



Supplier Program Management

Improving Supply Chain Performance

John Harnagel, Boeing

Discussion Topics

Supplier Program Management | NASA PM Challenge

- **Business Environment Driving Supplier Program Manager's**
- **Boeing Supplier Program Management Approach and Concept of Operations**
- **Alignment of Boeing Program Management with Supplier Management**
- **Improved Boeing Program Management Results**
- **Leadership Support and Key Message**
- **Summary**

Business Environment

Supplier Program Management | NASA PM Challenge

- **Customers and program supply chains are more global, multiple tiered, and very complex on most projects today**
- **Programs reliance on supply chain is increasing and likely will continue**
- **Sourcing strategies for programs require more collaboration and early supply chain involvement**
- **Cost, schedule, quality, risk management, and predictive performance indicator metrics are very critical at all supply chain tiers**
- **Mergers, acquisitions, divestitures are constantly changing the supply chain**
- **Supplier relationships and integration with programs are critical to success**
- **Supply chain management skills changing from traditional functional roles and responsibilities**

Increasing Reliance on Supplier Performance

Supplier Program Management | NASA PM Challenge

Past

Present

Future

Traditional Manufacturing

- Vertically integrated capabilities
- Limited outsourcing

Value Chain Mgmt Focus

Supply Chain Mgmt Focus

- Prime flow down provisions
- Leading vs. lagging performance metrics
- Risk management
- Supplier integration

Systems-of-Systems

- Decreased internal production
- Increased subcontract complexity
- Cost reduction for production programs
- Cost containment for development programs

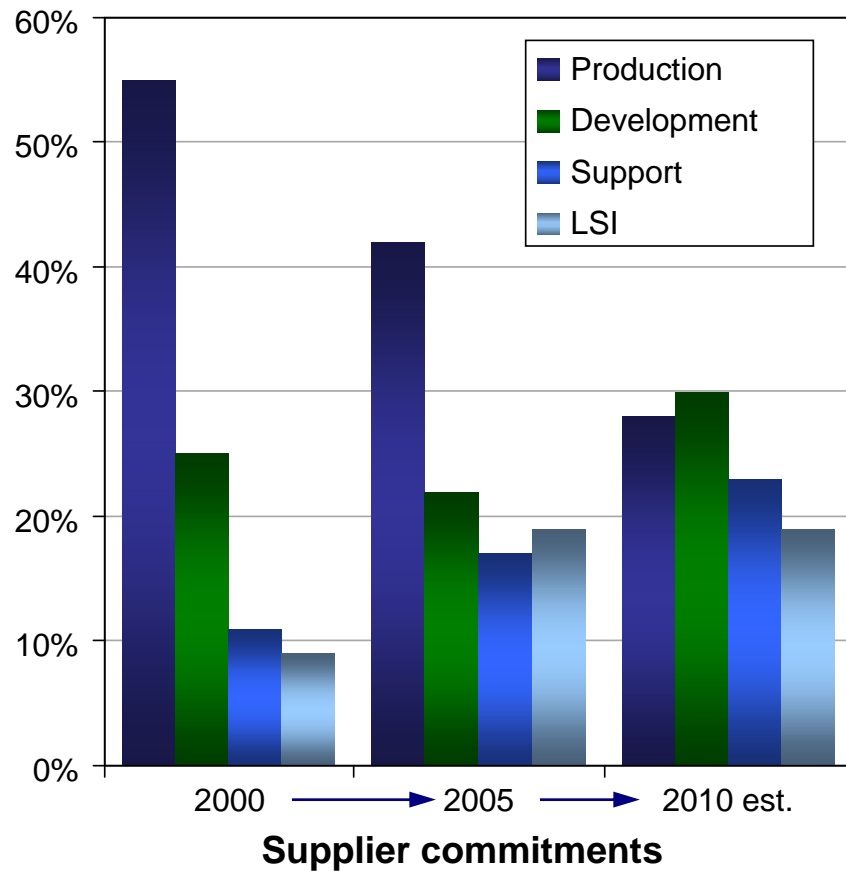
Boeing Vision 2016

“Our entire enterprise will be a lean operation, characterized by the efficient use of assets, high inventory turns, excellent supplier management, short cycle times, high quality, and low transaction costs.”

