Digital Workflows
for
SAP Master Data Management Excellence

March 23, 2023

Z MDM

Designed by

Cambrian Lab

Z MDM

Agenda

- Panelists
- Brief Intro
- Unique Challenges related to SAP Master Data
- Overcoming SAP Master Data Challenges with Digital Workflows
- Case Study - Smart Global Holdings
- Demo
- Q&A

Panelists

Elisabeth Fisher
Director of Engineering

Penguin Edge / Smart Global Holdings

Kris Gorrepati
Product Management

Cambrian Lab

Manish Mathur
VP of Engineering

Cambrian Lab

About Cambrian Lab

Mission: To Provide Effective and Practical Solutions for Supply Chain Excellence

Team

Supply Chain, New Product Development and Technology Experts from SAP, Samsung, Siemens, GM, Ford, Applied Materials

Industries

Automotive, High-tech, Semiconductor Equipment, Medical Devices, Consumer Products

Locations

SF Bay Area, Detroit, Boston, Houston

Expertise

- New Product Introduction, Supplier Development Quality Management, and Master Data Management
- Enterprise and Supply Chain Technology (ERP, SCM, Manufacturing, CRM, Sourcing, Finance)

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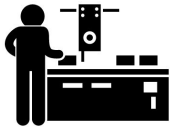
Good SAP Master Data is Critical for Operational Excellence

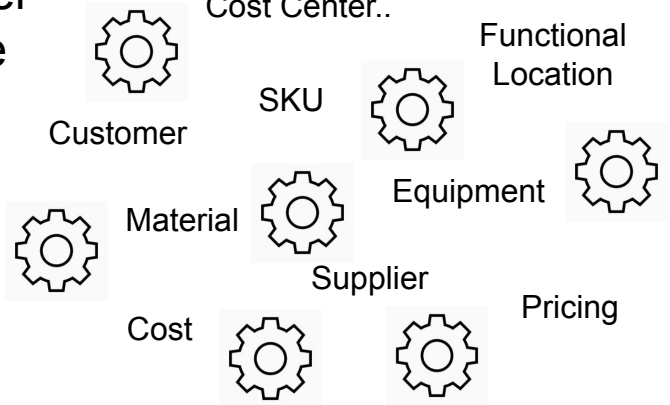
Customer Service

Supply Chain

Sales & Distribution



Manufacturing



Finance

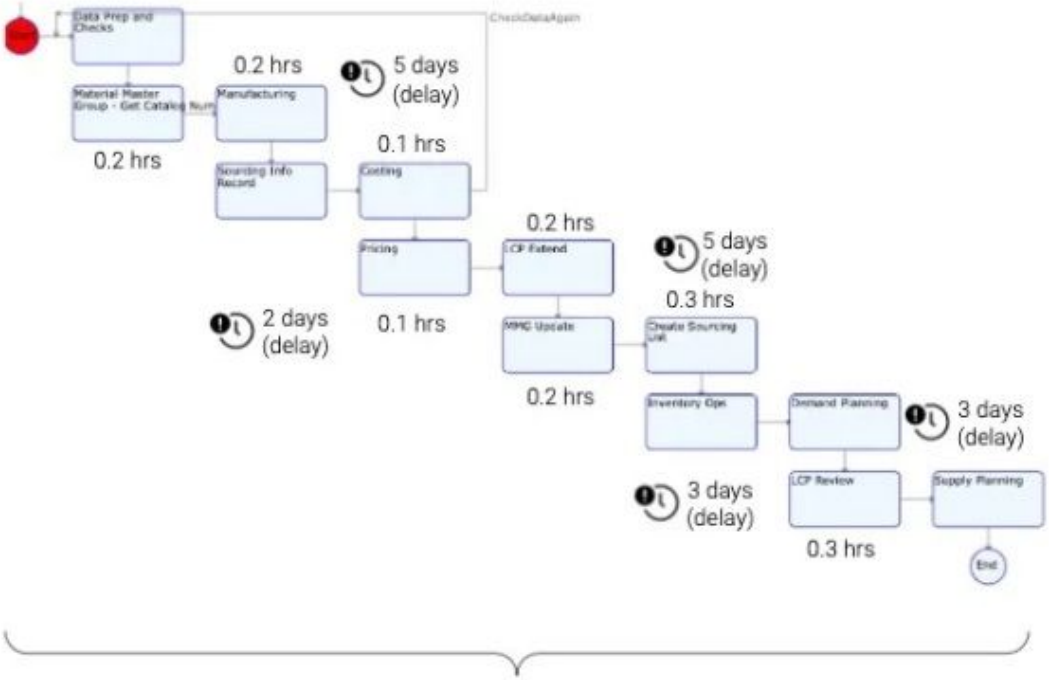
Maintenance

What we Observed about SAP Master Data Management

- Significant non-value added activity (80%+), long cycle times, fairly expensive business process
- High level of SAP expertise is required
- Business users are out of the loop
- Traditional MDM approaches provide limited coverage for master data domains, master data elements, and related workflows
- Poor master data processes can become an obstacle to operational and supply chain excellence

SAP Master Data Management

SAP Master Data Processes - Significant Non-value Added Activity, Long Cycle Times, and Expensive



