

EWQIMS : Application Case Study

10-Jul-19

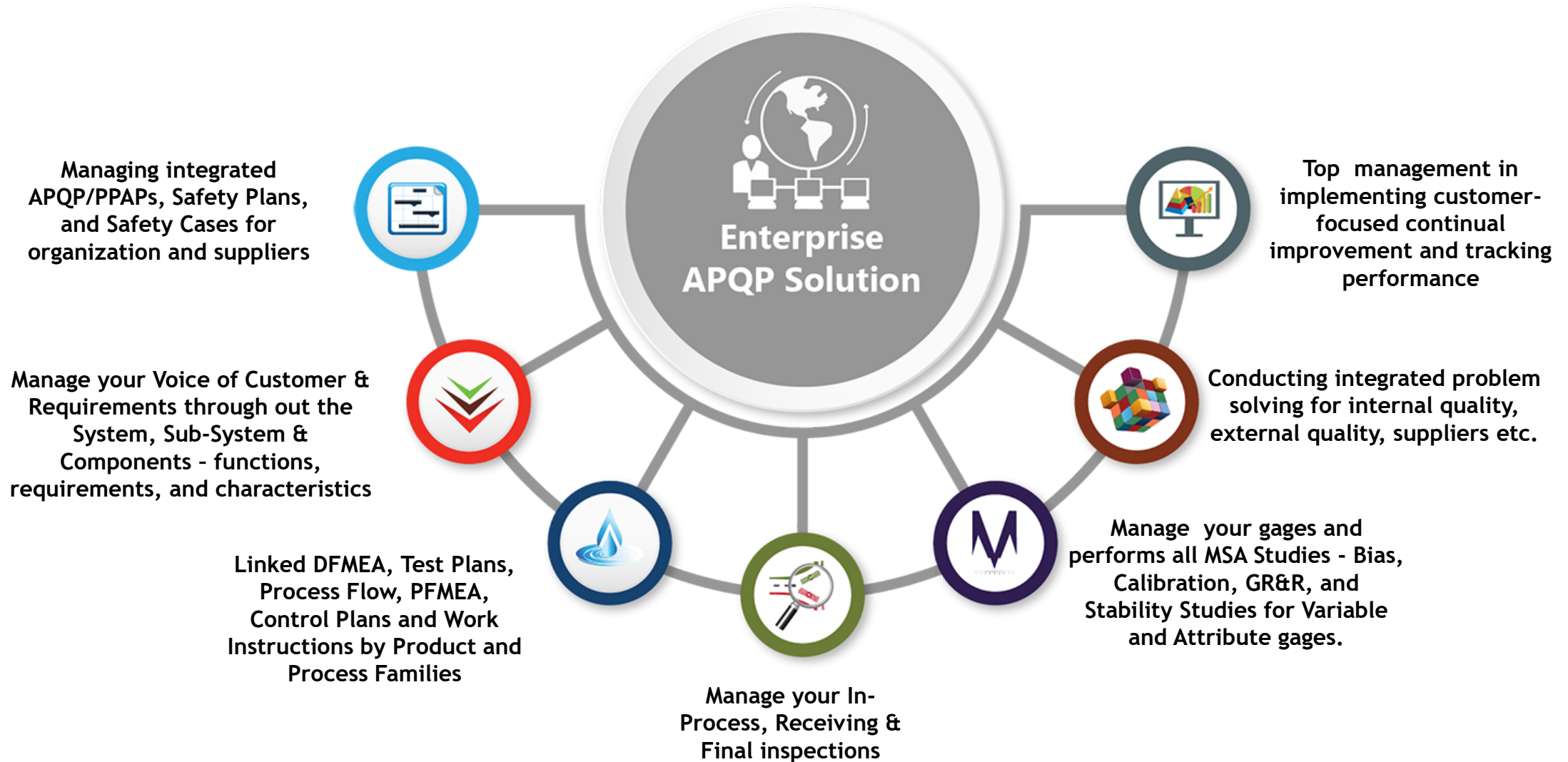
SPID Annual Seminar

COAX, Seoul, Korea



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Enterprise APQP Solution Video



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Case Study : APQP SUITE

KIML

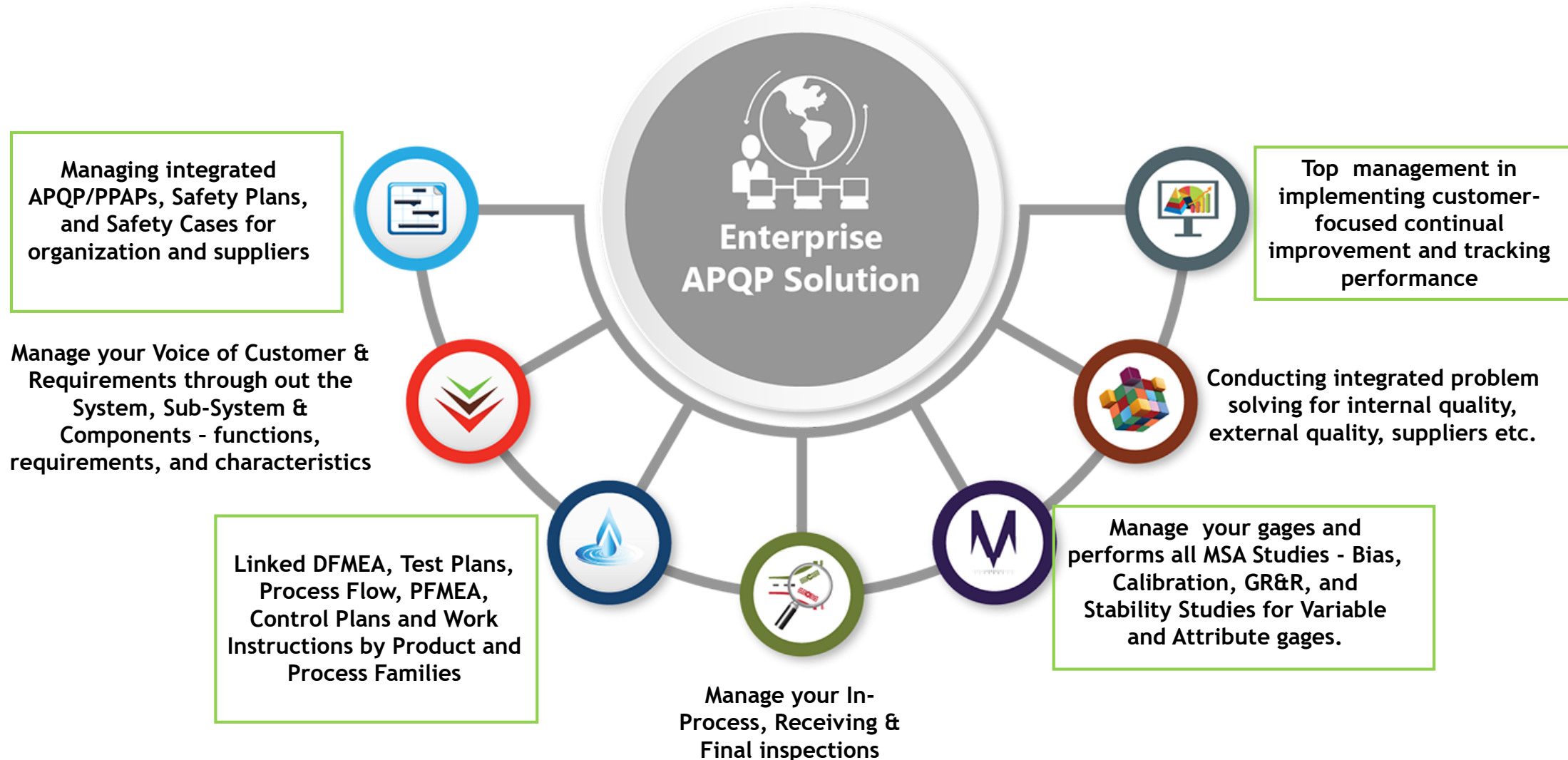
**Kyungshin Industrial Motherson Private
Limited**



