Quality is Everyone's Responsibility

Digital Workflows for Quality Management Excellence

June 06, 2024

Kris Gorrepati and Manish Mathur

KaizenKit

Designed by

Cambrian Lab

KZ

Quality is everyone’s responsibility

- W. Edwards Deming

Agenda

- ❑ Introductions
- ❑ Cross-functional Quality Management and Challenges
- ❑ Workflow Based Approach to Cross-functional Quality Management
- ❑ Case Study
- ❑ Demo
- ❑ Q&A

About Cambrian Lab

Team

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

Industries

Automotive, High-tech, Semiconductor Equipment, Medical Devices, Consumer Products
(**From Fortune 100 to Start-ups**)

Locations

SF Bay Area, Detroit, Boston, Houston

Expertise

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

Panelists Today

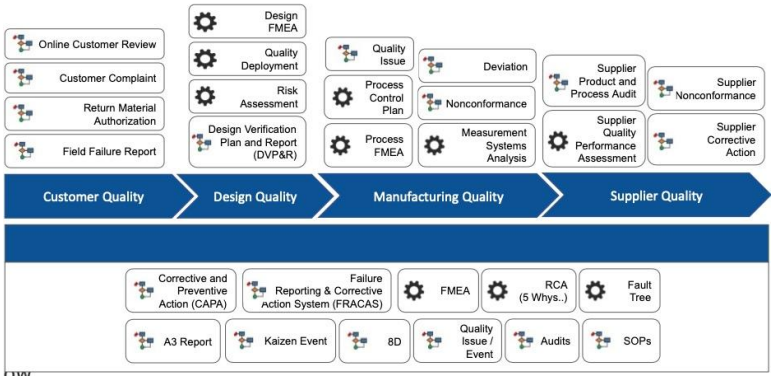
Kris Gorrepati

- 20+ years experience in New Product Development and Introduction and Supply Chain Manufacturing
- SAP, Samsung, Ford, Caterpillar
- Auto, High-tech, Software
- Michigan Tech (Mech Engg.), UCLA

Manish Mathur

- 20+ years experience in PLM, Business Analytics, Software Engineering
- GM, Ford, Siemens PLM, Cap Gemini
- Auto, High-tech, Software
- Michigan Tech (Elec Engg), Walsh College

Making Quality Everyone's Responsibility is a Challenge



Companies struggle to support consistent quality management processes internally and across the supply chain

Root cause

- Quality is the responsibility of only quality department
- No support for cross-functional quality management processes
- Quality processes are disconnected from key business and supply chain processes

Cross-functional Quality workflows are poorly supported

Effect

Poor product and service quality	Reputational damage	High warranty cost
Non-compliance	Customer returns	Supply Chain Disruption

Uniformly bad consequences

Cost of Poor Quality >>>> Cost of Quality

Cost of Quality

Cost of Good Quality

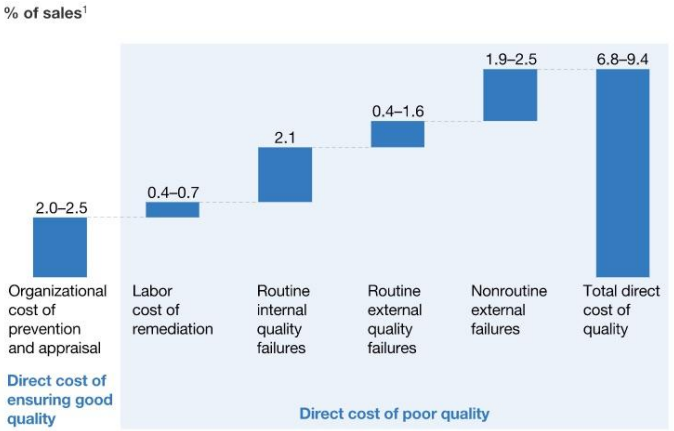
Prevention costs	Appraisal costs
• Planning • Process Control • Quality Audits • Maintenance • Supplier Evaluation • Training • Design Review • Risk Assessment • FMEA	• Inspection • FAT • Document Review • Quality Audits • Calibration • Test Materials • Test product

Cost of Poor Quality

Internal failure costs	External failure costs
• Scrap • Rework • Missing documents • Problem solving • Retest • Redesign • Downgrading • Variation • Downtime	• Warranty charges • Complaints • Returned Materials • Late Delivery Penalties • Rework After Installation • Lost Opportunities

For the first nine months of 2020, Ford's warranty costs totaled $3.87 billion, while GM's were $1.68 billion, according to regulatory filings.

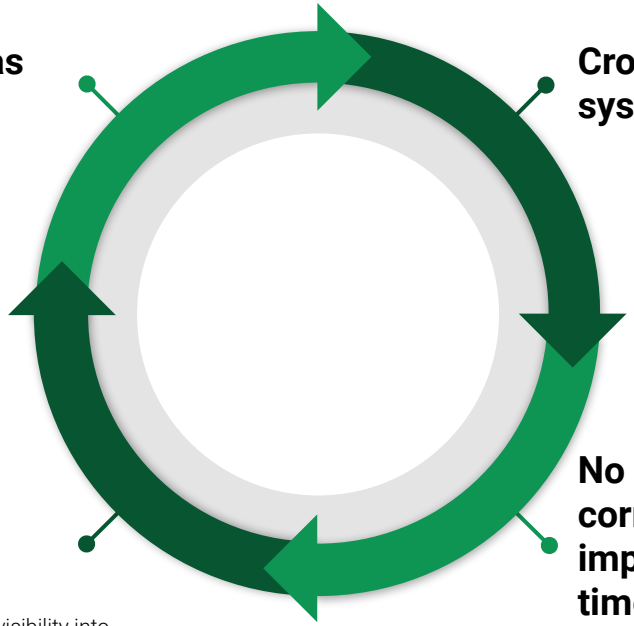
The direct cost of quality in the medical device industry is $26 billion to $36 billion annually.



[1]Estimated annual sales of $380 billion.

McKinsey&Company | Source: Health Research International; McKinsey analysis

Why Making “Quality is Everyone’s Responsibility” Remains a Challenge



To “Do What is Documented” as QMS is Hard

QMS via Email

Manual

Actual practice varies from what is expected

Requires extraordinary effort from people

Cross-functional teams and systems are disconnected

Missed handoffs

Quality events fall through the cracks

Institutional Knowledge lost

Involving Supply Chain is Difficult

Suppliers not in the loop

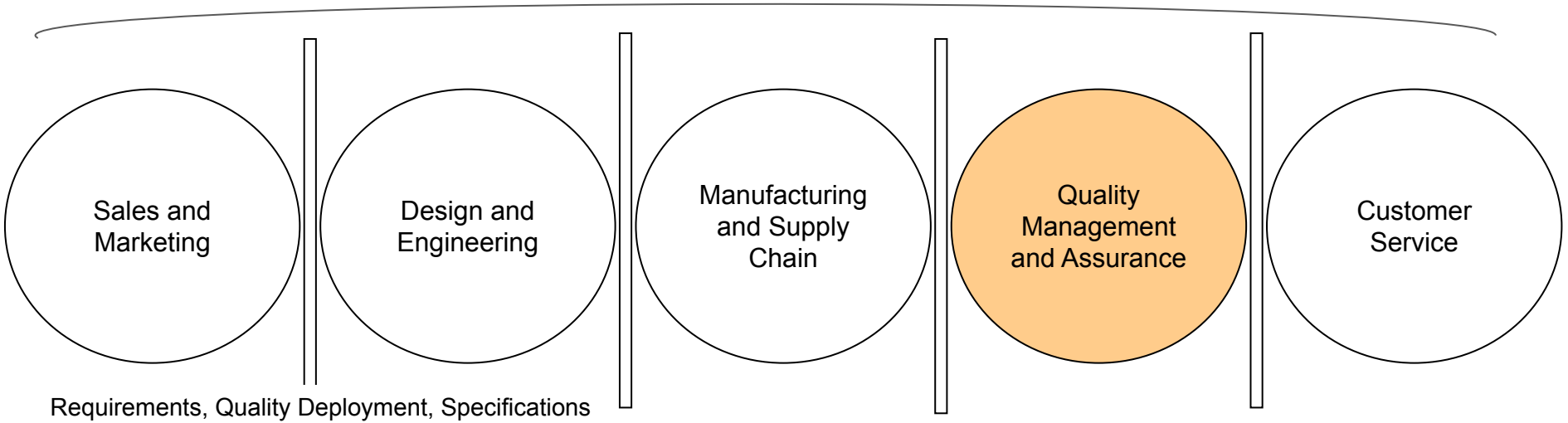
No visibility into Supplier quality practices