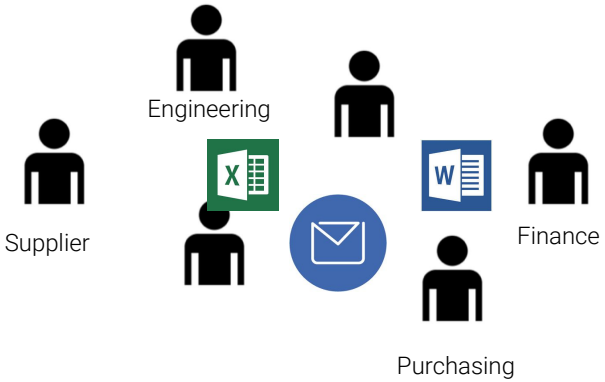
Process Cost of $250 (Average Cycle Time - 25 days)

- Significant Non-value added activity
- Activities with waiting time

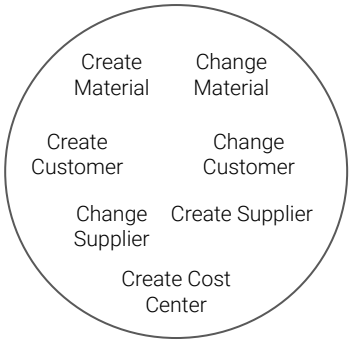
SAP Master Data Process Costs can Add up

Master Data Process	Master Data Domain	Annual Number	Current Process Cost	Total Annual Cost
New Material Creation	Material Master	1,000	250	250,000
Extending Materials	Material Master	5,000	120	600,000
New Part Request	Material Master	1,500	50	75,000
New Pricing	Material Master	5,000	25	125,000
Pricing Change	Material Master	10,000	10	100,000
Bill of Material	Material Master	200	150	30,000
Bill of Material Change	Material Master	800	75	60,000
Routing	Material Master	200	150	30,000
Approved Supplier	Material Master	600	40	24,000
Purchase Info Record	Material Master	600	25	15,000
Approved Supplier Changes	Material Master	1,200	40	48,000
Purchase Info Record Changes	Material Master	1,400	25	35,000
Approved Manufacturer	Material Master	1,800	25	45,000
Component Change	Material Master	2,200	20	44,000
Component End-of-life	Material Master	800	75	60,000
Product End-of-life	Material Master	200	150	30,000
Quality Planning Info	Material Master	1,200	45	54,000
...				
New SKU	SKU	200	150	30,000
SKU Submission to Amazon	SKU	300	50	15,000
SKU Changes	SKU	600	40	24,000
..				
New Supplier Request	Supplier	800	60	48,000
New Supplier Creation	Supplier	600	120	72,000
Supplier Blocking/Unblocking	Supplier	600	25	15,000
Supplier Info Change	Supplier	1,200	40	48,000
New Customer Onboarding	Customer	600	120	72,000
...				
..				
New Equipment Install	Equipment	400	80	32,000
Equipment BOM	Equipment	200	50	10,000
Total Master Data Process Cost				1,991,000

