

# *Quality is Everyone's Responsibility*

## Digital Workflows for Quality Management Excellence

Kris Gorrepati and Manish Mathur

# Agenda

- Brief Intro
- Quality is Everyone's Responsibility - Challenges and Opportunities
- Making Quality Cross-functional, Connected and Integrated with Digital Workflows
- Demo
- Q&A

# Our Mission

*To Make*

Quality is everyone's responsibility  
*- W. Edwards Deming*

*A Reality in the Organization and the Supply Chain*

# About Cambrian Lab

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

## 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

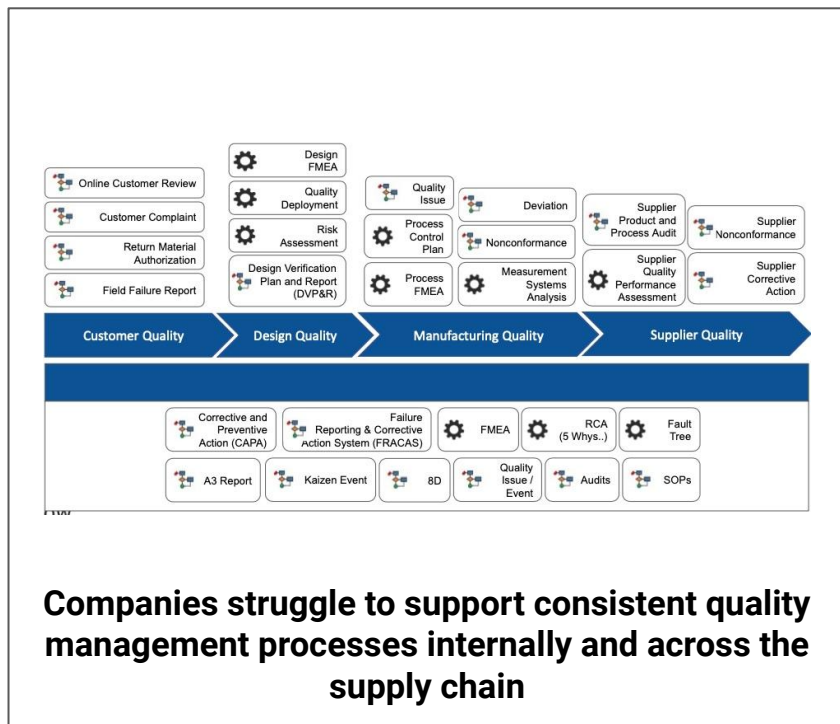
## Kris Gorrepati

- 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, Manufacturing, and Data Management
- Ford, GM, Siemens PLM...
- Auto, High-tech, Software
- Michigan Tech (Elec Engg.), Walsh College (MBA)

