

**Lean
Aerospace
Initiative**

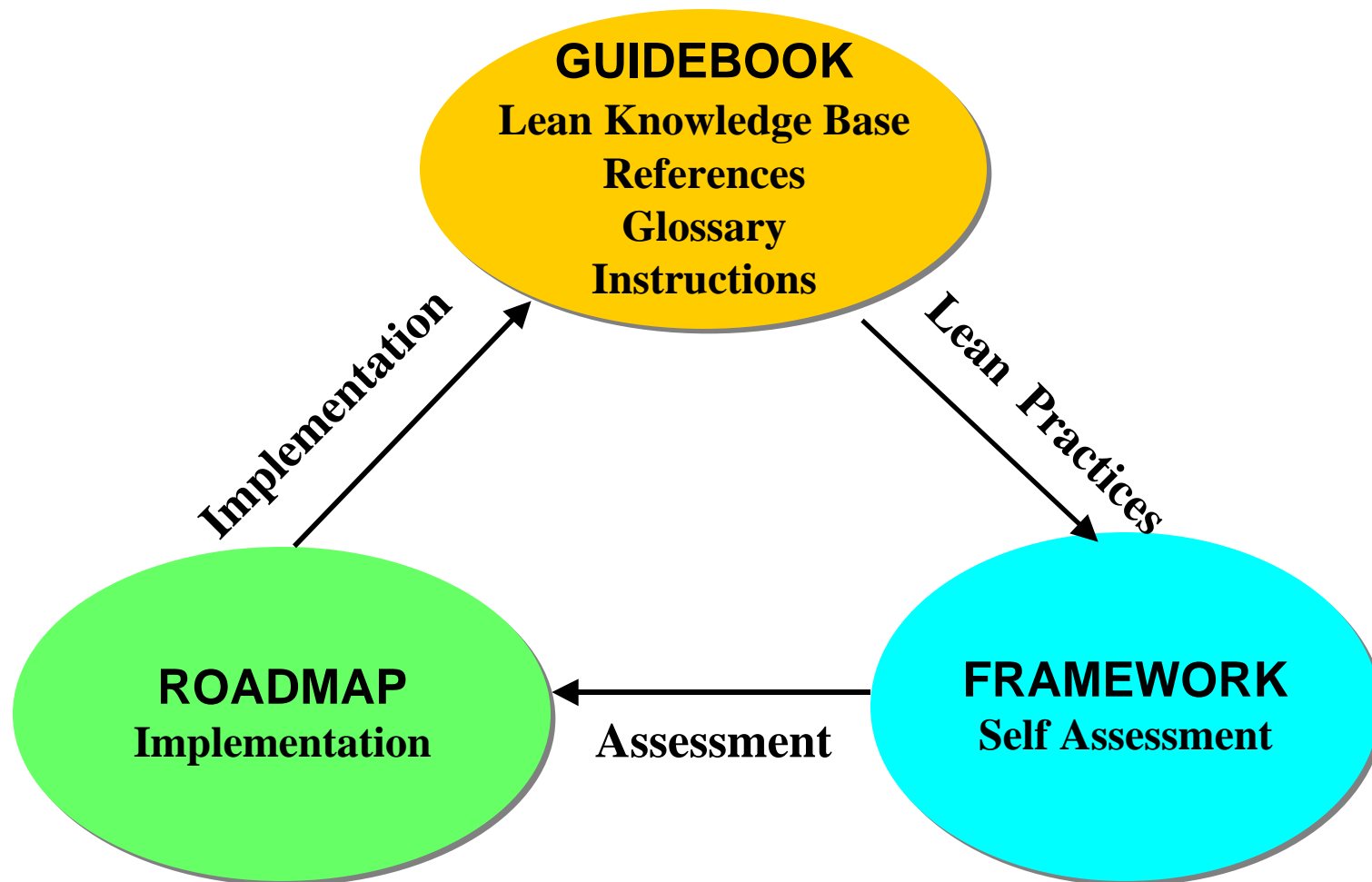


*Progress Report:
IMPLEMENTATION TOOLSET
For Building Lean Supplier
Networks*

January 30-31, 2001

Presented By:
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MIT

NOTE: Work-in-progress; this material represents the work product of the Lean Enterprise Initiative (LAI) Supplier Networks Research Team; prepared for review and comment only