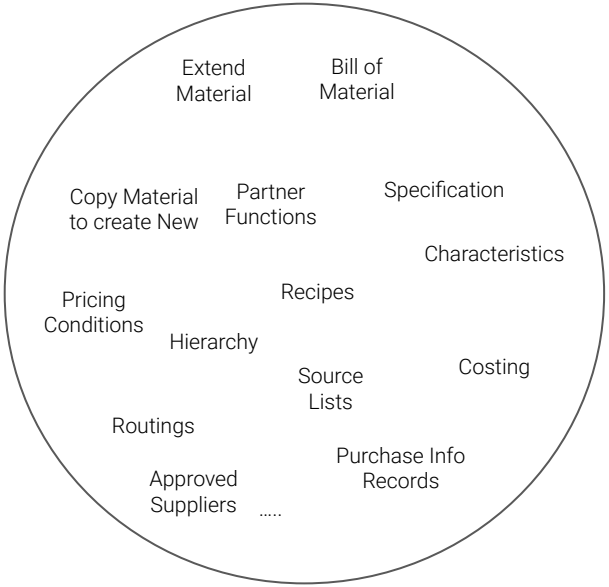
Business Users are out of the Loop



Many Unsupported SAP Master Data processes with Traditional Approaches



Supported by Traditional Approaches



Unsupported

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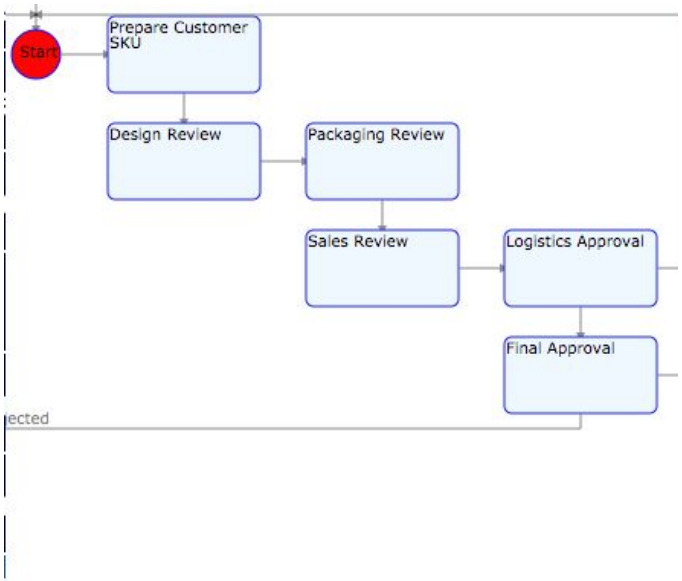
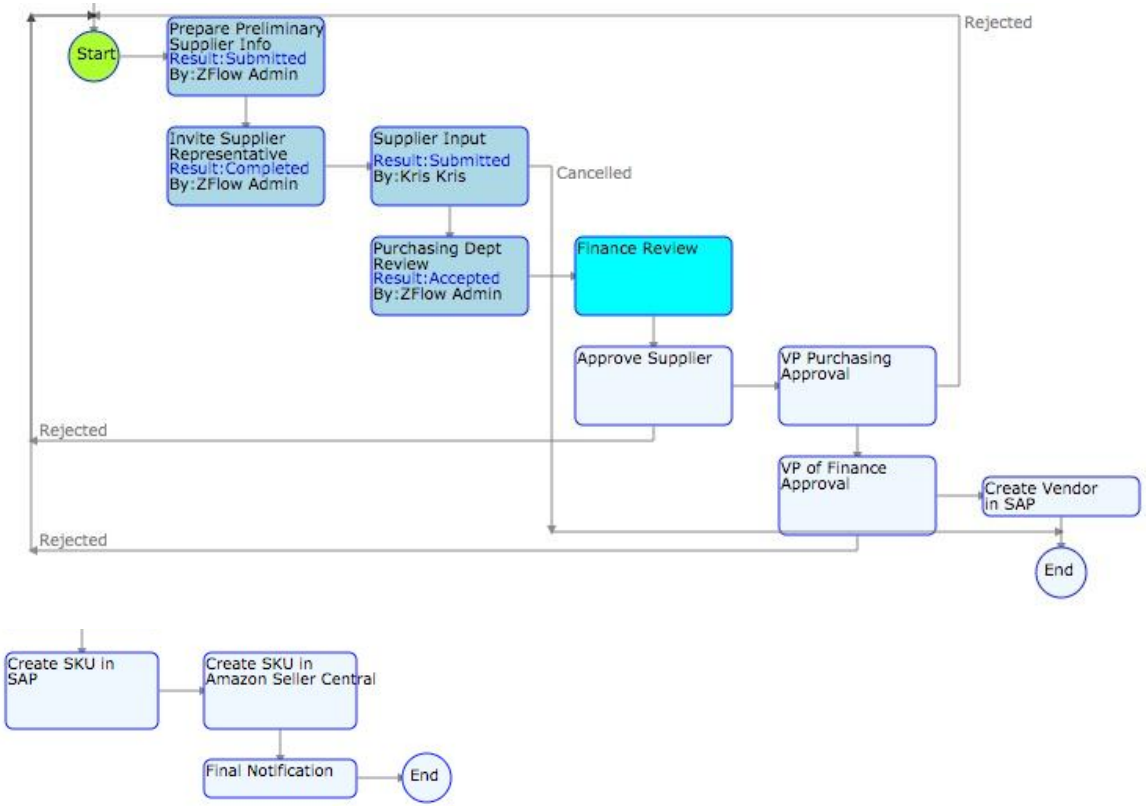
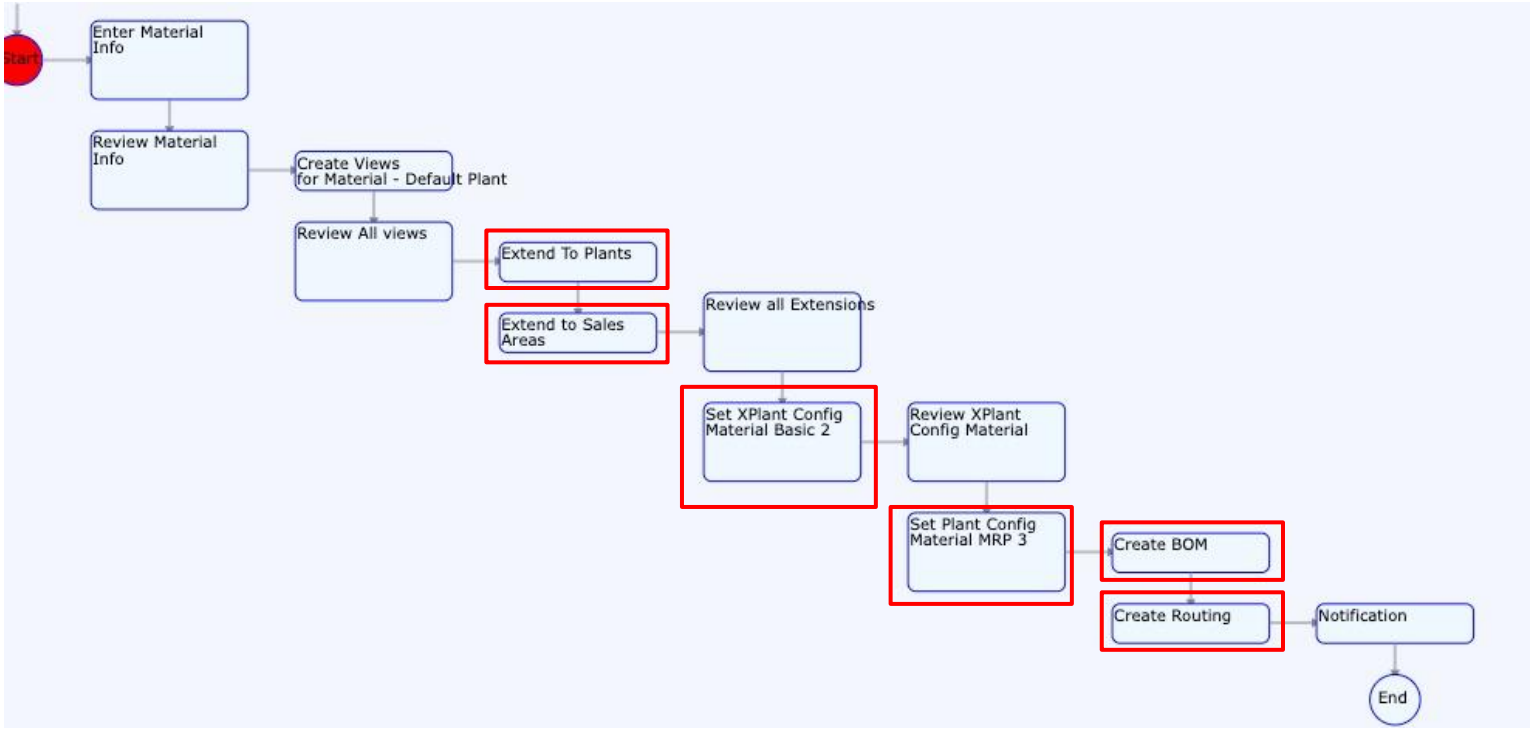
Cross-functional Master Data Workflows with Business Stakeholders Driving the Process



