INCOSE International Symposium
Philadelphia, PA
June 24-27, 2013

Call For An Effective Alignment Of Program Management And Systems Engineering Risk Management Practices

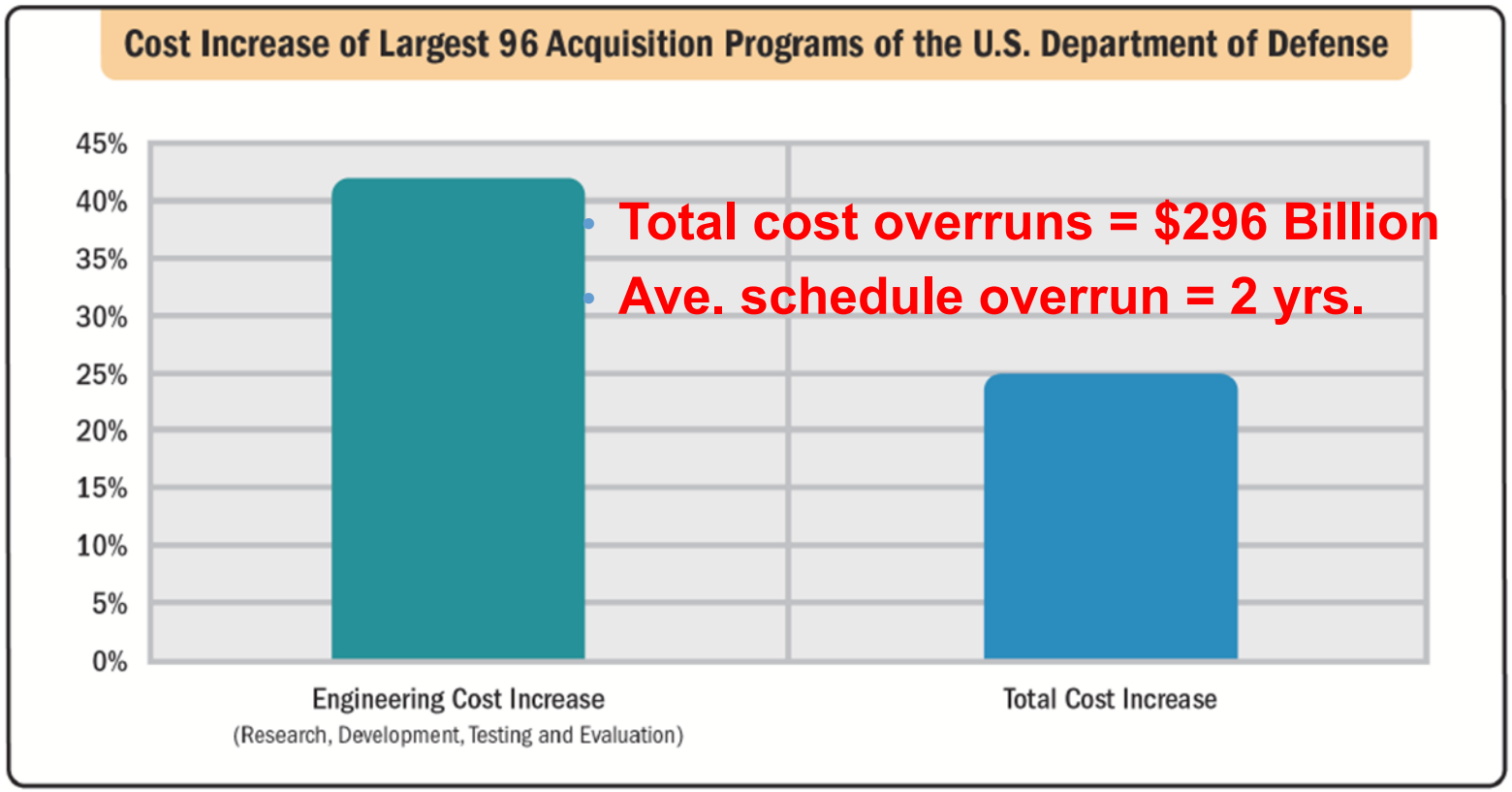
Eileen Arnold PMP, ESEP-Acq
United Technologies Aerospace Systems

ESEP and PMP


EXPERT
INCOSE
ESEP
SYSTEMS ENGINEERING PROFESSIONAL
TM


A Guide to the
PROJECT MANAGEMENT
BODY OF KNOWLEDGE
(PMBOK® GUIDE)

Risk Realization



Job responsibilities differ by roles

The top responsibilities chosen by half or more of those performing the role.