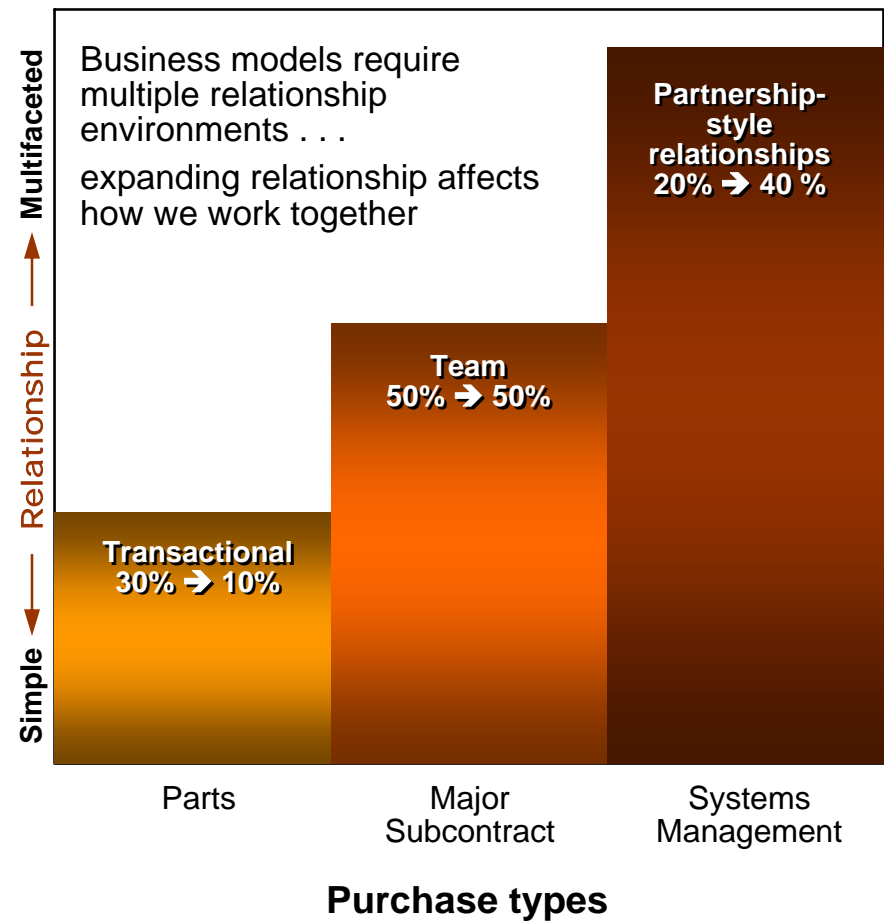
Supply Chain Business Model

Supplier Program Management | NASA PM Challenge

Changing Model Mix



Changing Relationships



Best Practice Alignment

Supplier Program Management | NASA PM Challenge



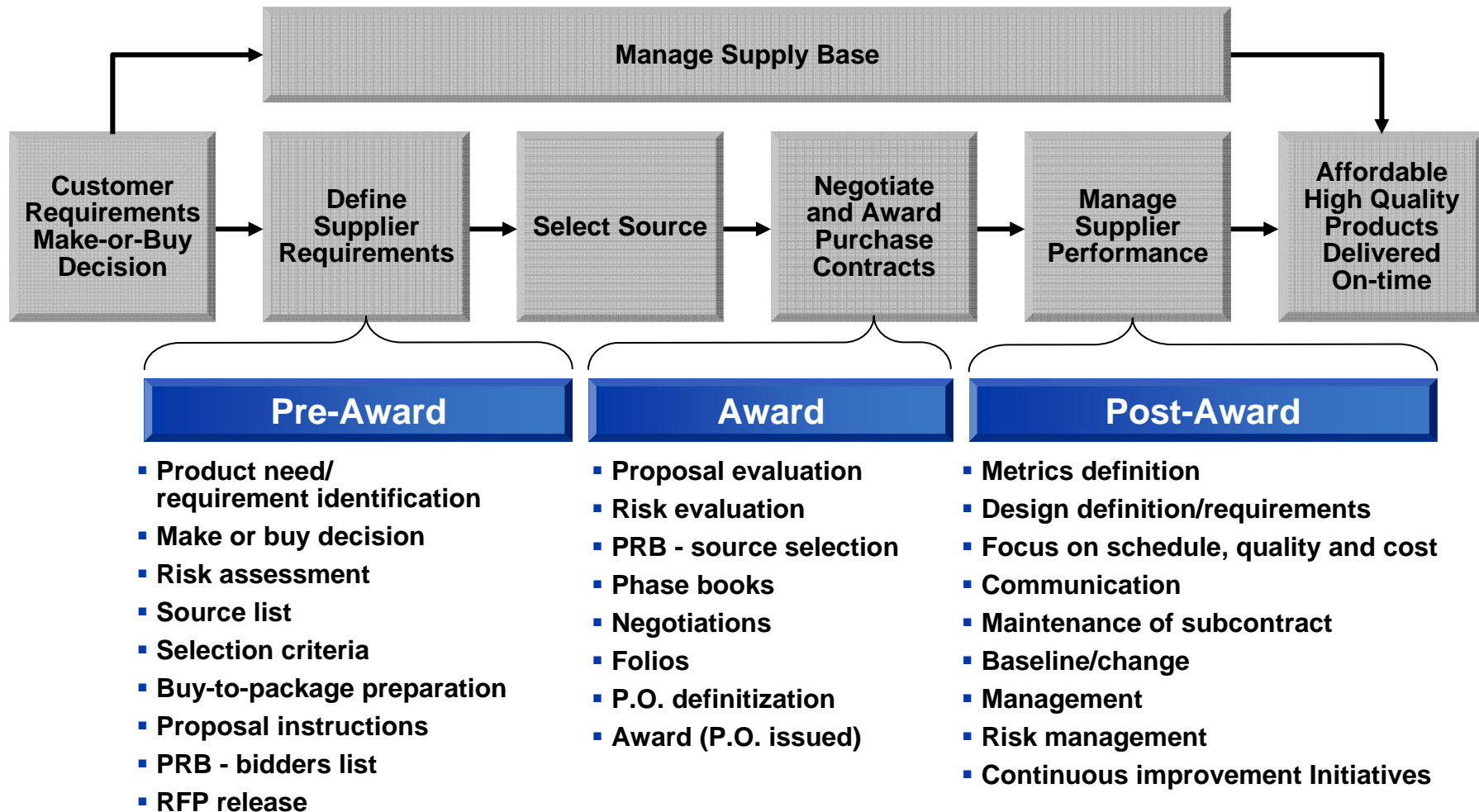
Supplier Management Best Practices

- SM Management Process
- SM Planning
- Early Supplier and SM Involvement
- Common Source Selection
- Supplier Integrated into Decisions
- Supplier Relationships
- Organization Responsibility
- Affordability and Cost Target
- Supplier Requirements
- Configuration Management
- Metrics and Performance Review
- Integrated Schedule and Cost
- Supplier Quality Mgmt
- Sub-tier Supplier Management
- Risk, Issue, and Opportunity Mgmt
- Supplier Continuous Improvement
- Communication

Supplier Program Managers Support Implementation of Program Management and Supplier Management Best Practices

SPM Role in the Supplier Management Life Cycle

Supplier Program Management | NASA PM Challenge



Where are SPMs needed?

Supplier Program Management | NASA PM Challenge

- **SPM deployment is dictated by:**
 - **Complexity of procured parts/program**
 - **Criticality of procured parts, level of change activity**
 - **Stage/maturity of program, length of program**
 - **Dollar amount committed to suppliers**
 - **Risk, issue and opportunities with suppliers**
 - **Overall program health**
 - **Program or supplier strategic importance to boeing**
 - **Program product organization chart structure**
 - **Program RAA structure**
 - **Program transition from advanced systems to programs**