About Kyungshin India

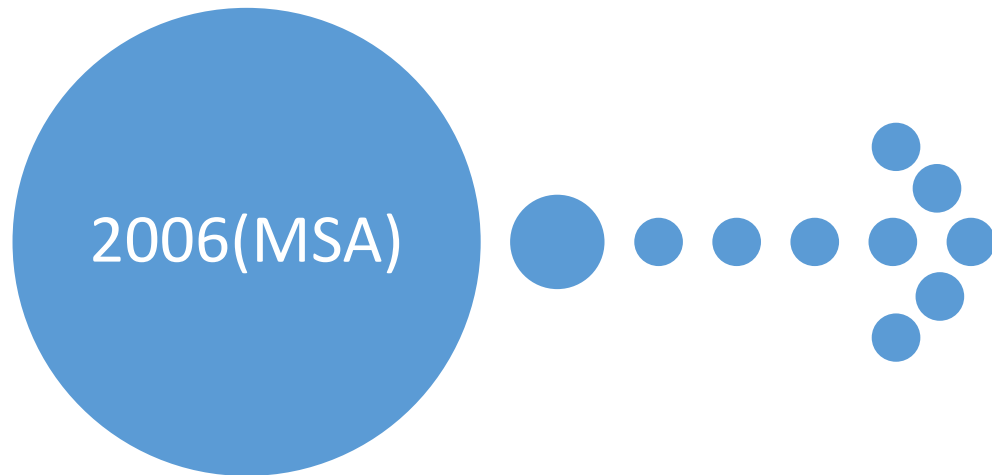
- JV between Kyungshin Corporation of South Korea and Motherson Sumi Systems Limited for manufacturing of automotive wiring harnesses.
- Kyungshin Corporation is a leading manufacturer of integrated wiring harnesses in Korea. Kyungshin India (Kyungshin India (KIML)) is an integrated wiring harness manufacturing company catering exclusively to the entire wiring harness requirements of Hyundai Motor India Ltd., for its complete range of cars manufactured in India.
- Kyungshin India is the only supplier of Hyundai Motors India to Sustain its 5 Star Rating Continuously for many years by Implementing Various Systems

Enterprise APQP Solution Adoption at Kyungshin India



Problem Statement

- **Managing Gages** across the Enterprise was difficult
- **Traceability** of the Gage Studies during Customer Audits or Certification Audits was time consuming
- **Missing calibration Cycle** (Manual Reminder Mechanism Needed)
- Ensuring the **Compliance** of Study Results as per AIAG MSA IV edition was very difficult
- No Centralized Documentation of Gages



Solution: MSA Pro – Measurement system analysis (R&R)

MSA Pro: A statistical tool for Measurement Systems Analysis which helps you identify, catalog, and study the measurement system variation and uncertainty of your inspection, testing, and lab equipment.

MSA Study Screen

Basic Details	Person Name Entry
Type	Variable
MSGGroup	Door Handle Mke - Long
Gage Number	XJ-456-C
Gage parameters	Micrometer 6-7"
Least Tolerance	0.005 inch
Target Tolerance Range(Opt)	
Contact Person (Opt.)	Select
Last Study Date(Opt.)	
Received Date(Opt.)	10/26/2009
Study Date	10/26/2009
Frequency(Opt.)	12 Months
Due Date	10/26/2010
Part Number	x85325
Part Characteristics	MM-893294
Number of Appraisers	3
Number of Parts	3
Number of Trials	10
Include with in Part Variation	<input type="radio"/> Yes <input checked="" type="radio"/> No

MSA Study Results

Target Cp 1.33

Intermediate Results					
Rp	0.148649	X Double Bar	0.473064	R Bar	7.106284
UCLr	12.627867	LCLr	1.584701	UCLx	2.661799
				LCLx	6

Average and Range	Value	% w.r.t Total Variation	% Using Variances	% w.r.t Least Tolerance	% w.r.t Target Cp = 1.33
Equipment Variation EV	2.299768	99.942778	99.885589	275972.1936	367043.017488
Appraiser Variation AV	0	0	0	0	0
GRR RR	2.299768	99.942766	99.885565	275972.16	367042.9728
Part Variation PV	0.077827	3.382187	0.114392	9339.24	12421.1892
Total Variation TV	2.301085	100	100	276130.2	367253.166
Index SD		2.301085	0.05295	0.000833	0.000627

No. of Distinct Data Categories 1

Status Active

GRR Result Measurement System is rejected. Cannot be used to check against the tolerance specified. Make every effort to identify the problems and have them corrected.

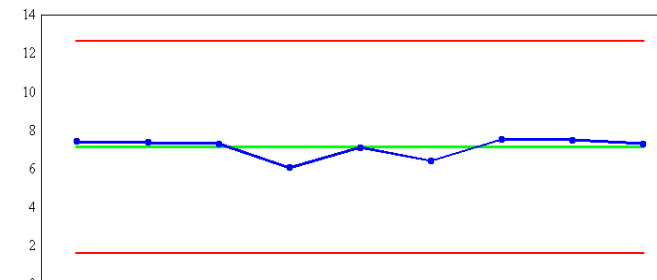
Analysis & Control Chart Acceptance Criteria Flow Export

MSA Data Entry

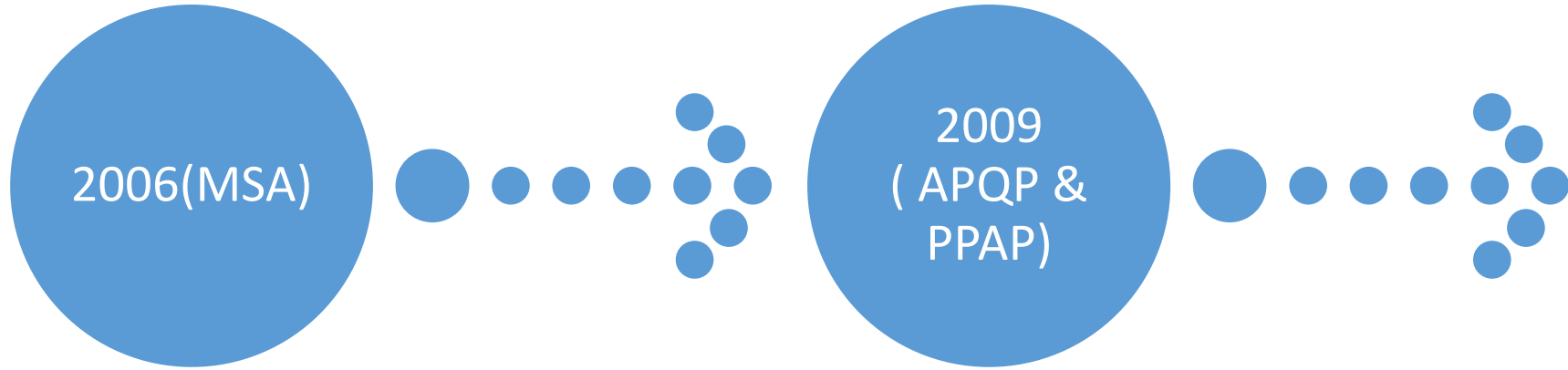
Person	Trials	Part1	Part2	Part3	Average
Lampher, Ward	Trial1	4.67696	4.78015	4.18624	4.514783
	Trial2	3.94379	3.6904	3.07225	3.568813
	Trial3	1.36582	1.45114	0.54907	1.12201
	Trial4	1.6353	2.2226	1.21713	1.691677
	Trial5	-1.38927	-0.78717	-0.64199	-0.939477
	Trial6	-2.73904	-2.01851	-3.12166	-2.626408
	Trial7	-2.15369	-1.60191	-2.19596	-1.983858
	Trial8	4.03528	3.85866	4.02004	3.971327
	Trial9	-2.22603	-2.58854	-1.41664	-2.077407
	Trial10	0.36924	0.25262	0.03759	0.219817
Average		0.751836	0.925944	0.570607	0.749462
Range		7.3116	7.36869	7.3079	7.364197
Rice, Clive	Trial1	3.44294	4.28036	3.35262	3.691972
	Trial2	2.57523	3.03405	2.6092	2.739495
	Trial3	0.13259	0.1366	1.07909	0.449427
	Trial4	1.47594	1.5412	1.22868	1.415273
	Trial5	-1.7848	-1.36872	-1.73222	-1.62858
	Trial6	-2.60733	-2.82248	-3.06007	-2.82996
	Trial7	-2.3849	-2.64499	-2.50423	-2.511392
	Trial8	3.26135	2.87703	2.98951	3.04263
	Trial9	-2.55239	-2.46185	-2.20982	-2.40802
	Trial10	0.21695	-0.74861	-0.40437	-0.31201
Average		0.377558	0.182259	0.184989	0.169885
Range		6.05027	7.10284	6.41269	6.521938
Trial1	4.12773	4.63177	4.18087	4.31345	

Range Graphs

Range Chart - UnStacked



Before	After
<ul style="list-style-type: none"> — Non Compliance to MSA IV edition — MSA Studies Due Missed — Traceability of MSA Records are difficult during Customer & External Audits — Difficulties in doing R&R studies — Manual Gage Management — No Centralized Documentation of Gages 	<ul style="list-style-type: none"> — Compliance with MSA IV Edition — Notification , Reminders & Escalation for MSA Studies — Records are easily traced and collated MS Group wise — Study Results are auto populated Including Results — Systematic Gage Management — Centralized Documentation of Gages across all the locations in One Single Place



Year : 2009

Problem Statement

- **Completely manual program management planning and control**
 - Too much time
 - Too many resources required
 - Too many errors
- **Top management lacks clarity of the project statuses**
 - Not understand the project risk
 - No control on gate reviews
 - Not quick enough to jump in and help the program
- **Change history of the overall project timeline** are difficult to be tracked and could not be communicated to the customer.
- **Lack of linkage in PFD, PFMEA, Control Plan and Operation Instructions**, thus unnecessary errors lead to customer complaints.
 - Document errors always lead to poor performance during customer audits.
- **Difficulty to maintain customers' specific formats**
- Manual control of customer specific project requirements

Problem Statement...

