Lean Aircraft Initiative
Plenary Workshop

Program Director Welcome

October 8, 1997

Presented By:

Earll Murman
MIT

Today's Introduction

- Phase II Vision
  - Vision Statement
  - Workshop Theme
- Recent Significant Events
  - LAI Space Sector
  - Lean Sustainment
- Current LAI Research and Products
- Workshop Notes

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Vision Statement

"To significantly reduce the cost and cycle time for military aircraft throughout the entire value chain while continuing to improve product performance."

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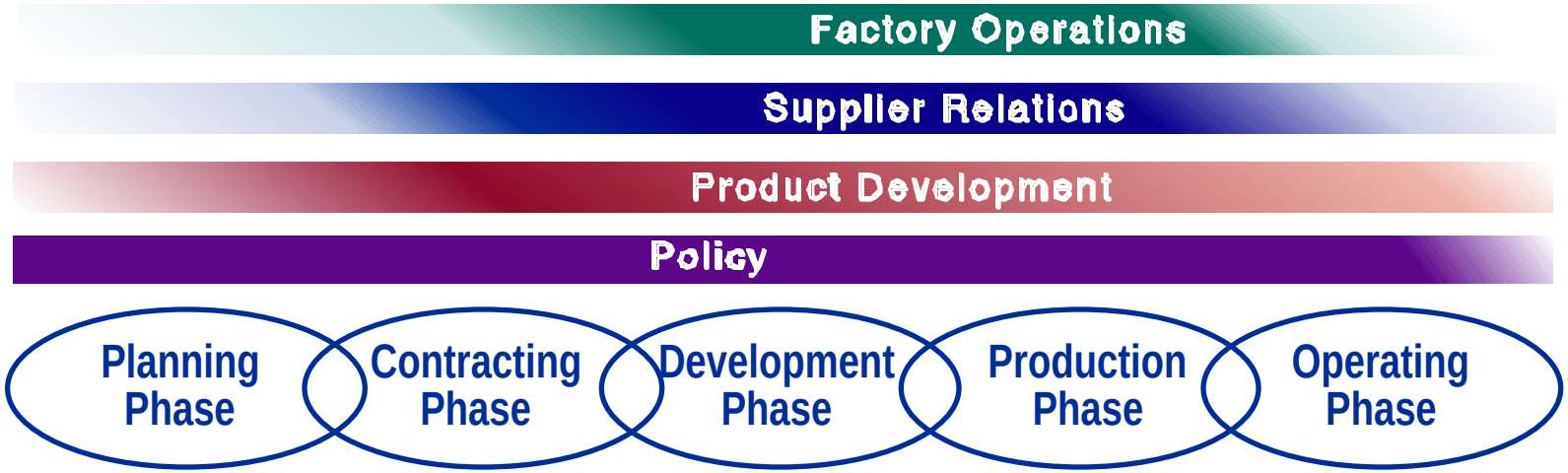
Product Life Cycle and Current LAI Research



Schedule Development

Process Redesign & Management

Design Structure Matrix

IPPD Process

First Time Capability

Commercial Cycle Time Reduction

Set Based Design

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Recent Significant Events

- Executive Board Meeting with Policy Recs. forwarded to DoD
- Web LEM Testers Group formed
- Industry Days - Jim Sinnett speech on LAI
- Lean Space Quick Look briefing to General Dekok, USAF SMC
- LAI Feature Article in Aviation Week
- IPPD Implementation Workshop
- Program Director Rotation (Harris to Murman)
- Second Round LAI Site Visits Begin
- Lean Forum IV
- LAI Executive Board Approval for Space Sector
- Policy (Program Instability) presentation at SAF/AQW "Acquisition Streamlining Conference"

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Lean Space Sector

- **Status of Implementation**
  - Lean Space IPT completed a Quick Look Study August 1997.
    - Recommended adding Space as a Sector of LAI.
    - General DeKok of SMC approved concept July 1997
  - LAI Executive Board balloting supported recommendation
  - Expect new memberships to add about $600K/yr to LAI
- **Space Sector Focus Team**
  - Informal meeting today 4-6 p.m.
  - Research focus on specific interests of Space Sector
- **Existing LAI Focus Teams expanded to include space related issues as appropriate**

MIT	Industry	Government
Dr. Joyce Warmkessel	Frank Goodell	Art Temmesfeld

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Lean Sustainment Initiative

- **Key Partners**

  MIT, WL/MT, HQ AFMC/LGL, ALCs

  – **$1M start-up phase**

- **Near Term Goal**

  To make lean principles, practices, and change strategies available to the Lean Logistics (LL) community.

