

SAP PLM

Next Step After the ERP

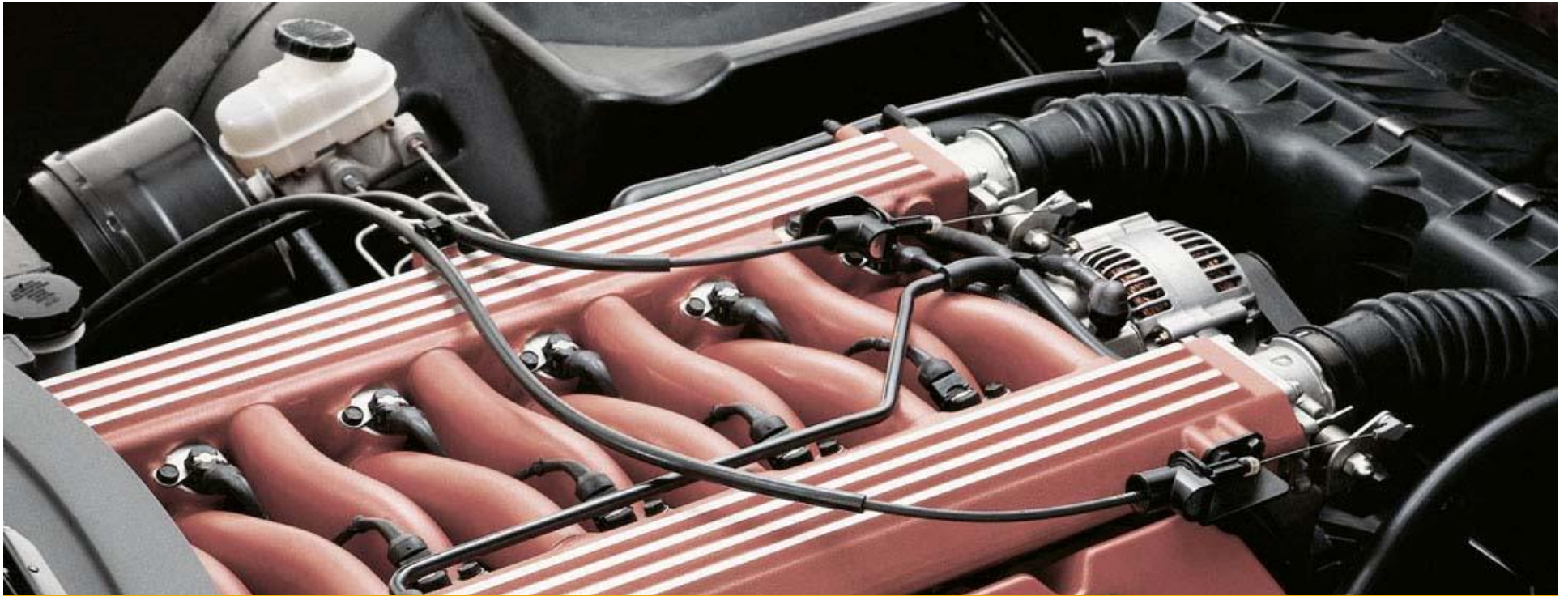


Peter Mravčák
Presales Principal, SAP

5.11.2009

THE BEST-RUN BUSINESSES RUN SAP™





PLM Definition

“The Business of Product”

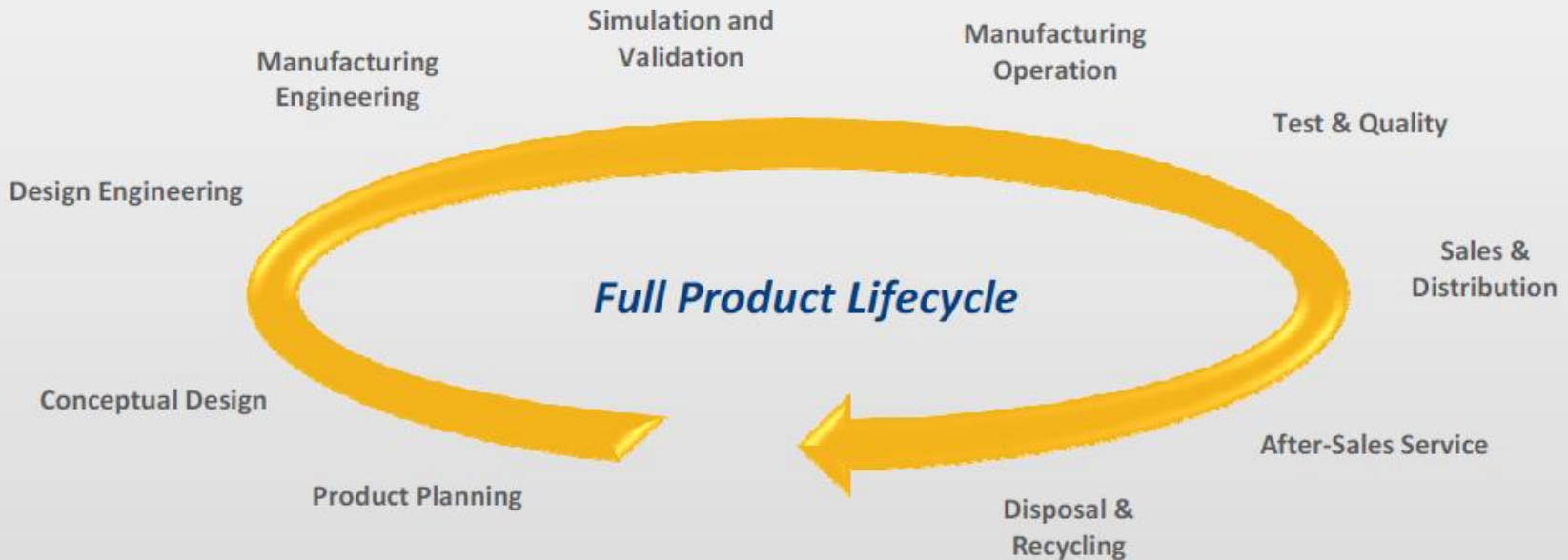
PLM Spans the Product/Plant Lifecycle

PLM touches all phases of a product's life and the entire value chain



Enable collaboration and facilitate innovation
across the entire product lifecycle

PLM can deliver value at each stage of the lifecycle



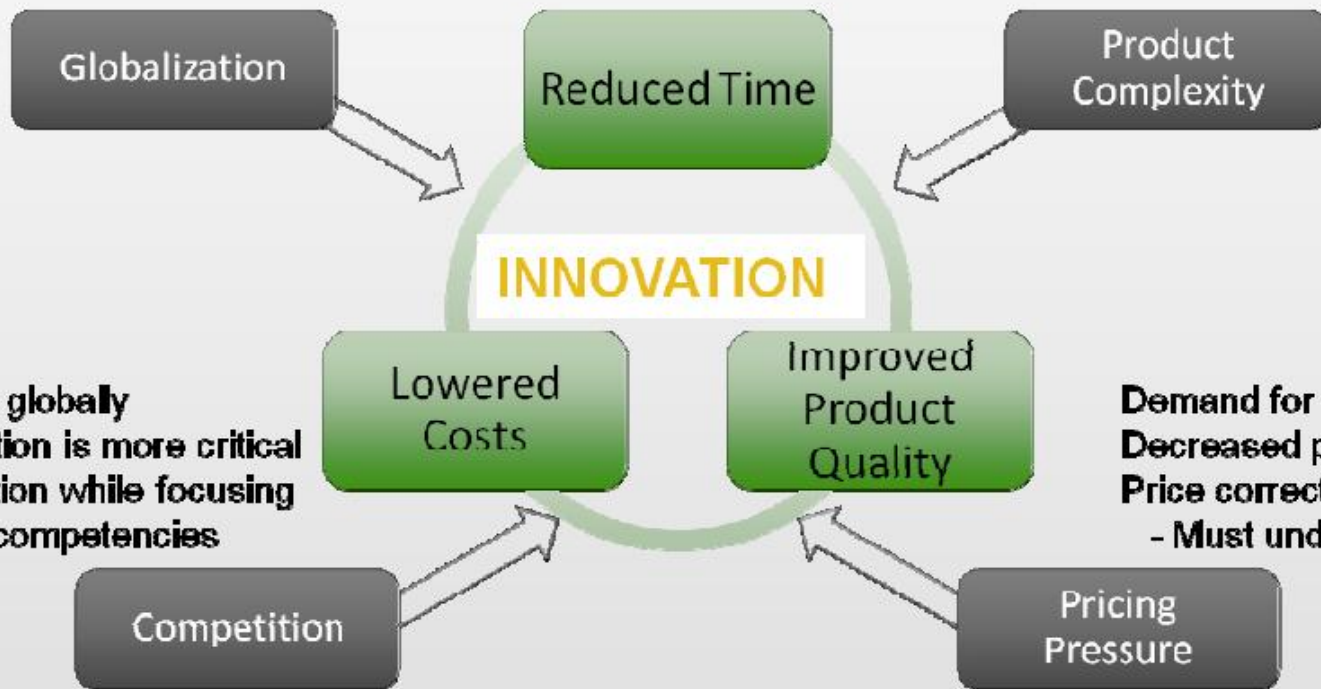
Success is a Total Enterprise Issue

Enterprise-focused initiatives to facilitate innovation are needed



Design anywhere
Build anywhere
Maintain anywhere
at any time

Increased part counts
Standard parts usage
Build-to-order and mass
customization

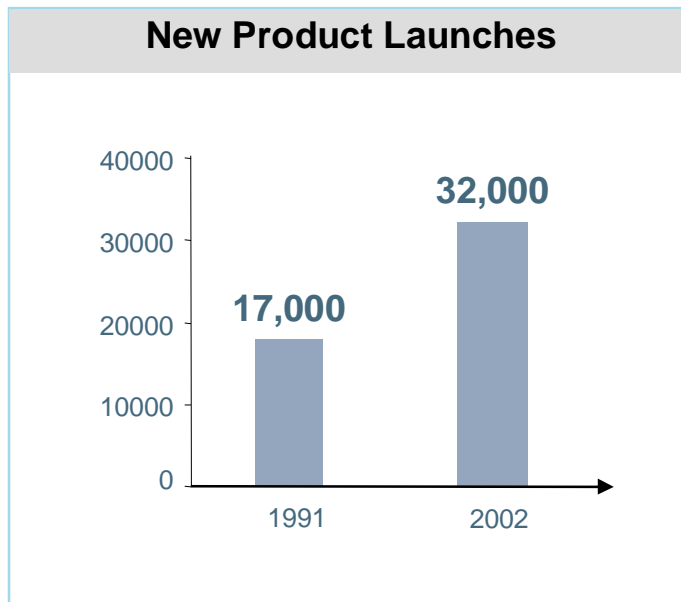


Increasing globally
Differentiation is more critical
Consolidation while focusing
on core competencies

Demand for global pricing
Decreased product margins
Price correctly the first time
- Must understand costs

PLM-enabled collaboration environments facilitate innovation, but PLM ***must*** be directly aligned with a company's business strategy

Year One New Product Revenue, the NPDI Key Performance Indicator!



Source: Accenture



Source: Deloitte Research, Global Benchmarking Study

- **Mattel's new toys introduced within the last year produce 70% of its sales**

Source: A.T. Kearney, "Mastering Innovation Management" 2002

- **Products newly introduced by Johnson & Johnson account for 25% of total company sales during past five years**

Source: Bradley

Success for Manufacturers is Dependent on Innovation, Efficiency & Risk Reduction



Facts:

Roughly 80% of all new products are failing to achieve their expected results

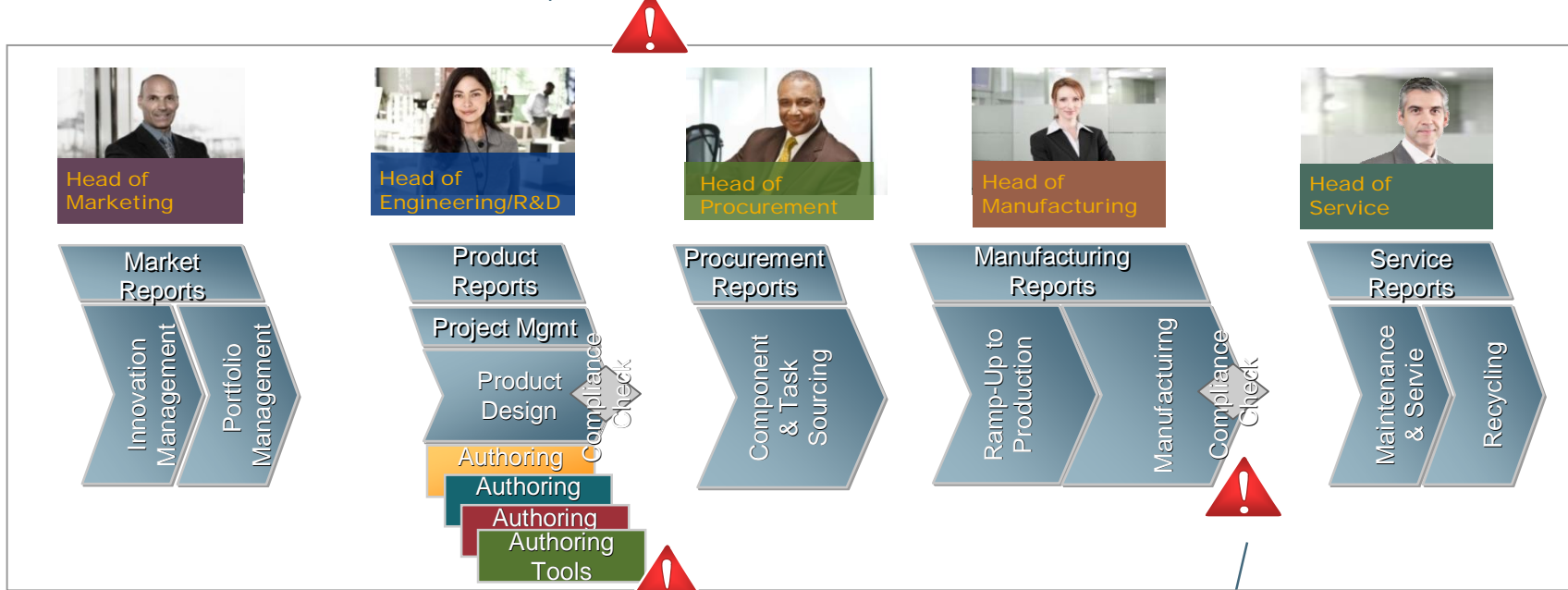
About 70% of product cost are locked down during the design phase

Companies are increasingly being held accountable for the environmental and safety performance of their products

What are the Reasons for Failure?



