MA3044: Customer Experience - Autodesk PLM360 used for R&D Item Management

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Agenda

Introduction

Overview ALSTOM Power Automation & Controls

Project Management

Functional & Technical

- **The Security Aspect**
- **R&D Items Management Solution**
- **Installed Base Management Solution**

Conclusion and wrap-up

Class summary

- Offering an example of an advanced cloud based implementation of PLM360 deployment in ALSTOM PAC.
- We will present how this Project was managed by ADSK Consulting (Cloud allowing new approaches / Workshops to capture the Customer expectations / Interest of Agile Method / Quick Wins).
- Highlighting the 3 main subjects
  - Security
  - R&D Items Solution
  - Installed Base Management Solution

Yours Speakers during this Class

Introduction – Tamara Berger

- Based in the South of Germany Munich
- 10+ years of experience in Project Management, delivering software solutions and consulting services mainly to
  - MFG industry (OEM automotive industry / diesel engines for ships & power stations)
  - A&D-Industry (electronic components & systems)
- In recent years I was working for a competitor of Autodesk as Project Manager responsible for the delivery of PLM System Implementation and Adoption projects in large, complex local and multinational clients
- Join Autodesk in Nov 2012

Introduction – Jérémy Pringault

- Based in France Paris
- 10+ years of experience delivering software solutions and PDM/PLM consulting services mainly to following Industries
  - Transportation
  - A&D
  - Power & Nuclear
  - Consumer Packaged Goods
  - Lux & Cosmetics
  - Chemical
- Join Autodesk in 2011

Introduction – Stéphane Piazza

- Based in France near to Paris
- 11+ years of experience in PDM/PLM Implementation
- Actually I am in charge of the strategy for Information System for two Business Units of ALSTOM Thermal Power, with special focus on PLM
- Join ALSTOM in 1999

Overview
ALSTOM Power Automation & Controls

Stéphane Piazza
Information System Director ALSTOM Nuclear & PAC

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ALSTOM

Sales 2012/13: €20.3 billion
Present in around 100 countries / 93, 000 permanent employees (Apr. 2013)

GRID

integrated and customised turnkey solutions such as alternating current and direct current substations, from medium up to ultra high voltages.

RENEWABLE

power generation solutions: hydro power, wind power, geothermal, biomass and solar.

THERMAL POWER

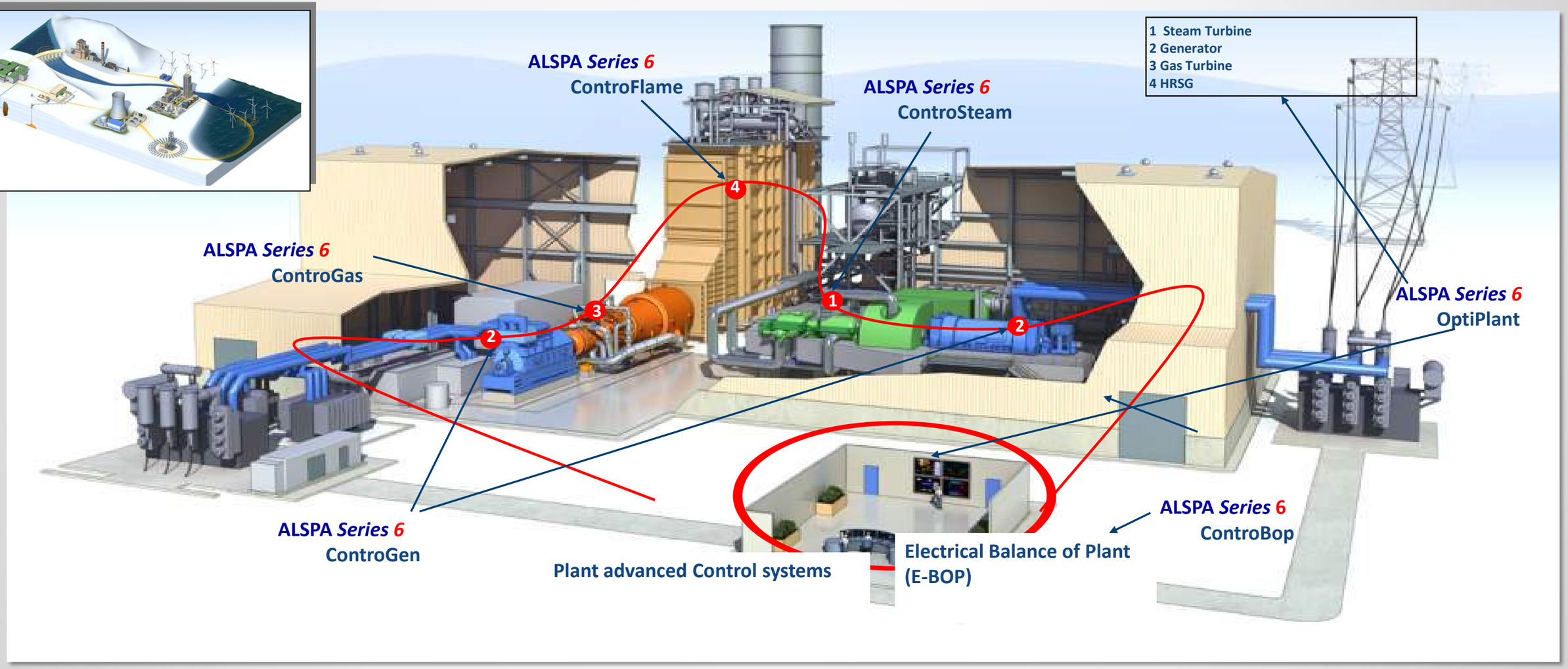
Turnkey Power Plants, Power Generation Equipment and Air Quality Control Services and Systems

TRANSPORT

railway solutions tailored to the needs of rail operators, public authorities and passengers. From rolling stock to signalling, infrastructure, services and complete turnkey systems

ALSTOM THERMAL POWER

Automation & Control – Our Product in Combine Cycle Plant



Flexible Generation for Smart Power

PLM Initiative in PAC

Business Challenges

GLOBALIZE Design

- Design can be done **Anywhere**
- Team is **Distributed**

STANDARDIZE Platform Components

- Improve **Re-use** of Components
- Provide **Validated Components** per Platform

LOCALIZE Product Characteristics

- Manage **Local Adaptation** with Global Validation Process

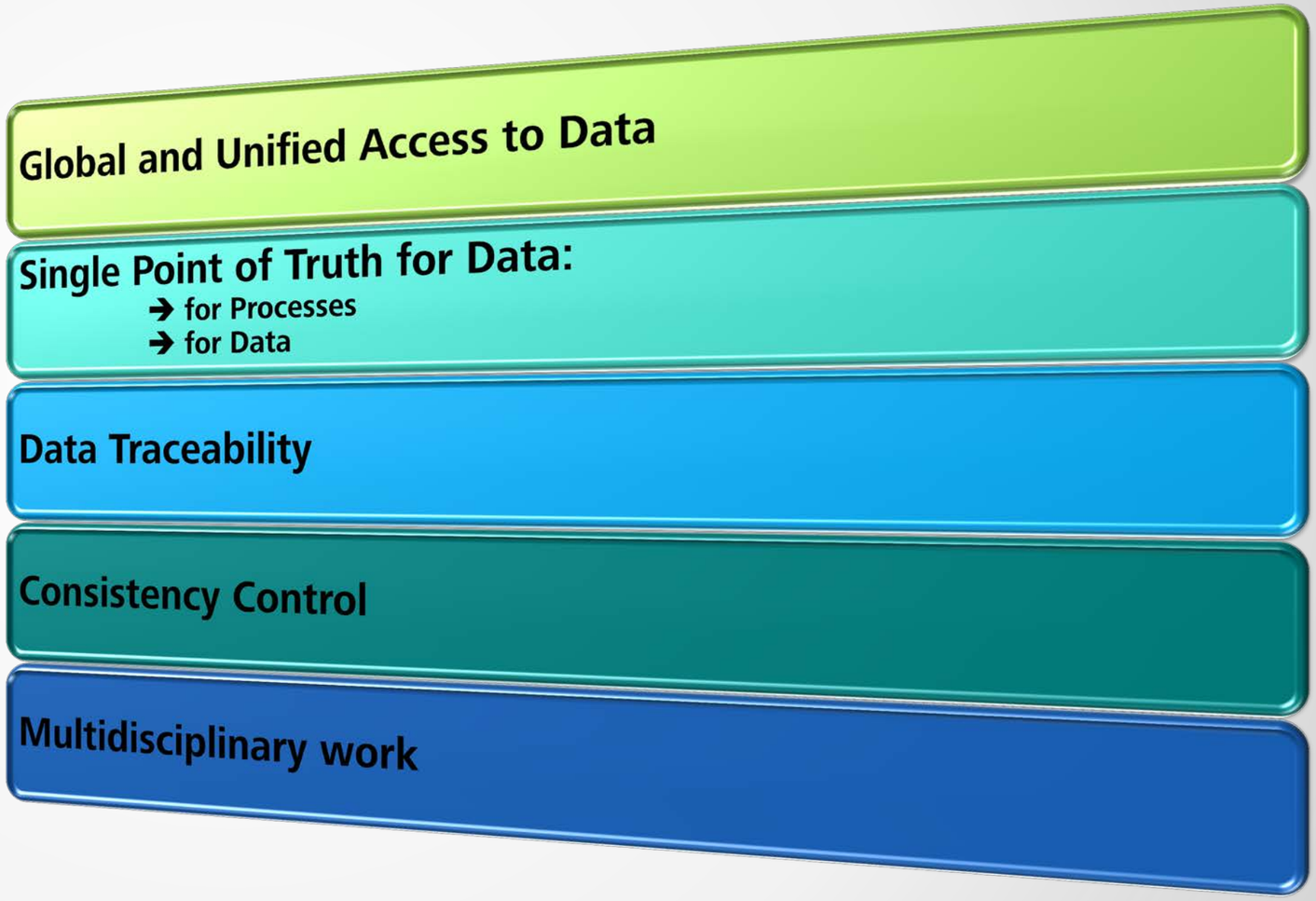
CENTRALIZE Management

- Report / Process Design & Tracking accessible **by Anyone Everywhere**

PLM Initiative in PAC

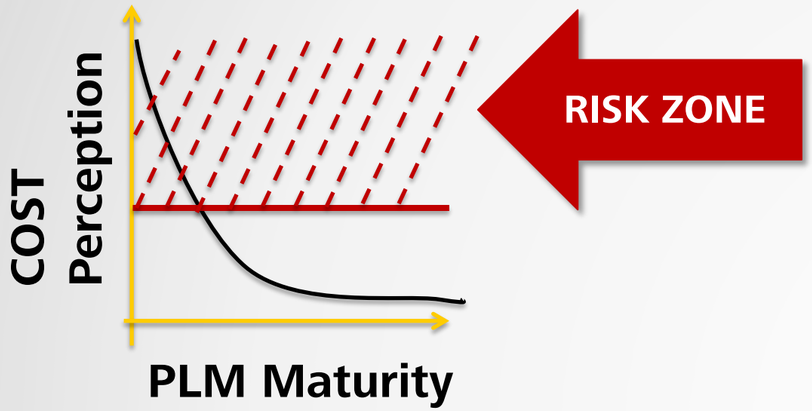
PLM Expectations

To address such Business challenges:



Why PLM PLM360?

Cloud as an opportunity to Go (1/3)



Initiative not launch due to Cost Perception – Mainly on IT Side

Focus on key Business Drivers and Insist on the fact that:

PLM IS ABOUT CHANGE WITHIN BUSINESS FIRST…

PLM360 is the Solution to get out the RISK ZONE with a Low PLM Maturity

- No need to deploy technical Architecture
- Easy to Deploy new Function – Many App Available OOTB
- AGILE Method is Easier – Show in « Live » workshops results

Why PLM PLM360?

Cloud as an opportunity to Go (2/3)

RoadMap Building can be time Consuming then:

- From Basic (PDM+) to Advanced (PLM)
- Be open To QuickWins
- Ensure that Business Rules will Allow Future Convergence

Why PLM PLM360?

Cloud as an opportunity to Go (3/3)

As CLOUD is generating Skepticism be Careful about Security

BUT …

PLM360 allowed us to Build confidence: Customization Capabilities (APIs)

- We Made Customization to Connect Cloud to :
  - VAULT (Files in our Network)
  - Identity Management: Internal & Unified Process to deactivate Users

- Architecture Validated by Corporate Security Dept.

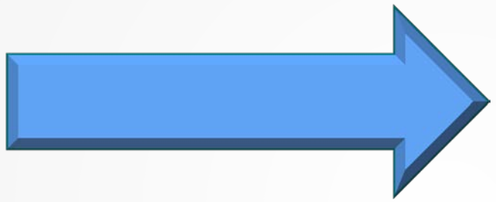
AUTODESK AS SOFT PROVIDER …

and more …

Over the years, Autodesk made the transition from Software Editor Only to Service Provider…

2009

PDM (150)



2013

PDM (700)
xCAD (40)
PLM (150)

\+ Autodesk Consulting Services

- Workshops
- Requirements Collection
- Development
- UAT Follow-up

Project Management

Tamara Berger
EMEA Project Manager

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Autodesk Business Value Methodology

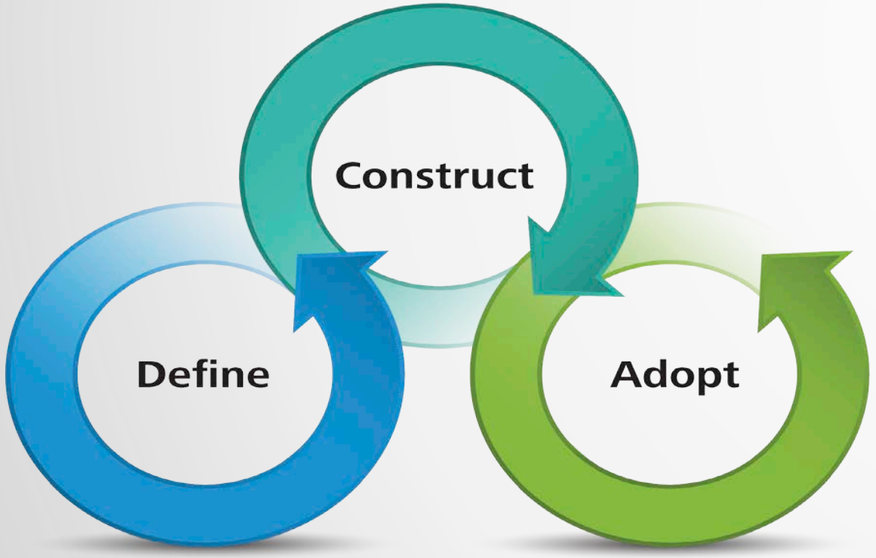
Defines how we work to deliver value to our customers:

- Provides a structured approach to plan, propose and execute projects
- Provides an overarching framework that helps customers to understand what to expect when they engage in a consulting project with Autodesk
- Outlines the processes we use to mitigate risk and achieve customer success
- Provides a higher quality experience to our customers
- Provides ways to inspect our work and identify where we can improve

➔Enables us to exceed the expectations of our customers

Autodesk Business Value Methodology

AUTODESK®
BUSINESS VALUE
METHODOLOGY



Define Phase

Business value has been agreed. A roadmap and high-level plan are in place. Success metrics have been identified.

Construct Phase

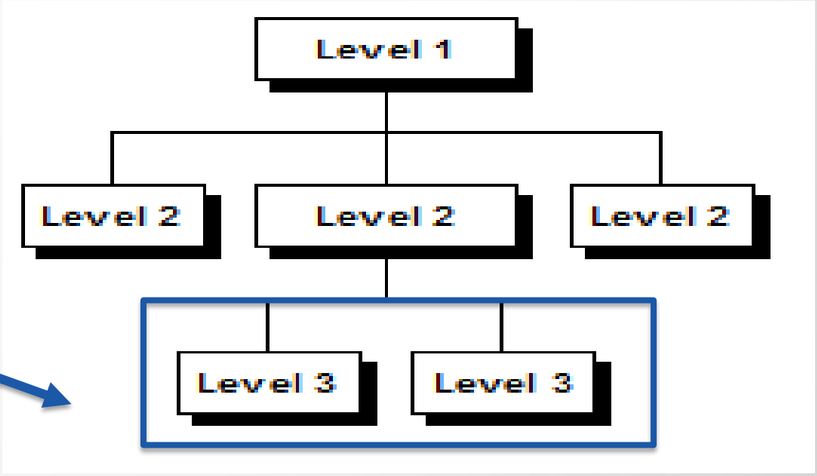
Solution has been designed, developed, and tested. All data has been migrated. Baseline metrics are available. An adoption plan has been created.

Adopt Phase

All users are trained and the solution is in production with ongoing mentoring to ensure productive use. Metrics demonstrate business value.

