



Korea KOSO PLSCM

Driving Process Innovation through Integrated PLM & SCM



Agenda



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- About Zionex, Inc.
- About Aras Innovator

● Business Process Innovation

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- Current Issues with Root Cause Analysis
- Tackling the Root Causes (12 Innovation Points)
- Injecting Innovations
- Business Process Innovation Chain
- Expected ROI

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- KOSO PLSCM Process Tree
- AS-WAS vs. AS-IS
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About KOREA KOSO Co., Ltd.

- KOREA KOSO Co., Ltd. is a subsidiary company fully owned by NIHON KOSO Co., Ltd.
- NIHON KOSO Co., Ltd. is founded in 1965 and a global leader in diversified equipments in the field of instrumentation with focus on **automatic control valves**.

KOSO 日本工装株式会社
NIHON KOSO Co., Ltd.



KOSO 한국 KOSO 주식회사
KOREA KOSO CO., LTD

KOSO AMERICA, INC. [REXA]
(USA)

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FAX (1)508-584-2525
<http://www.kosoamerica.com>



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(USA)

233 East Avenue H-8 Lancaster, CA 93535-1821
TEL (1)661-942-4499
FAX (1)661-942-0999
<http://m-macactuators.com/>



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H-34 Midc, Ambad, Nashik 422 010 INDIA
TEL (91)253-2383111
FAX (91)253-2384413



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3-7 Block, Liyuan Development Zone, WUXI Jiangsu P.R.CHINA
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FAX (86)510-5122498
<http://www.koso.com.cn/>



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No.157 Hubin Rd Wuxi, Jiangsu PR.CHINA
TEL (86)510-5117433
FAX (86)510-5117433



WUXI KOSO FLUID CONTROLS CO., LTD.
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Annur, COIMBATORE - 641 653
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FAX (91)4254-263016
<http://www.kosofoundry.com/>



KOSO KENT INTROL LTD.
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FAX 44(0)1484-407407
<http://www.kentintrol.com/>



About KOREA KOSO Co., Ltd.



● Major Products

Control Valves



Control valves for various fields

Actuators



actuators for KOSO control valves

Field bus



Fieldbus Foundation and Communication Foundation

Control valves for various fields with abundant variations of minimum flow applications through dynamic processes.



Globe Valves

- KOSO VeCTor
- Cage Guided
- Top Guided
- 3-Way
- Acid Resistant



Gate Valves

Parallel slide has KOSO's own design/construction to realize very good and firm metal-to-metal touch sealing performance.

Pumps



pioneer of chemical non-seal pumps

Sensors



various sensors and switches

Accessories



accessories that further enhance attractiveness



Ball Valves

- Concentric Segmental
- Eccentric Segmental
- Straight Through
- 3-Way
- Acid Resistant



Butterfly Valves

- Concentric High performance
- Eccentric High performance
- Disc Damper

● Major Customers

 SAMSUNG HEAVY INDUSTRIES

 SAMSUNG FINE CHEMICALS

 SAMSUNG ENGINEERING

 HYUNDAI
HEAVY INDUSTRIES CO., LTD.

 OCI

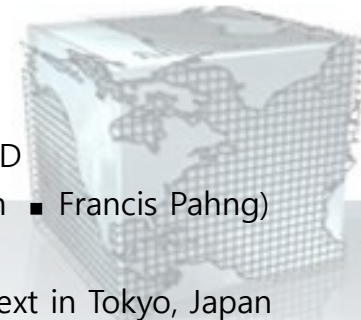
 Hanwha
Chemical

 SK innovation

 SK chemicals



About Zionex, Inc.



Major Customers



Co-Founders : Three(3) Alumni of MIT, Ph.D

(■ DongSik Ryu ■ Hun Lim ■ Francis Pahng)

Founded in : January, 2000

HQ / Office : Seoul, South Korea / Comnext in Tokyo, Japan

Business

● SCM/APS solutions & consulting

- Demand Forecasting & Planning
- Supply Chain Planning
- Production Planning & Scheduling
- Material Requirement Planning
- S&OP (Sales & Operations Planning)

● Aras PLM solution



2011 Supply & Demand Chain Executive 100 Award



2012 Supply & Demand Chain Executive 100 Award



2013 Supply & Demand Chain Executive 100 Award

- Forrester Research published a case report on Zionex's LG Electronics' SCM solution deployment project.



- Winner of 2011 "Regional (Asia Pacific) Supply Chain Excellence Award" in technology advancement by SCC.

- A finalist for 2011 "Global Supply Chain Excellence Award" in technology advancement by SCC.



- Gartner published case reports on Zionex's SCM solution deployment project.

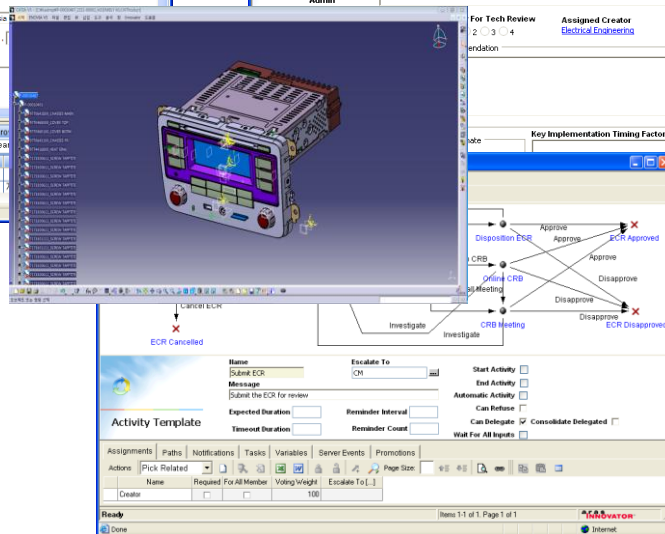
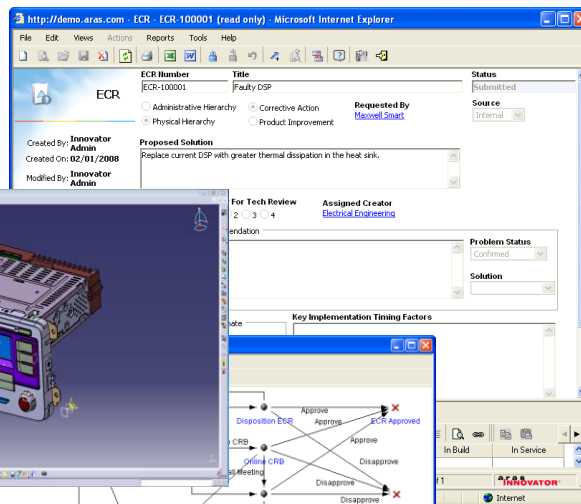
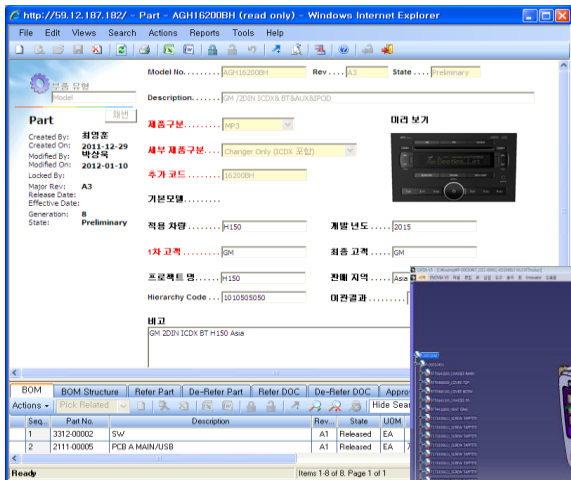
- ✓ Supply Chain Planning for LG Display
- ✓ Production Scheduling for SAMSUNG SDI



About Aras Innovator

YOUR NEXT GENERATION **PLM**

Enterprise Open Source PLM



start-it
THE POWER OF PARTNERSHIPS

MOST ADVANCED
technology companies

2008 | 2007 | 2006

DELPHI



Freudenberg



MITSUBISHI
HEAVY INDUSTRIES, LTD.



HITACHI
Inspire the Next

xerox

LEAR CORPORATION



Rolls-Royce

MOTOROLA

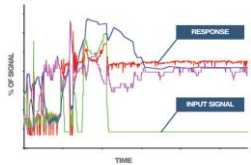
KOSO 한국 KOSO 주식회사
KOREA KOSO CO., LTD

ZIONEX
The Dynamic VCM Leader

Business Challenges



More Large Scale Contracts
from EPC Clients



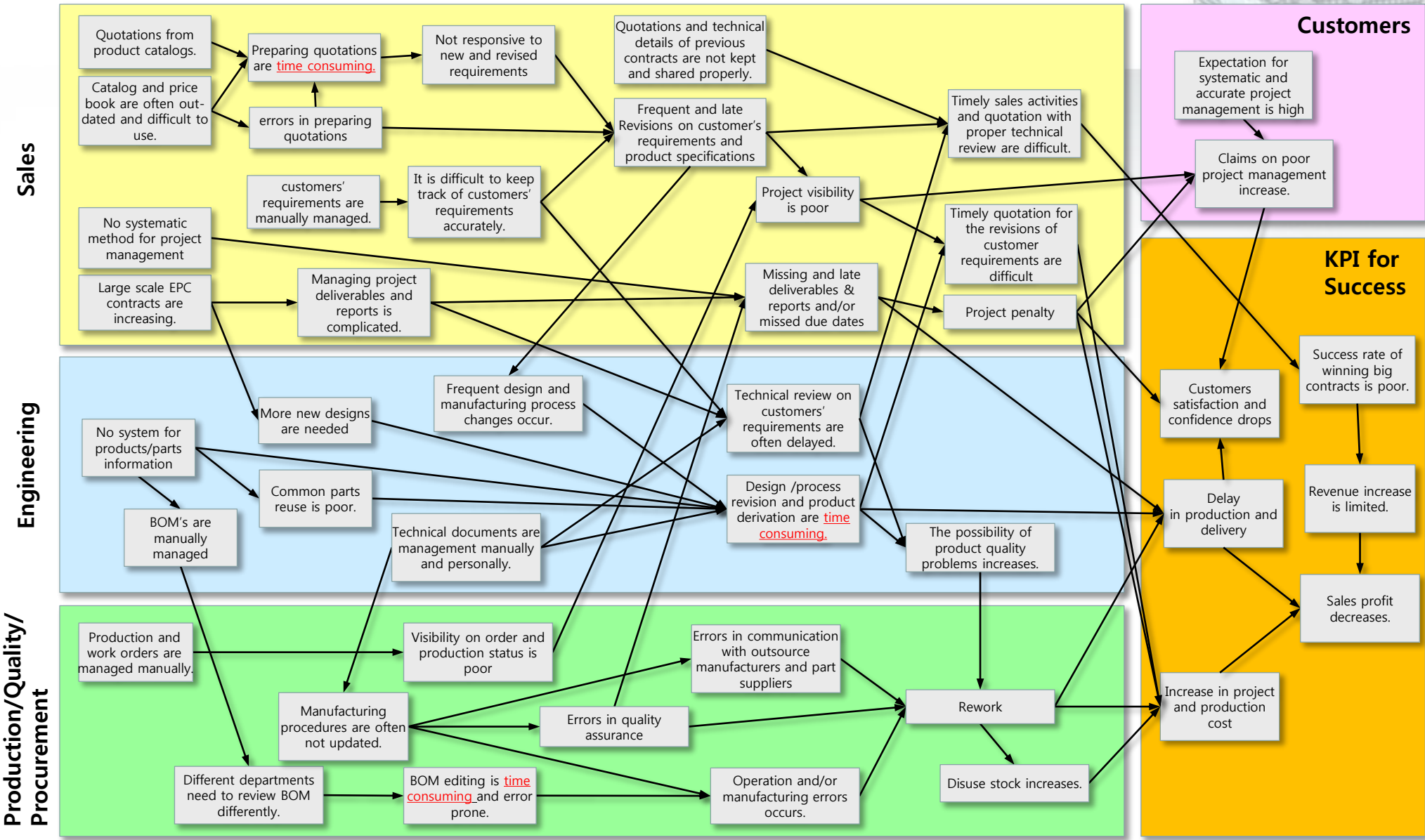
New and Challenging
Design & Manufacturing
Requirements