REASON NO1
Disconnected Business Processes and Information

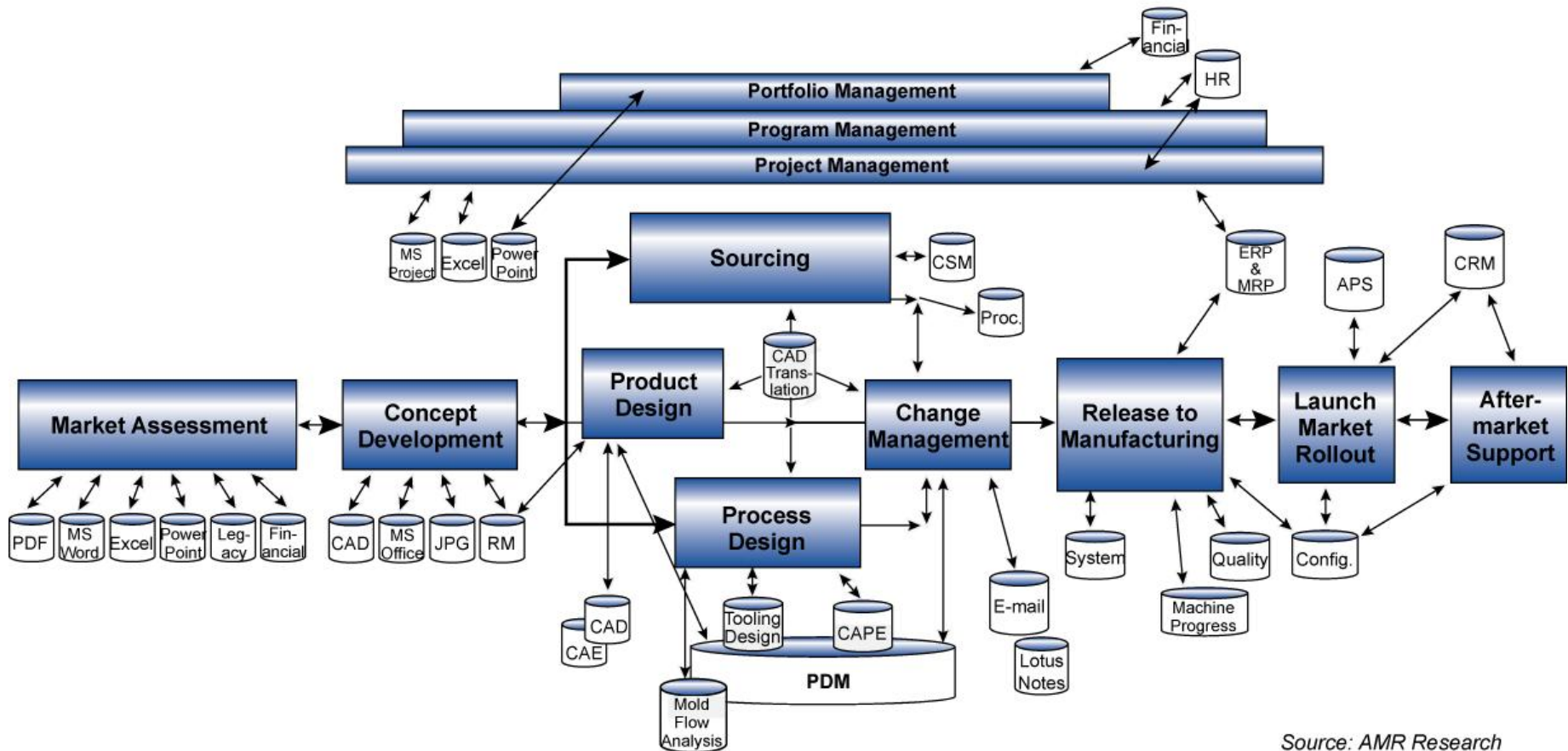


REASON NO2
Missing "single source of truth"

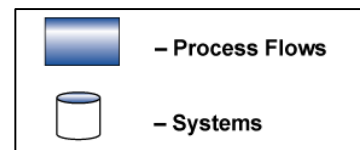
REASON NO3
Insufficient Sustainability Approach

Why?

Often the IT landscape is part of the problem



Source: AMR Research



The Need for a Comprehensive Product Innovation Approach



Continuous Product and Service Innovation:
The entire organization needs to ensure a continuous stream of profitable innovation

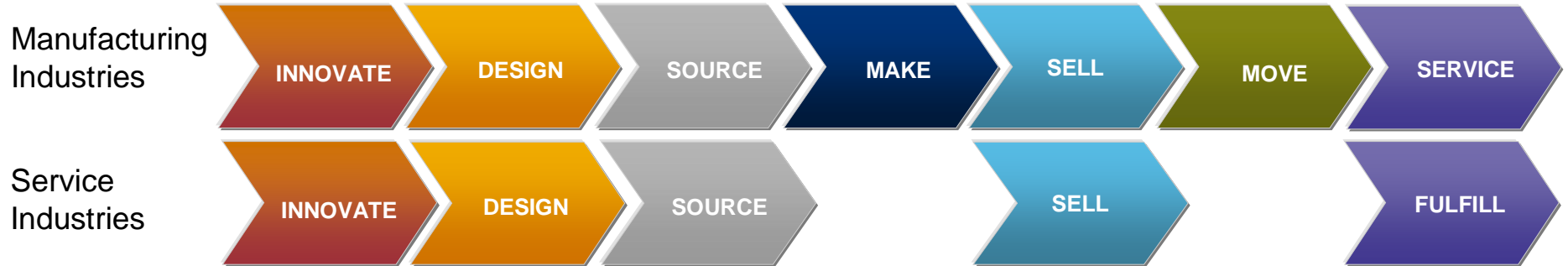


Integrated Product Development:
Connecting Engineering/R&D with the Business

Embedded Product Compliance:
Being green starts with simply being compliant with existing regulations