No guarantee that corrective/preventive actions are implemented effectively and in a timely manner

No learning from prior quality events

Dropped or delayed corrective and preventive action implementation

Process and Information Silos Are Obstacles to Making "Quality is Everyone's Responsibility"



Requirements, Quality Deployment, Specifications

FMEA, Validation, Prototyping, Product and Process Characteristics, Process Plan, Control Plans, SOPs, Training, Audits..

Customer Reviews

Improvements

Nonconformances

Failure Analysis

Returns

Complaints

Warranty Claim

Corrective & Preventive Actions

Change Requests

Adverse Events

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Quality Events can get Lost in Disparate and Disconnected systems

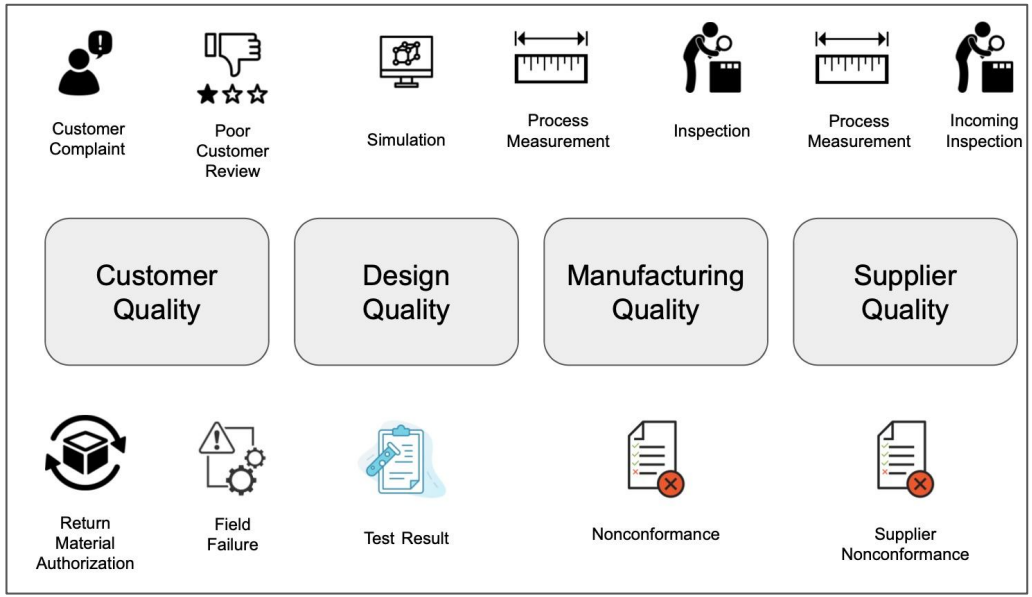
CRM Systems

E-commerce

Testing Systems

LIMS

Inspection Systems



ERP Systems

Supply Chain Systems

The Answer - Cross-functional Workflows that Make “Quality is Everyone’s Responsibility” a Reality

