**Implementation Issue**

What are the key lean principles and practices?

How do I transform my enterprise to lean?

How do I assess my progress?

**Enterprise Tool**

- Lean Enterprise Model (LEM)
- Enterprise Transition to Lean Roadmap (TTL)
- Lean Enterprise Self Assessment Tool (LESAT)
LEM Overarching Practices

Human-oriented Practices

• Promote lean leadership at all levels
• Relationships based on mutual trust and commitment
• Make decisions at lowest appropriate level
• Optimize capability and utilization of people
• Continuous focus on the customer
• Nurture a learning environment

Process-oriented Practices

• Assure seamless information flow
• Implement integrated product and process development (IPPD)
• Ensure process capability and maturation
• Maintain challenges to existing processes
• Identify and optimize enterprise flow
• Maintain stability in changing environment
Lean Enterprise Implementation Processes and Tools

Implementation Issue

What are the key lean principles and practices?

How do I transform my enterprise to lean?

How do I assess my progress?

Enterprise Tool

Lean Enterprise Model (LEM)

Enterprise Transition to Lean Roadmap (TTL)

Lean Enterprise Self Assessment Tool (LESAT)
Lean Transformation Issues

- Why do most lean transformation activities fail?
- What are the key success factors in implementing lean enterprise wide?
- How can we better assure that lean will impact bottom line results?
- Are there certain activities that are ideally performed before others?
- What is the role of senior leadership in assuring success?
Key Principles of Change Management
Apply to Lean Transformation

- Strategic Alignment
- Management Commitment
- Sense of Urgency
- Stakeholder Involvement

- Organizational Structure
- Goals and Objectives
- Transformation Plan
- Monitoring and Nurturing
Lean Transformation Requires an Enterprise Approach

Diagram showing the interconnectedness of Customer, Finance/Human Resources, etc., Supplier Network, Product Support, Product Development, and Manufacturing Operations.
Enterprise Leadership is Key Element of Success

LAI Aerospace Organizations

Productivity Index

Leadership Index

Source: D. Tonszuck, MIT Master’s Thesis, January 2000
Transition to Lean Module Concept

- Priorities
- Sequence
- Key Enablers
- “How-To’s”
- Change Mgmt. Principles

Enterprise Level Roadmap

Transition to Lean Plan
What is the Enterprise Level Transition-To-Lean Model?

Begins with a description of a Top Level Flow of primary activities referred to as “The Roadmap”

Focus on the Value Stream
- Map Value Stream
- Internalize Vision
- Set Goals & Metrics
- Identify & Involve Key Stakeholders

Then, provides descriptions of key tasks required within each primary activity

Finally, leads discussion of issues, enablers, barriers, case studies & reference material relevant to each task in a common structured framework
What Does the Enterprise Level TTL Model Provide?

- A robust path that Enterprise Leaders can follow to transition their organizations to a new plateau of “leaness”
- Efficient and effective tool that will improve the quality of thinking and awareness of Enterprise Leaders on the challenge of transitioning their organization
- Framework for cultural, organizational & change management considerations
- Guidance in making the transition process, itself, a ‘lean’ process
Enterprise Level Roadmap

**Long Term Cycle**
- **Entry**
- **Focus on the Value Stream**
- **Develop Lean Structure & Behavior**

**Initial Lean Vision**

**Short Term Cycle**
- **Focus on Continuous Improvement**
- **Create & Refine Transformation Plan**

**Environmental Corrective Action Indicators**

**Detailed Lean Vision**

**Implement Lean Initiatives**

**Outcomes on Enterprise Metrics**

**Detailed Corrective Action Indicators**

**Lean Transformation Framework**

**Enterprise Level Transformation Plan**

Source: Lean Aerospace Initiative, MIT © 2001
Enterprise Level Roadmap

**Entry**

- Adopt Lean Paradigm
- Enterprise Strategic Planning
- Lean Impact

**Long Term Cycle**

- Focus on the Value Stream
- Develop Lean Structure & Behavior

**Short Term Cycle**

- Focus on Continuous Improvement
- Create & Refine Transformation Plan

- Implement Lean Initiatives
- Environmental Corrective Action Indicators
- Detailed Corrective Action Indicators
- Lean Transformation Framework
- Outcomes on Enterprise Metrics

Source: Lean Aerospace Initiative, MIT © 2001
Enterprise Strategic Planning

- Create the Business Case for Lean
- Focus on Customer Value
- Include Lean in Strategic Planning
- Leverage the Extended Enterprise
Enterprise Level Roadmap

Entry

Adopt Lean Paradigm

Enterprise Strategic Planning

Lean Impact

Long Term Cycle

Focus on the Value Stream

Initial Lean Vision

Develop Lean Structure & Behavior

Detail Lean Vision

Short Term Cycle

Focus on Continuous Improvement

Environmental Corrective Action Indicators

Outcomes on Enterprise Metrics

Implement Lean Initiatives

Create & Refine Transformation Plan

Lean Transformation Framework

Enterpise Level Roadmap

Source: Lean Aerospace Initiative, MIT © 2001
Adopt Lean Paradigm

• Build Vision
• Convey Urgency
• Foster Lean Learning
• Make the Commitment
• Obtain Senior Management Buy-in
Enterprise Level Roadmap

Long Term Cycle

- **Focus on the Value Stream**
  - Initial Lean Vision
  - Detailed Lean Vision

- **Develop Lean Structure & Behavior**

Short Term Cycle

- **Focus on Continuous Improvement**
  - Environmental Corrective Action Indicators
  - Detailed Corrective Action Indicators