Value of SPMs to the Program

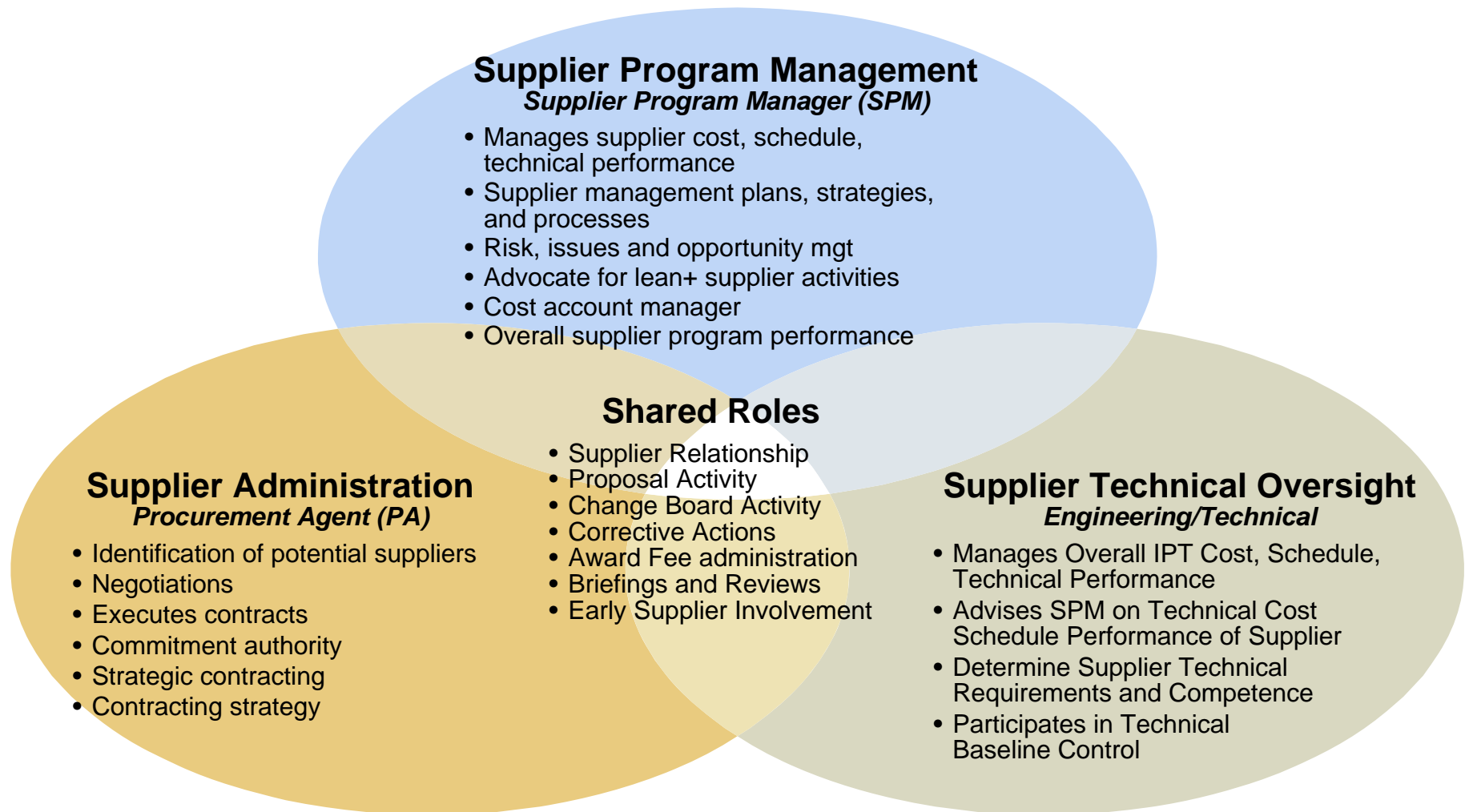
Supplier Program Management | NASA PM Challenge

- **Allows the IPT lead and team to concentrate on integration and engineering issues**
- **Creates a point person for issues with the supplier both for technical and business issues**
- **Provides consistent communication with each major program partner**
- **Provides person devoted to analyzing trends to ensure risk mitigation is implemented**
- **Coordinates and prioritizes changes as development programs progress**