Methodology built around a standard WBS

- The WBS organizes and defines the total scope of the project using a hierarchical representation
- The work contained in the lowest level WBS can be estimated, scheduled, monitored and controlled
- The lowest level WBS will have:
  - An owner
  - A deliverable
  - A template
  - A method
  - A result



As-Is Analysis	To-Be Design	Requirements Specification	Solution Design	Solution Build	Pre-Production Staging	Production Deployment	Solution Support
Analysis Preparation	Process Definition	Requirements Capture	Solution Specification	Environment Setup	Solution Deployment	Adoption Execution	Solution Maintenance
Data Collection & Analysis	Roadmap Development	Requirements Analysis & Elaboration	Functional & Non-functional Design	Custom Development	User Acceptance Testing	Solution Tuning	Solution Upgrade
	Adoption Planning		Detailed Design	Product Configuration	Performance Testing & Tuning	User Mentoring	
			User Methods Development	Deployment Plan Development	User Education		
				System Testing			
				Education & Documentation Development			
				Deployment Package Creation			

Each task has a set of templates, tools, and other deliverables

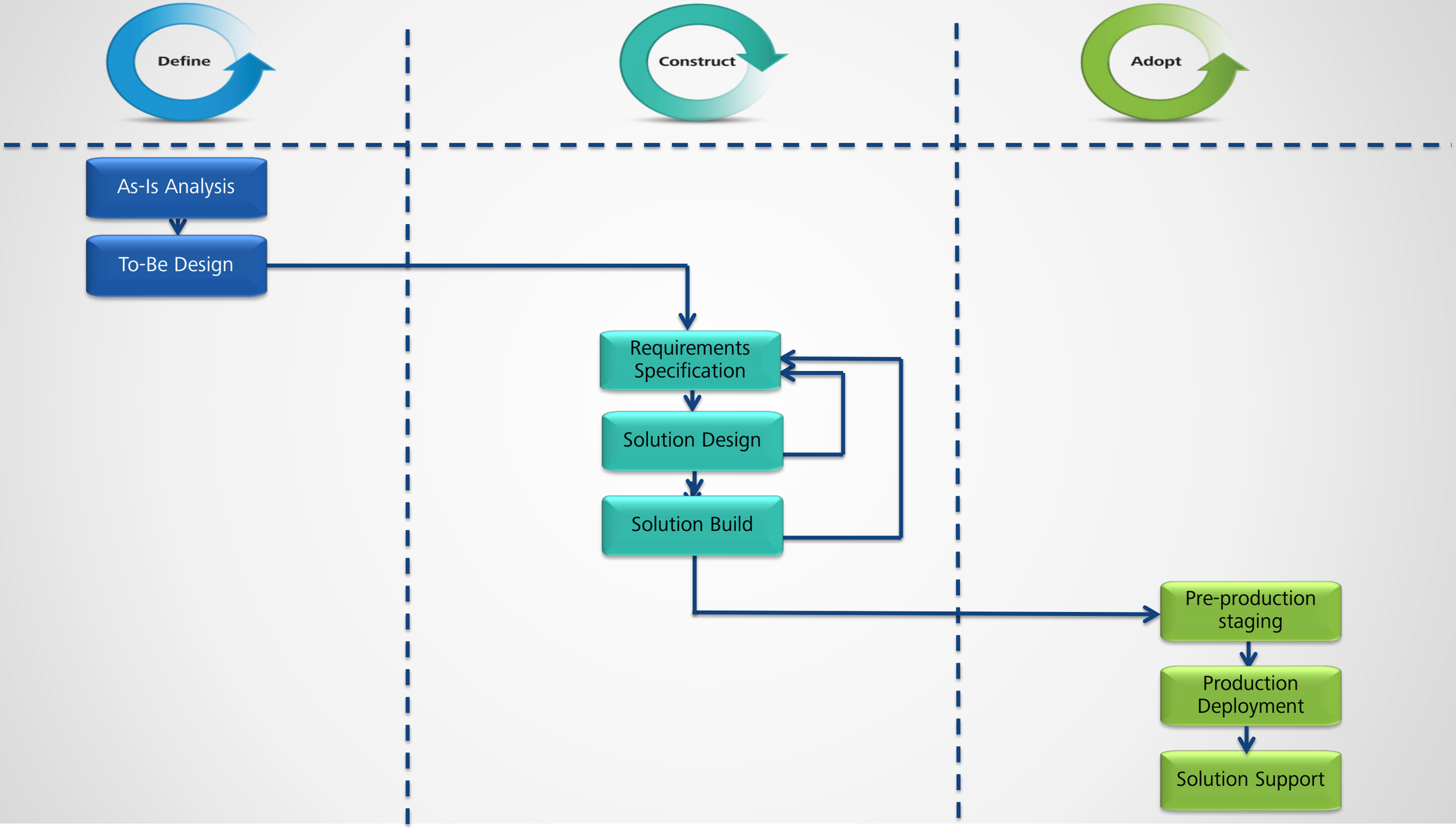
Level 2	Level 3	Template
As-Is Analysis	Analysis Preparation	Stakeholder Benchmark Interview SummaryCritical Business and Technology Surveys
	Data Cc	
To-Be Design	Process	
	Roadm	
	Adoptic	

Level 2	Level 3	Template
Requirements Specification	Requirements Capture	Requirements Traceability Matrix
	Requirements Analysis & Elabo	Use Case Template Test Case Template
Solution Design	Soluti	
	Funct Desig	
	Detail	
	User M	
	Envirc	
	Soluti	
	Educ: Devel	
	Deployment Package Creation	

Pre-Production Staging	Solution Deployment	Documents and plans from Solution Build:Deployment Plan Development: Solution Configuration Document Solution Deployment Plan Solution Maintenance and Support Plan Customer Site Launch Plan Template
	User Acceptance Testing	Release Notes Defect Status Report Template UAT Test Summary Report
	Performance testing and tuning	Performance Test Case Template
		and Documentation
		m Solution Design:User Methods
		m Solution Build:Deployment Plan
		Performance Metrics Report
	User Mentoring	Support Handover Report
Solution Support	Solution Maintenance	Defect Status Report Template from Pre-Production:User Acceptance Testing Solution Maintenance and Support Plan from Solution Build:Deployment Plan Development
	Solution Upgrade	Solution Maintenance and Support Plan from Solution Build:Deployment Plan Development

Template deliverables created in one phase of the project flow through to subsequent phases and get elaborated further

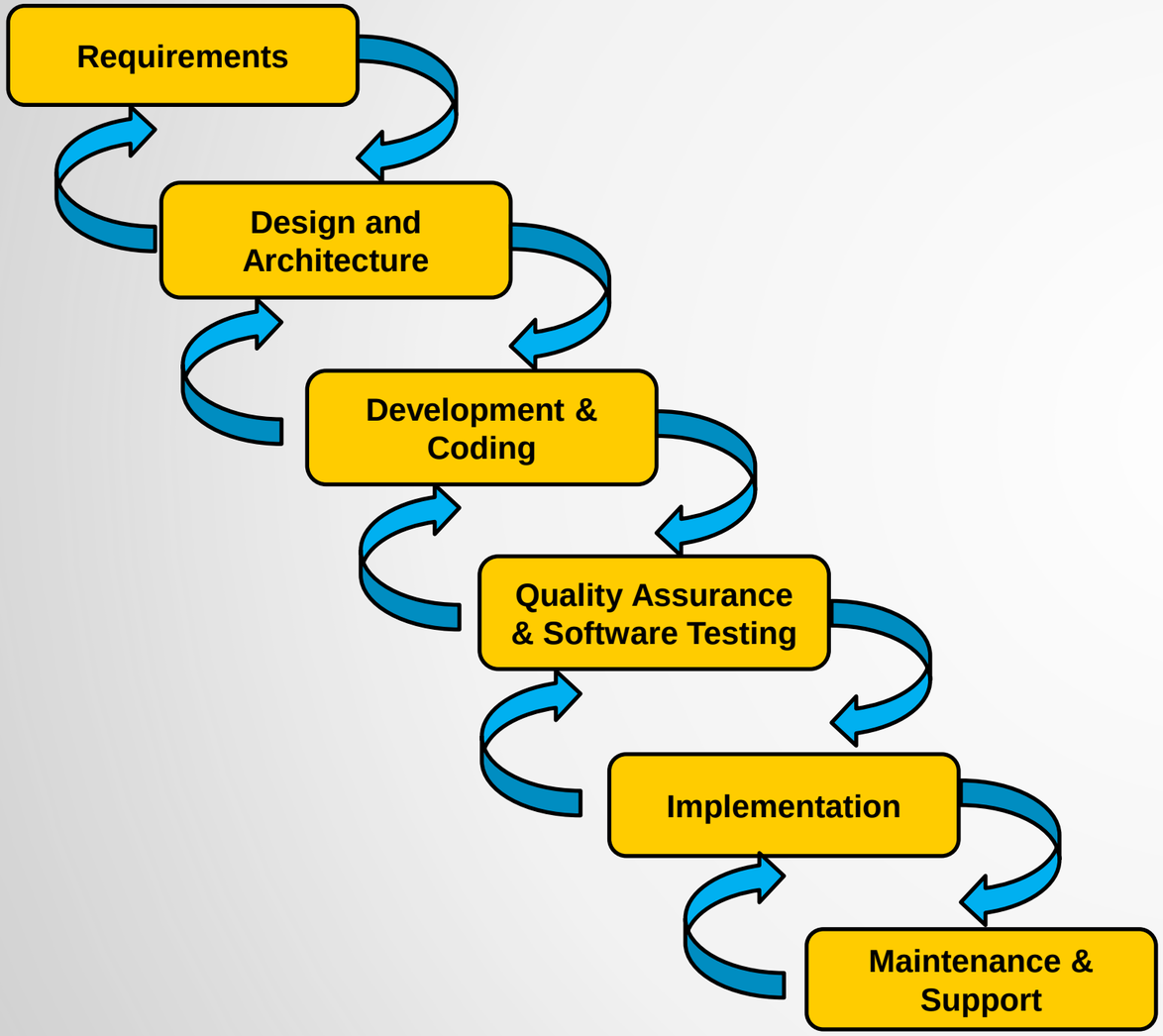
…. And what about Agile ?

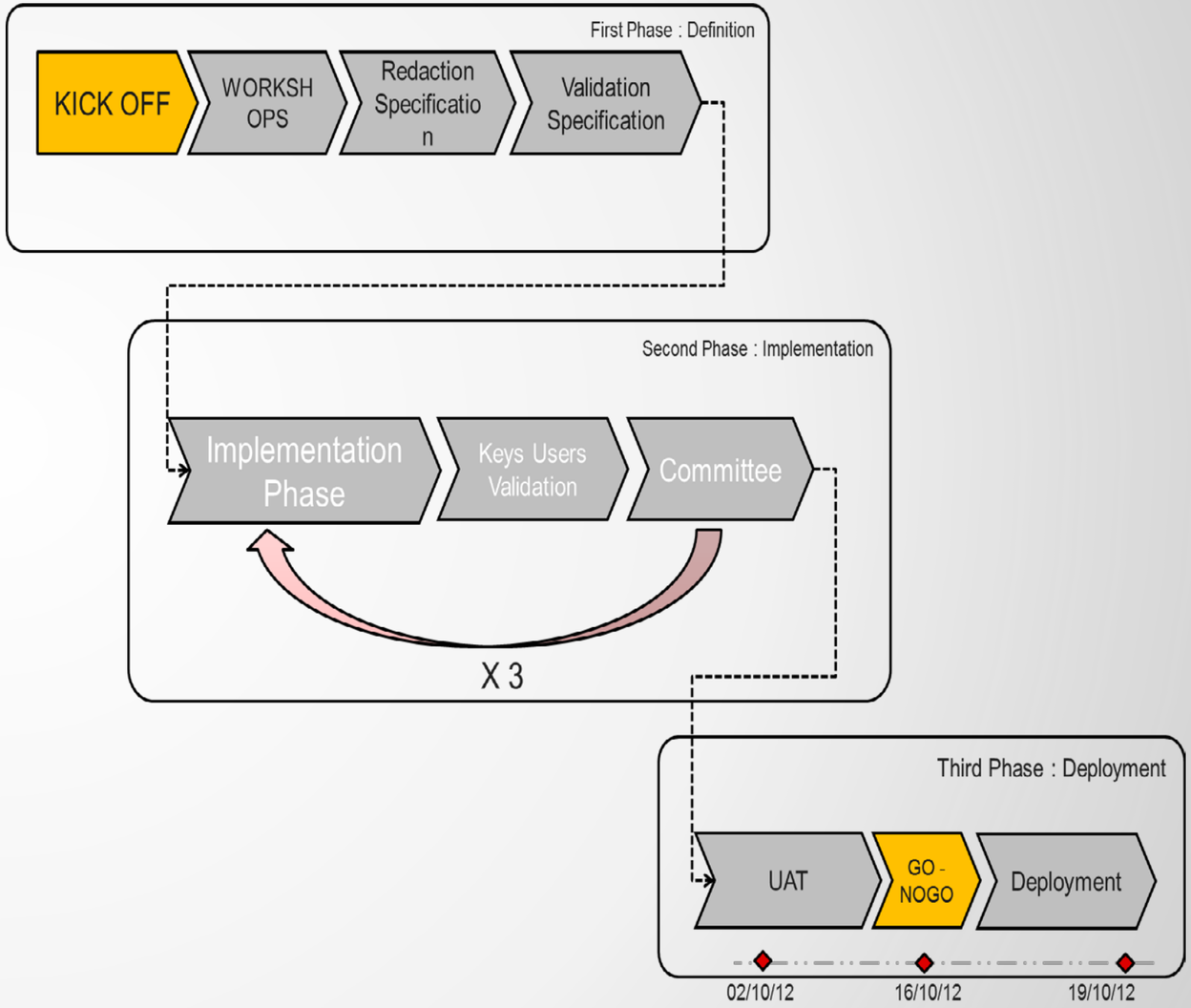


Waterfall versus Agile: Overview

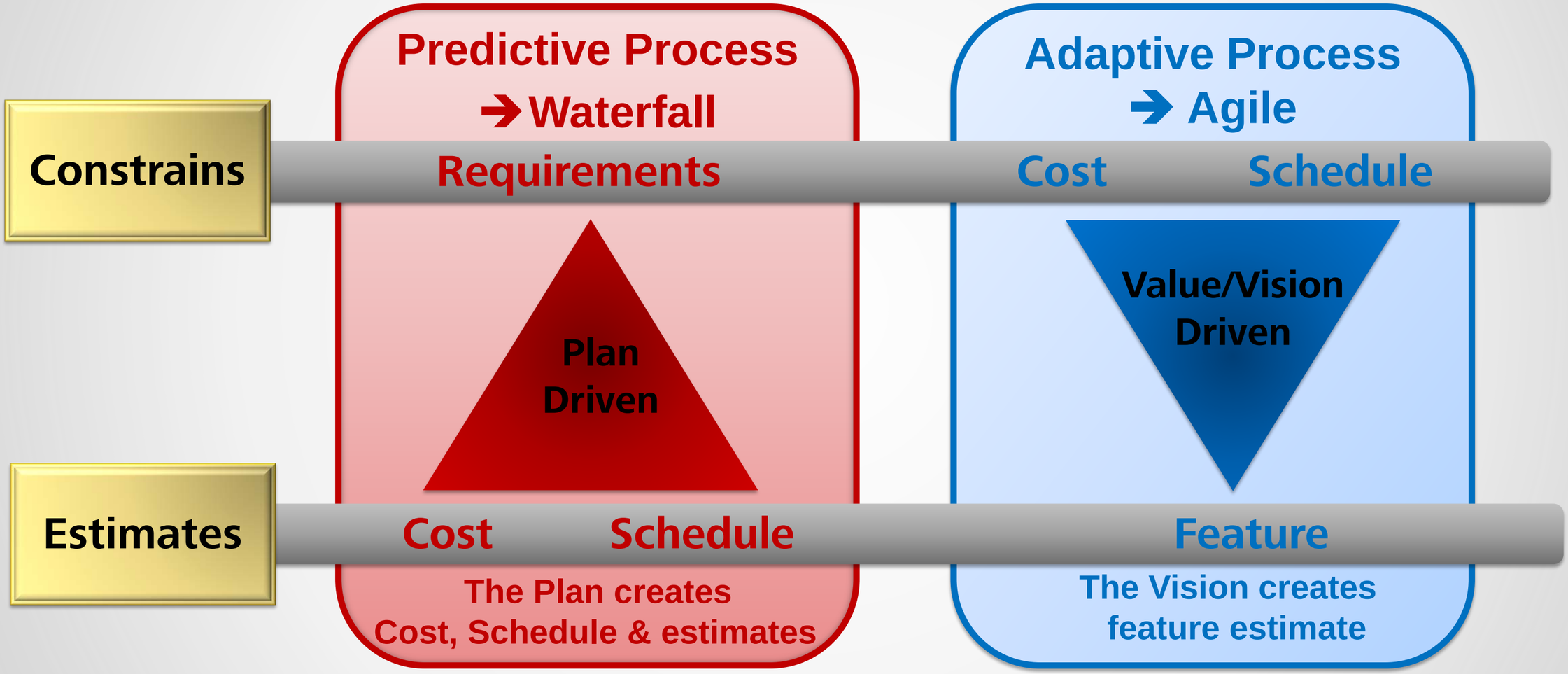
	Waterfall	Agile
Planning scale	Long-term	Short-term
Distance between customer and developer	Long	Short
Time between specification and implementation	Long	Short
Time to discover problems	Long	Short
Project schedule risk	High	Low
Ability to respond quickly to change	Low	High
Team Environment	Working in Silos	Work as a collaborative team