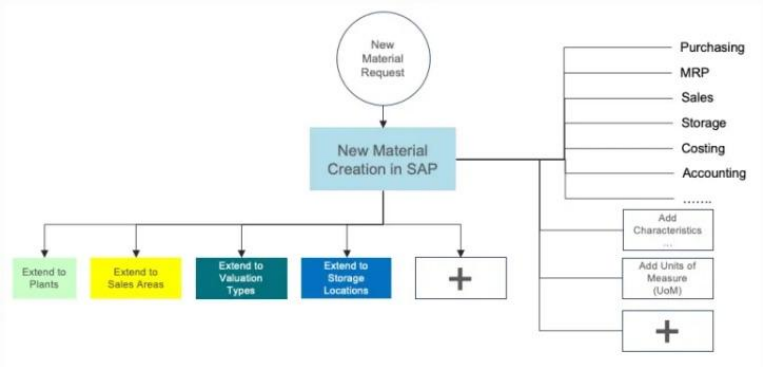


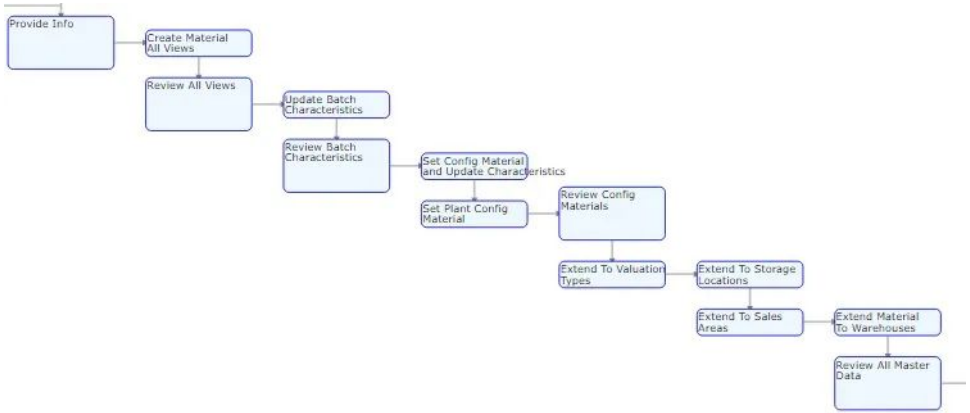
Coverage for Unsupported SAP Master Data Processes/Elements using (B)API based integration



Cross-functional Workflows Eliminate Non-value Added Activity, Minimize Cycle Time, and Reduce Cost of Master Data Processes

	Traditional Approach	Workflow-driven Approach
Process Cycle Time	30+ days	2-3 days
Process Cost	$300-500	$50
Actual Activity Time	2-3 hours	5 mins





Most Common SAP Master Data Workflows

Part/Item/Material Master Data Management
New Part Material(s) Request
New Material(s) Creation
Copy Material to create New Material
Extend Material(s) to (Plant, Storage Locs, Sales Orgs
Change Material(s)
Delete Materials
Specification
Class/Characteristics (SAP)
Packaging Master Data
Recipe
Pricing Condition
Source Lists
Purchase Info Record
Approved Supplier/Manufacturer
..

Maintenance Master Data Management
Functional Location
New Equipment Commissioning
Maintenance Plan
Work Center
Equipment Movement
…

Supplier Master Data Management
New Supplier Request
New Supplier Onboarding
Extend Supplier
Partner Functions
Block/Unblock Supplier
Update Supplier Master Data
..

Manufacturing Master Data Management
Work Center
Routing
Bill of Material
Recipes
Production Version
..