Quality Workflows that can include and be started by anyone and system

Out-of-the-box Integration to ERP, MES, PLM, Supply Chain systems

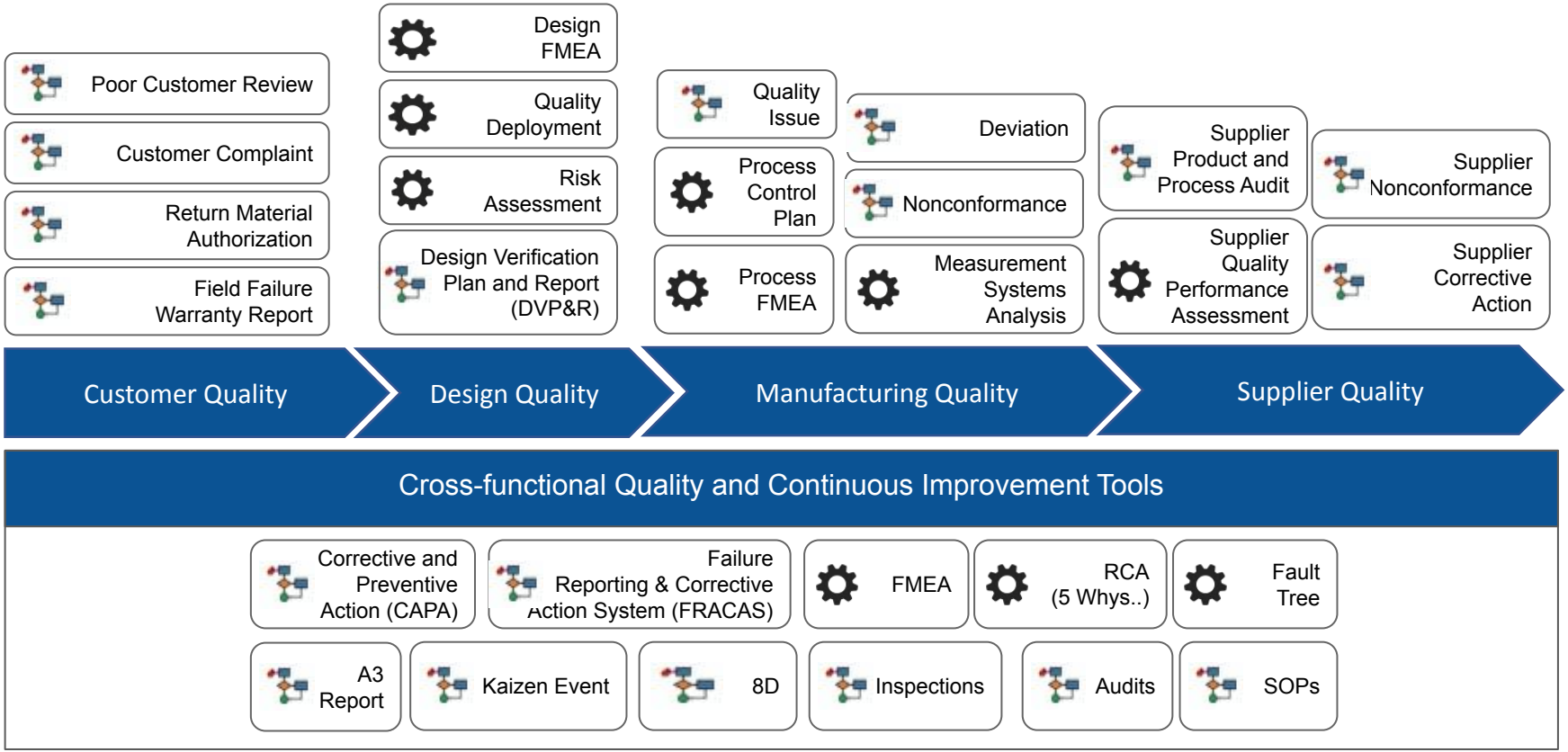
Zero-code

Proactively Involve Right People at the Right Time

Supply Chain Ready

Integrated and effective quality tools and techniques

Quality is Everyone's Responsibility



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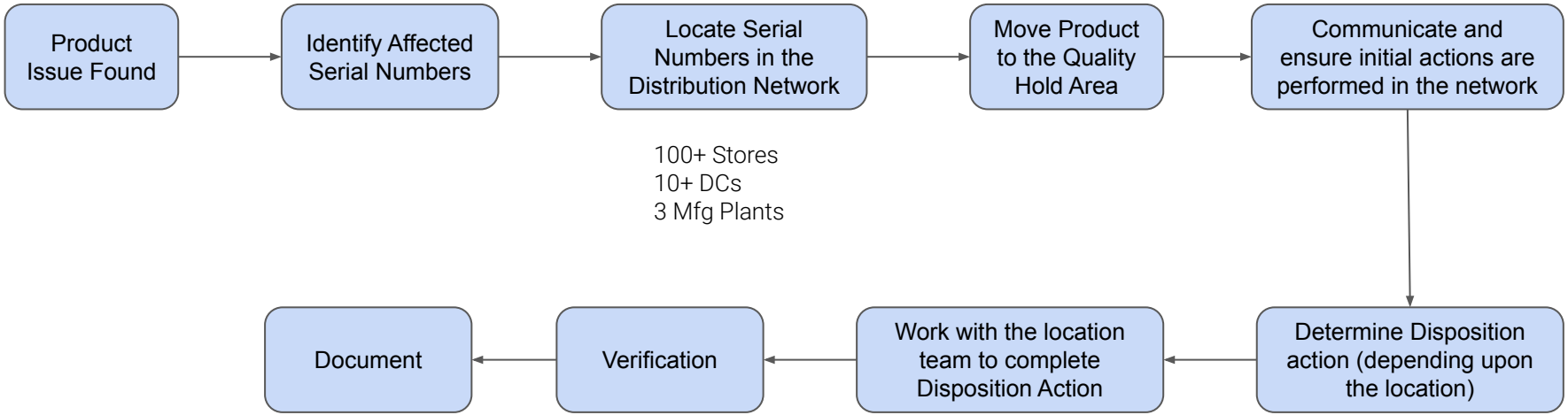
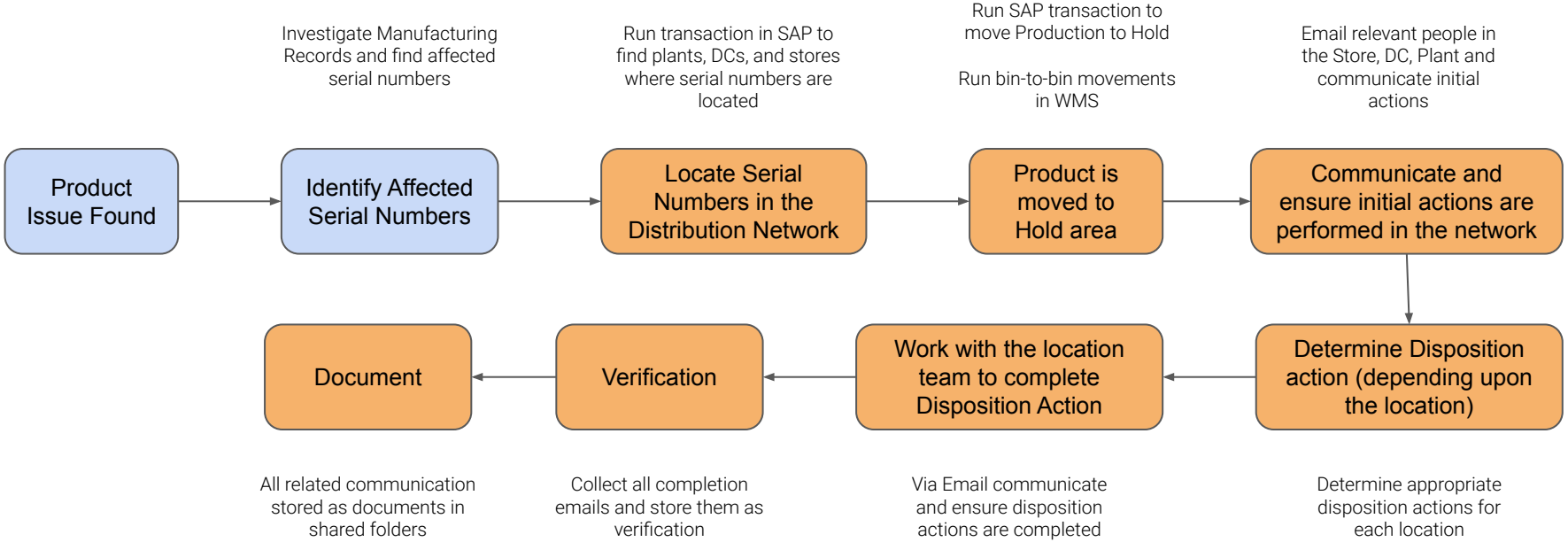
- ❑ **Case Study**
- ❑ Demo
- ❑ Q&A

Case Study Overview

Manufacturer needs to act fast to move non-conforming product (so that it does not end up with customers) from various distribution nodes (Stores, DCs, and Manufacturing Plants) to support immediate actions, fixes and eventual disposition

