

# Build Better Products Faster

**Digital Workflows**  
for  
New Product Introduction (NPI), Sustaining Engineering  
and Component Engineering Excellence



Designed by

Cambrian Lab



# About Cambrian Lab

## WHO WE ARE



### Team & Mission

Founded by Supply Chain, New Product Development and Enterprise Technology Experts from SAP, Samsung, Siemens, GM, Ford, Applied Materials to provide **Effective and Practical Solutions for Product and Supply Chain Development**



### Expertise

- New Product Development/Introduction (NPD/I), Supply Chain Management and Logistics
- High-tech, Automotive, Semiconductors, Medical Device..
- Enterprise and Supply Chain Technology (ERP, SCM, Manufacturing, CRM, Sourcing, Finance)

## WHO WE SERVE



### Industries

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



### Our Offerings

- **ZFlow** – Digital Workflow for the Product Supply Chain
- **Cogence** – Collaborative Product Development for High Quality, Safety and Reliability

## WHERE WE ARE



### US Locations

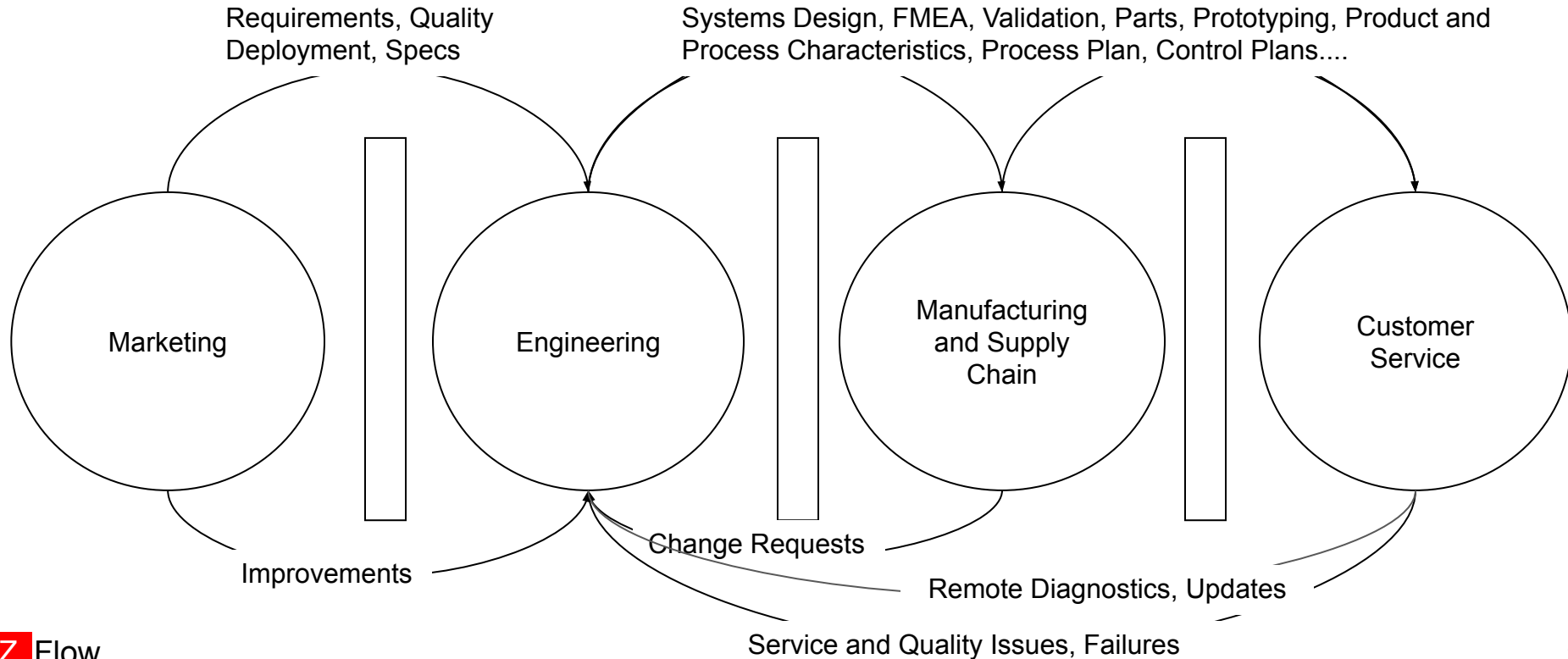
SF Bay Area, Boston, Detroit



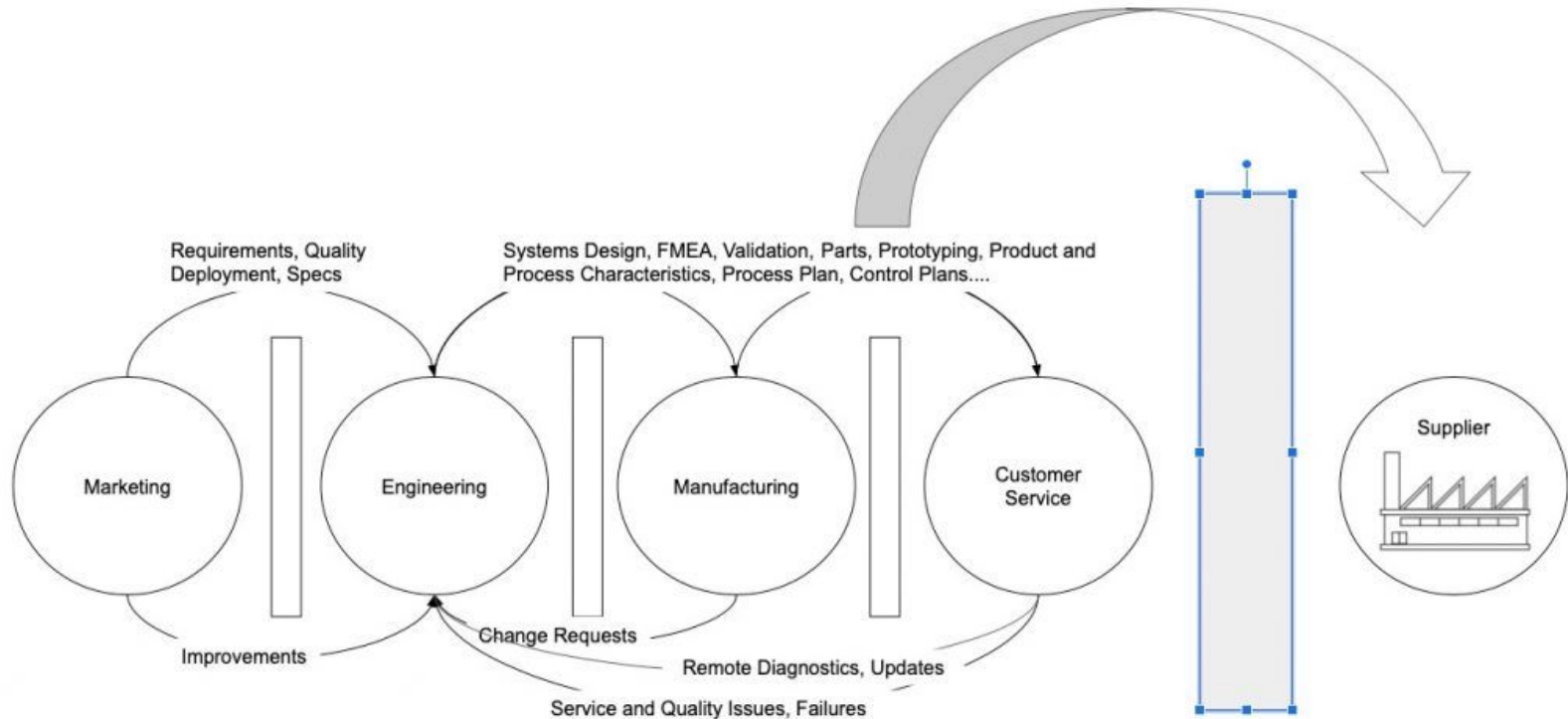
### Implementation and Referral Partners