SKU Master Data Management
SKU Lifecycle Management
New Product Introduction
Ecommerce Integration (Amazon, Shopify, Google Merchant Center…)

Customer Master Data Management
New Customer Onboarding
New Customer Creation
Customer Hierarchy
Partner Functions
New Ship-to Location
Block/Unblock Customer
Update Customer Master Data

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About Smart Global Holdings (SGH) and Penguin Edge

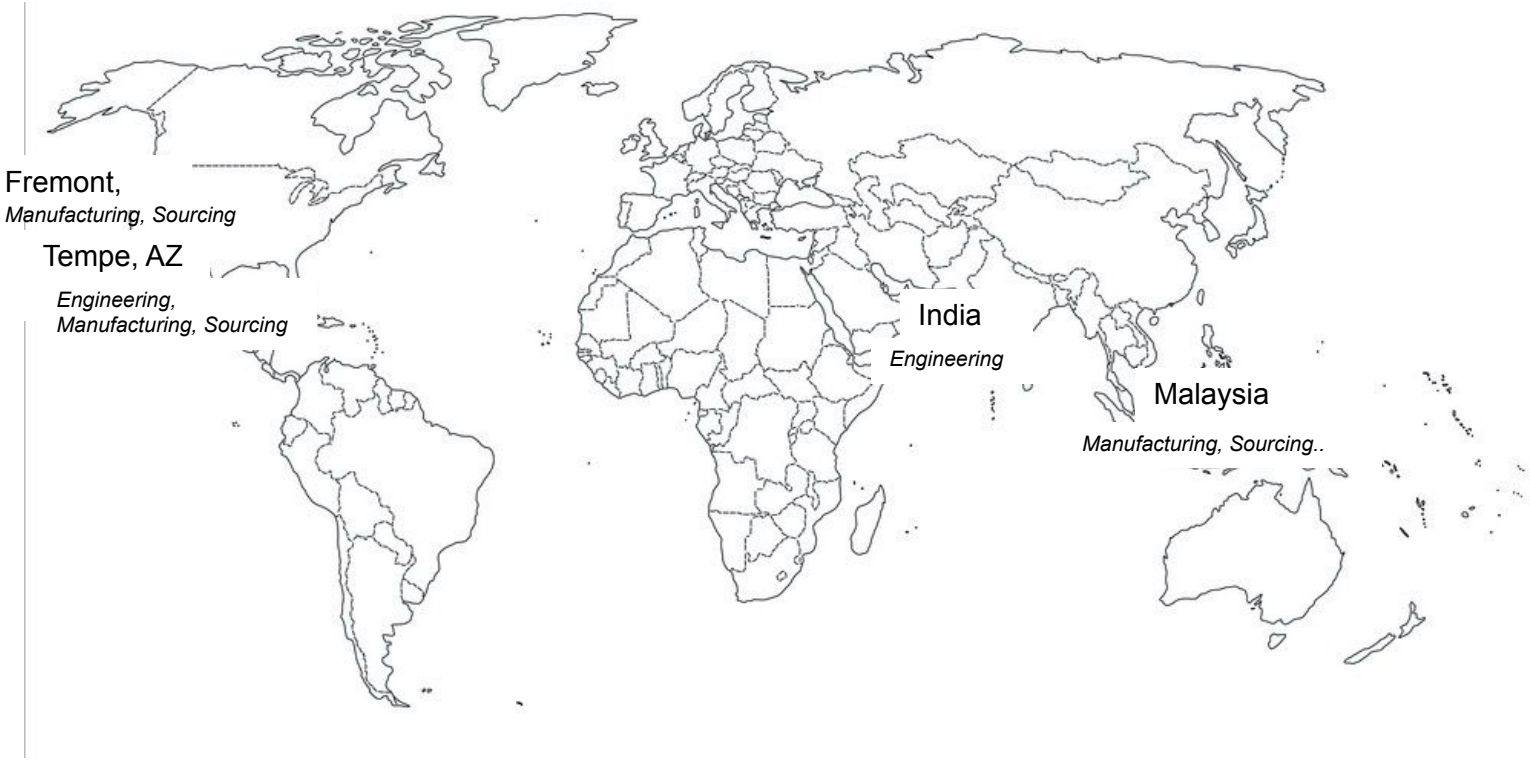
Our diverse lines of businesses, across computing, memory, and LED lighting solutions, all focus on serving customers by delivering engineer-driven technology solutions to specialty end markets

Key facts:

- ~4000 employees with the headquarters in California
- Manufacturing lines in US, South America and Asia
- Facilities across the globe
- Brands:
  - *Smart Modular (Memory Solutions)
  - *LED Solutions (CREE LED)
  - *Penguin Solutions (Intelligent Platform Solutions – IPS)

Penguin Edge is part of the Penguin Solutions Business unit. We provide deep expertise in embedded system design and development of smart devices for retail, medical, telecom, military and industrial products.

Product Lifecycle and Master Data Stakeholders



Our PLM Process Transformation

- Started with the move from Oracle to SAP
- Workflow driven PLM Processes (NPI, Release Processes, ECR/ECO, Component Engineering, BOM and Life Cycle Management) deeply integrated to SAP
- Deep integration with SAP and other applications

PLM Processes and System Coverage

- ZFlow and Oracle/SAP

- Set up processes and templates for :

  - ECO (Engineering Change order & post process)
  - CCN (Component change Notice)
  - PCN (Part change notification)
  - RN (Release notice)
  - NPR/NPMR (New part number (MFG) request
  - Import BOMs/Part numbers
  - Bulk part numbers and BOM upload to SAP
  - Repository for documents
  - Datasheets
  - Customer notifications/PreAlerts

