Supplier Networks Transformation Toolset (Version 1.0)

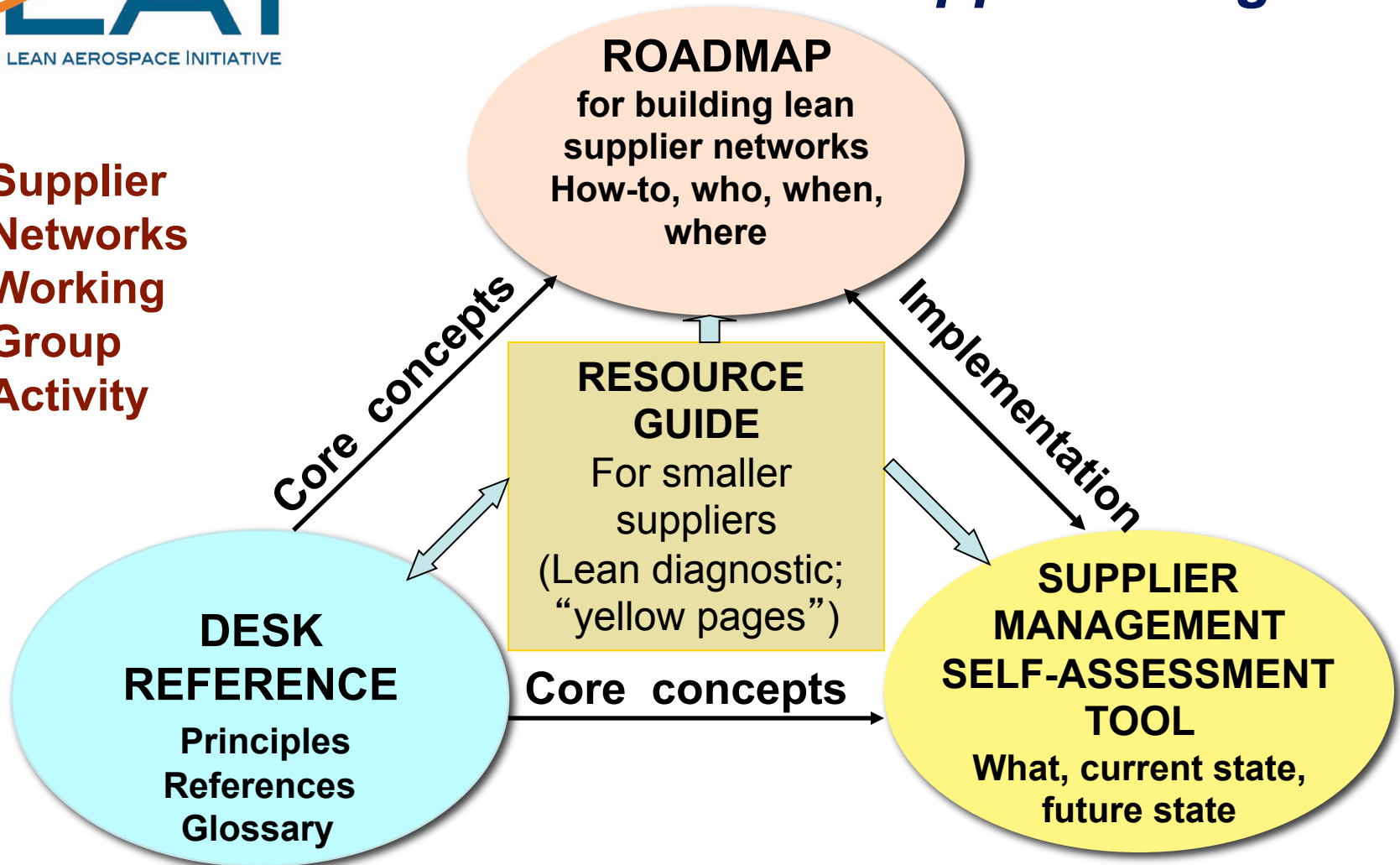**GENERAL DESCRIPTION**

22 March 2004

- **Supplier Toolset updates and expands earlier LAI framework for lean supply chain management (1995)**
- **Toolset "pulled" by LAI consortium members to meet an important & growing need**
  - What are lean supply chain management concepts and practices?
  - How do we develop lean supplier networks?
  - How do we assess where we are in evolving lean supply chain management capabilities?
- **Toolset differs from tools member companies use to assess "leanness" of their own individual supplier companies**
- **Toolset developed by the Supplier Networks Working Group representing cross-section of LAI community**
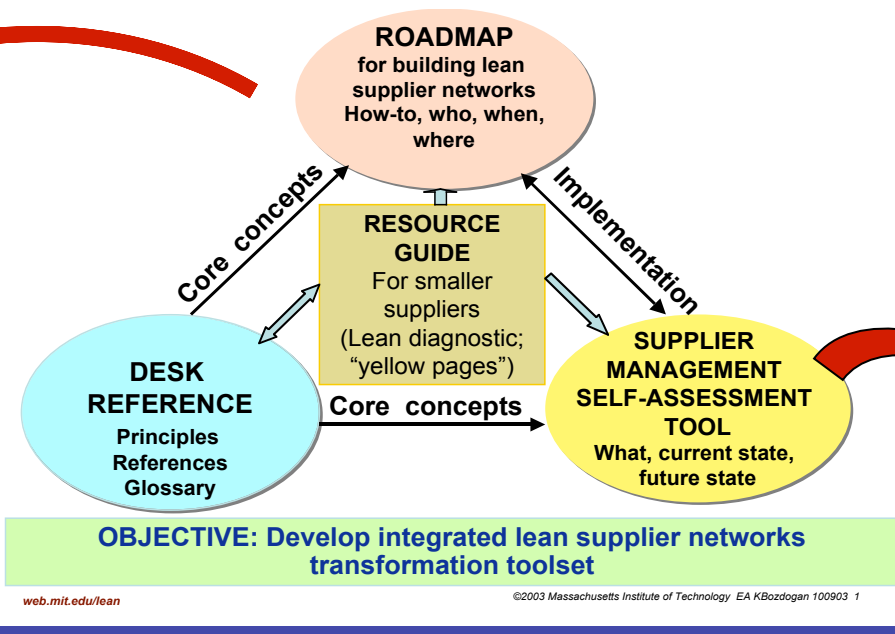- **Toolset Version 1.0 is now being introduced after alpha & beta testing process**

- # What does it do?
  - ## Provides an integrated framework for developing lean supplier networks

- # Who should use it?
  - ## Targeted for use primarily by primes and first-tier suppliers.
  - ## Supply chain management, engineering, manufacturing & other parts of the enterprise

- # What are the benefits?
  - ## Enhanced competitive advantage (lower costs, higher quality, reduced reduced cycle time) through an integrated supplier network
  - ## Greater value creation for multiple enterprise stakeholders

TOOLSET Can Help Accelerate Supplier Integration

Supplier Networks Working Group Activity

ROADMAP
for building lean supplier networks
How-to, who, when, where

Core concepts

Implementation

RESOURCE GUIDE
For smaller suppliers
(Lean diagnostic; "yellow pages")

DESK REFERENCE
Principles
References