Program Managers view their responsibilities as:

- Overall Results
- Goals & Objectives
- Program & Project Risk
- External Supplier Relations
- Lifecycle Planning

Chief Systems Engineers view their responsibilities as:

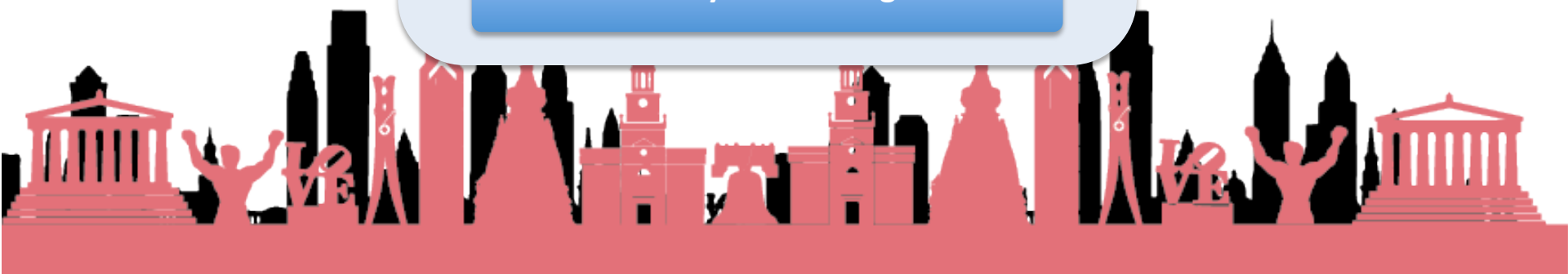
- Technical Requirements
- Systems Definition
- Systems Retirement
- Configuration Management

Primary responsibility of both roles

Regardless of their role, participants found some areas of responsibility that they feel should be shared.

Both roles are responsible for:

- **Program/Project Risk**
- **External Supplier Relations**
- **Quality Management**
- **Lifecycle Planning**



Progress to date

- Addition of the well-known systems engineering word “requirements” to the PMBoK (PMI, 2008) Scope Management sections
- Strategic Alliance Agreement signed in February, 2012 between INCOSE and PMI
- PMI- INCOSE Alliance WG formed - INCOSE International Workshop 2012
- PMI-INCOSE Long Term Plan (PMI-INCOSE, 2012) – Requirements Management took precedence over Risk Management – Requirements Practice Standard

Recommendations 1- 6

1) Establish collaborative working groups - alignment beyond INCOSE **and** PMI

2) Align the language of Risk Management

3) Establish a cross-discipline Risk Management process

4) Establish key RM&O deliverables, the timing of those RM deliverables, and other RM communications needs

5) Align the input sources to the RM process

6) Utilize the Institute of Risk Management's Risk Management Standard for enhanced alignment where practical

Recommendations 7-12

7) Create templates for a coordinated Risk Management Plan, a multi-discipline plan

8) Create a coordinated set of suggested outlines for a PMP and SEM / SEMP

9) Align the Risk Profile, the PMBoK and the SEBoK activities

10) Align the risk handling activities and language

11) Align the Monitor and Control activities and language

12) Create a Timeline of Program and Engineering risk interactions

Recommendation 1

INCOSE International Symposium
Philadelphia, PA
June 24-27, 2013

Establish collaborative working groups to address alignment beyond INCOSE and PMI

Recommendation 2

Philadelphia, PA
June 24-27, 2013

Align the language of Risk Management.