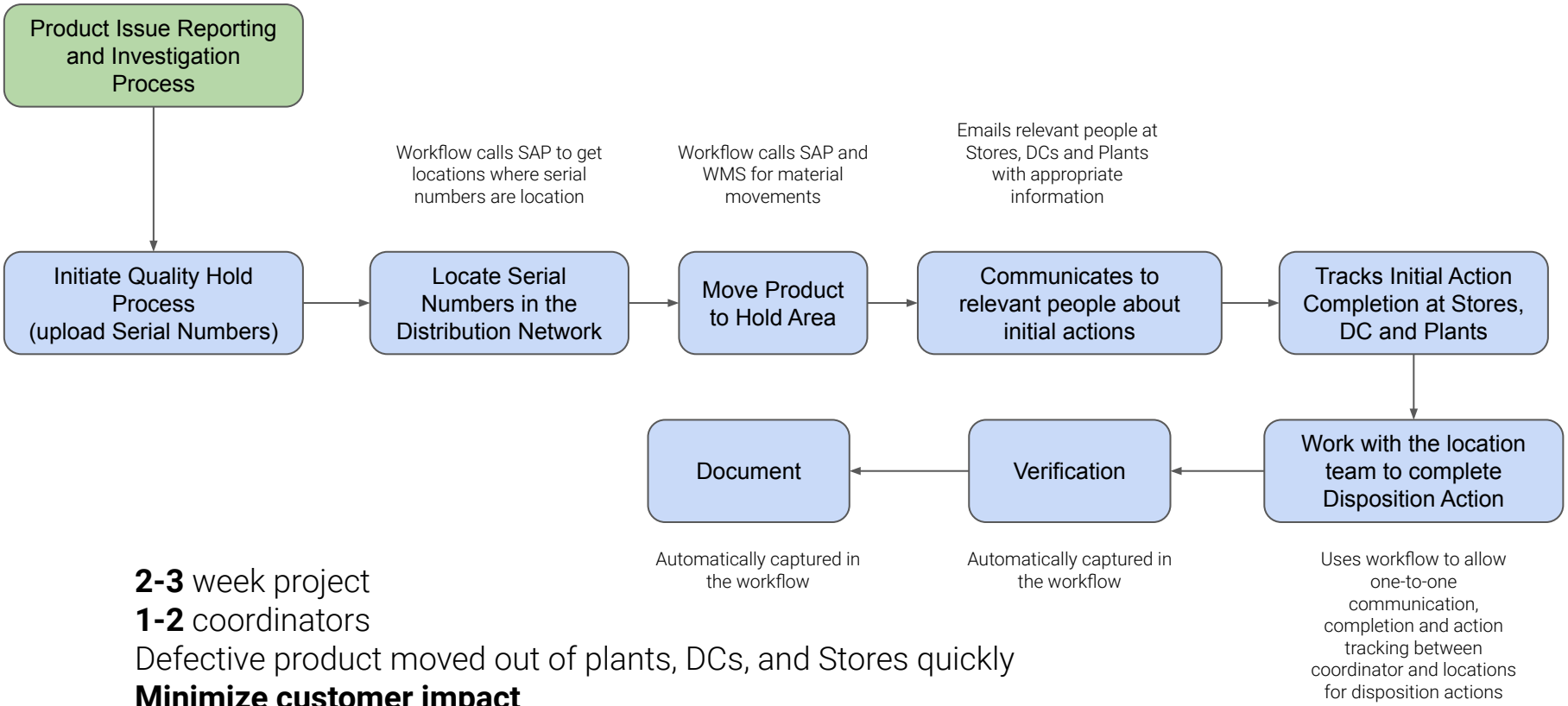


AS-IS Standard Operating Procedure



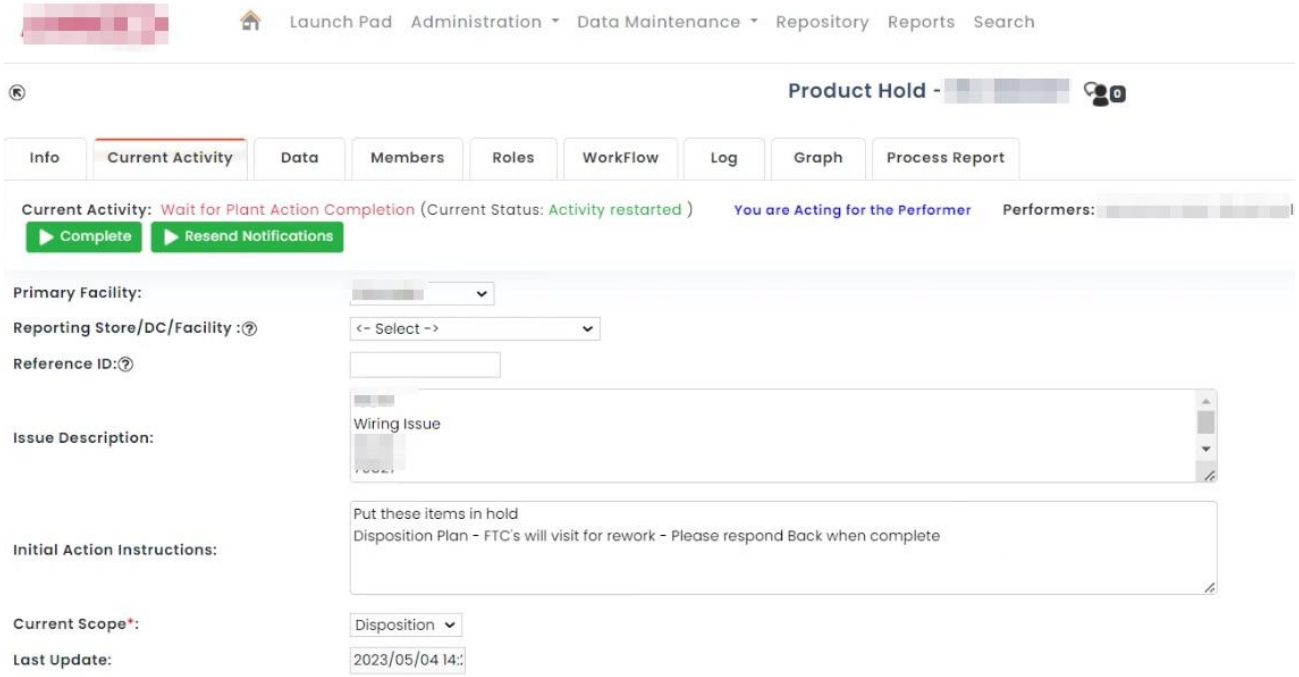
3-6 month project
10-20 people involved
High chance of defective product making it to customers
Very expensive and damaging to the brand if defective product ends up with customers

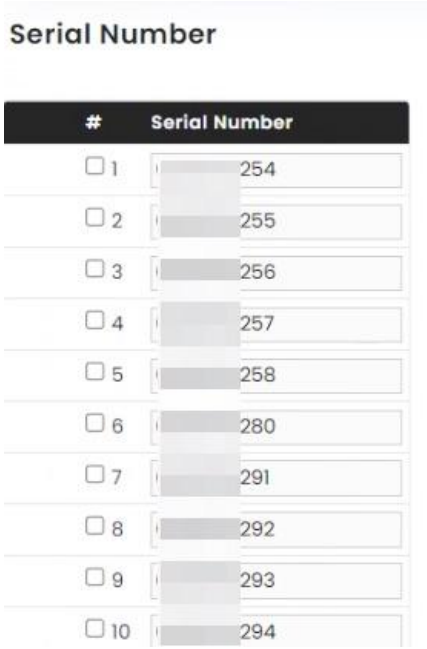
Digital Workflow Based Standard Operating Procedure



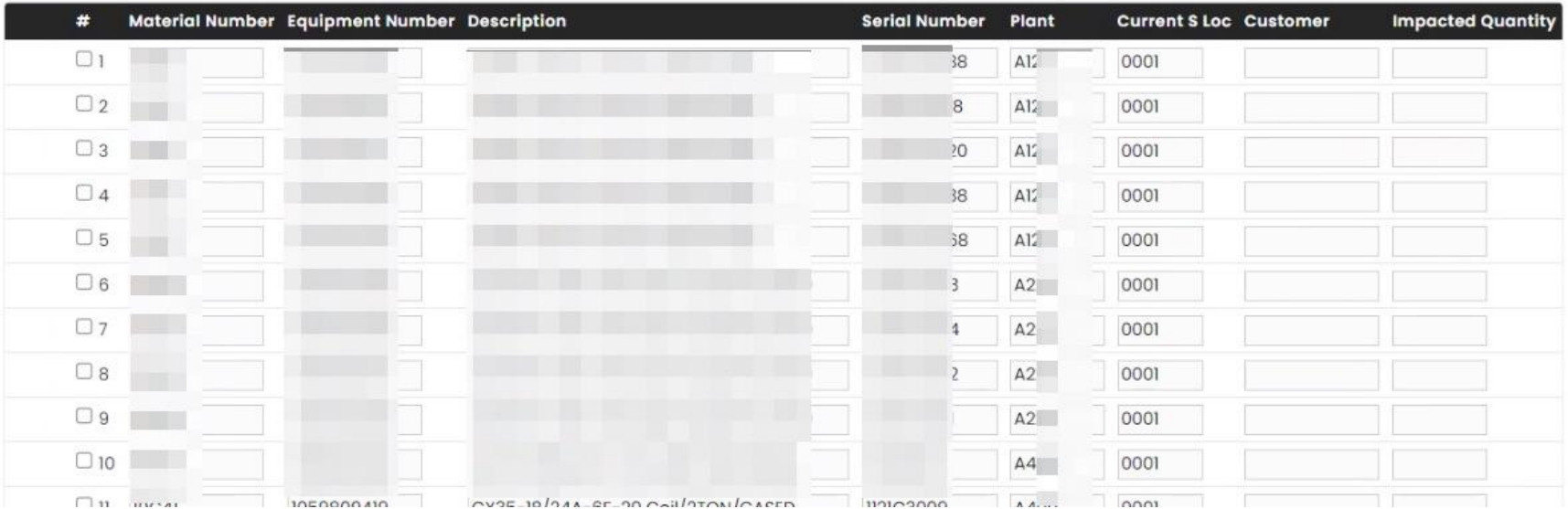
2-3 week project
1-2 coordinators
Defective product moved out of plants, DCs, and Stores quickly
Minimize customer impact

