4803 - Implementing SAP PS to Manage R&D Prototype Planning and Procurement at Honda

Grant Paige - Honda R&D Americas, Inc.
Scott Sullivan - Honda R&D Americas, Inc.
Tricia Callahan - NEC Corporation of America
Honda Business Units

Sales

Manufacturing

R&D

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Honda R&D Operates in 6 Regions Worldwide
Global Presence – Customer Focus – Market Leadership

Global commitment to deliver solutions that enhance business performance

Best of breed technology from NEC and key partners

Expertise in all facets of business operations – and the tools to deliver efficiency and improved performance

Design, Integrate, and Manage IT-Centric solutions tailored to meet business objectives

- Local presence in 44 countries
- 143,000 employees
- 50,000 patents
- $37B Global Sales

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Solution Focus

- Data Networks, Servers and Storage
- Unified Communications
- Biometrics & Security
- Radio Communications
- Digital Media
- Optical Networking Products
- Business Intelligence
- Managed Services
- Professional Services
- Document Solutions

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NEC - Implementation Partner

Service Focus

System Integration Services
- Network Infrastructure
- Unified Communications
- Biometrics Solutions
- Data Center Services
- Project Management

Maintenance & Support Services
- NEC Voice Maintenance
- NEC AFIS Maintenance
- Field Technical Services
- Break / Fix
- On-site Support Services

Global Remote Managed Services
- NEC Remote Monitoring
- NEC Essential Management
- NEC Comprehensive Management
- NEC Secure (Network)

Application Services & Support
- IT Services Delivery
- IT Operations Assessment
- Service Desk Services
- Fully Outsourced IT Operations
- Professional Services

Cloud Services Roadmap
- Cloud Feasibility Assessments
- Cloud Strategy Consulting
- UCaaS
- IaaS
- Cloud Management

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Agenda

- Purpose
- Background of Project
- Why Project Systems
- Top 3 Hurdles overcome in Project System
  - Defining Project Structure
  - Integration of PLM system
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- Using Grouping Pegging Distribution
- Using Portal Data to drive Process Analytics
- Project ROI

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LEARNING POINTS

- Helpful Information about using Project System (PS) to drive purchasing demand.

- Basic Grouping, Pegging, & Distribution (GPD) to consolidate procurement and track.

- How we integrated with a non SAP PLM system.

- How integration with SAP Partner's Supplier Collaboration Portal helped improve our process analytics.
Agenda

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- Project ROI
- Existing purchasing system was at End of Life.
- SAP was used only as the financial system not for purchasing.
- Extra material was being purchased or not being purchased.
- Our operation is similar to a "Make to Order" manufacturer.
- Was not easy to track and report the actual cost of a project
- Independent systems led to duplicate data entry which in turn resulted in multiple versions of the truth.
- We use a custom developed PLM system.
Old Flow versus New Flow

**Old Flow**

- **Finance**
  - SAP
    - Job
    - PR's printed from SAP
  - Invoice
  - SAP PUT
  - SAP GET
  - PR's
  - Payment

- **Integration**
  - Text File
  - PO Load

- **Portal**
  - Data entry

- **Pur System**
  - Planning
  - Distribution
  - Receive
  - Invoice
  - SAP PUT
  - SAP GET

- **PO Issues**
  - PR Approval
  - PO's
  - Marching

- **Receiving**
  - Invoice
  - Receive
  - Store
  - Distribute

- **WM Load**

- **WM**
  - Build
  - AR
  - Payment

**New Flow**

- **Integration**
  - PO Issue

- **PLM**
  - Design Change

- **SAP**
  - Planning
  - MRP PR

- **Receive**
  - Approval
  - Receive
  - Store
  - Distribute

- **Reports**
  - Chg Forms

- **Finance**
  - Invoice

- **Supplier**
  - PO's
  - Parts Manf
  - AR
  - Payment
- Purpose
- Background of Project
- **Why Project Systems**
  - Top 3 Hurdles overcome in Project System
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- Project ROI
• Purchasing demand is driven by project requirements
• Not an organization that uses production planning
• Need to plan and track costs by project
• This is SAP's solution for handling these requirements.
• Bill of Materials can be attached to project activities

Example 1

Project X
  Purchase
  BOM

Example 2

Project Y
  Prototype 1
  Prototype 2
  BOM
Agenda

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Top Issues overcome in Project System

- Defining the WBS and network **structure**
- **Integration** with PLM system and Project System
- Existing project **definitions** did not fit our requirement.
Project System Key Structures

**STRUCTURE**

- **Project Definition**
- **Project X**
- **Network Header**
- **Buy Tools**
- **BOM**

**Key Structures and Hierarchy**

- Top Level Definition (Must Be Unique)
- Work Breakdown Structure (WBS Element)
- Top Level Network Definition
- Activities
- Material Requirements
Work Breakdown Structure (WBS)

- Project X
  - Planning
  - Execute
  - Test

Meaningful Names: ProjectX.Execute.Test

Networks

- Phase 1
- Phase 2
- Phase 2.1

Activities

- Buy Raw Material
- Buy Parts

Bill of Materials

- BOM
  - Tire
  - Engine
  - Frame

Time related

STRUCTURE
Structure Load Programs

STRUCTURE

Project X

- Planning
- Execute

Phase 1

Buy Raw Material

Phase 2

Buy Parts

Phase 2.1

Test

BOM
Agenda

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Integrating Project Systems with PLM

**INTEGRATION**

- PLM data was retrieved using SAP Process Integrator.

