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
Vision Statement

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

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<th>MIT</th>
<th>Industry</th>
<th>Government</th>
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<td>Dr. Joyce Warmkessel</td>
<td>Frank Goodell</td>
<td>Art Temmesfeld</td>
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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
Wesley Harris

Government
Dan Brewer
LEAn AIRCRAFT LEAN AIRCRAFT INITIATIVE

LAI Organization

Program Director

Focus Teams

Product Development
Factory Operations
Supplier Relations
Policy & External Environment
Space Systems

Integrated Product Teams

LEM IPT
Communications IPT
Implementation IPT

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• **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**
Earll Murman
John Deyst

**Industry**
Ray Summers

**Government**
Bob Deem
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**
- Tim Gutowski
- Tom Shields

**Industry**
- Fred Stahl

**Government**
- Brian Townsend
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
Kirk Bozdogan
Charlie Fine

Industry
George Reynolds

Government
Mick Hitchcock
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
- Wes Harris
- Eric Rebentisch

Industry
- Jim Bodine

Government
- Col. Bob Kayuha
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
Deborah Seifert

Industry
Ed Harmon

Government
John Cantrell
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)
  - Joel Cutcher-Gershenfeld, MIT; John Cantrell, Gov’t; Mike Packer, Industry
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