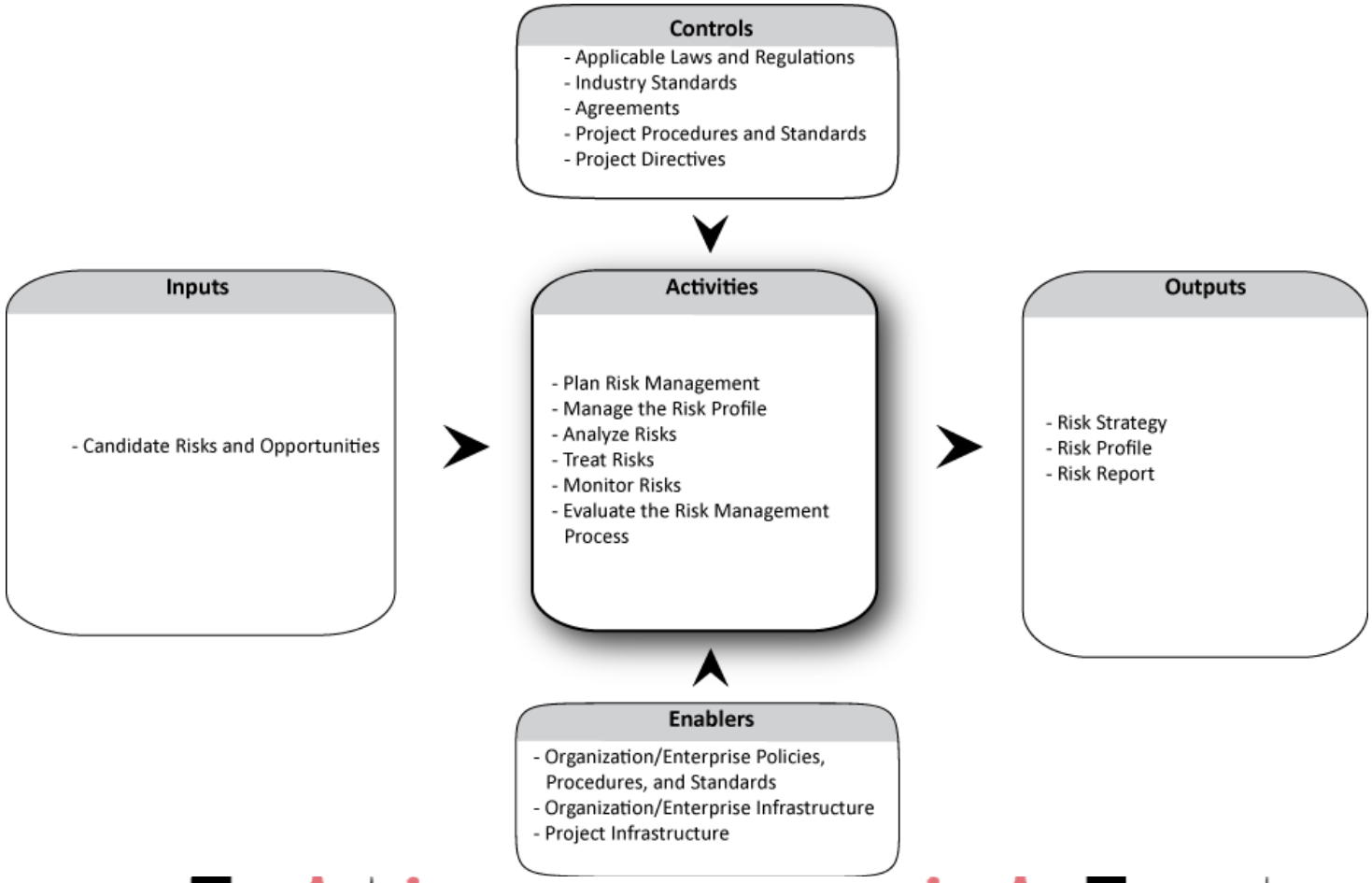
ISO-IEC15288 and PMI Risk Management Process

ISO-IEC 15288 (INCOSE SEHBK)	PMI PMBoK (PMI Risk Management)
Plan Risk Management	Plan Risk Management
Manage the Risk Profile: Analyze Risks	Identify Risks
	Perform Qualitative Risk Analysis
	Perform Quantitative Risk Analysis
Manage the Risk Profile: Treat Risks	Plan Risk Responses
Manage the Risk Profile: Monitor Risks	Monitor and Control Risks
Manage the Risk Profile: Evaluate the Risk Management Process	

Recommendation 5

Align the input sources to the RM process to include risks from project management, product management, finance, communication, customer, etc. where applicable and value-added.

SE Handbook Inputs / Outputs



Plan Risk Management

SEBoK Risk Management Plan (Conrow, 2003)	The PMI PMBoK Risk Management Plan
Plan Risk Management	Plan Risk Management

Recommendation 7

Create templates for a coordinated Risk Management Plan, a multi-discipline plan.

RMP Contents

SEBoK Risk Management Plan (Conrow, 2003)	The PMI PMBoK Risk Management Plan
A project summary	**The Risk Management Plan may be contained in the Project Management Plan, a superset of the Risk Management Plan, which includes a project summary.**
Project acquisition and contracting strategies	**Budgeting (assigns resources, estimates funds needed for Risk Management for inclusion in the cost performance baseline). Project Procurement Knowledge Area discusses acquisition and contracting.**
Key definitions	***May be implied in any document***
A list of key documents	*May be implied in any document*
Process steps	Methodology (approaches, tools, and data sources).

RMP Contents

SEBoK Risk Management Plan (Conrow, 2003)	The PMI PMBoK Risk Management Plan
Key ground rules and assumptions	Timing (when and how often ROM process is to be performed establishes protocols for application of schedule contingency reserves and establishes risk management activities included in project management schedule).
Risk categories	Risk categories (categorization framework, risk breakdown structure)

RMP Contents

SEBoK Risk Management Plan (Conrow, 2003)	**The PMI PMBoK Risk Management Plan**
Seller and buyer roles and responsibilities	Roles and responsibilities (leads support and risk management team members are listed for each type of activity in the RMP. *This may include customer / supplier roles since they are part of the team*
Organizational and personnel roles and responsibilities	**Roles and responsibilities (leads support and RM team members for each type of activity in the RMP**
This good easily be implied under the Process Steps intent	Probability and impact matrix (risks prioritized WRT their likelihood and effects on the project's objectives (H,M,L)
This could also be implied under the Process Steps intent	Tracking

In Summary

Philadelphia, PA
June 24-27, 2013

Align the Risk Profile, the PMBoK, the ”standards”, the Standards, the SEBoK,

with the risk and opportunity language and role definition risk activities where they make sense.