- **Long Term Goal**

  To help design and implement a lean U.S. Air Force sustainment system for early twenty-first century.

- **Emphasis**

  Systematic, quantitative research producing immediate implementation strategies

MIT	Government
Wesley Harris	Dan Brewer

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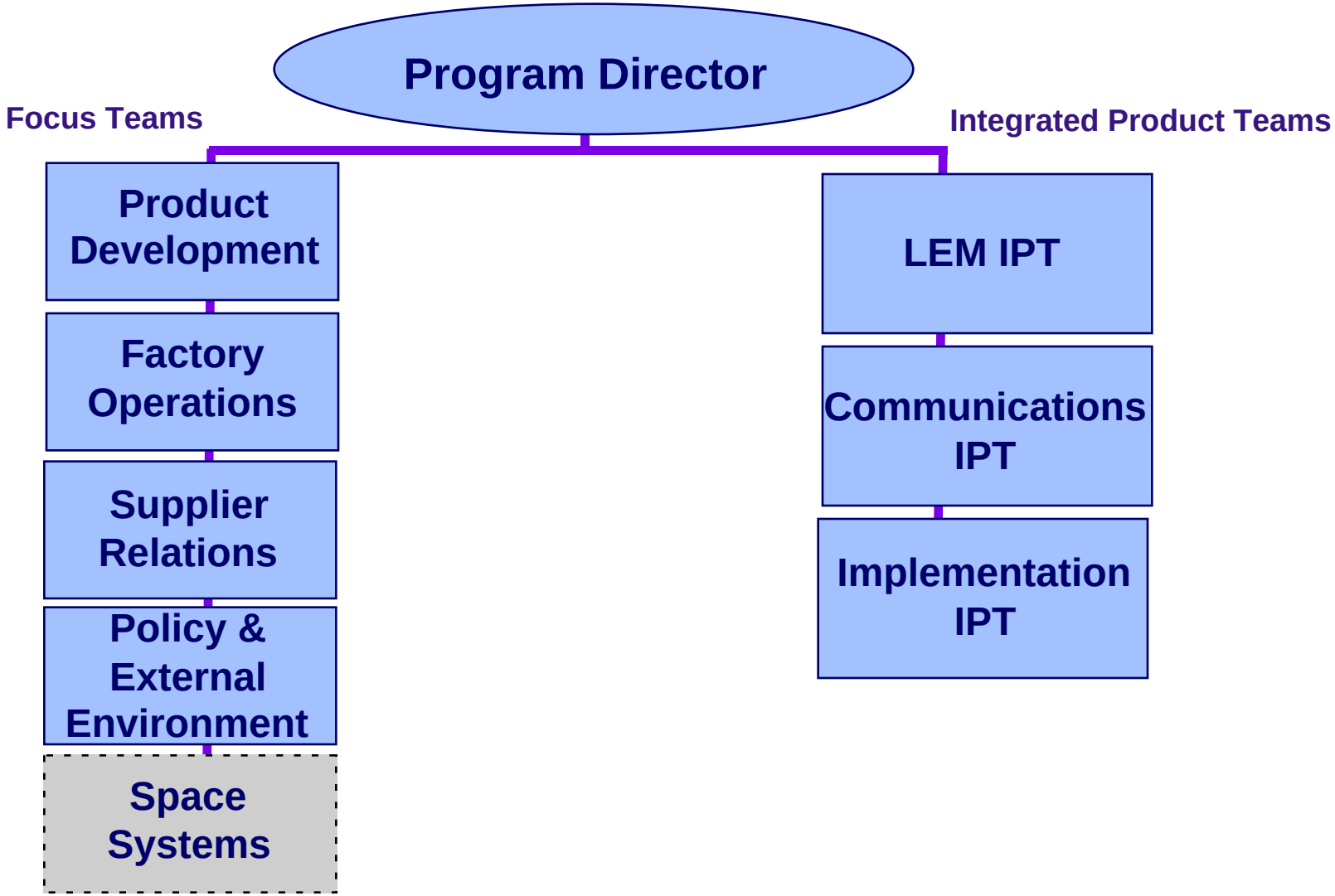
LAI Organization