Glossary

Core concepts

SUPPLIER MANAGEMENT SELF-ASSESSMENT TOOL
What, current state, future state

OBJECTIVE: Develop integrated lean, value-creating, supplier networks

LAI
LEAN AEROSPACE INITIATIVE

ROADMAP
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SUPPLIER MANAGEMENT SELF-ASSESSMENT TOOL
What, current state, future state

OBJECTIVE: Develop integrated lean supplier networks transformation toolset

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ROADMAP: Major Building Blocks

- 1.0 DEFINE VISION
- 2.0 DEVELOP SUPPLIER NETWORK STRATEGIC PLAN
- 3.0 ESTABLISH LEAN CULTURE AND INFRASTRUCTURE
- 6.0 STRIVE FOR CONTINUOUS IMPROVEMENT
- 5.0 IMPLEMENT LEAN INITIATIVES
- 4.0 CREATE AND REFINE LEAN IMPLEMENTATION PLAN

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Supply Chain Management Capability Maturity Levels

Level I — **Traditional** -- Very little awareness of this practice; sporadic improvement activities may be under way in a few areas.

Level II — **Adopter** - General but limited awareness; informal and piecemeal approach deployed in a few areas focusing on specific projects with varying degrees of effectiveness and sustainability.

Level III — **Performer** - A systematic approach is deployed in all appropriate areas, functions and processes, with appropriate metrics; varying stages of implementation across most areas, exhibiting varying degrees of success; some deployments are still in relatively early stages.

Level IV — **Reformer** - On-going deployment, refinement and continuous improvement of applicable practices across the enterprise, facilitated by the use of appropriate metrics, exhibit mature, well-developed approach.