United States | Asia-Pacific

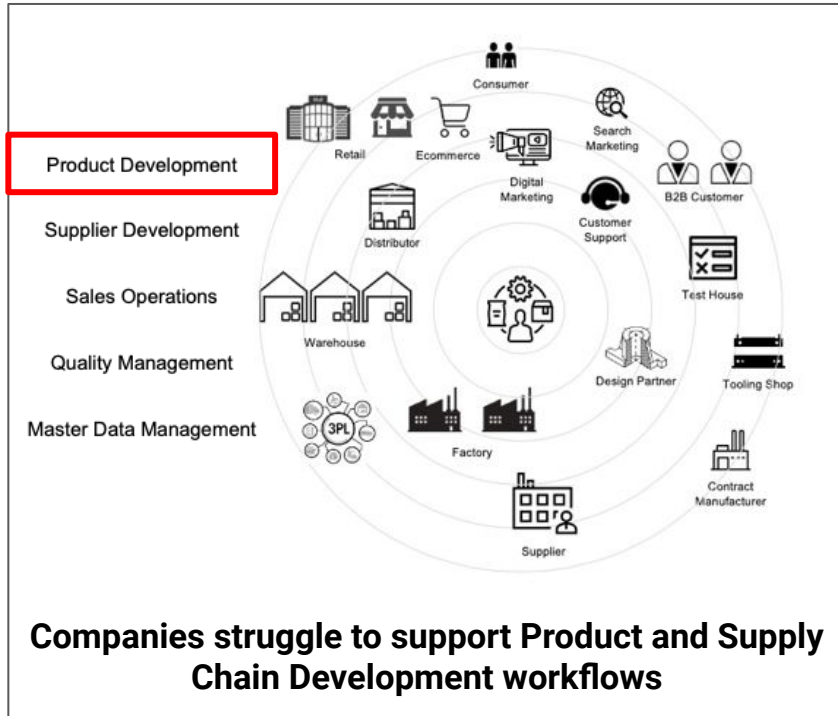
# Process and Information Silos Are Obstacles for NPI and Sustaining Engineering Excellence



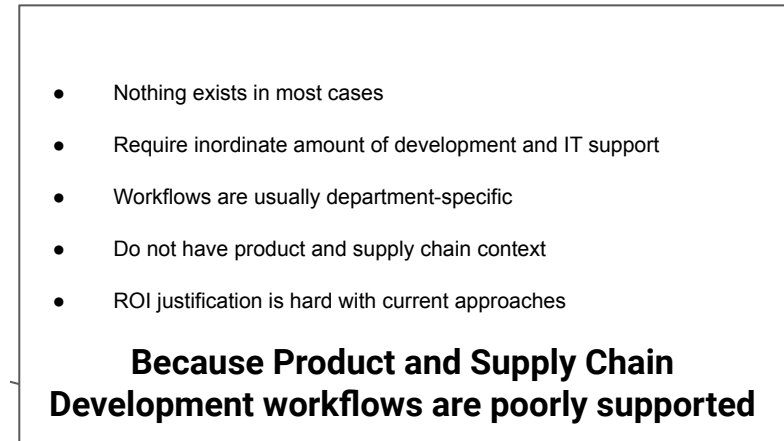
# NPI and Sustaining Engineering Coordination is Even More Challenging when Supply Chain is involved