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Product Development Focus Team

- **Research activities**
  - Data gathered & analyzed; major conclusions drawn on DoD product development cycle time
  - Case study of Design Structure Matrix application
  - Case study of key characteristics applied to a major Air Force program in progress
- **Research products**
  - Software Factory research report
  - Product Development architectural innovation through Early Supplier participation research report (w/SR team)
- **Research plans**
  - Risk Management study
  - Key Characteristics
  - IPT Effectiveness Study; Early Supplier Integration (w/SR team)
  - Technology Adoption Study

MIT	Industry	Government
Earll Murman	Ray Summers	Bob Deem
John Deyst		

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Factory Operations Focus Team

- **Research activities**
  - Complex Manufacturing System Research completed on the engine sector
- **Research products**
  - Flow Benchmarking report on-line on web
  - Hypothesized lean implementation model report ready for review
- **Research plans**
  - Complex Manufacturing System Research on the airframe sector
  - Transition to production study

MIT	Industry	Government
Tim Gutowski	Fred Stahl	Brian Townsend
Tom Shields		

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Supplier Relations Focus Team

- **Research activities**
  - Make-buy decisions; early supplier integration
  - Technology supply chain management
  - Engineering changes over the supplier network
- **Research products**
  - Master's thesis on make-buy decisions
  - Report on early supplier integration
  - Report on forming close ties with suppliers
- **Research plans**
  - Transition to commercial practices
  - Information infrastructure

MIT	Industry	Government
Kirk Bozdogan	George Reynolds	Mick Hitchcock
Charlie Fine		

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Policy and External Environment Focus Team

- **Research activities**
  - Economic incentives field research completed for electronics and airframe sectors, started for engine sector
  - Acquisition reform (comm'l practices) impact survey
- **Research products**
  - Program instability briefings to Dir. Program Integration OUSD(A&T), SAF/AQ Sr. Acquisition Leadership Conference
- **Research plans**
  - Economic incentives research in engine sector, supplier survey
  - Complete acquisition reform (comm'l practices) impact survey effort, begin commercial practices definition research
  - Begin lean user research

MIT	Industry	Government
Wes Harris	Jim Bodine	Col. Bob Kayuha
Eric Rebentisch		

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Lean Enterprise Model IPT

- **Research Activities**
  - **Web LEM**
  - **New module exploration**
  - **LEM data collection expanded**
- **Research plans**
  - **LEM update in March 1998**
  - **New module development**

MIT	Industry	Government
Deborah Seifert	Ed Harmon	John Cantrell

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Communications and Implementation IPTs

Communications IPT: Working to build awareness and understanding of lean principles and practices

- Communications Survey
- On-line Success Story Form
- LAI "Toolkit"Development (Communication Products)
- Deneen Silviano, MIT; Bob Reifenberg, Gov't; Carol Federspill, Industry

Implementation IPT: Facilitating implementation of lean practices within LAI member organizations

- Hands-on workshops:
  - High Performance Work Organizations (Feb 1997)
  - Integrated Product and Process Development (Aug 1997)
- Joel Cutcher-Gershenfeld, MIT; John Cantrell, Gov't; Mike Packer, Industry

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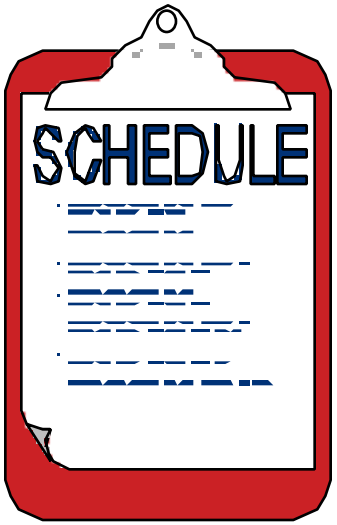
Workshop Notes



- Presentations are available in the take-home workshop notebook; also on our web site as of 10/16/97
- Limited business services are available – see registration desk
- Two scheduled breaks - please keep program running smoothly by adhering to times
- Interactive workshop - small group discussions and break-out groups
- Refer to welcome package for complete list of scheduled meetings and room assignments
  - Evening Team Meetings
  - 6:00p.m. buffet dinner

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