PLM and Related Master Data Processes

Launch Pad

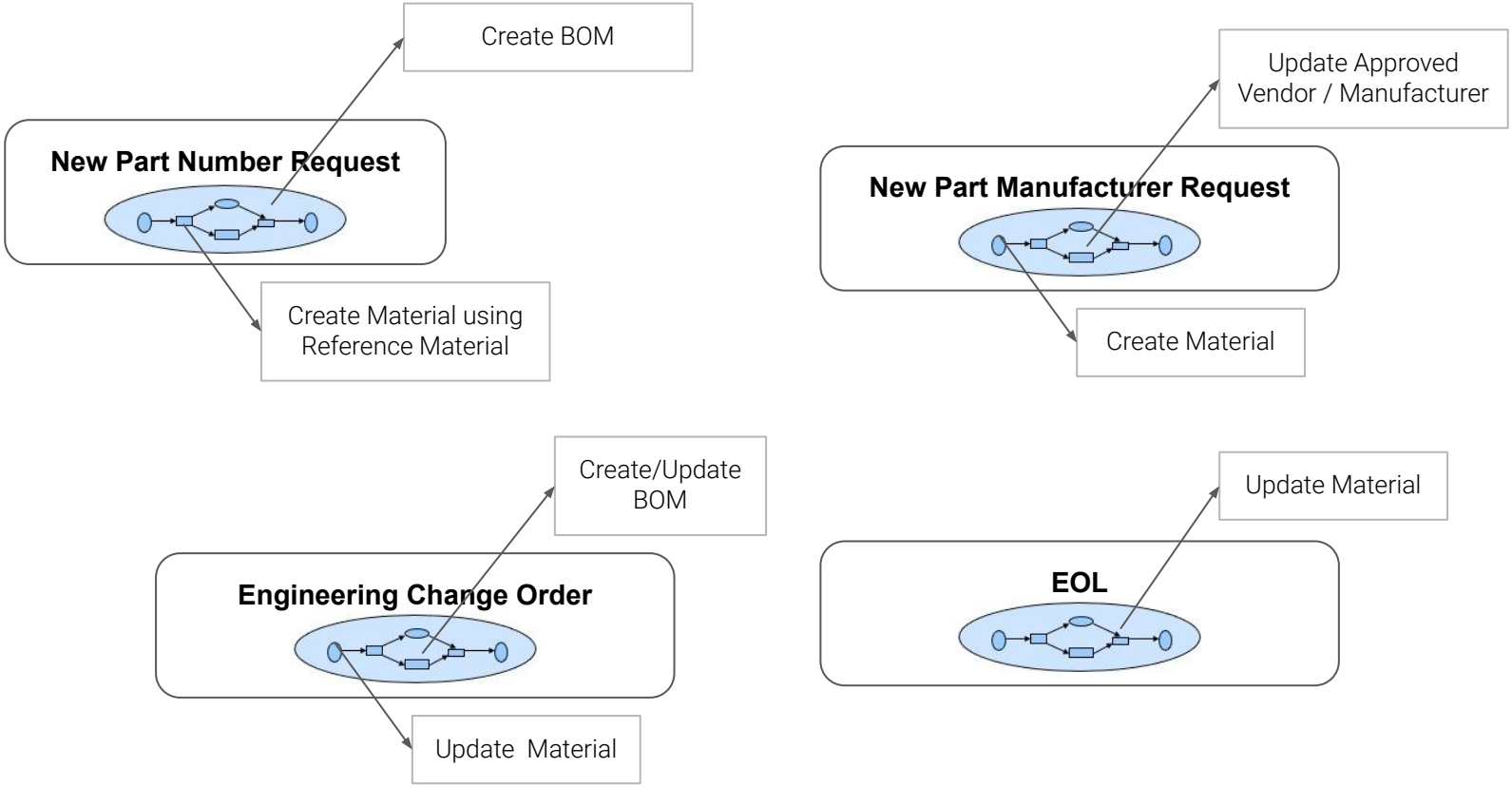
Product Engineering

- EIVC-ECO Implementation — List | Find | New
- New EVAL Part Number Request — List | Find | New
- Engineering Change Order — List | Find | New
- Fast Track SAP Material Creation — List | Find | New
- Fast Track SAP Material Update — List | Find | New
- Manufacturing Deviation Order — List | Find | New
- New Part Number Request (NPR) — List | Find | New
- Pre Alert Process — List | Find | New
- Release Notice — List | Find | New
- Drawing Part — List | Find
- Document — List | Find
- Part/Assembly — List | Find

Component Engineering

- Component Change Notice — List | Find | New
- EOL Notice (Marketing) — List | Find | New
- EOL Database — List | Find | New
- New Part Manufacturer Request — List | Find | New
- PCN Analysis — List | Find | New
- Data Sheet — List | Find
- Historical EOLDB — List | Find
- Manufacturer — List | Find

Master Data Management as part of Product Lifecycle Management Workflows



Workflows Drive Coordination and Participation of Cross-functional Teams

My Activities (26)

NPMR100532	Manufacturing revie...	Elisabeth.Fisher@smartm.com	Open	Update	Delegate
EOLDB101941	For Qualification	Cody.Butler@smartm.com	Open	Update	Delegate
EOLDB101944	For Qualification	Cody.Butler@smartm.com	Open	Update	Delegate
EOLDB101945	For Qualification	Cody.Butler@smartm.com	Open	Update	Delegate
EOLDB101946	For Qualification	Cody.Butler@smartm.com	Open	Update	Delegate

more ...

My Processes (38)

NPMR100532	Manufacturing review
NPMR100516	
MDO000447	Data preparation
ECO100918	
PCN101946	

My Data (8)

SUPPLIER- Data to or ...	Drawing Part	Work In Process
0107055A12D	Part/Assembly	
0107065A01G	Part/Assembly	
0107068A65E	Part/Assembly	

more ...