Initiate Product Hold



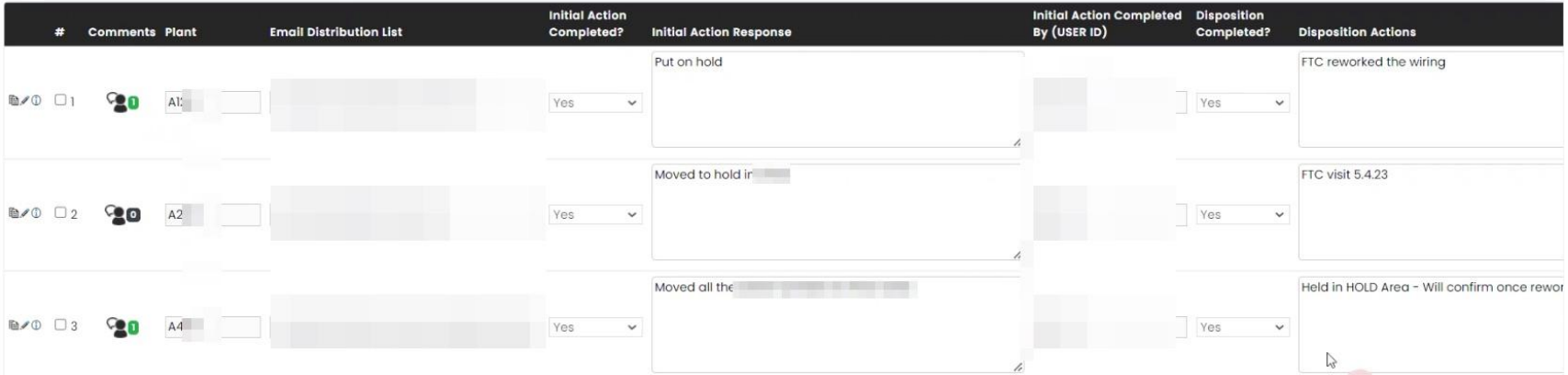


Workflow connects to SAP, gets Locations of Serial Numbers, and initiates movement to Quality Hold Area in WMS



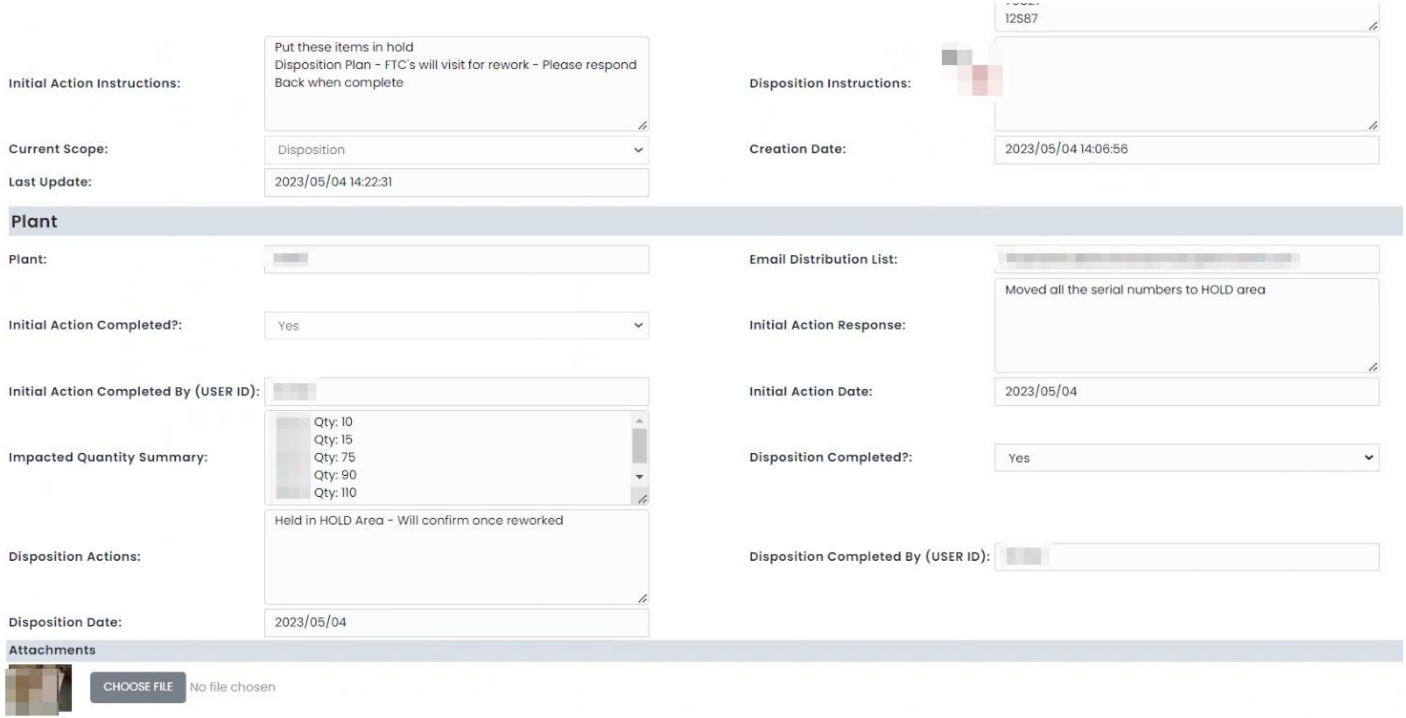
#	Material Number	Equipment Number	Description	Serial Number	Plant	Current S Loc	Customer	Impacted Quantity
1				38	A12	0001		
2				8	A12	0001		
3				20	A12	0001		
4				38	A12	0001		
5				68	A12	0001		
6				3	A2	0001		
7				4	A2	0001		
8				2	A2	0001		
9					A2	0001		
10					A4	0001		
11								

Workflow Identifies and Communicates with Relevant Stakeholders at Impacted Locations



#	Comments	Plant	Email Distribution List	Initial Action Completed?	Initial Action Response	Initial Action Completed By (USER ID)	Disposition Completed?	Disposition Actions
1	1	A1		Yes	Put on hold		Yes	FTC reworked the wiring
2	0	A2		Yes	Moved to hold ir		Yes	FTC visit 5.4.23
3	1	A4		Yes	Moved all the		Yes	Held in HOLD Area - Will confirm once rewor

Workflow Allows bidirectional communication and coordination of initial actions, fixes and eventual disposition