# Making Quality Everyone's Responsibility is a Challenge



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

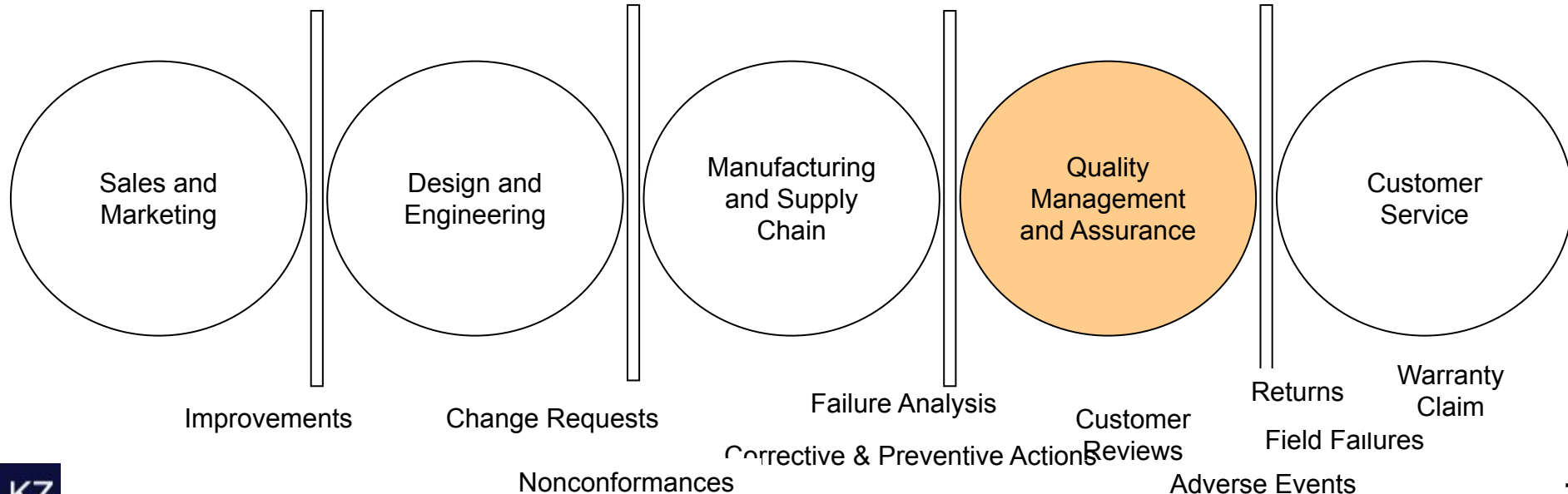
**Uniformly bad consequences**

# Process and Information Silos Are Obstacles to Making “Quality is Everyone’s Responsibility”

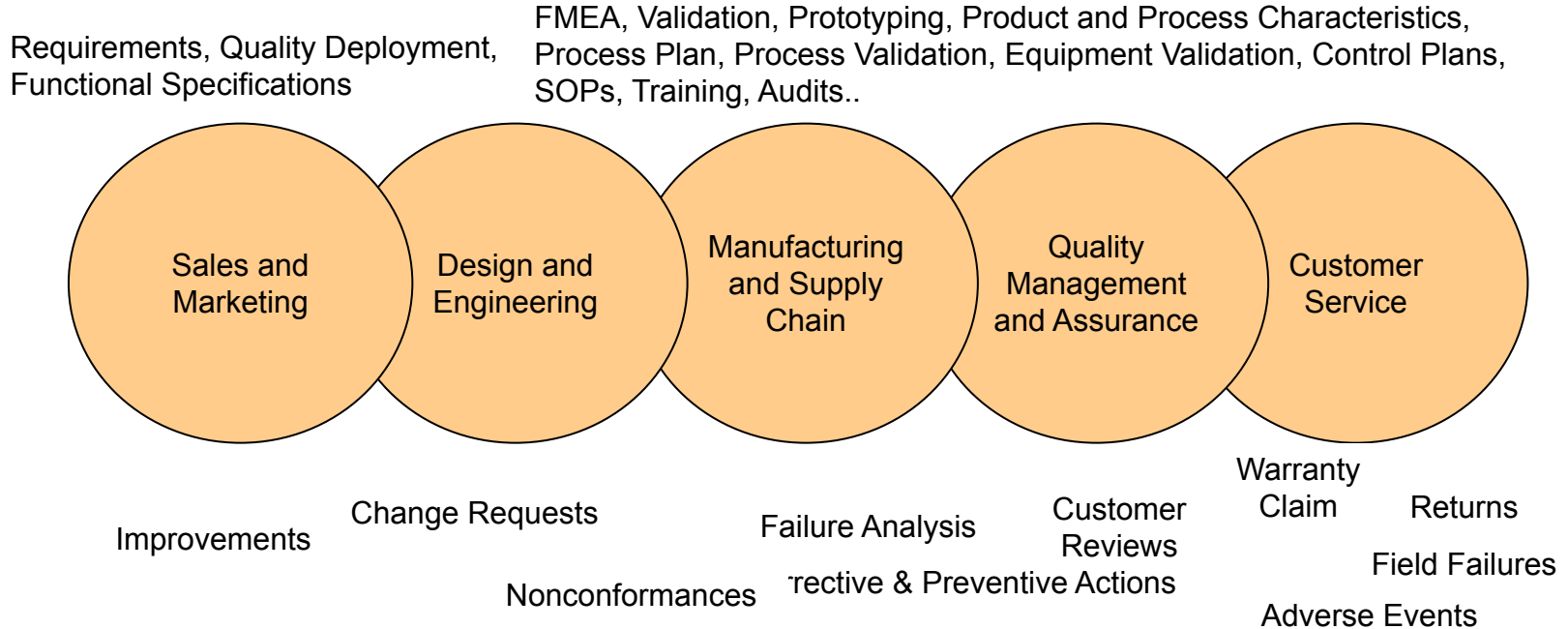
Requirements, Quality  
Deployment, Specifications