Works with all IPTs and Partners to ensure program success

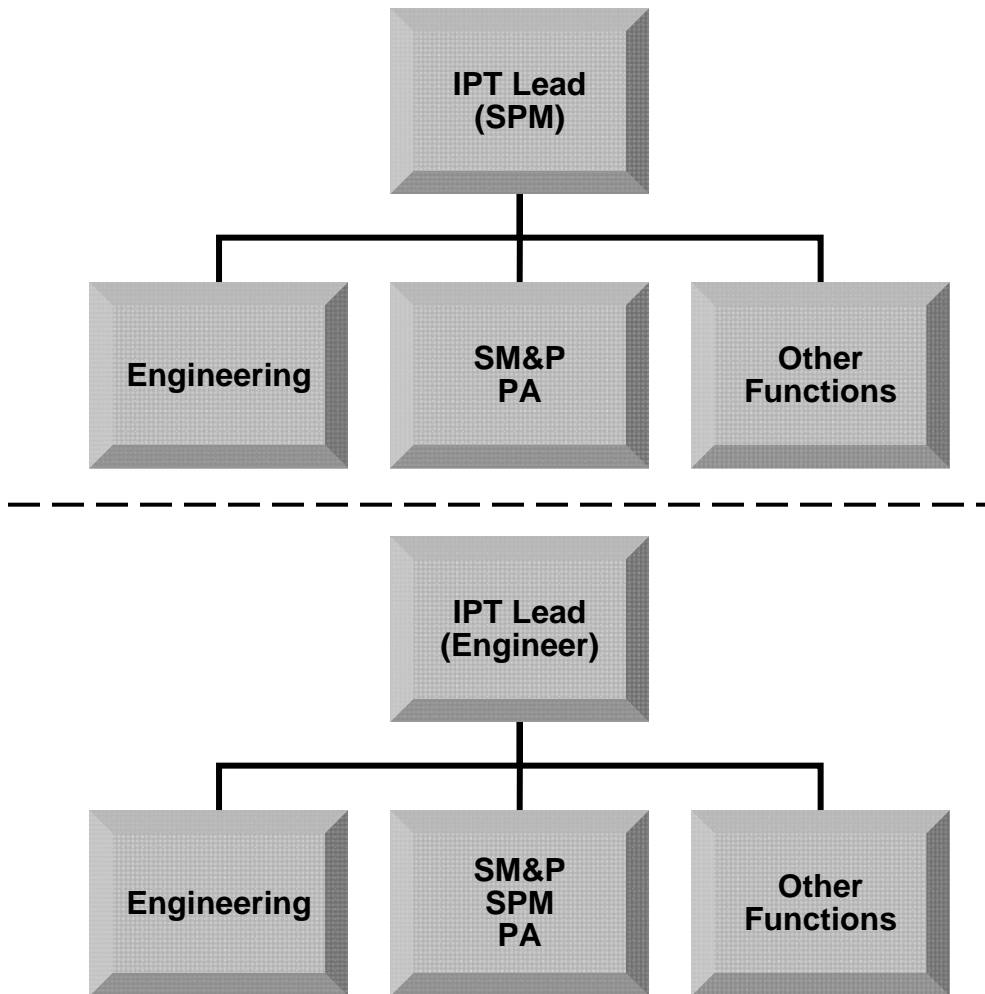
Integrated Product Team Structure Roles

Supplier Program Management | NASA PM Challenge



Organizational Structures – IPT Options

Supplier Program Management | NASA PM Challenge



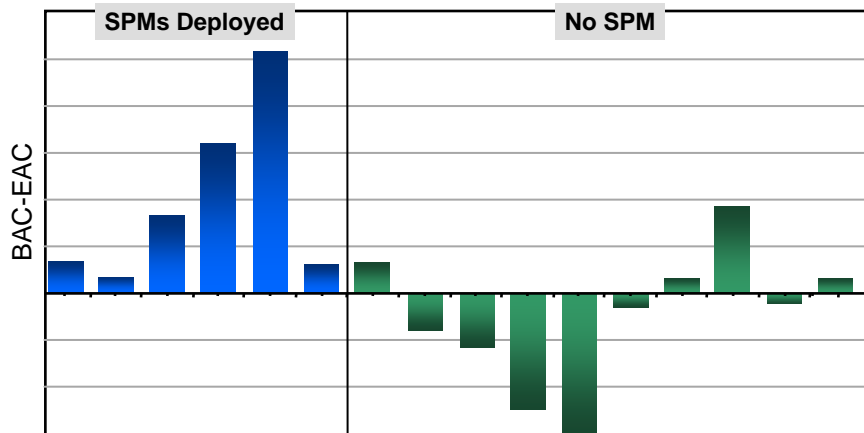
- **SPMs can fit into organizations several ways**
 - IPT lead
 - IPT member
 - Work across several IPTs
 - Work across several programs
 - Direct report to Program Manager

SPMs Improve Program Performance

Capturing Value with Business/Technical Balance

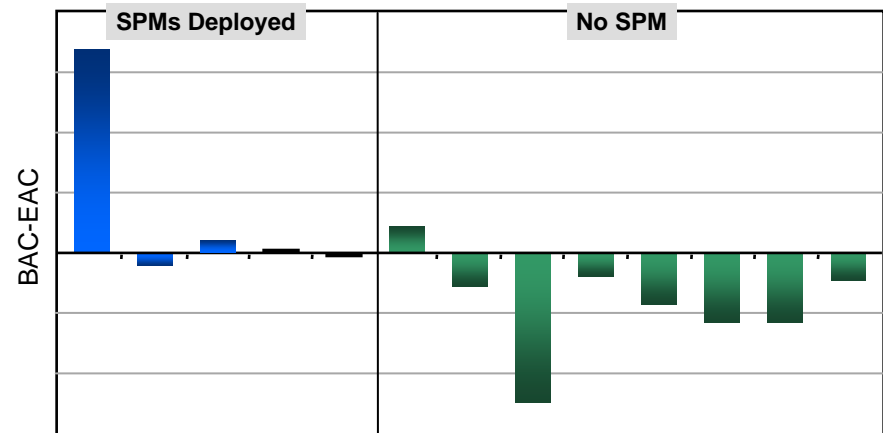
Supplier Program Management | NASA PM Challenge

