Best Practices for Integrating SAP PPM and PLM
Allison Transmission to Raise $600 Million in I.P.O.

BY MICHAEL J. DE LA MERCE

Allison Transmission, the vehicle transmission systems maker owned by the Carlyle Group and Onex, raised $600.3 million in its initial public offering.

The I.P.O. values Allison, a onetime General Motors division, at about $4.2 billion.

Allison’s underwriters priced the stock offering on Wednesday at $23 a share, the midpoint of the company’s expected price range. But Allison’s selling investors increased the number of shares available for the I.P.O. by 20 percent, to 26.1 million.

The underwriters still have the option of selling 3.9 million additional shares, in what’s known in banker parlance as a greenshoe.

None of the proceeds will go Allison, as the only parties selling shares are Carlyle and Onex. The buyout firms purchased the maker of automatic transmission systems from G.M. in 2007 for about $5.6 billion. But only about $1.5 billion of that price tag was in equity, with Carlyle and Onex filling in the rest with borrowed money. That could translate into a fairly handsome return for the two firms.
Best practices for integrating SAP Portfolio and Project Management and SAP PLM to reduce time to market and increase new product development efficiency

Tom Martin, GyanSys, Inc.

This session provides proven tips and actionable advice for integrating SAP Portfolio and Project Management (PPM) and SAP PLM applications to improve cross-functional collaboration, reduce time to market and increase efficiency across the entire product development lifecycle.

Gain an understanding of what’s required to integrate PPM and SAP PLM, the challenges you may face, and best practices for overcoming them. Through GyanSys customer case studies and documented examples, explore out-of-the-box functionality as well as tips for using available BAPIs and BAdIs to improve integration between PPM and SAP PLM.

Come away from this session with a solid understanding of the capabilities and features included in the latest solutions for improving SAP PLM processes and integration from GyanSys Product Development Labs.
GyanSys Brief Overview

Offices

- **Global headquarters** – Indianapolis, IN
- **US Offices** - NJ and TX.
- **International** - Netherlands, Philippines, and India
- WBE Certified

Partnership – SAP & Microsoft

- SAP’s National Services Partner
- SAP Ramp-Up PPM 5.0, PLM 7.01, SRM 7.01
- SAP Co-Innovation Lab Partner
- In-House System for POC/Conference Room Pilot

Our Services

- Assessment and Evaluation
- Implementation and Development
- Testing, Training, and Support
- System Optimization

Engagement Model

- 300+ consultants globally
- Part-time Pooled blended hours
- Onsite, Near-Shore and Offshore
- SLA driven and Metrics reporting
Solution Offerings

- **Business Process**
  - PLM, CRM, EAM, SRM, SCM, HCM, Financial Management etc.

- **Core ERP Offerings**
  - Financial
    - FI, CO, Treasury, FSCM, ECCS, Travel Management etc.
  - Human Resources
    - PA, OM, Benefits, CATS, PT, Benefits, PY, ESS/MSS, eRecruiting etc.
  - Logistics
    - SD, FI, MM, PP, VC, PM, CS, PS, eWM, QM, TM etc.

- **Business Analytics**
  - BW, BO, BPC, Pre-Built Dashboards, Information Broadcasting, GRC

- **Technology**
  - Netweaver
    - Portal, EDI, MDM, PI, Workflow, Basis, Web DynPro, Workflow, ADS etc.
    - Solution Manager, TDMS, TAO etc.
  - MS Platform
    - .Net development, SharePoint Template/Forms, Project Server Integration, Outlook Integration, Duet Enterprise
  - Mobility
    - iOX Development
Employee Engagement

- Pedigree (Hire the best) - Academics & Experience
- Investments on building skills
- Retention with focus on growth opportunities

Process

- Delivery Best Practices
- Adopting Best Processes
- Stringent Reviews

Technology

- Focus on SAP & MS
- Business Suite Expertise on NetWeaver Platform
- Domain Expertise

Fiscal Prudence

- Focus on operational efficiency
- Low Capital Investments
- Leverage Communications advancements

Your Benefits

- Experienced teams
  - Rapid Project execution
  - Lower TCO
- Alignment to Client IT ecosystem and Priorities
- Responsiveness and flexibility in engagement
## Our Rapid Deployment Offerings

<table>
<thead>
<tr>
<th>SAP PLM Major Features</th>
<th>6 Weeks Implementation</th>
<th>9 Weeks Implementation</th>
<th>12 Weeks Implementation</th>
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<tbody>
<tr>
<td>Maturity Level 1 IT Portfolio Mgmt</td>
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<td>Level 2 Engineering Change Record</td>
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<td>Maturity Level 3 IT Portfolio Mgmt</td>
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</table>
GyanSys Introductions