Systems Design

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



# Ideally





# The Main Themes

**Plan-Do-Check-Act**

**Design  
Validation and  
Control**

**Process  
Validation and  
Control**

**Nonconformance**

**Risk Mgmt**

**CAPA**



Auto



Medical  
Devices

**FDA 21 CFR**

Food and Drug  
Manufacturing



Aerospace



General

# Many Sources of Quality and Quality Events



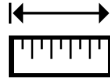
Customer  
Complaint



Poor  
Customer  
Review



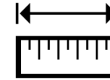
Simulation



Process  
Measurement



Inspection



Process  
Measurement



Incoming  
Inspection

Customer  
Quality

Design Quality

Manufacturing  
Quality

Supplier  
Quality



Return  
Material  
Authorization



Field  
Failure



Test Result



Nonconformance



Supplier  
Nonconformance

# Quality Events are Captured By Different Systems

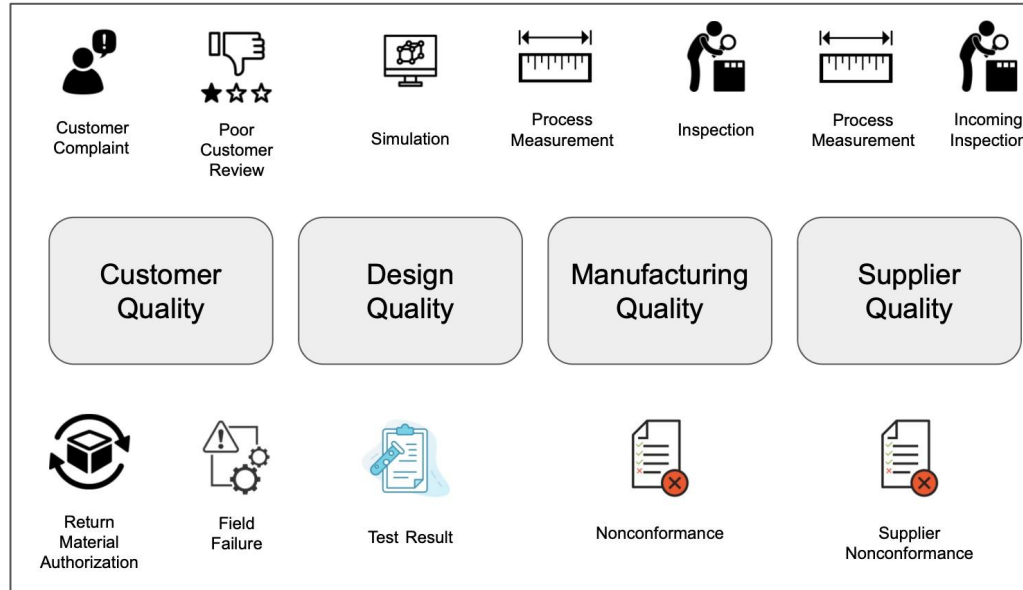