- **No centralized documentation** – documents are scattered every where.
 - Once one person or one center resigned, documents are gone.
- **Document traceability time is very long.** Customer expecting instantly.
- **Problems in document control**
 - **Latest version is not available at the point of use.**
 - Obsolete document management is difficult
 - Documents not reviewed on time for change.
 - Un-reviewed and un-released documents control
 - Manual document access control is a threat to information security.
 - Manual document move from table to table for approval
 - The customer's and industrial requirements for document retention of 15 years
 - Hard copies pile-up
 - Even with soft-copies in desktop, it is difficult to search for the past documents
- **Plans vs. Actuals monitoring is manual**
- **Manual project follow up, escalation**
 - Manual reminders
- **Customers' voice demanding Delta to use software program managements**

Solution Part (1): Program management - APQP Tracking Matrix

Program management: To create a program for the project for tracking and monitoring the complete PPAP activity (ex: PPAP Approval for New vehicle assy line)

Project Initiation - Project Charter

Project Information

Project Number: UTC/NPD/2014/10
 Project Name: Engine Model 330PWC
 Project Groups: Default
 Site: Corporate

Project Focus

Scope: Manage UTC Inhouse PPAP for manufacturing Engine Model 330P-PWC
 Pillar: New P
 Process: Select
 Priority Formula: Probat

Project Status

Schedule Start Date: 4/1/2014
 Schedule Finish Date: 1/11/2015
 Status: Active

Project Attachments

Document Name: [Browse...]

Project Folder Structure

Priority: High

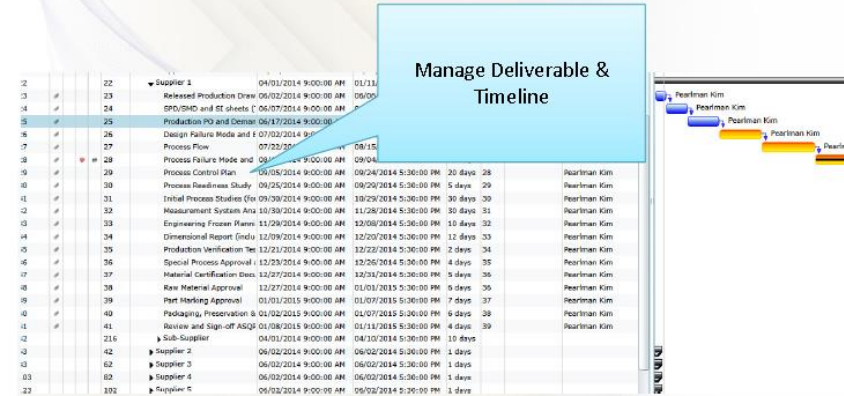
Section Header

Project Champions (opt):
 Project Owners (opt): Smith, Brad

Project Charters are customizable by the Administrators



Timeline Management



APQP Tracking Matrix

Project Name	PHASE I					PHASE II					PHASE III					PHASE IV					PHASE V																	
	APQP Phase I Initiation	Concept Generation	Production and Supply Chain Review	Prototype Build	NYC1	Final Sample Give	Management Approval	APQP Phase II Initiation	Concept Approval	DFMEA and DVP	Concept Design Freeze	Design, Materials, and Test (DMT)	Design Freeze	Engineering Production drawings	Product Application Specifications	Field Usage	ECO Engineering Release	APQP Phase III Initiation	PIR/EA	Production Initiate	Partly Feasibility	The IT PPAP	The IT MRP	Equipment, Tools, Gage MRP	Process Definition	APQP Phase IV Initiation	Process Capability Study / Cap Plan	Production In-house Run/OT	Production Control Plan	Product / Process Quality System Review	PPAP Documentation	Customer SGP	APQP Phase V Initiation	Release Initiation	Customer Satisfaction	Delivery & Service	Lesson Learned	
DPF 4060 (Non-NYC) - Development	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
DPF 4060 (NYC) - Development	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
NYC 43 - Development	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
NYC 53 - Development	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Next Gen Arm - Development	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Stop Gap - Development	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Multi-task Improvements 2011 Phase 1 and 2 -Development	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
CNG DPF Python (Choice) - Development	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
F4000N - Development	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
PowerArc Lighting -Veolia - Development	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Mini REL - Dragon - Development	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
New Mobile Controller - Development	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Page 1

Before Implementation	After Implementation
<ul style="list-style-type: none">■ Completely manual program management planning and control<ol style="list-style-type: none">a. Too much timeb. Too many resources requiredc. Too many errors■ Top management lacks clarity of the project statuses<ol style="list-style-type: none">a. Not understand the project riskb. No control on gate reviewsc. Not quick enough to jump in and help the program	<ul style="list-style-type: none">■ Standardized Program Management method across the Enterprise■ System control of customer specific project requirements<ol style="list-style-type: none">a. Less Timeb. Less Errorc. Less Resources■ Top management has clear Visibility of the Overall project statuses<ol style="list-style-type: none">a. Understand the project riskb. Establish gate reviewsc. Can Review Projects and help the program

Solution Part (2): : Aqua Pro – PPAP documents on-line creation

Aqua Pro: Aqua Pro supports for the PPAP documents creation and linkages
 ...PFD → PFMEA → Control Plan → Work standard → Inspection reports → 8D CAPA → MOM/
 Action plan → Process/ design change → PFD...

PPAP Documents

Dynamic Linkage of Documents

Connects DESIGN to Shop floor Documents

PFMEA – 8D Linkage

Initiating Concerns from Production Item Delphi-TVS-POCA Process FMEA Failures(MV dt)

Problem Classification: CONCERN from aqua
 Customer: Mahindra Navistar
 Primary Contact Name: Bhagawan Varsha
 Contact Number: 044-25478965
 Contact Email: bvarsha@navistar.com
 Problem Description (opt): Design Failure
 Reported Date (opt): 07/31/2013
 Initiator: Bhagawan Varsha
 Contact Number (opt): 044-25478965
 Contact Email Id (opt): bvarsha@navistar.com
 Comments (opt): Concern - Aquapro
 Date of Delivery: 08/02/2013

Linkages between FMEA and APQP Plan

Select Project: APQP Plan
 Select Optimization of Station to handle press downtime improvement
 OET Planning And Follow-up - T
 Dispatch (Doc/Non Doc) - Tr
 Brake Cable Project
 Swap