Emphasis at this workshop: on FRAMEWORK & ROADMAP

- **FRAMEWORK** self-assessment (“What”)
 - Tool for gauging current state in lean journey in the *supplier network design and management domain*
 - Links up with Lean Enterprise Self-Assessment Tool (LESAT)
 - Encompasses key lean practices & lean capability levels
 - Self-scoring framework
- **ROADMAP** for building lean supplier networks (“How”)
 - Implementation guide defining major building blocks & specific implementation steps -- sequence & relationships
 - Maps out process template -- inputs, outputs, barriers, enablers, metrics, tools & methods, references

OBJECTIVE: Develop integrated lean implementation toolset

- **FRAMEWORK**
 - Draft version developed by Steering Group (Sept 20-21, 01 -- Boeing Long Beach) & subsequent work in conjunction with LESAT
 - Ready for review & further refinement to develop ALPHA version
- **ROADMAP**
 - **ALPHA version developed through effort of entire team at workshops on-going work by subteams & consolidation by Steering Group**
 - Workshop Jan 13-14, 00 WPAFB, OH
 - Team meeting, LAI Plenary Conference, March 29-30,00 Cambridge, MA
 - Workshop June 21-22,00 CMTTC, Torrance, CA
 - Steering Group, Aug 10-11, IAMS, Cincinnati, OH; Sept 21-22,00 Boeing Long Beach)
 - **Maps out process template -- inputs, outputs, barriers, enablers, metrics, tools & methods, references**
 - **Ready for further refinement & testing**

DEFINITION: Develop and manage the lean enterprise supplier network to provide best value to the customer over the entire product lifecycle, in order to optimize dynamic sustainable competitive advantage

Input: Enterprise-level supplier network design and management system, structure, processes, activities and metrics

Output: Assessment of the level of leanness of the enterprise in the supplier network design and management domain

OVERARCHING LEAN PRACTICES

1.0

Develop and manage supplier network strategy linked to corporate strategy: Design of the supplier network -- its structure, composition, and definition of differentiated roles and responsibilities -- reflects core corporate strategic thrust to ensure long-term success

2.0

Supplier relationships focus on optimizing the value stream: The supplier network is managed to create and deliver best value to the customer over the entire product lifecycle; major suppliers are viewed as full partners in the success of an integrated value network; emphasis on fostering continuous network-wide learning, knowledge-sharing and innovation

FRAMEWORK: Lean Practices *(For Sub-Enterprise Level Self-Assessment)*

1.0

Develop and manage supplier network strategy linked to corporate strategy

2.0

Integrate product and process knowledge, and foster innovation, over the entire supplier network

3.0

Maximize flexibility and responsiveness of the supplier network

4.0

Establish long-term cooperative relationships with suppliers to maximize mutual benefits throughout the value stream Contender

5.0

Establish process of continuous performance improvement throughout the supplier network



FRAMEWORK: Capability Maturity Levels*

Level I

Traditional -- No awareness of lean supplier network design and management principles, practices, processes, activities or metrics

Level II

Learner - Limited awareness, but evidencing early stages of largely informal and piecemeal lean implementation deployed in one or a few areas

Level III

Performer - Systematic approach to lean implementation; deployed in all appropriate areas, functions and processes, with some still in relatively early stages

Level IV

Contender - Mastery of lean principles and implementation; deployed in all appropriate areas; on-going refinement and continuous improvement

Level V

Leader - Exceptional command and implementation of lean principles; well-defined and innovative approach; lean fully deployed in all appropriate areas; recognized as world-class best practice

***Note:** Levels are cumulative; each higher level represents the achievement of the prior levels

FRAMEWORK: “Straw-Man” Capability Maturity Levels

Supplier relationships focus on optimizing the value stream

Level I

Large and hierarchical supplier base; arm’s length & adversarial relationships; build-to-print; supply chain management concentrated in purchasing department; no alignment of supply chain design with corporate core competencies; no visibility into supplier capabilities

Level II

Supplier base rationalized; some teaming/partnering with suppliers with high impact on strategic objectives; long term purchase agreements are introduced to focus on affordability & cost reduction; limited visibility into supplier business processes

Level III

Long-term relationships established with limited number of certified suppliers; early involvement of suppliers in design process; synchronization of production flow over supplier network; delegation of greater responsibility to key suppliers; effective supplier development program in place