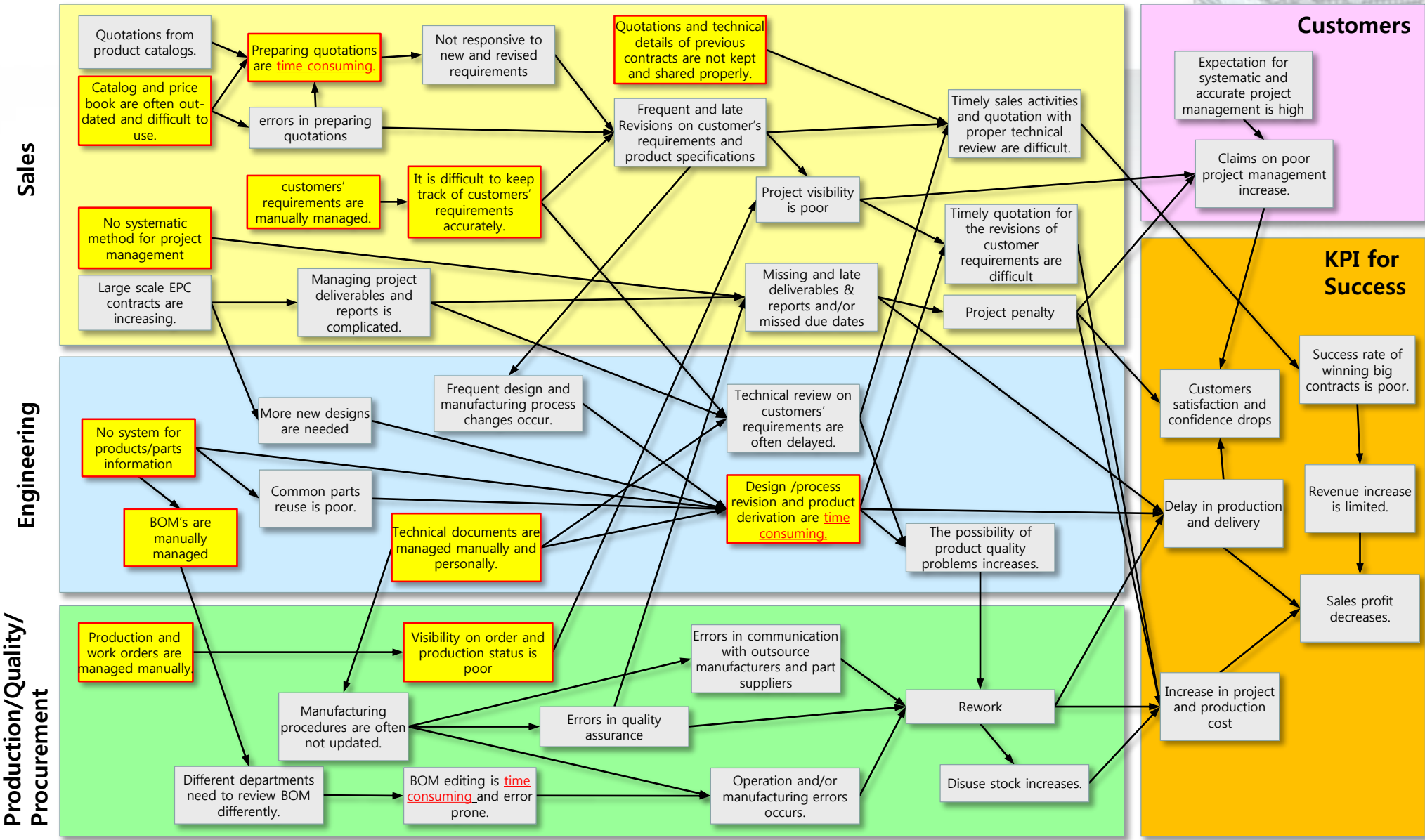
International Collaboration
to win the Business



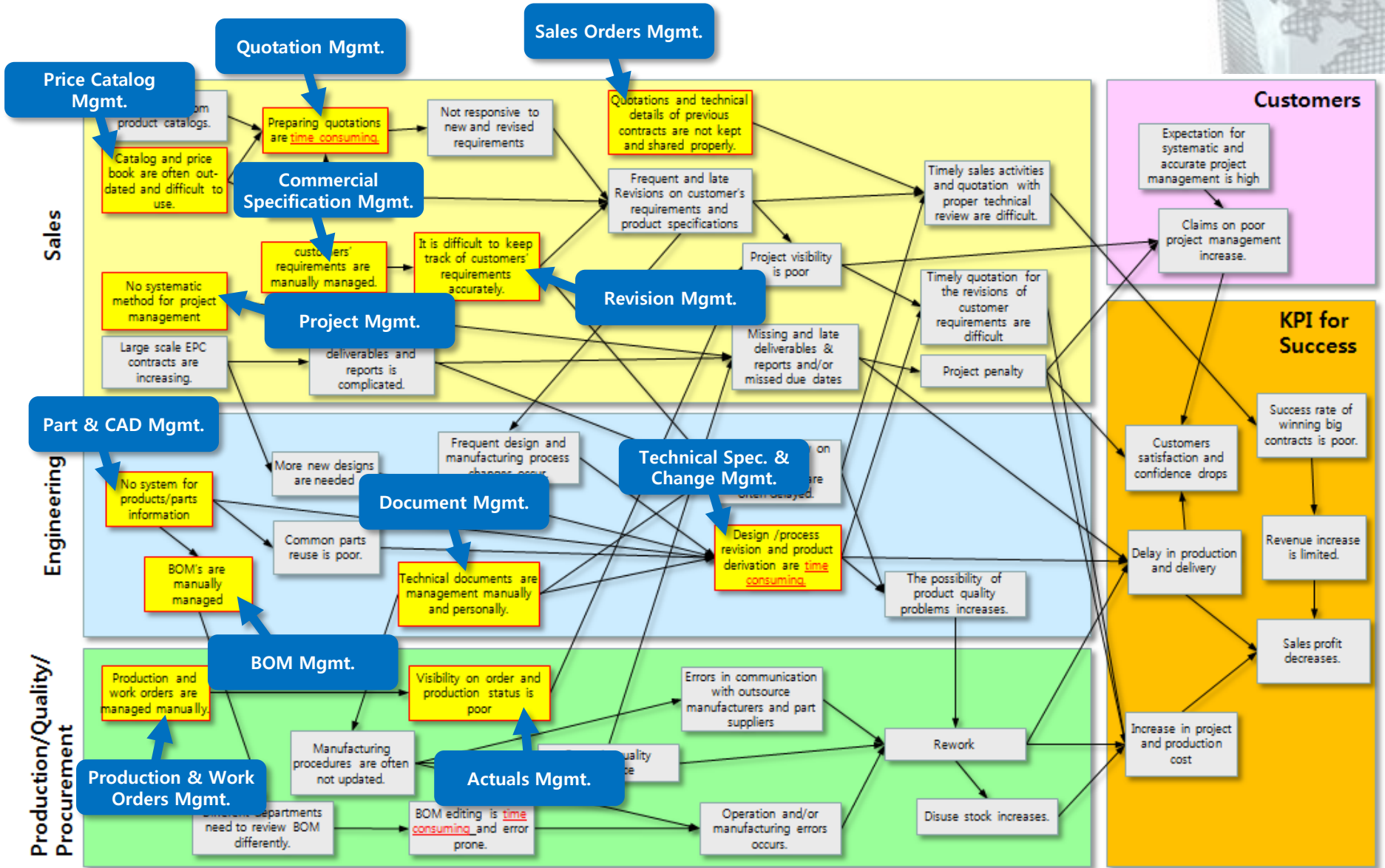
Current Issues with Root Cause Analysis



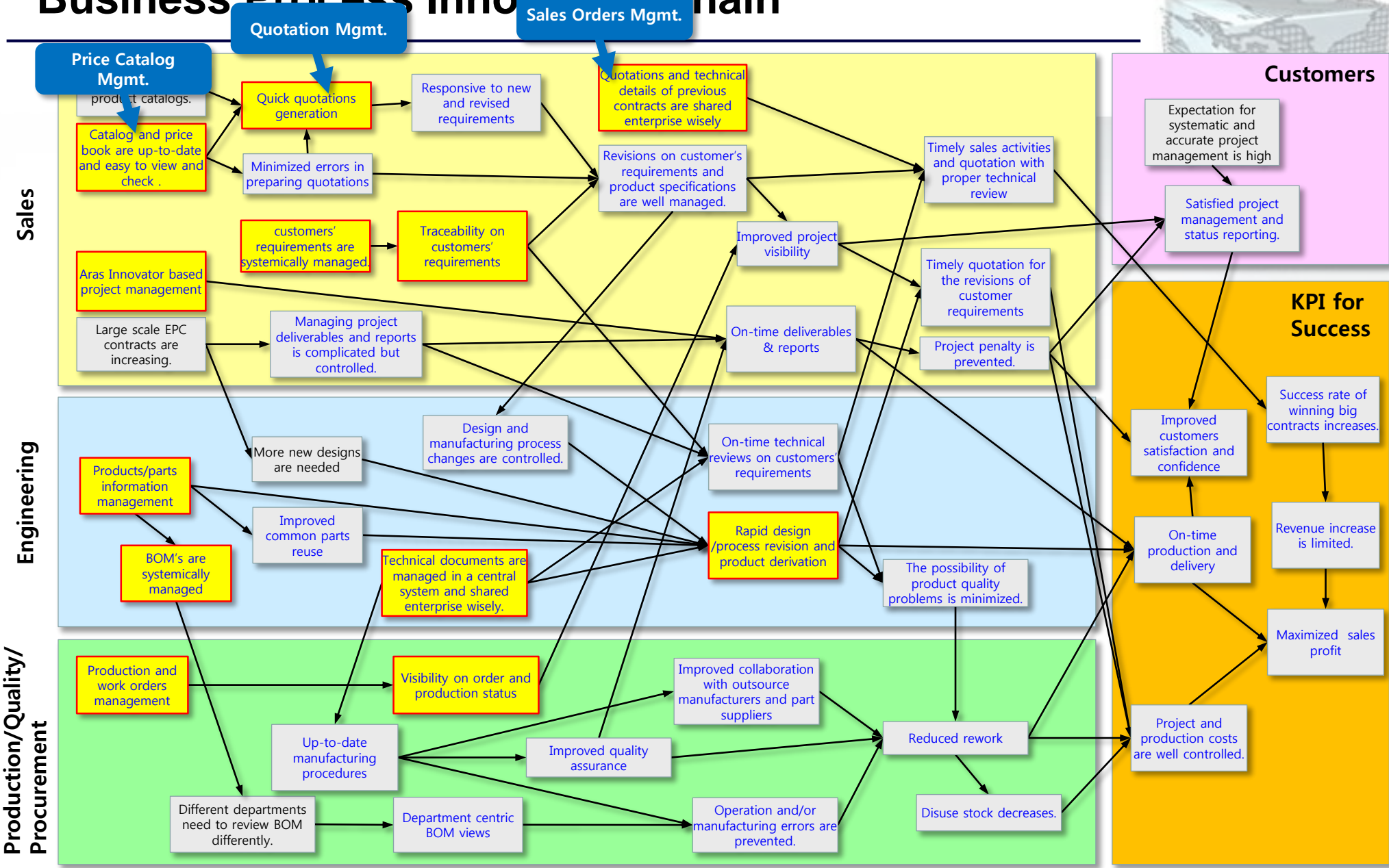
Tackling the Root Causes (12 Innovation Points)



