The Joint Partnership between Program Management & Systems Engineering on Support System Program

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and

Mark Keller

Topics of Discussion

- Overview

- The Partnership Umbrella
  - Program Management (PM)
  - Systems Engineering (SE)
  - Interrelationships Between PM and SE

- Systems Engineering Process Stabilization & Enhancement
  - Contractor Performance Assessment Reporting (CPAR) Review
  - Project Performance Assessment & Review Process
  - Program Management Best Practices (PMBP)
  - Systems Engineering Best Practices (SEBP)

- Users of the Systems Engineering Process at Multiple Organization Levels

- Total System Support Responsibility (TSSR)

- Conclusion

Overview

Support System Program

- Provide warfighter sustainment that guarantees readiness, aircraft availability, and affordability

Program Management

- Management of key program items, such as costs, timely delivery, people, quality, and risks

Systems Engineering

- Ensures common application of Systems Engineering processes, implementation, and execution to facilitate program and mission success

Program Management and Systems Engineering, along with government and industry best practices, become interdependent to successfully monitor, measure, manage and execute Support System Integration activities

= Warfighter Sustainment

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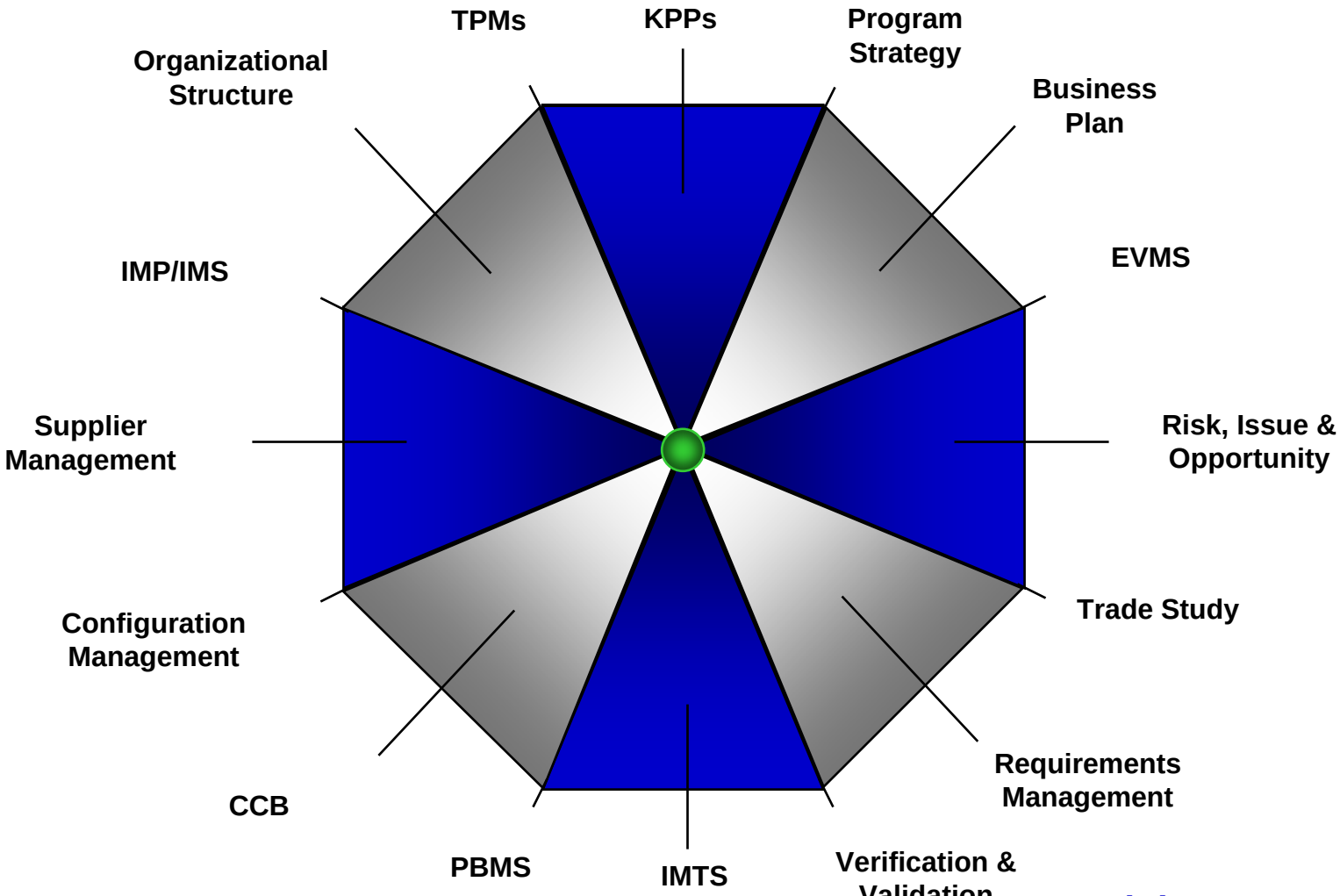
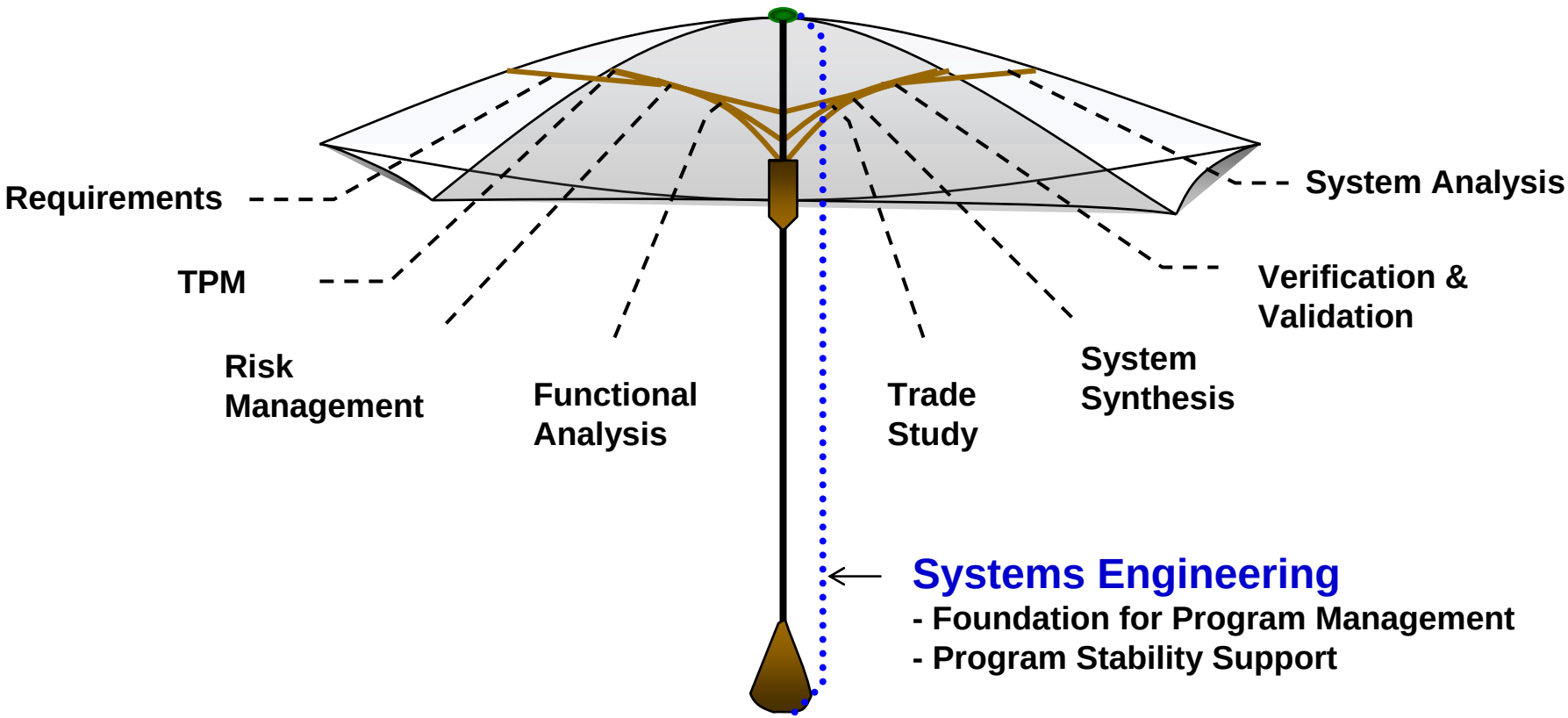
The Partnership Umbrella: Program Management

