

Building the Environment for Successful LM21 Implementation

LAI Plenary Break-out Session Presentation
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Achieve better results tomorrow through process improvements our people make today.

Today's Purpose

- Present some research and thoughts on Enterprise Transformation
- Share lessons learned on what has worked well
- Learn from the collective experience at this session

Improve our Enterprise Transformation

LOCKHEED MARTIN



**Systems
Integration**



**Space
Systems**



Aeronautics



**Technology
Services**



130,000 employees: furthering national security, science and commerce

“Lockheed Martin 21st Century” successful using lean/six sigma

- Generated \$B of cost savings and avoidances
 - Improving cost effectiveness
- People are learning to see waste
 - Characterizing value from Customers’ perspective
- When attacking waste, aggressively reduce it
 - Normally 30 - 70% reduction in process steps, handoffs, queue time and other measures
- Aware entire supply chain is important
 - Involving Customers and Suppliers in improvements

Enablers of this Success

- Case for change
 - Top-down Corporate direction
- Useful tool set
 - LM21 applies lean and six sigma
- Applying Resources
 - Practitioners (Leadership, Master, Black, and Green Belts)
- Reinforcing metrics and milestones
 - \$ LM21 savings
 - # of Practitioners (as % of population)
- Communicating, communicating, communicating

There is more to Enterprise Transformation



- Leveraging program-specific solutions to Enterprise
 - “Islands” of success expand to “Continents”
- Customer engagement and full participation
 - Improving their own processes
- Supply Chain
 - True partnership and integration
- Shifting from eliminating waste to creating value

LAI* Reminds us of Enterprise level

Major Organization → Program Enterprise

Line of Business,
Company,
Corporation → Multi-Program Enterprise

Industry → National & International
Enterprise

* Lean Enterprise Value Insights from MIT's Lean Aerospace Initiative, Earll Murman et al

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Enablers of Multi-Program Transformation



- Common Vision
 - Focus on overall Enterprise value
- Shared/team Objectives
 - Minimize unintended consequences of metrics
- “Best Practice” Mentality
 - Save innovation for technology and improvements
- Industry Standards (such as CMMI) requiring common process
 - Drives a “horizontal” look at Organizations
 - Drives repeatability
- Communicating, communicating, communicating

Additional Enablers?

Barriers of Multi-Program Transformation



- Individual Organization Objectives
- Experience with lean/six sigma focused in specific areas
- “We’re different” Mentality

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 - ERP implementation example
 - To the operator: learning a new system costs more
 - To the Enterprise: having integrated information costs less
 - Standard Process example
 - To the Program: using a new process costs \$ to implement
 - To the Enterprise: having everyone use same process saves \$

How to balance?

- Plan for implementation costs when developing business cases
 - Corresponding financial objectives can then be met
- Recognize all organizations for the role they play
 - Advocates of improvement need encouraged
- Insure objectives visibly tie to the strategic plan
 - Business needs and objectives flow down as “line of sight” objectives

Others?

Lean/six sigma experience

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Lean/six sigma experience

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 - Often results are point-solutions
- Most of the tools have been applied to insuring we “do the job *right*”
 - In the latter stages of program/product life cycle

Expanding lean/six sigma utilization

- Tools themselves can serve to bring multiple programs together by focusing on facts and data
 - EVSM Example: 2 major Programs overcame real and perceived barriers to establish integrated Spacecraft Assembly, Integration, and Test facility
 - vastly different payloads & missions
 - different Customers (different Value?)
 - commercial vs. military contracting requirements

Expanding lean/six sigma utilization

- Tools themselves can serve to bring multiple programs together by focusing on facts and data
 - EVSM Example: 2 major Programs overcame real and perceived barriers to establish integrated Spacecraft Assembly, Integration, and Test facility
- Concentrate up-front in life cycle “to do the *right* job”
 - Tools such as QFD, FMEA, DFSS and VOC are extremely valuable when identifying stakeholders and their needs/wants

“We’re different” Mentality

- It’s human nature to make tribes
 - “Trained” to fit-in
- It’s human nature to look for what’s different
 - “Expected” to resist it
- It’s easier to hide behind the “way we’ve always done it” than to remember why
 - “As is” process analyses takes courage
- Some differences really do exist

How to counteract *Culture*?

- Resistance to change needs to be acknowledged, honored, and planned for and managed
 - Need to plan and train for your personal role
- “5 Whys” can find the similarities
 - Good application for the 80% rule
- Reinforce the desired behavior changes
 - Convince people to overcome their natural tendencies
- Communicate communicate, communicate

What has worked in your organizations?