My Action Items (0)

No action items found

Favorites (1)

Elisabeth.Fisher@smartm.com	User

My Tasks (0)

No tasks found

Workflow example

Edit | New | New Before | Rename | Delete | Move Up | Move Down | Disable/Enable | Assign Performers | Arrange Activities | Generate JSP | Update Processes | Edit All | Close

Seq No.	Activity Name	Activity Type	Conditions
50	Start	Process Start	None
100	Data preparation	Data Preparation	ECOType in ECO_DOC ECO_DOCREG ECO_DOCMFG
150	Edit BOM	Data Preparation	ECOType not in ECO_DOC ECO_MFG ECO_DOCREG ECO_DOCMFG ECO_LABEL ECO_TP
200	Update ECO Summary	Special Function	ECOType not in ECO_DOC ECO_DOCREG ECO_DOCMFG
250	Checkin All Data	Special Function	None
300	CCB Chairperson Approval	Approval	ECOType not in ECO_ROUTING
350	Doc Control	Approval	ECOType in ECO_ROUTING
400	Add ECO Description	Data Preparation	ECOType in ECO_REL_LBL ECO_REL_HIGH ECO_REL
450	ECO Notification	Notification	ECOType not in ECO_CCR ECO_DOC ECO_DOCREG ECO_DOCMFG ECO_LABEL ECO_TP
500	Test Approval	Approval	ECOType in ECO_MASS ECO_REL_LBL ECO_REL_HIGH ECO_REL ECO_TP ECO_VAIDS ECO_ROUTING AND SWFWImpact in ECO_FSI_FW ECO_FSI_FWSW ECO_FSI_SW ECO_FSI_PROCEDURE
550	Safety & Repair & Sales	Parallel	ECOType in ECO_MASS ECO_REL_LBL ECO_REL_HIGH ECO_REL
600	Block part number	Approval	ECOType in ECO_REL_LBL ECO_REL_HIGH ECO_REL ECO_UNREL ECO_VAIDS AND ManufacturingSite in SITE_PENANG SITE_PENANG_TEMPE
650	Parallel Approval Penang	Parallel	ECOType in ECO_DOCMFG ECO_LABEL ECO_MASS ECO_REL_LBL ECO_REL_HIGH ECO_REL ECO_UNREL ECO_VAIDS ECO_ROUTING AND ManufacturingSite in SITE_PENANG SITE_PENANG_TEMPE
700	Parallel Approval Newark	Parallel	ManufacturingSite in SITE_NEWARK SITE_TEMPE_NEWARK AND ECOType in ECO_DOCMFG ECO_LABEL ECO_MASS ECO_REL_LBL ECO_REL_HIGH ECO_REL ECO_UNREL ECO_VAIDS
750	Parallel approval Tempe	Parallel	ManufacturingSite in SITE_TEMPE SITE_TEMPE_NEWARK SITE_PENANG_TEMPE AND ECOType in ECO_MASS ECO_REL_LBL ECO_REL_HIGH ECO_REL ECO_UNREL ECO_VAIDS
800	ECO MFG Approval	Approval	ECOType in ECO_DOCMFG AND ManufacturingSite in SITE_TEMPE SITE_TEMPE_NEWARK SITE_PENANG_TEMPE
850	CCR Repair Approval	Approval	ECOType in ECO_CCR
900	CCR Sales Approval	Approval	ECOType in ECO_CCR
950	DOC REG Approval	Approval	ECOType in ECO_DOCREG
1000	IT WIPTRACK Approval	Approval	ECOType in ECO_LABEL ECO_REL_LBL
1050	Update Material in SAP	Special Function	ImplementInSAP in + AND ECOType not in ECO_DOC ECO_DOCREG ECO_DOCMFG ECO_ROUTING

PLM Workflows and related Master Data Management

- Extremely user-friendly and easy to participate/understand for cross-functional business teams
- Very customizable and can support company/division specific PLM and related Master Data processes
- System is very reliable
- Direct integration to SAP and other systems (out-of-the-box and easy to configure)
- Higher efficiency (automation) and cycle-time reduction (workflow-based coordination)
- Customizable reports (Reviews, MPN quality checks..) and process improvement metrics (cycle times)
- Easy set up of workflows, conditions, templates and new accounts (accessible to business)

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Demo

Business stakeholders at the center of Master Data workflows

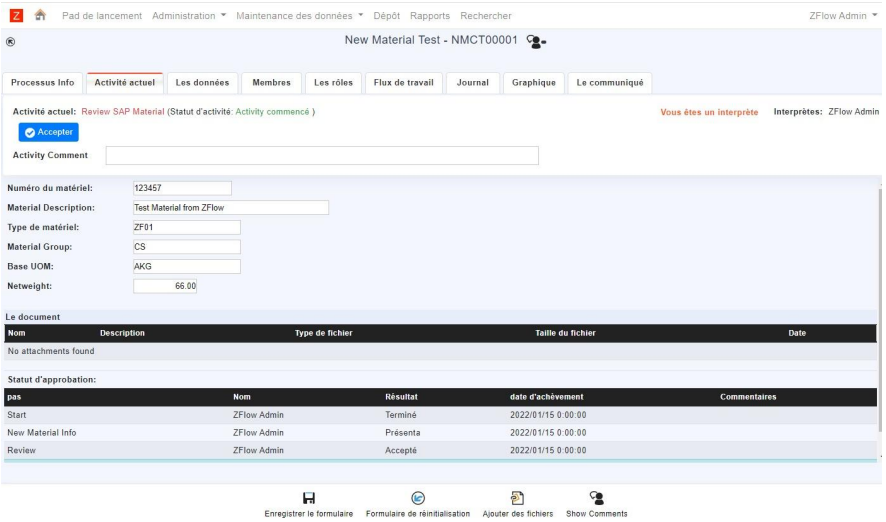
Seamless integration as workflow activities