- **Create & Refine Transformation Plan**

- **Implement Lean Initiatives**

Entry

- **EVSMA**

- **Adopt Lean Paradigm**

- **Enterprise Strategic Planning**

- **Lean Impact**

Source: Lean Aerospace Initiative, MIT © 2001
Focus On The Value Stream

• Map Value Stream
• Internalize Vision
• Set Goals & Metrics
• Identify & Involve Key Stakeholders
Enterprise Level Roadmap

**Long Term Cycle**

- **Entry**
  - Adopt Lean Paradigm
  - Enterprise Strategic Planning
  - Lean Impact

- **Initial Lean Vision**
  - Focus on the Value Stream

- **Detailed Lean Vision**
  - Develop Lean Structure & Behavior

**Short Term Cycle**

- **Focus on Continuous Improvement**
  - Environmental Corrective Action Indicators

- **Outcomes on Enterprise Metrics**
  - Implement Lean Initiatives

- **Creating & Refining Transformation Plan**
  - Lean Transformation Framework

Source: Lean Aerospace Initiative, MIT © 2001
Develop Lean Structure And Behavior

- Organize for Lean Implementation
- Identify & Empower Change Agents
- Align Incentives
- Adapt Structure & Systems
Enterprise Level Roadmap

**Long Term Cycle**
- Focus on the Value Stream
- Develop Lean Structure & Behavior

**Short Term Cycle**
- Focus on Continuous Improvement
- Create & Refine Transformation Plan

**Entry**
- Adopt Lean Paradigm
- Enterprise Strategic Planning

**Enterprise Level Roadmap**

Source: Lean Aerospace Initiative, MIT © 2001
Create & Refine
Transformation Plan

• Identify & Prioritize Activities

• Commit Resources

• Provide Education & Training
Implement Lean Initiatives

• Develop Detailed Plans

• Implement Lean Activities
Enterprise Level Roadmap

**Long Term Cycle**

- **Focus on the Value Stream**
  - Initial Lean Vision
  - Develop Lean Structure & Behavior

**Short Term Cycle**

- **Create & Refine Transformation Plan**
- **Lean Transformation Framework**
- **Implement Lean Initiatives**
- **Outcomes on Enterprise Metrics**
- **Environmental Corrective Action Indicators**
- **Detailed Corrective Action Indicators**

**Focus on Continuous Improvement**

**Entry**

- Adopt Lean Paradigm
- Enterprise Strategic Planning
- Lean Impact

Source: Lean Aerospace Initiative, MIT © 2001
Focus On Continuous Improvement

• Monitor Lean Progress

• Nurture the Process

• Refine the Plan

• Capture and Adopt New Knowledge
Enterprise Transition to Lean Roadmap

Adopt Lean Paradigm
- Build Vision
- Convey Urgency
- Foster Lean Learning
- Make the Commitment
- Obtain Senior Mgmt. Buy-in

Decision to Pursue Enterprise Transformation

Enterprise Strategic Planning
- Create the Business Case for Lean
- Focus on Customer Value
- Include Lean in Strategic Planning
- Leverage the Extended Enterprise

Focus on the Value Stream
- Map Value Stream
- Internalize Vision
- Set Goals & Metrics
- Identify & Involve Key Stakeholders

Initial Lean Vision

Detailed Lean Vision

Develop Lean Structure & Behavior
- Organize for Lean Implementation
- Identify & Empower Change Agents
- Align Incentives
- Adapt Structure & Systems

Environmental Corrective Action Indicators

Short Term Cycle

Detailed Corrective Action Indicators

Create & Refine Transformation Plan
- Identify & Prioritize Activities
- Commit Resources
- Provide Education & Training

Focus on Continuous Improvement
- Monitor Lean Progress
- Nurture the Process
- Refine the Plan
- Capture & Adopt New Knowledge

Outcomes on Enterprise Metrics

Implement Lean Initiatives
- Develop Detailed Plans
- Implement Lean Activities

Enterprise Level Transformation Plan

Lean Transformation Framework
Enterprise Level Roadmap
The On-going Lean Enterprise

Focus on the Value Stream → Develop Lean Structure & Behavior

Response to the voice of the customer

Short Term Cycle:

Focus on Continuous Improvement

Environmental Corrective Action Indicators → Detailed Lean Vision

Outcomes on Enterprise Metrics

Implement Lean Initiatives

Create & Refine Transformation Plan

Lean Transformation Framework

Enterprise Level Transformation Plan

Detailed Corrective Action Indicators

Enterprise Strategic Planning
• Discussion of issues

• Six Interdependent Elements of Implementation

  - Enablers
  - Barriers
  - Related Case Studies
  - Further Reference Material
The Discussion Outline

- Discussion of issue
- Six Interdependent Elements of Implementation

Issues surrounding the task of “Build Vision” during the activity of “Adopting the Lean Paradigm”
Benefits of Enterprise TTL Roadmap

- Facilitates enterprise focus
- Provides “sequence” for enterprise transformation
- Increases understanding of “what went wrong” in previous transformation attempts
- Focuses on people/leadership issues
- Provides an organizing framework for enterprise-wide transition
Transition to Lean Module Concept

- Priorities
- Sequence
- Key Enablers
- “How-To’s”
- Change Mgmt. Principles

Transition to Lean Plan