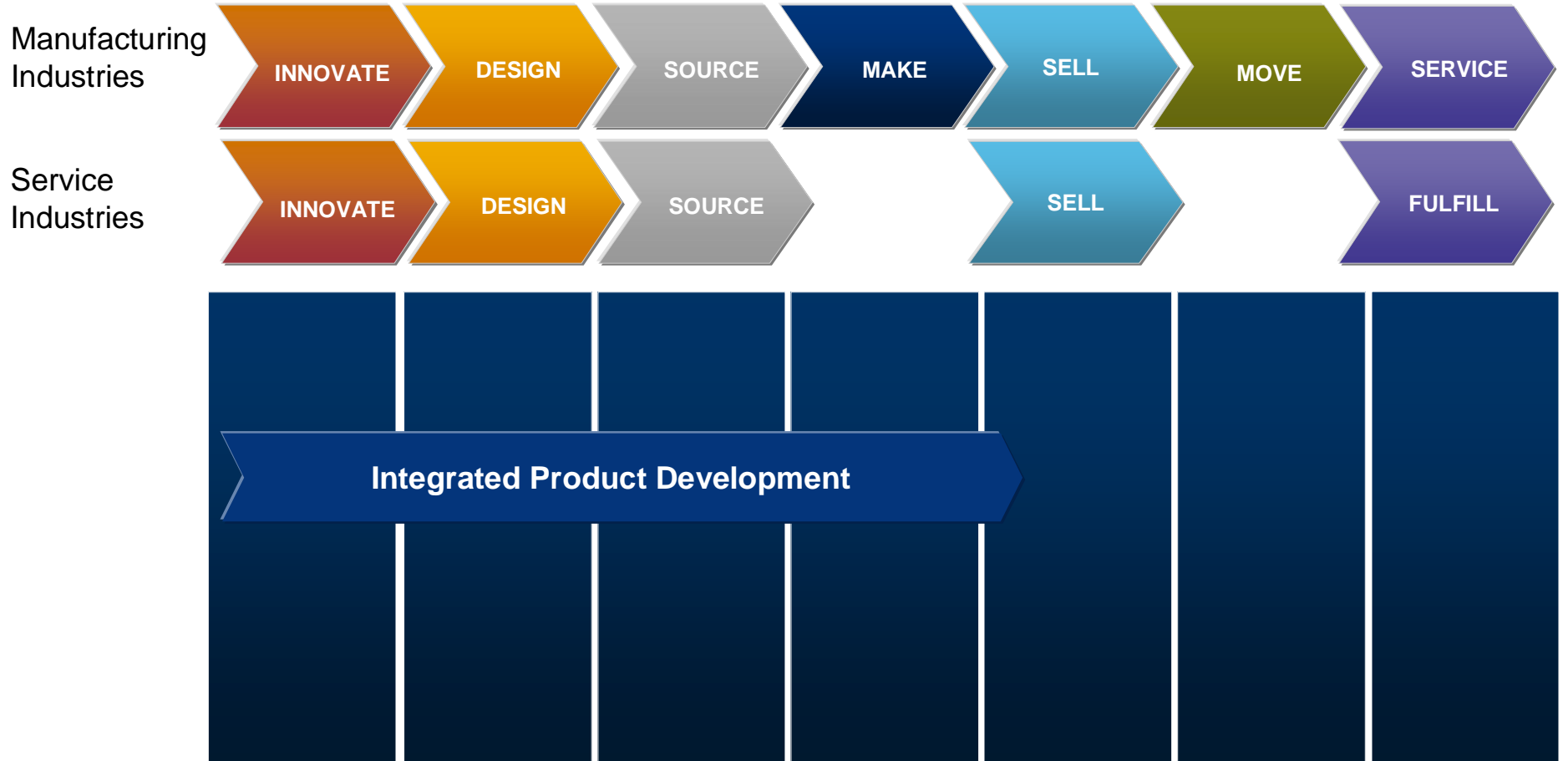
Product and Service Leadership

Can Be Achieved Through End-to-End Value Scenarios



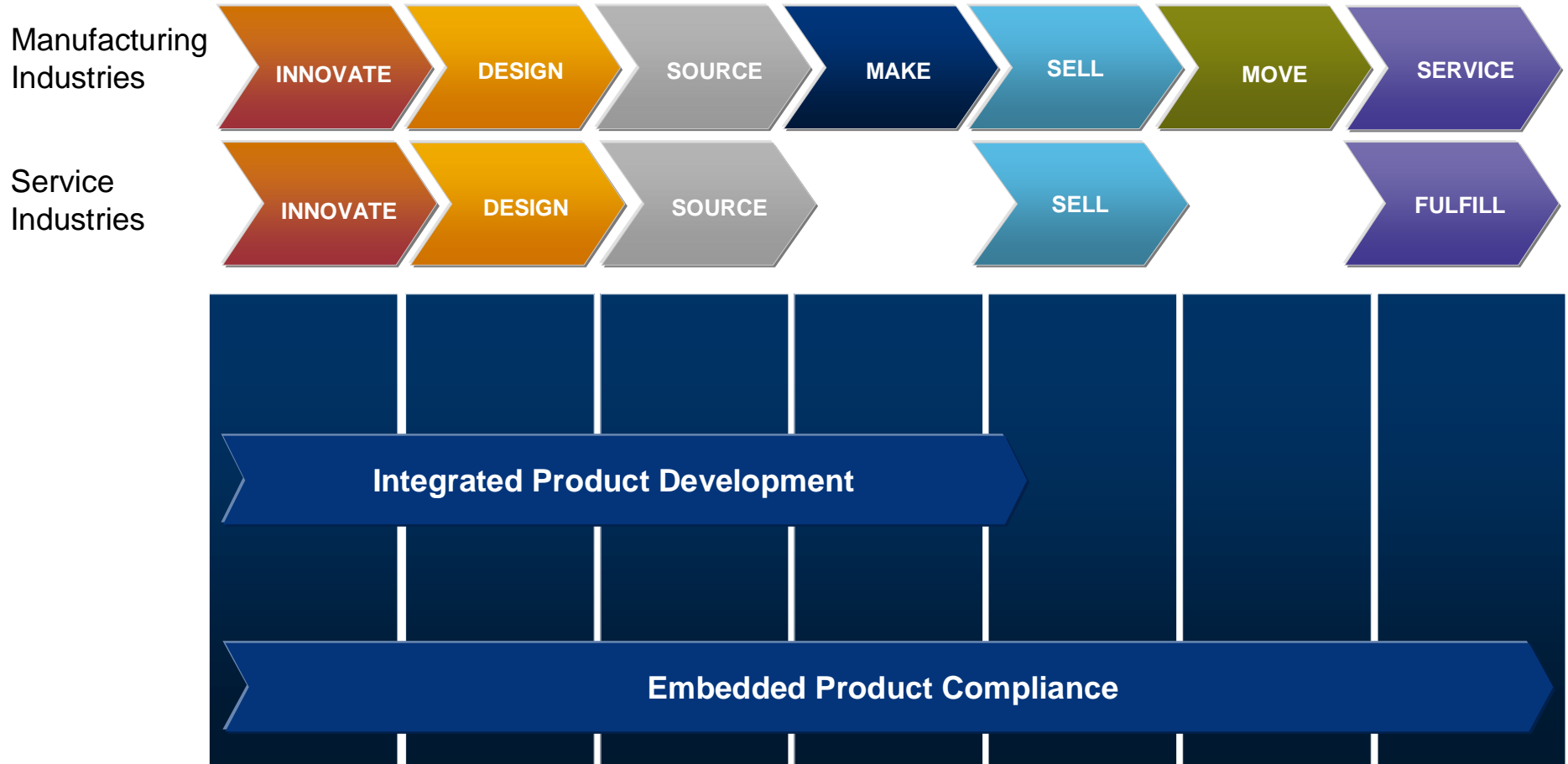
Product and Service Leadership

Can Be Achieved Through End-to-End Value Scenarios

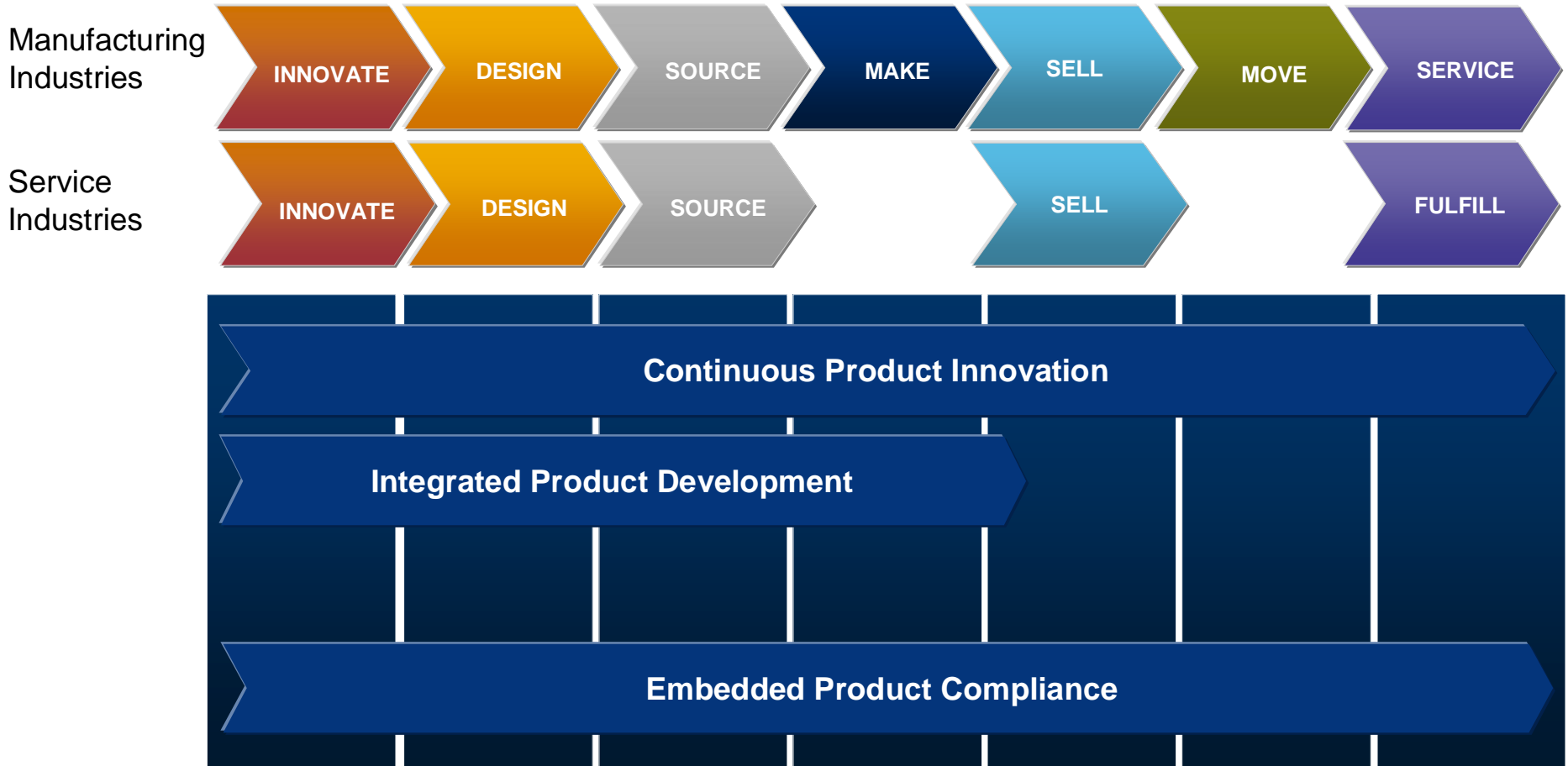


Product and Service Leadership

Can Be Achieved Through End-to-End Value Scenarios

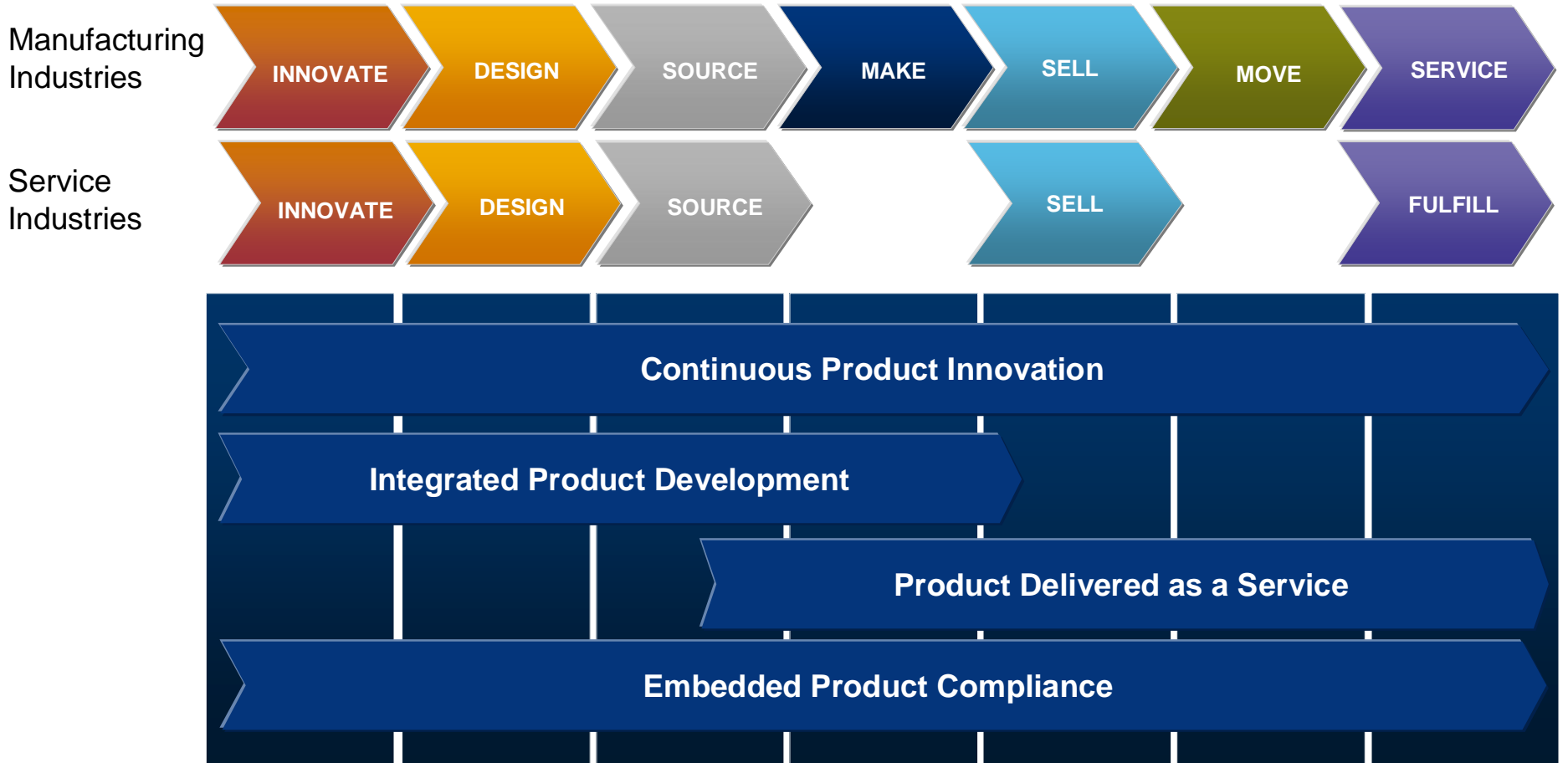


Product and Service Leadership Can Be Achieved Through End-to-End Value Scenarios



Product and Service Leadership

Can Be Achieved Through End-to-End Value Scenarios

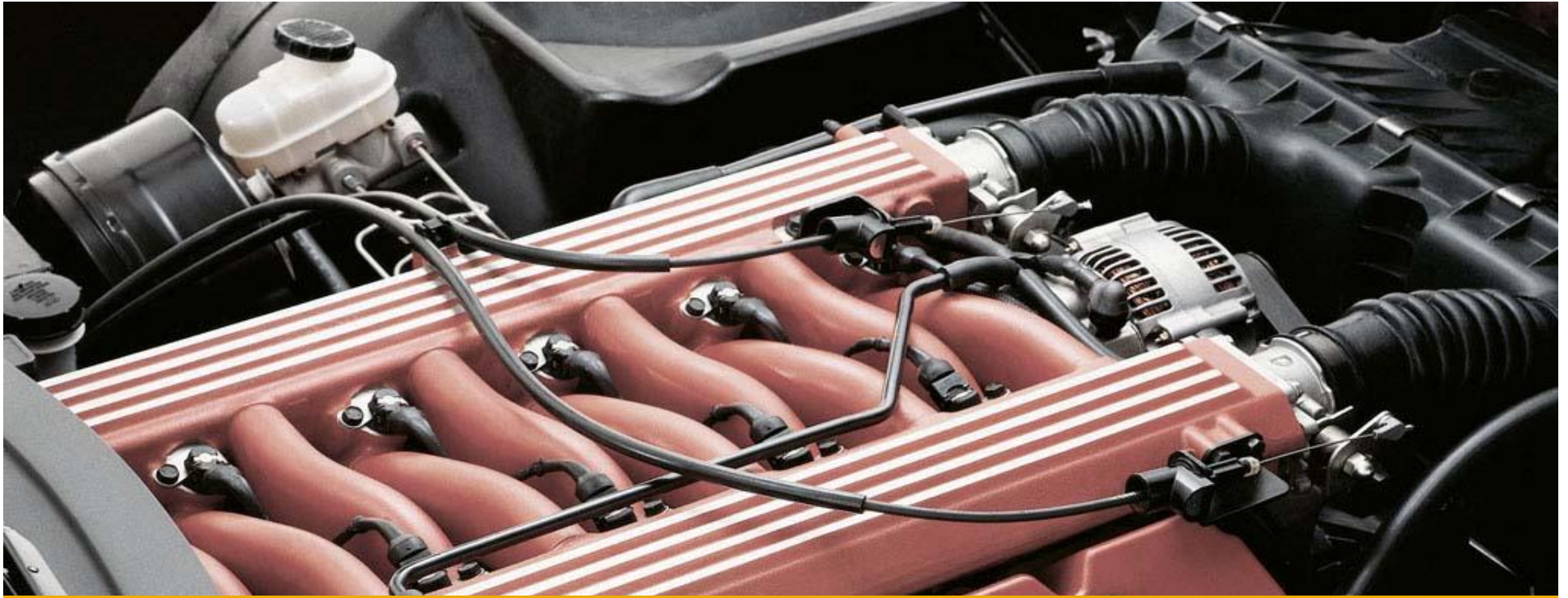


SAP PLM

Key Capabilities and Process Groups



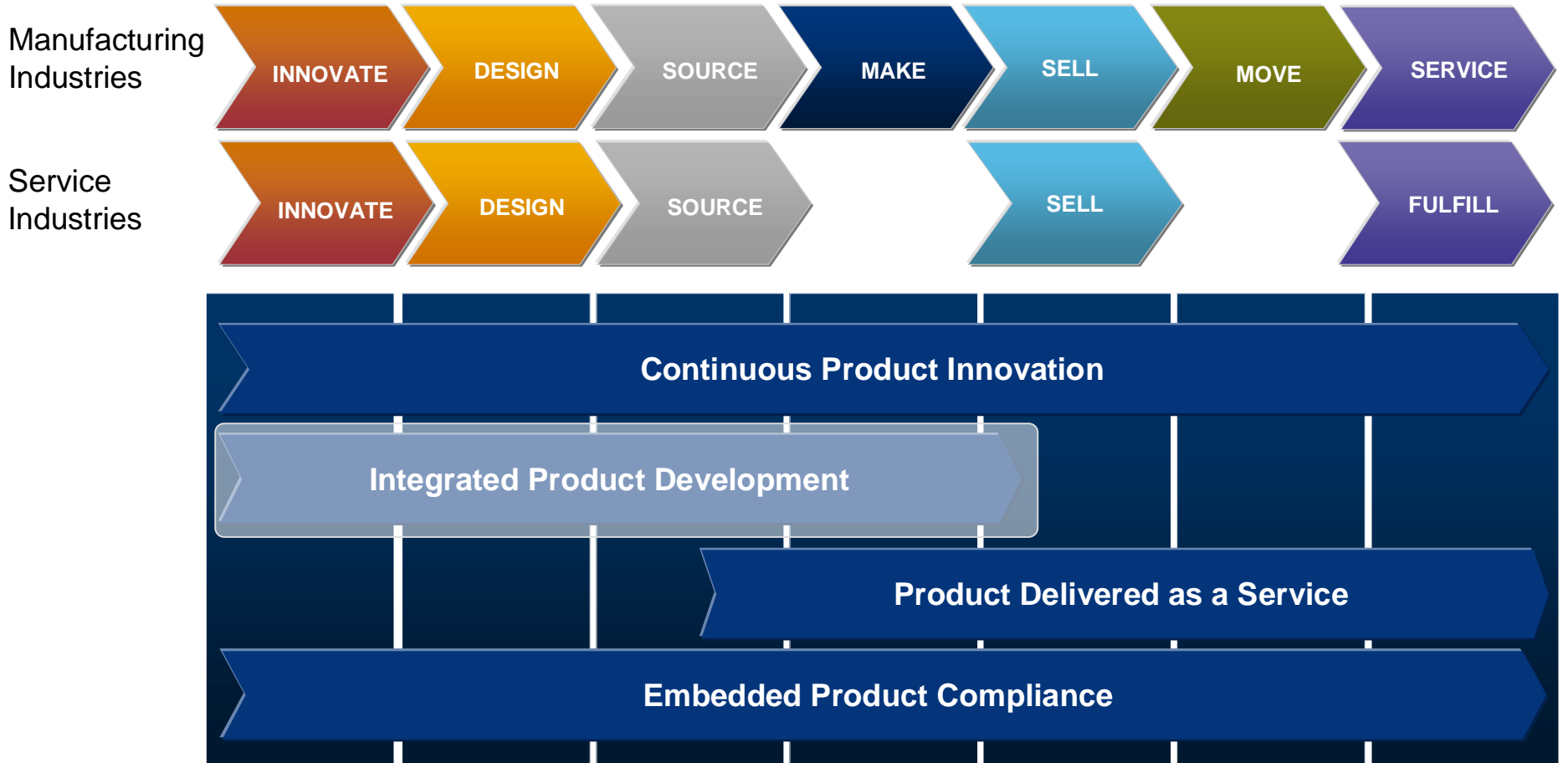
Product Management	Product Strategy and Planning	Product Portfolio Management	Innovation Management	Requirements Management	Market Launch Management	
Product Development & Collaboration	Engineering, R&D Collaboration	Supplier Collaboration	Manufacturing Collaboration	Service and Maintenance Collaboration	Product Quality Management	Change Management
Product Data Management	Product Master and Structure Management	Specification and Recipe Management	Service and Maintenance Structure Management	Visualization and Publications	Configuration Management	
PLM Foundation	Product Compliance	Product Intelligence	Product Costing	Tool and Workgroup Integration	Project and Resource Management	Document Management