Automatic data capturing from PDF to inspection report

Printable format

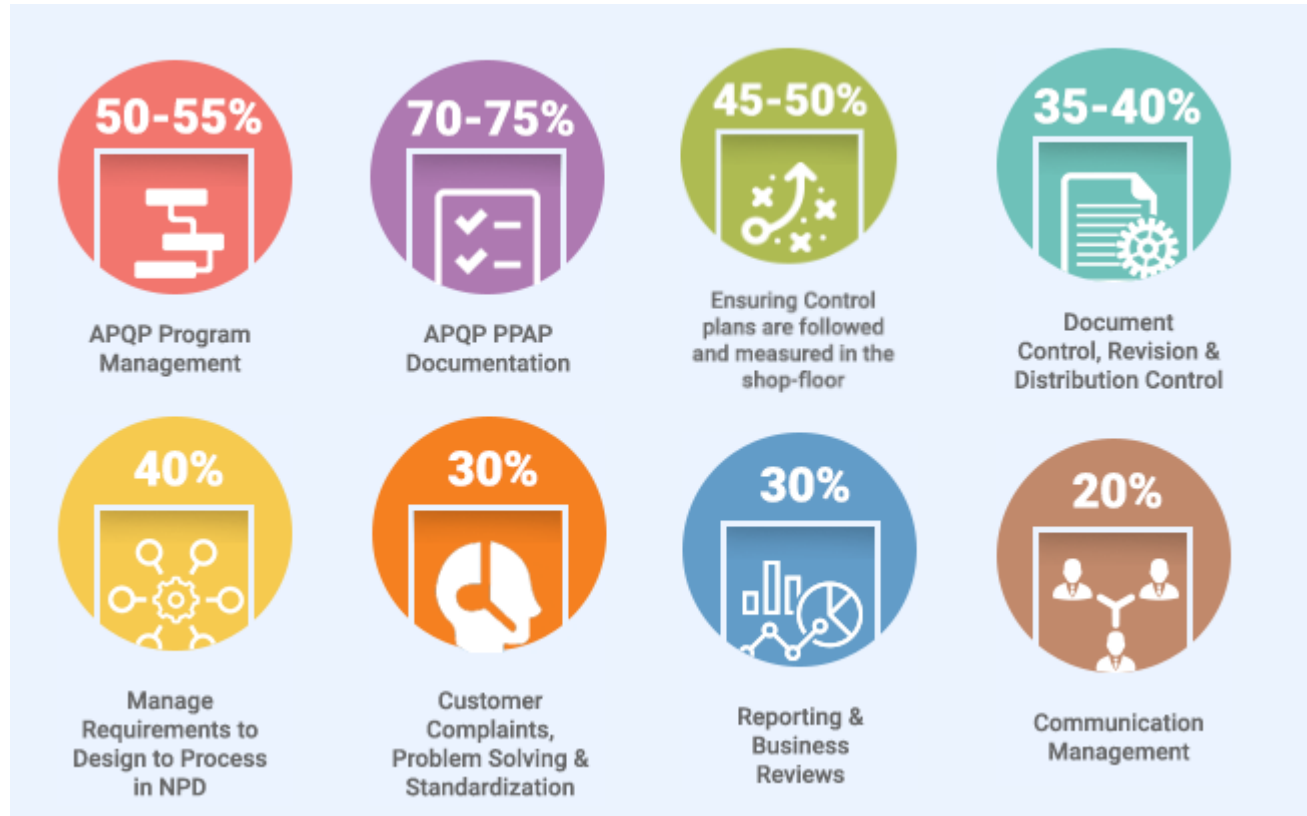
Part Name: Delphi Chrysler Ford GM
 Part Number: 2022
 Supplier: Delphi Chrysler Ford GM
 Part Name: Delphi Chrysler Ford GM
 Part Number: 2022
 Supplier: Delphi Chrysler Ford GM

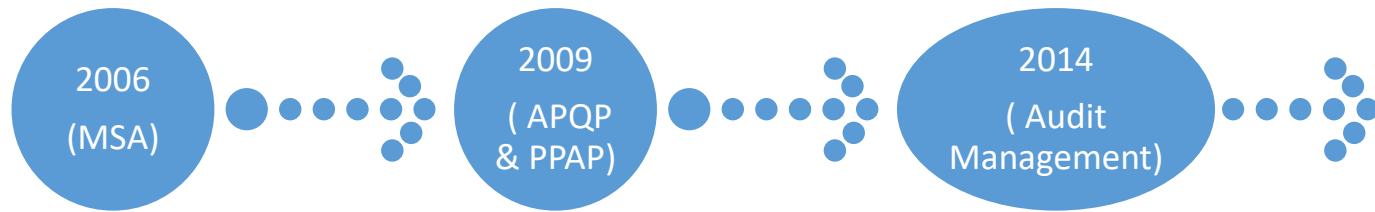
(2) Aqua Pro & Doc Pro

Before Implementation	After Implementation
<ul style="list-style-type: none">■ Errors in links between documents like Process Flow, FMEA, Control Plan & Work Instruction■ Completely Manual Process■ Latest version is not available at the point of use.■ Obsolete document management is difficult■ Documents not reviewed on time for change.■ Un-reviewed and un-released documents control■ Manual document access control is a threat to information security.■ Manual document move from table to table for approval	<ul style="list-style-type: none">■ Process Documents Were linked Perfectly.■ Central Document Management■ All the data available is in one place.■ Document traceability time is almost instant■ Latest Revision Document is the default accessible document■ Personnel with authorization should be able to access the data with a minimum of three clicks.■ Document access levels well defined and controlled with Information Security■ Document Review Notifications based on preset Review time■ System based Document Approvals Including Digital Signatures



APQP Solution – Savings & Benefits



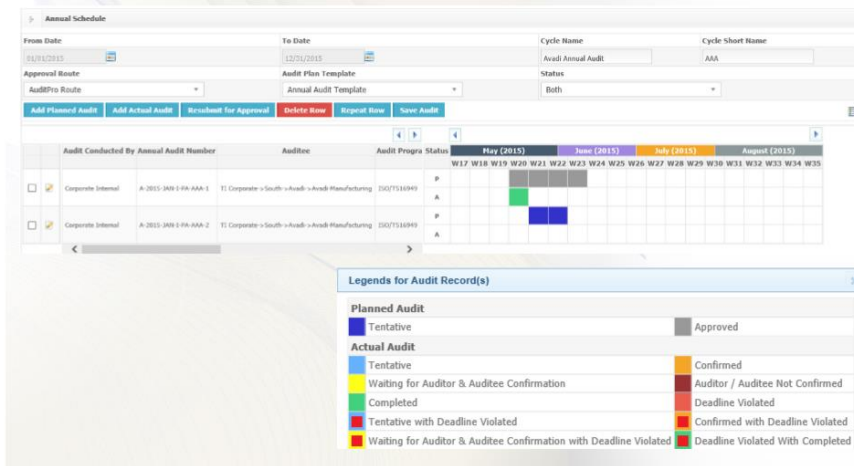


Year 2014: Problem Statement

- Manual Audit Scheduling leading to lot of errors
- Lots of time lost in Coordination
- Audits Records Stored in excel Sheets
- Non conformance Tracking is difficult
- Corrective Actions and 8d Response Delayed
- NC Trends needs to be Drawn Manually
- All Manual Reporting

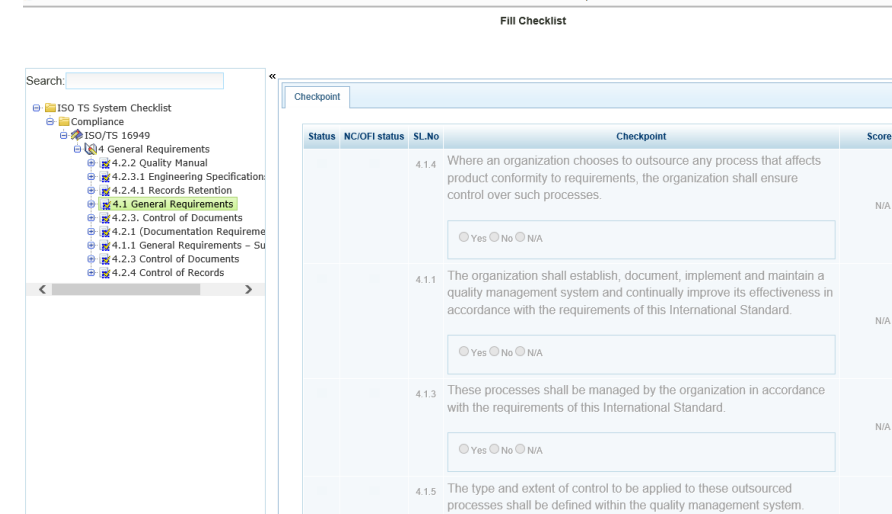
Audit Pro: Audit Pro is a web-based application that facilitates the centrally located management, scheduling, assigning, and status monitoring of any internal or external audits and their associated corrective actions.

Annual Audit Plan

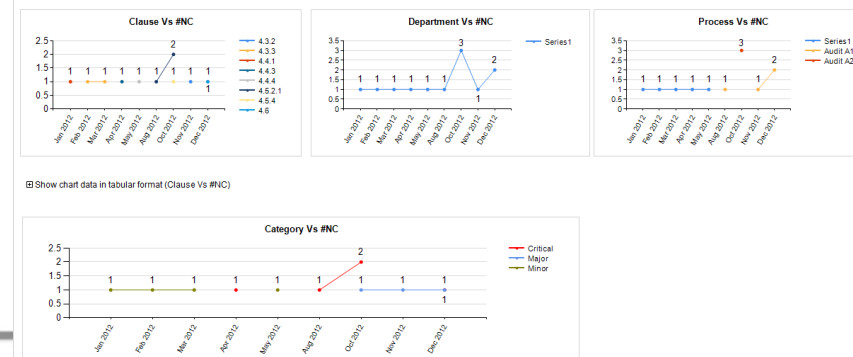


Auditee's Response to NC

Audit Checklist



Audit Reports



Before Implementation	After Implementation
<ul style="list-style-type: none">■ Manual Audit Scheduling leading to lot of errors■ Lots of time lost in Coordination■ Audits Records Stored in excel Sheets■ Non conformance Tracking is difficult■ Corrective Actions and 8d Response Delayed■ NC Trends needs to be Drawn Manually■ All Manual Reporting	<ul style="list-style-type: none">■ Sizeable Reduction in Time Spent in coordination & Scheduling■ All Audit Records online■ Automated Reminders and Escalation to avoid Delayed Responses■ NC Trends can be drawn by the system■ Default Reports on Audit Status, NC aging etc.