Waterfall versus Agile

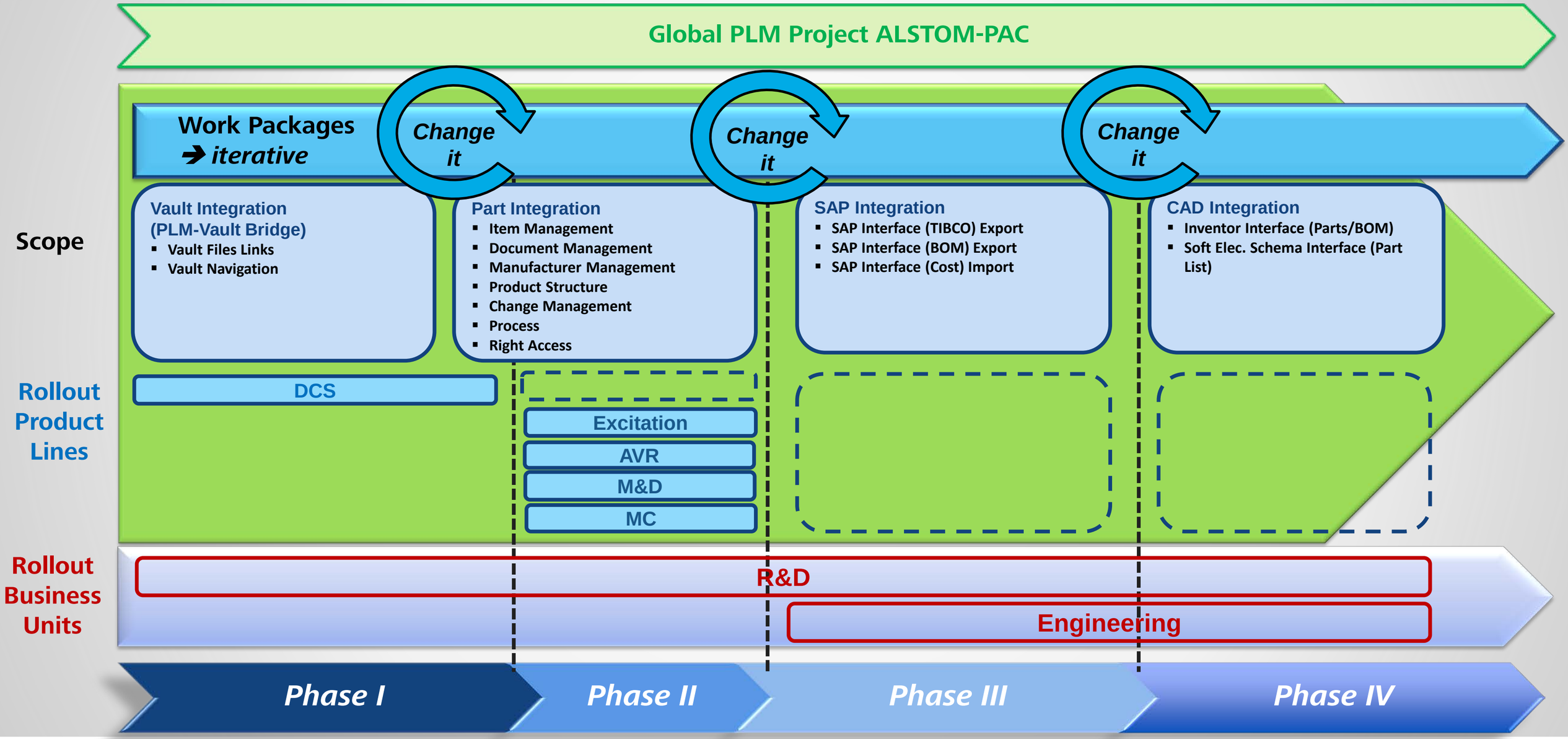




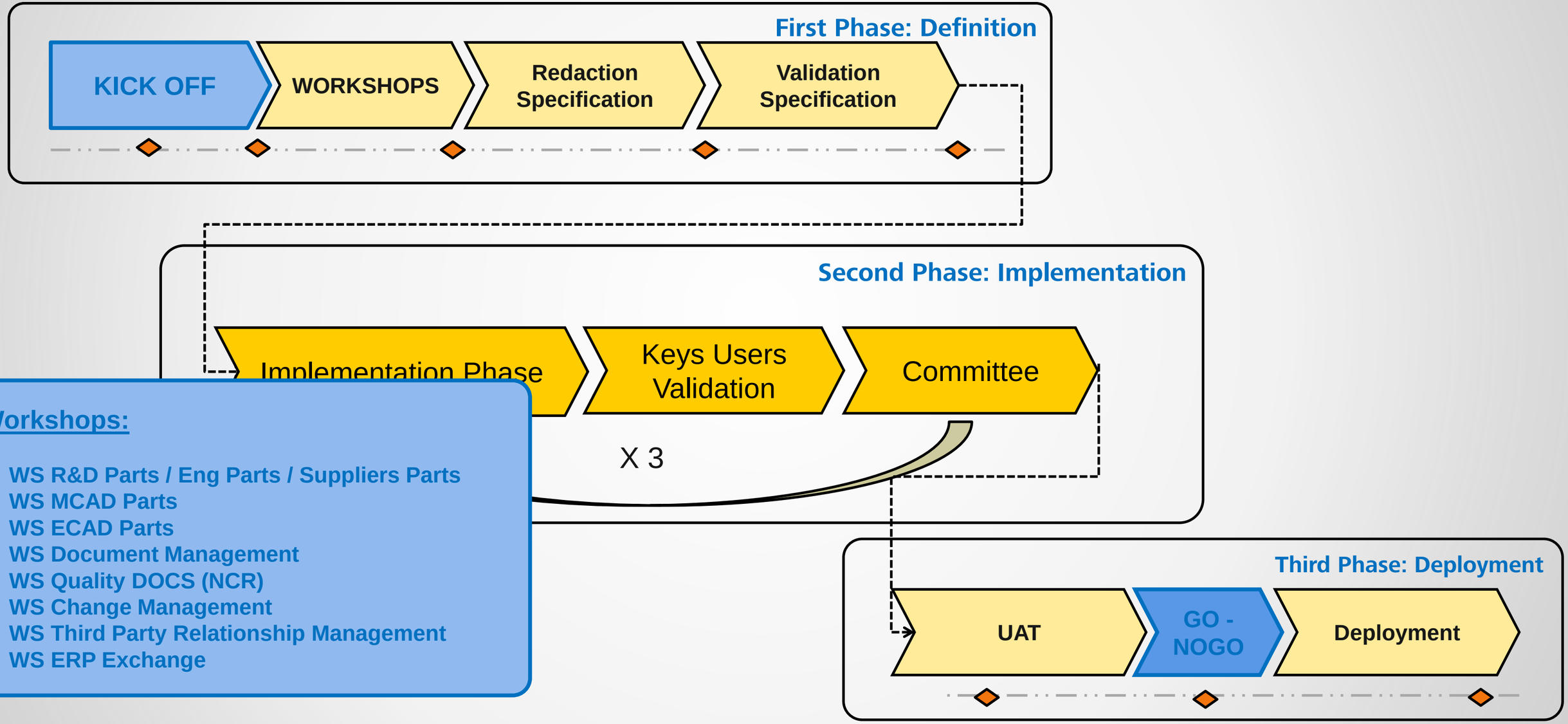
Waterfall versus Agile: decision criteria



PLM Value Delivery Concept (“Roadmap”)



Deployment Method for R&D Project ➔ Agile with 3 Sprints



Workshops:

- ✓ WS R&D Parts / Eng Parts / Suppliers Parts
- ✓ WS MCAD Parts
- ✓ WS ECAD Parts
- ✓ WS Document Management
- ✓ WS Quality DOCS (NCR)
- ✓ WS Change Management
- ✓ WS Third Party Relationship Management
- ✓ WS ERP Exchange

Agile principles:

- Deliver usable components early and continuously
- Welcome changes to scope of work throughout the process
- Keep sprints short and frequent, preferably in weeks, not months
- Use cross-functional teams with a variety of business and technical skills
- Meeting face-to-face meetings or web-conference, at least once a week
- Provide daily communications and status updates

Agile Manifesto

Individuals and interactions

over processes and tools

Working software

over comprehensive documentation

Customer collaboration

over contract negotiation

Responding to change

over following a plan

FUNCTIONAL & TECHNICAL PART

Jérémy Pringault
EMEA Business Consultant

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Introduction

- We will highlight the 3 main Topics of the ALSTOM PAC Project
  - The security aspect
  - R&D Items Solution
  - Installed Base Management Solution

Reminder – Vocabulary : What is a PLM 360 Solution

A solution or an App is a set of PLM 360 workspaces that work together to help manage and store business information

Current OOTB Solutions

Solution	Workspaces
Project Management	*Program/Cost/NPI/Requirements Management*
Engineering	*Items & BOMs / Change Management / Material Specs / Design Reviews*
Procurement	*Suppliers / RFQ / Warranty Recovery*
Quality	*Inspections / Non-Conformances / CAPA / Document Management*
Operations	*Accident Reports / Calibrations / Equipment Maintenance*
Sales & Marketing	*Customers / Sales Quotes / Marketing Assets*
Service & Support	*Service Requests / Return Merchandise Authorization*

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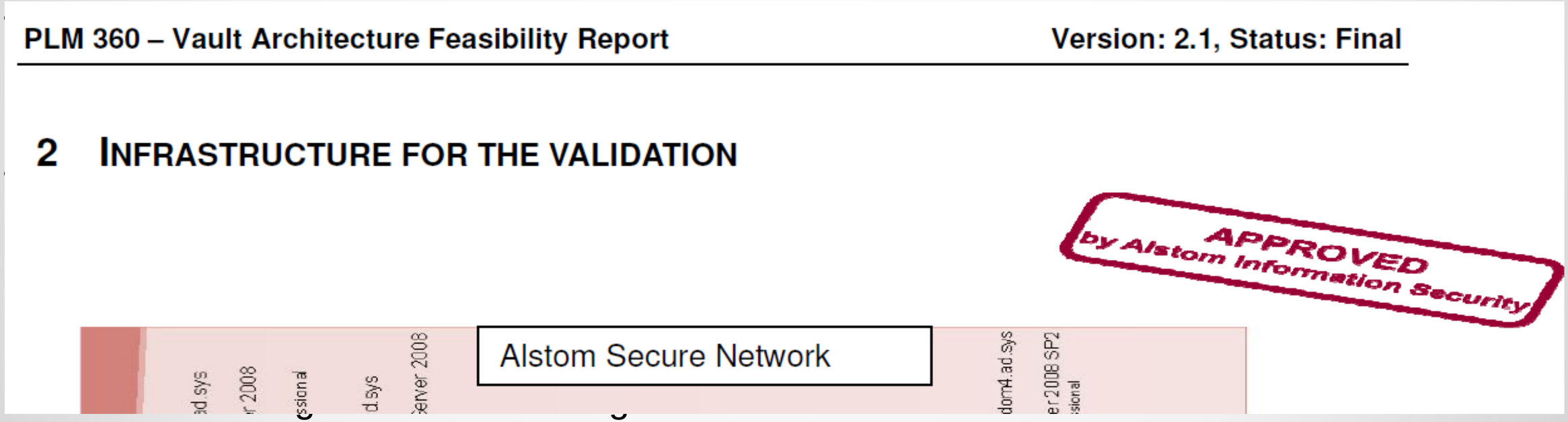
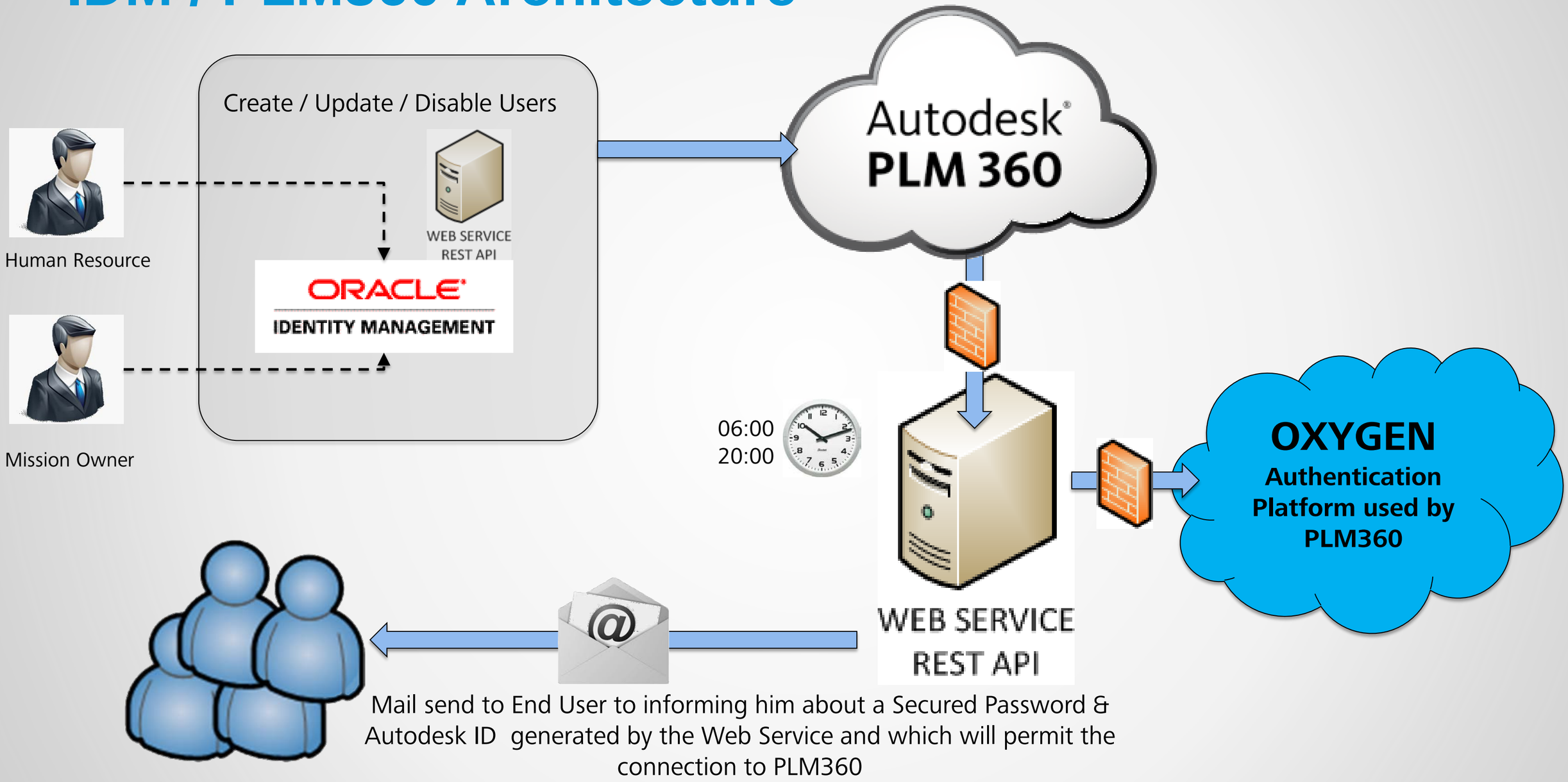
Introduction

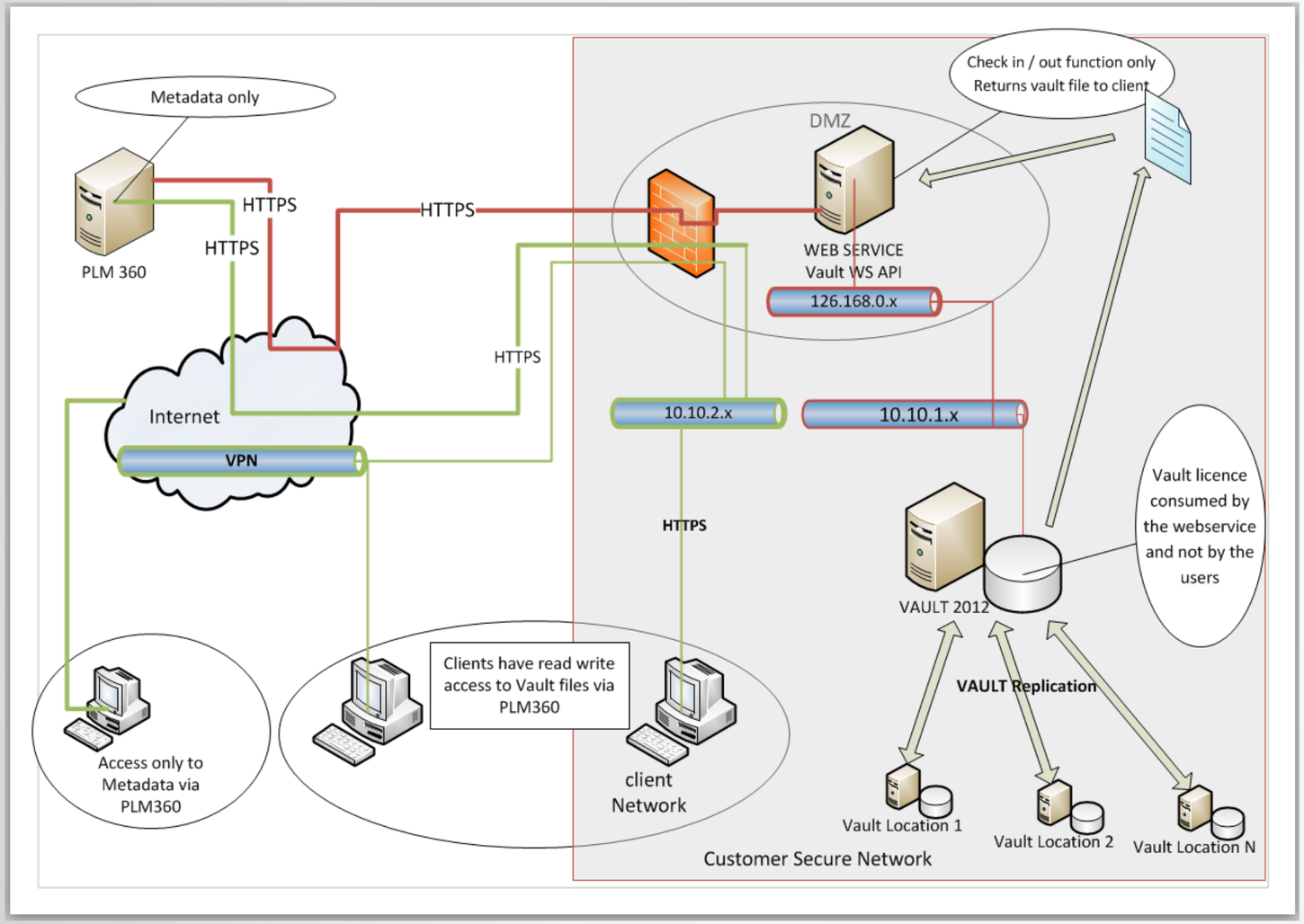
The security was the first big Challenge on this Project and the Applications Programming Interface (APIs) has permit to find way to solve the different demands formulated by ALSTOM Information Technology security service.



IDM / PLM360 Architecture



Vault Bridge Architecture
The security Aspect (Intellectual Property)



Information's

- We are using the APIs available on PLM360 to create the following architecture which allowed us to managed the files in the Internal Network and the Meta Data's in the cloud.
- The Architecture of the Vault in Production & deployed at ALSTOM PAC has been kept

Conclusion

- APIs are one way to solve internal customer needs
- The security should not be a deal breaker

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What is an R&D Item

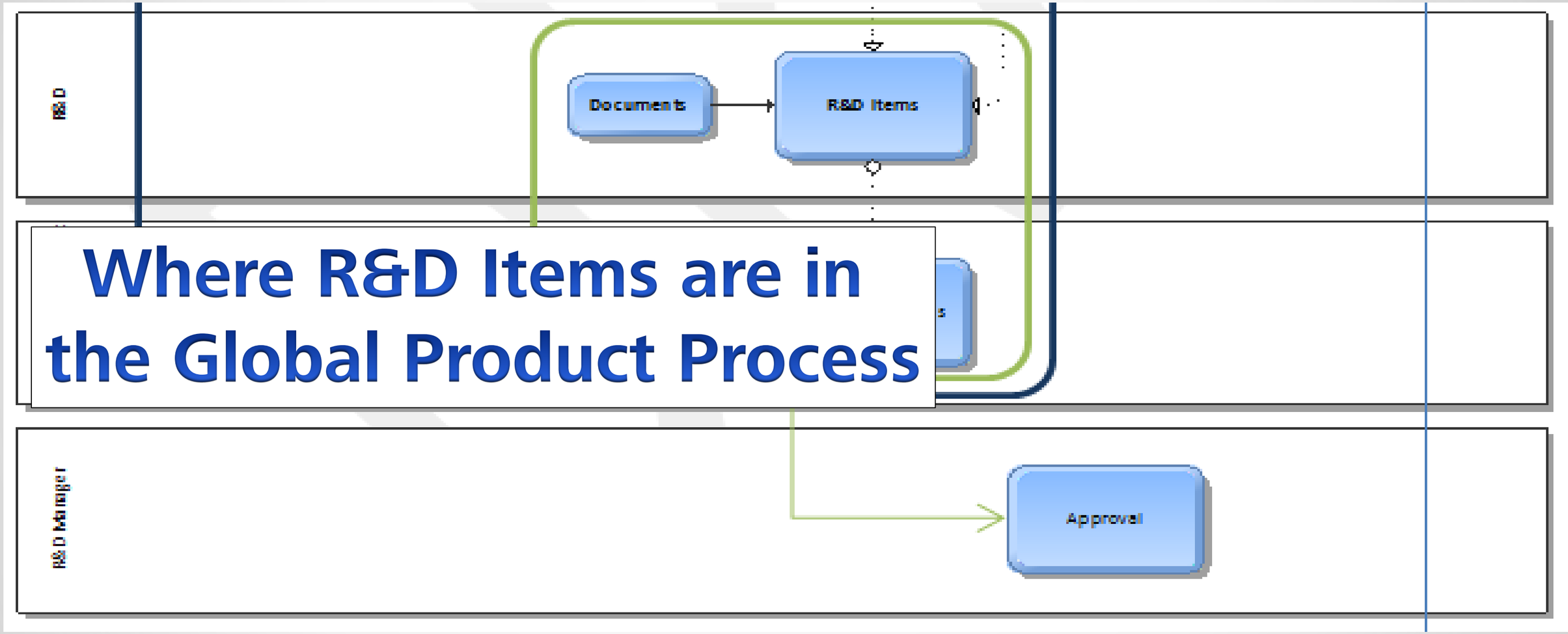
R&D Items or Alstom Parts are physicals standards components, validated and specified by R&D, which can be used in projects without design changes.
The supply-chain for a *R&D Item* is always defined, along with all the relevant commercial information (price list, availability, etc).