CRM  
Systems

E-commerce

Testing  
Systems

LIMS

Inspection  
Systems

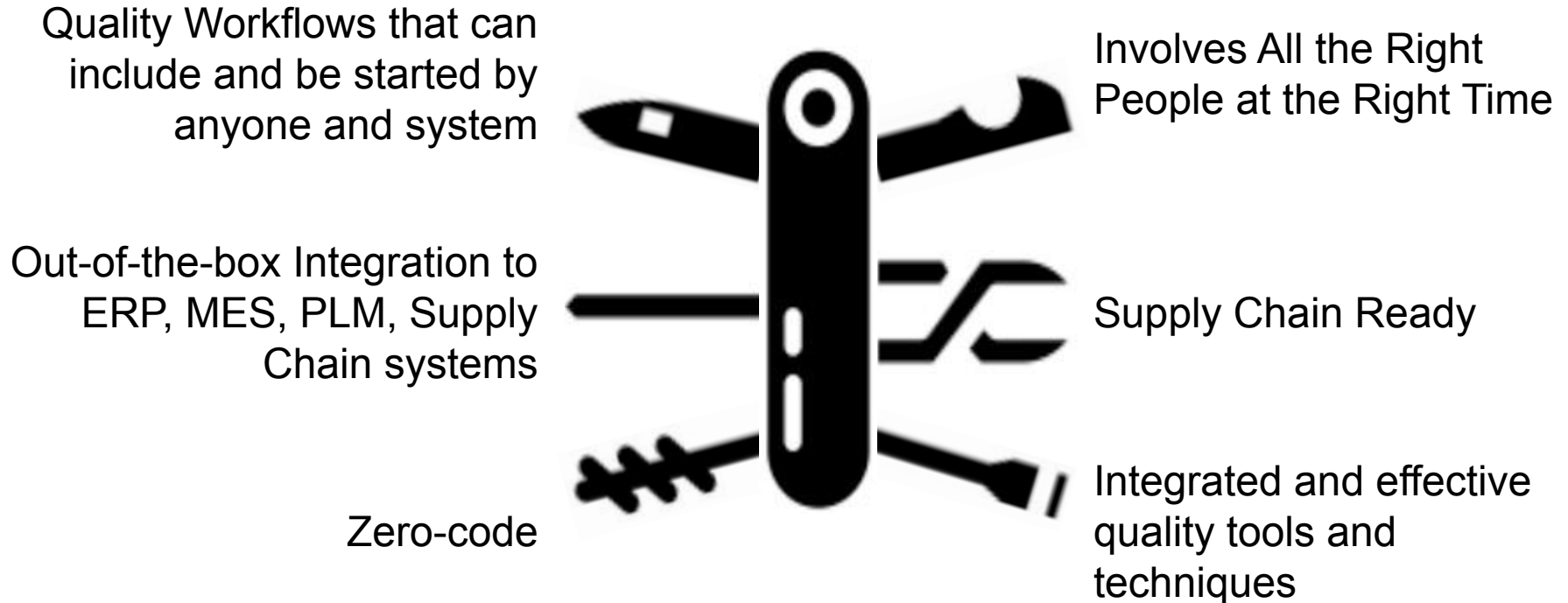


Design/Engineering  
Systems

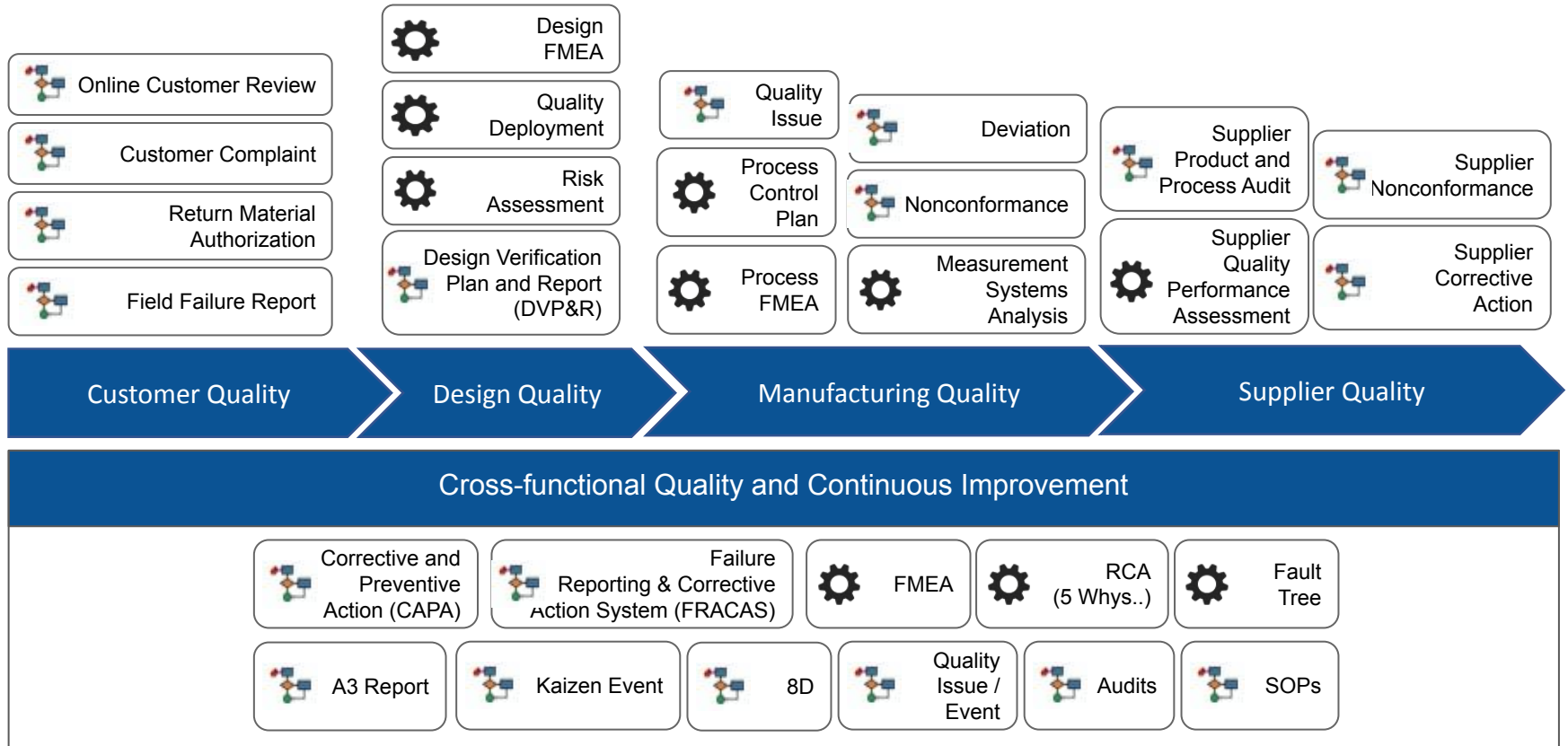
ERP  
Systems

Sourcing  
Systems

# Quality Management Workflows that Make “Quality is Everyone’s Responsibility” a Reality



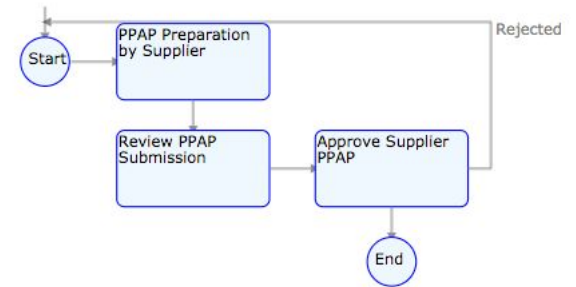
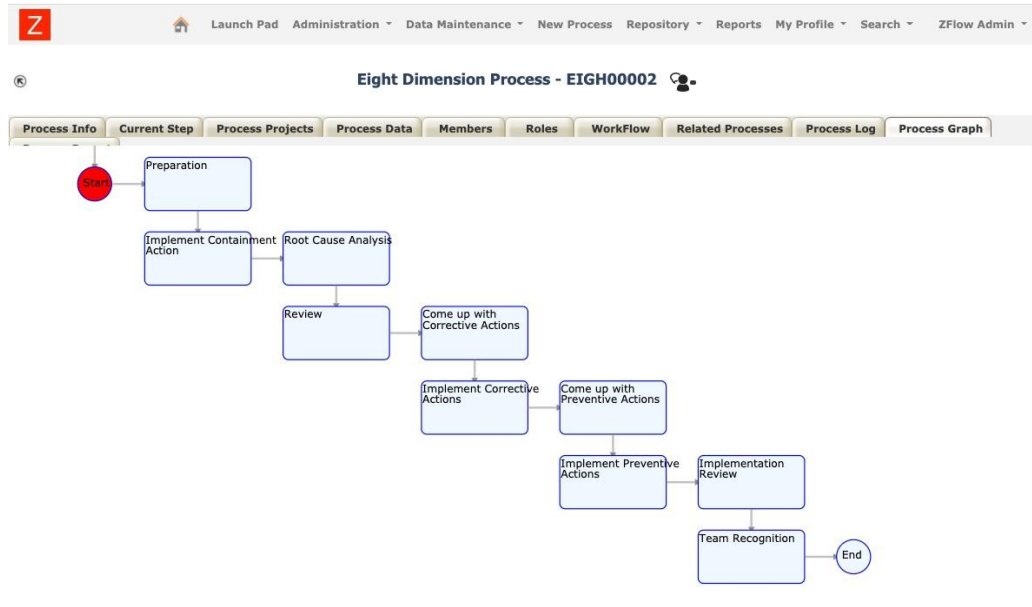
# KaizenKit - Digital Workflows for Quality Management Excellence