Level IV

Cooperative relationships with suppliers, including strategic partnerships and alliances, are in place, emphasizing a high level of information sharing, risk sharing, benefit sharing, and knowledge-sharing; differentiated supplier strategy

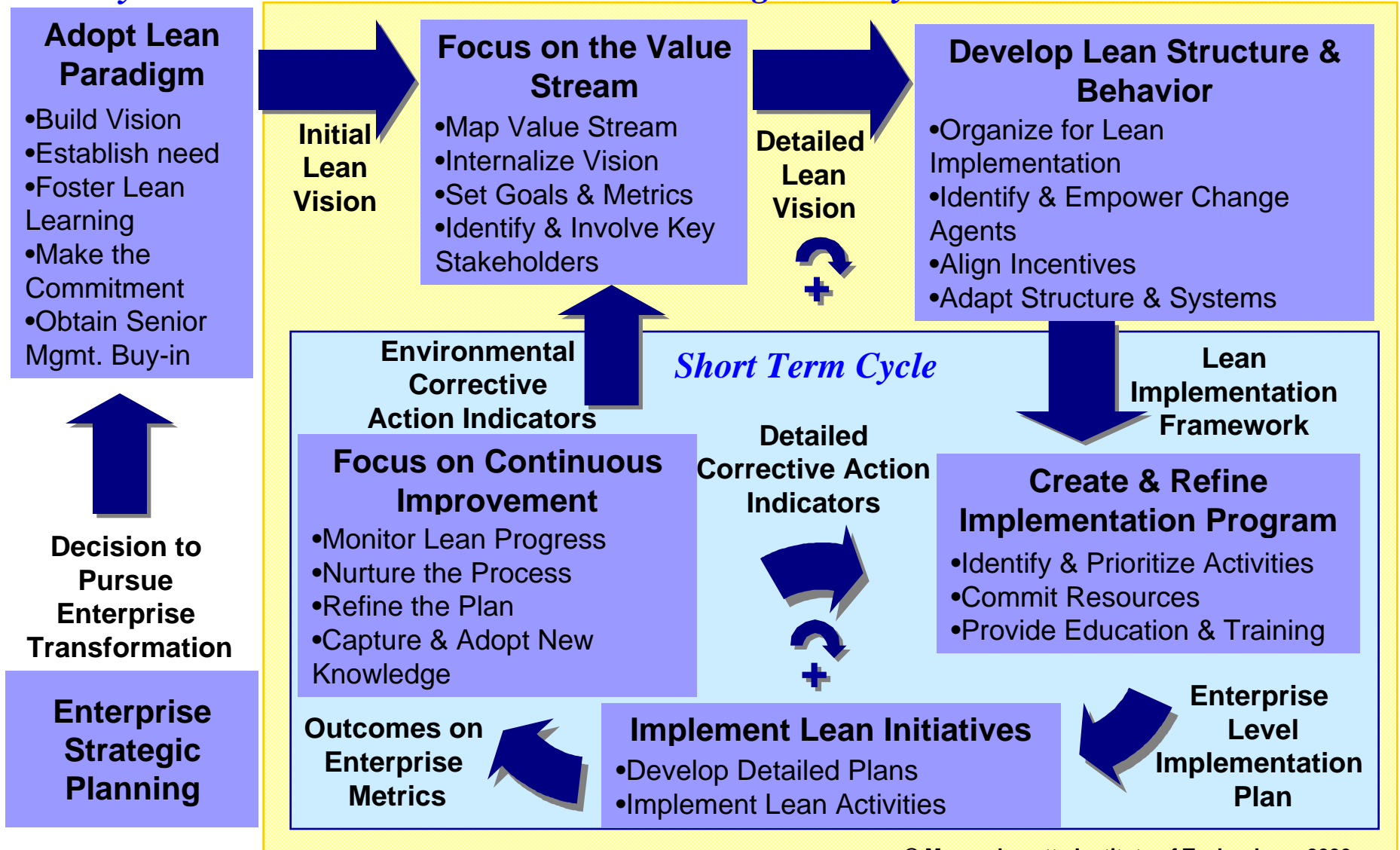
Level V

Dynamically optimizing the value stream, through electronic integration of the supplier network, to achieve long term sustainable competitive advantage