Audit Management ROI

SAVINGS & ROI

40%

time saved in co-ordinating
and scheduling audits

60%

reduction of time spent on
generating audit reports

50%

less efforts in managing
Audits & Non-conformances

80%

reduction in scheduling LPA's

20%

savings on communication
management

20-30%

additional savings in
implementing integrated
audit management



Year : 2016



Problem Statement

- Defect Data PPM calculation is Manual and Leading to Errors
- Data Collection from Multiple Sources
 - Internal Defects in ERP
 - Customer defects from Customer Portals
 - Warranty Defects in excel/Email
- Monitoring of Counter Measures & Its Results
- Complying with Customer target of Zero PPM
- Reduce Occurrence of Defects
- Auto calculation of Occurrence Ratings in FMEA from PPM

Solution : BOSS for KPI Management (Currently PPM and Occurrence)

BOSS: BOSS® or Business Operating Systems Software enables companies to apply a logical order to everyday data. Tracks measurable for compliance customer needs, thereby encouraging continuous improvement.

PPM
Management

Phase1

Inline PPM

Customer PPM

Warranty PPM

Reports &
Analysis

Phase 2

FMEA

Integration for
PPM

Auto
Calculation of
Occurrence in
FMEA

- Capturing the defects details from
 - Customer Complaint Defects
 - In-process Defects(Inline PPM)
 - Warranty Claim Defects
- Analyse the PPM based on the defects data
- Update the FMEA with the PPM
- **Auto Update Corresponding Occurrence for the characteristics and the process.**

Defect Category Standardization

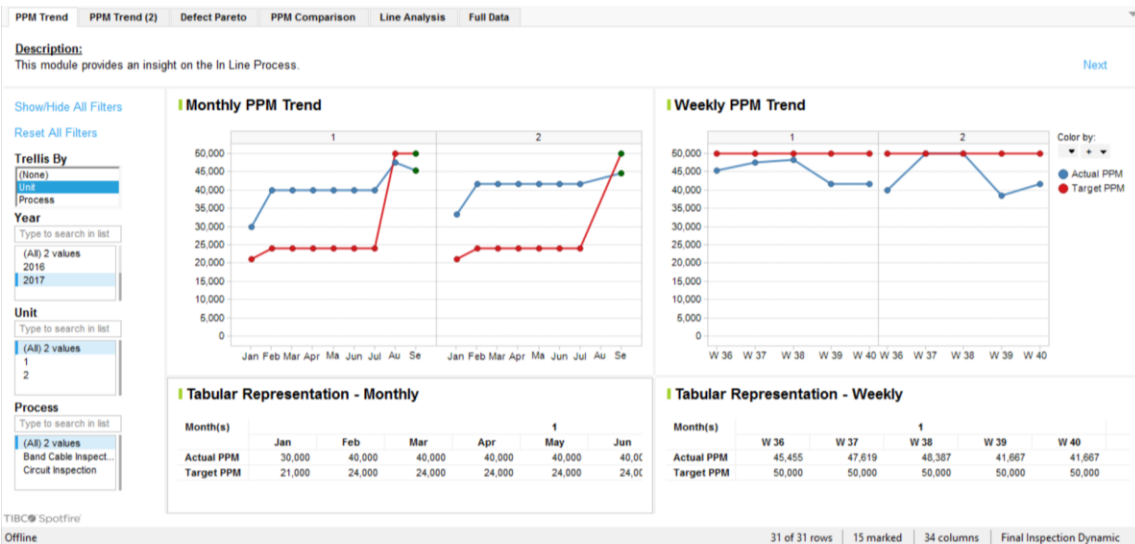
Date	Unit	Process	Quantity
09/28/2017	UL1	CI	

Defect Type	Defect Qty
1	DISTANCE WRONG
2	HOUSING BROKEN
3	LENGTH SHORT
4	DISTANCE WRONG
5	POSITION WRONG
6	TBO
7	TAPING PROBLEM
8	HOUSING BROKEN
9	DISTANCE WRONG
10	

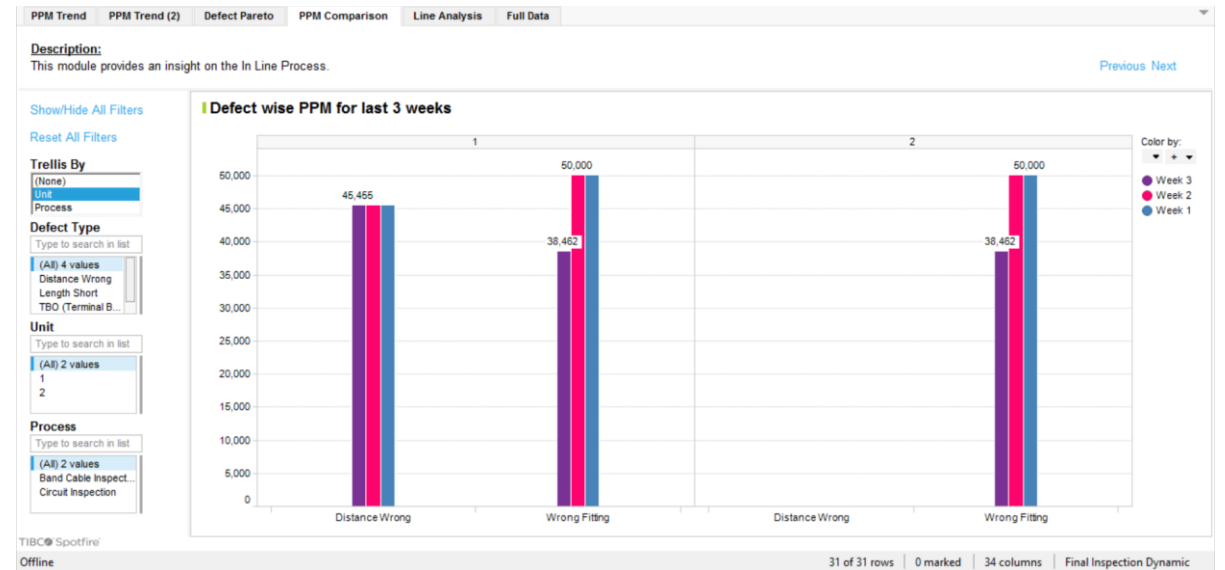
Data Consolidation

Process	Defect Type	Part Number	Defect Qty	Connector Name/ Branch name	Circuit No 1	Circuit No 2	Parts details	Defect details	Specification	Actual	Other	Worker code	Station name
1	CI	WRONG FITTING	MB72	1AUDIO-B	RG101	RG102	COTTON PAD 50 X 80					DIVYA	S/A Gu
2	CI	WRONG FITTING	MB72	1MAIN-FRNT-12	LE105	LE106	91961-2H080					SHYAMALA	S/A Gu
3	CI	TBO	MB80	1AUDIO-B	QA107	FA172	91961-2H050					SIVARANJANI	S/A Gu
4	CI	WRONG FITTING	MB80	2AUDIO-C	FA171	LE106	COTTON PAD 50 X 80					GAYATHRI	S/A Gu
5	BCI	POSITION WRONG	C578	2CENTRE BRANCH	LE105	RG102	91961-2H080					AMUTHA	F/A Bh
6	BCI	TAPING PROBLEM	C578	1BCM-B	FA171	FA172	91961-2H080					MYNA	F/A Bh
7	BCI	DISTANCE WRONG	C578	1AUDIO-A	QA107	FA172	91961-2H080			10MM		AMUTHA	F/A Bh
8	BCI	DISTANCE WRONG	C578	1MAIN-FLRS-62	RG101	LE106	COTTON PAD 50 X 80			20MM		ARUNA	F/A Bh
9	BCI	LENGTH SHORT	C578	1DR-WARNING-SW	QA107	LE106	91961-2H080			20MM		SHOBANA	F/A Bh
10	BCI	DISTANCE WRONG	ME11	1BCM-A	RG101	RG102	91961-2H080			10MM		AMUTHA	F/A Bh

