



Deploying the Measurement and Analysis Process



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Topics



- **Background**
- **Problem**
- **Approach**
- **Experience**
- **Resources**
- **Results**
- **Summary**

Lockheed Martin Aeronautics Overview

29,000 employees across the company and around the world

International - 39

Palmdale, CA
3,834

Johnstown, PA - 103

Clarksburg, WV - 78

Marietta, GA

6,864

Greenville, SC - 3400

Fort Worth, TX
14,529

Meridian, MS - 134

Pinellas Park, FL - 174

U-2

F-117

YF-22

X-35

F-35C
CV

F-16

F-35B
STOVL

F-35A
CTOL

F-22

C-130J

C-5

Background



- **Lockheed Martin Aeronautics measurement process improvements**
 - **SEI CMM Level 3 for software – 1993**
 - **SW Standard Metrics**
 - **SEI CMM Level 4 for software – 1999**
 - **SW Quantitative Management**
 - **SEI CMMI Level 3 at company level – 2007 & 2010**
 - **Company wide measurement process**

Problem



- **How to deploy the company Measurement and Analysis process across multiple programs and geographical sites?**
 - **Institutionalize the M&A process**
 - **Georgia, Texas, and California**
 - **Incorporate M&A planning into the program planning**
 - **Identify and deploy M&A related training**
 - **Programs already doing most of M&A process**

Change company culture

Approach



- **Take the Measurement and Analysis process to the programs**
 - **M&A planning workshops on site with the programs**
 - **Facilitated by small team of M&A experts**
 - **Pre-populated M&A planning templates**
 - **M&A process awareness training prerequisite for participants**
 - **Met with program management**
 - **Include current program SMEs and middle management**

Approach (cont.)



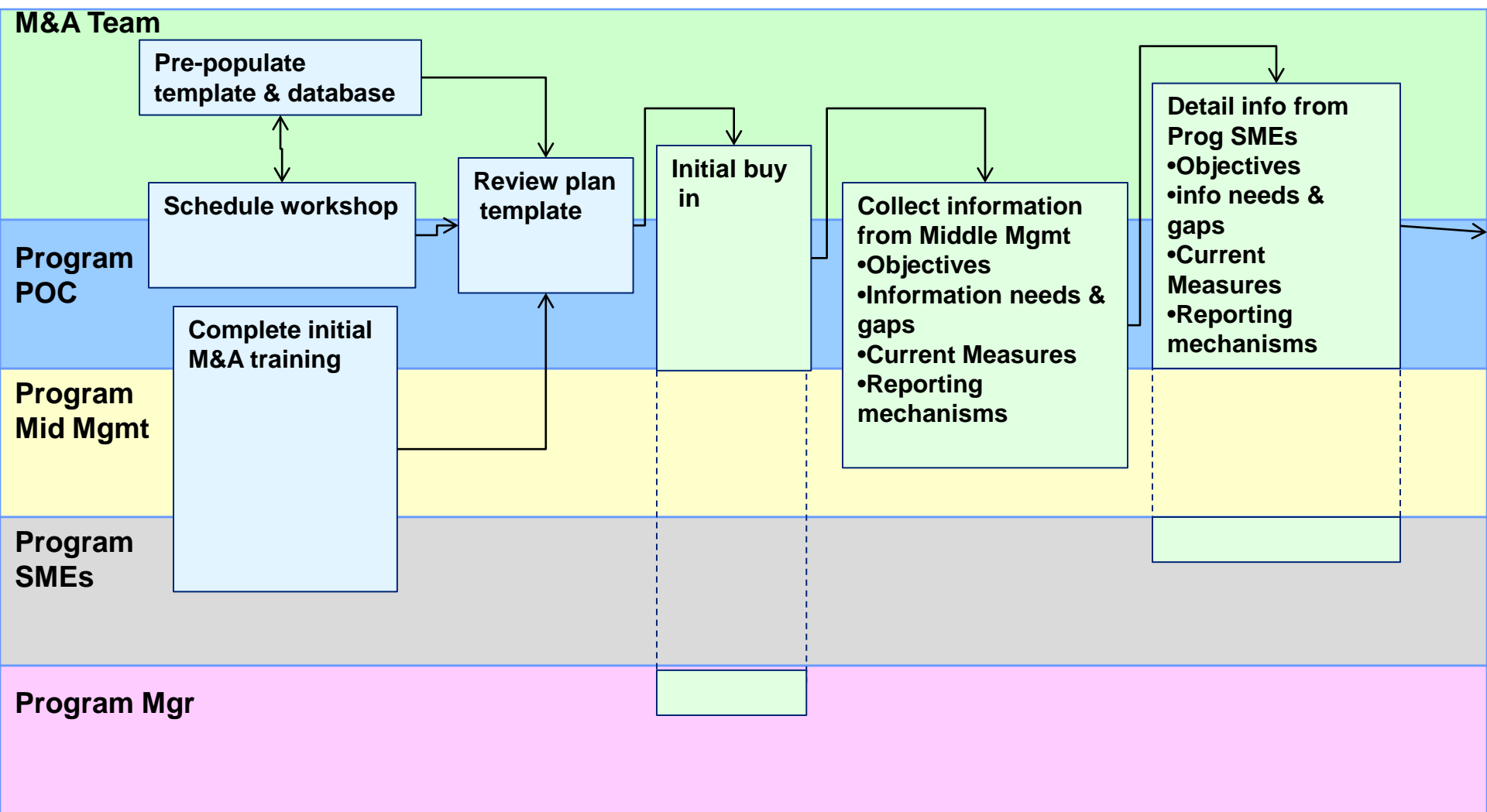
- **Objective: Develop a 70-80% complete M&A Plan for the program by end of 3 day workshop**
- **Preparation**
 - **Schedule workshop with program POC**
 - **Coordinate appropriate participants**
 - **Pre-populated plan template with standard content**
 - **Boiler plate material**
 - **General measurement traceability data**
 - **Measurement specification data for standard measures**
 - **Standard reference to M&A training**
 - **Place holders for required content**