Injecting Innovations



Business Process Innovation Chain



Expected ROI



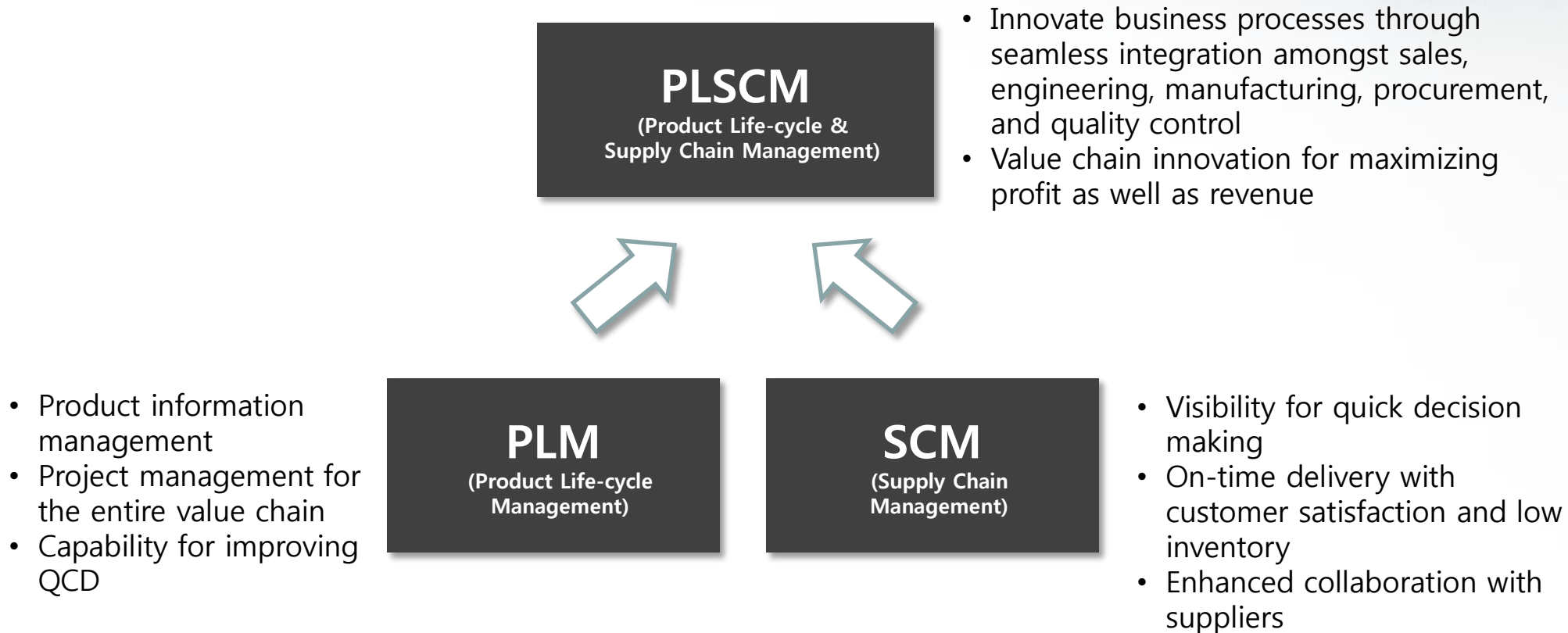
- By improving and innovating the business processes with PLSCM Korea KOSO expects the revenue increase of \$ 3,000,000 and the cost reduction of \$ 750,000 annually.

ROI Class	Categories	ROI Items	Remarks
Quantitative	Revenue Increase	First-Mover Advantage with Shortened Time-to-Market	5 % Increase in Profit
		Improved Success Rate in New Sales Opportunities	10 % Increase in Sales
		Improved Success Rate of New Products	10 % Increase in Sales
	Cost Reduction	Cost Saving in the System Infrastructure	\$ 50,000 per year
		Improved Work Efficiencies	\$ 100,000 per year
		Reduction in Product Development Cost (Part Reuse & Less Rework)	\$ 100,000 per year
		Reduction in Design & Engineering Change Cost	
		Reduction in Supply Chain Management Cost (Less Inventory & Scrap)	10% decrease in Production Cost (\$500,000 per year)
		Minimized Cost from Quality Problems (Less Penalties)	
		Qualitative	Quality Improve
Customer Satisfaction	Quick Response to Customer's Orders and Revision Request		
	Visibility of Order Status		
Improved and Strengthened Organization Culture	Process Integration amongst Departments		Enable Sustainable Businesses
	Effective collaboration of distributed teams and companies		
	Effective re-structuring in case of organizational re-structuring and/or M&A		
Regulatory compliance	Comply with customer's project management policies and requirements		
	Traceability to comply with various regulations		
Strengthened Product Development Capability	Strengthen Global Product Development, Production, and Service System		
	Responsive to Changes in Market and Customer Needs		
	Quick Decision Making with Visibility for the entire Value Chain		

PLSCM for Realizing the Business Process Innovation



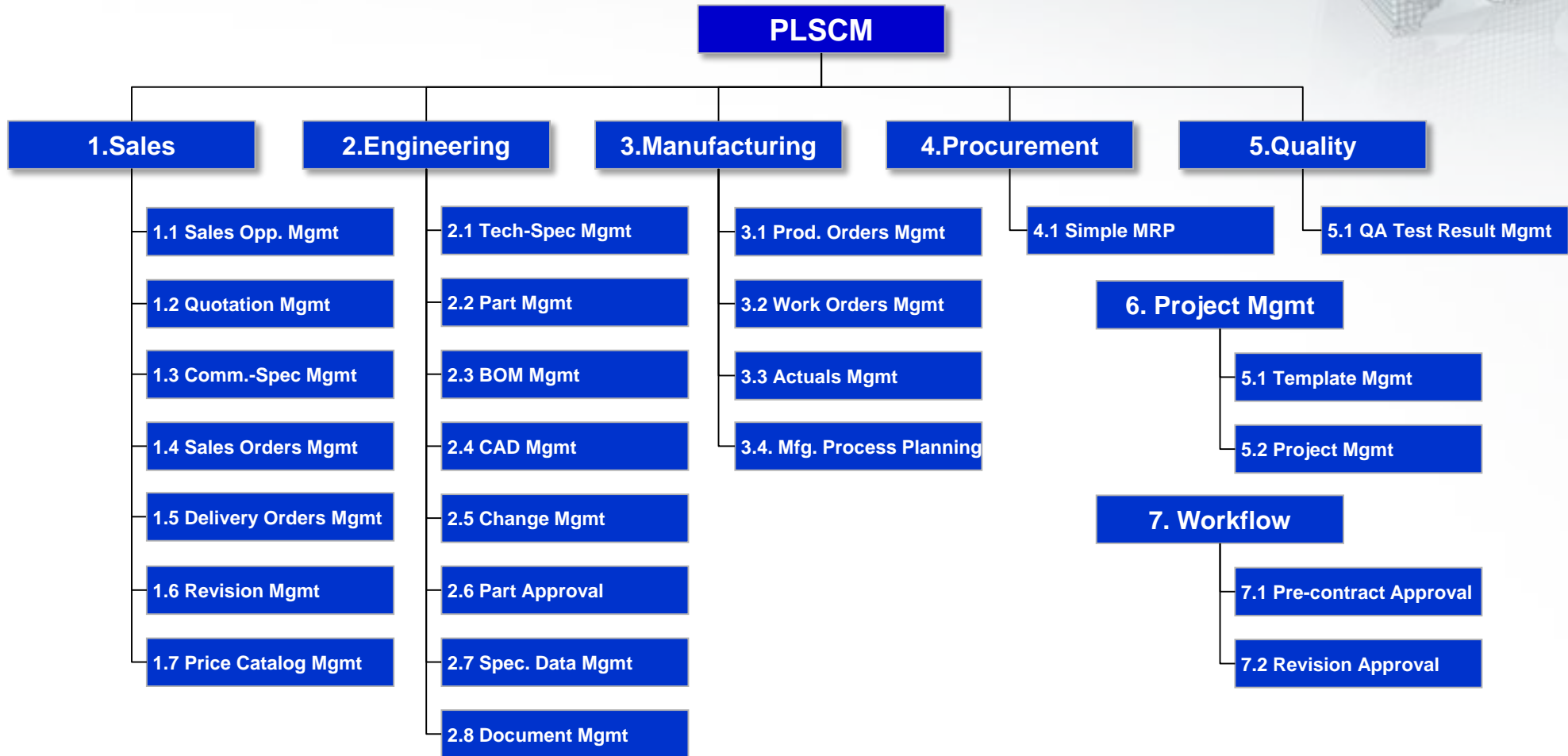
- For companies with **DTO(Design To Order)** and/or **ETO(Engineering To Order)** business characteristics it is critical to seamlessly integrate business processes and information amongst sales, engineering, procurement, production, and quality for enhancing the responsiveness to market and customer requirements.



KOSO PLSCS Process Tree



- KOSO PLSCM is composed of seven functional modules that support business processes for five departments.



AS-WAS vs. AS-IS (1/9)



● Quick Quotations with Detail Product Specifications

- Quotation information is managed with detailed product specifications from customer.
- You can quickly search for relevant quotations and their details information and documents.