PPM Calculation



PPM Comparison by Weeks/Months



PPM to FMEA Link (OCCURRENCE AUTO UPDATE)

Update PPM for Defect Characteristics & Failure Mode

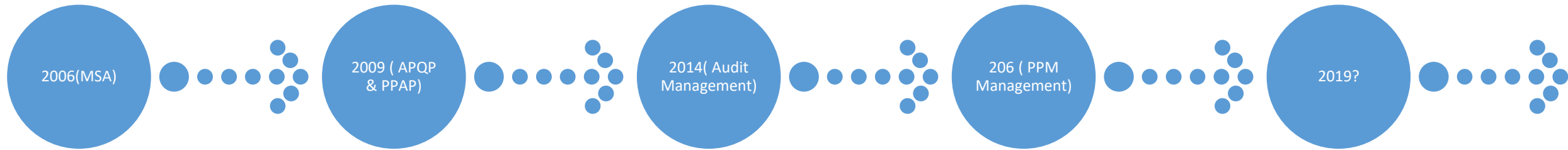
Update Occurrence based on FMEA 4th Edition

CIRCUIT INSPECTION													
UNIT-I	DEFECT CHARACTERISTICS		W/OVER ALL PRODUCTION	DEFECT	UNIT-1PPM	UNIT-II	W/OVER PRODUCTION	DEFECT	UNIT-1PPM	UNIT-II	W/OVER PRODUCTION		
S.NO			40395	308	7625		57185	362					
1	Correct Pole		Wrong Fitting	131	42.53	1	Correct Pole	190					
2	Circuit Condition		Terminal back out	60	19.48	2	Circuit Condition	57					
3	Op F no	Operation Description	PC Description	Potential Failure Mode		Potential Effects of Failure: Sev	Sev	Characteris Class Symbol	Potential Causes of Failure	(To be QC)	Occ	Control Preventive	Detective Controls: Det
4	090	CUTTING & CRIMPING INSPECTION	Dimension	Dimension variation		1.Next stage:It may affect fit/function:7 2.Customer:it may affect fit/function:8 3.End user:it may affect function:8			Previous process problem				Process inspection report a) Cutting & Crimping - FRM/QE/17, b) Middle striping - FRM/QE/125, c) Joint Crimping - FRM/QE/97, d) Shield & Blue joint taping - FRM/QE/99, e) Heat shrink - FRM/QE/98:5
5			Aesthetic	Aesthetic defect		1.Next stage:Increase in rejection level:5 2.Customer:Poor performance :5 3.End user:Poor performance :5			Previous process problem				Process inspection report a) Cutting & Crimping - FRM/QE/17, b) Middle striping - FRM/QE/125, c) Joint Crimping - FRM/QE/97, d) Shield & Blue joint taping - FRM/QE/99, e) Heat shrink - FRM/QE/98:7
1	E		Crimp strength	Low crimping strength		1.Next stage:Wire may come out from terminal:8 2.Customer:Function fail:8 3.End user:Function fail:8			Crimping height exceed the tolerance value				Self inspection:5
2	F		Terminal Bend/Twist/Deform & crimp Resistance	Excess		1.Next stage:Function fail at customer end:8 2.Customer:Function fail:8 3.End user:Function fail:8			Poor product quality				FRM/QE/103 Lab report:5
3	E												
4	S	095	SHORT CIRCUIT TEST	Shield wire condition		1.Next stage:Sort circuit test fail:6 2.Customer:Possibility of short circuit:8 3.End user:Possibility of short circuit:8			PVC damage				Process inspection report FRM/QE/130:5
5	C												
6	C	100	CIRCUIT STORAGE	Storage condition		1.Next stage:Increase in rejection level:5 2.Customer:Function fail:7 3.End user:Function fail:7			Improper circuit handling				Self inspection and SFS/EG/33 (for 025 series terminals):7
				Circuit mix-up		1.Next stage: unable/Difficult to assemble & increase in rejection level:2 2.Customer:Not applicable:1 3.End user:Not applicable:1			Improper identification				Self inspection and SFS/EG/33 (for 025 series terminals):7
				Dust & water accumulation		1.Next stage:Increase in rejection level:5 2.Customer:Function will fail due to rust:7 3.End user:Function will fail due to rust:dust:7			Without cover				Self inspection and SFS/EG/33 (for 025 series terminals):7

CONCLUSION



- Kyungshin India (KIML) has been a Pioneer in Implementing Systems & Digitilisation
- Kyungshin India (KIML) has been given 5 Star Rating by Hyundai for 3 and more on a row and rated them as one of the top suppliers In India
- Omnex is happy to have 14 Years Relationship with Kyungshin India (KIML)



2019?



The Valeo logo is displayed in a bold, green, sans-serif font. A dark blue checkmark is positioned below the letters 'V' and 'a', extending to the right.

Valeo – Omnex Journey

APQP PPAP Documentation solution



www.omnex.com



Case Study

Valeo



€4.6 bn

29,000

38

15

5

IN SALES / 28% GROUP'S SALES

EMPLOYEES

PRODUCTION UNITS

DEVELOPMENT CENTERS

RESEARCH CENTERS

Problem Statement

- Valeo was using another FMEA software across all Groups.
- Challenges with the software
 - Software very complex to use.
 - Software was NOT a web-based Software, very difficult to manage, deploy and increased Total Cost of Ownership.
 - Lack of Design & Process Reusability.
 - Valeo Internal FMEA process was changing and becoming more complex that old software couldn't customize.
 - Define a robust & efficient tool for all Valeo Lighting System functions (R&D, Industrial and Quality)
 - Centralized management system for product/process standard bloc (Link between DFMEA/PFMEA/SPPC/Control Plan)
 - DFMEA linked to PFMEA and automatic associated Control Plan
 - Automatic SPPC managed through VALEO VLS template (according to GSTRD-H01-0000-151)

Journey



2012

Valeo – Spain on the largest Design & Manufacturing center was identified as the Pilot implementation.



2013

Solution introduced to Valeo Lighting Group - Spain



2014-2015

FMEA Process changes in Valeo Group



2015-16

Project awarded – Corporate and 23 Sites.

Omnex helped implementation in France, Spain, Belgium, China, India. Rest were by Valeo Train the Trainer Model (TTT)

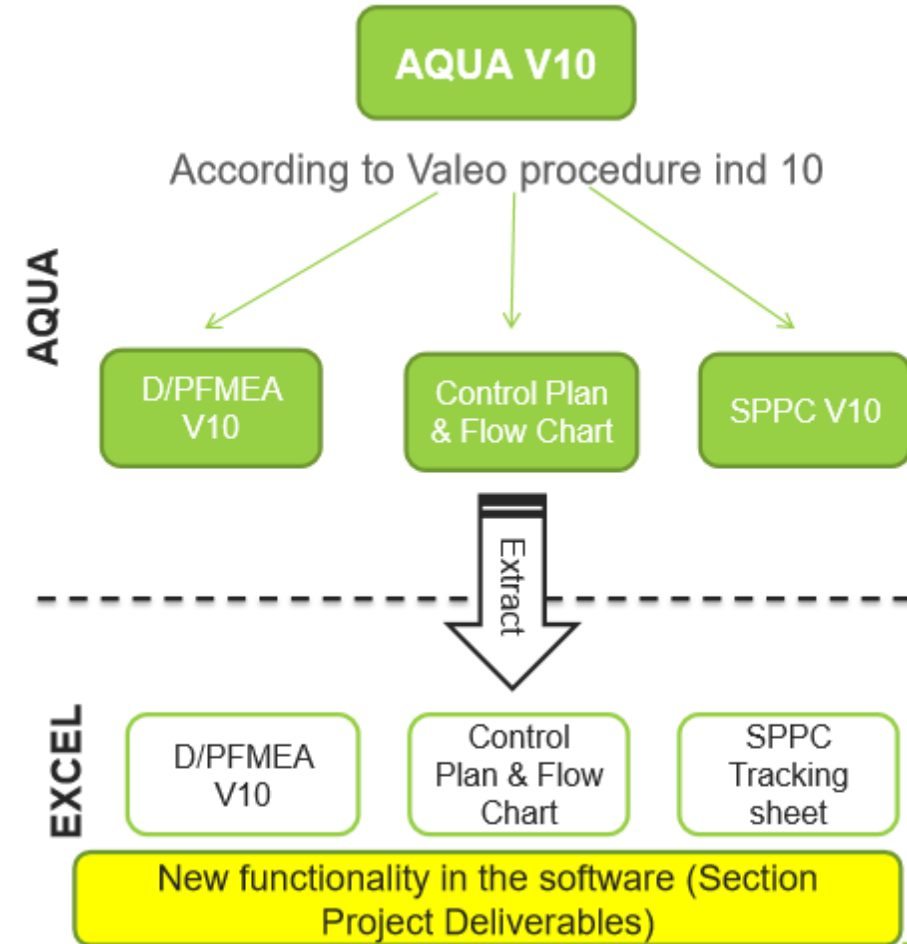


2017

Project Completed

Highlights

- PPAP Documentation Implementation - 23 Sites of Valeo.
- Countries used to name a few– France, Spain, China, Czech Republic, Belgium, Italy, Germany, USA, Japan, India, Mexico....
- Replacement of APIS with EwQIMS globally for all Valeo Visibility.
- Centralized PPAP Documentation Solution.
- Compliance with Valeo FMEA v10 edition



About Delta Electronics

- Headquartered in Taiwan, Delta has worldwide R&D facilities in China, Europe, Japan, Singapore, Thailand, and the U.S.
- Delta's automotive business provides reliable and efficient EV/HEV powertrain solutions and power electronics components including on-board chargers and DC/DC converters.