BAC-EAC Full-rate Production Programs



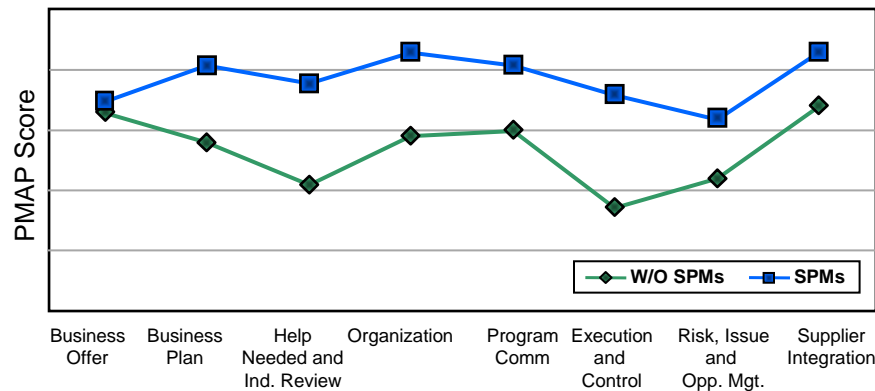
2006 Various Full Rate Production Programs

BAC-EAC Low-rate Production and SDD Programs



2006 Various Low Rate Production and SDD Programs

PMBP Scores With and Without SPMs



- **Better financial performance on programs with SPMs**
 - Statistical difference shown
- **Significantly higher PMBP scores**
 - Aggregate score 1.2 points or 44% higher

Specific SPM Program Results

Supplier Program Management | NASA PM Challenge

▪ Impact to Supplier Integration

- A single Boeing program focal which partners with the supplier to establish a stronger relationship and mitigation plans to issues
- Better implementation on change activities – fewer surprises
- A positive working together environment

Specific SPM Program Results (continued)

Supplier Program Management | NASA PM Challenge

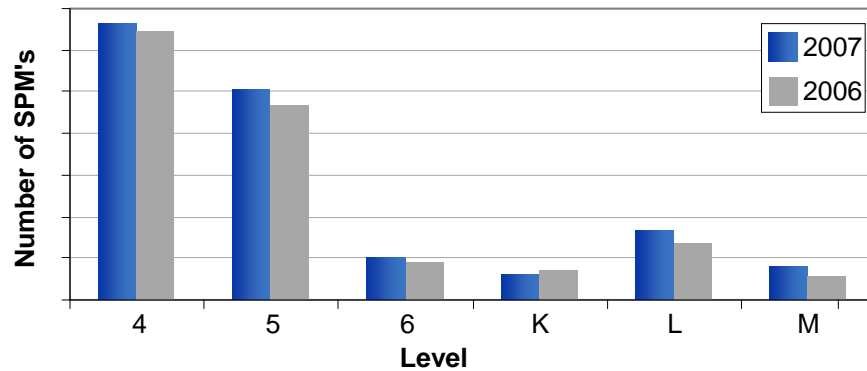
- **Benefits to Boeing and to Supplier**
 - **Predictable and approved cost and schedule impacts on changes**
 - **Shorter cycle time to implement change related to risk/issues**
 - **A better understanding on the leading indicators related to CAM reports and variance analysis**
 - **A single Boeing program focal for all supplier related questions and concerns**
 - **A stronger teaming alliance between boeing and the supplier**
 - **Implementation plans related to cost, schedule, technical and quality are effectively coordinated and worked**