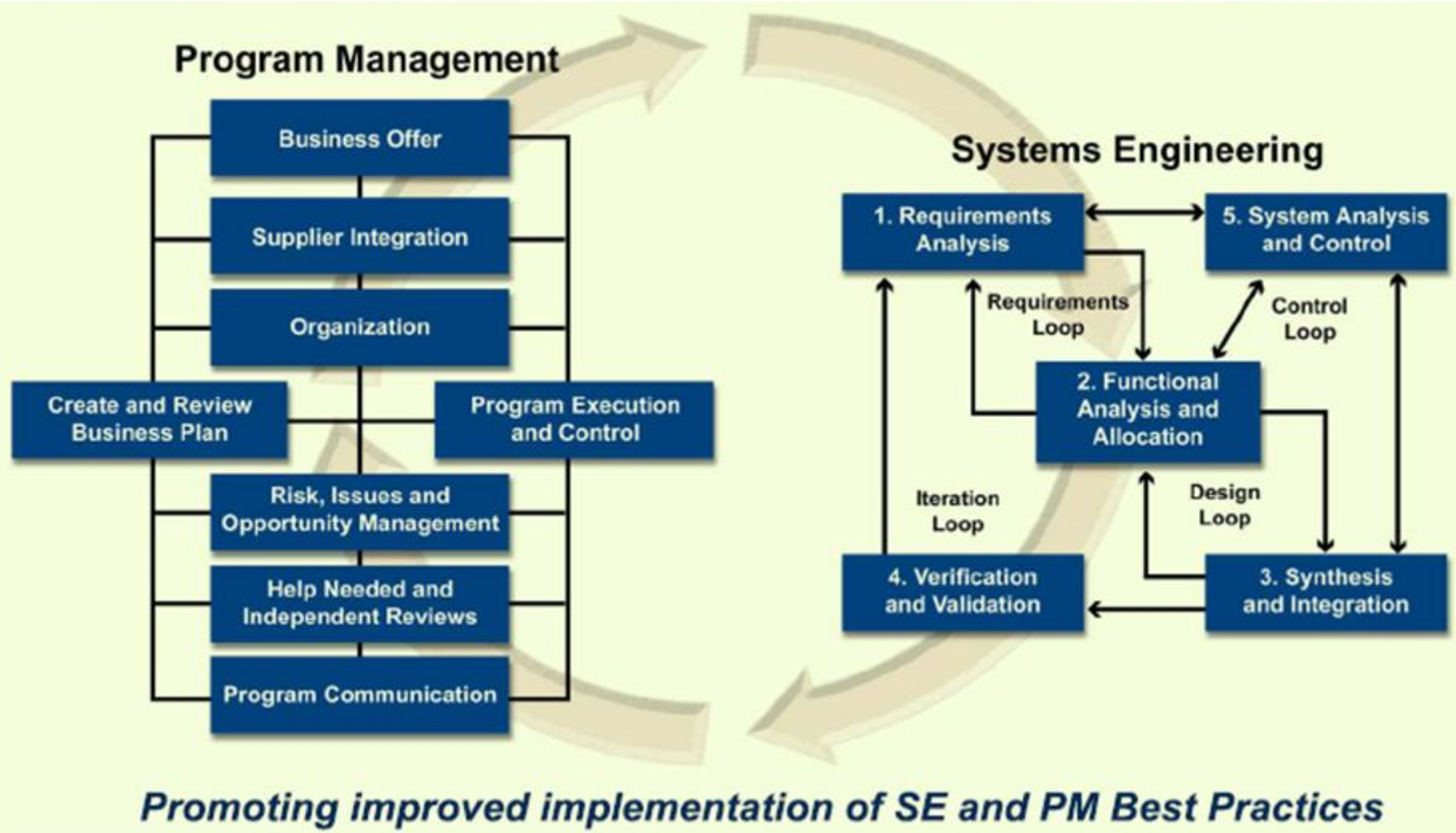


…and there's many more.