Integrated Product Development

Product and Service Leadership

Can Be Achieved Through End-to-End Value Scenarios



Integrated Product Development

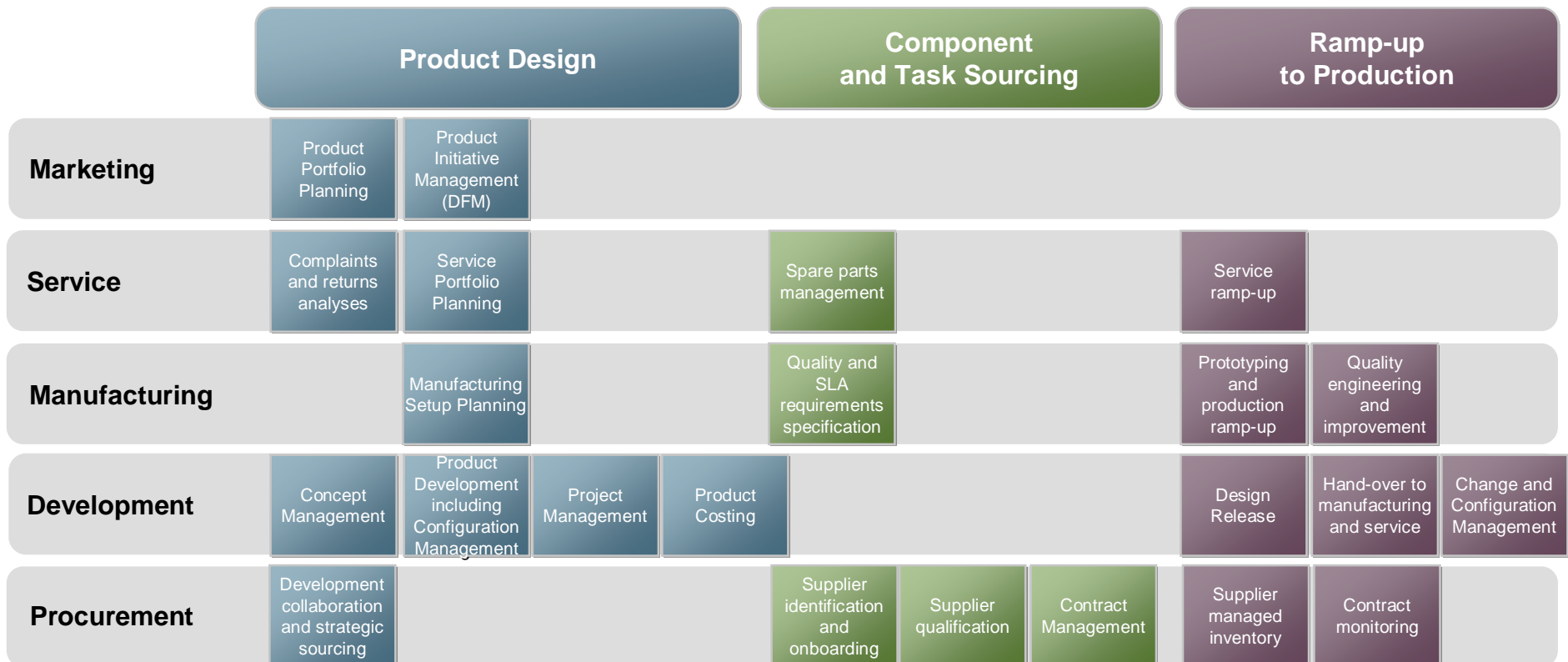


"Time-to-Profit"

Time Savings

Cost Savings

Quality and Scale



Process Flow: Product Design (1)



Product Design

Product Portfolio
Planning

Manage
Product
Proposals

Evaluate
Product
Proposals

Select
Product
Proposals

Product Initiative
Management
(DFM)

Decision
to Design

Project Planning

Setup
Design Project

Define Project
Deliverables

Schedule
Project

Portfolio & Project Management



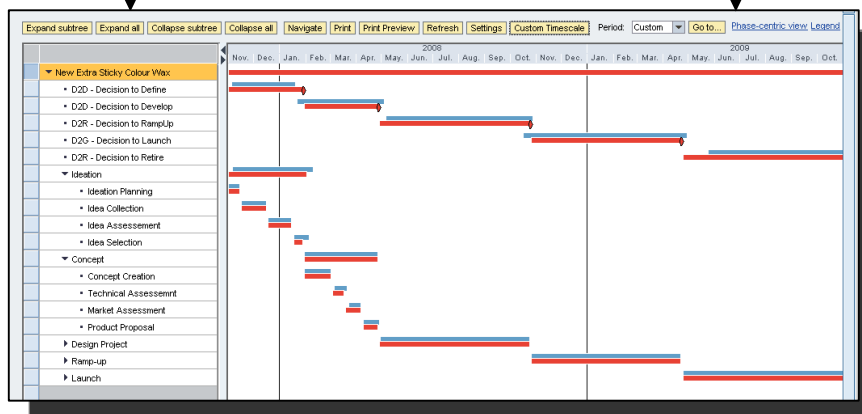
New Projects and Portfolio Items created out of a Product Initiative

Portfolio Item Management View

The screenshot shows the 'Create and Add New Item to Initiative: PB-SPD Radio Max' form in SAP. It includes fields for Name, Description, Type (Development Project), Initiative ID (PB-SPD-001), Initiative Name (PB-SPD Radio Max), and various project attributes like Status, Priority, and Dates. A red arrow points from this view towards the Project Operational View.

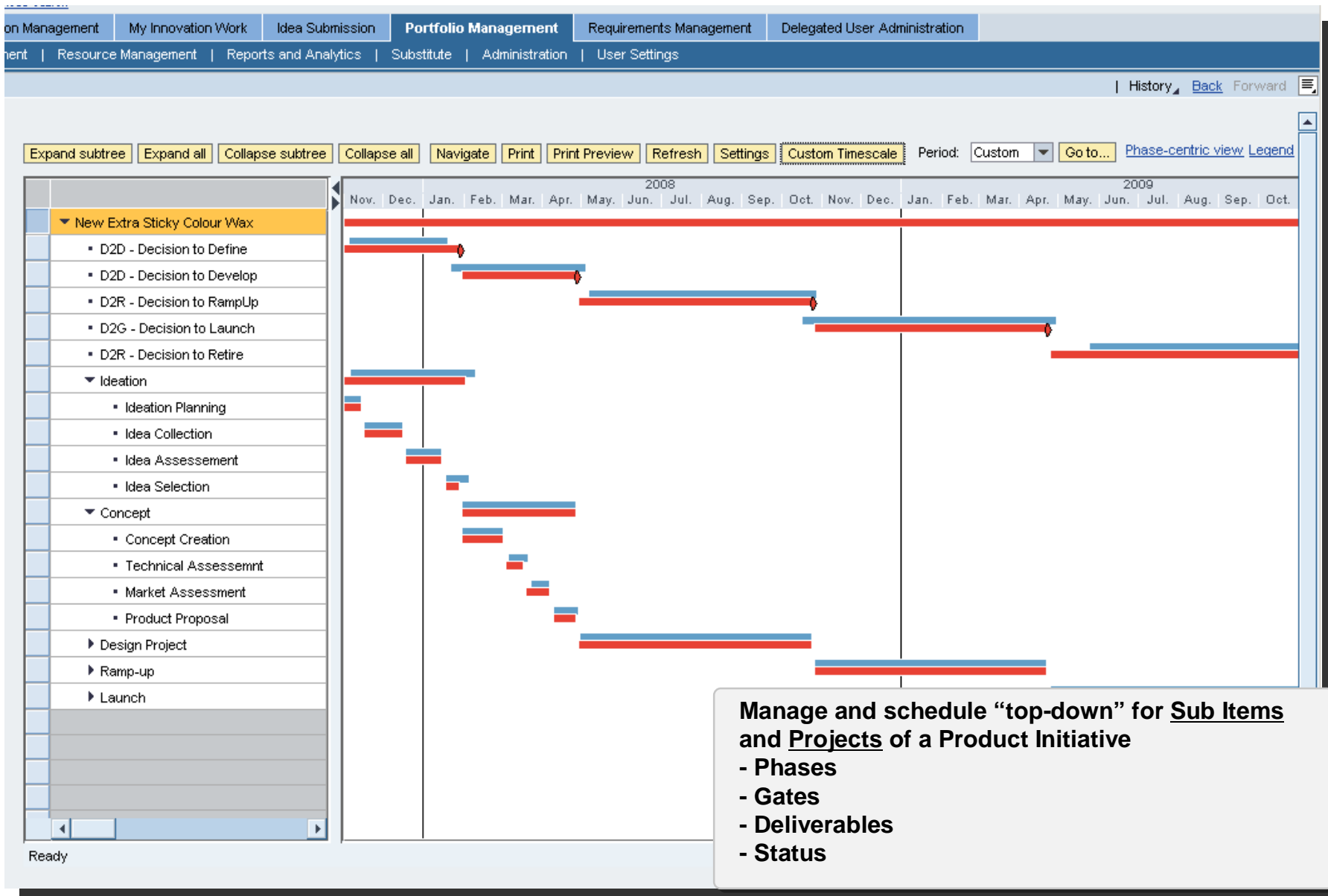
Project Operational View

The screenshot shows the 'Project' operational view in SAP. It displays project details such as Name (antennary), Number (324363433), and Status (Proposed). It also shows a list of project elements and a detailed view of the project's status and dates.



Manage Projects for New Product Initiatives

Timeline, Resources, Deliverables, Costs, Budget, etc. as well



Manage Specifications and Design documents to Project Deliverables



SAP PLM Objects can be linked to Project Deliverables

The screenshot shows the SAP PLM Project Deliverables interface. The breadcrumb trail is: 23-Radio Max Design > Product Development > Design Finalization. The interface includes a navigation menu on the left with options like 'Structure', 'Resources', 'Status Reports', 'Project Versions', and 'Search'. A toolbar at the top contains buttons for 'Start Page', 'Display / Change', 'Save', 'User Settings', and 'Help'. Below the navigation, there are buttons for 'Create', 'Include', 'Delete', 'Schedule', 'Favorite', 'Favorite (Browser)', and 'Print'. The main area displays a table of checklist items with columns for 'Crit.', 'Sort No.', 'Name', 'Status', 'Change Status', 'Responsible Role', 'Responsible Resource', and 'Responsible'. The table contains several rows of tasks, all with a status of 'Released' and assigned to 'Project Manager-IPD'.

Crit.	Sort No.	Name	Status	Change Status	Responsible Role	Responsible Resource	Responsible
00010	00010	Material Master/Docs created	Released		Project Manager-IPD		Project Man
00020	00020	Material BOM created	Released		Project Manager-IPD		Project Man
00030	00030	Design Review completed	Released		Project Manager-IPD		Project Man
00040	00040	Mfg Review completed	Released		Project Manager-IPD		Project Man
00050	00050						
00060	00060						
00070	00070						

Link Documents to Project Deliverables and Check List Items in Project

The screenshot shows the SAP Document Browser interface. The title bar reads 'Display Document: 1000008073'. Below the title, there are fields for 'Document Number', 'Document Type', 'Document Part', 'Document Version', and 'Document Description'. The main area displays a tree view of documents under the folder 'EDPUBLICROOT\FOLDER'. The tree view shows a hierarchy of documents, including folders and individual files with their respective object types and descriptions.

Document	Object Type	Type	Description	Version	Status	Part	Document Data
EDPUBLICROOT\FOLDER	FOL		Public Root folder	00	000		
1000000296	DRW		jsample	00	000		
1000001227	DRW		Credepmdoc_wbcontext	00	000		
1000001298	DRW		testcase_23	00	000		
1000001583	AAB		RAIL_MTF_TESTDOCS	00	000		
1000001584	KPR		TEST	00	000		
1000001635	DRW			00	000		
1000001642	EAR			00	000		
1000001655	KPR		Testing by ant...	00	000		
1000001678	KPR		fun	00	000		
1000001679	KPR		fun	00	000		
MATHIAS.JPG	DRW		Create	00	000		
ONA_OB1_S0C3	ONA		Document for DIR and ECM Obj links	00	000		
1000000000000012	DRW		01_doc_creation	00	000		
1000001014	DRW		5623	00	000		
1000001015	DRW		5623	00	000		
1000001016	FOL		Admin wadw	00	000		

Link Material Master Data to Project Deliverables and Check List Items

The screenshot shows the SAP Display Bill of Material interface. The title bar reads 'Display Bill of Material'. The interface displays a list of material items with columns for 'Item', 'Material', 'Description', 'Quantity', 'Unit', 'Status', 'Valid From', 'Valid To', 'Change No.', and 'Filter'. The list shows several material items, including 'Bike Wheel 21" Goodyear Tire black', 'Bike Crank', 'Bike Headset', 'Bike Fork Neck', 'Bike Fork', 'Bike Fork - modified', 'Bike small Nut', 'Bike small Nut - modified', 'Bike Seal', and 'Bike Seal Post'. Below the list, there are tabs for 'General Data', 'Material Group', 'Created in CAD', 'Est. Mat Group', 'Description', 'Lab/Objec', 'Prod Inventory', 'Int. Std Desc.', 'Old mat number', 'Basic material', and 'Configurable'. The 'General Data' tab is currently selected, showing details for the selected material item.

Item	Material	Description	Quantity	Unit	Status	Valid From	Valid To	Change No.	Filter
0015	Material BBE1001	Bike Wheel 21" Goodyear Tire black	2	EA		01.01.2007	31.12.9999		
0020	Material BBE1006	Bike Crank	1	EA		01.01.2007	31.12.9999		
0020	Material BBE1012	Bike Headset	1	EA		01.01.2007	31.12.9999		
0040	Material BBE1014	Bike Fork Neck	1	EA		01.01.2007	31.12.9999		
0050	Material BBE1015	Bike Fork	1	EA		01.01.2007	01.10.2007		EC200710
0050	Material BBE1015A	Bike Fork - modified	1	EA		01.01.2007	31.12.9999		EC200710
0060	Material BBE1011	Bike small Nut	2	EA		01.01.2007	01.04.2007		EC200704
0060	Material BBE1011A	Bike small Nut - modified	2	EA		01.04.2007	31.12.9999		EC200704
0070	Material BBE1016	Bike Seal	1	EA		01.01.2007	31.12.9999		
0090	Material BBE1017	Bike Seal Post	1	EA		01.01.2007	31.12.9999		

Checklist and Deliverables Dashboards



- Manage Deliverables and Check Lists across Phases of a Product Initiative
- Synchronize Dates and Status with underlying Projects

Checklist Dashboard

Below is the list of Phases for the Initiative. Click on a Phase to see its details.