Customer Benefits Through Improved Supply Chain Results

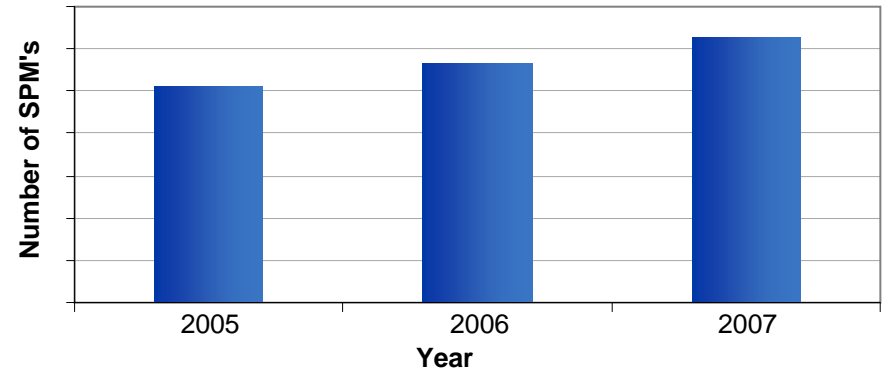
IDS Deployment of SPMs

Supplier Program Management | NASA PM Challenge

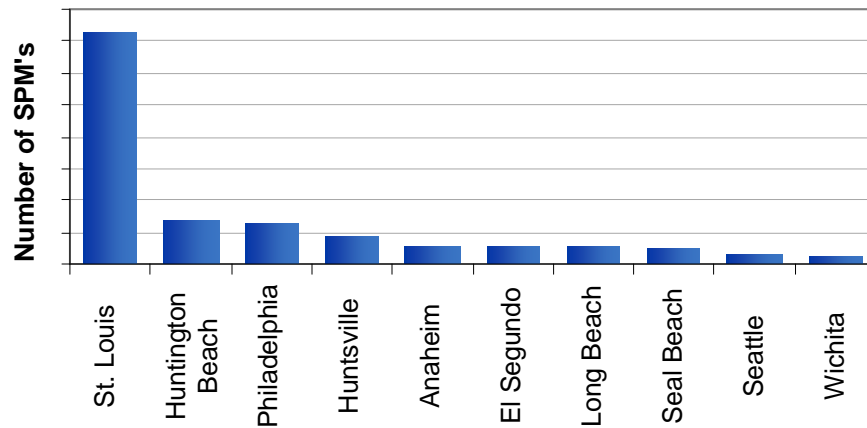
SPM's by Level (2006 and 2007)



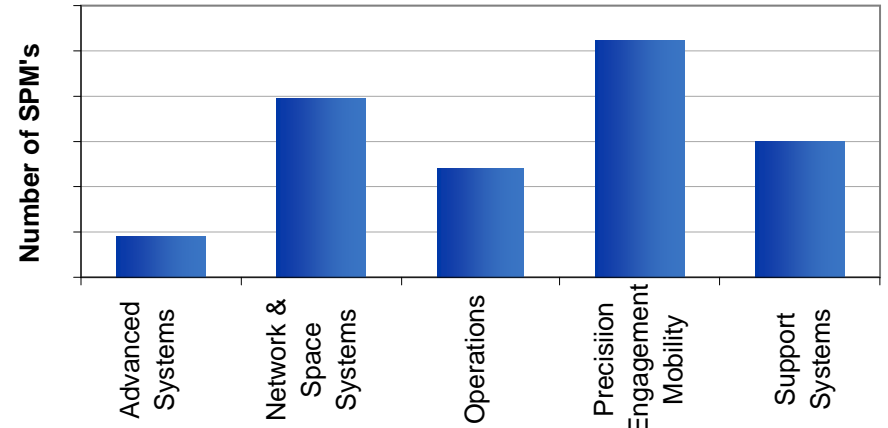
SPM IDS Population



Top Ten SPM Sites by Population



SPMs by Division



SPM Skills Needed

Supplier Program Management | NASA PM Challenge

▪ Skills and attributes for SPMs

– Technical and business acumen

- Engineering bachelors degree or equivalent demonstrated technical ability preferred
- Business or finance masters degree desired

– Experience:

- Level 4 (9-13 yrs), level 5 (14-19 yrs), level 6 (20+ yrs)

– Experience working with suppliers

– Communication

– Creative problem solving, decision making

– Increase productivity understanding (lean/six sigma)