Approach (cont.)

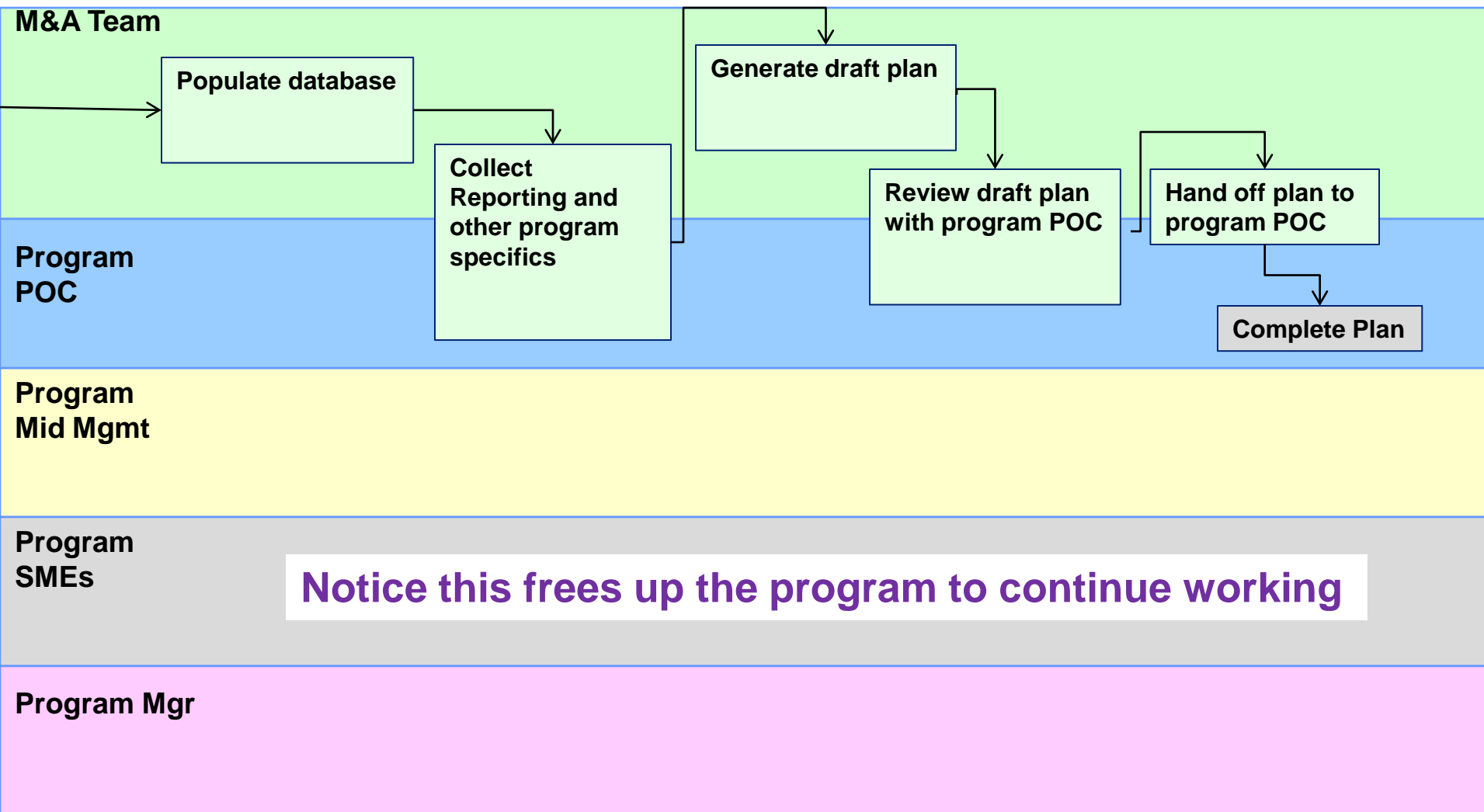


- **Objective: Develop a 70-80% complete M&A Plan for the program by end of 3 day workshop**
- **Onsite**
 - **Obtain buy-in from program manager**
 - **Identify current Information Needs with middle management**
 - **Review current measures with program SMEs**
 - **Match to the Information Needs**
 - **Identify any gaps or duplications**
 - **Load program data in organizational database**
 - **Generate plan tables from the database**
 - **Identify and fill in program specific information in the plan**
 - **Identify remaining tasks for program POC**

Workshop activities



Workshop activities (cont.)