# Demo



# Powerful Do-it-yourself Workflow Design and Execution



## Z Roles - Supplier PPAP

Z
✕
**Roles - Supplier PPAP**

New

Edit

Delete

Update Processes

Role Name	Description	From Org	Privileges
<input type="radio"/> Participant			
<input type="radio"/> Design Engineer	No		
<input type="radio"/> Process Admin			
<input type="radio"/> Purchasing Lead	No		
<input type="radio"/> Supplier Representative	No		

Z

Menu

Administration ▾ Data Maintenance ▾ New Process Repository ▾ Reports My Profile ▾ Search ▾ ZFlow Admin ▾

### Organization Structure - Root

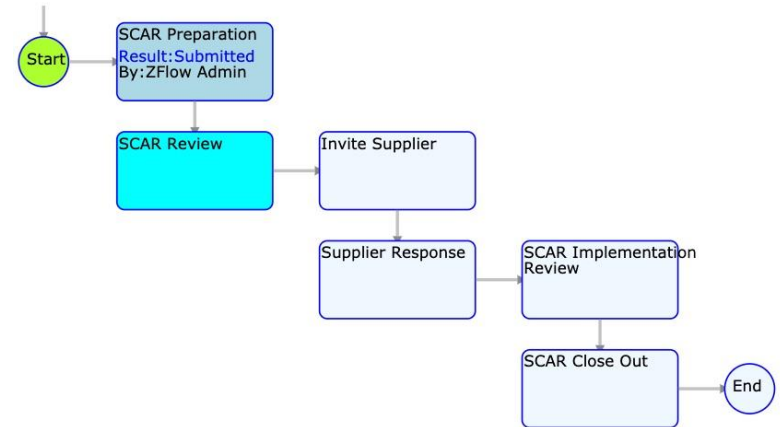
Edit
 Add Organization
 Add Position
 Add New User
 Export
 Rename
 Delete
 Delete All
 Expand All
 Users
 Open Org
 Report
 Download
 Back

Entity	Type	Person Assigned	Reports To Position
<input type="radio"/> Root	Organization		
<input checked="" type="radio"/> ZZ Corp	Company		
<input type="radio"/> Tezla	Organization		
<input type="radio"/> CEO	Position	zflow-ceo@mailinator.com ↗	
<input type="radio"/> VP of Finance	Position	zflow-vp-finance@mailinator.com ↗	
<input type="radio"/> VP of Manufacturing	Position		
<input type="radio"/> Fremont Plant	Division		
<input type="radio"/> Plant Manager	Position		
<input type="radio"/> Giga Factory	Division		
<input type="radio"/> Z Lab	Organization		



# Easy and Secure Supplier/Customer Integration into Quality Management Workflows

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



# Integrated and Effective Techniques as part of Quality Workflows

**Design FMEA - Delta Eclipse XZ**

Show Spreadsheet Attachments Show Attachment Tree Reports Close Comments Action Items

**Design FMEA**

- Delta Eclipse XZ
  - Maintains designed level of low pressure
  - Desired vacuum level not maintained
  - Contamination of test environment
  - Leak due to o-ring failure
  - Continuous measurement
  - New o-ring
  - Vacuum system failure
  - Continuous measurement
  - Controls movement of IC test beds
  - Maintains temperature

**Form Identifier:** Delta Eclipse XZ DFMEA **Part Number:** Delta Eclipse XZ **Description:** Delta Eclipse XZ DFMEA

**Status:** Work In Process **Rev.:** A **Rev.Status:** Pending

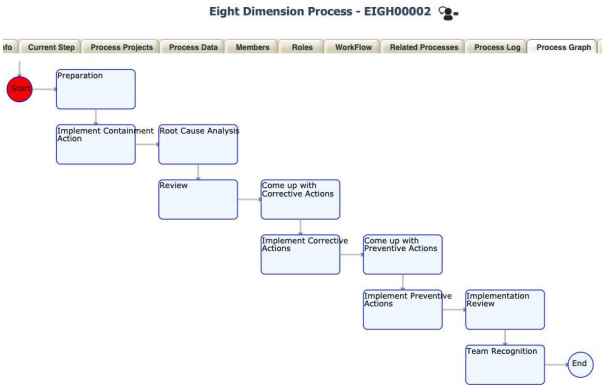
**Created By:** admin@zflow.io **Creation Date:** 2020/12/14 8:37:54 **Updated By:** admin@zflow.io