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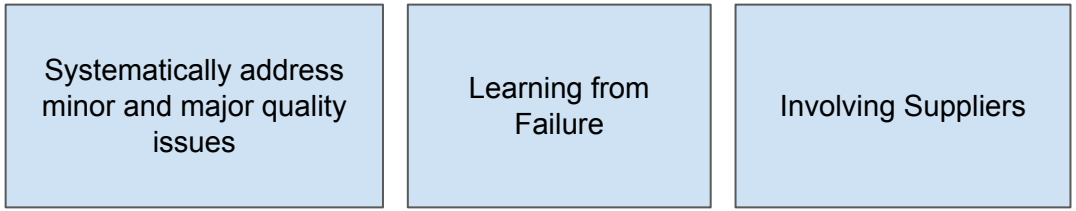
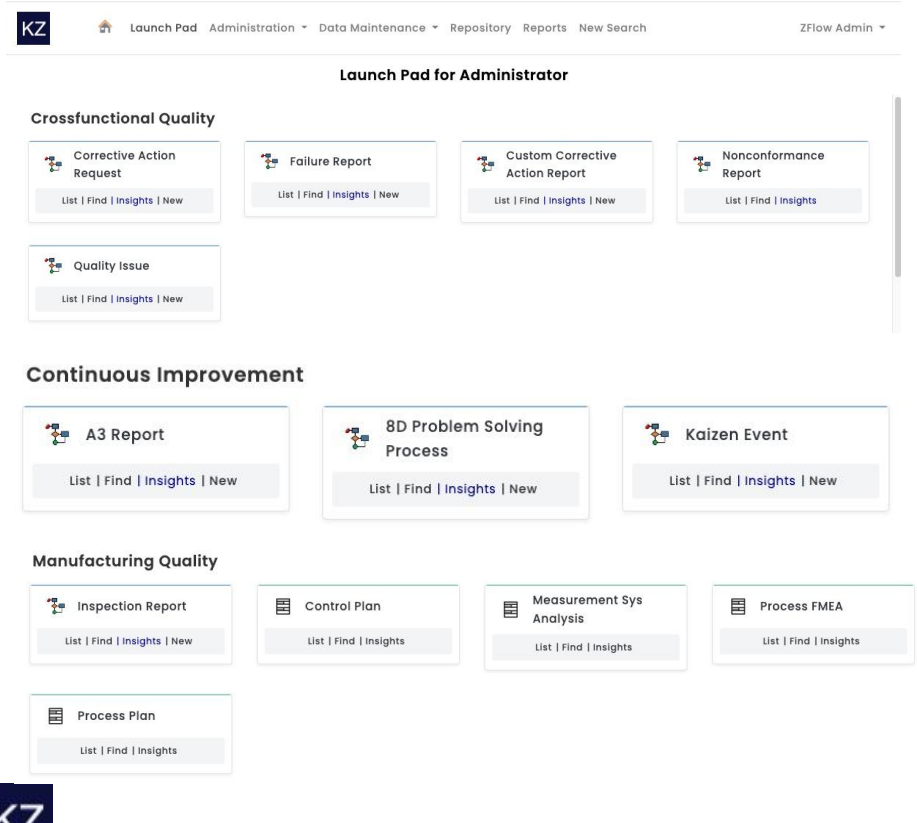
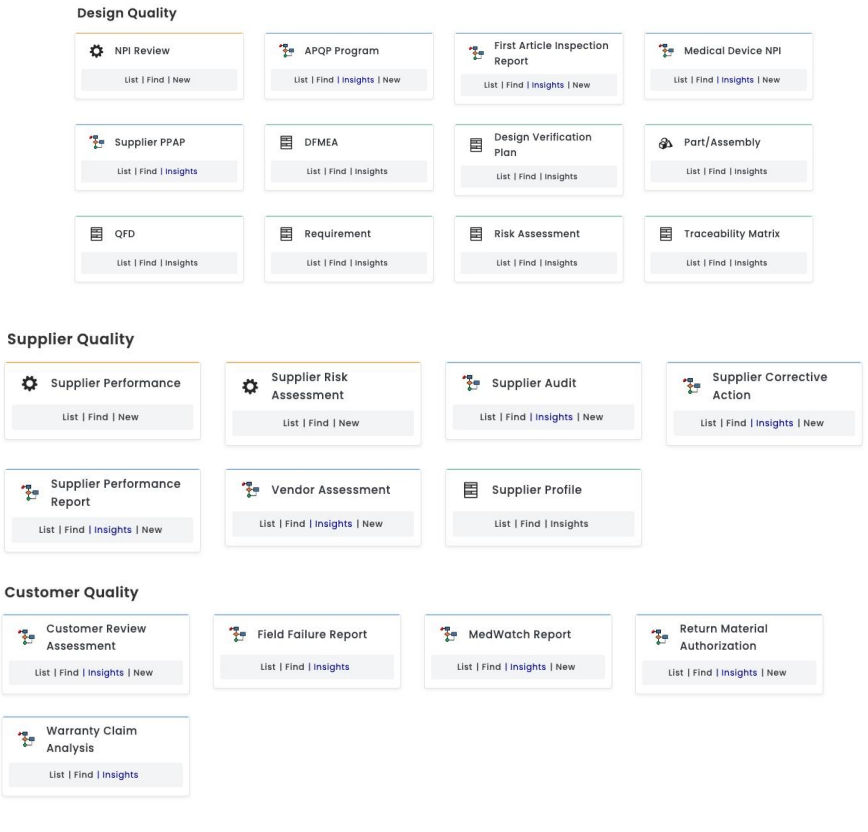
Demo

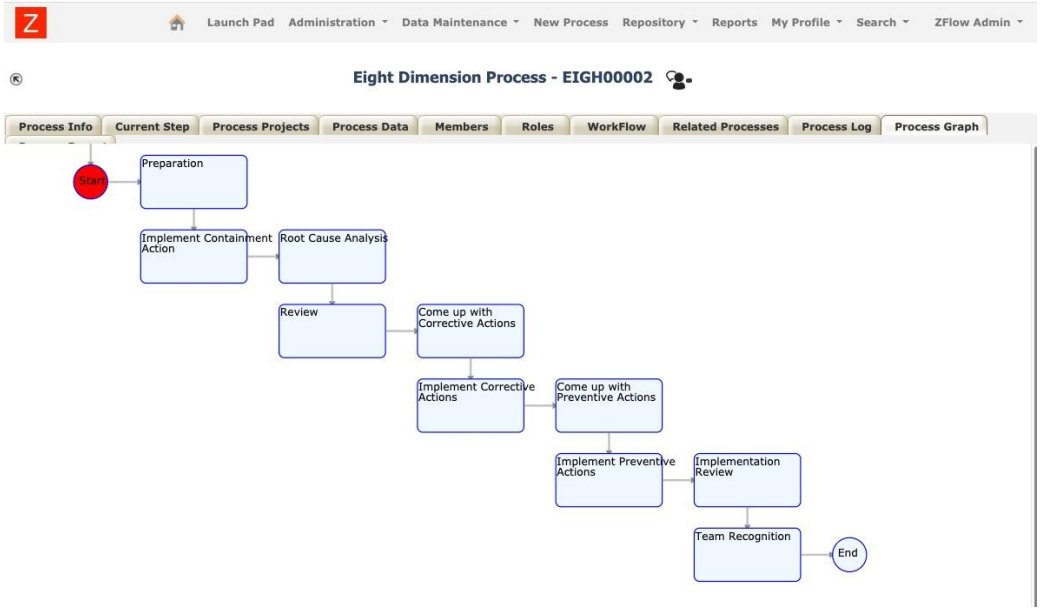

Systematically address minor and major quality issues
Learning from Failure
Involving Suppliers

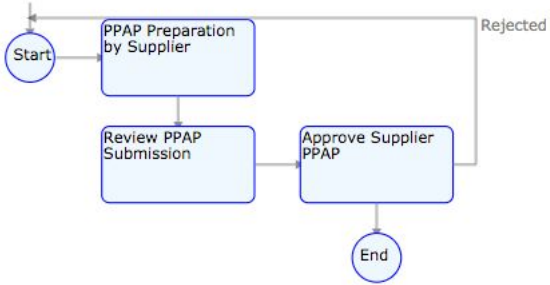
Ready to Use Cross-functional Quality Workflows, Tools, and Techniques