R&D Items can be used to define:

- Software
- Hardware
- Mechanical

Technical & Supply Chain Population

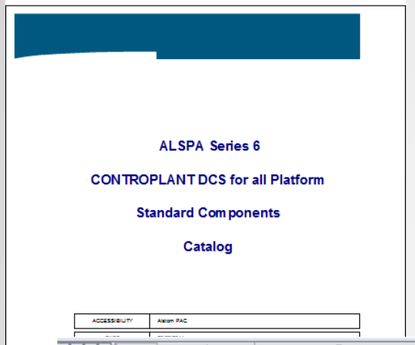
ALSTOM PAC DCS Product View



Product- Example **ALSPA® CONTROPLANT™ DCS**

High level Process Data Model

How was managed the R&D Items

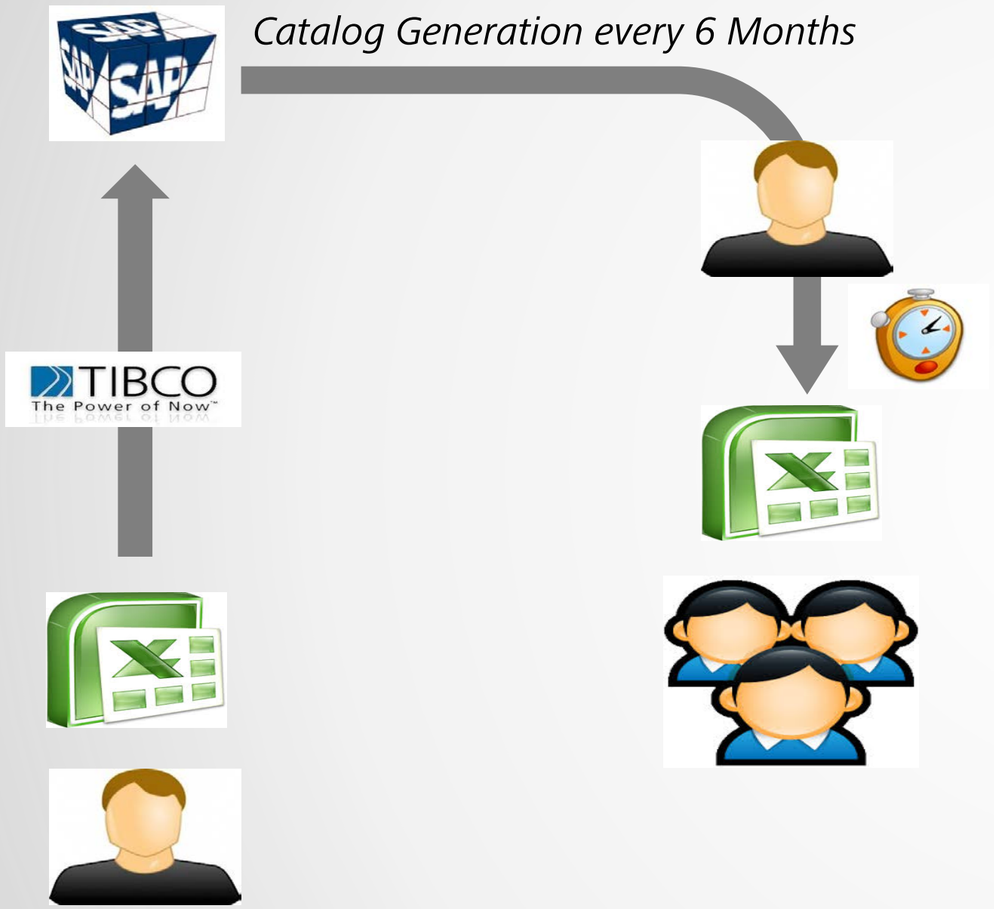


	Code	Item Title	QTY
2	TOP	ALSPA ETHERNET ENTERPRISE BUS	5
10	TOP	ALSPA ETHERNET PROCESS BUS OR ALSPA ETHERNET ENTERPRISE BUS	38
55	TOP	ALSPA ETHERNET FIELD BUS	14
70	TOP	ALSPA WORLDFIP FIELD BUS - 2.5 MBPS	15
86	TOP	ALSPA MODBUS TCP NETWORK	6
95	TOP	ALSPA COMMON ITEMS FOR NETWORK CONN.	16
114	TOP	ALSPA OPTICAL ITEMS	31
153	TOP	ALSPA CABLES NOT COMPATIBLE WITH IEC60332-3	11

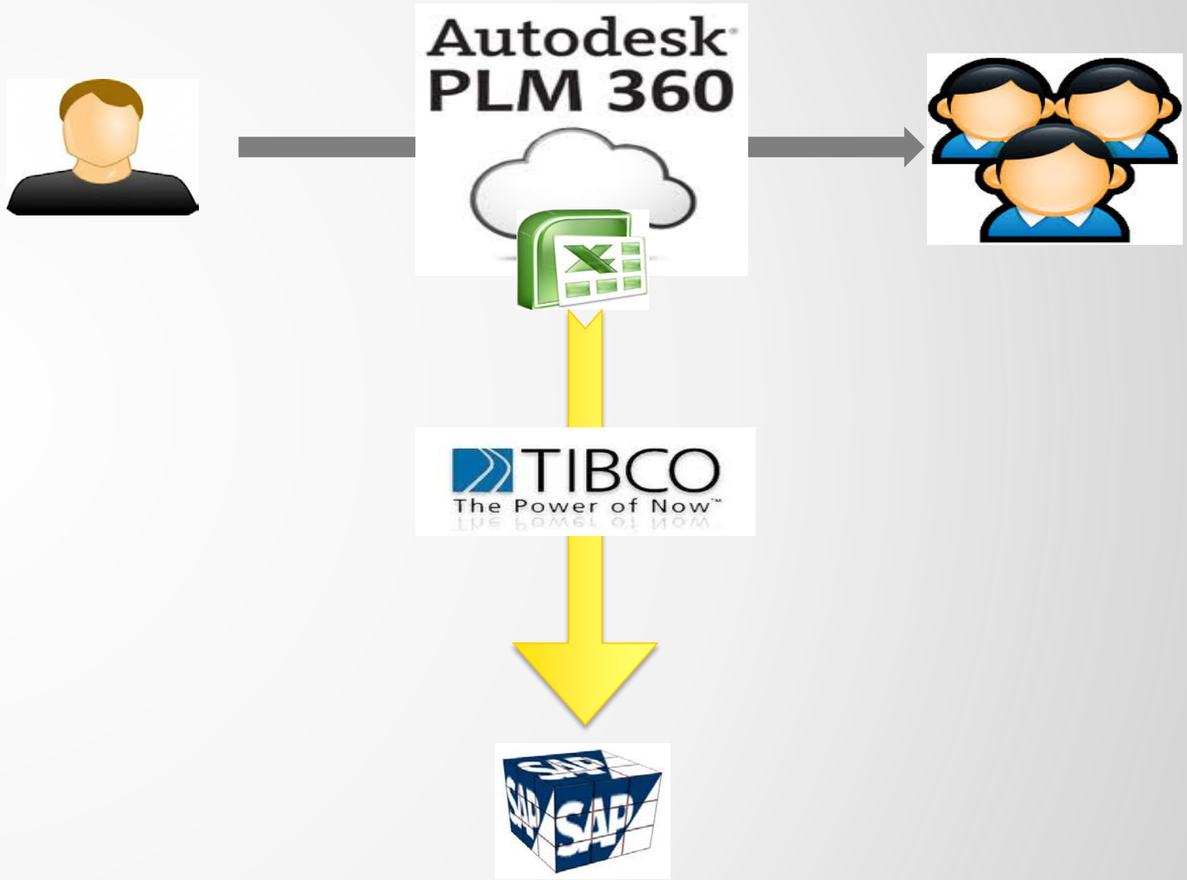
	Code	Item Title	Description	QTY	Cost	Currency	CRITICALITY	DCS LCC	HYDRO L2	HYDRO E2	HYDRO H2	THERMIQUE CE10	THERMIQUE CE20	THERMIQUE CE30	
1477	TOP	HART WITH MULTIPLEXER											yes	yes	2
1483	TOP	FFH1										yes		yes	6
1510	TOP	PROFIBUS-DP									yes	yes	yes	yes	19
1519	TOP	ALSPA HMI - MAIN COMPONENTS						yes	yes		yes	yes		yes	17
1520	TOP	ALSPA INSTALLATION KIT							yes		yes	yes		yes	25
1542	TOP	ALSPA HMI C10							yes		yes	yes		yes	11
1561	TOP	ALSPA HMI C30 RTDS IN CUBICLE							yes		yes	yes		yes	4
1567	TOP	ALSPA HMI C30 SERVER/OS							yes		yes	yes		yes	50
1616	TOP	ALSPA HMI C30 OS							yes		yes	yes		yes	71
1635	TOP	ALSPA HMI - LARGE SCREEN DISPLAY						yes	yes	yes	yes	yes	yes	yes	
1636	TOP	LARGE SCREEN DISPLAY SOLUTION WITH DLP SCREENS							yes	yes	yes	yes	yes	yes	
1666	TOP	LARGE SCREEN DISPLAY SOLUTION WITH LCD SCREENS							yes	yes	yes	yes	yes	yes	
1813	TOP	CONTROCAD SERVER - LAPTOP HARDWARE							yes	yes	yes	yes	yes	yes	
1819	TOP	CONTROCAD CLIENT - PC HARDWARE							yes	yes	yes	yes	yes	yes	
1834	TOP	ALSPA I/O SIMULATOR STATIONS						yes	yes	yes	yes	yes	yes	yes	

	Purchasing org.	Material		Pla	Base Unit	Medium descr.EN	Medi
5445	FR20	E52L0508700	T5500/BPXEON/2.66GHZ/4GB/4X500GB/US	2001	EA	T5500/BPXEON/2.66GHZ/4GB/4X500GB/US	T5500
5446	FR20	E52L0508700	T5500/BPXEON/2.66GHZ/4GB/4X500GB/US	2002	EA	T5500/BPXEON/2.66GHZ/4GB/4X500GB/US	T5500
5447	FR20	E52L0508750	NAS QNAP TS-459 PRO2 - 2X 2TB RAID1	2001	EA	NAS QNAP TS-459 PRO2 - 2X 2TB RAID1	NAS C
5448	FR20	E52L0508750	NAS QNAP TS-459 PRO2 - 2X 2TB RAID1	2002	EA	NAS QNAP TS-459 PRO2 - 2X 2TB RAID1	NAS C
5449	FR20	E52L0508800	PC FOR C10LOCALHMI FUNCTION - 24VDC	2001	EA	PC FOR C10LOCALHMI FUNCTION - 24VDC	PC PC
5450	FR20	E52L0508800	PC FOR C10LOCALHMI FUNCTION - 24VDC	2002	EA	PC FOR C10LOCALHMI FUNCTION - 24VDC	PC PC
5451	FR20	E52L0509250	960/ETH4-PCI/XPSP3	2001	EA	960/ETH4-PCI/XPSP3	960/E
5452	FR20	E52L0509300	960/ETH4-PCI/VID2-PCIE/XPSP3	2001	EA	960/ETH4-PCI/VID2-PCIE/XPSP3	960/E

History Process



New with PLM360



R&D Solution

- **Workspace object** of PLM 360 is the key building block for each solution.
- Each Workspace provides a key set of features that can be configured to suit specific business needs.
- Workspaces can be modified at any time to enable/disable features for specific users.

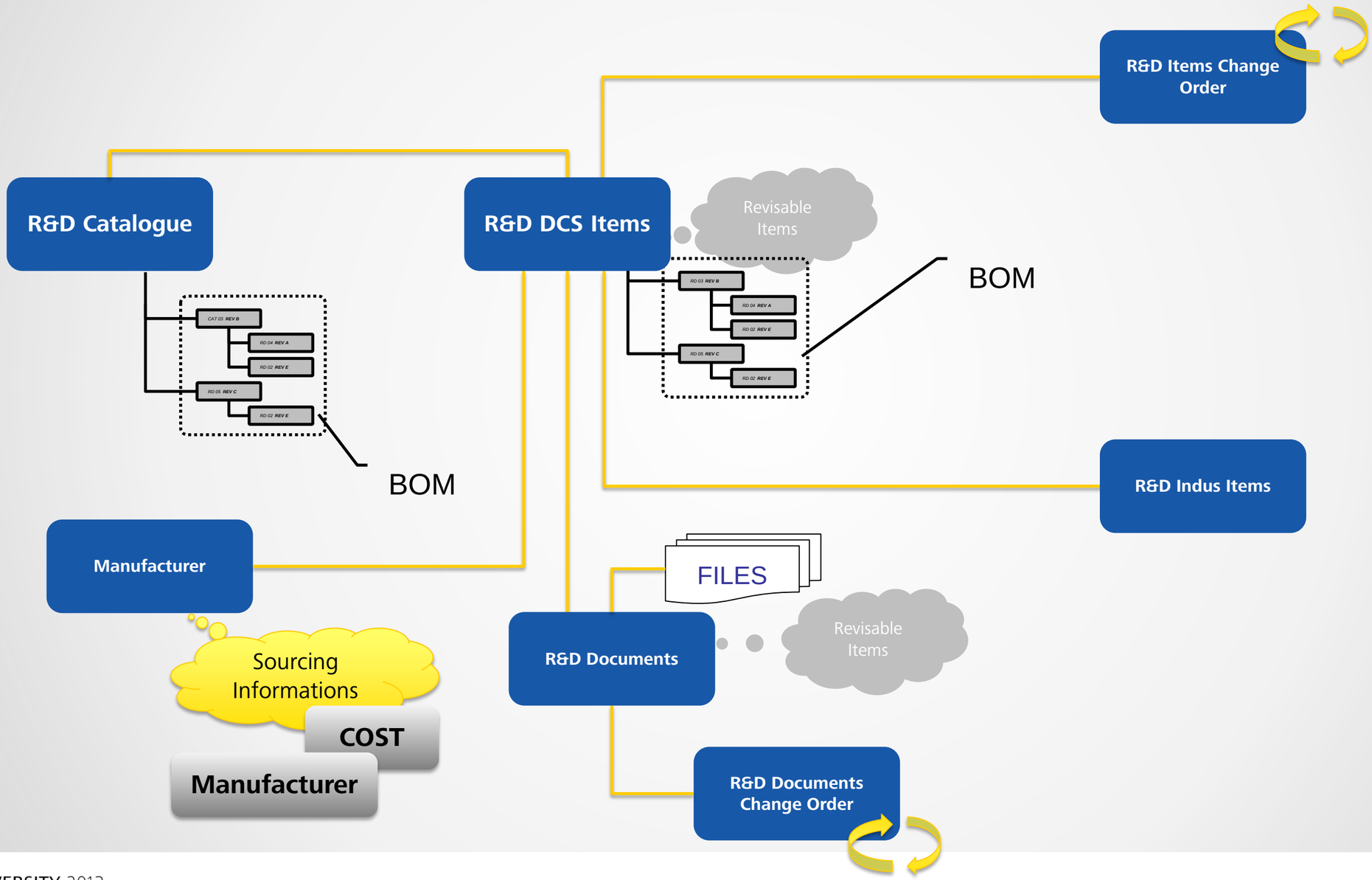
ENGINERING APP

Features / Mains Workspaces	Item Details	Relationships	Grid	Bill of Materials	Revision Controled	Sourcing	Workflow	Workflow Items	Vault Bridge	Reporting	Import
R&D Items	✓	✓	✓	✓	✓					✓	✓
R&D Documents	✓				✓				✓	✓	✓
R&D Item Change Orders	✓						✓	✓		✓	✓
R&D Documents Orders	✓						✓	✓		✓	✓
R&D Indus Items	✓									✓	✓
R&D Catalogue	✓			✓						✓	✓
Manufacturers	✓					✓				✓	✓

Sourcing

Data Model

Data Model High Level View: R&D DCS



R&D DCS Items Data Model

R&D DCS Items

Descriptor : Item Code – English Description

BOM Tab

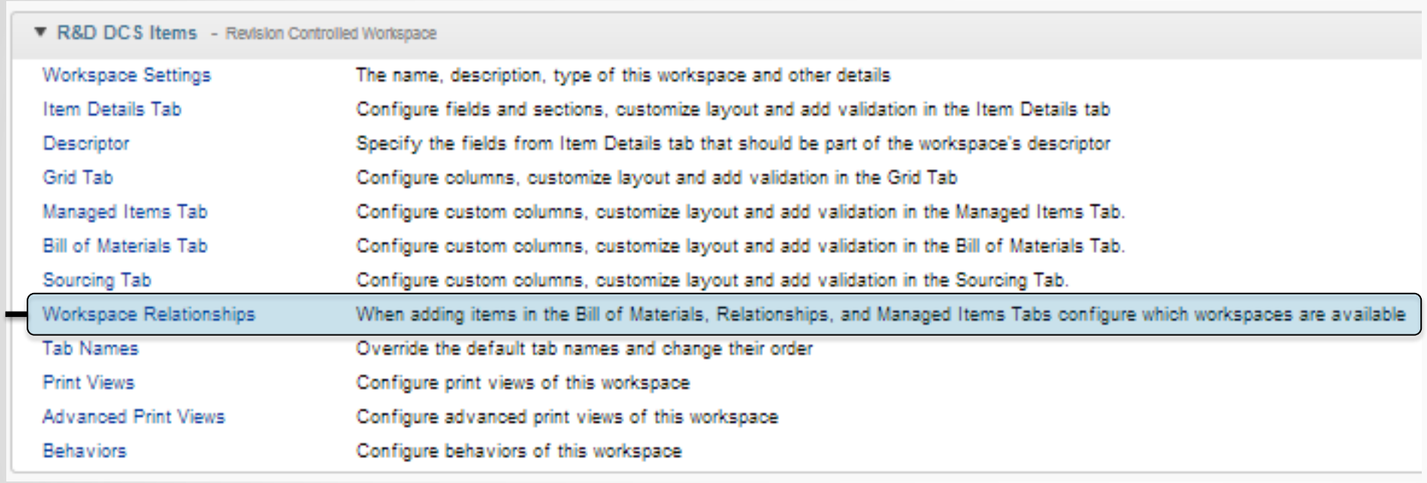
Internal ID	Attribute Name	Storage	Length	Display Length	Remark	Section
NUMBER	Item Code	Alpha Numeric	18	18	*Required a Unique*	Details
LEGACY_CODE	Legacy Code	Alpha Numeric	20	20		Details
CLASSIFICATION_ECCNUS	Classification ECCN-US	Alpha Numeric	25	25		Details
RESTRICTION	Restriction	Alpha Numeric	25	25		Details
TITLE	Title	Alpha Numeric	24	24	Required	Details
PRODUCT_CLASSIFICATION	Product Classification	Lookup : [PL] Product Classification		10		Details
TRACEABILITY	Traceability	Lookup : [PL] Traceability		20	Selection Required & Default Value T0	Details
PROTOTYPE	Prototype	Lookup : Yes | No		10	Selection Required & Default Value NO	Details
UNITS	Units	BOM UOM Pick List				Details
COMMENTS	Comments	Paragraph	400	100		Details
DESCRIPTION	English Description	Alpha Numeric	40	40	Required	Description
DESCRIPTION_FRENCH	French Description	Alpha Numeric	40	40		Description
MATRIX	Product Line					
HYDRO_EX	Hydro EX	Lookup : Yes | No		10		Catalogue Classification
HYDRO_HX	Hydro HX	Lookup : Yes | No		10		Catalogue Classification
HYDRO_LX	Hydro LX	Lookup : Yes | No		10		Catalogue Classification
THERMAL_EX	Thermal EX	Lookup : Yes | No		10		Catalogue Classification
THERMAL_HX	Thermal HX	Lookup : Yes | No		10		Catalogue Classification
THERMAL_LX	Thermal LX	Lookup : Yes | No		10		Catalogue Classification
FAMILY	Item Category	Filtered Picklist [WS] Family Code		100		HACC
FAMILY_DESCRIPTION	Item Category Description	Filtered Picklist [WS] Family Code		100		HACC
HACC_CODE	HACC	Filtered Picklist [WS] Family Code		100		HACC
HACC_MATERIAL_DESC	HACC Material Description	Filtered Picklist [WS] Family Code		100		HACC
PRODUCT_LINES_AUTHORIZATION	Product Lines Authorization	Lookup : [PL] Business Line			Multiple Selection	Business Line Authorization