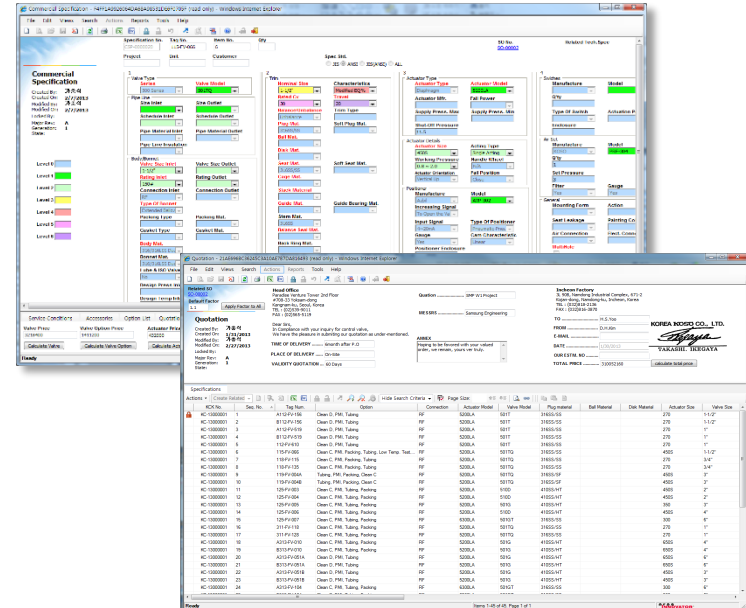
AS-WAS

- Price catalog based quotation generation
- Updated price data are often not shared and difficult to check.
- Difficult to trace the revision change histories



AS-IS

- System based price information management sorted by specifications and options
- Customer's requirement data based quotation generation



AS-WAS vs. AS-IS (2/9)



Centralized Product Specifications Management

- Product specification data managed in Aras Innovator can be quickly retrieved and share with other departments.

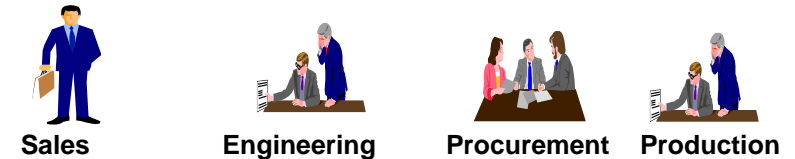
AS-WAS

- It is very difficult to retrieve previous product specifications, which need to be checked manually.
- When specifications are updated, the change notifications are not immediately sent to other departments or often lost.

The image shows a technical specification document for KOSO. It includes sections for 'SPECIFICATION', 'BODY', 'ACCESSORIES', and 'GENERAL'. Below the text, there is a 3D CAD drawing of a globe valve with various callouts and dimensions. A blue stick figure is shown thinking, with a thought bubble containing a question mark, symbolizing the difficulty of finding information in this format.

AS-IS

- Specifications are managed in a central system and shared easily along with related product data and drawings.



The image shows the Aras Innovator software interface. The main window displays a specification document with a tree view on the left and a detailed view on the right. Below the main window, there is a 3D CAD drawing of a globe valve, similar to the one shown in the AS-WAS section. The interface includes various toolbars and a search bar, demonstrating the ease of accessing and sharing data in this system.

AS-WAS vs. AS-IS (3/9)



● Specification Copy & Paste

- Each sales order may require hundreds of specification documents. With PLSCM these documents can be easily reproduced by “Save As” operation.

AS-WAS

- Creating specification documents for a new sales order takes a lot of time and is error prone task.

The illustration shows a man in a white shirt and tie, looking stressed and sweating, holding a stack of papers. A clock on the wall shows the time is 3:00. In the background, several overlapping specification documents are visible, each with the 'KOSO' logo. Below the man, a large, thick stack of papers is shown, with a man in a purple shirt and blue pants struggling to carry it. To the right, a detailed technical drawing of a globe valve is shown, including a 3D cutaway view and a 2D schematic diagram.

AS-IS

- Using an existing specification item, the specification of a new sales order can be quickly created by “Save As” operation reusing product information and CAD data.

The screenshot shows a CAD software interface with a 'Specifications' panel on the left. A 'New Specification' dialog box is open, showing a list of existing specifications with IDs like 10000006 and 10000007. The 'Save As' button is highlighted with a red box. Below the dialog, a 'BOM and GA Drawing for a New Specification' window is visible, showing a table of parts and their descriptions.

Part No.	Part Name	Material	Qty	Part No.	Description	Component
10000000	Lock valve bracket	K050	1	10000000	K050 L 20T S200LA 400L 50mm 60mm	Component
10000001	Lock valve	K050	1	10000001	L 20T SMC	Component
10000002	Fastener	K050	1	10000002	EP4114-L K050	Component
10000003	Feedback pin	K050	1	10000003	EP4114-L S200LA 276 400L 29mm	Component
10000004	Feedback wedge	K050	1	10000004	K050 EP4114-L S200LA 400L 50mm 60mm	Component
10000005	Pin	K050	1	10000005	PF 40L K050	Component
10000006	Feedback bracket	K050	1	10000006	K050 EP4114-L S200LA 276 400L 29mm	Component
10000007	Fastener bracket	K050	1	10000007	K050 EP4114-L S200LA 400L 50mm 60mm	Component
10000008	Body	SCPH2	1	10000008	SCPH2 RP RP NA NA 6" 6" 10K 10K 30	Component
1000011004	Heugon head bolt	SMCH	4	1000011004	Heugon head bolt M10 L 35	Component
1000011002	Heugon head bolt	SMCH	18	1000011002	Heugon head bolt M12 L 135	Component
1000011003	Heugon head bolt	SMCH	2	1000011003	Heugon head bolt M12 L 190	Component
1000011008	Heugon head bolt	SMCH	2	1000011008	Heugon head bolt M14 L 152	Component
1000011005	Heugon head bolt	SMCH	1	1000011005	Heugon head bolt M12 L 30	Component

AS-WAS vs. AS-IS (4/9)



- **Specification Data Management (SDM)**

- Specification data that define product specification are managed systemically.

AS IS

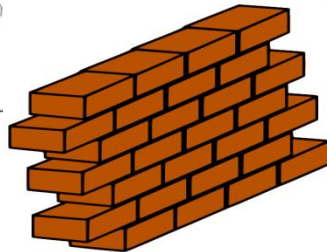
- New specifications from a sales order are not often shared with other sales teams.

```

*BODY*
①LINE SIZE      :
②SIZE(BODY/DISC): 2" X 2"
③RATING         : ANSI 150#
④CONNECTION     : RF
⑤TRIFORM       : UNBALANCE
⑥CHARACTER     : P-PORT EQ%
⑦BONNET        : STANDARD
⑧OPTION        : NON

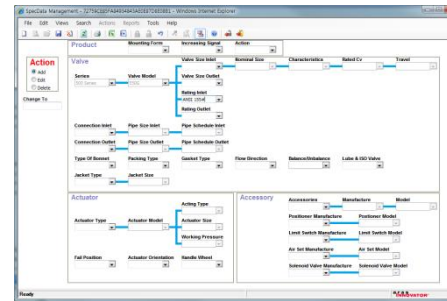
(MATERIAL/TREAT)
①BODY          : SCPH2
②TRIM          : SUS316
③SCAT         : SUS316
④STEM         : SUS316
⑤PACKING      : P4525+450
⑥GASKET       : P1300
    
```

+ New Spec (ANSI 155#)



TO BE

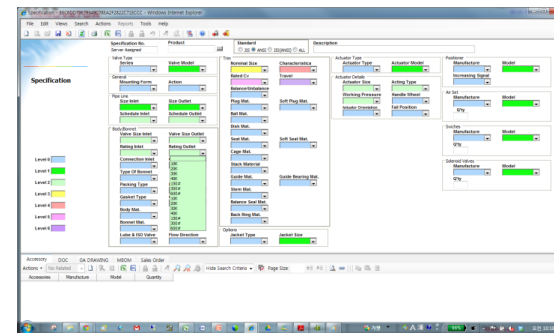
- Once new product specification data are registered in PLSCM, all sales teams can use them to create new specifications.



New Specification Data



Specifications can be registered with the new specification data



Rating Outlet

- 10K
- 20K
- 30K
- 40K
- 150#
- 300#
- 600#
- 10K
- 20K
- 30K
- 40K
- 150#
- 300#
- 600#

AS-WAS vs. AS-IS (5/9)



● MBOM Management

- EBOM is defined based on product data without material information.
- MBOM is generated based on product data in conjunction with material specifications.

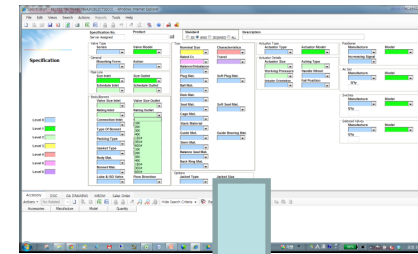
AS IS

- MBOM is created manually based on product specifications.
- Errors in MBOM create critical quality issues in the manufacturing stage.

Sliding product	Part No.	Part Name	Qty	Description
1	00000095	Lock valve bracket	1	KOSO, IL-201, 520DLA, 450L, 50mm, 60mm
1	00000047	Lock valve	1	IL-201, SMC
1	00000095	Hexagon head bolt	4	M16 x 35
1	00000095	Hexagon head bolt	18	M12 x 135
1	00000077	Hexagon head bolt	2	M12 x 190
1	00000076	Hexagon head bolt	2	M8 x 12
1	00000079	Hexagon head bolt	1	M20 x 30
1	00000090	Hexagon head bolt	3	M8 x 10
1	00000081	Hexagon head bolt	4	M6 x 10
1	00000083	Hexagon socket head bolt	2	M10 x 30
1	00000091	Hexagon socket set bolt	1	M10 x 30
1	00000092	Continuous stud bolt	1	M22 x 95
1	00000093	Double end stud bolt	2	M8 x 50
1	00000027	Pan head machine screw	1	M3 x 10
1	00000095	Heavy hexagon nut	1	M22
1	00000097	Hexagon nut	1	M12
1	00000098	Hexagon nut	19	M12
1	00000099	Hexagon nut	2	M3
1	00000092	U nut	2	20x55
1	00000091	Swivel swabber	1	16

TO BE

- Based on product data related to specifications MBOM is generated automatically.
- The generated MBOM is instantly shared with other teams and can be also viewed in different forms.



MBOM Part No. [...]	Part No.	Rev.	Name	Material	Qty	Description
M0000095	0000090	A	Lock valve bracket	SUS304	1	KOSO, IL-201, 520DLA, 450L, 50mm, 60mm
M0000096	0000047	A	Lock valve		1	IL-201, SMC

AS-WAS vs. AS-IS (6/9)



Retrieving the Change History of Products and Specifications

- Since there are many product variations to meet customers' specific requirements, it is important to retrieve the change history of products and their specifications.

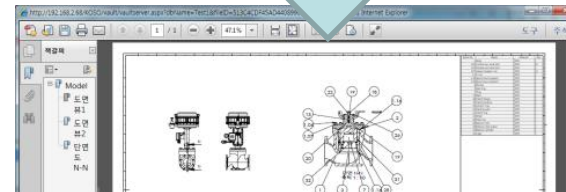
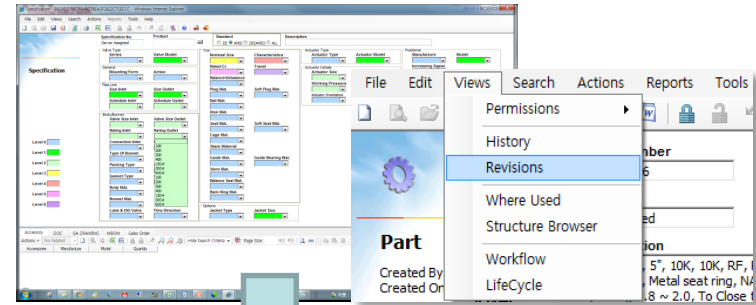
AS IS

- It is difficult to retrieve product data and their change histories related to previous specifications.



