



Steps for Success and Reliability in PLM Implementations

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Implementing a Product Lifecycle Management system is difficult and risky, because it involves a change in process, procedures, and practices. The Implementation Methodology is the only thing that determines if you will be a winner...



...or a loser

PRODUCT DEVELOPMENT CONFERENCE



Outline

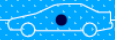
- Introduction to Jay Imerman
- What does “Losing” look like?
- What does “Winning” look like?
- What are the elements to winning at PLM?
- What is Meant by Reliability?
- Steps For Reliability



Introduction to Jay Imerman

- Computer Professional since 1988
 - Specializing in Workflow / Process Re-engineering since 1993
 - Specializing in Engineering Product Life Cycle Management since 1997
- Led and Contributed To successful systems implementations, deployment, training, and upgrades for small to large enterprises
 - Aerospace
 - Automotive
 - Consumer Products
 - Healthcare
 - Industrial
- Senior Technical Consultant at MSC since 2000 with SMARTTEAM expertise and certification
- Supported by a team of dedicated, motivated experts at MSC, IBM, DS

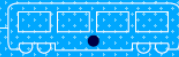




What does “Losing” look like?



- Gross Underestimate of Implementation Time, Costs
- Solution implemented, but Users aren't using it
- Solution implemented, but Users don't use it consistently
 - Can't find what they are looking for
 - Processes not well defined
 - Procedures not well defined
 - No Benefits, No ROI
- Loss of Executive Management sponsorship
- Some companies have spent years (more than 2) implementing PLM, without anyone using it



What does “Winning” look like?



- Implemented On Time, On Budget
- Users are finding (and solving) problems with the system
- Other groups want to use it
- Busy Administrators
- ROI




Winning: The Obvious Elements

○ Organize, Organize, Organize

- Plan Ahead
- Get Advice from someone who's done it before

Better Time & Effort Estimates

○ Executive Buy-In

- No \$\$, No 
- Upper Management must set policy to foster change
- Agreement that change is good

*User & Management
Participation = People
Using with Proper
Guidance*

○ Grass-Roots Support

- Management's trust of competent workers
- Openness to listen to what tools are needed to improve



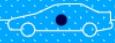
Winning: More Obvious Elements

○ Low-Hanging Fruit for Phase 1



- Identify key processes that are:
 - Well Known
 - Small enough group of players
 - Large pain due to known areas of needed improvement
 - E.g.
 - Engineering Change Process (in a given department)
 - Design Release Process (for a product group)
 - Engineering Notification Process
- Limit scope to well-defined deliverables

*Sooner ROI invites future
Executive Approvals, makes
your company money now*



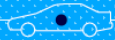
Winning: The Less-Obvious Elements

○ Needs Assessment

- Recommend an outside resource to provide perspective (Independent Counsel)
- Include Holistic approach to cover all major factors
 - Core Groups Affected, Satellite Groups Affected, Customer/Supplier Representation
 - Document As-Is Process(es), Identify Satellite (Related) / Parent (Bigger Picture) Processes
 - Value Stream Analysis – Non-Value-Add Steps

○ Robust Implementation Plan

- Include Engineering Lead, IT Lead, Include Sales, Marketing, Shop Floor, Customer, Supplier, etc.
- Project Steering Committee
- With Reliability
 - What is meant by “With Reliability”? → See Next Slide

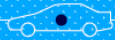


What is meant by Reliability?

- PLM Systems are designed to manage CAD, Engineering Documents, Engineering Data, Process Flows, documents from other departments
- Consumers of this data include Customers, Suppliers, Shop Floor, Sales, Marketing
- PLM System Up-Time becomes

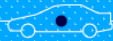
Mission-Critical





What is meant by Reliability?

- Mission-Critical Systems must be guaranteed to be operational 99.9% of the time
- Insulate the Production System from factors that may bring it down
 - Some factors that are commonly controlled are:
 - Electrical Power (Battery Backup)
 - Data Loss (Storage redundancy, Off-Site Backups)
 - Network Connectivity (Redundant connections)
 - Hardware Loss (Redundant hardware)
 - Some factors that are commonly missed for PLM systems are:
 - Operating System Upgrades and Security Patches (e.g. Microsoft Windows Security Updates)
 - System Driver Upgrades (Video, Mouse, etc.)
 - Administrative Changes (Network, Security, etc.)
 - Coordination of Engineering/CAD Support and IT Support activities
 - Integrated External Systems
 - Disaster Recovery Plans are often either not developed, or are never tested for feasibility



Steps for Reliability

- Obtain hardware and licenses for a PERMANENT Test/Development System
 - Keep systems running for the life of your Production System
 - Ensure your Test System includes **ALL** components of Production
 - PLM Servers
 - Integrated External System Servers (e.g. MRP/ERP, CRM, etc.)
 - Sample Client Machines
- Develop a procedure for periodic “refreshing” of your Test Environment from Production
 - Full snapshot of Production into Test in a repeatable manner
 - Include integrations to other systems
 - Once you have performed a Refresh, conduct the Operational Readiness Test to ensure it reproduces Production functionality



Steps for Reliability

○ Operational Readiness Test

- A series of Test Cases, with time estimates and expected results
- Make sure you include “one of everything” you do
 - Drawings
 - Parts
 - Simple Assemblies
 - Complex Assemblies
 - Standard Parts
 - Releasing
 - Revising
 - Workflow & Review
 - Other document types
 - Other file types
 - External System Integrations
 - ...

Uses:

- OS Patches/Upgrades
- Application Upgrades (CAD, Office, etc.)
- External Integrated Systems Upgrades
- New Hardware
- New Scenarios
- ...



Steps for Reliability

- Formal Process for Applying Production System Changes
 - Changes constitute:
 - Configuration Change
 - Administrative Change / Security Change
 - Data Model Change
 - Customization / Programming Changes
 - Review Changes with Committee & Gain Approval
 - Document Changes
 - Apply to Test System
 - Conduct Operational Readiness Test
 - Adjust Documentation
 - Develop Training Materials



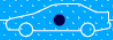
Steps for Reliability

○ System Backup

- The System Owner (Engineering) is responsible for ensuring IT backs it up
- IT is responsible for backing up & communicating issues

○ Disaster Recovery Plan and Testing

- Documented procedure in case of data loss, system loss, site loss
- Stage a practice run to make sure the backed-up data is recoverable using the given procedure
 - You may need software patches to make it work
 - You may need additional documentation or assistance



The End

Thank You