LESAT Facilitator’s Workshop

TTL Roadmap Overview
March 28, 2002

Presented By:
Joe Mize
Massachusetts Institute of Technology

Research Sponsored By LAI
Lean Transformation Issues

- Why do many 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?
Lean Transformation Requires an Enterprise Approach

Customer

Finance/Human Resources, Legal, etc.

Product Support

Supplier Network

Product Development

Manufacturing Operations
Enterprise Leadership is Key Element of Success

LAI Aerospace Organizations

Productivity Index vs. Leadership Index

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

Enterprise Level Roadmap

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

Production Operations 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 “leanness”
- 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
Lean Aerospace Initiative

**Entry/Re-entry Cycle**

- Adopt Lean Paradigm
  - Initial Lean Vision
- Decision to Pursue Enterprise Transformation
- Enterprise Strategic Planning

**Long Term Cycle**

- Focus on the Value Stream
  - Detailed Lean Vision
- Develop Lean Structure & Behavior
  - Lean Implementation Framework

**Short Term Cycle**

- Focus on Continuous Improvement
  - Environmental Corrective Action Indicators
- Implement Lean Initiatives
  - Outcomes on Enterprise Metrics
- Create & Refine Transformation Plan
  - Detailed Corrective Action Indicators
Adopt Lean Paradigm

- Build Vision
- Convey Need
- Foster Lean Learning
- Make the Commitment
- Obtain Senior Management Buy-in
Build Vision
Create new mental model of how enterprise would function if it acts & behaves according to Lean principles & practices.

Convey Urgency
Identify the strategic imperative, the forcing function for transitioning to Lean.

Foster Lean Learning
All senior managers must acquire in-depth understanding of Lean paradigm. Lean is about “behavior”, not just practices and activities.

Make the Commitment
Enterprise Leader makes irrevocable decision to transition the company to Lean. Commit the necessary resources.

Obtain Senior Management Buy-in
Full buy-in required. Managers who are unwilling or unable to change must be replaced.
Enterprise Level Roadmap

Entry/Re-entry Cycle

1. Decision to Pursue Enterprise Transformation
2. Enterprise Strategic Planning
3. Adopt Lean Paradigm

Long Term Cycle

1. Initial Lean Vision
2. Focus on the Value Stream
3. Develop Lean Structure & Behavior
4. Detailed Lean Vision

Short Term Cycle

1. Focus on Continuous Improvement
2. Create & Refine Transformation Plan
3. Implement Lean Initiatives
4. Detailed Corrective Action Indicators
5. Environmental Corrective Action Indicators
6. Outcomes on Enterprise Metrics
7. Lean Implementation Framework

Enterprise Level Roadmap
Focus on the Value Stream

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

Define “value” for all key stakeholders; map end-to-end chain of actions required to deliver value; eliminate enterprise level waste from enterprise processes; balance value delivered to all key stakeholders.

Internalize the Vision

Create “future state” value stream for all stakeholders, focusing on continuous improvement processes to achieve ongoing waste elimination and optimization of value creation.

Set Goals and Metrics

Consider metrics for each stakeholder and how these “roll up” for the total enterprise; specify targets of anticipated gains based upon adoption of Lean principles and practices.

Identify and Involve Key Stakeholders

Make stakeholders who are affected by Lean initiatives aware and involved in their development.
Lean Aerospace Initiative

Enterprise Level Roadmap

**Entry/Re-entry Cycle**
- Adopt Lean Paradigm
- Decision to Pursue Enterprise Transformation
- Enterprise Strategic Planning

**Long Term Cycle**
- Focus on the Value Stream
- Develop Lean Structure & Behavior
- Create & Refine Transformation Plan

**Short Term Cycle**
- Focus on Continuous Improvement
- Implement Lean Initiatives
- Environmental Corrective Action Indicators
- Detailed Corrective Action Indicators
- Outcomes on Enterprise Metrics

**Lean Implementation Framework**

web.mit.edu/lean
Develop Lean Structure & Behavior

- Organize for Lean Implementation
- Identify & Empower Change Agents
- Align Incentives
- Adapt Structure & Systems
Major Tasks within “Develop Lean Structure and Behavior”

Organize for Lean Implementation
Orient organizational structure to a horizontal focus to support Lean mindset; establish IPPD teams; eliminate unnecessary layers of mgmt; decentralize decision making.

Identify and Empower Change Agents
Identify those who can effect positive transformational change; need agents at both local and enterprise levels; communicate a common Lean vision and coordinated approach.

Align Incentives
Structure incentives to reward Lean behavior; remove disincentives; tie to Lean metrics through visual scorecards; both monetary and non-monetary, group and individual incentives.

Adapt Structure and Systems
All support processes must be redesigned according to new Lean mental model; financial, information, and other systems must be redesigned; bring policies & procedures into compliance with Lean thinking.
Create & Refine Transformation Plan

- Identify & Prioritize Activities
- Commit Resources
- Provide Education & Training
Major Tasks within “Create & Refine Transformation Plan”

Identify and Prioritize Lean Initiatives
Based upon “Desired Future State”, create Enterprise-level transition path, consisting of a prioritized and sequenced set of activities; develop time-phased schedule, considering resource limitations.