TO-BE

- Product data related to a particular specification and their change history can be quickly searched and reused.



Part No.	Name	Description	Type	Revision
00000136	Top guided	501T, 5", 10K, 10K, RF, RF, 5", EQ%, 50mm, 280, 25, ...	Product	A
00000136	Top guided	501T, 5", 10K, 10K, RF, RF, 5", EQ%, 50mm, 280, 25, ...	Product	B
00000136	Top guided	501T, 5", 10K, 10K, RF, RF, 5", EQ%, 50mm, 280, 25, ...	Product	C

AS-WAS vs. AS-IS (7/9)



● Production and Quality Management

- Production Orders and Quality Assurance Tasks are linked with Sales Orders and Product Specifications.
- Production orders affected by revisions in sales orders can be quickly identified and managed.

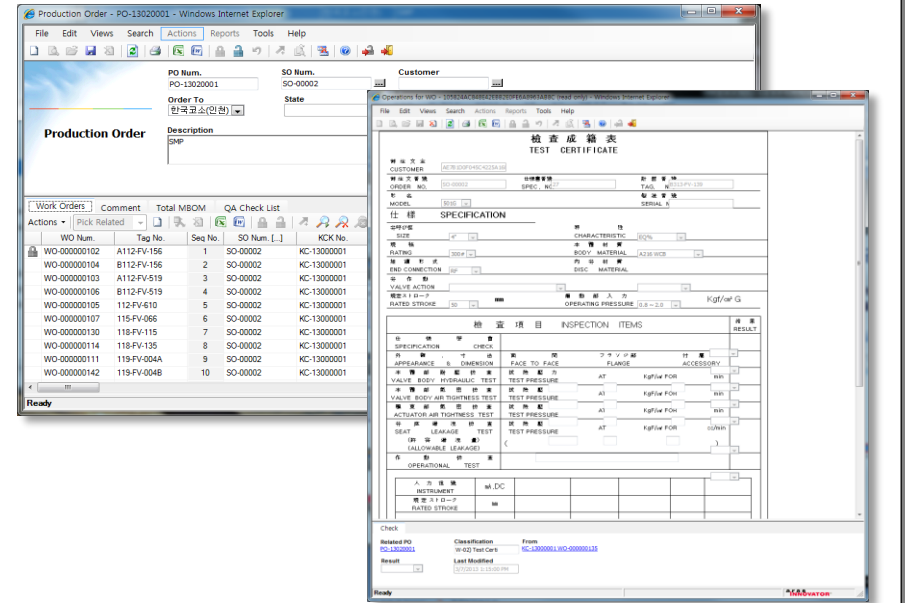
AS-IS

- Link information between Sales Orders(SO) and Production Orders(Prod/O) are not managed well.
- This makes it difficult to manage and share the revision data of customer requirements.



TO-BE

- Production and quality management tasks are executed based on the SO's and specifications registered in PLSCM
- Timely sharing of accurate data and relevant change histories becomes possible.
- Accumulated quality data can be used for statistically quality analysis and control.



AS-WAS vs. AS-IS (8/9)

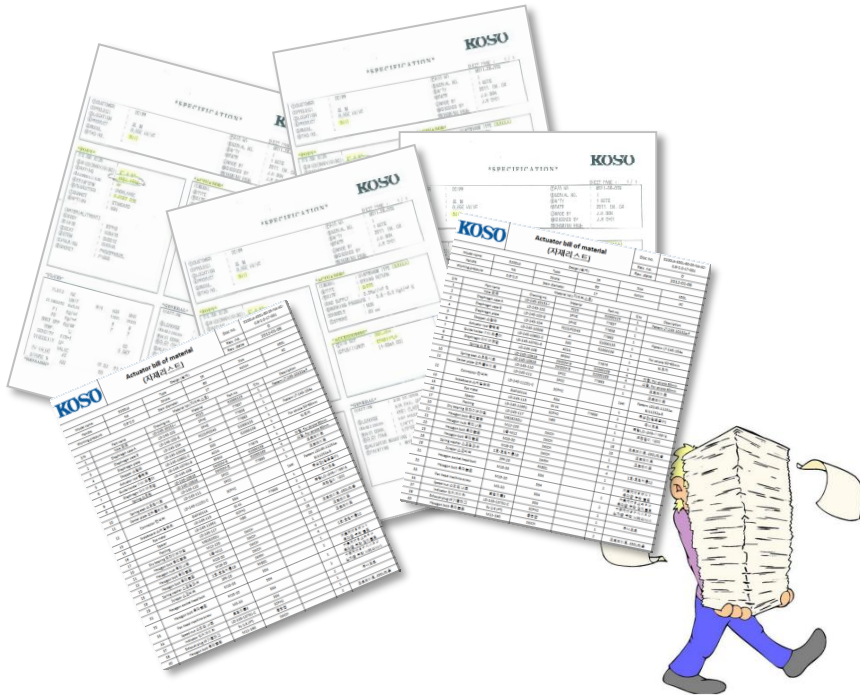


Document Management

- Documents are hierarchically categorized and managed for quick search and retrieval.
- To manage project deliverables to EPC clients, BOM-like document structure is supported.

AS IS

- Documents are managed by individuals and therefore the retrieval and reuse of documents are difficult.
- Retrieving similar or relevant documents is difficult.



TO BE

- Documents are managed based on predefined hierarchical categories, which enable quick search.

대분류	대분류	대분류
QMS 문서	QMS 문서	QMS 문서
중분류	중분류	중분류
Catalogue	Drawing	Drawing
Technical document	Manufacturing, inspection & test procedure	
Project 문서	Instruction	
	Certificate	
	Drawing	Standard GAD
	Forms	Standard GAD
	Internal standard	Assembly drawing
		Component fabrication drawing

The screenshot shows the aras INNOVATOR software interface. The top part displays a document list with columns for Document Number, Name, and Status. Below this, a document details view is shown for 'KTEU-1030 R0 410 stem heat'. The details include fields for Name, Major Rev, Release Date, Effective Date, and State. A 'Files Attached' section shows a PDF file named 'KTEU-1030 R0 410SS stem heat treatment.pdf'. The bottom part of the screenshot shows a technical drawing (heat treatment specification) for KTEU-1030 R0 410 stem heat, detailing material specifications and heat treatment parameters.

AS-WAS vs. AS-IS (9/9)

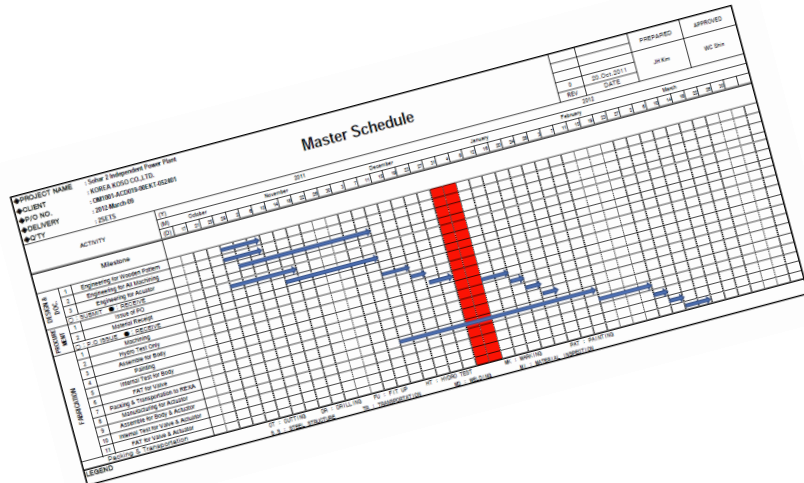


● Project Management

- Project information and deliverables are managed along with related information such as sales order, production order, and work orders in order to give the maximum visibility of the project.

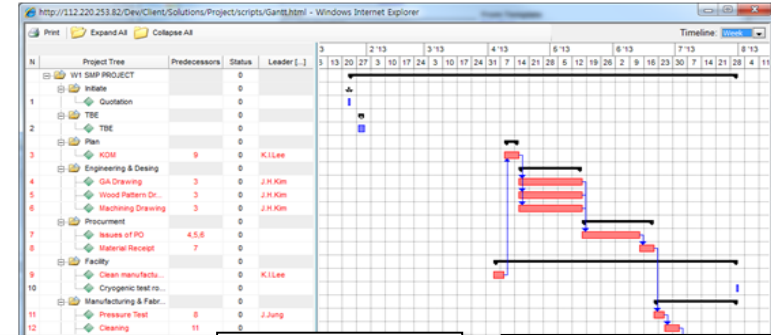
AS-IS

- Project information and deliverables for internal use and clients are not properly managed.
- Visibility for project is poor and therefore it is difficult to detect potential risks and quality problems.



TO-BE

- Project templates for customer and business types are defined and projects are managed according to these management templates.
- With systematic project deliverables and standardized project managements project duration can be shortened with properly controlled project and product quality.



Work Progress Report.

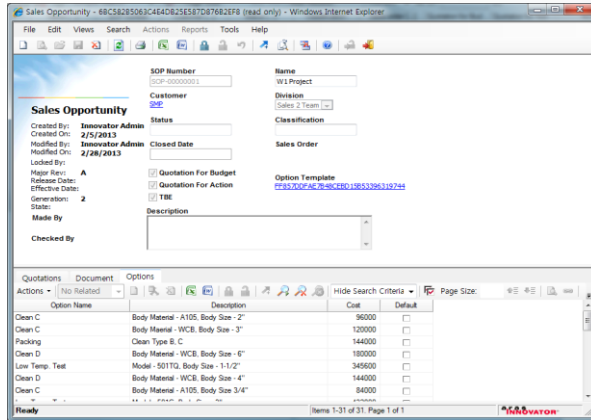
Project Name : Sohar 2 BPP Project Cut-off Date: 2011-11-25
 Stock Code: KOREA KOSO CO., LTD.
 P.O Number: 04101-ACC015-00EAT-052401
 Item Description / Qty: Emergency Shut-Off Valve / 2 sets

1. Overall work progress (Cum %)						
Description	Weight factor	This month Progress		Accumulated Progress		Delay Progress (in -) days
		Plan	Actual	Plan	Actual	
Engineering	10	30	30	30	30	0
Material	30	30	30	30	30	0
Fabrication	10	0	0	0	0	0
Shipping	10	0	0	0	0	0
Sub-Total (%)	100	50	46	50	46	0

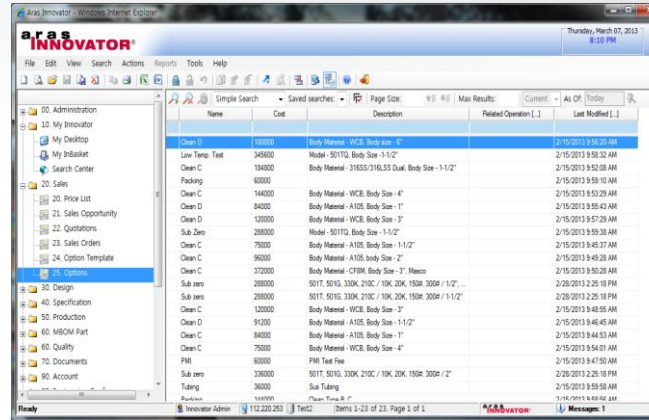
● Total Progress = sum of each weight factor x each accumulated progress/100.
 2. Delay reason: N/A.