Level V — **Transformer** - Exceptional, well-defined, innovative approach is fully deployed across the extended enterprise; recognized as world-class best practice.

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Supplier Toolset Provides Integrated Approach

- **ROADMAP TOOL**
  - Provides "how-to" structured implementation guide for developing lean supplier networks
  - Emphasis on processes

- **SELF-ASSESSMENT TOOL**
  - Enables self-assessment of progress made in evolving lean supply chain management capabilities
  - Emphasis on practices ("what")

- **The two tools are integrated & are used together**

- **Toolset fills a real need in industry today and can serve as industry standard for supplier integration**

ROADMAP Tool

- **Represents a "how-to" guide**
  - **Focuses on actionable roadmap for building lean supplier networks**
  - **Designed to accelerate supplier integration efforts of member companies**

- **Links to Transition-to-Lean Roadmap (TTL)**
  - **Follows similar process architecture**
  - **Concentrates on putting into place lean supply chain management processes**

- **Defines major building blocks & specific steps**
  - **Lays out implementation actions & sequences**
  - **Identifies relationships & feedback loops**

- **Provides implementation aids (Roadmap Explorations)**
  - **Defines inputs, outputs, barriers, enablers, potential metrics & tools/methods**
  - **Addresses "why", "what", "who", "how", "where" & "when" questions and identifies potential "tensions" that should be anticipated & addressed**

- **Guides enterprises at different stages in lean journey**
  - **Can be used to accelerate on-going lean transformation efforts**
  - **Can also be used by companies in early stages of lean journey**

ROADMAP for Building Lean Supplier Networks: Major Building Blocks

1.0 DEFINE VISION

2.0 DEVELOP SUPPLIER NETWORK STRATEGIC PLAN

3.0 ESTABLISH LEAN CULTURE AND INFRASTRUCTURE

6.0 STRIVE FOR CONTINUOUS IMPROVEMENT

5.0 IMPLEMENT LEAN INITIATIVES

4.0 CREATE AND REFINE LEAN IMPLEMENTATION PLAN

+

ROADMAP: Major Building Blocks and Implementation Steps

1.0 Define Vision

1.1 Develop knowledge of basic lean supply chain design & management principles

1.2 Ensure stakeholder commitment & align expectations

1.3 Define enterprise vision for supplier integration

1.4 Establish guiding principles for strategic planning of supplier network

2.0 Develop Supplier Network Strategic Plan

2.1 Develop operational knowledge of lean supply chain design & management principles

2.2 Define value creating processes across the supplier network

2.3 Perform self-assessment of supplier network management using the Supplier Management Assessment Tool

2.4 Define future state goals and metrics (consider assessment results and enterprise objectives)

2.5 Develop strategic plan

2.6 Define roles and responsibilities, relationships, governing principles and rules of behavior

2.7 Define infrastructure support requirements

**2.8 Develop resource plan for executing strategic plan**

3.0 Establish Lean Culture and Infrastructure

3.1 Align organizational structure and interfaces

3.2 Align processes and procedures

3.3 Align and develop IT/IS infrastructure

3.4 Align incentives

3.5 Identify & empower change agents

3.6 Develop knowledge infrastructure and expertise for lean transformation

4.0 Create and Refine Lean Implementation Plan

4.1 Define, map and analyze supplier network value stream

4.2 Create tactical metrics and implementation plans to address gaps identified in self-assessment
  - *Design supplier network architecture*
  - *Develop complementary supplier capabilities*
  - *Create flow and pull throughout supplier network*
  - *Establish cooperative relationships & effective coordination mechanisms*
  - *Maximize flexibility & responsiveness*
  - *Pursue supplier-integrated product and process development*
  - *Integrate knowledge and foster innovation*
  - *Demonstrate continuous improvement*

4.3 Assemble and provide training utilizing implementation tools (consult Reference Guide)

4.4 Commit resources for lean implementation
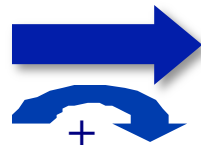
5.0 Implement Lean Initiatives

5.1 Communicate goals, objectives and metrics throughout the supplier value stream

5.2 Implement lean transformation initiatives (on-going)
  - *Design supplier network architecture*
  - *Develop complementary supplier capabilities*
  - *Create flow and pull throughout supplier network*
  - *Establish cooperative relationships & effective coordination mechanisms*
  - *Maximize flexibility & responsiveness*
  - *Pursue supplier-integrated product and process development*
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5.3 Capture feedback on strategic barriers to lean implementation