**Last Update:** 2020/12/14 8:37:54

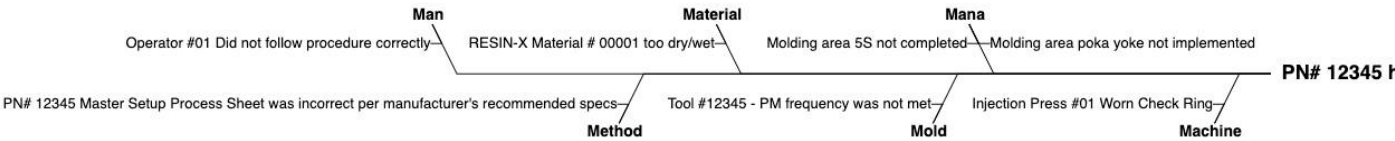
**Design FMEA Function**

#	%	System	System Interface
1		Vacuum Chamber	
2		Motion Controller	
3		Thermal Controller	

FMEA



8D



Fishbone

# Quality Workflow Status Visibility and Metrics

Supplier Corrective Action - Processes - Total Records: 6

Approval Status ▾

Completed Rejected Approved Other



Process Status ▾

Not Submitted Running - Work In Process



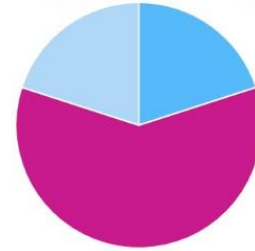