Category List



APM DCDC



OBCM



OBC + APM Combo



Traction Inverter



Traction Motor

Highlights

- Delta Successfully implemented the APQP Solution in 2016 in its Thailand Automotive Plant and has recommended for other Plants
- The Second plant (IT & Telecom) has also implemented the Solution successfully in 2017
- Delta Electronics Thailand has recommended the solution to the China and Taiwan plants

Many More APQP Solution Success as below



Mercedes-Benz



DAIMLER



molex



KIMML



SEoyon E-HWA

SL LUMAX

DYMOS



Expanding Horizons



Turbo Energy

SUZLON
POWERING A GREENER TOMORROW



Lucas-TVS Limited



ADVIK
HI-TECH PVT. LTD



Enterprise Quality & Integrated Management System



www.omnex.com



Enterprise Quality & Integrated Management Solution



Mercedes-Benz CASE STUDY

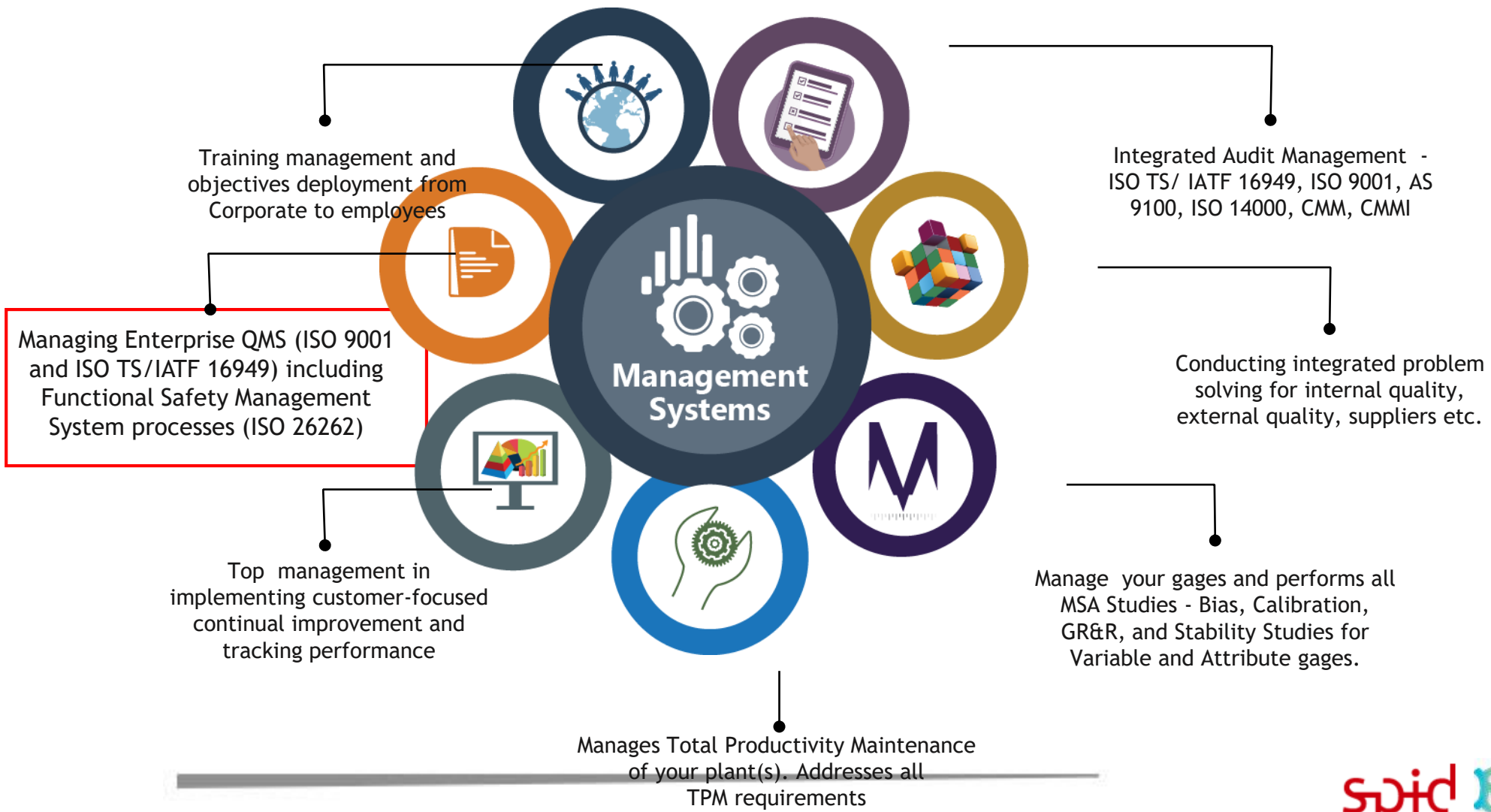


Problem Statement...

- **No centralized documentation** – documents are scattered every where.
 - Once one person or one center resigned, documents are gone.
- **Document traceability time is very long.** Customer expecting instantly.
- Problems in document control
 - **Latest version is not available at the point of use.**
 - Obsolete document management is difficult
 - Documents not reviewed on time for change.
 - Un-reviewed and un-released documents control
 - Manual document access control is a threat to information security.
 - Manual document move from table to table for approval
 - The industrial requirements for document retention of 15 years
 - Hard copies pile-up
 - Even with soft-copies in desktop, it is difficult to search for the past documents

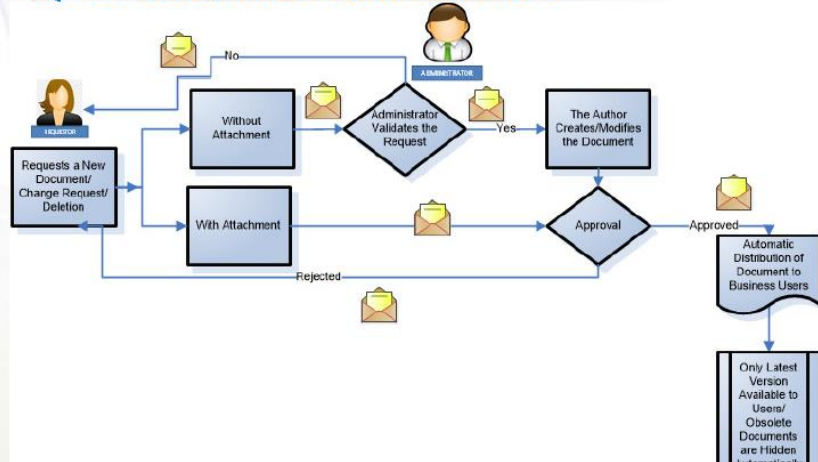


Enterprise Integrated Management Systems



Doc Pro: Doc Pro supports for complete document revision control and document linkages
 Creation of doc (excel, word, ppt) → Upload → Doc. No/ rev/ reason → approval work flow →
 Release → Doc modification request → revise → approval → Re-release...