– Risk, issue and opportunity management

– Project management

– Supply base understanding

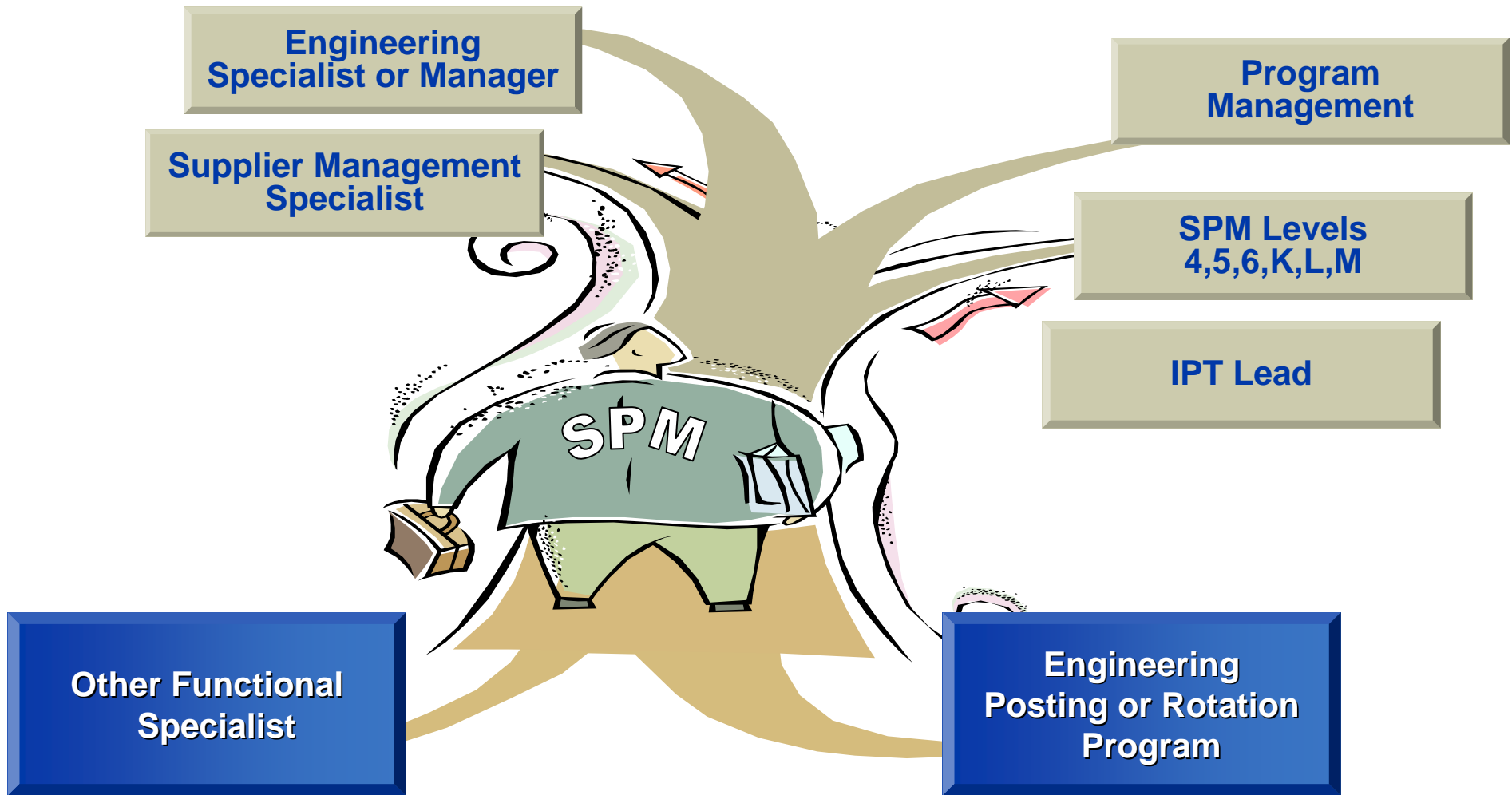
– Leadership – charts the course, set high expectations, inspires others, finds a way, delivers results



**SPM has been defined as
one of six Critical Skills by the IDS Leadership Team**

SPM Career Path Options

Supplier Program Management | NASA PM Challenge



Tailored SPM Training and Approach

Supplier Program Management | NASA PM Challenge

■ Initial Training (First Month)

- SMU Overview Course (1 day)
- Development of a Supplier Management Plan (1 day)
- Shadow Procurement Agent (1 day)
- Specific Process Tools Access and Usage
- Mentor/Protégé relationships with current SPMs

■ 3 Month Training

- Begin SPM Workshop (In class and work assignments)

■ Long Term Training

- Complete SPM Workshop (Program to be deployed in 2007 by LTD)
- SMU (Practices, Application Strategy)
- Leadership, Program Management, Risk, Issue and Opportunity Management, Productivity
- Mentor/Protégé relationships with current SPMs

Leadership Support for SPMs

Supplier Program Management | NASA PM Challenge

- **John Tracy, VP of Engineering Operations and Technology:**

“As we work more as an LSI, it's critical that our suppliers clearly understand our engineering requirements and develop systems that meet them. The Supplier Program Managers are in a pivotal position to assure that our integrated systems will meet our customer's needs.”

- **Steve Goo, VP of PM&BE:**

“Supplier Management is very important to programs today and will be even more important in the future. I believe one of the most valuable things a person can do to prepare themselves to be a Program Manager is to be a Supplier Program Manager. It is a key step along the Program Manager career development path.”

- **Pat Finneran, President Support Systems:**

“Program Management, Supplier Management and Systems Engineering are key competencies needed to lead the execution of any program. The skill and experience an employee will gain as a Supplier Program Manager will position them for future growth in the organization and position our company to continue to excel.”

Summary

Supplier Program Management | NASA PM Challenge

- **Today's programs are complex, high tech, and global with extensive supply chains**
- **Supply chains are continually changing requiring focused attention**
- **Program performance is reliant on supply chain performance at all tier's and does not stop at first tier only**
- **Boeing supplier program manager's approach is improving performance**

Shared Destiny is Mission Success

