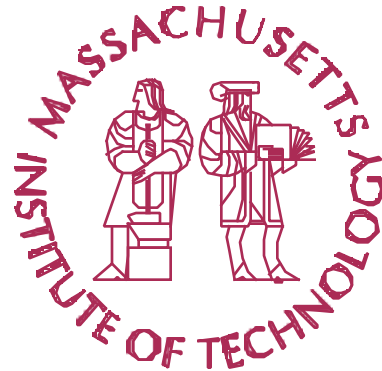


Lean Aircraft Initiative Plenary Workshop

Product Development Team



October 8, 1997

Presented By:
John Deyst
MIT

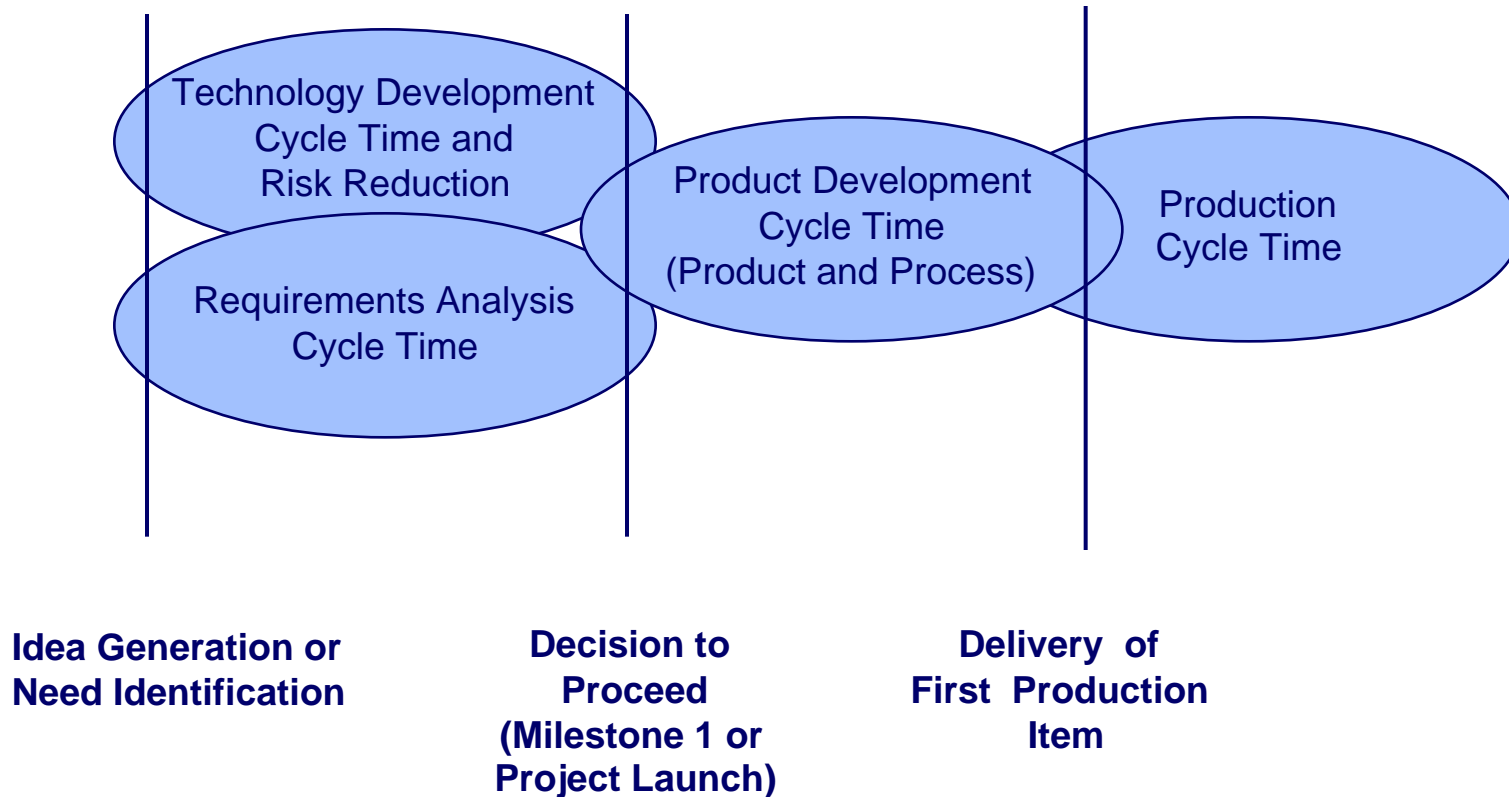
**LEAN AIRCRAFT
INITIATIVE**

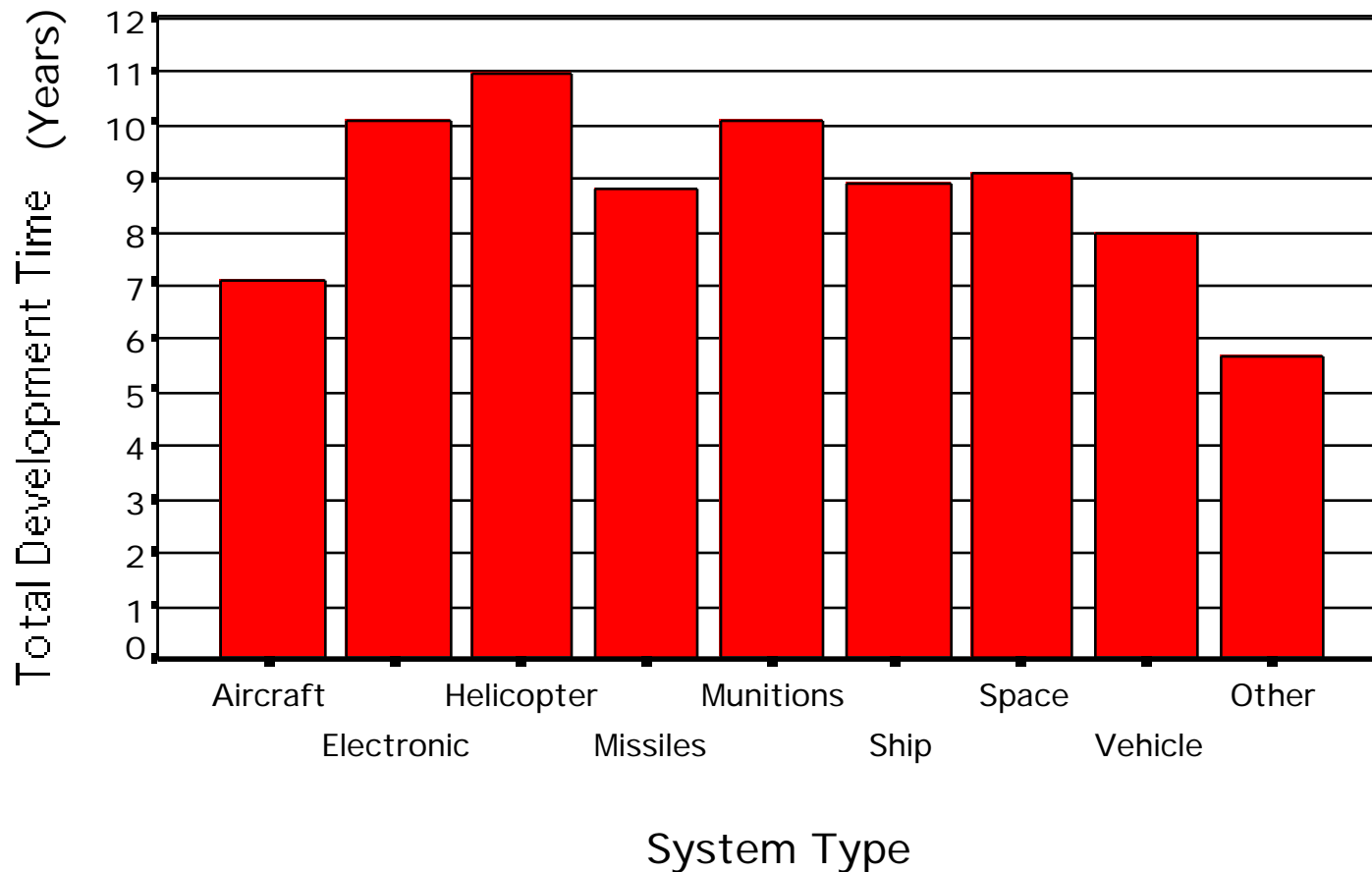


Product Development Cycle Time Reduction

Research and Framing

Cycle Time Structure

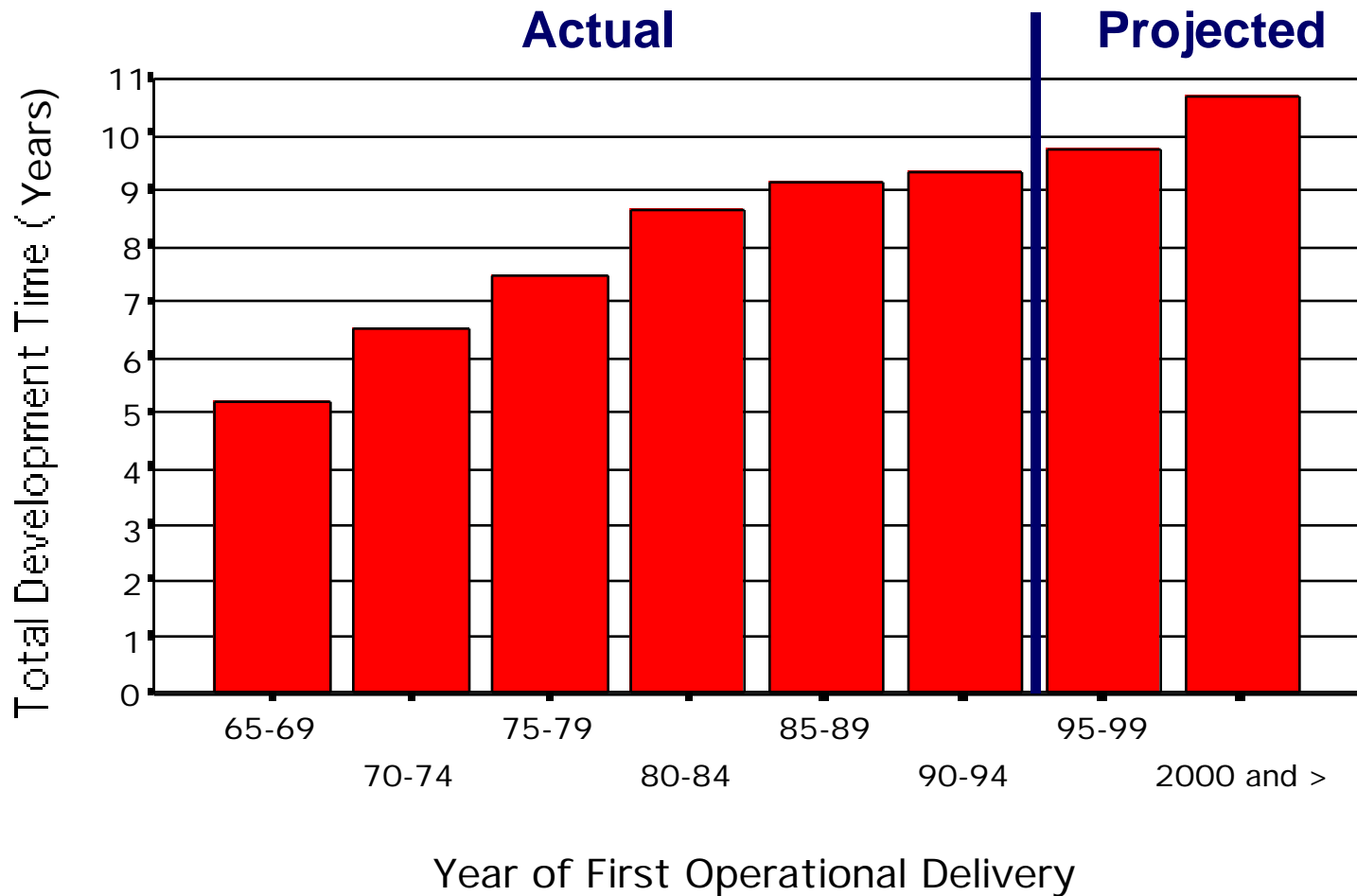




**All Major Defense Acquisitions Programs. Milestone 1 to First Operational Delivery
Data from RAND Selected Acquisition Report Database. Current as of Dec 1994.**

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DoD Product Development Time



**All Major Defense Acquisitions Programs. Milestone 1 to First Operational Delivery
Data from RAND Selected Acquisition Report Database. Current as of Dec 1994.**