Issue Type

Field Failure Nonconformance Return Customer Complaint Poor Quality



Recommended CAR Type

Design Change Process Change Training Inspection

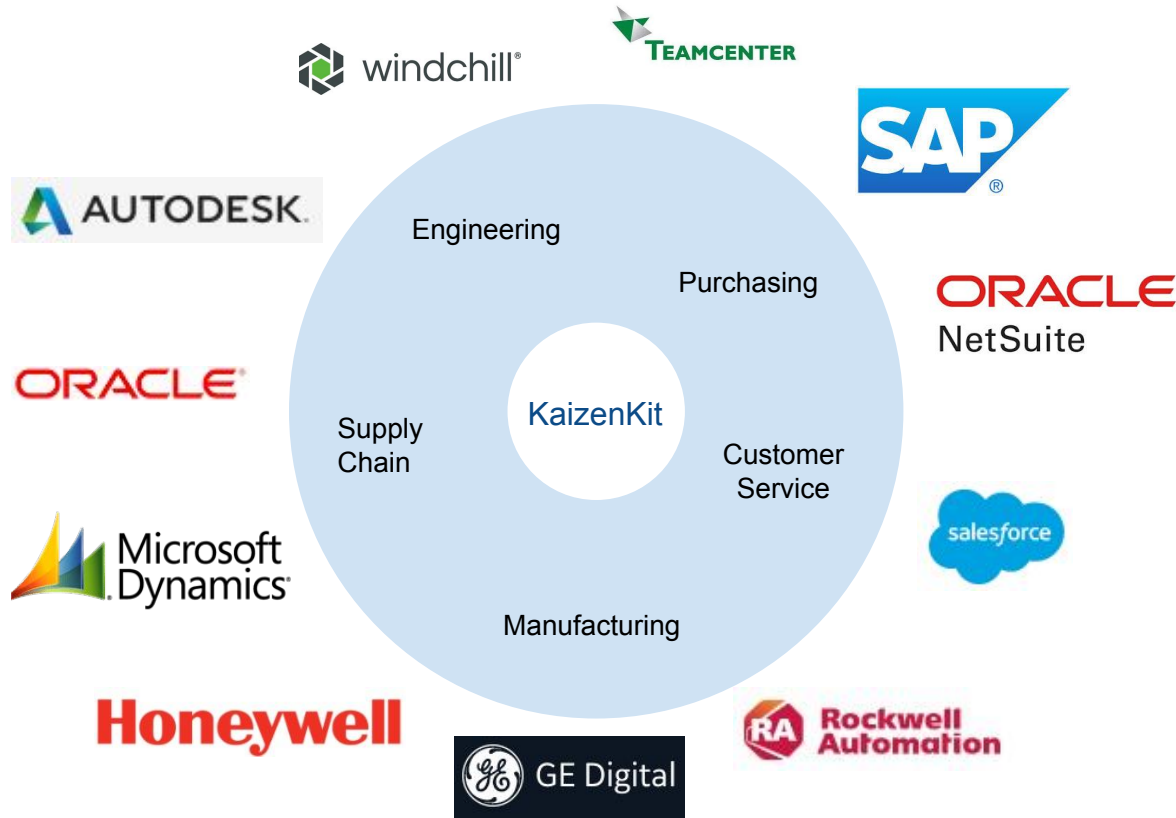


Root Cause Type

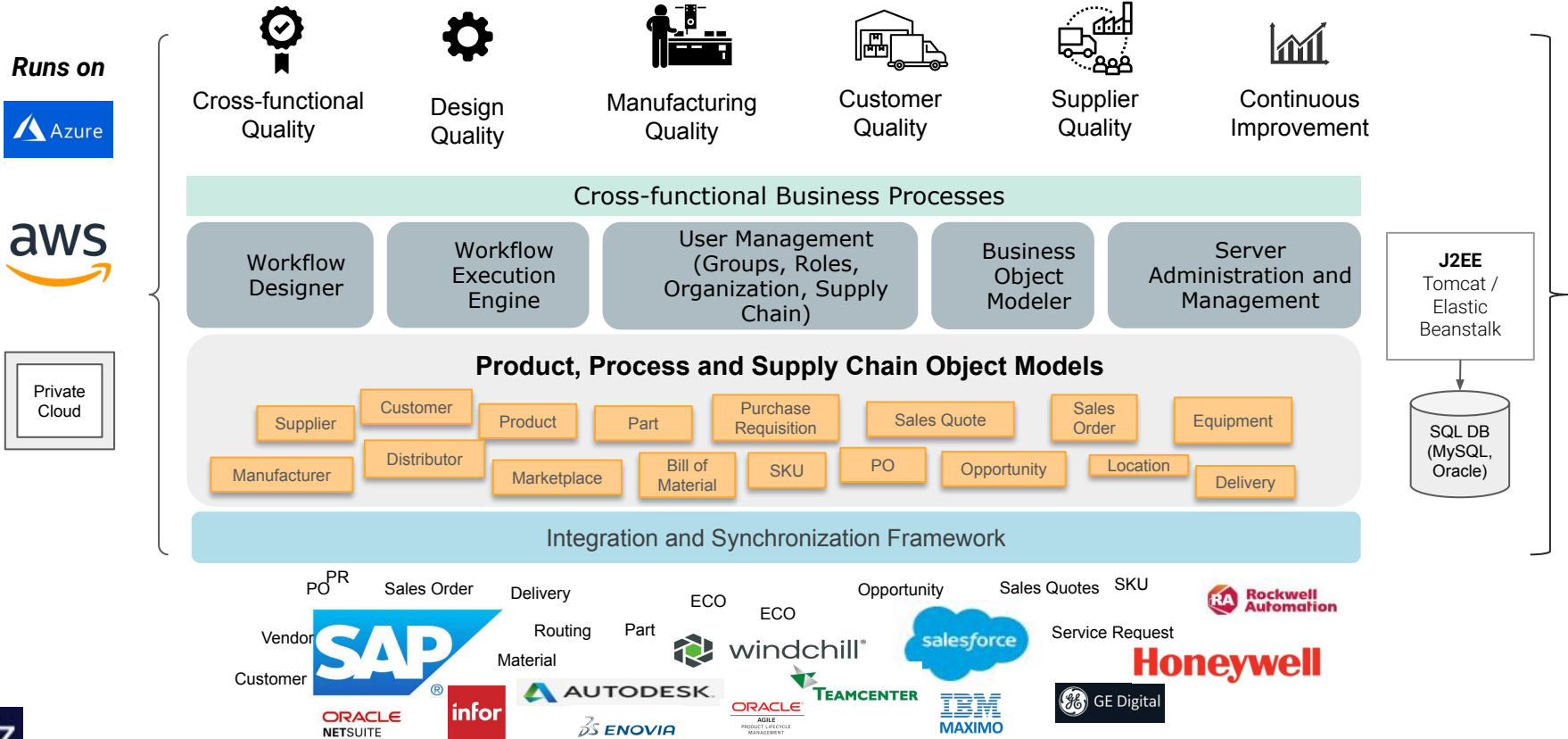
Part Process Training Quality Control



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



# Architecture



# 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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