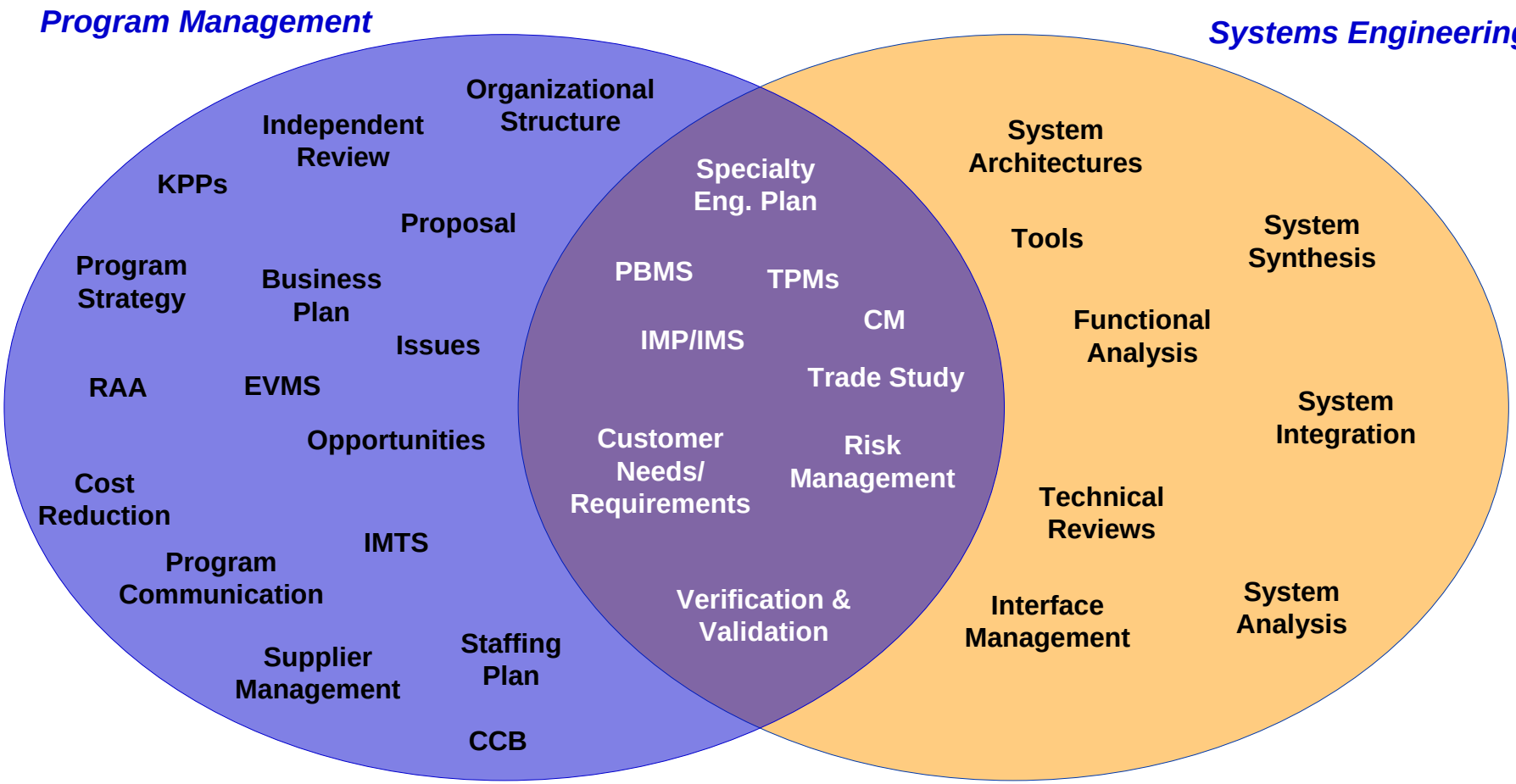
The Partnership Umbrella: Systems Engineering



The Partnership Umbrella: Interrelationships



The Partnership Umbrella: Interrelationships



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SE Process Stabilization & Enhancement (examples)