- Custom GUI Interface was developed in SAP to bridge the PLM data with standard Project System Transactions.
INTEGRATION

1. Integration keeps Master PLM system and Material BOM in sync

2. Engineering Changes presented to user to update Order BOMS
INTEGRATION

Managing Engineering Change

Change Number

Change Info

Order BOM's

List of changed Parts

List of BOM's with changed Parts
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**DEFINITION**

- Project definitions can be defined as statistical or real.
- Real projects can have both real and statistical elements.
- Existing projects were all defined as statistical.

---

For existing Statistical Projects an X project was created.

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<tr>
<th>Statistical</th>
<th>Real</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>1X00</td>
</tr>
</tbody>
</table>

Standard SAP reports can report on both Projects using the wildcard *.

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Key Points

- WBS Elements have unique names and can only be used once. Plan your structure with this in mind.

- Structure Load programs are used to validate correct format of the project structure.

- Keep WBS names meaningful so the name helps identify what part of the structure is represented.

- Be aware that changing dates in the network effect your demand and MRP will react accordingly.
  - This can create a lot of noise in buyer's MRP messages.
  - MRP bucket settings can reduce the extra messages.

- Use Standard Transactions, function modules and BAPI's whenever making enhancements to SAP
- Purpose

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- Using Grouping Pegging Distribution

- Using Portal Data to drive Process Analytics

- Project ROI
- Demand is Grouped to reduced Purchase Request from MRP
- Demand are Pegged to WBS elements in the project
- Costs are Distributed to WBS elements in the Project

**Grouping WBS Elements**

- \( \uparrow \) = Grouped
- \( \downarrow \) = Peg and Distribute

Diagram:
- Group
  - WBS 1
  - WBS 2
  - WBS 3
  - WBS 2.1
  - WBS 3.1
Saves time by grouping demand for buyers but ...

Maintenance of GPD is time consuming

Automated the assignment of the WBS to the Group
  - This automation was done in standard PS user exit
  - Allowed for the creation of validation rules against our PS Structure
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Integrating with SAP Partner Supplier Portal

- Cost and delivery dates are confirmed using the Supplier Portal
- History of communication is stored in the Supplier Portal for all purchase orders
- Purchasing KPI's can be tracked using the portal data
### Managing PO's

- Purchase Orders are managed by Buyer Tasks.
  - Delivery Date Confirmation
  - Price Confirmation

<table>
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<tr>
<th>Part #</th>
<th>Status</th>
<th>PD Number</th>
<th>PO Lines</th>
<th>Vendor</th>
<th>Description</th>
<th>Quantity</th>
<th>Date Needed</th>
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<td></td>
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Collaboration History

- **PO History allows you to track your performance**

### Audit Trail

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<th>Dlv#</th>
<th>Date</th>
<th>Description</th>
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</thead>
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<tr>
<td></td>
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<td>Price</td>
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<td>02/27/2009 11:29 AM</td>
<td>INVOICE</td>
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</tbody>
</table>
Data can be used to improve the performance of KPI's

- PR Creation to Purchase Order Creation - Days
- PO to Portal Release - Days
- Purchase Order to Supplier Confirmation - Days
- PO Issue vs. Supplier Cost Update - Days
- Make the purchase order task based.
- Manage the purchase order exceptions.
- Keep a detailed audit trail.
- These tasks become your foundation for analytics.
- Analytics (KPI's) can show how well you are doing.
- Can't improve something unless you measure it.
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- Project ROI
- PO capacity increased by 30% without manpower increase
- Common part order process was reduced from 2 weeks to 2 hours
- Receiving process improved by 40% using standard WM
- WM put away timing reduced by 20%
- Project cost reporting time reduced to from 2 days to about 10 minutes
- Enforces a standard processing method that can be optimized
SUMMARY of KEY LEARNINGS

- Carefully plan your structure in Project System
- WBS Elements must have unique names.
- Keep WBS names meaningful to represent the structure.
- Network dates affect your MRP settings.
- Costs are accumulated and rolled up in WBS elements
- GPD groups material requirements across projects, plants. Pegs demand to the project and distributes costs back to the project. Can be difficult to maintain.
- Break your PO's into task's that can be measured.
- Use Portal data to help to improve your process. (KPI's)
- Utilize standard transactions, function modules and BAPI's when integrating to external systems.
THANK YOU FOR PARTICIPATING

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The End