Tom Martin
PLM/PPM Practice Director

15 Years SAP Project Experience
- PPM Architect
- PLM Architect
- Project Controls expert
- Cross-industry experience

Leader in PPM Community
- Keynote Speaker
- SAP Contributor
- ASUG / Sapphire Presenter

Raj Una
US Delivery Head

16 Years of SAP Experience
- Key architect: Run SAP
- Thought leader, presenter
- PPM, PLM architect
- Multiple Roll Out experience

Entrepreneur, Leader
- Founded GyanSys
- SAP Certified trainer
- Cross-industry experience
GyanSys PLM Practice

**PLM**

- Engineering Change Management
- CAD Integration
- Document Management
- BOM Lifecycle
- Variant Configuration
- Enterprise Search

**PPM**

- Portfolio Management
- Project Management
- IT, Product Development, Capital
- Resource Management
- ECC Integration
- Portfolio Optimization
All About Data

Red Bull Racing F1 RB8

Idles at 6000 RPM
300 Sensors
1.5 Billion signals
8GB Data per race
1) **Companies Already Running SAP PLM**
   *Be aware* of the integration capabilities

2) **Companies Planning to Implement SAP PLM**
   *Plan* future integration

3) **Companies with Unacceptable Lead Times**
   *Improve* efficiency and effectiveness
Introduction: PPM~PLM Integration – The last “white-space”

Background: A history of the development of SAP PPM and PLM

Challenges: Frequently encountered issues and gaps

Goals: The Benefits of Integrated PPM/PLM

Standard Integration: What exists out of the box

PLM 7.02: What’s coming

Netweaver: The power of SAP’s integration framework

Case Studies: Real-life examples

What’s Next: What are GyanSys PD Team working on

Summary / Questions
Introduction: The last “White-Space”
Background: A short history of PPM & PLM

A lot has happened in the last 6 years!
Challenge: Undo Deeply Embedded Silo’s

Functional Silo’s: Developed over time

Concurrent Engineering: Big OCM Effort
### Goals: The Benefits of Integrated PPM/PLM

**@Management Level**
- Closed-loop system
- Exception reporting
- Supports decision making
- Improves efficiency

**@Functional Level**
- Fewer mouse-clicks
- Intuitive, good UI
- Elimination of data duplication
- Less admin, more analysis (job support)

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<table>
<thead>
<tr>
<th>Process</th>
<th>Start of Life</th>
<th>End of Life</th>
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<tbody>
<tr>
<td>SAP PPM Ideation</td>
<td>SAP PPM NPD</td>
<td>SAP PPM Change Request</td>
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<tr>
<td>SAP UWL Web Workflow</td>
<td>SAP UWL Web Workflow</td>
<td>SAP UWL Web Workflow</td>
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<td>SAP PPM Financial/Resource</td>
<td>SAP Project System (PS) - Labor, Capital (Facilities, Tools and Equipment)</td>
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<td>SAP UWL Web Workflow</td>
<td>Product Simulation</td>
<td>Plan for Every Part (PFEP) (New Products)</td>
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<tr>
<td>SAP PLM Engineering Change</td>
<td>Product Simulation</td>
<td>Plan for Every Part (PFEP) (Existing Parts)</td>
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<td>SAP UWL Web Workflow</td>
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<td>Plan for Every Part (PFEP) (Existing Parts)</td>
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<tr>
<td>CAD Dwg Req</td>
<td>SAP PLM eBOM</td>
<td>SAP PLM mBOM</td>
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<tr>
<td>SAP Visualization/Redlining/Plotting</td>
<td>Multiple Vendor Systems</td>
<td>SAP Visualization/Redlining/Plotting</td>
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<tr>
<td>SAP Document Management (DMS)</td>
<td>Structured Data/Documents</td>
<td>SAP Document Management (DMS) Structured Data/Documents</td>
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<tr>
<td>SAP Collaboration (cFolders)</td>
<td>External Collaboration Data (Service BoM’s)</td>
<td>SAP Collaboration (cFolders) External Collaboration Data (Service BoM’s)</td>
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<tr>
<td>SAP Business Intelligence</td>
<td>PLM/Product Analytics</td>
<td>SAP Business Intelligence PLM/Product Analytics</td>
</tr>
</tbody>
</table>
What is PPM?

Enterprise Portfolio Management

Portfolio Management

"Managing and monitoring the portfolio & programs"
Portfolio Level

Portfolio Analytics

"Project management and execution"
Project Level

SAP Project Mgmt

cProjects
PS

Others

"Core enterprise processes & activities"
Operations Level

Logistics

PP
MM

Resources

HR
Time

Financial Data

Project System
FI/CO
What is PPM?