# Cross-functional NPI and Sustaining Engineering Workflows are a Challenge for most Organizations

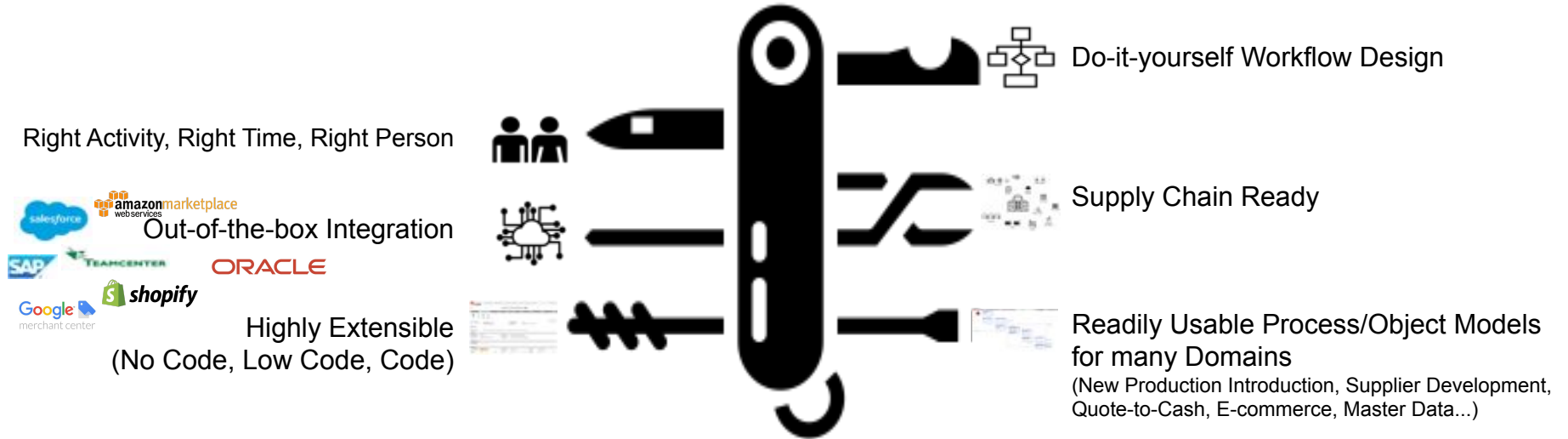


Effect



Root cause

# ZFlow – The Swiss Army Knife of Digital Workflow