6.0 Strive for Continuous Improvement

6.1 Evaluate results against future state goals and metrics (for all eight practice areas)

6.2 Communicate needed changes in vision, strategy, support infrastructure, implementation plan & strategy

6.3 Modify and refine tactical implementation plans
  - **Measure progress (metrics)**
  - **Report metrics (ROI, "lean dividend")**
  - **Define areas for further improvement**
  - **Recognize achievements**
  - **Transfer ownership of lean process to suppliers**

6.4 Nurture the process of continuous improvement (internal, external)

6.5 Capture, adopt, and share new knowledge

Supplier Management Self-Assessment Tool (SMAT)

- **Enables self-assessment of lean progress**
  - Addresses: "How much progress have we -- as an enterprise -- made in evolving lean supply chain management capabilities"?
  - Complements tools used to assess "leanness" of suppliers
- **Links to Lean Enterprise Self-Assessment Tool (LESAT)**
  - Follows similar process architecture
  - Defines 5 capability maturity levels
- **Defines lean practices; provides diagnostics & metrics**
  - Defines 8 overarching *and* 30 enabling practices
  - Provides diagnostic questions & lean indicators
  - Identifies potential metrics
- **Organized as a user-friendly tool**
  - EXCEL-based
  - Provides automated self-scoring
  - Generates summary tables and charts

MAJOR (Overarching) PRACTICES
Design supplier network architecture
Develop complementary supplier capabilities
Create flow and pull throughout supplier network
Establish cooperative relationships & effective coordination mechanisms
Maximize flexibility & responsiveness
Pursue supplier-integrated product and process development
Integrate knowledge and foster innovation
Demonstrate continuous improvement

Supplier Management Assessment Tool

Generic Capability Maturity Levels*

Level I
Traditional -- **Very little awareness of this practice; sporadic improvement activities may be under way in a few areas.**