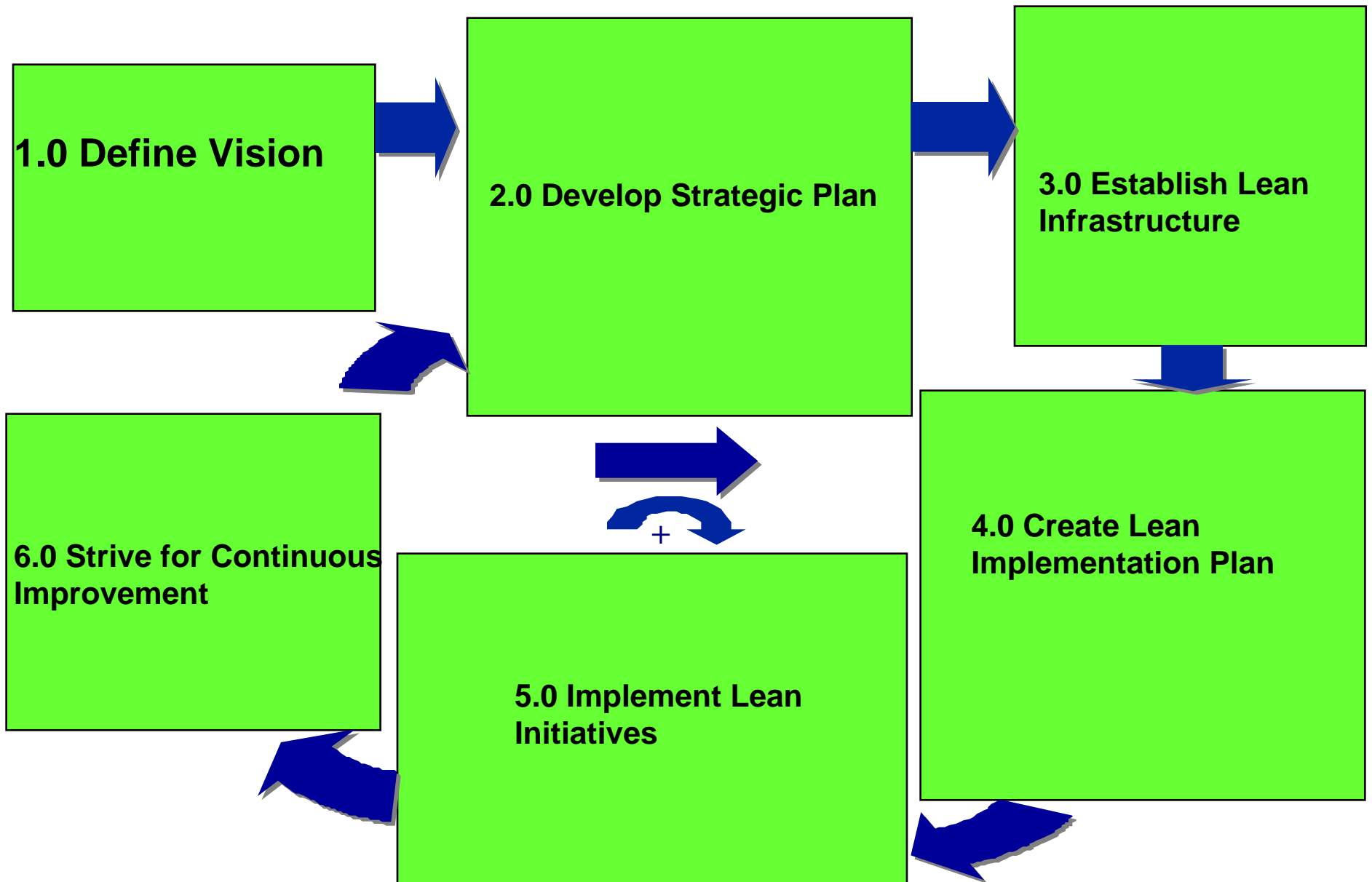
Enterprise-Level Transition-to-Lean Roadmap