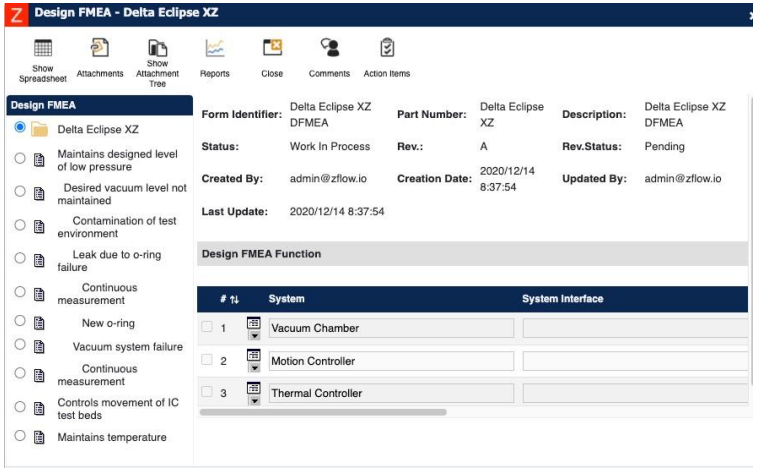


Powerful Do-it-yourself Workflow Design and Execution

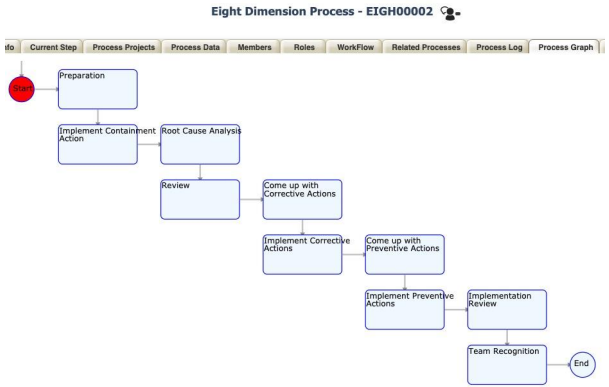




Integrated and Effective Techniques as part of Quality Workflows



FMEA



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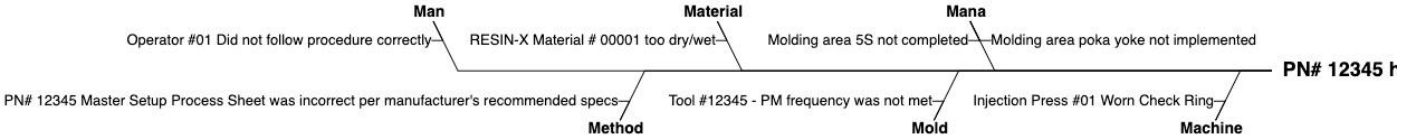
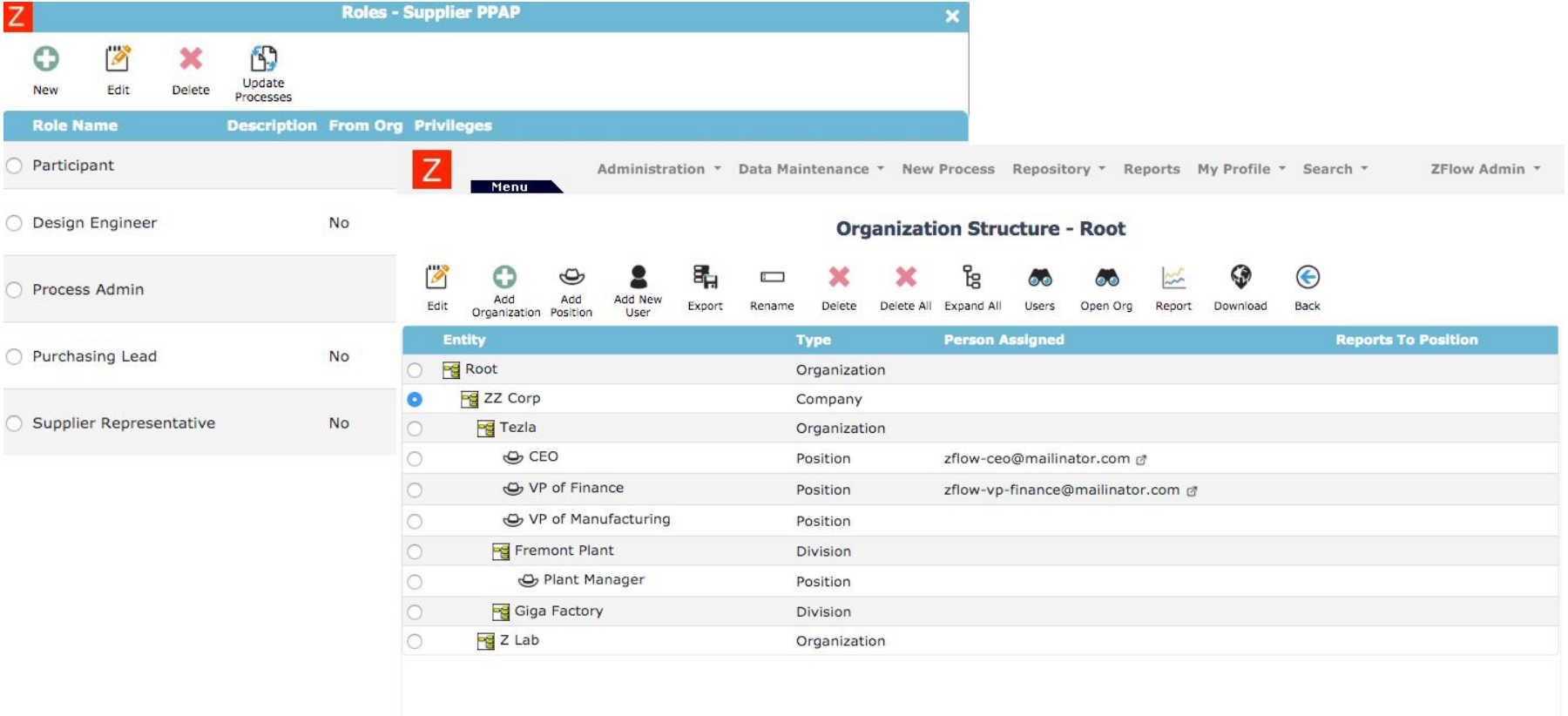