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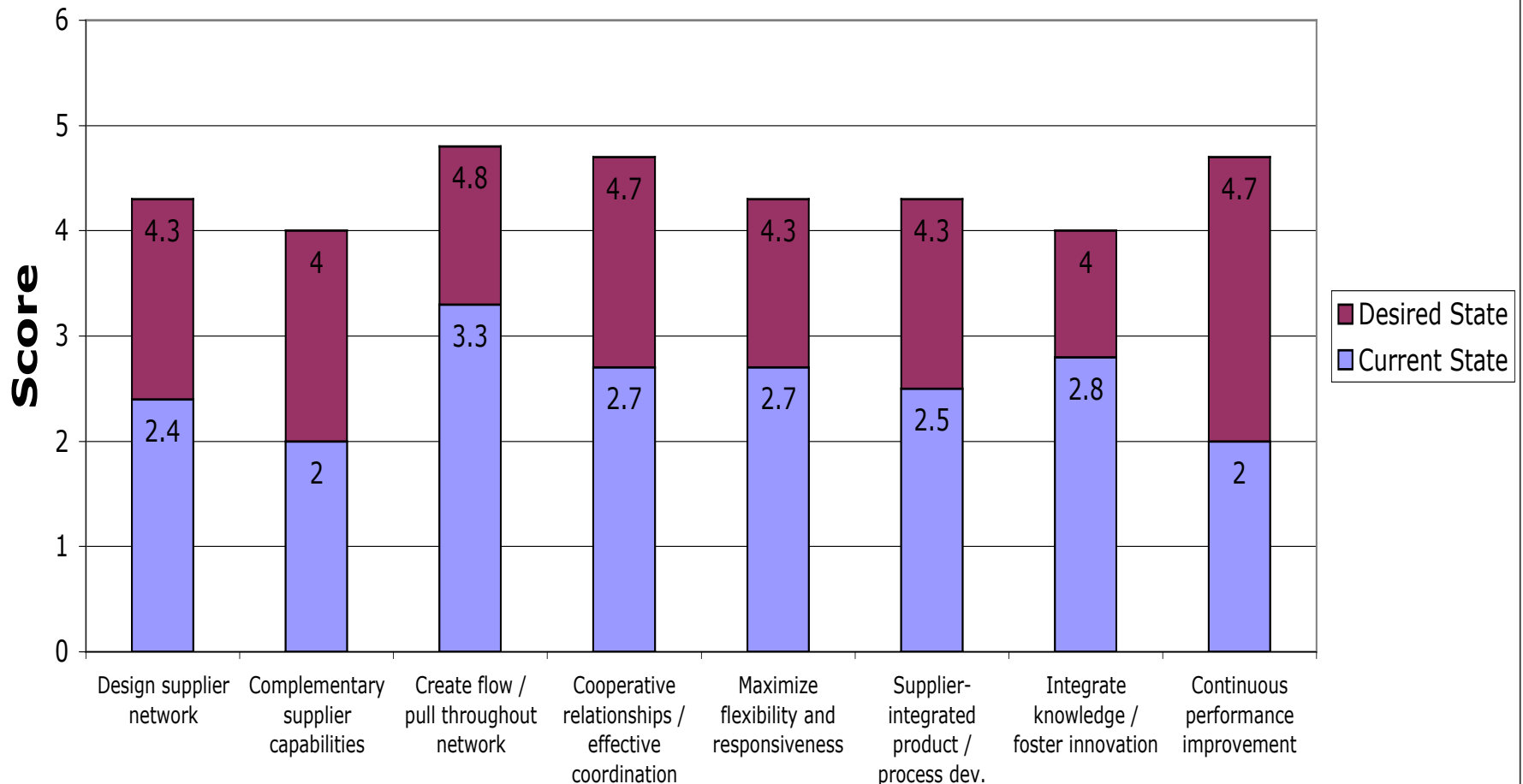
Level V
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*__Note:__ Levels are cumulative; each higher level represents the achievement of the prior levels.
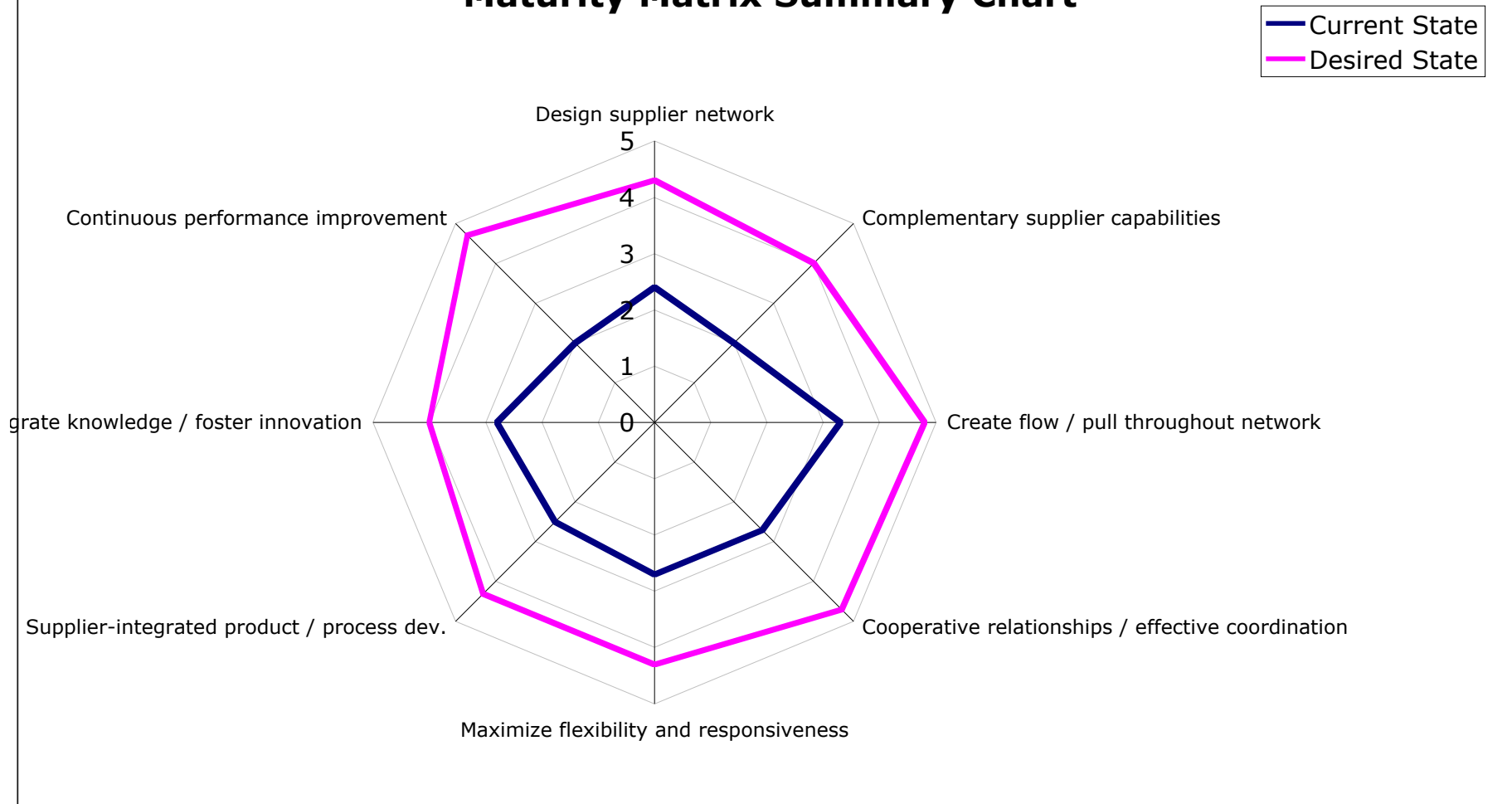
Summary of Self-Assessment Scores
(Illustrative Bar Chart)

