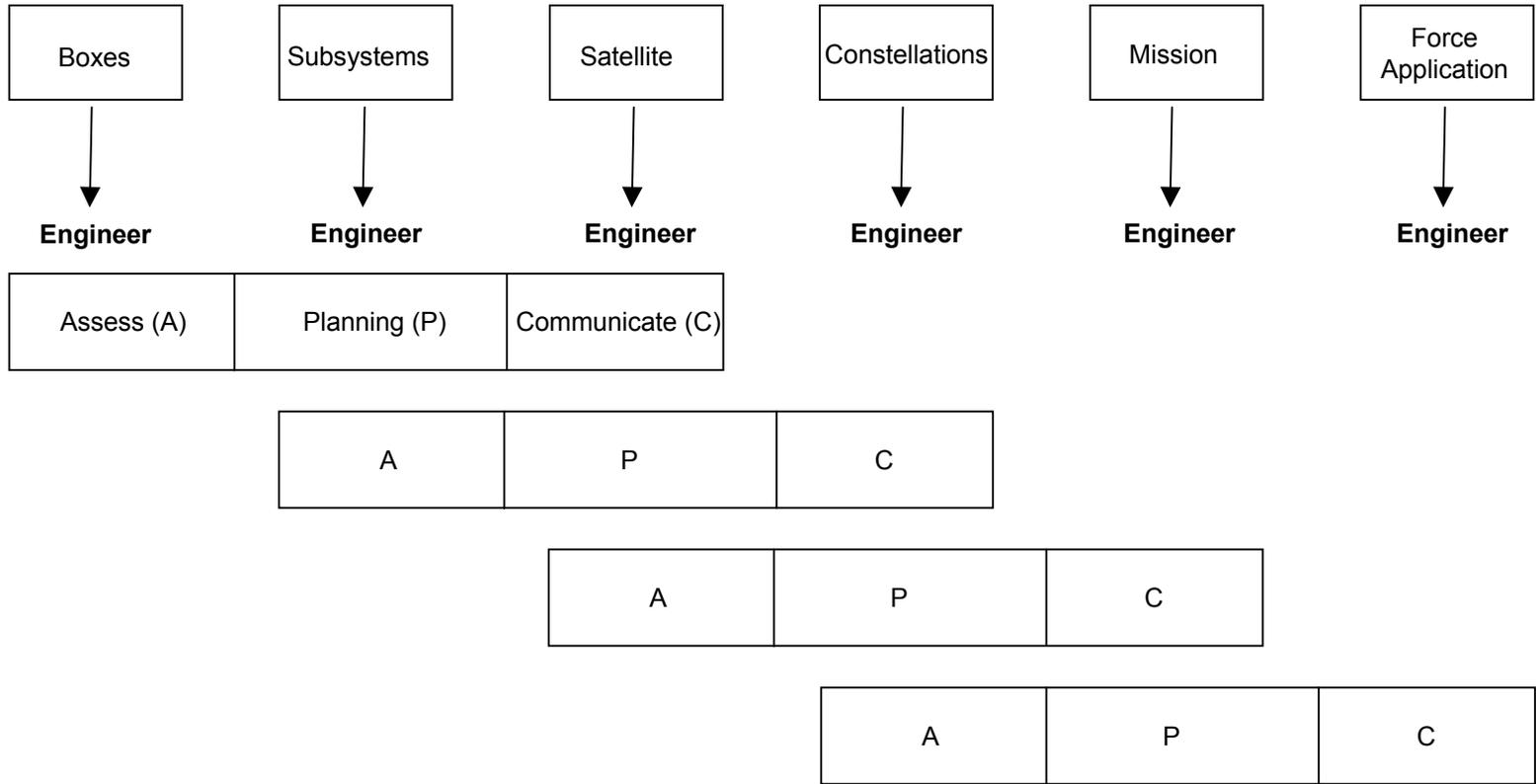
Systems Engineer/SE Manager

- Defined Mission Objective
- Fuzzy Boundaries
- Optimizer of Resources for Mission Objective
- Planner/Replanner
- Allocator/Balancer of Resources

**The Systems Engineer/SE Manager is the Managing Architect;
The Engineer is the Builder**



Space Engineer to Systems Engineer Relationship



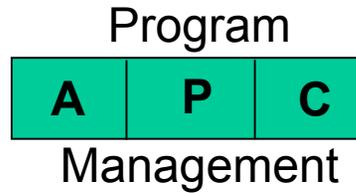
Engineers and Systems Engineers/SE Mgr's Execute at Multiple Responsibility Levels