Roadmap of Enterprise Transformation

- Leader picks a destination (location and time)
 - Identify and describe it in *compelling* detail
- Convince rest of Leadership team (one at a time) to take the journey
 - Explain benefits of getting there
 - Set expectations for traveling companions
 - Ascertain their buy-in
- Get some experts to help plan the route
 - Benefit from others' lessons learned
 - Use known routes

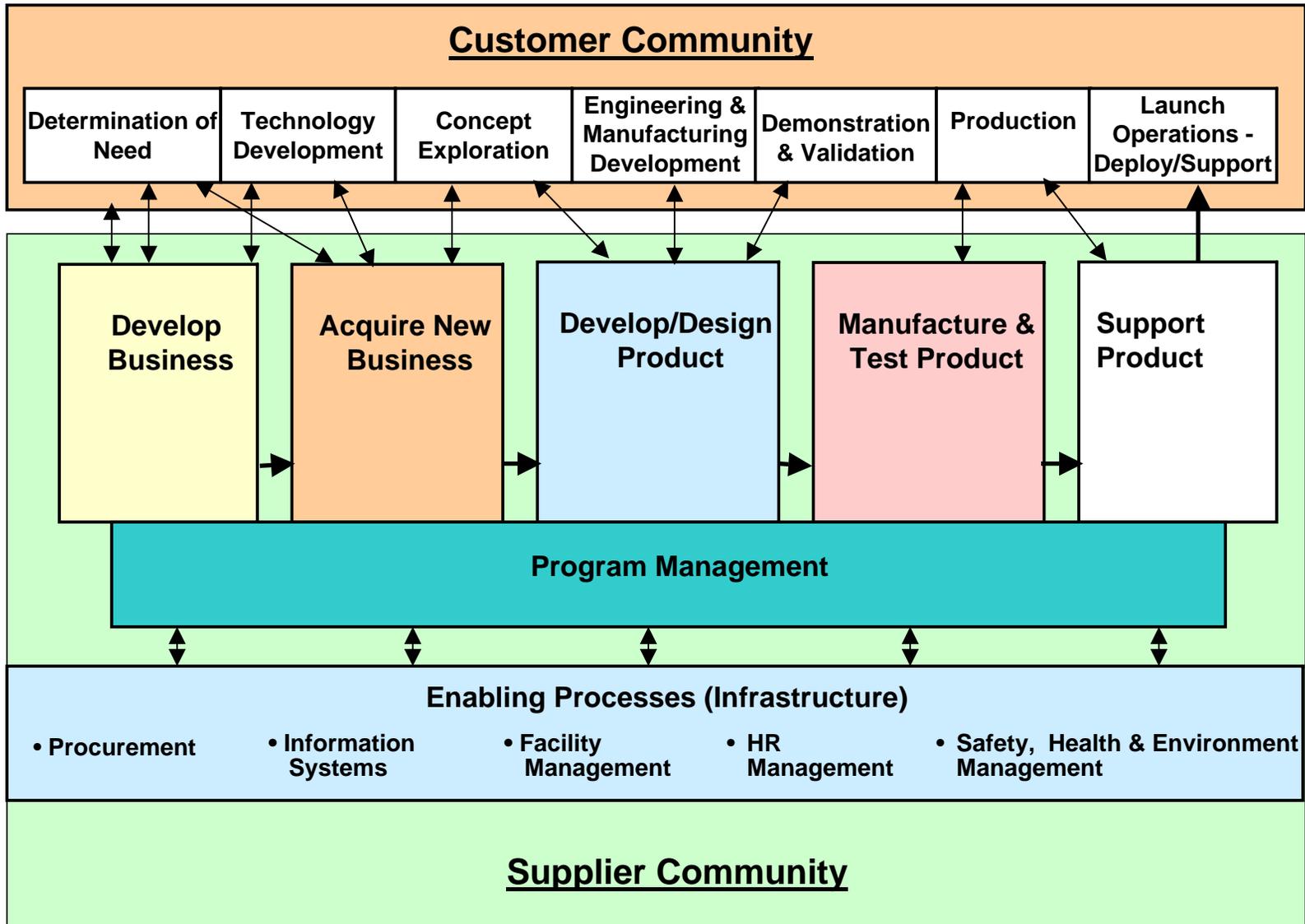


Roadmap of Enterprise Transformation (continued)

- Break the journey into smaller pieces with milestones
 - Create “sights” along the way
 - Verify on the correct route and making progress
- Stick with the journey until reach destination
 - Don’t get distracted by the billboards



Enterprise Opportunity Set for Improvement



National & International Enterprise Considerations

- Standard Process across the Industry even more complex than across a Company/Corporation
 - “Lean” implementation not standard
- All stakeholders need to form a new relationship and learn new behaviors for mutual advantage
 - While preserving competitive innovation
- Perhaps accommodating and balancing culture is more appropriate than overcoming it
 - We are different

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Challenge & Reward is in Enterprise Transformation