Entry/Re-entry Cycle

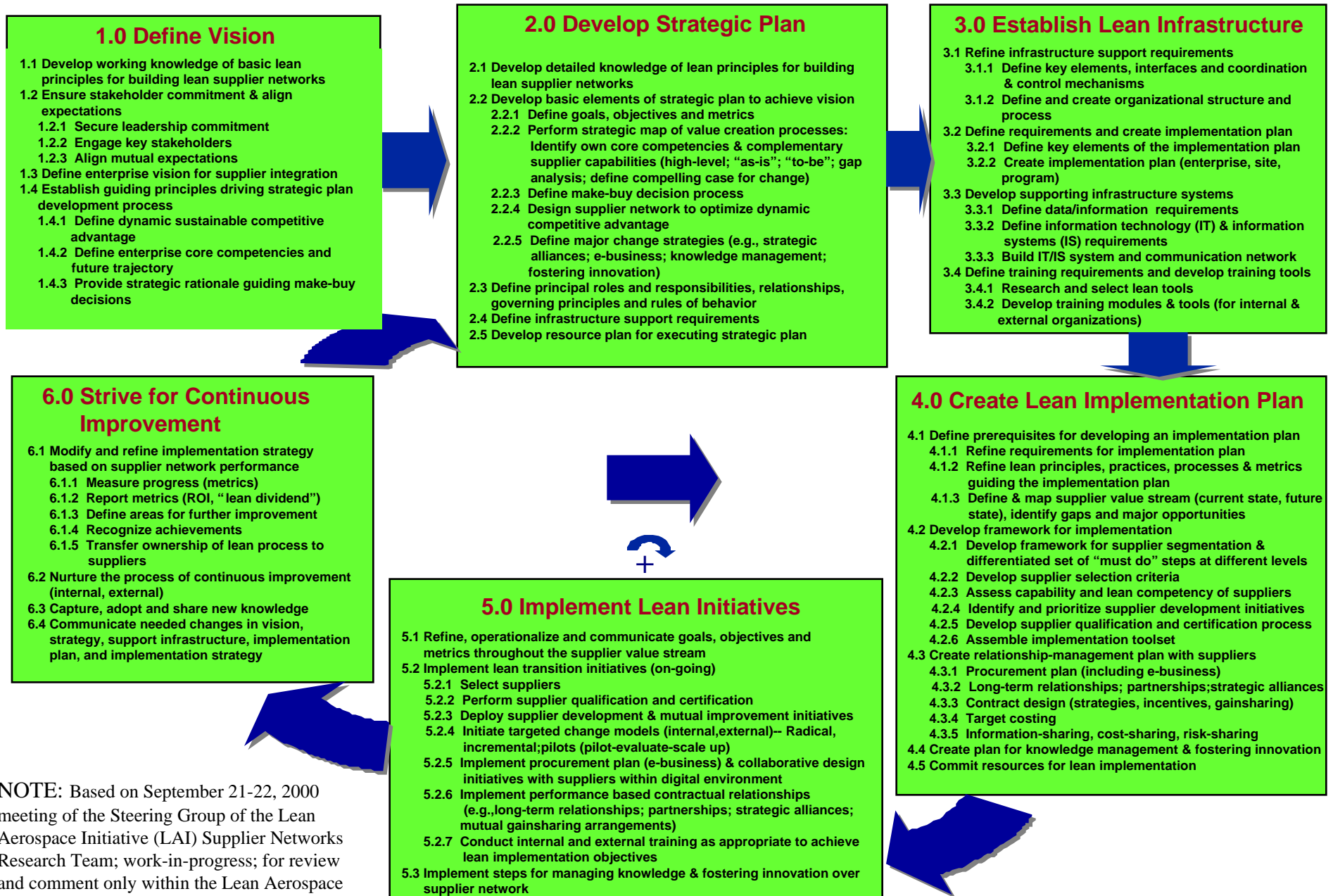
Long Term Cycle



ROADMAP for Building Lean Supplier Networks



ROADMAP for Building Lean Supplier Networks



NOTE: Based on September 21-22, 2000 meeting of the Steering Group of the Lean Aerospace Initiative (LAI) Supplier Networks Research Team; work-in-progress; for review and comment only within the Lean Aerospace Initiative (LAI)

“Straw-Man” Schedule (for discussion)

- **Further refine & develop the FRAMEWORK & ROADMAP modules; develop GUIDEBOOK; integrate toolset (est. Aug 01)**
- **Beta test the integrated toolset -- host companies using the toolset and providing feedback on its usefulness (est. Sept-Oct 01)**
- **Complete and provide Beta Version of the toolset (est. Dec 01- Jan 02)**