- Systems Engineering Supporting Program Management
  - Provide Systems Engineering Processes
  - Perform Assessments & Best Practices
    - Contractor Performance Assessment Reporting (CPAR) Review
    - Project Performance Assessment & Review Process
    - Program Management Best Practices (PMBP)
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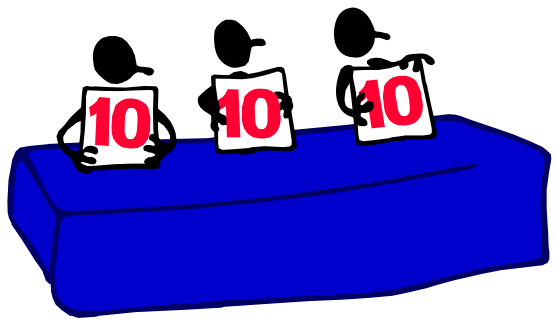
- Assessments & Best Practices provide total visibility on strengths and weaknesses in Systems Engineering as well as progress of improvement efforts



Contractor Performance Assessment Reporting (CPAR)

- Objectives:
  - Ensure that accurate data on contractor performance is current and available for use in source selections
  - Consistently provide quality, on-time products and services that conform to contractual requirements
  - Effectively communicate contractor strengths and weaknesses to source selection officials

- Systems Engineering Supporting Program Management:
  - Use Award Fee Rating Criteria
  - Review Customer's AFAST Database
  - Review Award Fee Review Charts
  - Review Project Integration Weekly Reports
  - Field Service Weekly Reports

Project Performance Assessment and Review Process

- Objectives:
  - To rate, assess, and report project performance to management and the customer
- Systems Engineering Supporting Program Management:
  - Review Technical Performance Measurement
  - Review Systems Engineering Compliance
    - Requirements, Risk, Verification, Formal Review, and Critical Action Item(s)
- Support Systems Supporting Program management:
  - Review Support Systems
    - Tech Orders, Support Equipment, Spares, and Repair of Repairable
  - Review Trainings
    - Maintenance ‘Type-1’ Training
    - Retro Training

Program Management Best Practices (PMBP)

- Objectives:
  - To achieve successful program development, implementation and support based on an integrated set of Program Management Best Practices

- Systems Engineering Supporting Program Management:
  - Review maturity level for program execution & control
  - Use program execution & control best practice criteria
    - Allocation and traceability of program requirements
    - Identification of Program-level KPPs
    - Allocation and traceability of TPMs

Business Proposition	***Business Plan***	***Program Execution & Control***	***Organization***
Program Communication	***Supplier Integration***	***Risk, Issue & Opportunities***	***Help Needed & Independent Review***

Systems Engineering Best Practices (SEBP)

- Objectives:
  - Strengthen Systems Engineering
  - Maintain the Capability Maturity Model Integration (CMMI) Level 5

- Systems Engineering Supporting Program Management
  - Develop Systems Engineering Best Practices Self Assessment Plan
  - Review overall attributes associated with each of the Best Practices
  - Develop Systems Engineering Management Plan to include the Support System
  - Improve training materials
    - Requirements Management
    - Risk Management
    - Technical Performance Measures
    - Trade Studies
    - Verification & Validation
  - Provide Systems Engineering training to Project Managers

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Users of the SE Process at Multiple Organization Levels