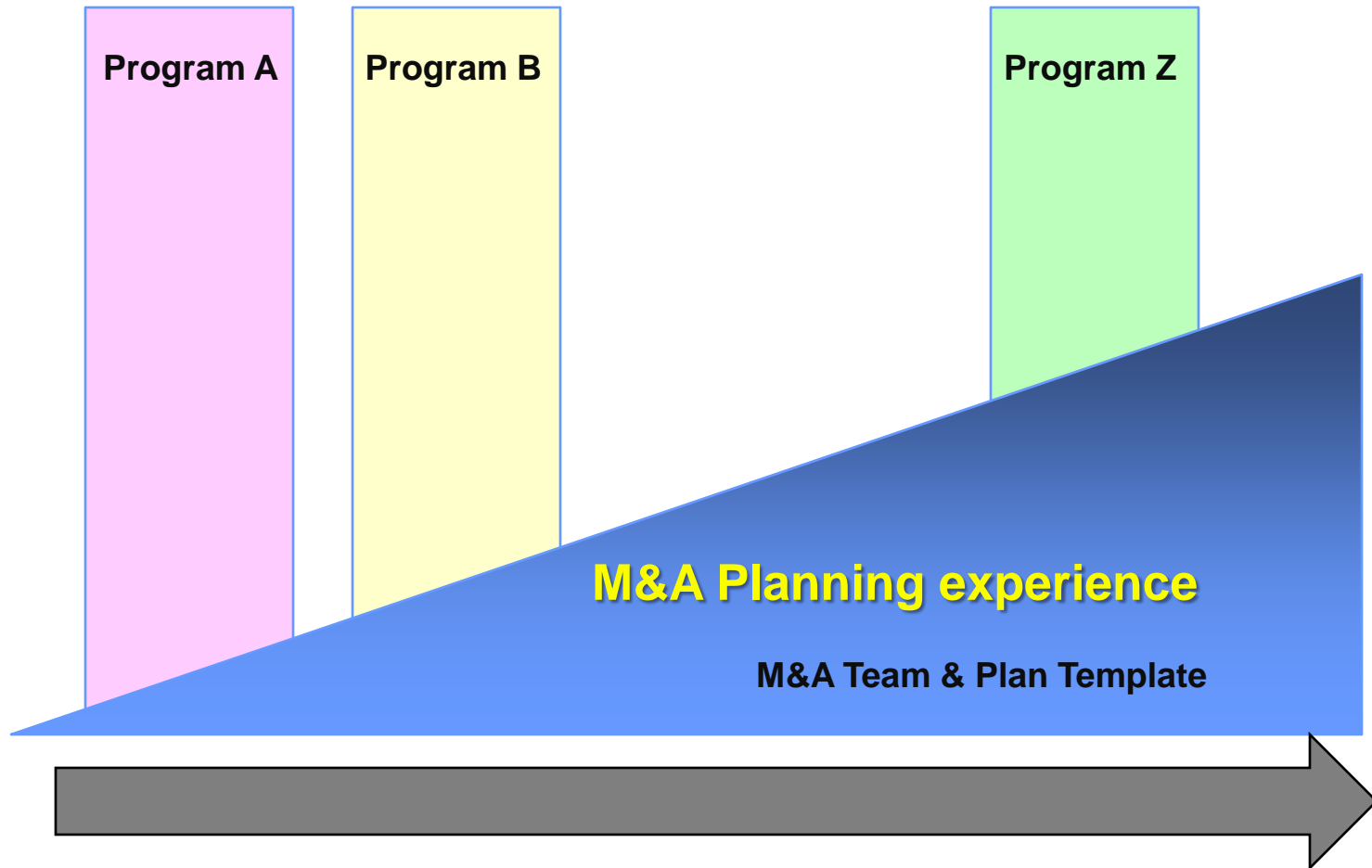


Experiences



- **Programs appreciated the help**
 - **Going to the program minimized impact to the program**
- **Distributed planning experience across company**
 - **M&A Team could take best practices & lessons learned from program to program**
- **Planning made workshop go smoother**
 - **Clear expectations and objectives**
- **Flexibility in execution fit better with program availability**
 - **Meet with management in a CR or go to their offices**
- **Meet with program manager helped gain buy in and visibility of M&A planning**
- **Many times program had been requested to improve their measures just before we arrived**

Distribution of Lessons Learned



Experiences (cont.)



- **Program follow up to complete the plan sometimes became low priority after we left**
 - Took long time to complete
- **Program personnel assigned to complete plan sometimes were re-assigned**
- **Program later did not recognize M&A planning as significant portion of program planning**
- **Program didn't want to include all measures in their plan**
- **Program didn't use the plan to manage their measures with**
 - tendency to do it like they always have
- **Difficult identifying various reporting mechanisms using measures**

Resources



- **Resources:**
 - **Pre-populated M&A plan template**
 - **Common objectives, information needs and measures**
 - **Boiler plate information**
 - **Training references**
 - **References to standard process**
 - **Measurement Model Database**
 - **Specification data for standard measures**
 - **Common objectives and information needs**
 - **Able to generate tables for M&A plan**

Results



- **Began culture change about use of measurement**
 - **Everyone uses measurement but they don't plan how they use them or link them to specific information needs**
 - **Understand the need to document analysis and actions in preparation for management consumption**
 - **Concept to plan their measurement activities**
 - **Expanded awareness of M&A infrastructure**

Summary



- **Institutionalization of the measurement and analysis process**
- **Culture change**
- **Take the process to the programs**
- **Assisted the programs in measurement planning**

Contact Information



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