Portfolio Management

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<table>
<thead>
<tr>
<th>Bucket Name</th>
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<td>Y1-3</td>
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<tr>
<td>Marine</td>
<td>Y1-2</td>
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<td>Motorcycles</td>
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<td>Enduro</td>
<td>Y1-1-4</td>
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<td>DT Series</td>
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<td>XT Series</td>
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<td>Off-Road</td>
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<td>Race</td>
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<td>Road</td>
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</table>
```

Project Management

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Resource Management

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4/3/2012
PLM will manage the process lifecycle of a new / existing product via **PPM**

PLM will manage the data lifecycle of new / existing BOM’s and Parts via **PDM**

Deep *vertical* integration into all areas of ECC

Limited *horizontal* integration between PPM and PLM
PLM 7.02: What’s Coming?

- Integrate and synchronize
- Decouple engineering effectivity from manufacturing
- Bundle “work packages”
- Definition of release process
- Controlled release of a set of product information
- Threshold status as precondition (bottom-up)
- Trigger status inheritance (top-down)
- Harmonize status management across object types
- Simplify with “traffic light” like status
- Introduce lifecycle concept
- Generic authorizations (ACC)
Netweaver: The Power of Integration

Netweaver provides the keys to link PPM and PLM

Object Linkages

BAPI’s, BADI’s

Document Management
Introduction: PPM~PLM Integration – The last “white-space”

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What’s Next: What are GyanSys PD Team working on

Summary / Questions
Case Studies: Real-life Examples

1) Integrated Engineering Change Process
2) Part Dashboard
3) Enhanced Object Linkage
4) Optimized Project Task Dashboard
5) Aggregated MS Project Integration
Use PPM to Manage the *Process* of ECR
Engineering Change Process

DMS Document Folder Accessed via PPM
Each Tab is Functional Team Specific

Contains the processes and data necessary to manage production changes
## PDP Checklist

<table>
<thead>
<tr>
<th>Step</th>
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<tbody>
<tr>
<td>Change Adequately Defined</td>
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<tr>
<td>Parts which need solid model changes included</td>
</tr>
<tr>
<td>Required composite drawing mark-ups included</td>
</tr>
<tr>
<td>Change Impacts Mating / Adjacent Parts or Sub-systems?</td>
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<tr>
<td>Limit Stack/Layout - Axial and Radial</td>
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<tr>
<td>Dynamic Clearance</td>
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<tr>
<td>Special care features identified</td>
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<tr>
<td>Sealing - External, Internal, Hydraulic Passages</td>
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<tr>
<td>Electrical Interfaces</td>
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<tr>
<td>Attachment / Fastening Strategy</td>
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<tr>
<td>Variant Configurator Change Required?</td>
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<tr>
<td>Change Impacts Transmission or Hybrid System Function / Performance?</td>
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<tr>
<td>Mass / Center of Gravity / Mass-Elastic System</td>
</tr>
<tr>
<td>NVH (Noise / Vibration / Harshness)</td>
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<tr>
<td>Pressures / Flows / Temperatures</td>
</tr>
<tr>
<td>Contamination</td>
</tr>
<tr>
<td>Vehicle / Transmission / Hybrid System Thermal Considerations</td>
</tr>
<tr>
<td>Friction HP / Emissions / Fuel Economy / Fuel Consumption</td>
</tr>
<tr>
<td>High Voltage System</td>
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<tr>
<td>Cold / Hot Operation</td>
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</tbody>
</table>

### Checklists ensure all steps are completed – per Functional Team

### Custom Screens powered by NWBC, Custom fields are standard BADI activation
Plant Tooling, Equipment Costs Tab

Capture all Tooling, Facilities and Equipment Costs...
Financial Analysis Tab

...and include in the overall Financial Analysis tab.

...then compare against original Business Case using PPM Financial Planning functionality.
Action Items capture and track tasks across all functional teams.
Case Studies: Real-life Examples

1) Integrated Engineering Change Process

2) Part Dashboard

3) Enhanced Object Linkage

4) Optimized Project Task Dashboard

5) Aggregated MS Project Integration
Part Dashboard

Origins of Part Dashboard

Started life as a spreadsheet containing the Virtual (V-BOM).

Why not capture in SAP, and eliminate the manual BOM?

...and provide a launch-pad for all engineering workflows!
**Part Dashboard**

On the Left Side is the V-BOM

On the Right Side is the E-BOM

Integrate the V-BOM with the E-BOM inside SAP PLM
Integrated Parts Request Process