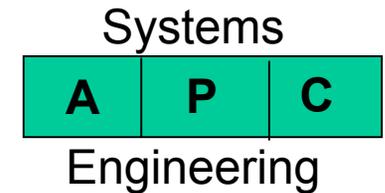
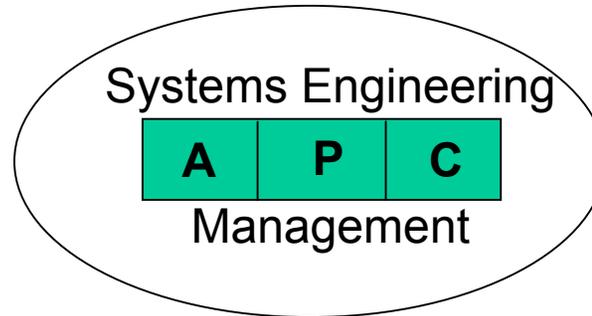
Core Competencies Apply to All Players at Different Levels

DOD SPO/Government Team Contractors

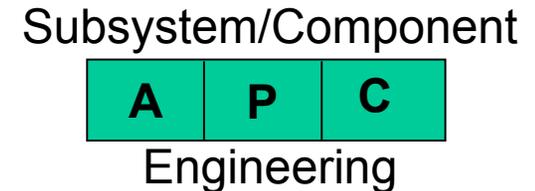
Acq Mgm't
"Level"



Sys Eng
"Level"



Eng
"Level"



SE Management: Planning/Replanning (Similar to “Managing Architect”)

SE Management

Managing Architect

- Understand Changing Environment

Mission Objective

Building Objective

Resources
(Contractors, DCMA, Aerospace)

Workforce
(Builders, Inspectors, Consultants)

Cost, Schedule, Risk

Budget, Occupancy Date, Weather

Contract, Gov’t Regulations,
Stakeholder Influences

Contract, Bldg. Regulations,
Local Custom Constraints

- Develop Initial Plan

Initial Approach/Allocation

Initial Drawing

- Select Contractor
- Include Margin
- Include Headlight Metrics

- Select Builder
- Provide for Options/Contingencies
- Establish Coordination

- Alter/Update Plans
(In Anticipation and
Response to Environment)

Modify Plans

Modify Plans

- Real World Execution
- Mission/Cost Changes
- Unknown Problems Surface

- Feedback from Builder
- Budget/Building Objective Changes
- Construction Surprises

**In addition to Planning, Good SE Management Requires
Perceptive Assessment of Execution and Active Communication**



SE Management: Assessment of Execution

SE Management

Managing Architect

- Utilize Standard Execution Tools with Headlight Metrics Mindset

Cost, Schedule, Performance Reports

- Look for Late Starts
- Longer Work Spans for Execution

Billings, Phone Calls to Builder

- Delays in Construction
- Higher Bills than Expected

- Visit the Execution Site Often

Validate Standard Execution Tool Assessment

Talk to Contractor and Aerospace on Items/Concerns Not Captured in Standard Tool Assessment

Walk Site to see What has been Built and Check Quality

Look for Unreported Areas that Need Corrective Action

Be Accessible for Inputs from All

Make Friends with Workers and Listen To Their Concerns/Comments

Systems Engineering Management is a Contact Sport



SE Management: Communication

SE Management

Managing Architect

- Provide Up-to-Date Status	Report Progress Assessment to Prog Management and Contractor	Construction Progress Assessment to Customer and Builder
	Recommend Planning Changes - Identify Impacts	Recommend Plan Changes for Customer Approval
	Identify Possible Future Changes	Indicate Areas for Customer to Think About for Future
- Listen to Feedback	Guidance on Planning	Approval/Disapproval of Planned Changes
	Mission/Resource Changes	Take Direction on New Requirements or Changes
	Feedback from Contractor	Feedback from Builder
	Replan as Appropriate	Update Drawings, etc.
- Contribute to Other System Engineer Assessment	Maintain Dialogue With Contractor	Share Insights With Builder
	Look for Interaction With Other SE Management Personnel	Listen to Other Advisors on Project to Customer
	Elevate View, Bring “Interest” Items into Focus for Higher SE Management	Provide Insights to Customer

Good SEM Looks Beyond the Boundaries



Execution Framework Summary

Good execution requires:

Planning

- **Adaptive replanning is critical**

Assess Execution

- **Remember it is a contact sport**

Communication

- **Look beyond boundaries, share insights**

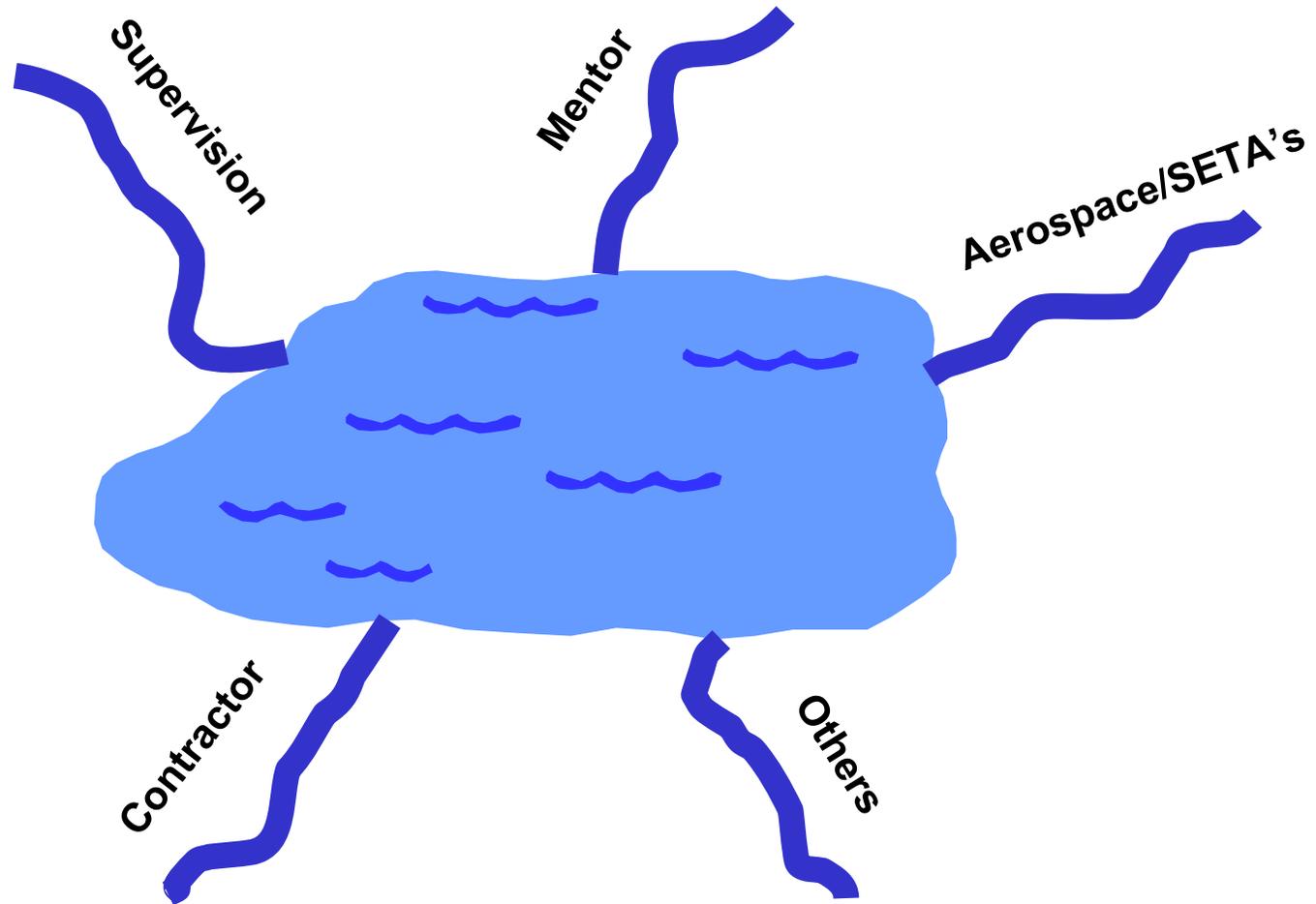
**The Future is Unclear, but Good Execution of SEM
Reduces the Uncertainty and Increases Mission Success Probability**



Execution Framework Example (Personal “War-Story”)



Pool of Experience Has Many Sources



Sources of Experience for SMC

Prime Sources

- Supervision
- Mentor
- Aerospace/SETA's
- Contractor

Others

- SMC Engineering Guidelines (Web-Site)
- Coursework at Aerospace Institute, DAU, etc.
- University Courses