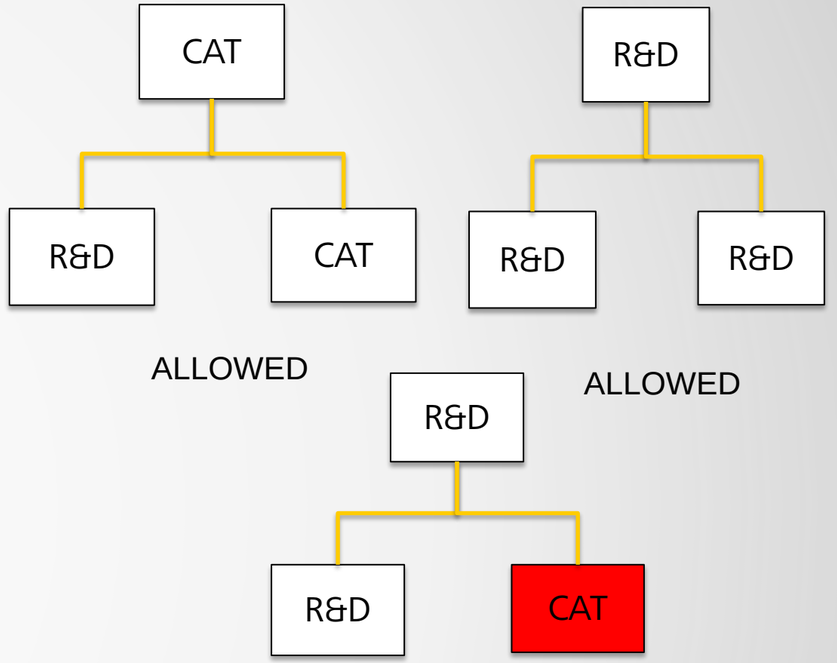
FAMILY CODE

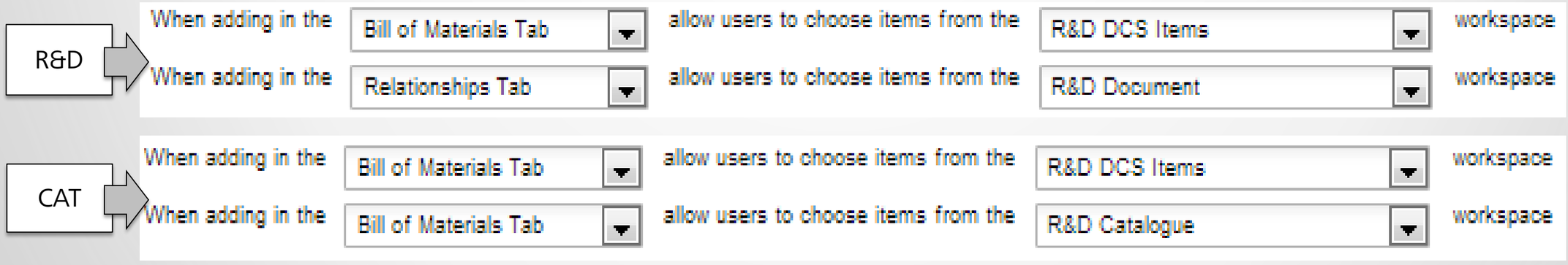
Internal ID	Attribute Name	Storage	Display Length	Editable Length	Remark
FAMILY	Family	Alpha Numeric	2	5	Required
FAMILY_TYPE	Family Type	Lookup : Pack Family Type	100		Selection Required
FAMILY_DESIGNATION	Family Designation	Alpha Numeric	150	150	
HACC_CODE	HACC Code	Pick List [WS] HACC Code	250		
HACC_MATERIAL_DESCRIPTION	HACC Material Description	Derived			Material Group Description
HACC_PAC_DESCRIPTION	HACC PAC Description	Derived			Pack Corresponding Commodity

R&D Catalogue

BOM Relations CATALOGUE - R&D





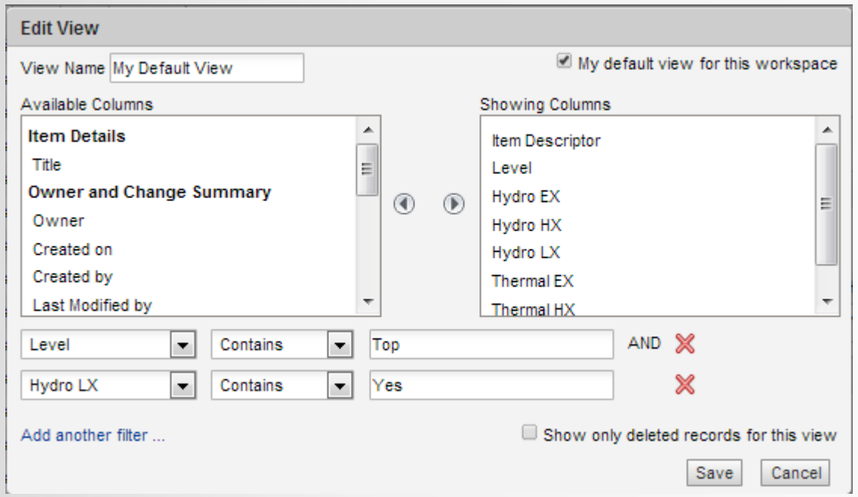


User Interface

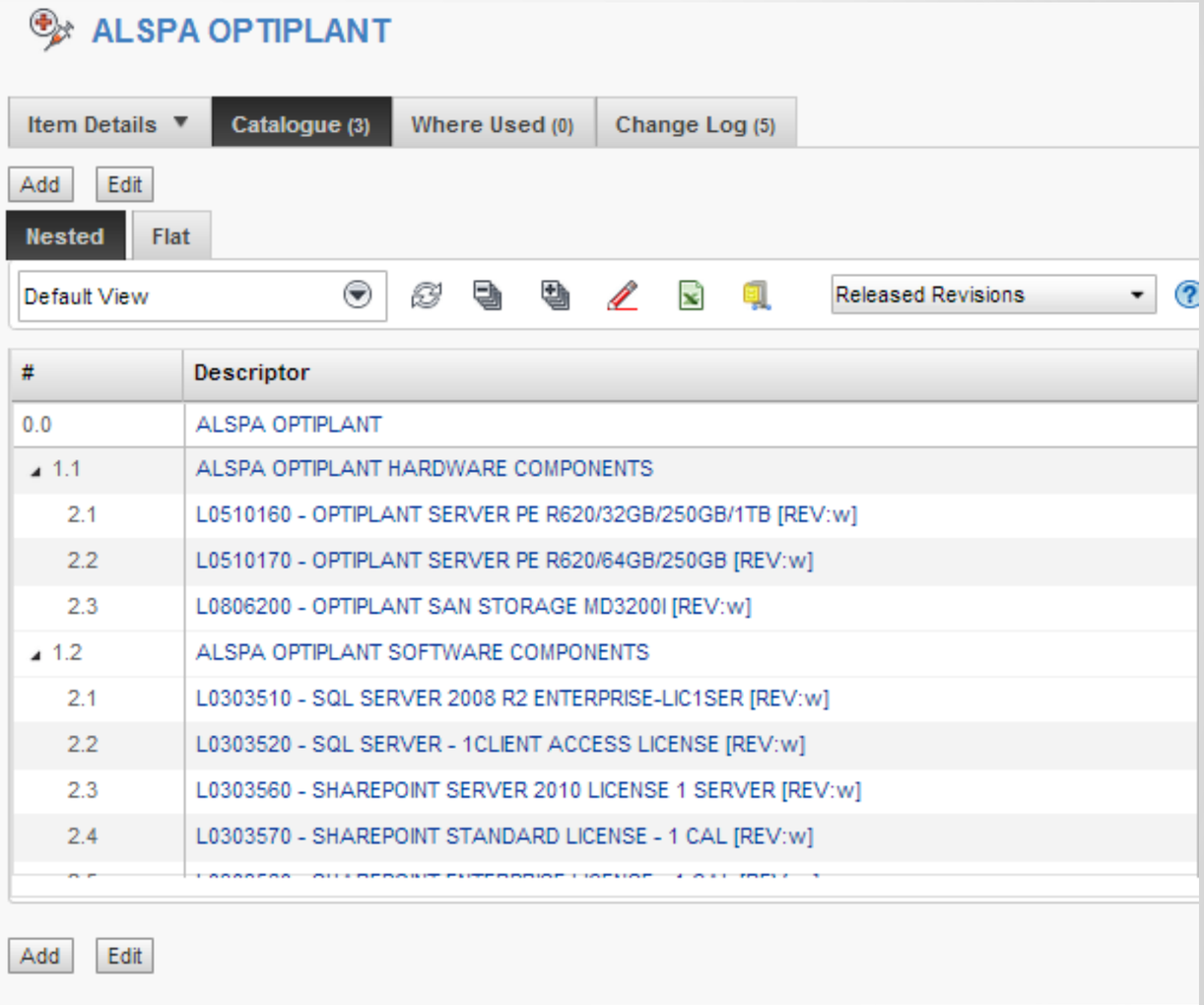
User Interface R&D DCS Catalogue

After the Data Model … The User application

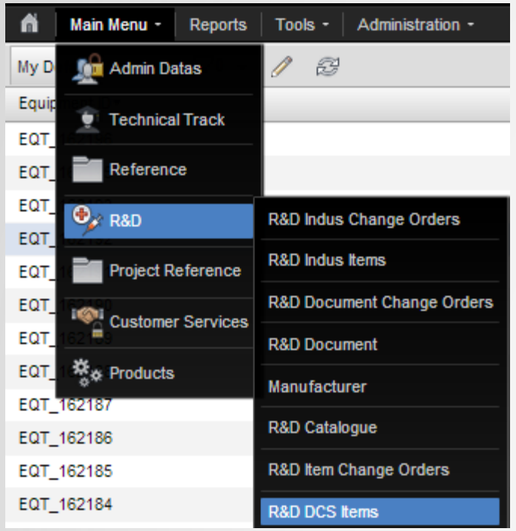
Finding a Standard Part on the Catalogue



Item Descriptor	Level	Hydro E
ALSPA ETHERNET ENTERPRIS...	Top	Yes
ALSPA ETHERNET PROCESS ...	Top	Yes
ALSPA ETHERNET FIELD BUS	Top	No
ALSPA WORLDFIP FIELD BUS ...	Top	Yes



User Interface R&D DCS Items



Main View | R&D DCS Items

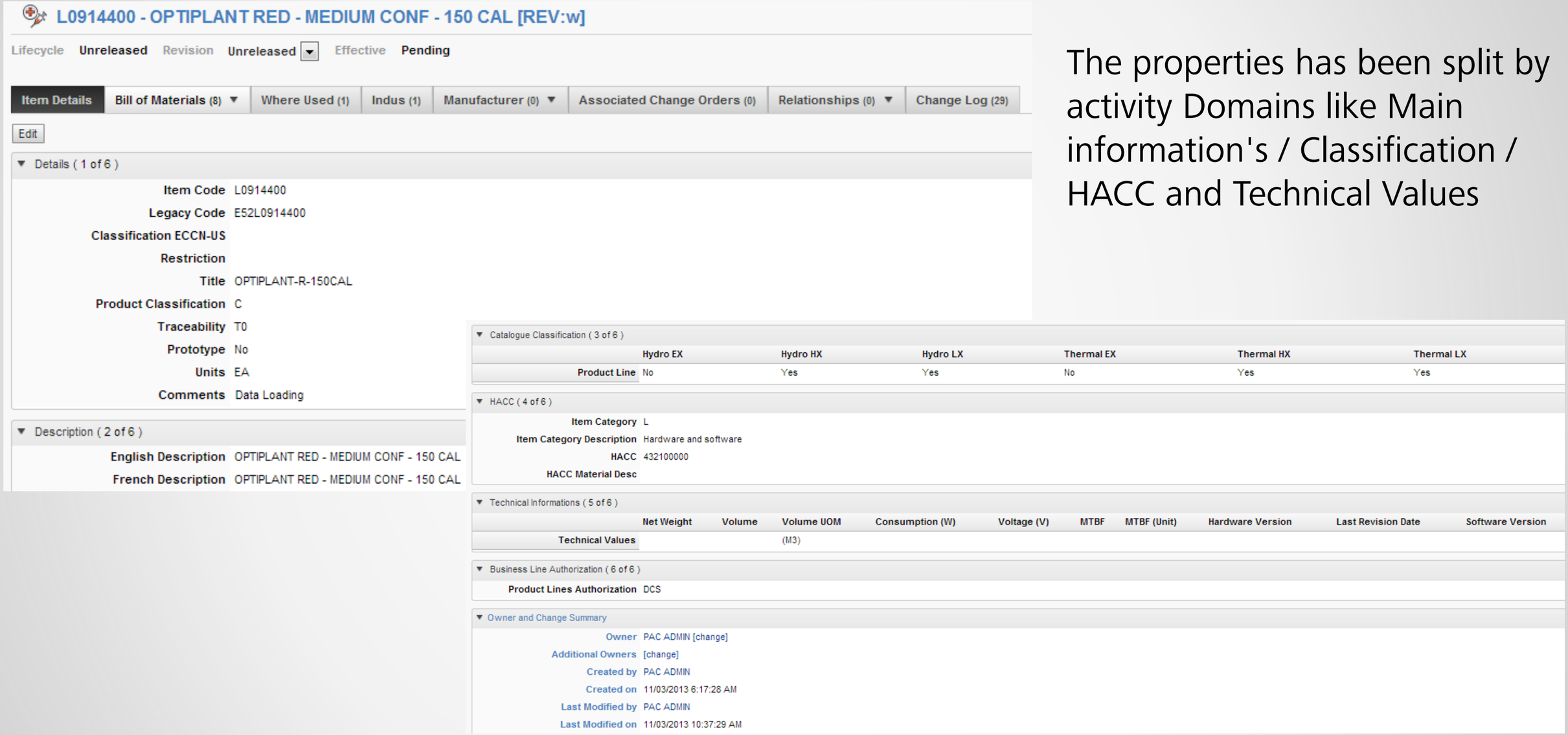
Item Descriptor	Is Working Version	Hydro EX
C0710090 - CE1 BM WITH POWER BUS CONNECTION-COATED	Yes	No
C0710100 - CE1 4AI, +/-10V/0..22MA-16 BIT-COATED	Yes	No
C0710110 - CE1 4AO, +/-11V/0..22MA-15 BIT-COATED	Yes	No
C0710120 - CE1 CPU CEL 400, 64MB, EPL, 1X IF-COATED	Yes	No
C0710130 - CE1 IF INTERFACE, 1XETH POWERLINK-COATED	Yes	No
C0710140 - CE1 BUS CONTROLLER FOR MODBUS-COATED	Yes	No

Depending of the need & Profile the user could choose the best View for him.
For example, bellow we can view the sourcing View

Sourcing | R&D DCS Items

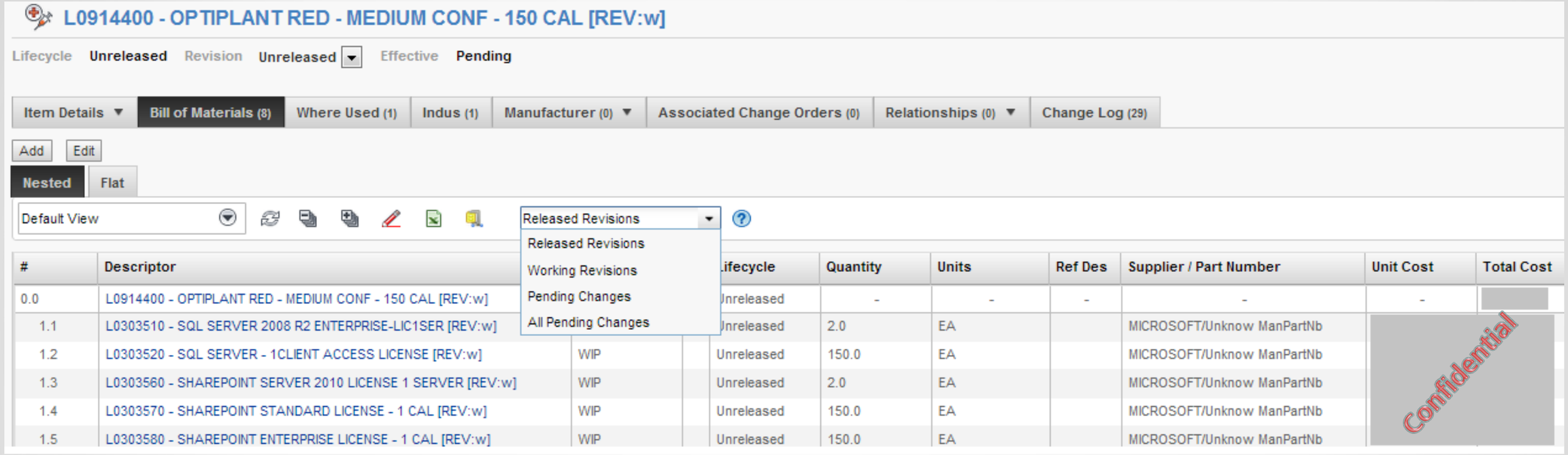
Item Descriptor	Supplier	Supplier Part Number	Sourcing Comment	Quote Min. Amount	Quote Max. Amount	Quote Lead Time (Days)
X1007000 - CE1 INSER...	B+R AUTOMATION IND...	Unknow ManPartNb	Data Loading	1	999	14
X1007000 - CE1 INSER...	B+R AUTOMATION IND...	X20ACOSC1.0100	Data Loading	1	999	21
X1007000 - CE1 INSER...	B+R AUTOMATION IND...	X20ACOSC1.0100	Data Loading	1	999	14
X1007000 - CE1 INSER...	B+R AUTOMATION IND...	Unknow ManPartNb	Data Loading	1	999	21
X1006440 - FTA AI 40C...	ROCKWELL AUTOMATI...	T8831	Data Loading	1	999	84
X1006430 - FTA DI 24V...	ROCKWELL AUTOMATI...	T8801	Data Loading	1	999	84

User Interface R&D DCS Items



The properties has been split by activity Domains like Main information's / Classification / HACC and Technical Values

User Interface R&D DCS Items (BOM)

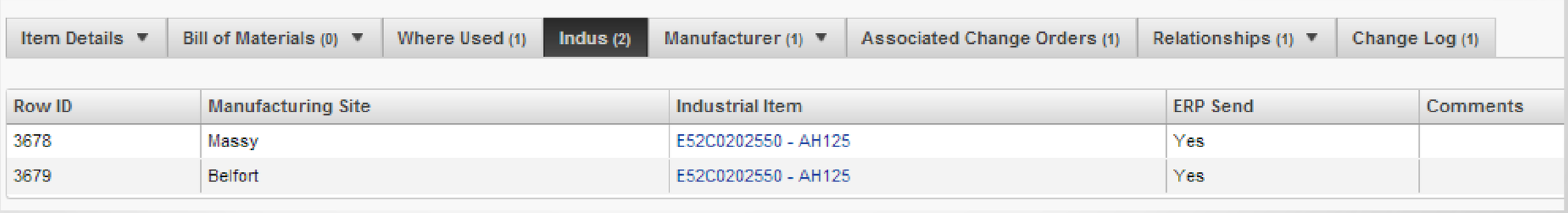


The costs are automatically populated from the sourcing TAB and the Total cost depend of the Quantity selected on the BOM. This solution (PLM360 App) is an OOTB Solution proposed by Autodesk.