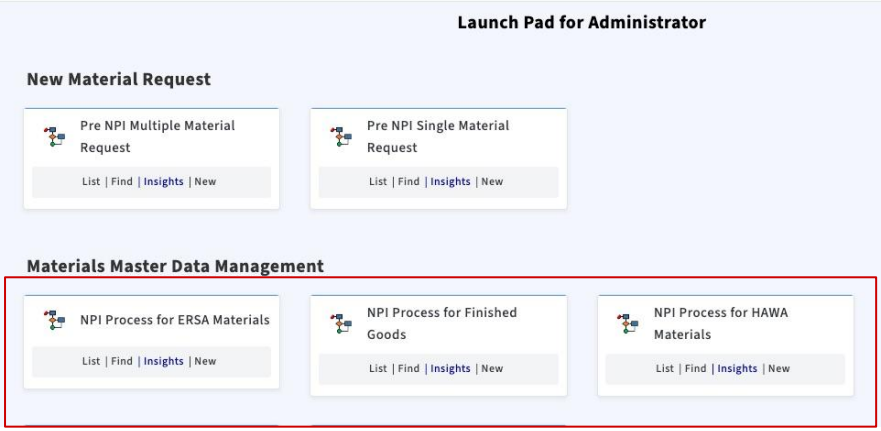
Governance as part of workflows for error-free master data

BAPI driven integration for unsupported master data scenarios

Support variations for different master data types, regions, divisions..

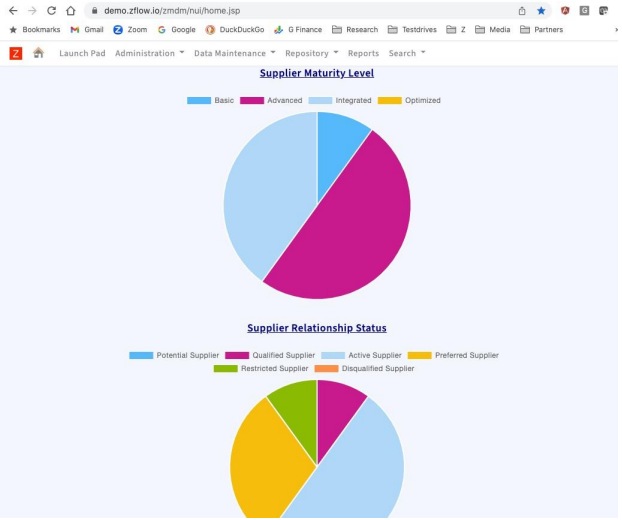
Support for Different Languages, Types, Plants, Divisions…



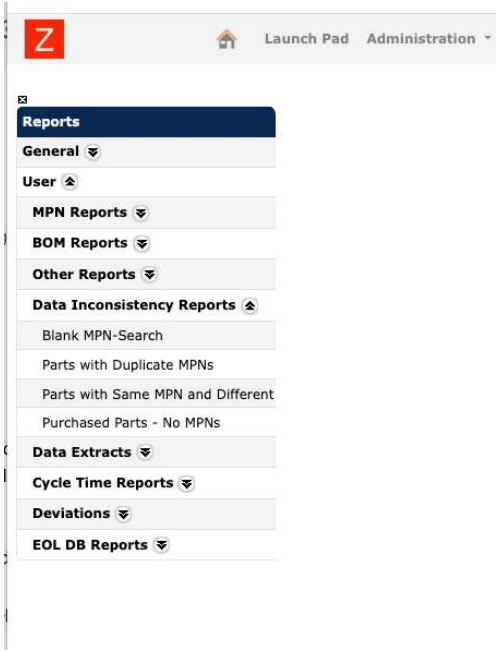


Flexible Reporting and Analytics

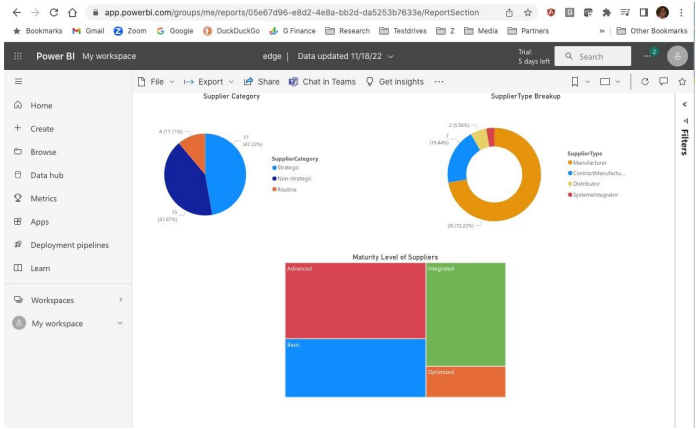
Embedded



Internal Reporting Framework



Connect with PowerBI/Tableau



Digital Workflow based SAP Master Data Management

- *Eliminates non-value added work, shortens cycle time, and decreases process cost*
- Easy to adopt and loved by users
- Proven success in many industries

Free Trial

Free Pilot

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Kris Gorrepati

Cambrian Lab
+1-408-569-3744
Kris.gorrepati@cambrianlab.net