Quick Information

Product Portfolio - L'Oréal > Consumer Products > L'Oréal Paris > Styling > New Extra Sticky Colour Wax

Initiative External ID:	ES0001	Name:	New Extra Sticky Colour Wax	Initiative Type:	New Product Development
User Name:	ZADRO	Planned Duration:		Decision Point Name:	D2D - Decision Point
Phase Name:	Discover	Bucket Name:	Styling	Decision Point Info:	1 / 5
Budget Status:		Staffing Status:		Schedule Status:	
Risk Icon:		Priority Icon:		Status Icon:	

Display / Change Save User Settings Help

Structure Search

Discover > Deliverables - Discover Phase Detail Table Graphic

Checklist Item Create Delete Schedule Print Language: English

Expand Subtree Determine Dates Navigate Refresh Print Print preview View: Overview

Project: 140000000000000049852007

	2008										2009										2010							
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.
Discover																												
Deliverables - Discover Phase																												
Provide Market Research Study																												
Define																												
Deliverables - Define Phase																												
Lab Report																												
1st Product Test																												
Shelf Life Test I																												
Report Market Potential																												
Risk Analysis I																												
Business Case																												
Value Benefit Analysis																												
Design																												
Ramp-up																												
Commercialization																												

Managing Product Initiatives



Initiative Overview

An overview of the initiative is shown below; to display the various sections, choose the corresponding tabs.

Quick Information

Entertainment Systems - IPD > Audio Systems - IPD > PB-IPD Radio Max

Initiative External ID: PB-IPD-INIT-001

Name: PB-IPD Radio Max

Budget Status: ■

Schedule Status: ■

Risk Icon: ■

Decision to Design < Decision to Design > Decision to Ramp-up < Decision to Ramp-up > Decision to Production < Decision to Production >

Save

General Information Additional Information Description Items of Initiative Financial Overview Capacity Overview Authorizations Notes

Sub Items

Create New Add Remove

Name	External ID	Type	Bucket Name	Risk Icon	Priority Icon	Budget Status	Schedule Status	Staffing Status	Proj
PB-DVD Combo	PB-IPD-ITEM-02	NPD Proposal	Audio Systems - IPD	■	⊗	■	⊗	■	
PB-DVD Combo2	PB-IPD-ITEM-03	NPD Proposal	Audio Systems - IPD	■	⊗	■	⊗	■	
PB-Radio Max Design	PB-IPD-ITEM03	NPD - Design Project	Audio Systems - IPD	■	⊗	■	■	●	
PB-Radio Max Ramp-up	PB-IPD-ITEM04	NPD - Ramp up Project	Audio Systems - IPD	■	⊗	■	■	■	
PB-RadioMax-MP3	PB-IPD-ITEM-01	NPD Proposal	Audio Systems - IPD	■	⊗	■	⊗	■	

Row 1 of 5

Save

Budget Status

Actual vs. Planned/Budgeted Project Costs taken from FI/CO postings in SAP ERP

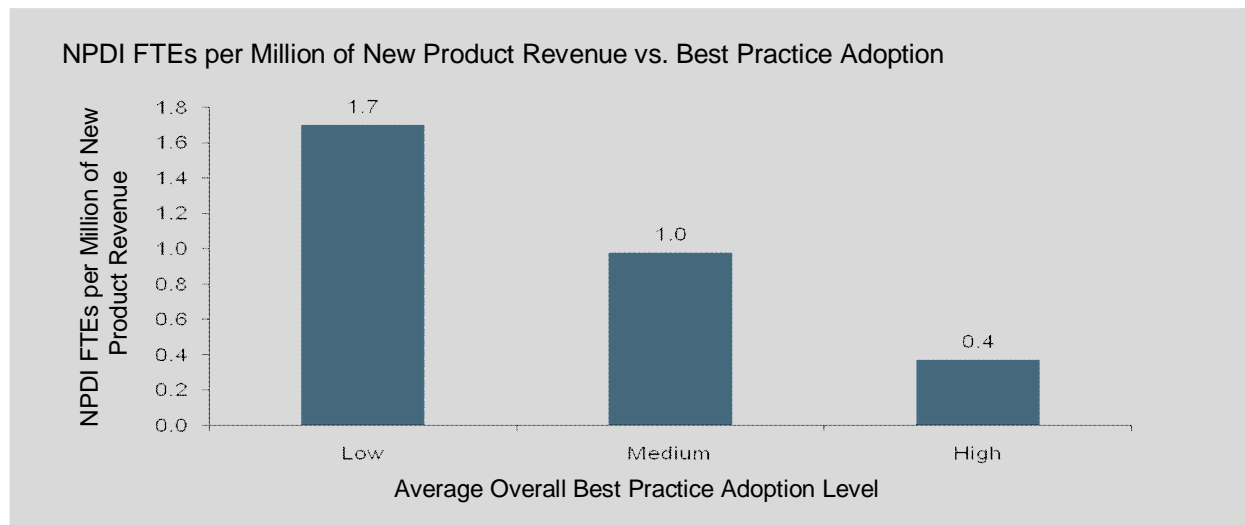
Staffing Status

Staffing of project roles taken from the Project Management (cProjects)

Benchmarking



Companies where new development projects are managed through a tool that generate and demand forecast for resource requirements and sends proactive alerts in case of project task delays or cost overruns, have on an average 75% lower NPDI FTEs per Million of New Product Revenue



Best Practice:

New development projects are managed via a documented process that describes clearly all the steps from idea generation to product launch. Task dependencies are easily modeled and tracked through this tool

Proactive alerts are sent out to appropriate personnel when a project tasks gets delayed or when the actual costs exceeds the planned budget

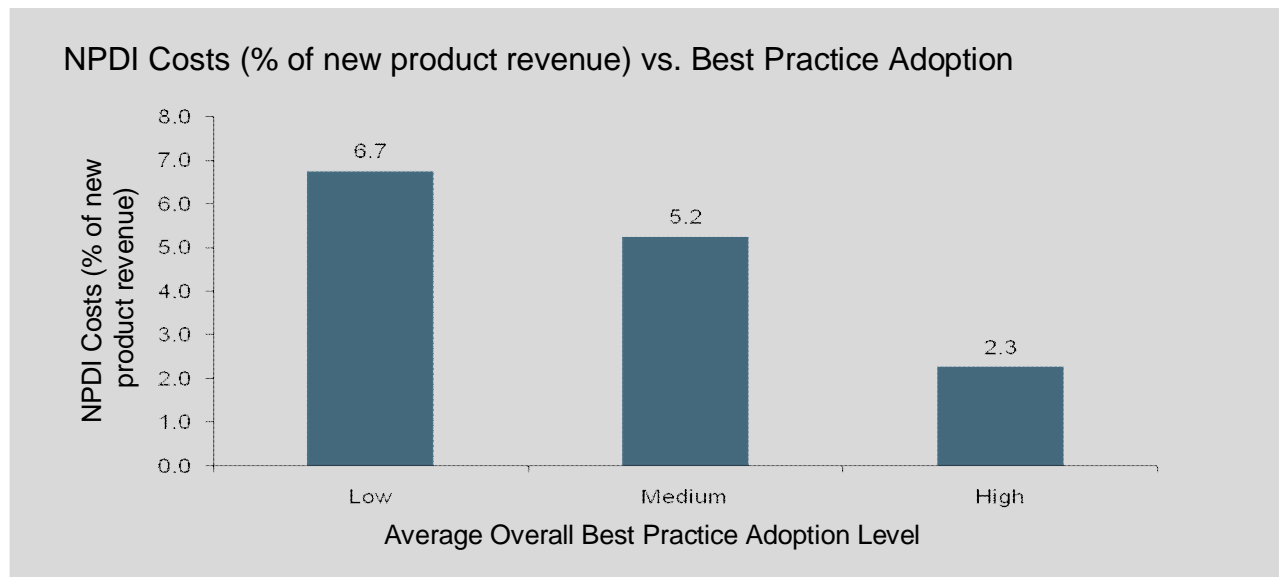
The demand forecast for resource requirements is generated and communicated to all functions at least 4 to 6 weeks in advance

It is easy to get an overview of resources and projects they are working on at any given point in time and to identify, reserve and deploy the right resources for the right projects

Benchmarking



Companies where strategic resource management is actively monitored through online and dashboards enabling company executives to review and plan for future requirements, have on an average 65% lower NPDI Costs (% of new Product revenue)



Best Practice:

Strategic resource management is a priority for company executives

Company executives (including head of product development) regularly review current resource allocations among different product portfolios and make necessary decisions for future resource requirements

There is an online tool to store key information on resources, such as skills, education, past projects worked. etc.

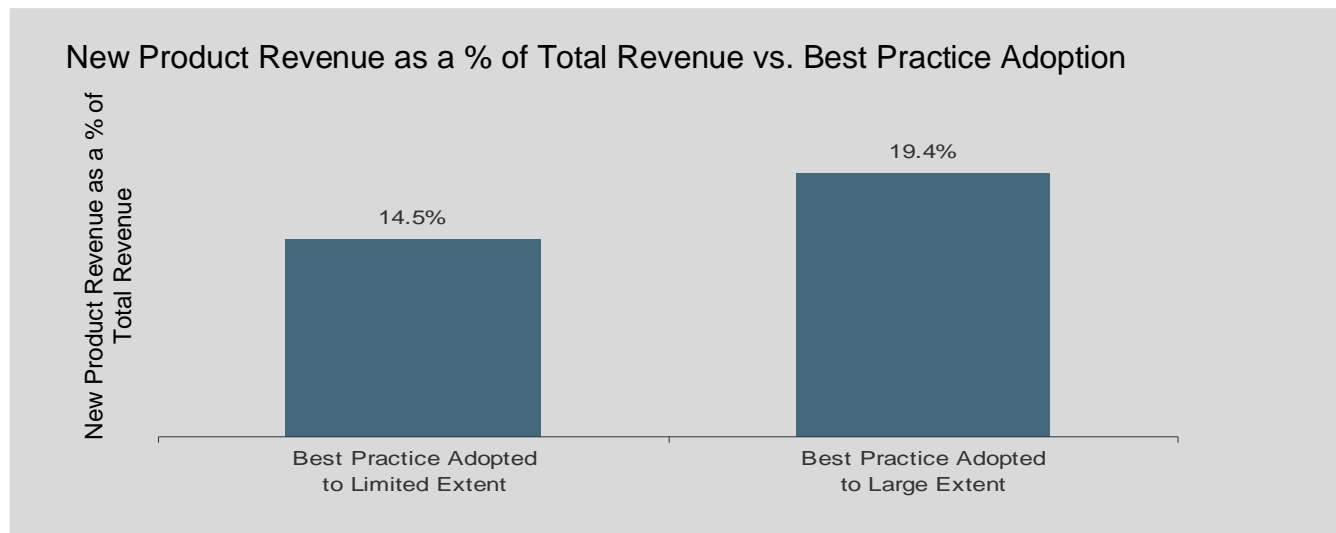
There is an effective process and a system to capture time and money spent by resources on various projects

Product development executives and management team has access to dashboards to view key summary metrics (resource allocation by projects, resource utilization, idle resources, etc.) and details if needed

Benchmarking



Consumer Products companies with effective portfolio management systems have on average almost 35% higher new product revenue



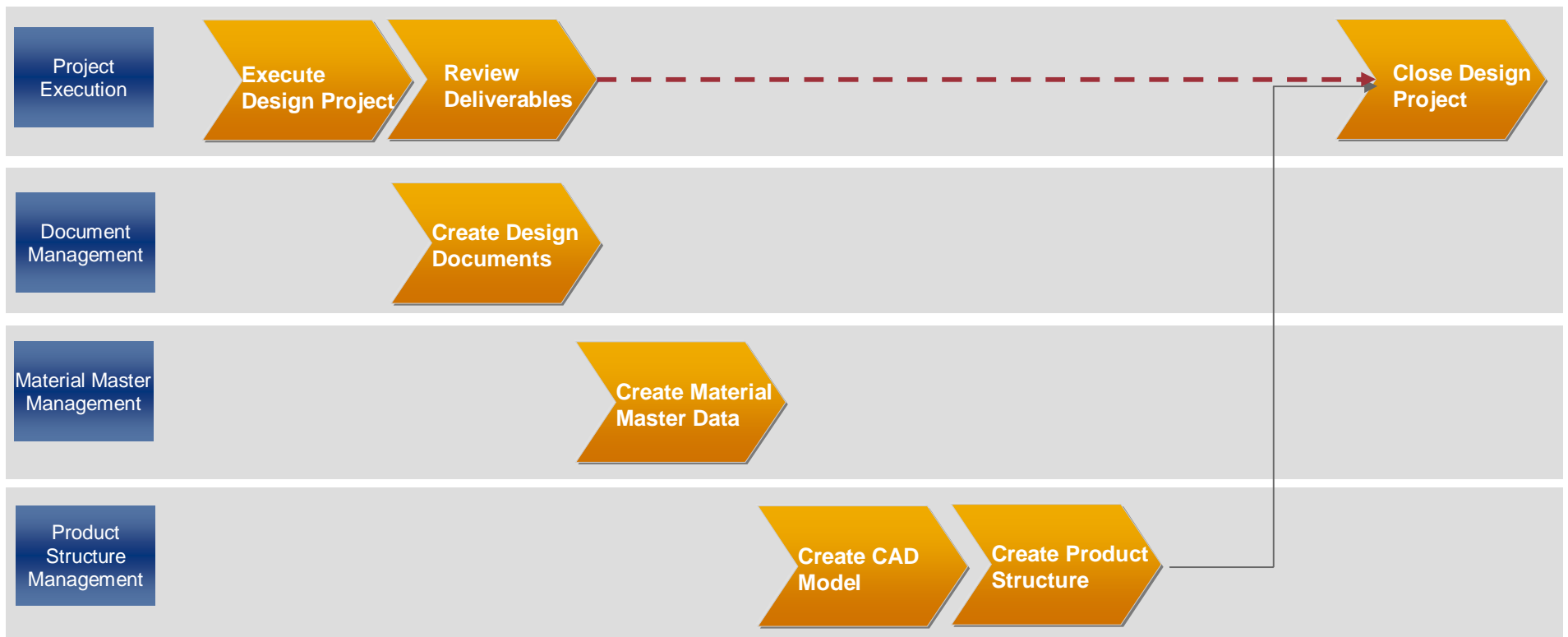
Best Practice:

Portfolio Management – “Alignment of product portfolio with business strategy; Proactive management of the portfolio of projects/ products; Portfolio reviews; Monitoring performance and rebalancing portfolio “.