Maturity Matrix Summary Chart

Legend:
- ■ Desired State
- ■ Current State

Category	Current State	Desired State
Design supplier network	2.4	4.3
Complementary supplier capabilities	2	4
Create flow / pull throughout network	3.3	4.8
Cooperative relationships / effective coordination	2.7	4.7
Maximize flexibility and responsiveness	2.7	4.3
Supplier-integrated product / process dev.	2.5	4.3
Integrate knowledge / foster innovation	2.8	4
Continuous performance improvement	2	4.7

Summary of Self-Assessment Scores (Illustrative Radar Chart)

Maturity Matrix Summary Chart

Legend:
- Current State
- Desired State

Axes:
- Design supplier network
- Complementary supplier capabilities
- Create flow / pull throughout network
- Cooperative relationships / effective coordination
- Maximize flexibility and responsiveness
- Supplier-integrated product / process dev.
- Integrate knowledge / foster innovation
- Continuous performance improvement

Scale: 0, 1, 2, 3, 4, 5

Desk Reference

- **Provides user guide to SUPPLIER TOOLSET**
- **Summarizes basics of lean thinking and six-sigma**
- **Explains core concepts & principles guiding lean supplier networks**
- **Presents lean glossary**
- **Shows links to related LAI products & tools**

Creation of value for multiple enterprise stakeholders through:

- **Network-wide thinking --** System optimization rather than local optimization; dynamic, adaptive, learning network; multilateral relationships rather than bilateral relationships; deliberately constructed, not an accident of history.

- **Network-wide mutual trust and commitment --** Shared vision, goals and objectives; mutual commitment "in good times and bad"; risk-sharing, cost-sharing; knowledge-sharing relationships; across multiple programs & over program lifecycle; balance between competition and cooperation.

- **Sustained competitive advantage for the network --** Customer-focused delivery of value to multiple stakeholders; lifecycle perspective; culture of continuous improvement; building dynamic capabilities by fostering on-going innovation across the network.

- **Optimize network-wide efficiency**
- **Create mutually-beneficial relationships**
- **Instill a culture of customer-focused best value solutions**
- **Ensure visibility and transparency throughout the network**
- **Foster innovation across the network**
- **Enable a robust and adaptive network**

- **Designed to help primes and major suppliers raise the "lean awareness" of their lower-tier suppliers**
- **Also intended as "go to" resource guide for smaller suppliers not ready to benefit fully from other modules of the toolset**
- **Provide:**
  - **Quick overview of lean concepts**
  - **Answers to frequently asked questions**
  - **Short descriptions of key lean practices & references**
  - **List of other resources ("yellow pages") -- publications, websites, videos, lean tutorials, bibliography**
  - **LAI tools**

Progress

- **VERSION 1.0** -- **Roadmap** & **Self-Assessment** tools
  - ➢ Alpha & beta-tested
  - ➢ Document version is available on LAI website
- **VERSION 1.1** -- Add **Desk Reference** module
  - ➢ Core concepts & principles; glossary
  - ➢ Draft to be available for review by end-April
  - ➢ Incorporation into toolset by end-June
- **VERSION 1.2** -- Add **Resource Guide** module
  - ➢ Basic lean resource guide for smaller suppliers ("yellow pages plus")
  - ➢ In-planning stage (jointly with NIST-MEP)