Critically review all ongoing “movements” and initiatives for compatibility with Lean.

Commit Resources
Primary resource required: time of the workforce; allocate special resources as needed to accommodate increased workloads due to the Lean transformation; make a firm commitment to all resource needs.

Provide Education and Training
Establish comprehensive program of education/training for entire enterprise; pay careful attention to phasing; follow “just-in-time” principles in scheduling events; modify program as necessary, remembering that Lean concepts will need to be reinforced repeatedly.
Implement Lean Initiatives

- Develop Detail Plans
- Implement Lean Activities
Develop Detailed Plans
Map elements of Enterprise-Level Transformation Plan to core processes; structure short term action plans/projects that are detailed and specific.

Estimate time-phased requirements for each detailed plan; integrate the several plans, generate overall prioritized schedule; provide resources; assign responsibility and accountability; incorporate needed education and training into plans.

Implement Lean Activities
Launch detailed action plans; coordinate and facilitate by Lean Focus Office.
Challenge senior managers and change agents to identify and remove barriers to implementation.
Track progress against milestones, display outcomes visibly, broadcast successes.
Determine and implement short-term corrective actions as required; modify overall plan as appropriate; resolve conflicts; provide “just-in-time” training.
**Enterprise Level Roadmap**

**Entry/Re-entry Cycle**
- Adopt Lean Paradigm
- Initial Lean Vision
- Decision to Pursue Enterprise Transformation

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

**Short Term Cycle**
- Focus on Continuous Improvement
- Detailed Corrective Action Indicators
- Environmental Corrective Action Indicators

- Implement Lean Initiatives
- Create & Refine Transformation Plan
- Lean Implementation Framework

- Enterprise Level Roadmap

**Enterprise Strategic Planning**
- Outcomes on Enterprise Metrics
- Enterprise Level Transformation Plan
Focus on Continuous Improvement

- Monitor Lean Progress
- Nurture the Process
- Refine the Plan
- Capture & Adopt New Knowledge
Major Tasks within “Focus on Continuous Improvement”

Monitor Lean Progress

Compare aggregate results from detailed plan implementation to Enterprise-Level Transformation Plan; measure implementation progress against schedule & budget; detect significant deviations and determine their causes; institute corrective actions.

Direct senior managers to participate visibly in monitoring the metric performance and in heralding successes.

Nurture the Process

Gain support and encouragement of Enterprise Leaders & Senior Managers; do incentives and rewards need modification? Emphasize positive reinforcement.

Encourage workforce to offer suggestions for improvement; specific issues/problems are dealt with by Lean Focus Office.

Refine the Plan

Incorporate prescribed corrective actions with Enterprise-Level Transformation Plan; re-level resources; revise, eliminate, or add elements to plan as appropriate.

Determine if a significant change is required, consider revisiting Long Term Cycle.

Capture & Adopt New Knowledge

Capture lessons learned; translate and generalize for insertion into Knowledge Base.

Provide input to Enterprise Strategic Planning.
**Lean Aerospace Initiative**

**Enterprise Level Roadmap**

### Entry/Re-entry Cycle

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

**Initial Lean Vision**

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

**Detailed Lean Vision**

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

### Long Term Cycle

**Environmental Corrective Action Indicators**

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

**Detailed Corrective Action Indicators**

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

**Implement Lean Initiatives**
- Develop Detailed Plans
- Implement Lean Activities

**Outcomes on Enterprise Metrics**

**Lean Implementation Framework**

**Decision to Pursue Enterprise Transformation**

**Enterprise Strategic Planning**

**Short Term Cycle**

**Enterprise Level Transformation Plan**
Enterprise Level Roadmap
The On-going Lean Enterprise

**Long Term Cycle**
- Focus on the Value Stream
  - Response to the voice of the customer
  - Detailed Lean Vision
- Develop Lean Structure & Behavior

**Short Term Cycle**
- Focus on Continuous Improvement
  - Environmental Corrective Action Indicators
- Create & Refine Transformation Plan
  - Detailed Corrective Action Indicators
  - Lean Implementation Framework
- Implement Lean Initiatives
  - Outcomes on Enterprise Metrics

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

**Lean Impact**
- Enterprise Level Roadmap
  - The On-going Lean Enterprise

---

Lean Aerospace Initiative

27 - Mize - 032802 © 2002 M
“Transitioning” to a Lean Enterprise: A Guide for Leaders

- Overview of Lean Thinking & Knowledge
- TTL Roadmap Foldouts Descriptions
- Roadmap Background Information

Lean Enterprise Self Assessment Tool
Ongoing LAI Research
Great tool for facilitating enterprise focus
Consistent with enterprise experience
Increased understanding of “what went wrong”
Liked focus on people/leadership issues
Being used as enterprise-wide transition framework