Process Flow: Product Design (2)



Product Design



Process Flow: Component and Task Sourcing



Component and Task Sourcing

Supplier identification and on-boarding

Supplier Registration

Review Supplier

Approve Supplier

Supplier qualification

Initiate Bidding

Publish Bidding Events

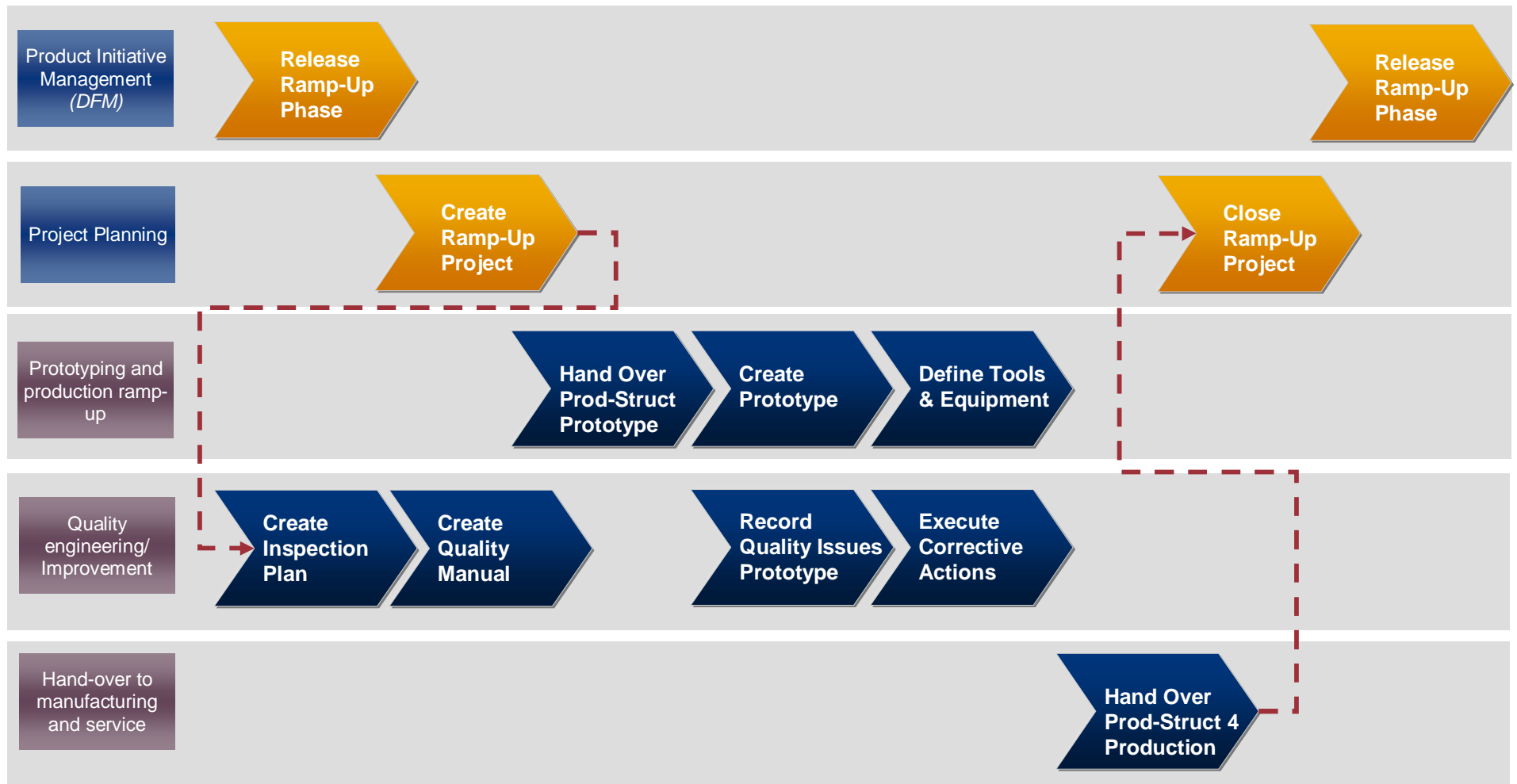
Receive Bidding Response

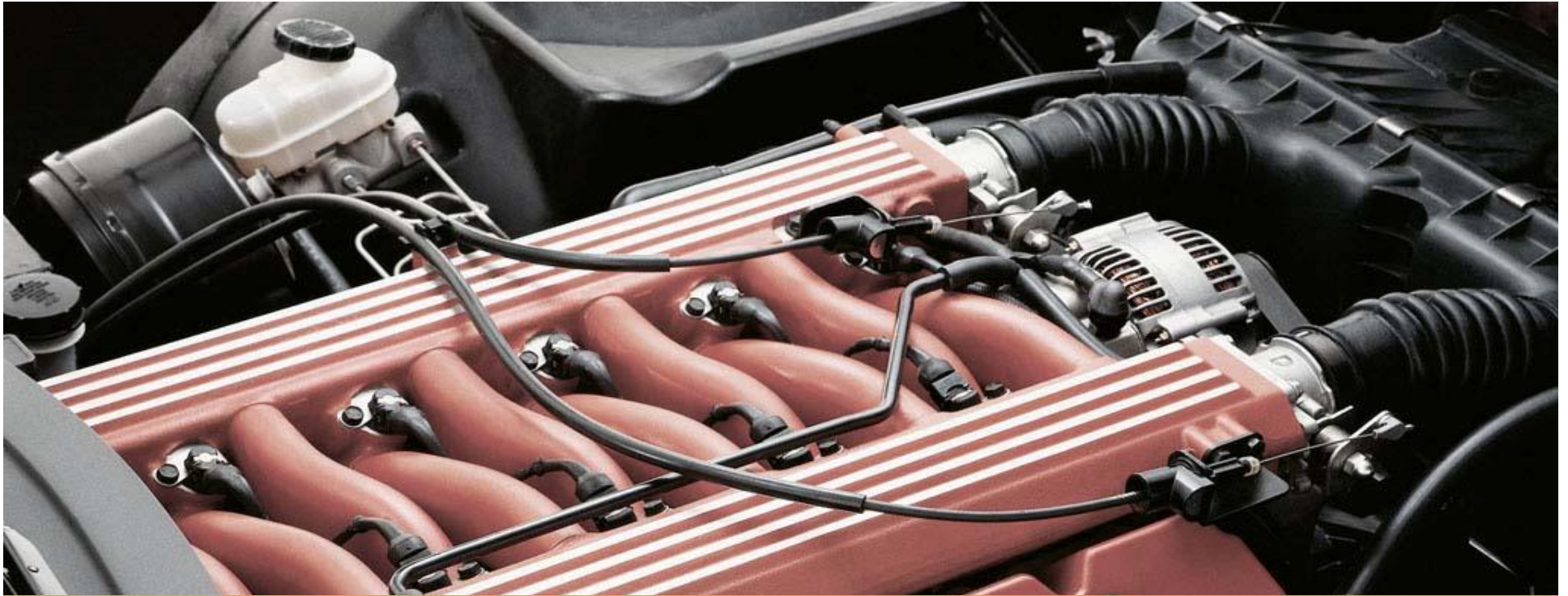
Select Supplier

Ramp-up for Production



Ramp-Up for Production



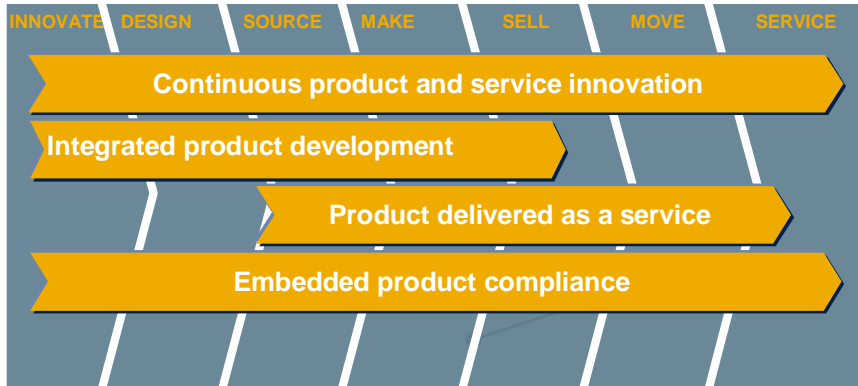


Path to PLM

Product and Service Leadership and SAP PLM



End to End Processes Product and Service Leadership

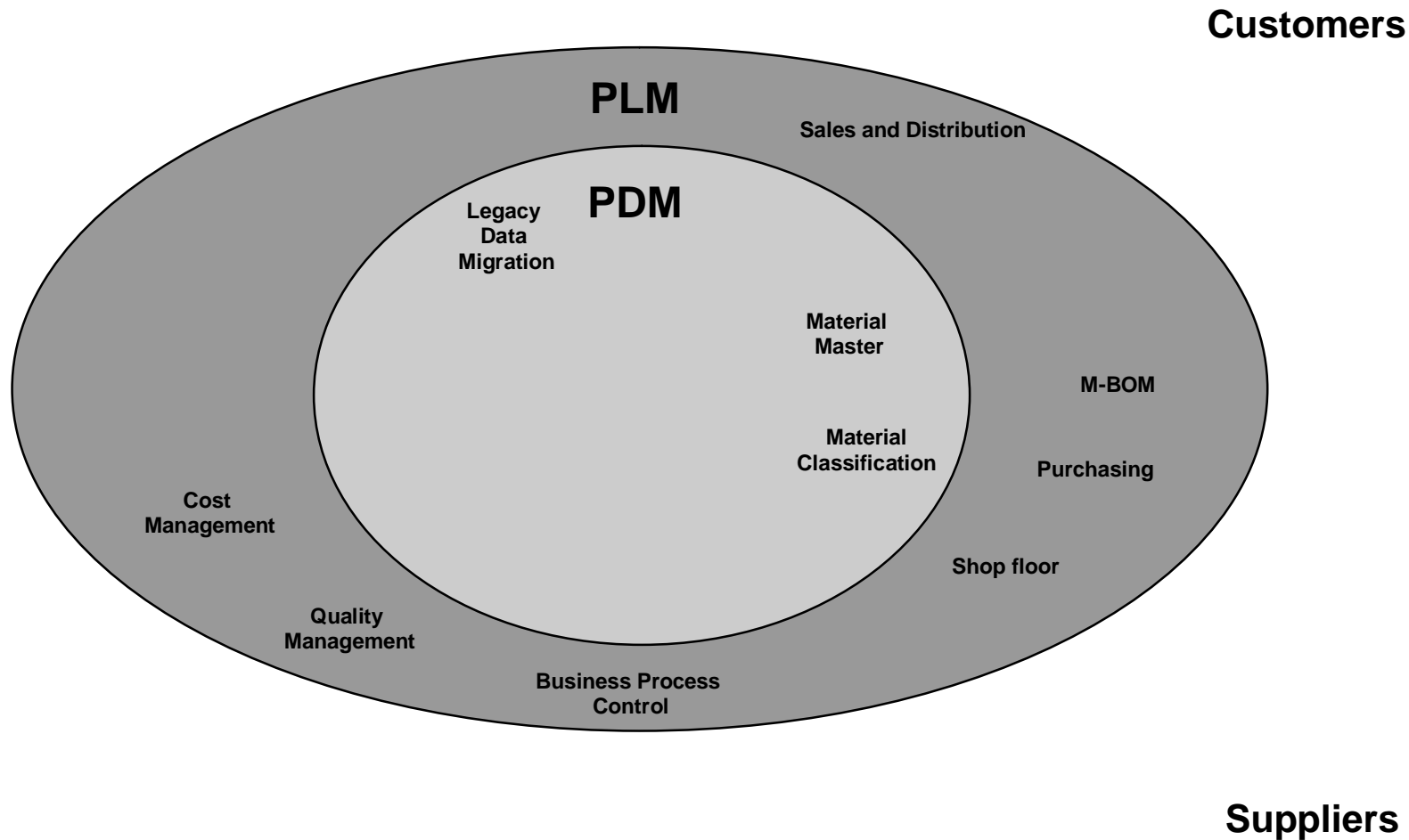


Product SAP PLM 7.0

Product Management	Product Strategy and Planning	Product Portfolio Management	Innovation Management	Requirements Management	Market Launch Management	
Product Development & Collaboration	Engineering, R&D Collaboration	Supplier Collaboration	Manufacturing Collaboration	Service and Maintenance Collaboration	Product Quality Management	Change Management
Product Data Management	Product Master and Structure Management	Specification and Recipe Management	Service and Maintenance Structure Management	Visualization and Publications	Configuration Management	
PLM Foundation	Product Compliance	Product Intelligence	Product Costing	Tool and Workgroup Integration	Project and Resource Management	Document Management

Typical SAP ERP "Entry Point"