Relations between R&D DCS Items and Others Items

Where Used Relation : Permit to know where the R&D Item is used and on this case it use in the Catalogue Item. Could be an other R&D Item

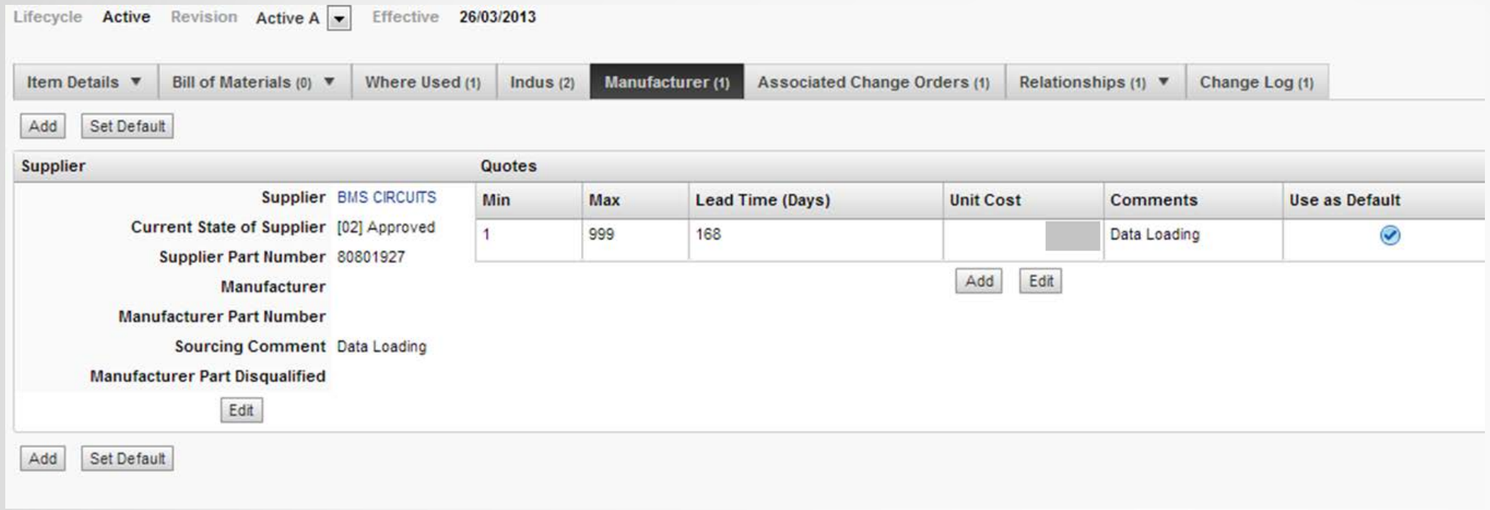
Grid for the Industrial Items Relations : Pointers

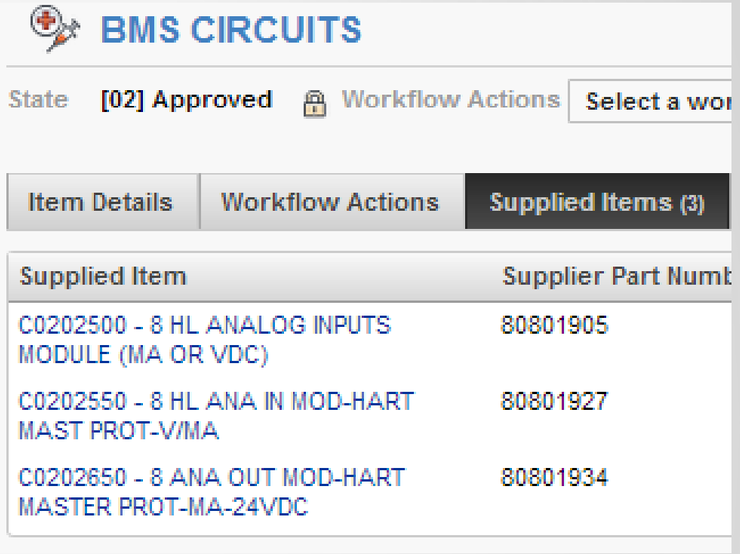


Row ID	Manufacturing Site	Industrial Item	ERP Send	Comments
3678	Massy	E52C0202550 - AH125	Yes	
3679	Belfort	E52C0202550 - AH125	Yes	

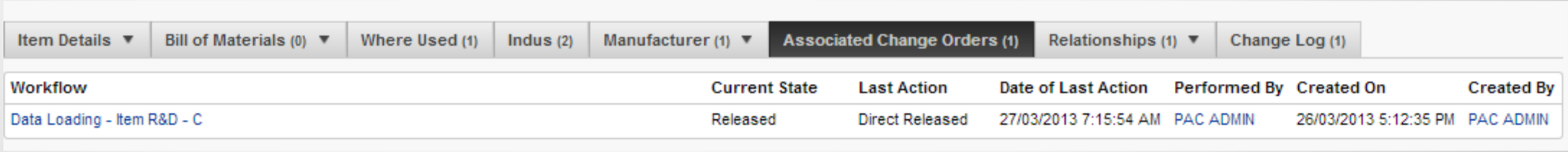
Relations between R&D DCS Items and Others Items

Manufacturers Relations (Bi-directional)



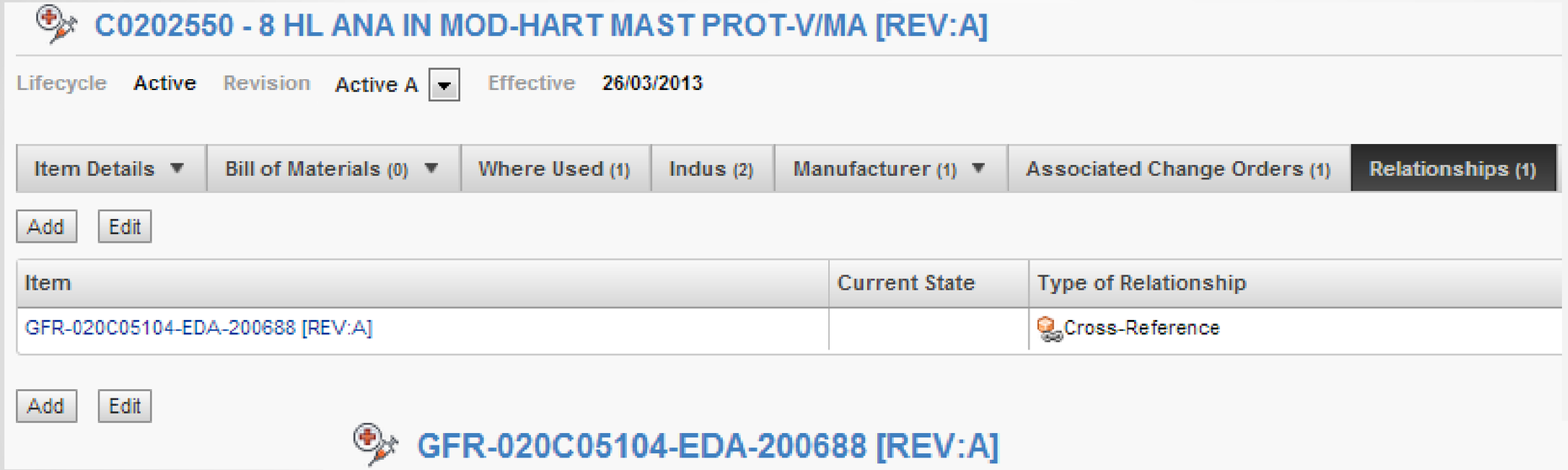


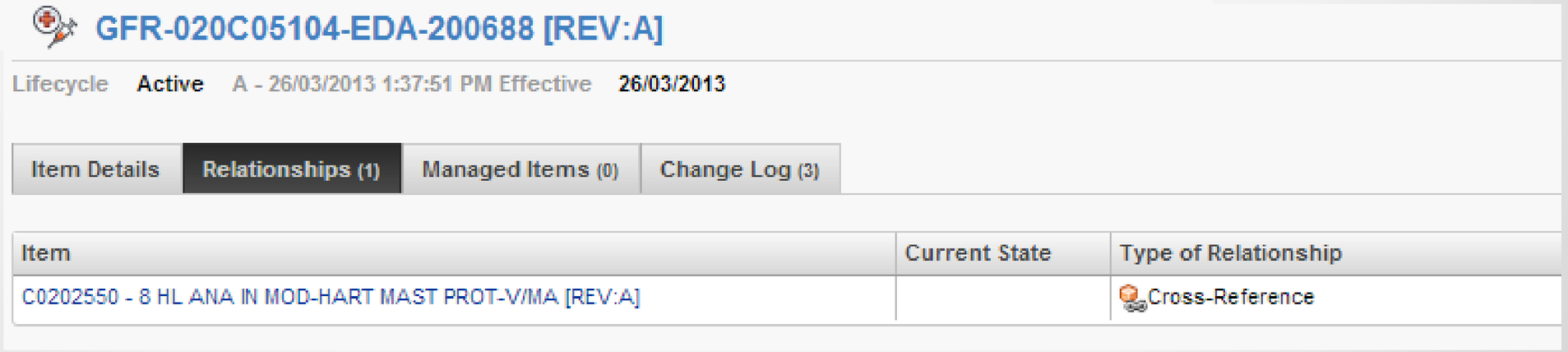
Associated Change Orders Relations



Relations between R&D DCS Items and Others Items

Documents Relations (This is bidirectional Relations)