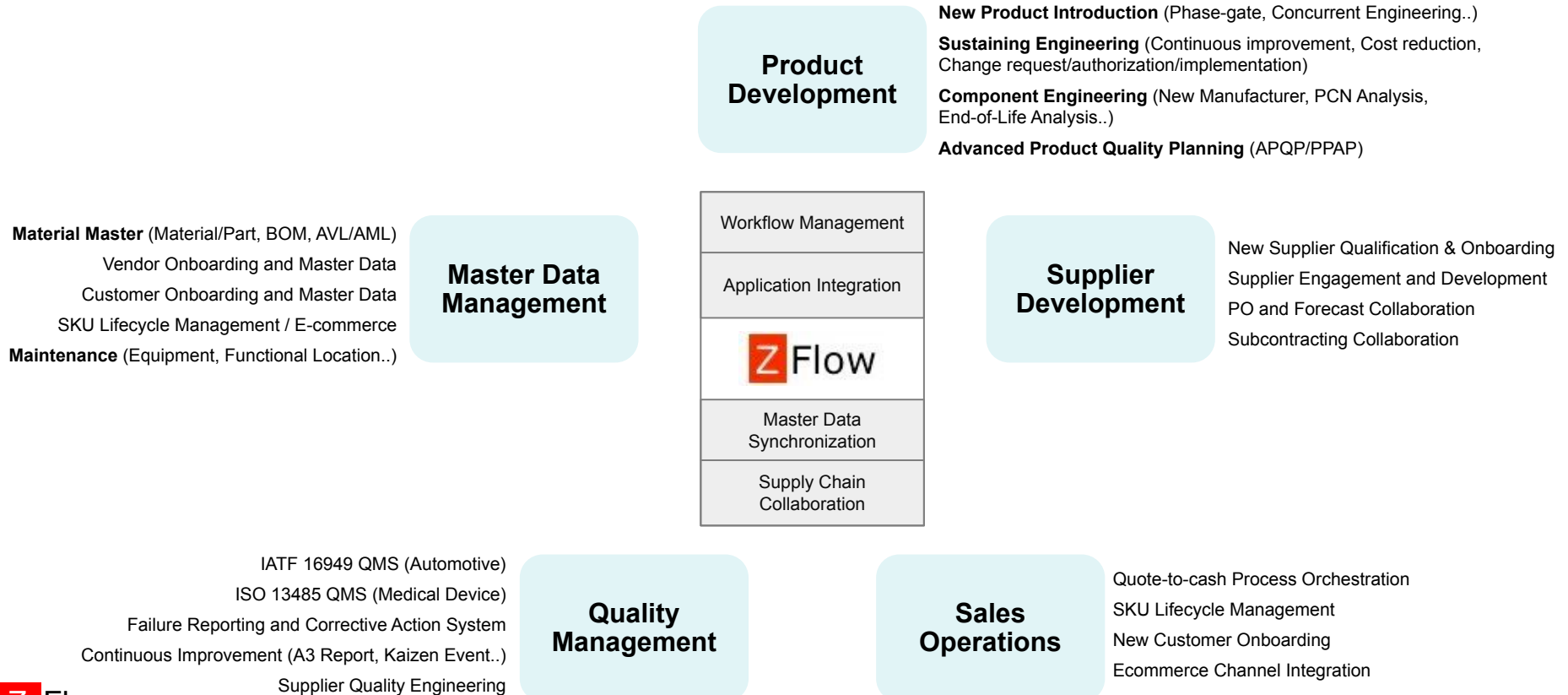


Unanimous perspective of ZFlow customers

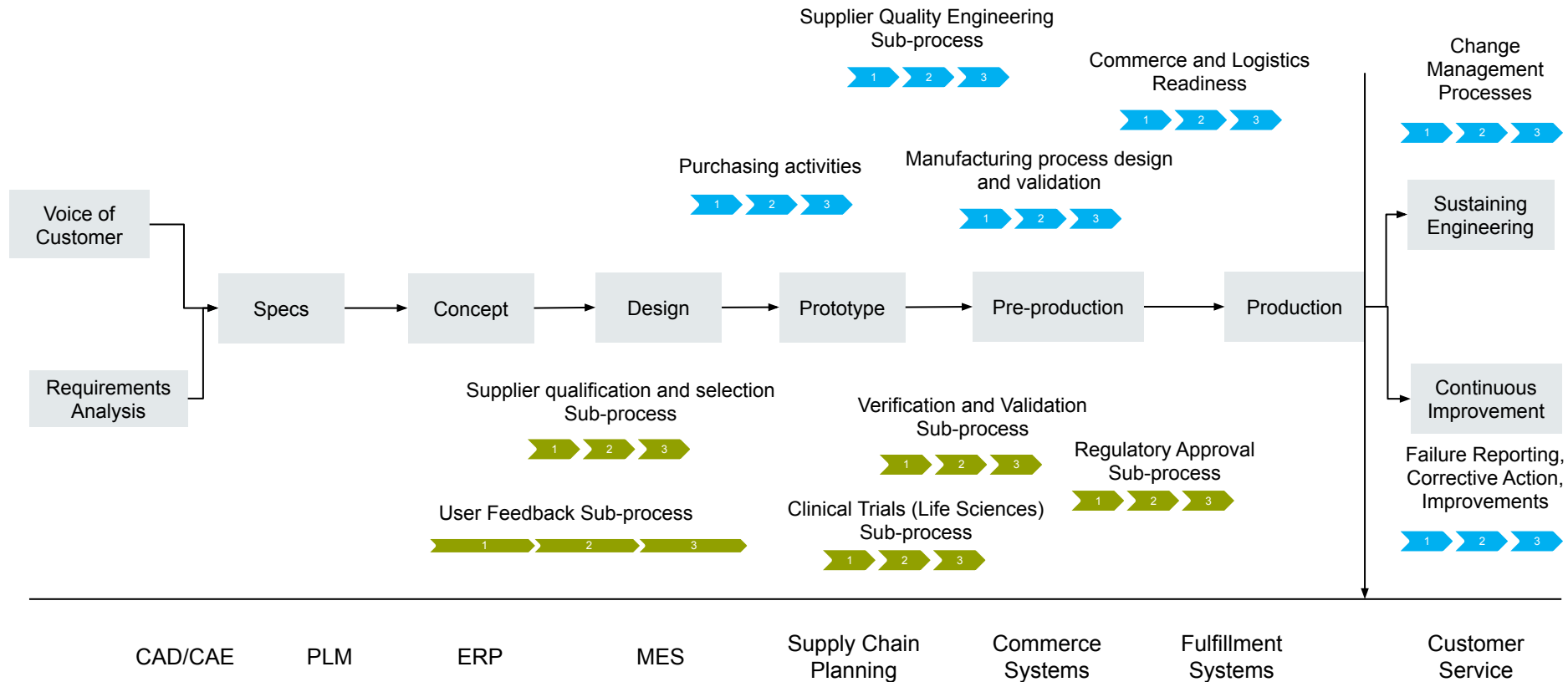
Quite Possibly the Most Effective Digital Workflow Solution for the Supply Chain