Financials + Logistics + Manufacturing



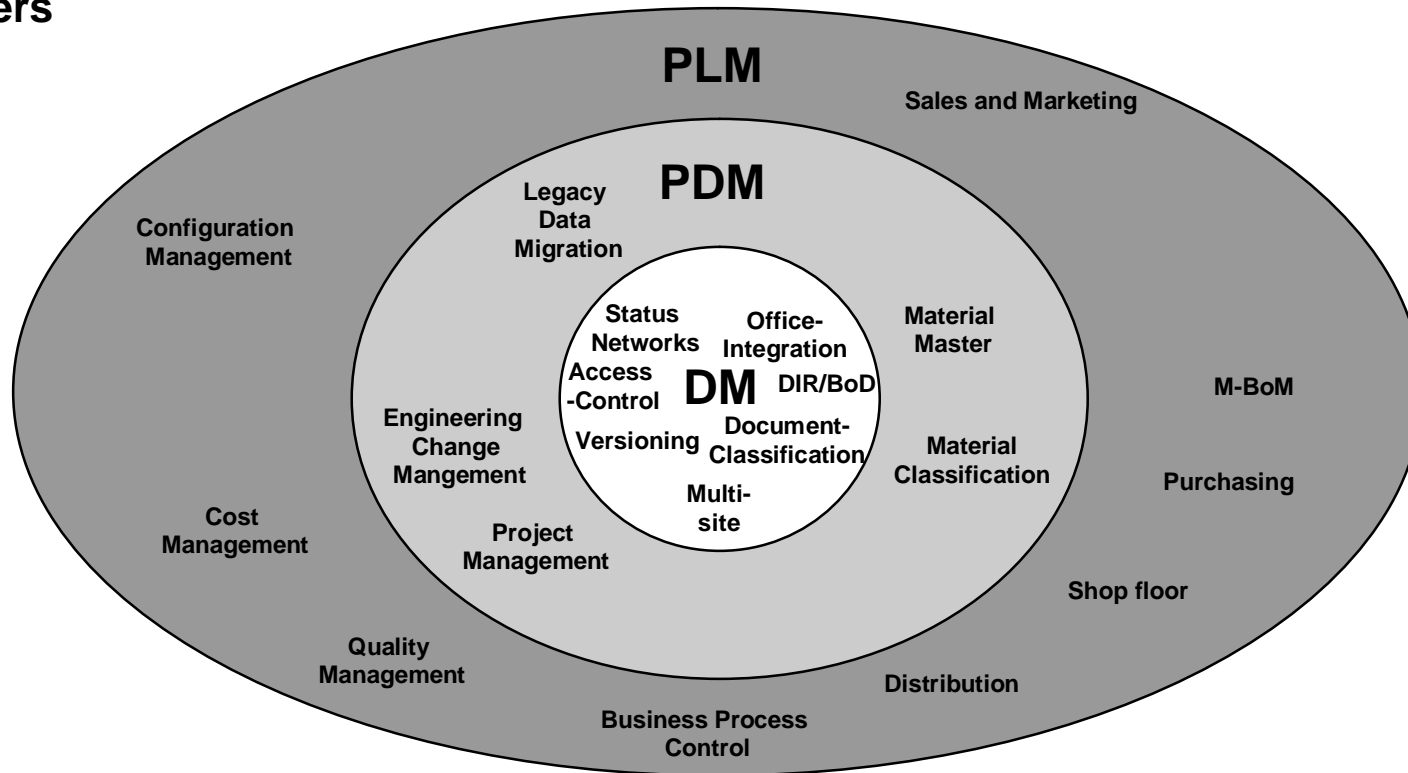
Climbing the PLM ladder (1)

+Project management +Eng.Change Management +Document management



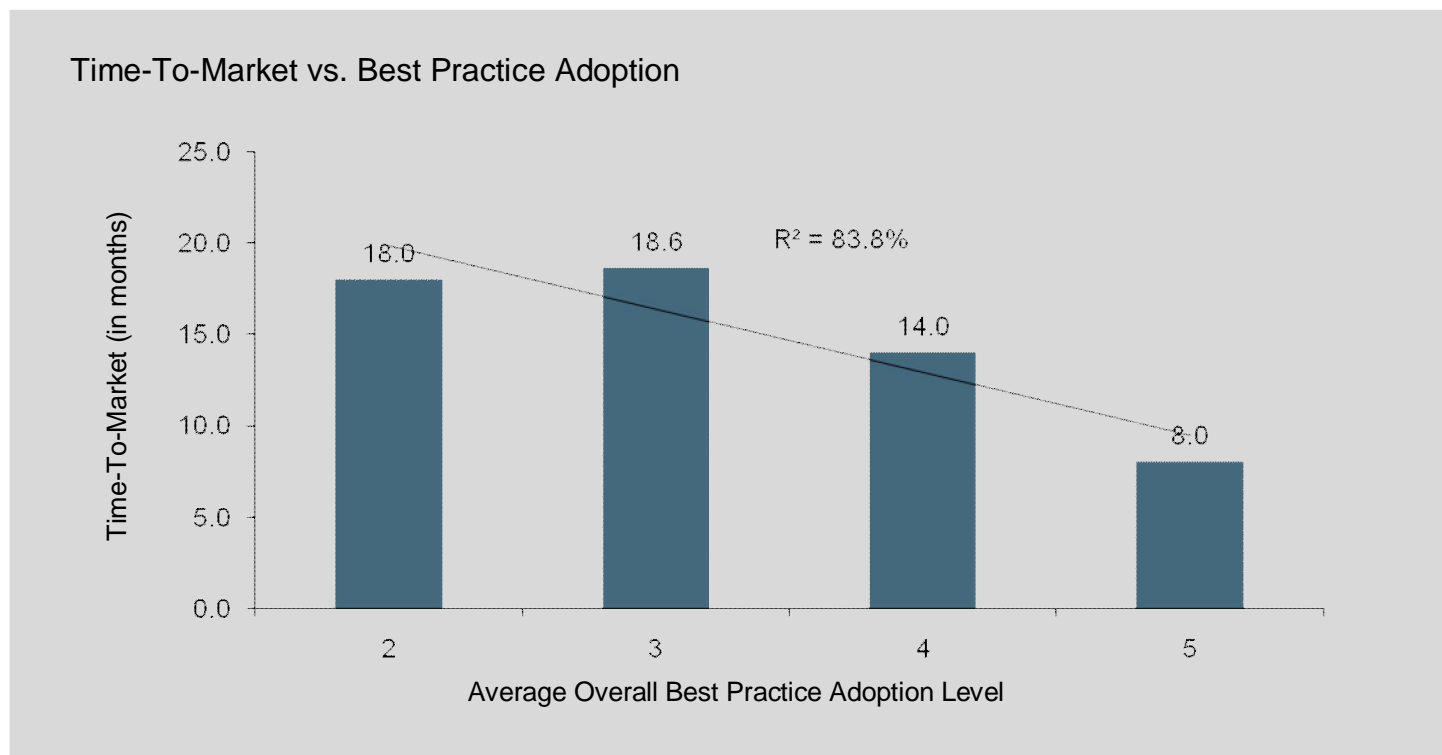
Internal
Partners

Customers



Supplier

Chemicals companies where engineering changes are managed via a change management processes that provides clear documentation and communication of changes to all impacted constituents, have on an average 55% lower Time-To-Market



Best Practice:

Engineering changes are managed via a change management processes that provides clear documentation and communication of changes to all impacted constituents

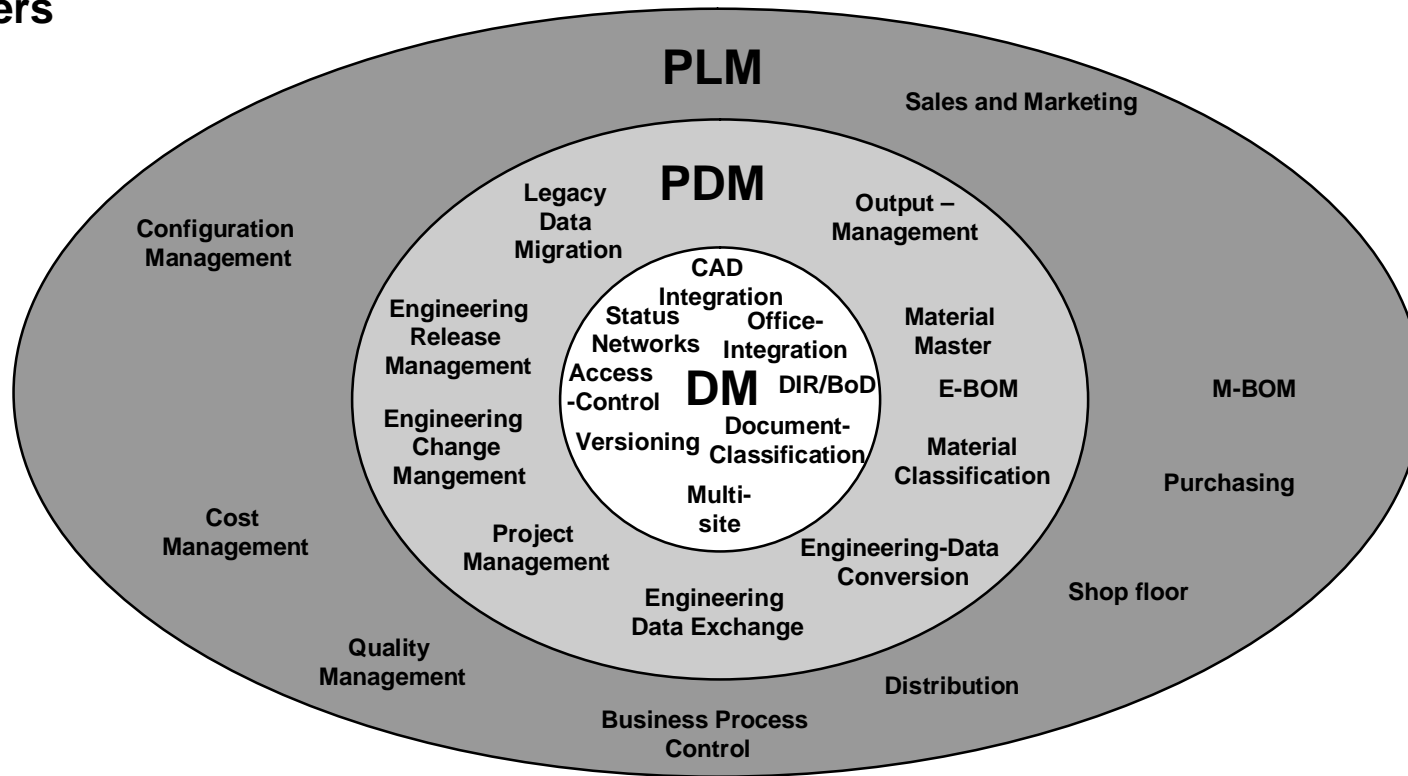
Climbing the PLM ladder (2)