QHSE Document Control Flow



Revision Control of Documents

Request Details

Site	ABC Corporate
Document Number	Control Plan for Production Item 6202
Document Name	Control Plan for Production Item 6202
Requested By	P. Antony John
Revision Number	1
Pagination	On Operation branch

Status of Approval

PPAP Revision Management

Documents can be routed multiple times as they are being developed for review and they will all be saved as different revisions in the Document Manager

Document change's colour coded for easy review

Multiple doc revisions

Operation No	Description	Incoming Sources of Variations	Process Flow Diagram	Process Symbol	Assignment ID	Description	Type
15	Incoming Receiving Inspection Initial Sample Receiving (PPAP Parts)				1001	SPI Thickness	
					1002	Intercept Dielectric Thickness	
WF-01	Water Prep and Condition				1006	SPI Sheet Resistance	
					1001	SPI Thickness	
					1002	Gate Oxidation Thickness	
WF-02	Water Prep Step 2 and Condition				Multiple	Operation	
WF-03	Water prep step 03						
WT-10	Heat Treat Operation				1006	SPI Sheet Resistance	
					1001	SPI Thickness	

Obsolete Document

Change Control History

Document Number	Document Name	Revision	Last Revision Date	Effective Date	Status
SOP1	APQP Review	1	08/21/2009	08/21/2009	Approved
SOP2	Assignment and Delegation of Work	1	08/21/2009	08/21/2009	Approved
SOP7	BSM 5.3.10 Asset Management	1	08/21/2009	08/21/2009	Deleted
SOP9	BSM 5.9.1 IS Backup and Restore	1	08/21/2009	08/21/2009	Deleted
SOP11	EV MR Evidence	1	08/21/2009	08/21/2009	Approved

- ✦ The Users by Default has an access only to the LATEST REVISED DOCUMENT
- ✦ Obsolete documents are hidden automatically on revision and not available for a common user
- ✦ Obsolete Documents are available only for users with privilege to see older Versions of the particular Document
- ✦ Document Purge is available to Purge obsolete documents beyond the retention Period

Before Implementation	After Implementation
<ul style="list-style-type: none">■ Completely Manual Process■ Errors in links between documents like Process Flow, FMEA, Control Plan& Work Instruction■ Latest version is not available at the point of use.■ Obsolete document management is difficult■ Documents not reviewed on time for change.■ Un-reviewed and un-released documents control■ Manual document access control is a threat to information security.■ Manual document move from table to table for approval	<ul style="list-style-type: none">■ Central Document Management■ All the data available is in one place.■ Document traceability time is almost instant■ Latest Revision Document is the default accessible document■ Personnel with authorization should be able to access the data with a minimum of three clicks.■ Document access levels well defined and controlled with Information Security■ Document Review Notifications based on preset Review time■ System based Document Approvals Including Digital Signatures



CASE STUDY

About Cummins

Cummins At a Glance

Company Name:
Cummins Inc.

Corporate Headquarters:
Columbus, Indiana

Stock Symbol:
CMI (traded on NYSE)

Founded:
1919

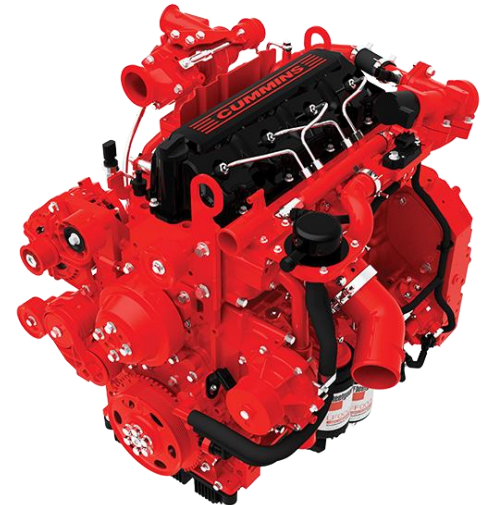
2017 Fortune 500 Rank:
159

2017 Revenues:
\$20.4 billion

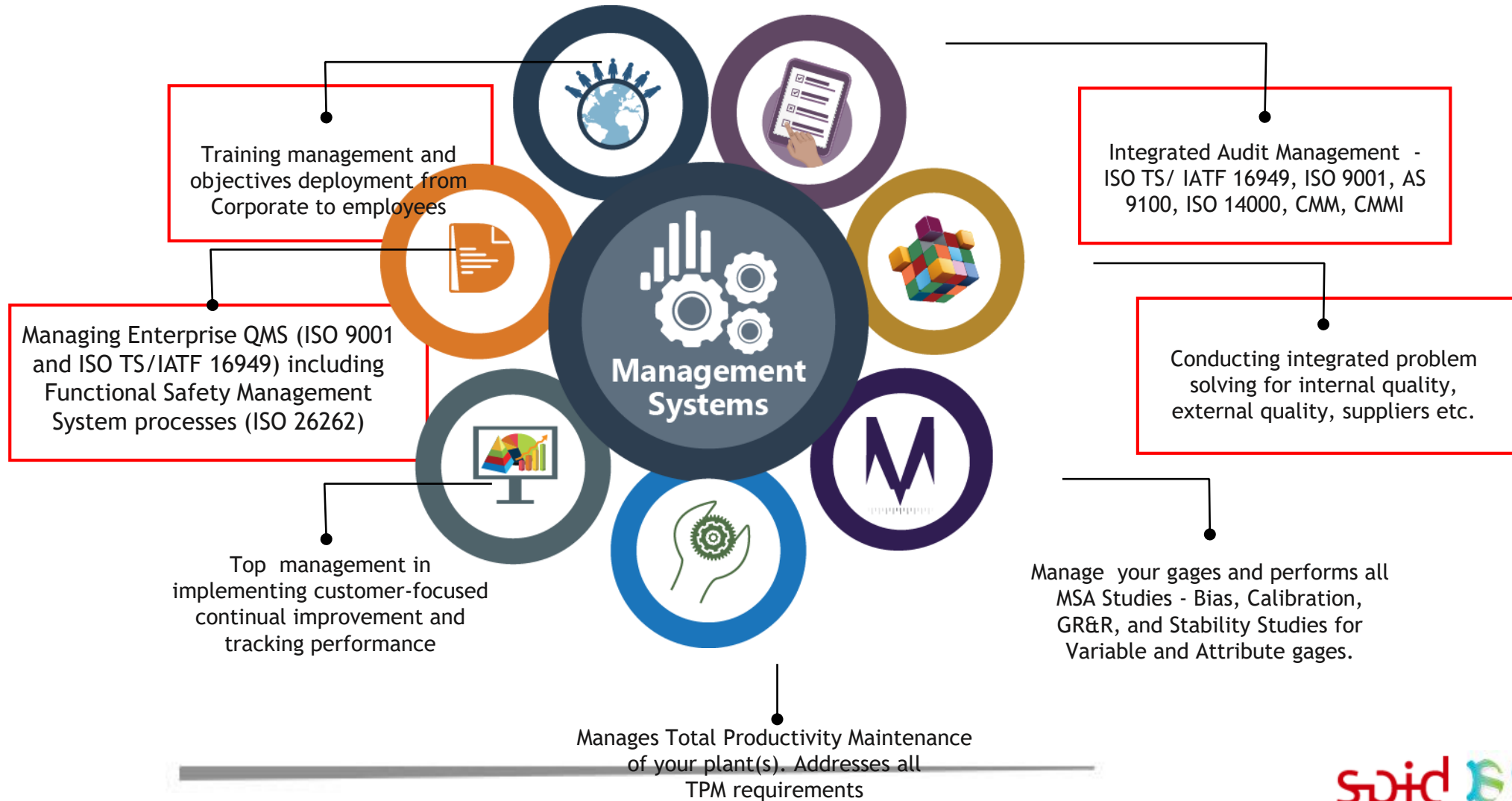
2017 Net Income:
\$1 billion

Employees:
58,600 worldwide

- Cummins Inc. is organized into distinct but complementary business segments:
 - **Engine Segment**
 - Engines
 - **Power Systems Segment**
 - High-speed high-horsepower engines and power generation equipment's
 - **Components Segment**
 - Cummins Electronics and Fuel Systems
 - Cummins Turbo Technologies
 - Cummins Filtration,
 - Cummins Emission Solutions and



Enterprise Integrated Management Systems



Implementation Highlights

- Cummins is implementing the Solution across Engine Business , Power Systems & Components business for 10 Plants in India
- As a Next step, Cummins is to Automate the Pre dispatch Inspection system through a Inspection App along with
 - Augmented Reality and
 - Artificial Intelligence



TAIWAN SEMI CONDUCTOR

- Taiwan Semiconductor Manufacturing Company, Limited, also known as Taiwan Semiconductor, is the world's largest dedicated independent semiconductor foundry,
- Headquarters Taipei , Taiwan and main operations located in the Hsinchu Science and Industrial Park in Hsinchu, Taiwan.
- Manufacturing discrete Power Rectifiers, Trench Schottkys, MOSFETs, Power Transistors, LED Driver ICs, Analog ICs and ESD Protection Devices
- **Project Scope**
- Deliver & Implement EwQIMS enterprise suite Including Supplier Management
- **Status : Ongoing**



Supplier Management – Implementation Video at V Guard



THANK YOU

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