Commercial Cycle Time Reduction Efforts

- **Reducing Product Development Cycle Time is the Organizing Focus For Improvements in Commercial Product Development Processes**
- **‘Key to Making Changes in the System’**
- **Obvious Commercial/Competitive Advantages**
 - **Dramatic Decreases in Cycle Time Achieved**
 - **Increased Quality**
 - **Decreased Development Costs**
 - **Dramatic Increases in Number of Products**

Leading Metric of Product Development Effectiveness

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Commercial Success at Shortening Cycle Times

Industry	Old Time	Current	Goal
Automobile	7 years	2 years	<1.5 years
Commercial Aircraft	8-10 years	5 years	2 1/2 years
Commercial Spacecraft	8 years	1.5 years	1 year
Consumer Electronics	2 years	.5 years	

LAI Product Development Cycle Time Related Research

Programmatic Aspects

- DoD Schedule Process

Management and Organizational Aspects

- IPT Effectiveness
- Make/Buy Decision
- Early Supplier Integration in Design
- Design Structure Matrix (Organizations)
- Risk Management

Engineering Aspects

- Database Commonality
- Software Factory
- Design Change Reduction
- Key Characteristics
- Design Structure Matrix (Product)
- Architectural Innovation
- Technology Insertion

Research Briefing Overview

- **Programmatic Aspects**
 - “The Role of the Schedule Development Process”
 - Ross McNutt
 - Small group discussions
- **Management and Organization Aspects**
 - “Process Redesign and Management Using the Design Structure Matrix Method”
 - Tyson Browning and David Grose (Boeing, Seattle)
- **Engineering Aspects**
 - “IPPD Process and First Time Capability”
 - Mario Vitale (Boeing, St. Louis) and Tim Cunningham