# ZFlow Digital Workflow Apps for Product and Supply Chain Development

*100+ compelling digital workflow apps and growing*

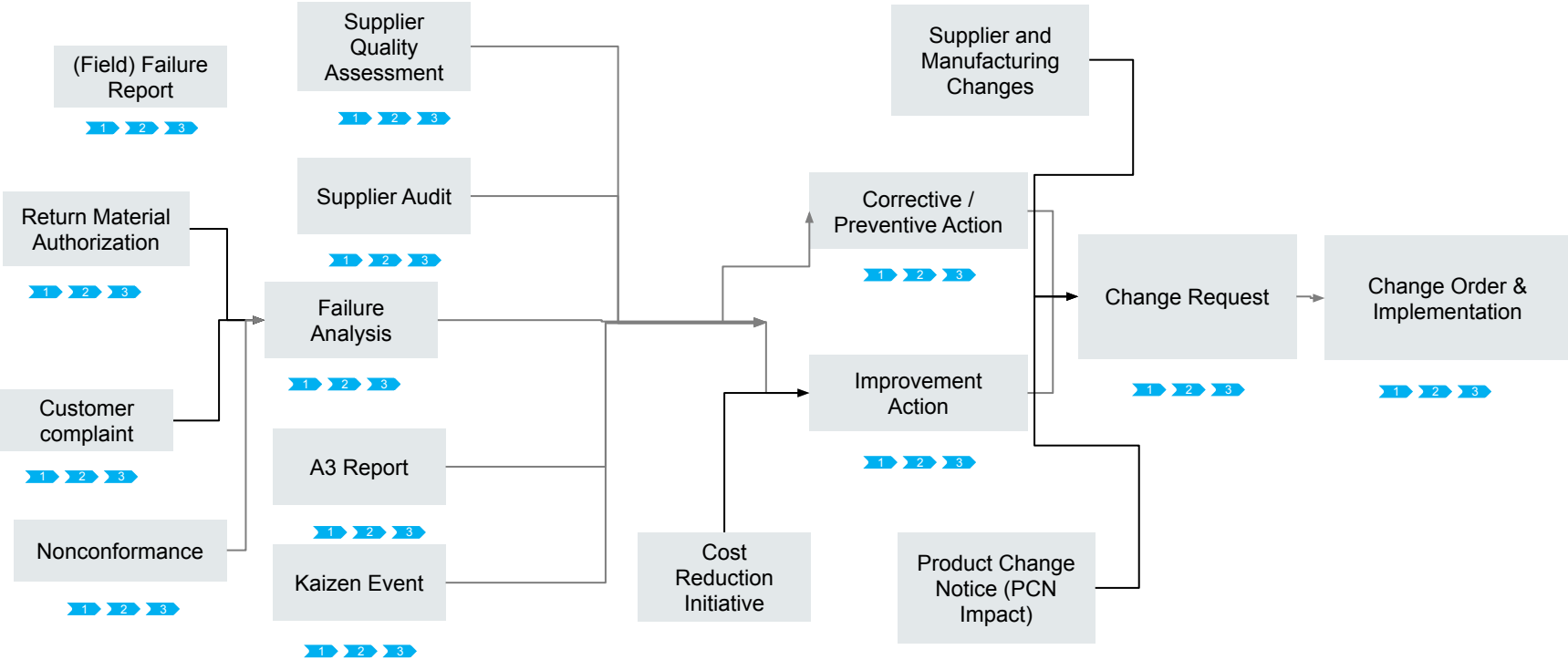


# Digital Process Orchestration for New Product Introduction

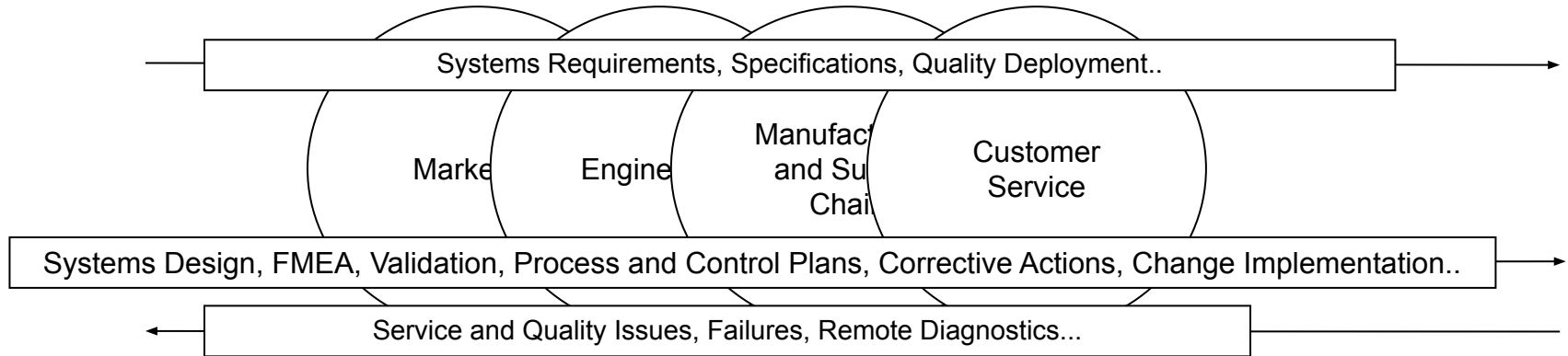




# Sustaining Engineering and Continuous Improvement



# NPI and Sustaining Engineering with ZFlow



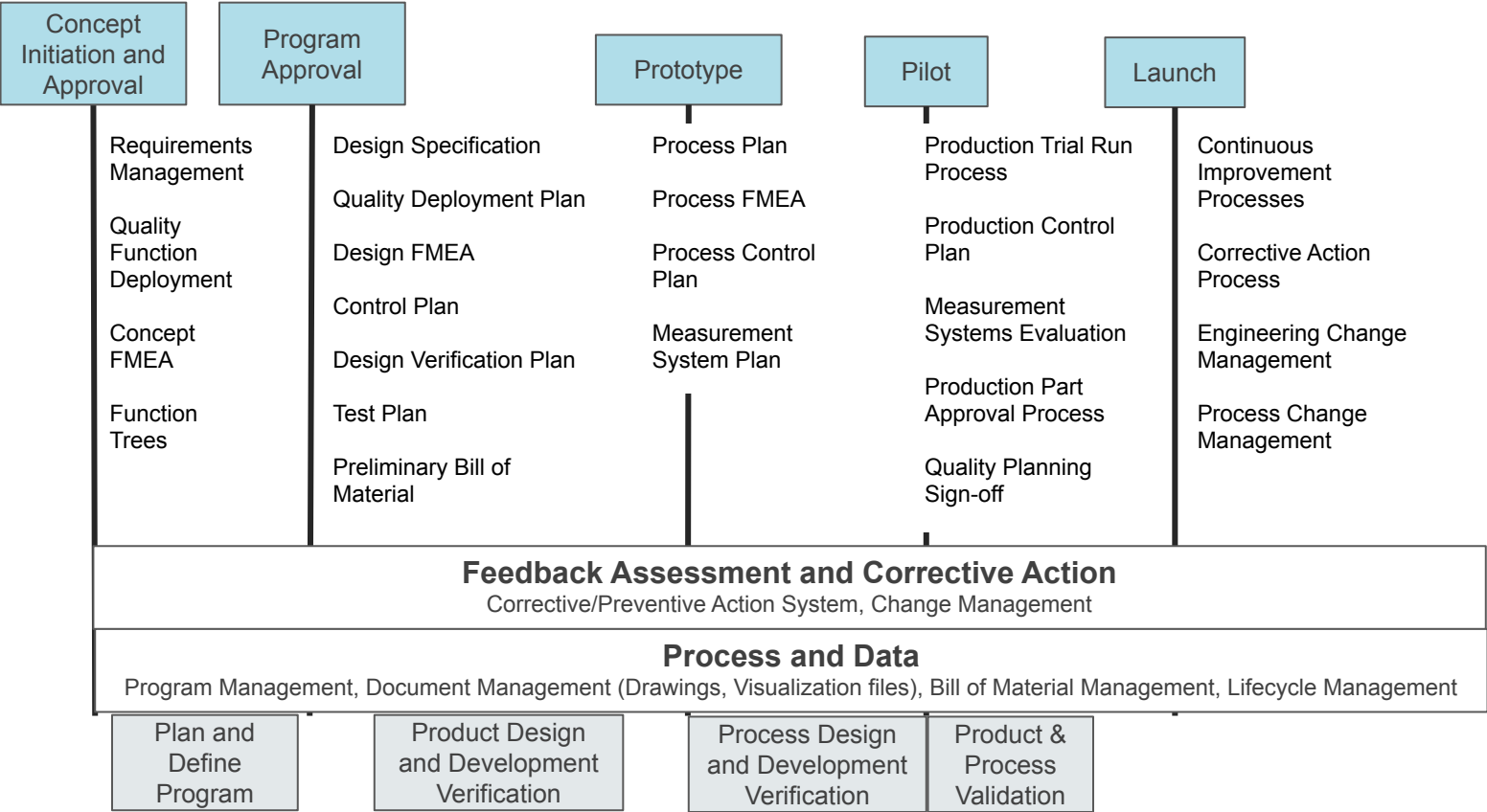
for  
*High Quality, Safety and Reliability*  
*Speed to Market*  
*Continuous Improvement*

# Value of ZFlow for NPI and Sustaining Engineering

A few examples

Business Functions	Productivity and Speed Improvements
New Product Introduction	<ul style="list-style-type: none"><li>• Faster time to market</li><li>• Smooth product launches</li></ul>
Sustaining Engineering	<ul style="list-style-type: none"><li>• Faster and smoother change analysis and implementation</li><li>• Reduction in effort</li></ul>
Component Engineering	<ul style="list-style-type: none"><li>• Effective component and supply chain risk management</li><li>• Faster, efficient and effective PCN impact analysis</li><li>• Reduction in effort</li></ul>
Continuous Quality Improvement	<ul style="list-style-type: none"><li>• Faster failure resolution and corrective/preventive/improvement action implementation</li></ul>
Master Data	<ul style="list-style-type: none"><li>• 50-80% reduction in effort (new suppliers/manufacturers, new parts..)</li></ul>
Supply Chain	<ul style="list-style-type: none"><li>• 25-50% improvement in productivity and speed (Selection, Qualification, Supplier Quality Engineering)</li></ul>

# Processes and Techniques in ZFlow for Effective NPI and Sustaining Engineering



# Best Practice NPI Scenarios in ZFlow

**Launch Pad for Supplier Administrator**

**Account Maintenance**

- Change Supplier Profile (Active(0) | Insights | New)
- Create Supplier Profile (Active(0) | Insights | New)