Use Dashboard as a central launch-pad to request new / changed part requests

Launch workflows that trigger the creation of Material Master’s and DIR’s
Integrated NWBC Workflow

All Workflows run on the new NWBC Business Workflow Workplace
Integrated Part Request Form

In-built Part Request Form contains the details and who the approvers are
Design Approval Request Form

**Integrated Release Request**

Similar process for handling part releases.

Manages early engineering releases (e.g. Experimental) to full Production release.
The Configuration Change Summary is an interactive report listing all part changes across the BOM.

<table>
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<tr>
<th>Part Name</th>
<th>Part No.</th>
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</table>
1) Integrated Engineering Change Process

2) Part Dashboard

3) Enhanced Object Linkage

4) Optimized Project Task Dashboard

5) Aggregated MS Project Integration
Enhanced Object Linkage

Object linkages are the key to connecting PPM and PLM

- Available for every object in SAP
- Standard object links available
- Easy to configure new links
- Link to BADI’s, FM’s
For this customer we linked PPM Tasks to the Document DIR, and updated progress based on status.
Case Studies: Real-life Examples

1) Integrated Engineering Change Process

2) Part Dashboard

3) Enhanced Object Linkage

4) Optimized Project Task Dashboard

5) Aggregated MS Project Integration
Now that all tasks are connected via Object Links to PLM Documents...

... We optimized the PPM Task Dashboard to sort tasks by criticality and Severity (a configurable icon)
Case Studies: Real-life Examples

1) Integrated Engineering Change Process

2) Part Dashboard

3) Enhanced Object Linkage

4) Optimized Project Task Dashboard

5) Aggregated MS Project Integration
Aggregated MS Project Integration

Standard MS Project integration performs a 1:1 replication of all tasks.

Many PM’s want to summarize the PPM tasks and allow much deeper planning in MSP.
MS Project Detailed task data is aggregated and passed to PPM:

- Actual Dates
- Percent Completes
Agenda

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Standard Integration: What exists out of the box

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Case Studies: Real-life examples

What’s Next: What are GyanSys Product Dev’t Team working on?

Summary / Questions
Reduced build event cycle time through integrated, automated PFEP process in SAP HOW

- Overnight BOM explosion representing full product structure to part level
- Scalable for New / Major or OS process
- Cross-functional responsibilities highlighting who does what
- Part characteristics including: Make or Buy, Critical, exotic material, etc
- Fully logically-linked networks listing specific tasks for each part based on above characteristics
- Dedicated PFEP for each build event (PV, DV, FV)
- Exception reporting focuses on late, critical parts slowing product development
- Covers entire part lifecycle (Experimental to Continual Improvement)

**Impacts**

**People**
- Extremely broad cross-section of functional team members throughout the company
- All users will share the same PFEP data. All steps are tightly linked together
- Manage by exception (system generated)

**Process**
- ‘cradle-to-grave’ part lifecycle from vendor qualification to continual improvement / cost reduction
- Workflow-driven, exception-managed process ranking tasks by criticality

**Technology**
- Powered by SAP PPM / Netweaver
- Eliminate / integrate 3rd party systems, Excel Spreadsheets, manual processes

**Data**
- Master data (detailed PFEP tasks) will exist as evolving data and will need regular maintenance (annual) to lock-in reductions to build event lead-time

**Risks and Mitigations**
- Potential for technical complexity and integration to every other part of SAP PLM
PFEP explodes the BOM into a PPM Project Structure.

Each Part is further exploded to a detailed cross-functional task list.
Process Overview (1 of 2)

PFEP Steps:

1) Trigger a BOM Creation / change event
2) Create / change a PFEP master project
3) Generate each part detailed task sub-project
4) Prioritize tasks according to Task Dashboard
5) Auto-progress tasks based on normal operations
PFEP Steps:

1) Trigger a BOM Creation / change event
2) Create / change a PFEP master project
3) Generate each part detailed task sub-project
4) Prioritize tasks according to Task Dashboard
5) Auto-progress tasks based on normal operations
PFEP: How It Works

- Step 1) Explode a Material BOM, Assembly, Sub-Assembly or Part into a project structure
PFEP: How It Works

- Step 2) Create / Change PFEP Master Project
PFEP: How It Works

Step 3) Generate each part detailed task sub-project
PFEP: How It Works

Step 4) Prioritize tasks according to Task Dashboard
PFEP: How It Works

Step 5) Auto-progress tasks based on normal operations
Summary

**Integrated PPM/PLM = Efficiency, Effectiveness Gains**

**@Management Level**
- ✔ Closed-loop system
- ✔ Exception reporting
- ✔ Supports decision making
- ✔ Improves efficiency

**@Functional Level**
- ✔ Fewer mouse-clicks
- ✔ Intuitive, good UI
- ✔ Elimination of data duplication
- ✔ Less admin, more analysis (job support)

*Bring Your Product Development Processes to Life*
Questions

Tom Martin
GyanSys Inc.
Tom.Martin@GyanSys.com
+1 949 307 3052
Visit our Booth # 130 for detailed discussion with our Solution Architect