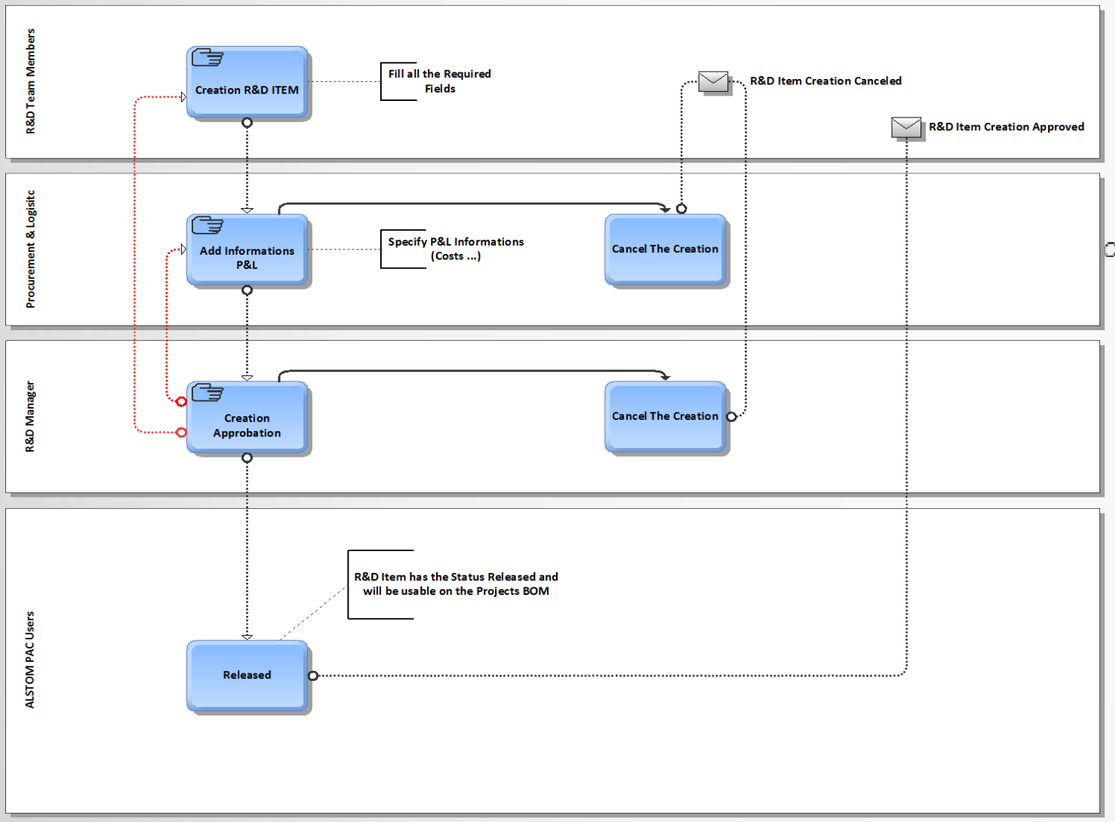


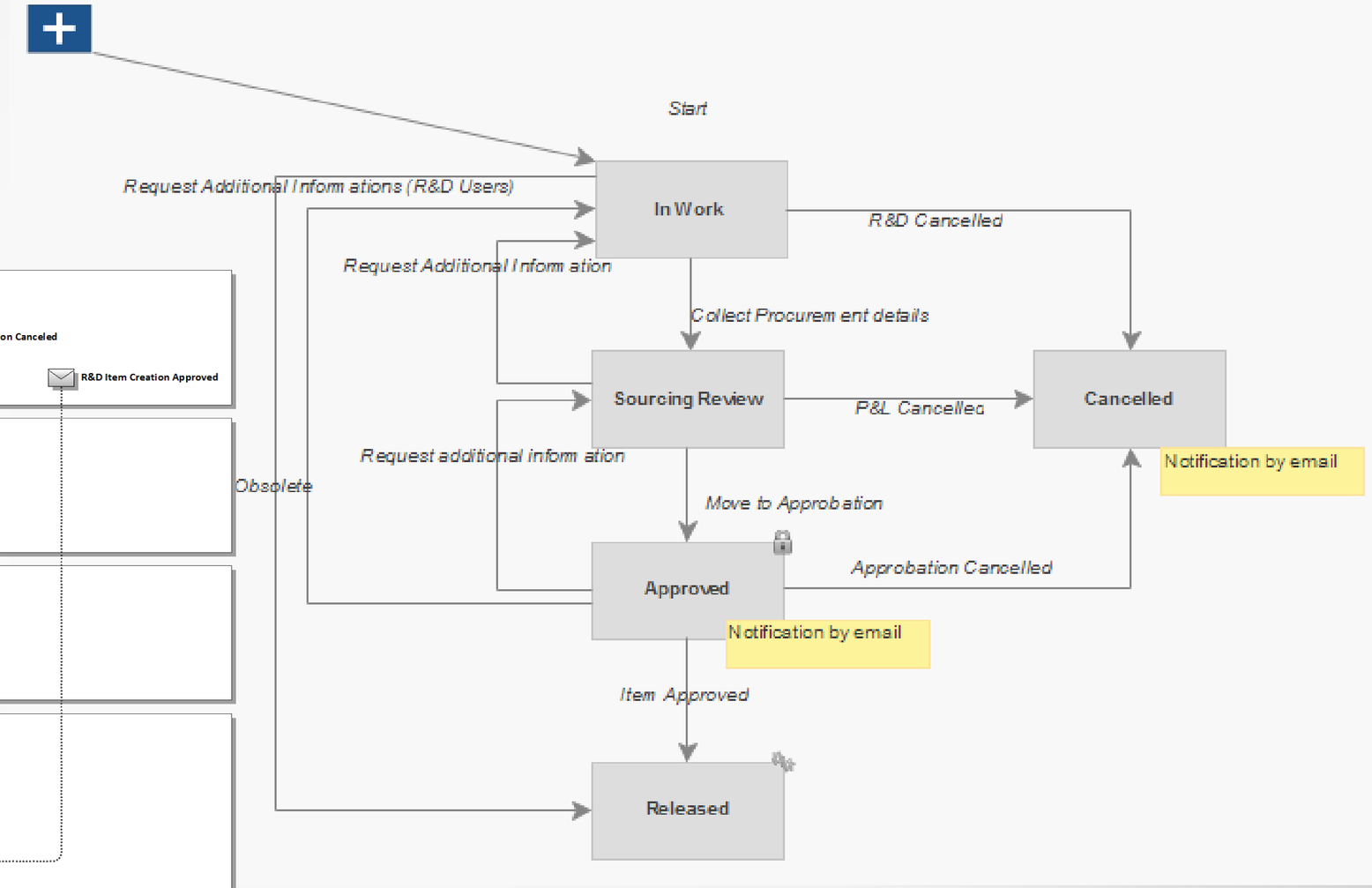


Processes

R&D DCS Item Released Process

Functional Process

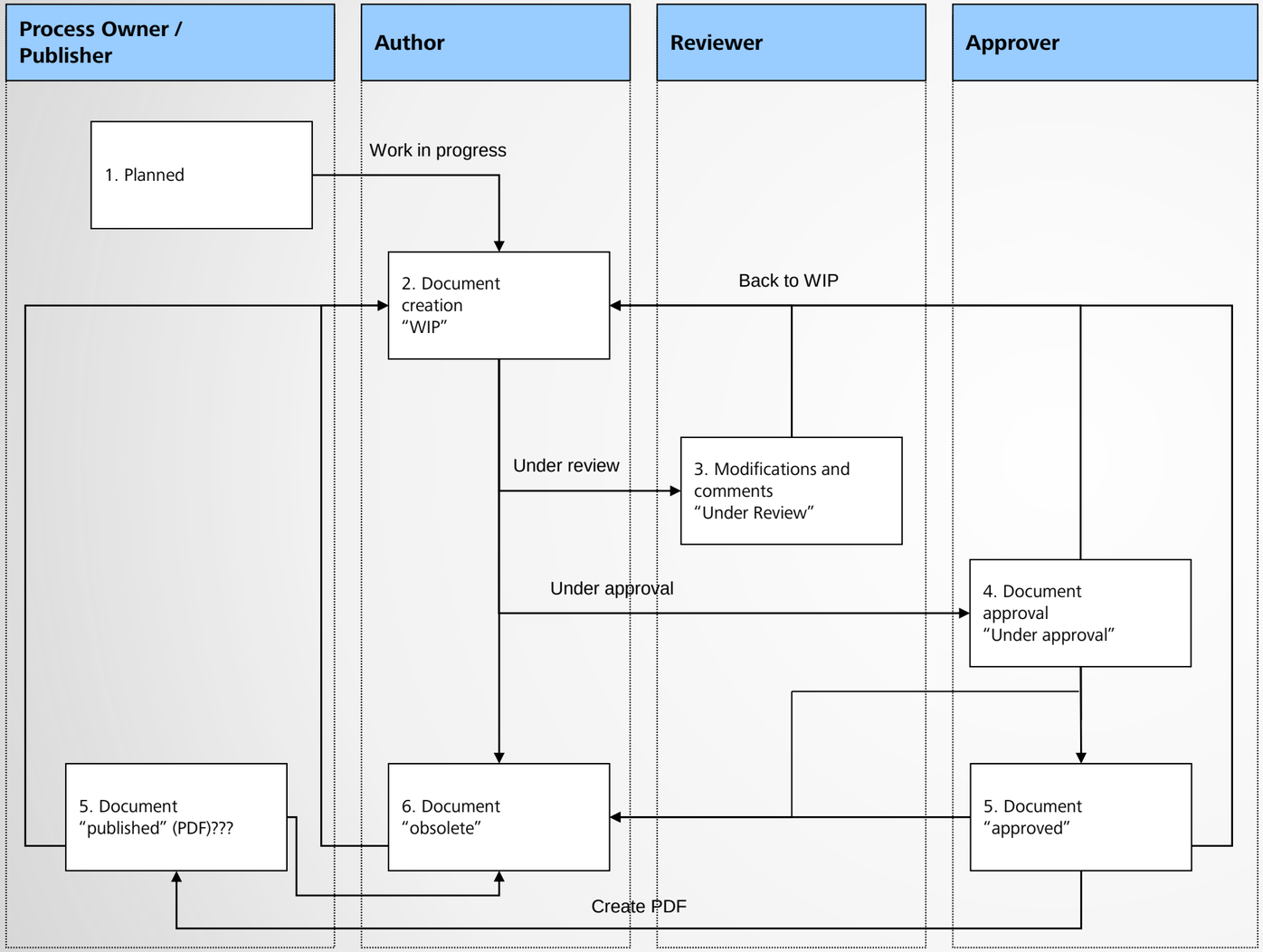




PLM360 Process

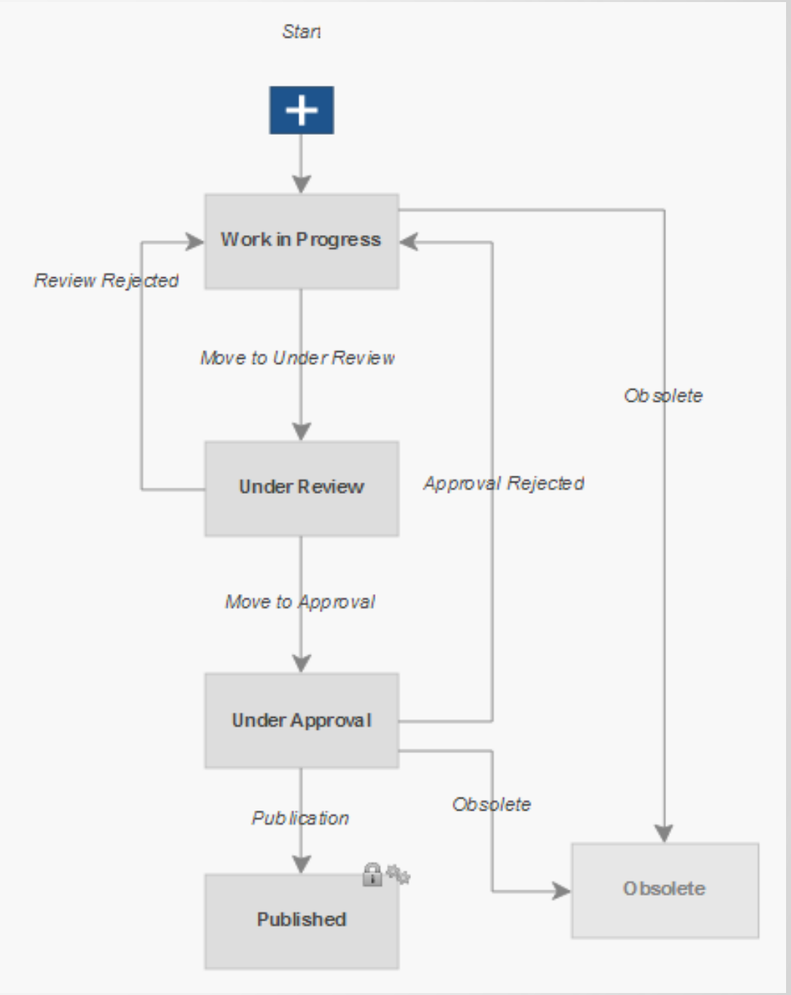
AUTODESK.

Document Approval Process



Functional Process

PLM360 Process



Actors Feedback of the New Processus for R&D

- *R&D Team Members:*

Translation:

It permits us to:

- Trace the items in a Centralization Environment
- Sharing the information by following the Business Processes
- Maintain the update of the Items' information for all the business Units of ALSTOM PAC

- *Supply Chain Actors:*

Translation:

The items Validation permits me to check what has been done by my colleagues from R&D and adding Procurement & Logistics Information

Previously no Item Base Centralized with Engineering Information permit to work globally Sourcing and R&D Members

Conclusion

- The R&D Item Management Solution at ALSTOM PAC is the foundation for the global Customer Product
- PLM 360 has a lot of Apps available. They can be easily tailored to your own Business Case

Agenda

Introduction

Overview ALSTOM Power Automation & Controls

Project Management

Functional & Technical

- Introduction
- The Security Aspect
- R&D Items Management Solution
- Installed Base Management Solution
- Conclusion

Conclusion and wrap-up

What is Installed Base Management Solution 1/2

- ALSTOM PAC business delivers to the market Automation Products to Power Plant Utilities. Part of the business consists to provide support / service to operational plants
  - MRO (Maintenance Repair and Overall) and upgrade
  - Partial or full retrofits solutions.
- To achieve these objectives, a clear understanding of the Power Plants and Automation Products installed base were required.
- All these data's exists in several manners but not centralized
  - Excel
  - SQL Database
  - Customer Support Team Solution (Excel Development)

What is Installed Base Management Solution 2/2

- The centralization of all these data's permits to :
  - Have a common view of the installed base between Marketing and Sales Force to define commercial actions plan
  - Collect faster feedbacks from the field on the installed base evolution and maintain it accurate
  - Provide accurate product references lists to the Sales Force and to new potential customers

Sales & Marketing Population

Installed Base Management Solution

Workspace object of PLM 360 is the key building block for each solution. Each Workspace provides a key set of features that can be configured to suit specific business needs. Workspaces can be modified at any time to enable/disable features for specific users.

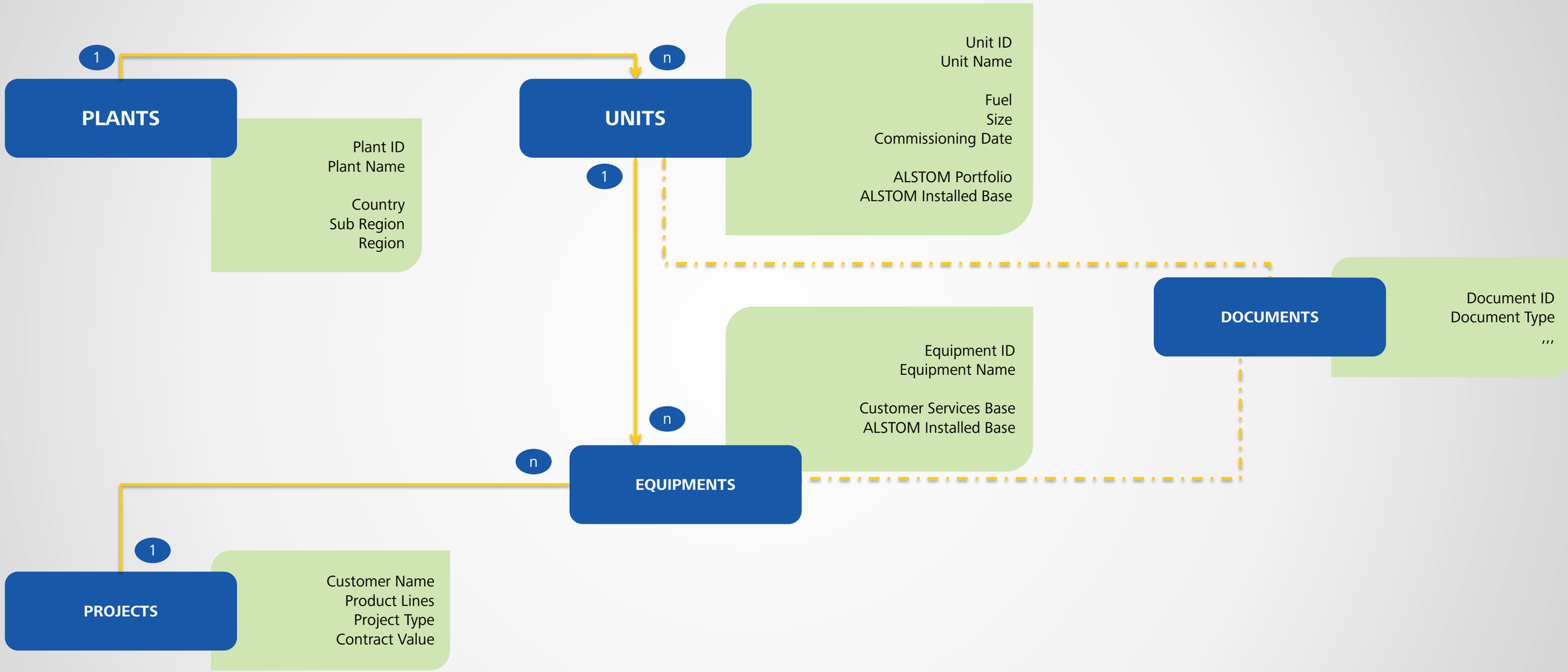
Features / Mains Workspaces	Item Details	Relationships	Grid	Bill of Materials	Revision Controlled	Sourcing	Workflow	Workflow Items	Vault Bridge	Reporting	Import
Plants	✓		✓							✓	✓
Units	✓	✓	✓							✓	✓
Equipment's	✓									✓	✓
Geographical Data’s	✓									✓	✓
Projects	✓	✓								✓	✓
Documents	✓				✓				✓	✓	✓
Documents Change Order	✓						✓	✓		✓	✓

Few Information's before Technical Part

Object	Data Volume	Data Loading Periodicity
Plant	75,000	Updated every year
Unit	165,000	Updated every year
Equipment	300,000	Updated every year
Project	2,000	~200 creation per year

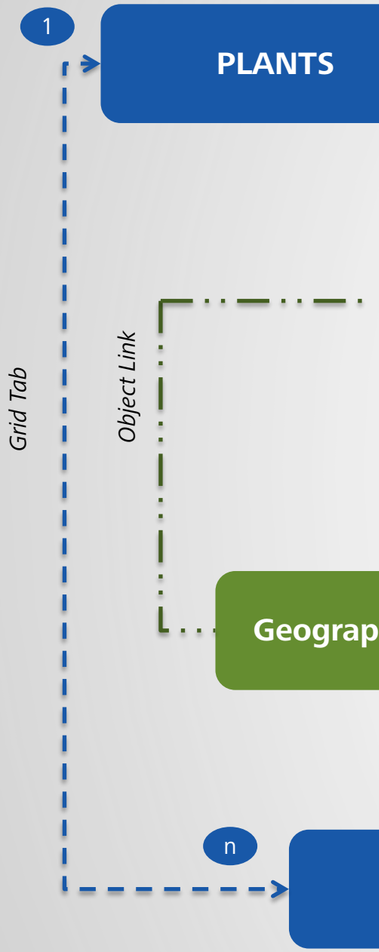
- For information's, this Project is in the Pre-Production stage
- The user acceptance test will start soon.

Hierarchical Data Model



Data Model

Plant Data Model



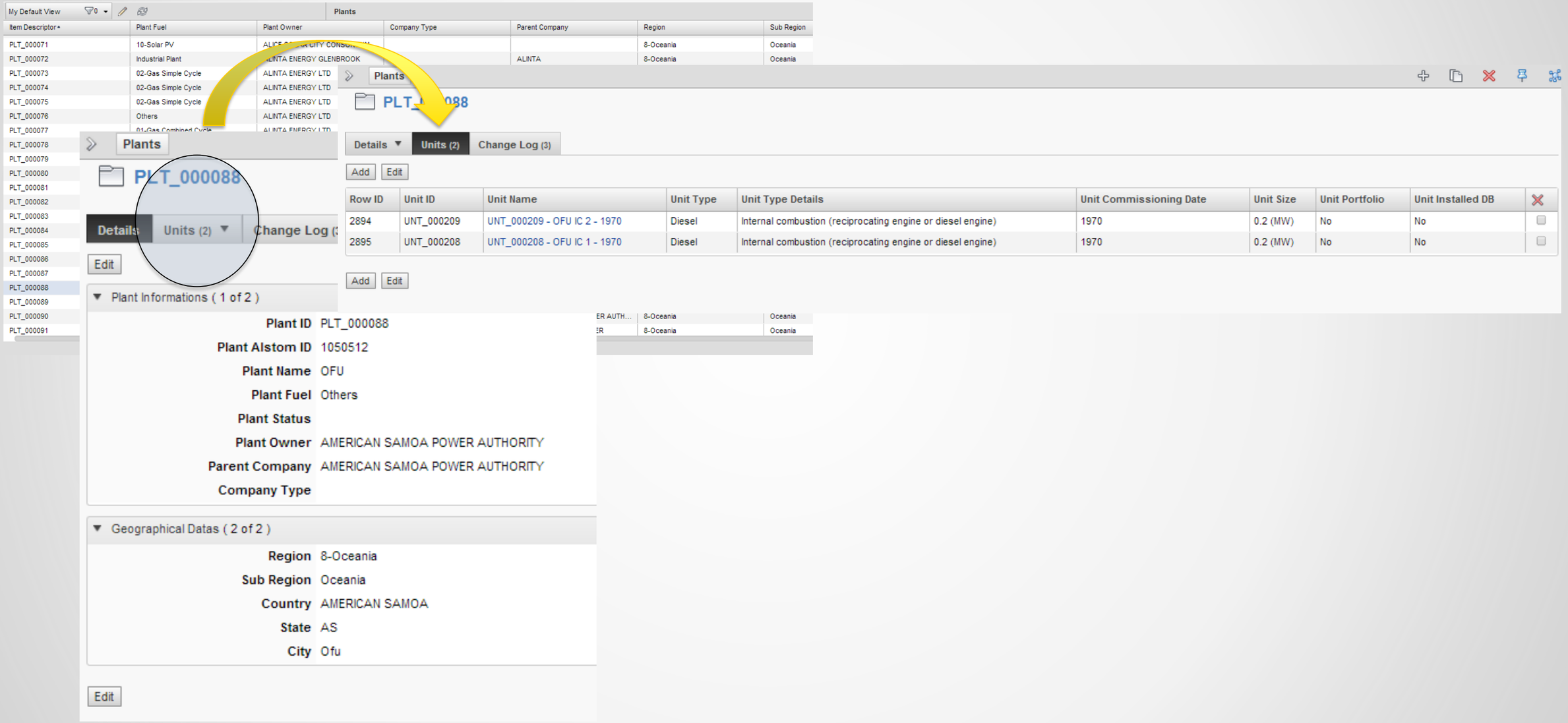
Descriptor : Plant ID - Country – Plant Name

Internal ID	Attribute Name	Description	Storage	Length	Display Length	Remark	Section
PLANT_ID	Plant ID	ID For the Plant provided by Sector	AutoNumber		78	*('PLANT_' + dbo.PAD_ZERO(6, convert(varchar,PLANT_ID__AUTO_INC)))*	Plant Informations
PLANT_NAME	Plant Name		Alpha Numeric	50	50	Required & Unique	Plant Informations
PLANT_FUEL	Plant Fuel		Lookup : [PL] Plant Fuel		50		Plant Informations
PLANT_STATUS	Plant Status		Lookup : [PL] Plant Status		75		Plant Informations
PLANT_OWNER	Plant Owner		Alpha Numeric	128	128		Plant Informations
PARENT_COMPANY	Parent Company		Alpha Numeric	128	128		Plant Informations
BUSINESS	Company Type		Lookup : [PL] Plant Business		128		Plant Informations
REGION	Region		Filtered Picklist	100	89		Geographical Datas
SUBREGION	Sub Region		Filtered Picklist	100	89		Geographical Datas
COUNTRY	Country		Filtered Picklist	100	89		Geographical Datas
CITY_STATE	City State		Alpha Numeric	128	128		Geographical Datas

Internal ID	Attribute Name	Description	Storage	Display Length	Editable Length	Default Value
COUNTRY	Country		Alpha Numeric	100	89	Embedded XML Data found cannot parse
SUBREGION	Sub-Region		Lookup	50	89	0
REGION	Region		Lookup	50	89	0

User Interface

User Interface Plant Items



User Interface Units Items

Units

UNT_000209 - OFU IC 2 - 1970

Details | Documents (0) | Equipments (2) | Change Log (3)

Edit

▼ Unit Description (1 of 2)

Unit ID	UNT_000209
Unit Alstom ID	1174716
Unit Name	OFU IC 2
Unit Type	Diesel
Unit Type Detail	Internal combustion (reciprocating engine or diesel engine)
Unit Fuel	Fuel oil
Unit Fuel Detail	Oil
Unit Fuel Alternative	NONE
Size	0.200 (MW)
Commissioning Date	1970
Installed Capacity	Yes
ALSTOM Portofolio	No
ALSTOM Installed Base	No
Unit Status	Commercial operation
Retirement Year	

▼ Plant Details (2 of 2)

Plant Belonging	PLT_000088
Plant Region	8-Oceania
Plant Sub Region	Oceania
Plant Country	AMERICAN SAMOA
Plant City	Ofu
Plant State	AS
Plant Fuel	Others
Plant Business	