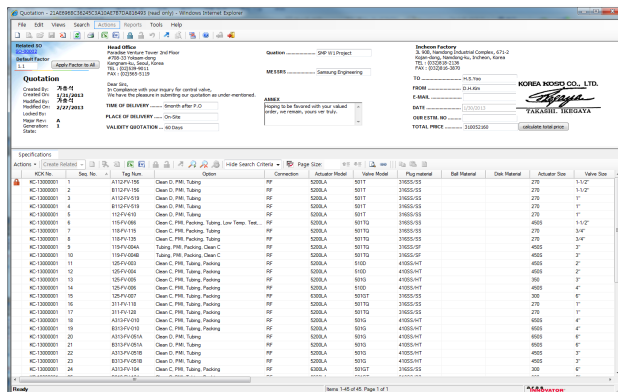
Sales Management Module



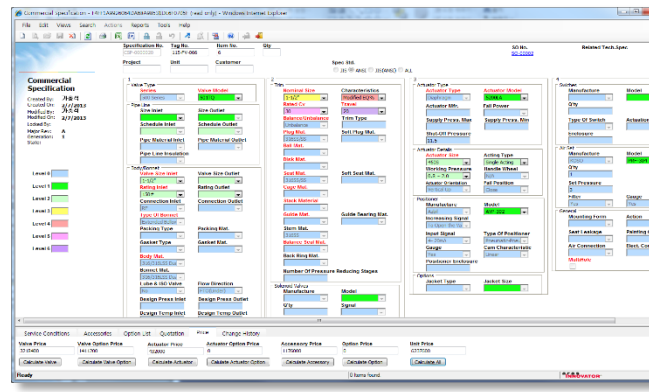
- Sales opportunities and orders management
- Linked with specifications and quotations



- Sales options management
- Product accessories, manufacturing & test procedures options



- Quotation generation and management
- Production specifications and profit factors for quotation generation.



- Commercial specifications for managing various customer's requirements and product specifications

PLSCM Snapshots – Sales Management



● Quotation Management

- Quotations are generated from production specifications, order options, and specified sales margin.
- Quotation revision can be quickly generated when the customer's requirements are changed.

aras INNOVATOR

File Edit View Search Actions Reports Tools Help

OUR EST: EST00000

Quotation

Created By: Innovator Admin
Created On: 1/14/2013
Modified By: Innovator Admin
Modified On: 1/22/2013
Locked By: Innovator Admin
Major Rev: A
Generation: 1
State: 1

Related SO
SQ-09002

Default Factor
1.1 Apply Factor to All

Head Office
Paradise Venture Tower 2nd Floor
#708-33 Yoksam-dong
Kangnam-ku, Seoul, Korea
TEL : (02)539-9011
FAX : (02)565-5119

Incheon Factory
3L 905, Namdong Industrial Complex, 671-2
Kojan-dong, Namdong-ku, Incheon, Korea
TEL : (032)818-2136
FAX : (032)816-3870

Quotation SMP W1 Project

MESSRS Samsung Engineering

TO H.S.Yoo
FROM D.H.Kim
E-MAIL
DATE 1/30/2013
OUR ESTM. NO
TOTAL PRICE 310052160

KOREA KOSO CO., LTD.
Takashi Ikegaya
TAKASHI. IKEGAYA

Specifications

KCK No.	Seq. No.	Tag Num.	Option	Connection	Actuator Model	Valve Model	Plug material	Ball Material	Disk Material	Actuator Size	Valve Size
KC-13000001	1	A112-FV-156	Clean D, PMI, Tubing	RF	5200LA	501T	316SS/SS			270	1-1/2"
KC-13000001	2	B112-FV-156	Clean D, PMI, Tubing	RF	5200LA	501T	316SS/SS			270	1-1/2"
KC-13000001	3	A112-FV-519	Clean D, PMI, Tubing	RF	5200LA	501T	316SS/SS			270	1"
KC-13000001	4	B112-FV-519	Clean D, PMI, Tubing	RF	5200LA	501T	316SS/SS			270	1"
KC-13000001	5	112-FV-610	Clean D, PMI, Tubing	RF	5200LA	501T	316SS/SS			270	1"
KC-13000001	6	115-FV-066	Clean C, PMI, Packing, Tubing, Low Temp. Test...	RF	5200LA	501TQ	316SS/SS			450S	1-1/2"
KC-13000001	7	118-FV-115	Clean C, PMI, Packing, Tubing	RF	5200LA	501TQ	316SS/SS			270	3/4"
KC-13000001	8	118-FV-135	Clean C, PMI, Packing, Tubing	RF	5200LA	501TQ	316SS/SS			270	3/4"
KC-13000001	9	119-FV-004A	Tubing, PMI, Packing, Clean C	RF	5200LA	501TQ	316SS/SF			450S	3"
KC-13000001	10	119-FV-004B	Tubing, PMI, Packing, Clean C	RF	5200LA	501TQ	316SS/SF			450S	3"
KC-13000001	11	125-FV-003	Clean C, PMI, Tubing, Packing	RF	5200LA	510D	410SS/HT			450S	2"
KC-13000001	12	125-FV-004	Clean C, PMI, Tubing, Packing	RF	5200LA	510D	410SS/HT			450S	2"
KC-13000001	13	125-FV-005	Clean C, PMI, Tubing, Packing	RF	5200LA	501G	410SS/HT			350	3"
KC-13000001	14	125-FV-006	Clean C, PMI, Tubing, Packing	RF	5200LA	510D	410SS/HT			450S	4"
KC-13000001	15	125-FV-007	Clean C, PMI, Tubing, Packing	RF	6300LA	501GT	316SS/SS			300	6"
KC-13000001	16	311-FV-118	Clean C, PMI, Tubing, Packing	RF	5200LA	501TQ	316SS/SS			270	1"
KC-13000001	17	311-FV-128	Clean C, PMI, Tubing, Packing	RF	5200LA	501TQ	316SS/SS			270	1"
KC-13000001	18	A313-FV-010	Clean C, PMI, Tubing, Packing	RF	5200LA	501G	410SS/HT			650S	4"
KC-13000001	19	B313-FV-010	Clean C, PMI, Tubing, Packing	RF	5200LA	501G	410SS/HT			650S	4"
KC-13000001	20	A313-FV-051A	Clean D, PMI, Tubing	RF	5200LA	501G	410SS/HT			650S	6"
KC-13000001	21	B313-FV-051A	Clean D, PMI, Tubing	RF	5200LA	501G	410SS/HT			650S	6"
KC-13000001	22	A313-FV-051B	Clean D, PMI, Tubing	RF	5200LA	501G	410SS/HT			450S	3"
KC-13000001	23	B313-FV-051B	Clean D, PMI, Tubing	RF	5200LA	501G	410SS/HT			450S	3"
KC-13000001	24	A313-FV-104	Clean C, PMI, Tubing, Packing	RF	6300LA	501GT	316SS/SS			300	6"

PLSCM Snapshots – Sales Management



Commercial Specification Management

- Customer specific requirements are captured in a commercial specification that defines not only product characteristics but also various operation conditions and product options like test, installation, and accessories.

aras INNOVATOR

File Edit View Search Actions Reports Tools Help

00. Administration
10. My Innovator
20. Sales
20. Price List
21. Sales Opportu
22. Quotations
23. Sales Orders
30. Design
40. Specification
41. Commercial S
42. Tech. Specific

Commercial Specification

Created By: Innovator Admin
Created On: 1/22/2013
Modified By: Innovator Admin
Modified On: 1/22/2013
Locked By: Innovator Admin
Major Rev: A
Generation: 1

CSP-000001
CSP-000011
CSP-000012
CSP-000014
CSP-000009
CSP-000005
CSP-000004
CSP-000007
CSP-000002
CSP-000000

Commercial Specification - F4F1A922604DA8A89831D68F0705F (read only) - Windows Internet Explorer

File Edit Views Search Actions Reports Tools Help

Specification No. Tag No. Item No. Qty
SO No. SO-00002

Project Unit Customer

Spec Std. JIS ANSI JIS(ANSI) ALL

Commercial Specification

Created By: 가용석
Created On: 2/7/2013
Modified By: 가용석
Modified On: 2/7/2013
Locked By:
Major Rev: A
Generation: 1

Level 0
Level 1
Level 2
Level 3
Level 4
Level 5
Level 6

Valve Type Series Valve Model
Pipe Line Size Inlet Size Outlet
Schedule Inlet Schedule Outlet
Pipe Material Inlet Pipe Material Outlet
Pipe Line Insulation
Body/Bonnet Valve Size Inlet Valve Size Outlet
Rating Inlet Rating Outlet
Connection Inlet Connection Outlet
Type Of Bonnet
Packing Mat.
Gasket Type Gasket Mat.
Body Mat.
Bonnet Mat.
Flow Direction
Label & ISO Value
Design Press Inlet Design Press Outlet
Design Temp Inlet Design Temp Outlet

Nominal Size Characteristics Modified BQ%
Travel Balance/Unbalance Plug Mat. Soft Plug Mat.
Deak Mat. Seat Mat. Soft Seat Mat.
Stack Material Guide Bearing Mat.
Solenoid Valves Model
Qty Signal

Actuator Type Actuator Model
Actuator Mfr. Fail Power
Supply Press. Max Supply Press. Min
Shut-Off Pressure
Actuator Detail Actuator Size Acting Type
Working Pressure Handle Wheel
Actuator Orientation Fail Position
Positioner Manufacturer Model
Increasing Signal
To Open the Val.
Input Signal Type Of Positioner
Gauge Cam Characteristic
Positioner Enclosure Linear
Options Jacket Type Jacket Size

Sealless Manufacture Model
Qty
Type Of Switch Actuation P
Enclosure
Air Set Manufacture Model
Qty
Set Pressure
Filter Gauge
Yes
General Mounting Form Action
Seat Leakage Painting Co
Air Connection Elect. Conn
Multicole

Service Conditions Accessories Option List Quotation Price Change History

Valve Price 3218400 Valve Option Price 1411200 Actuator Price 432000 Actuator Option Price 0 Accessory Price 1176000 Option Price 6237600 Unit Price

Calculate Valve Calculate Valve Option Calculate Actuator Calculate Actuator Option Calculate Accessory Calculate Option Calculate All