SE ALIGNMENT

Enterprise Level

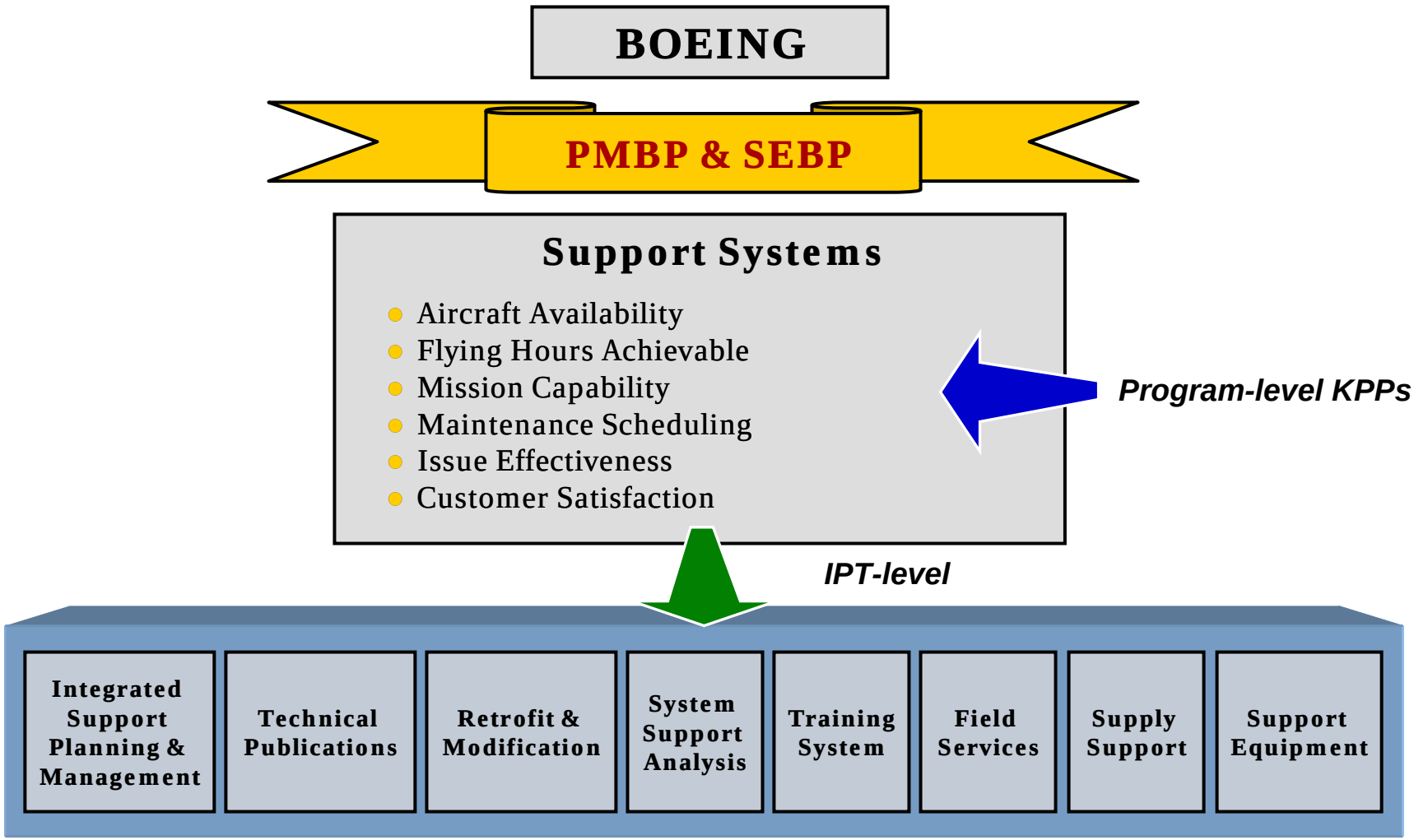
Program Level

Integrated Product Team Level

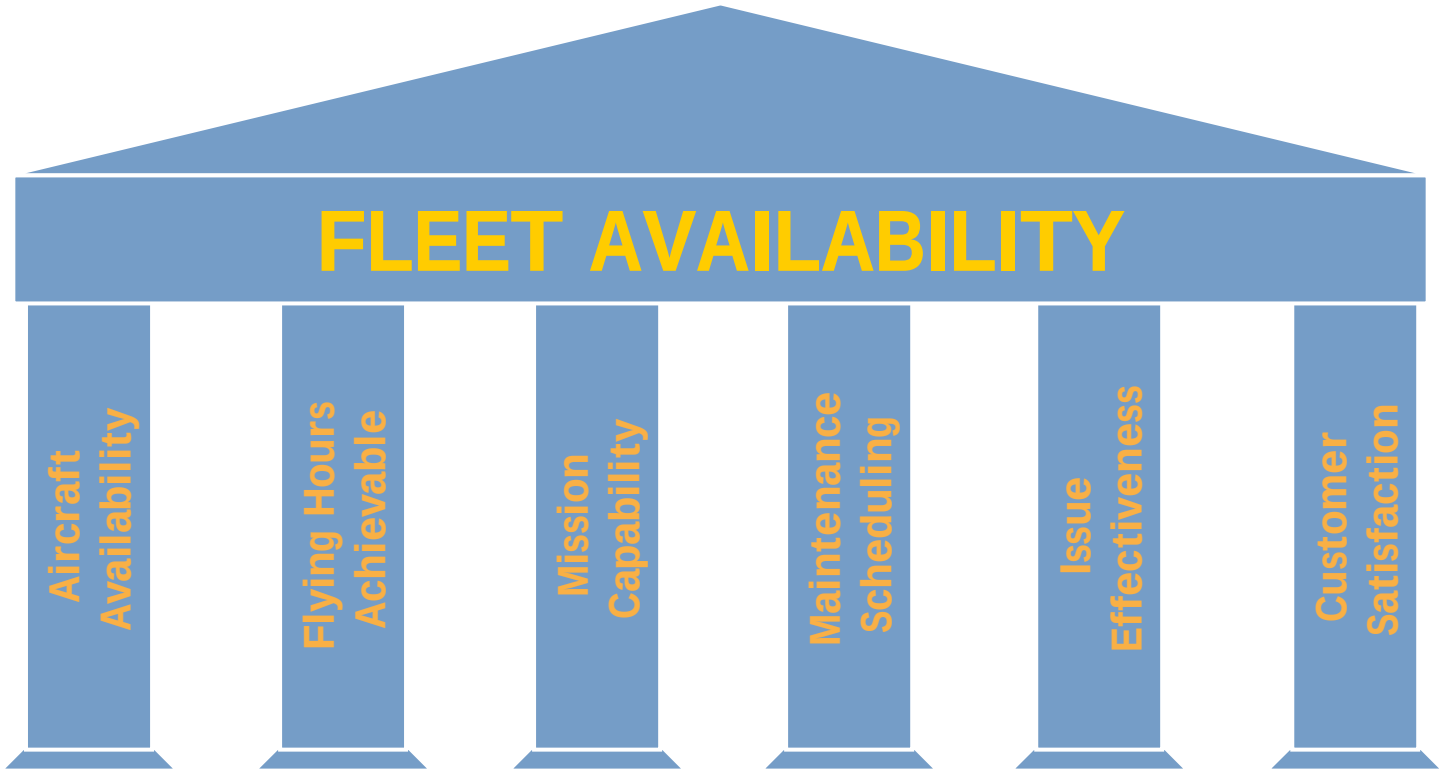
Project Level

Image Source: University of Toronto Magazine

PMBP & SEBP at Multiple Organization Levels



Six Program-level KPPs for Support Systems



AIRCRAFT AVAILABILITY AND CUSTOMER SATISFACTION ARE PARAMOUNT

Support Systems – Integrated Product Teams

Supply Support

Field Services

Training Systems

Integrated Support Planning & Management

Technical Publications

Retrofit & Modification

System Support Analysis

Support Equipment

Customer Satisfaction

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Total System Support Responsibility (TSSR)

- What is TSSR?:
  - A program built on the performance-based approach that uses the combination of best of **government** and **industry** practices to provide **support program affordability** and **improved aircraft availability**

- Benefits:
  - Provides the customer with an **affordable** and **optimum sustainment solution**: as single source that guarantees support, readiness, **availability**, **24/7 customer service**, and equates to a more **efficient**, **effective**, and **consistent support program**
  - Ability to move technical **data** into the **field faster**
  - **Directing maintenance** to each individual aircraft's **weaknesses** before **malfunctions occur**
  - Balances heavy maintenance workload and **ensures reserve capacity**

Total System Support Responsibility (TSSR) Cont'

- *Keep services affordable*
- *Increase fleet availability*
- *Reduce cycle time*

Customer Satisfaction

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Conclusion

- The synergistic partnership between Program Management and Systems Engineering on Support System Program is an essential enabler:
  - To keep services affordable
  - To increase fleet availability
  - To improve effectiveness and reduce cycle time

- Benefits to the weapon system
  - More responsive to mission demands
  - Higher quality services & products
  - On time deliveries – reduced depot time
  - Increased weapon system availability

Conclusion

- Benefits to the Customer
  - Reduced cycle times
  - Easier to execute purchasing arrangements
  - Fewer transaction
  - Lower support costs

- Benefits to suppliers
  - More predictable, longer term business
  - Strategic, focused relationships
  - Fewer, higher-value contracts
  - Lower overhead costs

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Thank you!

Questions? | **We might have answers…**


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