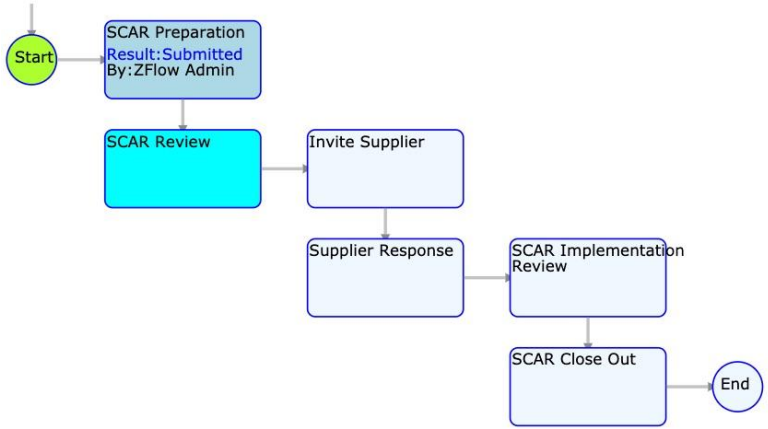
Fishbone

Cross-functional Team Collaboration

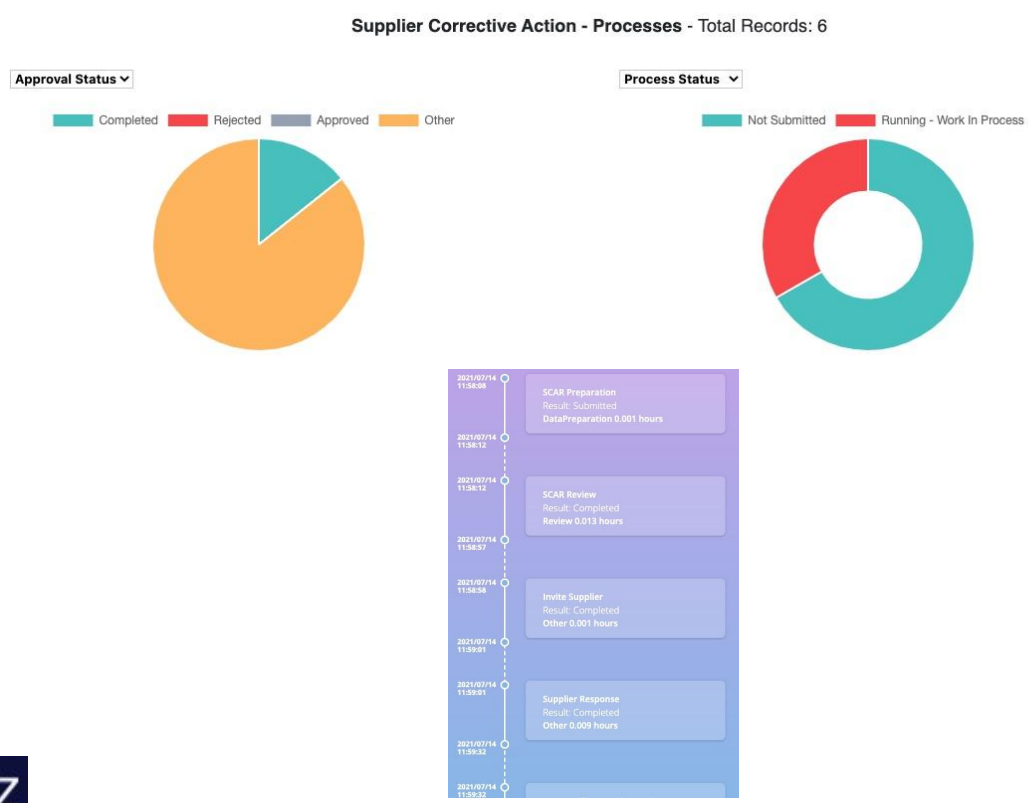


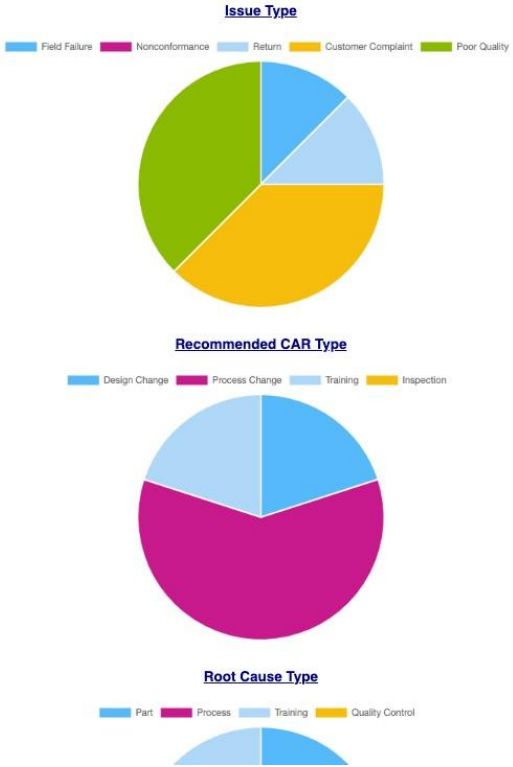
Easy and Secure Supply Chain Collaboration

Business Name	Supplier ID	Supplier Relationship Status	Supplier Maturity Level	Supplier Category
Avioq Inc.	SAVIOQ	Active	Advanced	Strategic
Bosch Sensortec	SBOSCH	Qualified	Advanced	Non -strategic
Broadcom	SBRCM	Active	Advanced	Strategic
Carrier UTC	Carrier			
Cirrus Logic	SCIRRUS			
Genco Contractors	Genco			
Generac	Generac			
Honeywell	Honeywell			
Huizhou Desay	SHUIZHOU		Basic	Non -strategic
Intel Corp	SINTC	Preferred	Integrated	Strategic
Jabil	Jabil	Preferred	Integrated	Strategic
Lattice Semiconductor	SLATTICE	Qualified	Advanced	Non -strategic
Lennox International	Lennox			
MetalDyne	MetalDyne	Active	Basic	
Murata Manufacturing	MURATA	Active	Advanced	Routine
Northern Tool and Equipment	NorthernTE			
NXP Semiconductor	NXPSEMI	Preferred	Advanced	Non -strategic
Qorvo Inc	QORVO	Qualified	Advanced	Non -strategic
Qualcomm Inc.	QCOM	Restricted	Advanced	Strategic
Skyworks Inc.	SKYWORKS	Active	Advanced	
TDK Corp	TDKCORP			

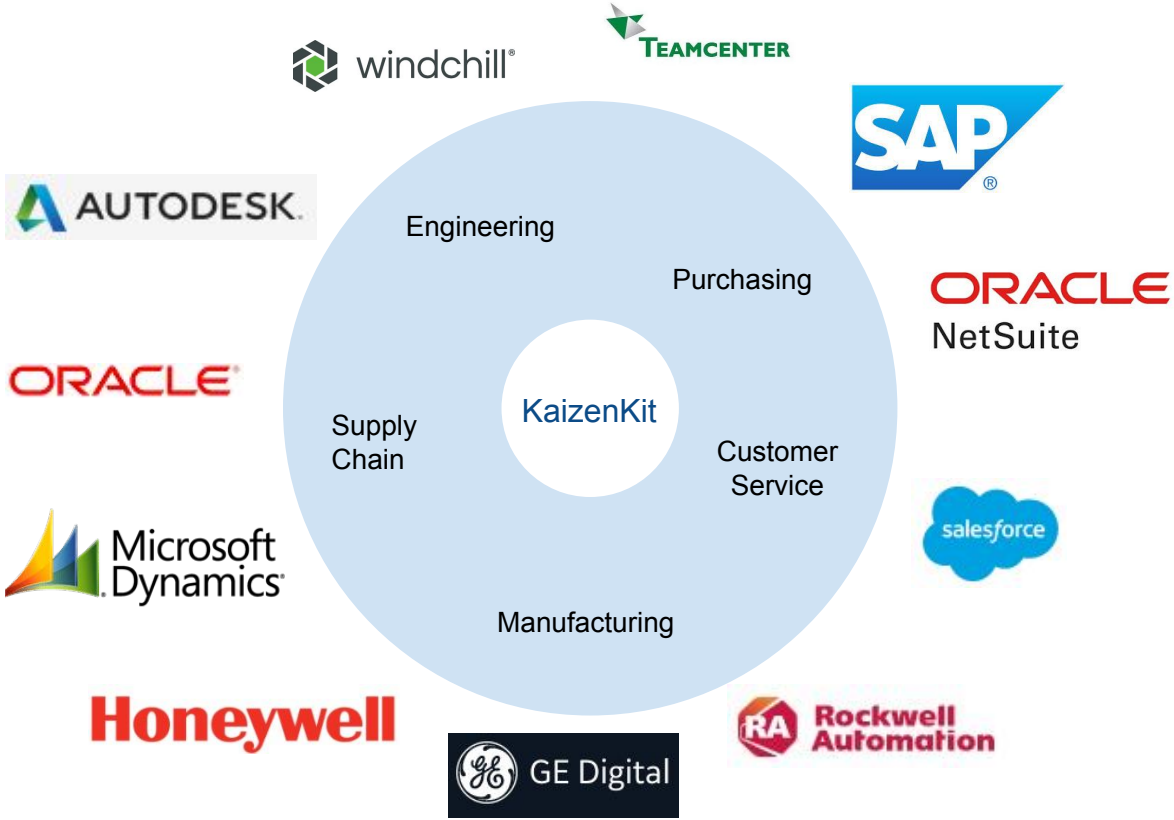


Quality Workflow Visibility and Metrics





Rich Capabilities for Integrating to ERP, Engineering, Manufacturing and Supply Chain Applications



Summary

- ❑ *Proven success* in many industries
- ❑ *Easy to adopt* and *loved by users*
- ❑ *Easy to get started*

Free Trial

Free Pilot

For More Information

https://www.kaizenkit.io

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