Type	Manufacturer	Model	Qty
Air Relay	SMC		1
Booster Relay	YTC		2

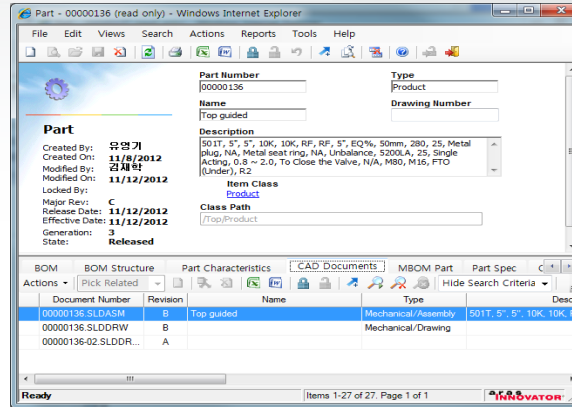
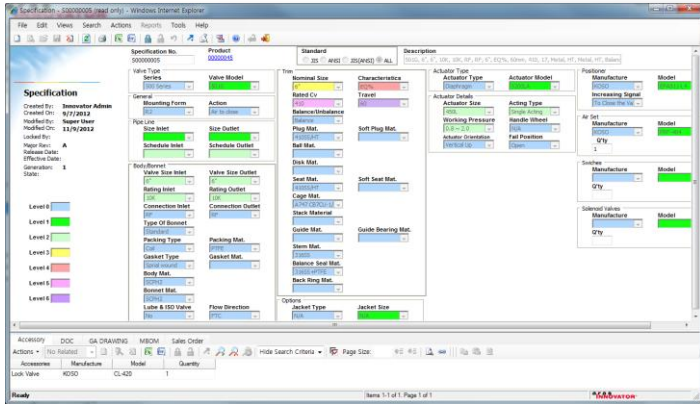
Option Name	Cost	Description
Clean D	91200	Body Material - A105, Body Size - 1-1/2"
PMI	60000	PMI Test Fee

Valve Price	Valve Option Price	Actuator Price	Accessory Price	Option Price	Unit Price
1632000	0	199200	490000	151200	2472400

Calculate Valve Calculate Valve Option Calculate Actuator Calculate Accessory Calculate Option Calculate All

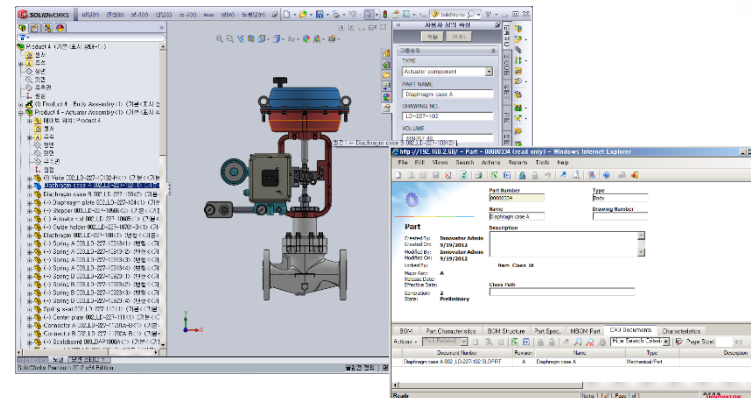
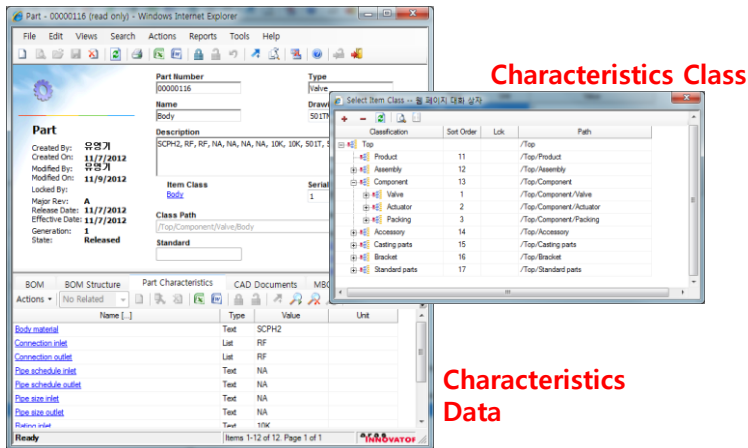


Engineering Management Module



- Technical specification management
- Product configuration data with material information

- Part data management
- BOM management



- Part characteristics data management with predefined characteristics class hierarchy

- CAD (SolidWorks) Integration
- Bi-directional property mapping between CAD & Part

PLSCM Snapshots – Engineering Management



● Technical Specification Management

- Product characteristics are managed in form of technical specification.
- MBOM is generated based on the technical specification and product structure.

Specification - 50000017 (read only) - Windows Internet Explorer

Specification No. 50000017 Product 00000182 Rev. A Material Type JIS ANSI JIS(ANSI) ALL Description 501G, 6", 6", 30K, 10K, RF, RF, 6", Linear, 60mm, 435, 17, Metal plug, HT.

Valve Type Series 500 Series Valve Model 501G

General Mounting Form R2 Action Air to close

Pipe Line Size Inlet Schedule Inlet Size Outlet Schedule Outlet

Body/Bonnet Valve Size Inlet 6" Valve Size Outlet 6"

Nominal Size 6" Rated Cv 435 Balance/Unbalance Balance Plug Mat. 41055.AHT Ball Mat. Disk Mat. Seat Mat. 41055.AHT Soft Plug Mat. Soft Seat Mat.

Actuator Type Actuator Type Linear Actuator Model 5001G Actuator Details Actuator Size 450L Working Pressure 0.8 ~ 2.0 Actuator Orientation Vertical Up. Acting Type Single Acting Handle Wheel Fail Position Open

Positioner Manufac KOSO Increase To Close

Air Set Manufac KOSO Q'ty

Switches Manufac

Accessory DOC GA DRAWING **MBOM** Sales Order

MBOM Part No. [...]	Part No.	Rev.	Name	Material	Qty	Description
M00000097	00000094	A	Feedback bracket	SUS304	1	KOSO, EP811-L4, 5200LA, 270, 450L
M00000099	00000092	A	Feedback lever	SUS304	1	KOSO, EP811-L4, 5200LA, 450L, 50mm
M00000036	00000047	A	Lock valve		1	IL-201, SMC
M00000095	00000090	A	Lock valve bracket	SUS304	1	KOSO, IL-201, 5200LA, 450L, 50mm, 60mm
M00000038	00000095	A	Feedback pin	SUS304	1	KOSO, EP811-L4, 5200LA, 270, 450L
M00000033	00000091	A	Positioner		1	EP811-L4, KOSO
M00000035	00000089	A	Air set		1	PRF-404, KOSO
M00000096	00000093	A	Positioner bracket	SUS304	1	KOSO, EP811-L4, 5200LA, 450L, 50mm
M00000042	00000087	A	Body		1	SCPH2, RF, RF, NA, NA, 6", 6", 10K, 10K
M00000075	00000011-004	A	Hexagon head bolt	M066_AS	4	Hexagon head bolt, M16 x 3
M00000078	00000011-002	A	Hexagon head bolt	M066_J5	18	Hexagon head bolt, M12 x 1
M00000077	00000011-003	A	Hexagon head bolt	M066_J5	2	Hexagon head bolt, M12 x 1
M00000076	00000011-008	A	Hexagon head bolt	M054_J5	2	Hexagon head bolt, M8 x 12
M00000079	00000011-005	A	Hexagon head bolt	M066_J5	1	Hexagon head bolt, M20 x 3
M00000080	00000011-006	A	Hexagon head bolt	M054_J5	3	Hexagon head bolt, M5 x 10
M00000081	00000011-007	A	Hexagon head bolt	M054_J5	4	Hexagon head bolt, M6 x 10
M00000083	00000011-002	A	Hexagon socket head bolt	M054_J5	2	Hexagon socket head bolt, h
M00000085	00000019-001	A	Hexagon socket set bolt	M054_J5	1	Hexagon socket set bolt, M1
M00000082	00000001-001	A	Continuous stud bolt	M091_AS	10	Continuous stud bolt, M22 x 5
M00000100	00000003-001	A	Double end stud bolt	M055_AS	2	Double end stud bolt, M8 x 5
M00000089	00000027-001	A	Pan head machine screw	M054_J5	2	Pan head machine screw, M
M00000086	00000007-005	A	Heavy hexagon nut	M036_AS	10	Heavy hexagon nut, M22

PLSCM Snapshots – Engineering Management



● Engineering – Part Data Management

- Part characteristics classified based on part groups are used to help the engineer search and retrieve parts with similar characteristics.

Part
Created By:
Created On:
Modified By:
Modified On:
Locked By:
Major Rev: **A**
Release Date: **11/7/2012**
Effective Date: **11/7/2012**
Generation: **1**
State: **Released**

Part Number: 00000116
Type: Valve
Name: Body
Drawing Number: 501TM-0111
Description: SCPH2, RF, RF, NA, NA, NA, NA, 10K, 10K, 50IT, 5", 5"
Item Class: Body
Serial No.: 1
Class Path: /Top/Component/Valve/Body
Standard:

Characteristics Data

Name [...]	Type	Value	Unit
Body material	Text	SCPH2	
Connection inlet	List	RF	
Connection outlet	List	RF	
Pipe schedule inlet	Text	NA	
Pipe schedule outlet	Text	NA	
Pipe size inlet	Text	NA	
Pipe size outlet	Text	NA	
Rating inlet	Text	10K	

Ready | Items 1-12 of 12. Page 1 of 1 | INNOVATOR

Characteristics Class

Classification	Sort Order	Lok	Path
Top			/Top
Product	11		/Top/Product
Assembly	12		/Top/Assembly
Component	13		/Top/Component
Valve	1		/Top/Component/Valve
Actuator	2		/Top/Component/Actuator
Packing	3		/Top/Component/Packing
Accessory	14		/Top/Accessory
Casting parts	15		/Top/Casting parts
Bracket	16		/Top/Bracket
Standard parts	17		/Top/Standard parts

Part Search with Characteristics Data

Select Item Class
Body

Characteristics

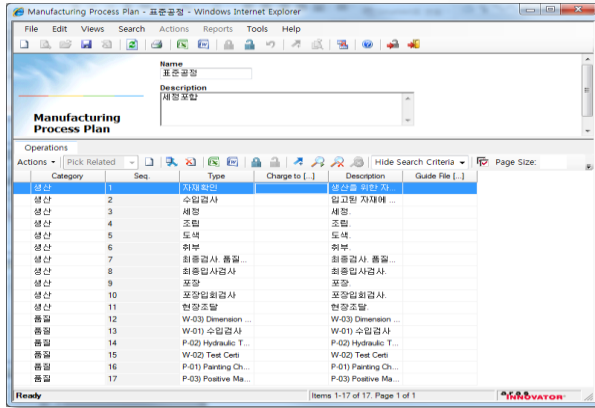
Name	Type	Unit	Value
Body material	Text		
Connection inlet	List		
Connection outlet	List		
Pipe schedule inlet	Text		
Pipe schedule outlet	Text		
Pipe size inlet	Text		
Pipe size outlet	Text		