+CAD/CAM integration +Engineering Management



**Internal
Partners**

Customers



Supplier

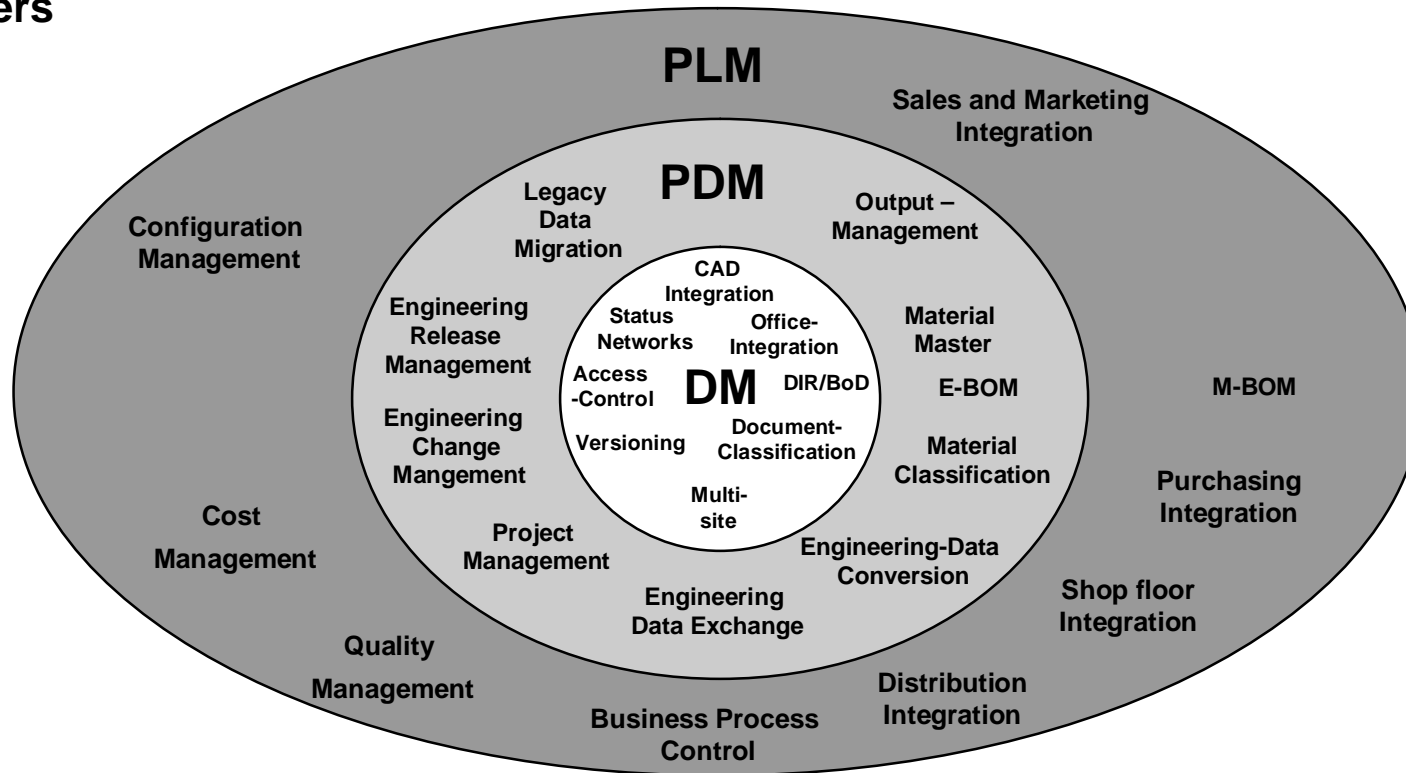
Climbing the PLM ladder even further

+Engineering integration into Enterprise processes



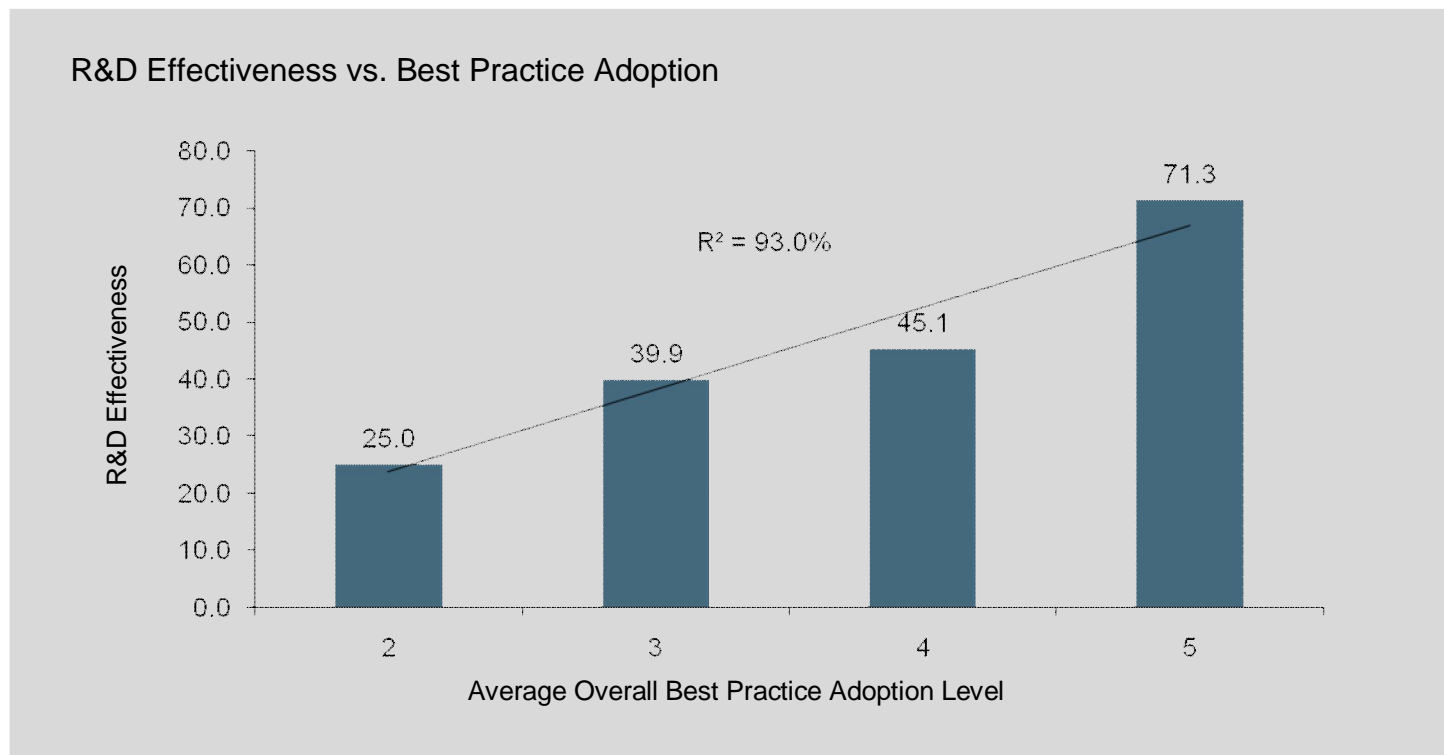
**Internal
Partners**

Customers



Supplier

Consumer Products companies where product development is a collaborative process between design, engineering, manufacturing, sourcing, etc., have on an average 3 times higher R&D Effectiveness

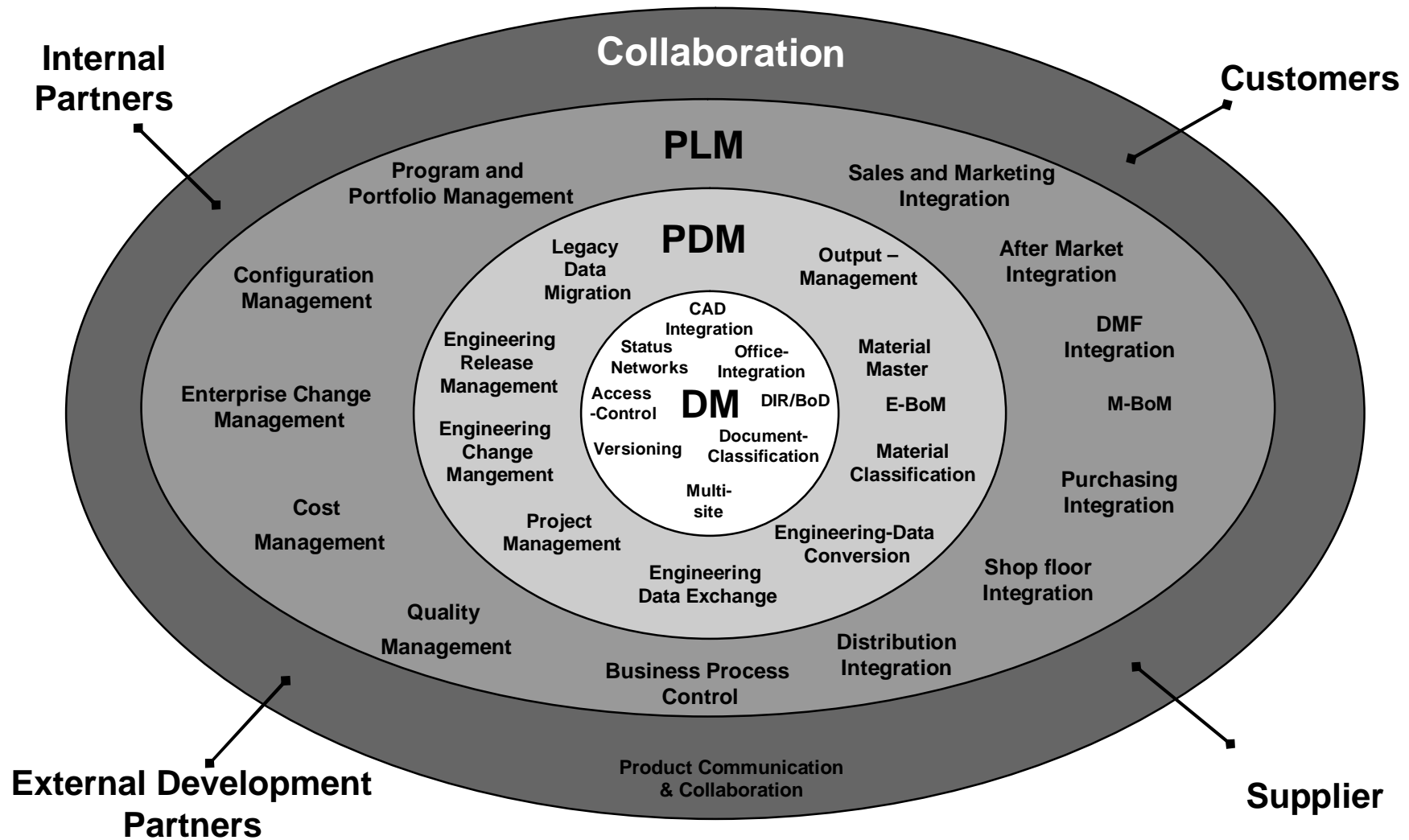


Best Practice:

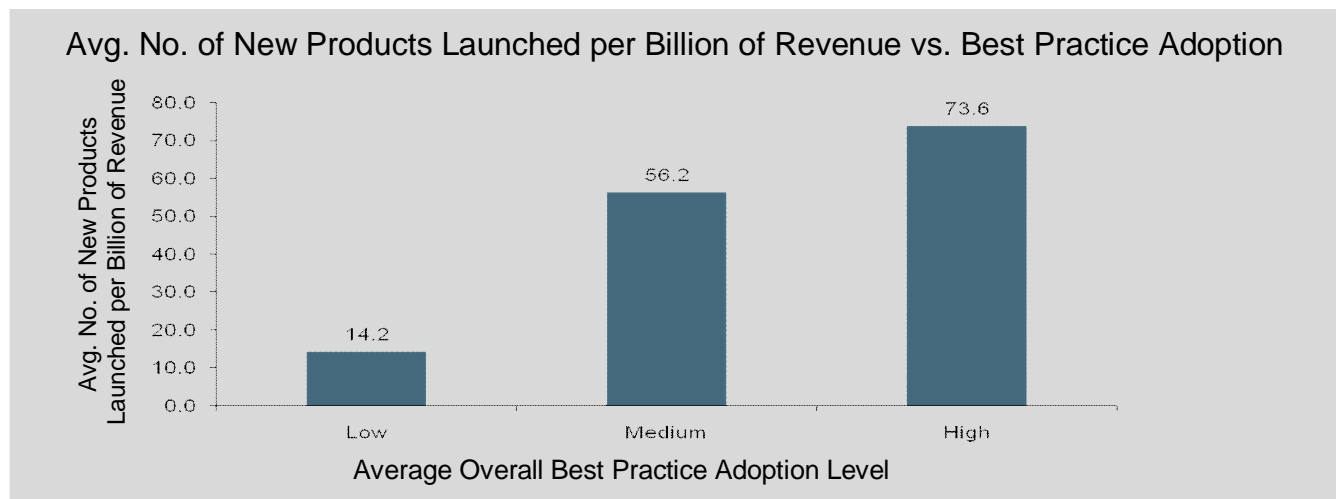
Product development is a collaborative process between design, engineering, manufacturing, sourcing, etc.

Is this the End?

+Idea management +Program/Portfolio Mngt. +Collaboration



Companies where product development is a collaborative process not just between different teams but also with external suppliers and customers and managed through an enterprise application, have on an average 5 times higher Avg. No. of New Products Launched per Billion of Revenue



Best Practice:

Product development is a collaborative process between design, engineering, manufacturing, sourcing, etc.

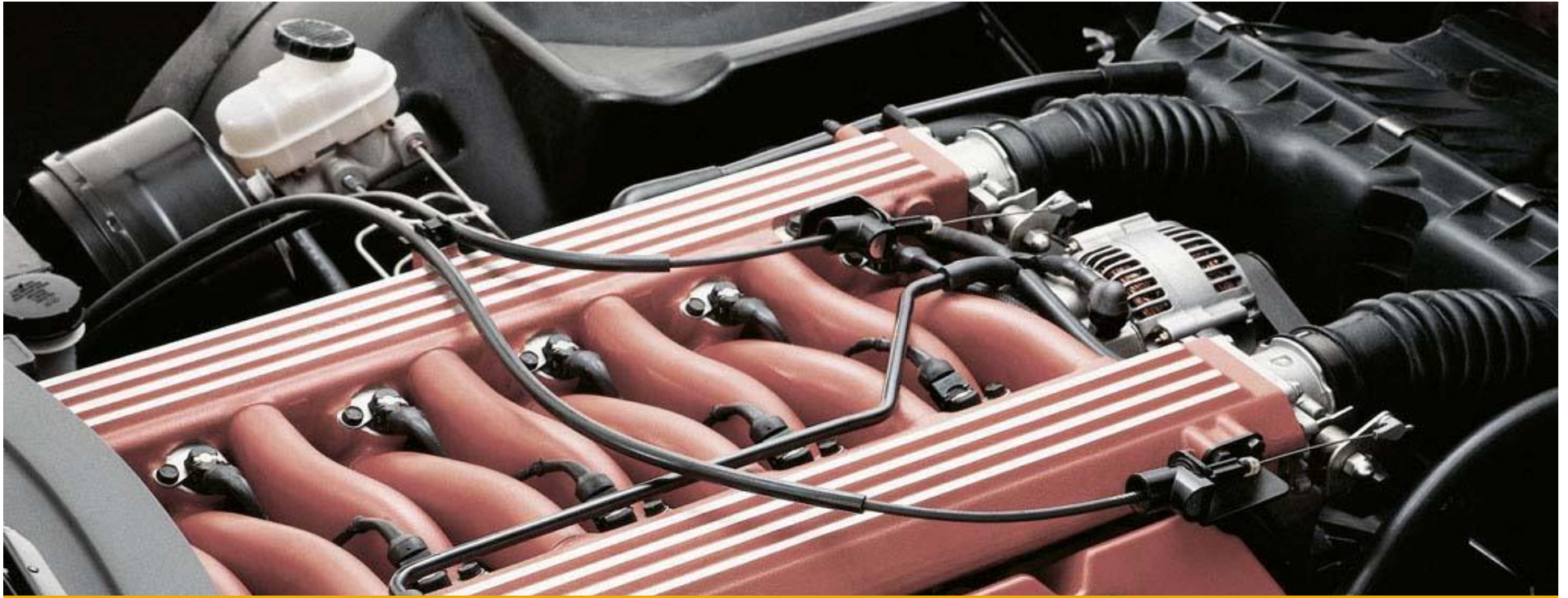
Collaboration with external suppliers and customers is an on-going part of the product development process

There are clearly defined metrics (such as On time, on budget completion of projects, successful start of prototype, etc.) to measure the performance of product development process

There is a system to accurately track Bill of Materials (BOM) as it evolves from as-designed, to as-built, to as maintained status

Engineering changes are managed via a change management processes that provides clear documentation and communication of changes to all impacted constituents

There is an enterprise application to access and manage the documents required for product development, content management and version control with easy access for all relevant constituents



Wrap-up

Industry Analyst's Take on SAP PLM



“SAP has the broadest PLM reach across all manufacturing industries among all of these PLM providers by leveraging its enterprise resource planning (ERP) customer base.”

“...the advances in PLM 7.0 will encourage Gartner clients, particularly discrete manufacturers, to take a closer look at replacing existing best-of-breed offerings with SAP.”

“We recommend that SAP ERP customers explore SAP's PLM 7.0 capabilities, because the ERP software includes a significant percentage of SAP's PLM capabilities already.”

Marc Halpern, ‘Industry Depth Is Crucial When Selecting a PLM vendor’, Gartner Report, April, 2009

Path to PLM?

PLM Value Approach -- Identify the key areas that deliver the most value to you



Product Management	Product Strategy and Planning	Product Portfolio Management	Innovation Management	Requirements Management	Market Launch Management	
Product Development & Collaboration	Engineering, R&D Collaboration	Supplier Collaboration	Manufacturing Collaboration	Service and Maintenance Collaboration	Product Quality Management	Change Management
Product Data Management	Product Master and Structure Management	Specification and Recipe Management	Service and Maintenance Structure Management	Visualization and Publications	Configuration Management	
PLM Foundation	Product Compliance	Product Intelligence	Product Costing	Tool and Workgroup Integration	Project and Resource Management	Document Management

■ No company can address the full scope of PLM in a single step

- Breadth is too wide
- Implementation challenges
- First the long-term strategy, then the short-term priorities and plans

■ Identify the areas that delivery the most value quickly

- Clarify the areas to be addressed – what processes are highest priority
- Clarify the scope across the organization – who will be impacted when
- Clarify the overlaps and integrations with other areas that are critical
- Clarify what success means for the program – when will success be clear

■ Focus on delivering and communicating continuously

- Business transformation – process enablement is key

Summary

Innovation is a key to success, in both short short-term and long-term



- **Innovation is a key competitive differentiator**
 - Industry motivations demand innovative solutions
 - Basic objectives of industry have not changed much, but the environments are significantly different

- **PLM is a major innovation enabler**
 - Continues to attract more substantial investment and interest
 - Continued expansion of PLM vision & footprint adds measurable value
 - SAP PLM is among leaders (#1 - #3)
 - SAP EcoSystem provide deep expertise

- **Current economic crisis is seriously impacting priorities**
 - Shift from top-line to bottom-line priorities, but don't forget longer-term

- **In today's economic climate, focus on areas that deliver both short-term and long-term value**

Thank you!



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