Edit

Possibility to return on the concerned Plant

Derived Plant Properties

Units

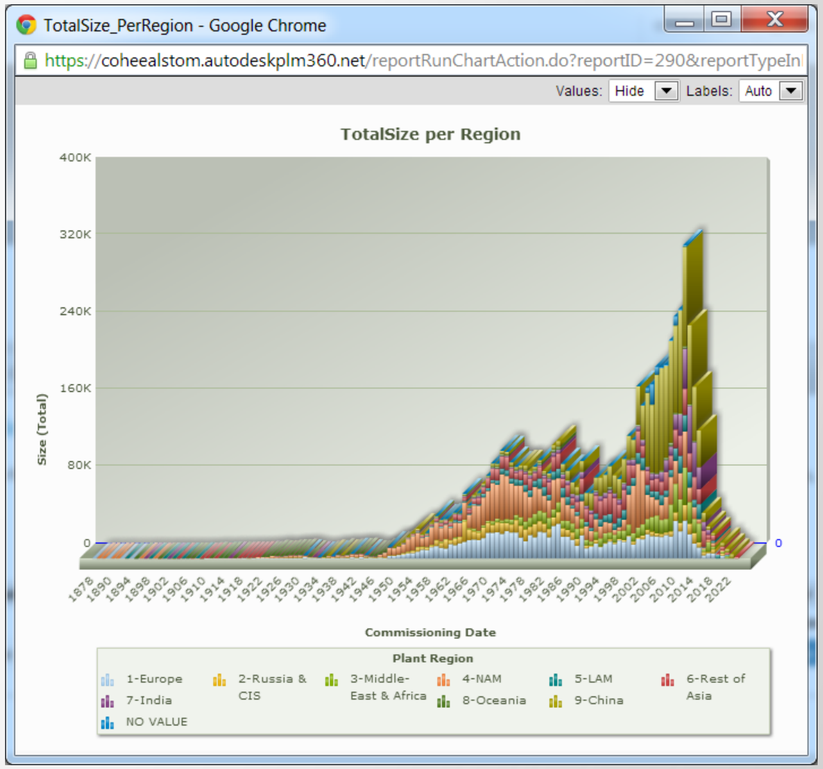
UNT_000209 - OFU IC 2 - 1970

Details | Documents (0) | Equipments (2) | Change Log (3)

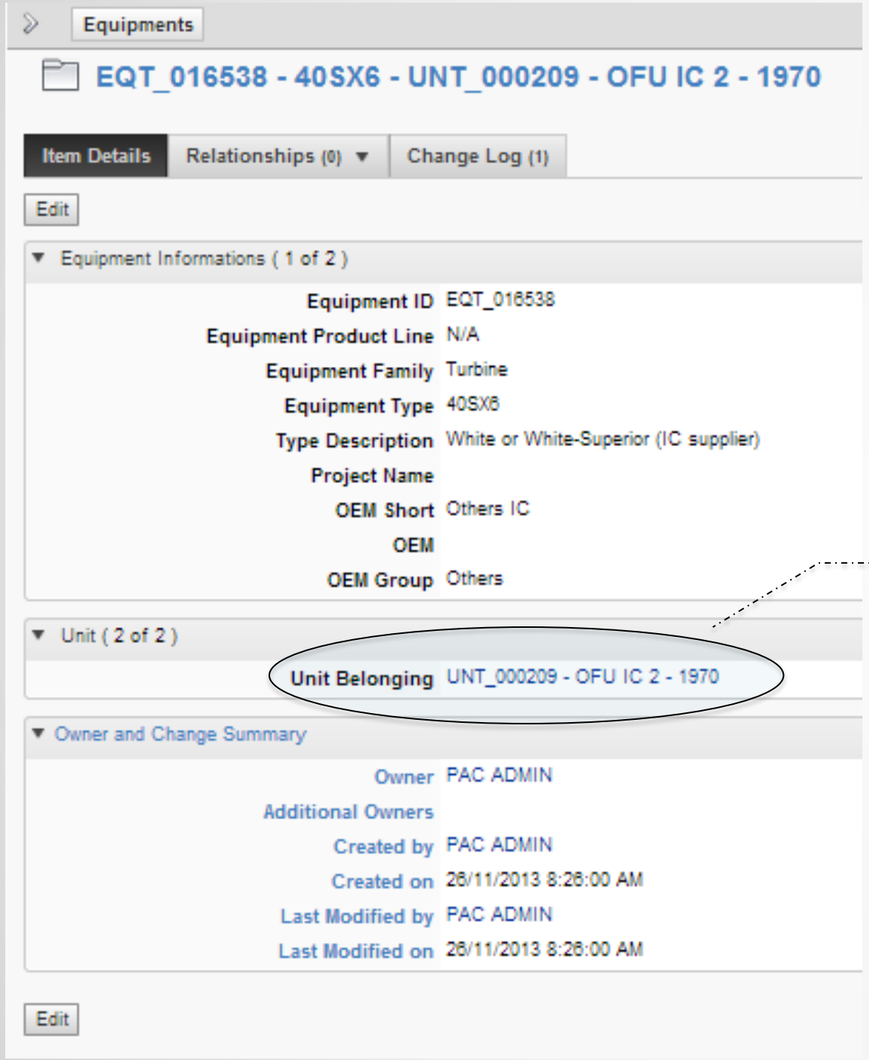
Add | Edit

Row ID	Equipment ID	Equipment	Equipment Type	Equipment Family	Type Description
33504	EQT_016538	EQT_016538 - 40SX6 - UNT_000209 - OFU IC 2 - 1970	40SX6	Turbine	White or White-Super
153195	EQT_147549	EQT_147549 - None - UNT_000209 - OFU IC 2 - 1970	None	Generator	Cooper-Bessemer or

Add | Edit



User Interface Equipment's Items



Possibility to return on the concerned Unit

Feedback of the New Processus for Installed Base Management

- *VP Marketing and Strategy :*

« Intuitive, flexible and fast to implement solution »

« Speed up the collaboration between worldwide spread teams »

« Improved quality of market analysis thanks to embedded advanced reporting tools »

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Conclusion

- PLM360 is not only for technical teams (design, engineering, etc.)
- PLM 360 has many Apps available. They can be easily tailored to your own Business Case.

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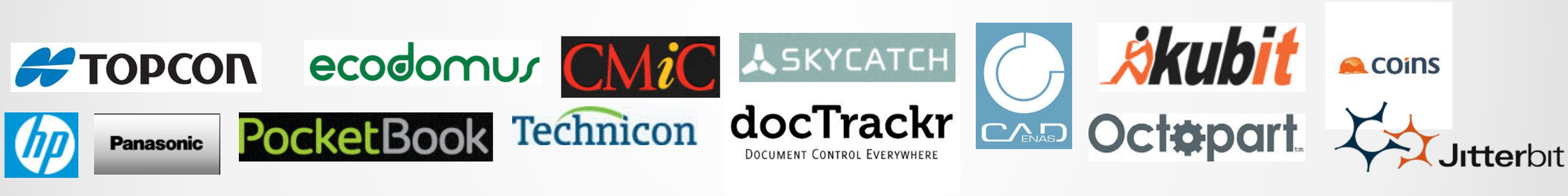
TAKE AWAY

- ***Don't underestimate Resistance coming with the word «CLOUD»***
- ***PLM360 allow to Increase PLM Knowledge without Huge Investment***
- ***Autodesk Consulting Business Value Methodology facilitate to deliver tailored projects to customer needs and expectations***
- ***PLM360 Apps & API gives the opportunities to establish easily many different Business processes***

Learn more about Autodesk 360 Platform

- Visit the Autodesk 360 Lounge for a demo
- Drop by the Autodesk 360 Platform Pavilion, Booth 1505 to view what our Partners have created



- For more details visit: http://www.autodesk.com/A360platform

Wrap-up

- Thank you for your attention
- Please complete surveys
- All materials and templates will be posted on AU site

- Questions?

- Contact use:
  ➔ *jeremy.pringault@autodesk.com*
  ➔ *tamara.berger@autodesk.com*

Use the experts: Autodesk Consulting Services

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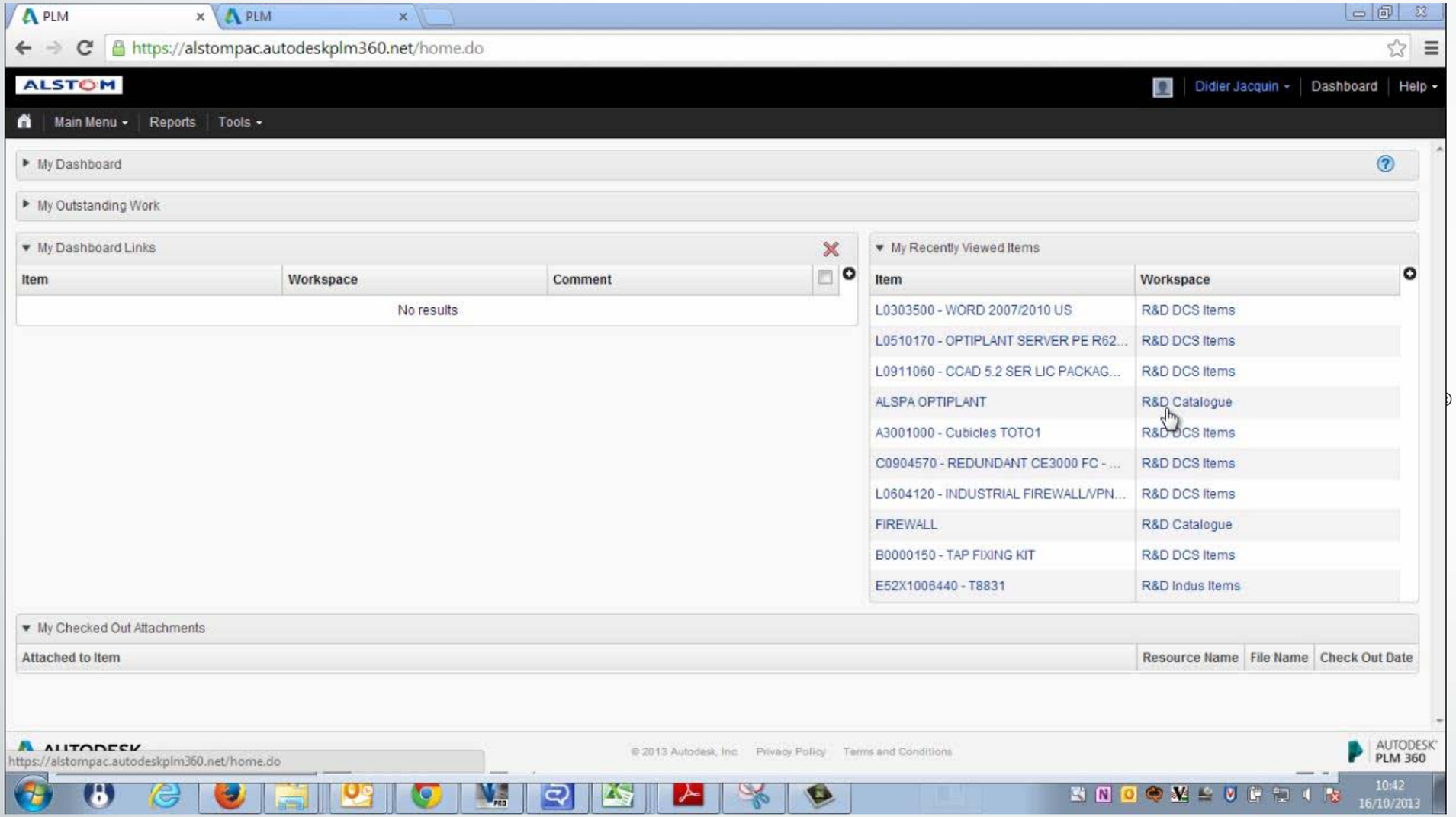
R&D Item Creation



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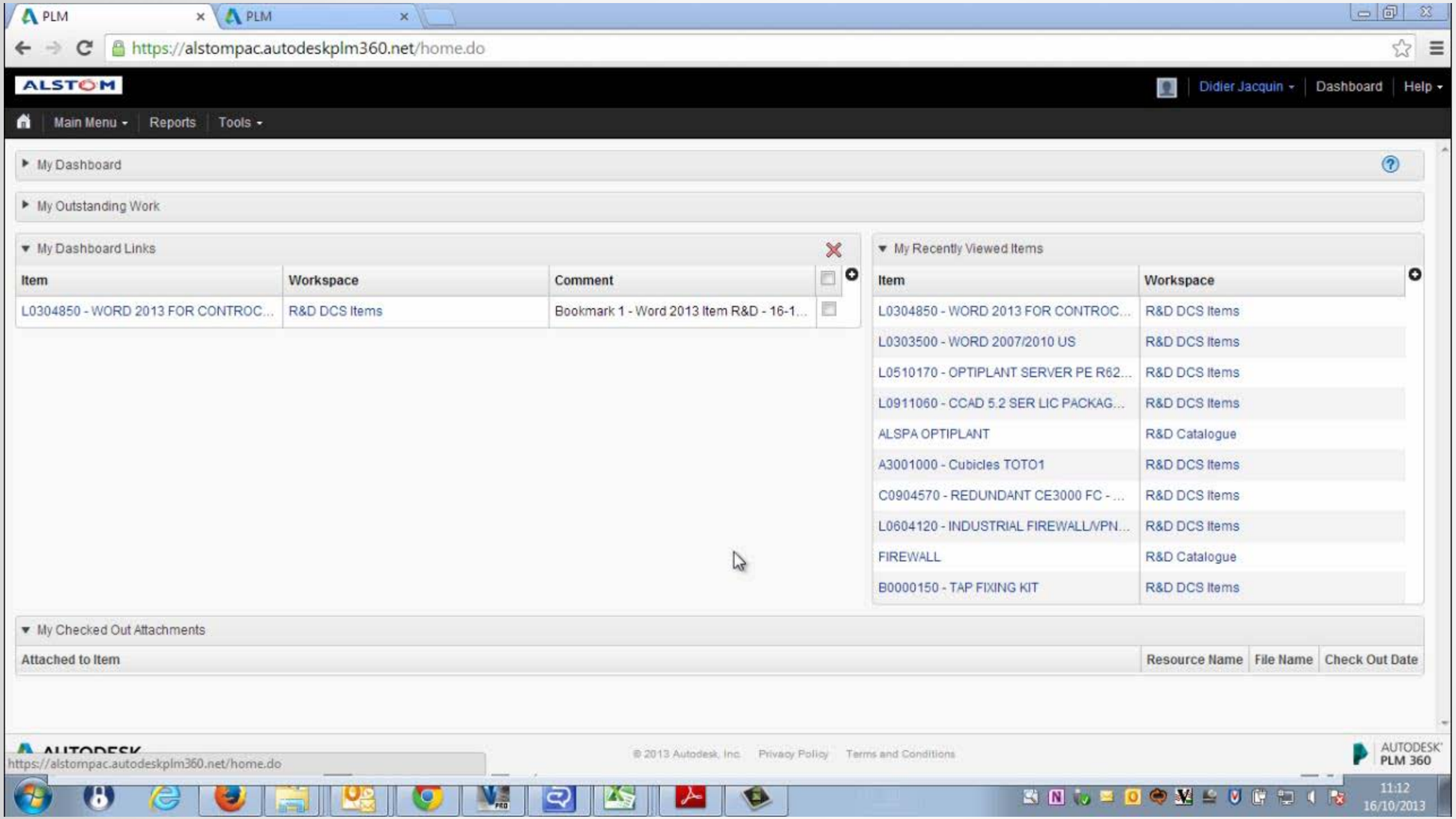
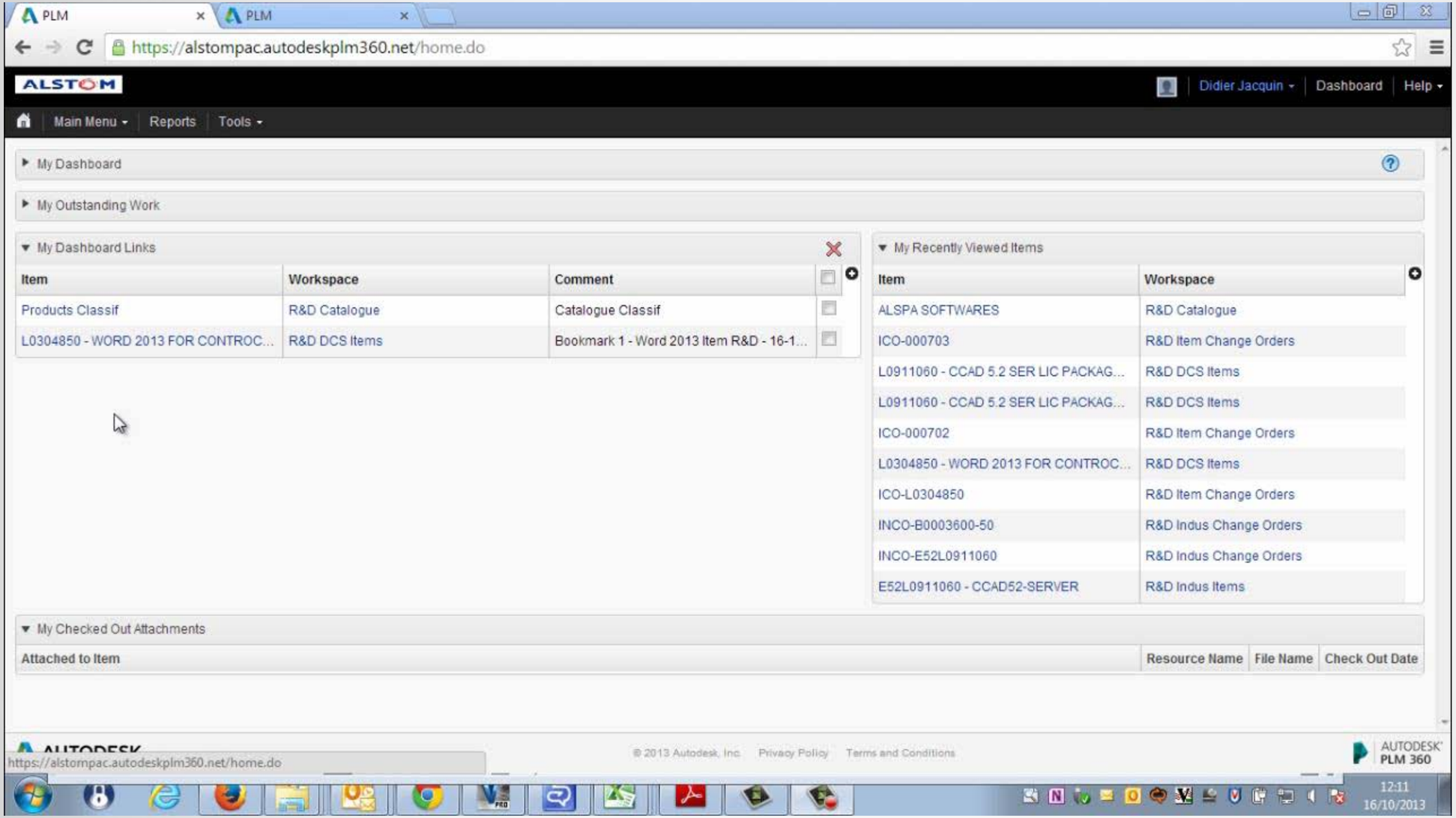
R&D Item - Manufacturer Relation



R&D Catalogue Navigation