Search Results

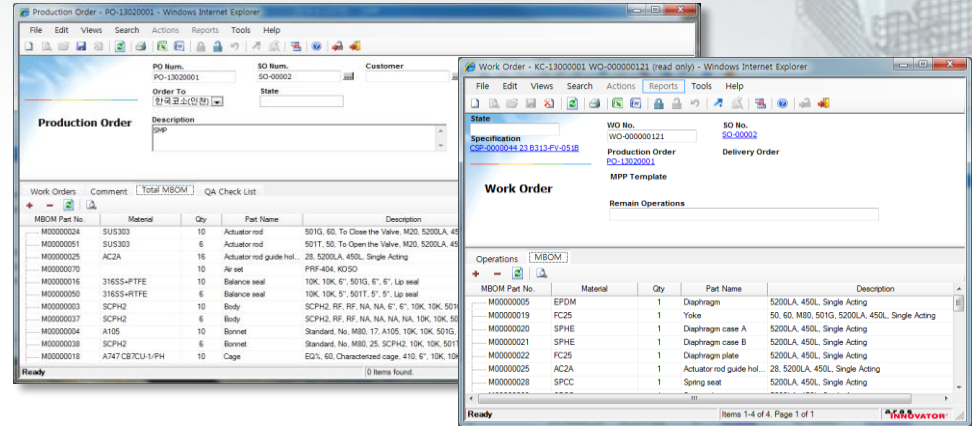
Name	Rev.	Gen	State	Item Class	Body material	Connection inlet	Connection outlet
00000092	A	1	Released	Body	SCPH2	RF	RF
00000116	A	1	Released	Body	SCPH2	RF	RF
00000144	A	1	Released	Body	SCPH2	RF	RF



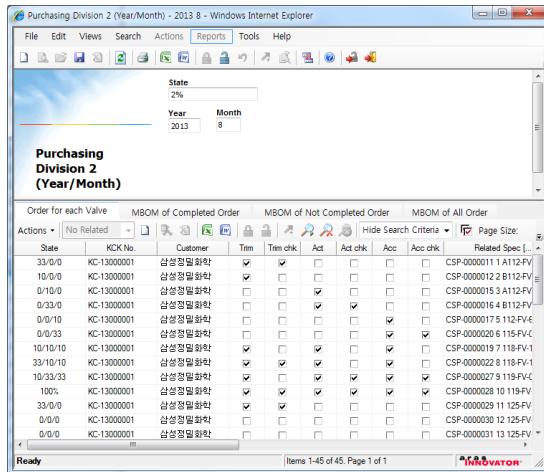
● Production, Procurement, & Quality Management Module



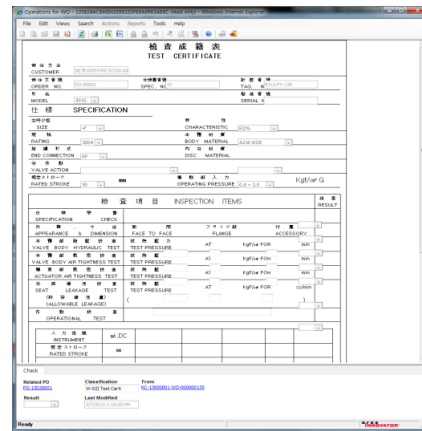
- Manufacturing Process Planning (MPP) for managing standard processes



- Production order and work order (per valve) management
- Aggregated MBOM view



- Production progress monitoring



- Quality Assurance (QA) reports
- Data entry forms just like previously used quality check sheets

PLSCM Snapshots – Production, Procurement, & Quality Mgmt.



● Production Order Management

- From Sales Order is created a Production Order that is used to manage work orders.
- Aggregated MBOM is also generated for procurement and QA departments

WO Num.	Tag No.	Seq No.	SO Num. [...]	KCK No.	Related PO [...]	Delivery Order [...]	Specification [...]	Remain Op
WO-000000102	A112-FV-156	1	SO-00002	KC-1300001	PO-13020001		CSP-0000011 1 ...	
WO-000000104	B112-FV-156	2	SO-00002	KC-1300001	PO-13020001		CSP-0000012 2 ...	
WO-000000103	A112-FV-519	3	SO-00002	KC-1300001	PO-13020001		CSP-0000015 3 ...	
WO-000000106	B112-FV-519	4	SO-00002	KC-1300001	PO-13020001		CSP-0000016 4 ...	
WO-000000105	112-FV-610	5	SO-00002	KC-1300001				
WO-000000107	115-FV-066	6	SO-00002	KC-1300001				
WO-000000130	118-FV-115	7	SO-00002	KC-1300001				
WO-000000114	118-FV-135	8	SO-00002	KC-1300001				
WO-000000111	119-FV-004A	9	SO-00002	KC-1300001				
WO-000000142	119-FV-004B	10	SO-00002	KC-1300001				

Aggregated MBOM

MBOM Part No.	Material	Qty	Part Name	Description
M00000024	SUS303	10	Actuator rod	501G, 60, To Close the Valve, M20, 5200LA, 450L, Single ...
M00000051	SUS303	6	Actuator rod	501T, 50, To Open the Valve, M20, 5200LA, 450L, Single A...
M00000025	AC2A	16	Actuator rod guide hol...	28, 5200LA, 450L, Single Acting
M00000070		10	Air set	PRF-404, KOSO
M00000016	316SS+PTFE	10	Balance seal	10K, 10K, 6", 501G, 6", 6", Lip seal
M00000050	316SS+RTFE	6	Balance seal	10K, 10K, 5", 501T, 5", 5", Lip seal
M00000003	SCPH2	10	Body	SCPH2, RF, RF, NA, NA, 6", 6", 10K, 10K, 501G, 6", 6"
M00000037	SCPH2	6	Body	SCPH2, RF, RF, NA, NA, NA, NA, 10K, 10K, 501T, 5", 5"
M00000004	A105	10	Bonnet	Standard, No, M80, 17, A105, 10K, 10K, 501G, 6", 6"
M00000038	SCPH2	6	Bonnet	Standard, No, M80, 25, SCPH2, 10K, 10K, 501T, 5", 5"
M00000018	A747 CB7CU-1/PH	10	Cage	EQ%, 60, Characterized cage, 410, 6", 10K, 10K, 501G, 6", ...

Future Directions

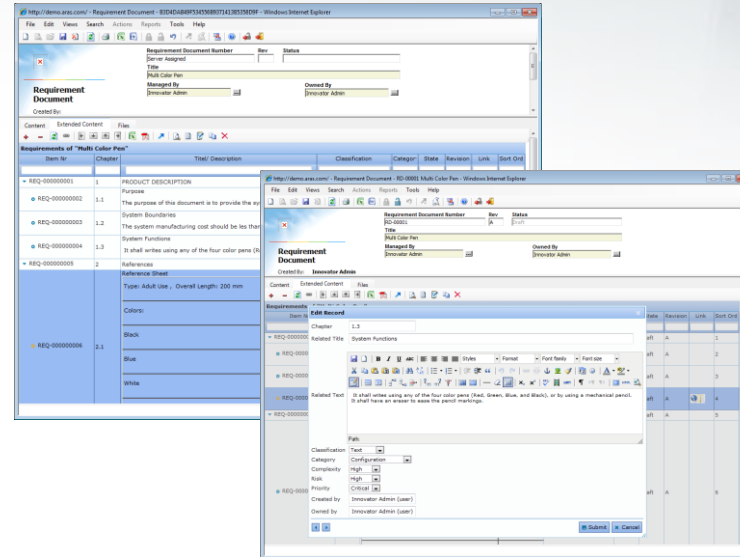
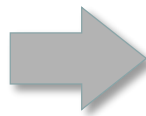
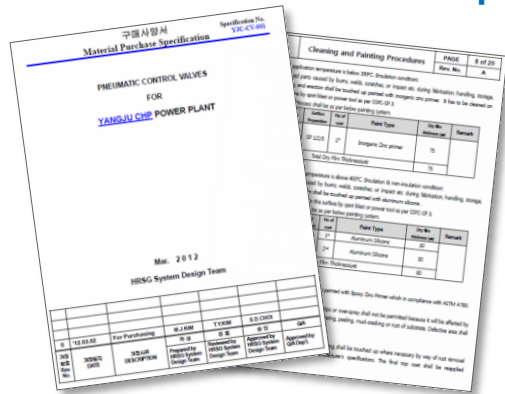


- **DSM (Demand & Supply Management) Enhancement**

- **Delivery Order & Inventory Management**

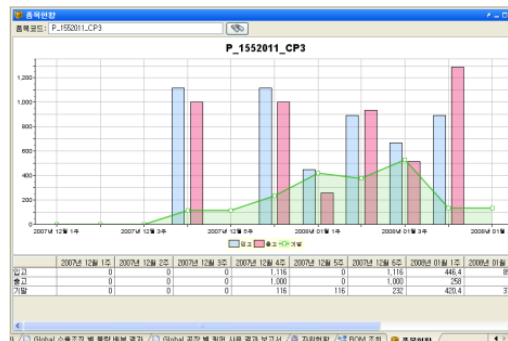
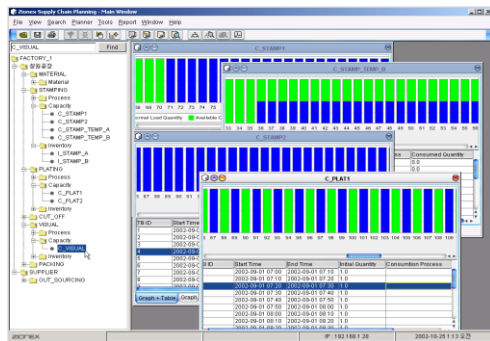
- **Requirement Management**

- **Collaboration with EPC companies**



- **Capacity Simulation & Production Planning**

- **On-time Production and Delivery**



Closing Remarks



● Testimonials

• PLSCM Project Manager

- ✓ If We have chosen the other PLM solution like Enovia and TeamCenter, It would have not been possible to get what we have now. Even if it were possible, it must have been very costly with the longer project duration. It was the right decision.
- ✓ It was very effective to quickly prototype the system and share it with end users to improve the system design. This allowed the end users to get the feel of the system early on and make them actively involve in the system design. I don't think this is possible with other PLM solutions.

• Engineering Department Manager

- ✓ It was difficult to register parts and products in the beginning, but now I realize that the product variation is really easy and can be done quickly.

• Sales Team Leader

- ✓ Sometimes I need to respond to RFQ's from customer in only 3 days. In such event, I had to stay over nights to prepare the quotations with commercial specifications. With PLSCM I can do it very fast with more accurate quotations.

● Lesson Learned

- **For companies like Korea KOSO, whose business is Design-To-Order or Engineering-To-Order oriented, integrating PLM and SCM can be more effective to improve the value chain within the enterprise than PLM alone.**

월간 Aras Innovator 교육 안내

2013년 5월 교육 일정

- 5월29일(수) : Aras Innovator PLM Basics - 무료 교육
- 5월30일(목) : Aras Innovator Administration - 유료 교육 (* 5월 프로모션)
- 5월31일(금) : Aras Innovator Solutions - 유료 교육 (* 5월 프로모션)

장소 : 서울 마포구 상암동 누리꿈스퀘어 교육장

2013 ACE (Aras Community Event) Korea



- 일시 : 6월 18일(화) 14:00 ~ 17:30
- 장소 : 서울 마포구 상암동 누리꿈스퀘어 비즈니스타워 대회의실
- 내용 : 국내 & 일본 (자동차부품/중공업/타이어 글로벌기업) 구축 사례 , Aras 솔루션 Demo 시연 등

문의 : (주)자이오넥스
arasplm@arasplm.co.kr Tel : 02-523-1203