**Supplier Parts**

- Supplier Part Change Request (Active(0) | Insights | New)
- Part/Assembly (Active(31) | Find)

**RFX**

- RFP Response (Active(0) | Insights)
- RFQ Response (Active(0) | Insights)

**Purchasing**

- Advanced Shipping Notice (Active(0) | Insights | New)
- Purchase Order Collaboration (Active(1) | Insights)

**Manufacturing**

- Manufacturing Work Order Collaboration (Active(0) | Insights)

**Program Management**

- Supplier Product Development (Active(1) | Insights | New)

Making Suppliers integral to NPI and Sustaining Engineering

**Template - New Product**

Role Name	Description
<input type="radio"/>	Participant
<input type="radio"/>	Design Engineer
<input type="radio"/>	Process Admin
<input type="radio"/>	Manufacturing Engineer
<input type="radio"/>	Product Manager
<input type="radio"/>	Project Manager
<input type="radio"/>	Quality Coordinator

**Template - New Product Development - Stage Gate Process**

```

    graph TD
      Start((Start)) --> ProgramSet[Program Set up]
      ProgramSet --> ConceptDev[Concept Development Project]
      ConceptDev --> ConceptApp[Concept Approval]
      ConceptApp --> DesignEng[Design and Engineering Project]
      ConceptApp -- Rejected --> Rejected(( ))
      DesignEng --> DesignRev[Design Review]
      DesignRev --> PrototypeDev[Prototype Development Project]
      PrototypeDev --> ProductionRev[Production Feasibility Review]
      ProductionRev --> End((End))
  
```

Driving NPI program and Stage-gate process with cross-functional teams

# Best Practice NPI Scenarios in ZFlow

**Template - New Product Development - Stage Gate Process**

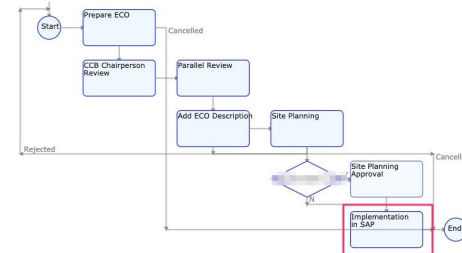
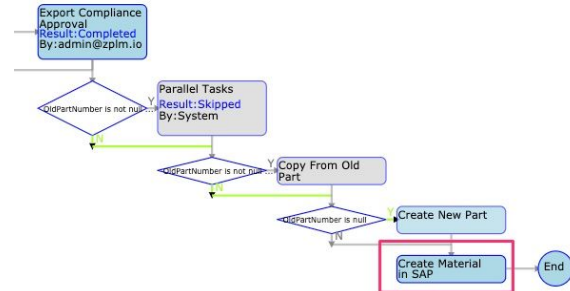
Workflow Graph View Log Report

Start → Program Set up → Concept Development Project → Concept Approval → Design Review → Prototype Development Project → Production Feasibility Review → End

Rejected path: Concept Approval → Rejected → Design Review → End

Part	Attachments	BOM	Part Number	Per	Name	Supplier	Raw Material	Total Cost (\$)	Leadtime (days)
+			ZPhoneX	Act	Phone X			215.80	0
+			A10X	IC	DX-SOC			26.90	0
+			Battery	IC	attery			1.25	0
+			Box Contents	IC	Contents			11.80	0
+			Camera	Act	emeter			19.90	0
+			Communications-module	Act	ations-module			41.90	0
+			BT-GNSS-Frontend	IC	IS-Frontend				
+			BT-WLAN-Module	IC	WLAN-Module				
+			Baseband	IC	seband				
+			GNSS-Receiver	Part	GNSS-Receiver				
+			RF Front End	Assembly	RF Front End				
+			Antenna Switch Module	Part	Antenna Switch Module with Filters			39.00	0
+			Envelope Tracking IC	Part	Envelope Tracking IC	Qervu Inc			
+			FEM	Part	FEM				
+			PAM	Part	PAM				
+			RF Transceiver	Part	Multi-mode RF Transceiver				
+			Display	Assembly	Display				
+			Electromechanicals	Assembly	Electromechanicals			16.70	0
+			Glue Logic	Part	Glue Logic			1.30	0
+			Mechanical	Assembly	Mechanical			18.20	0
+			Memory	Assembly	Memory			16.40	0
+			Power Management	Assembly	Power Management			7.20	0

Information Rich NPI and Sustaining Engineering Processes



Out-of-the-box Integration of NPI and Sustaining Engineering Workflows to ERP, MES, Planning, CRM systems

# Component Engineering Innovations in ZFlow



## Selection

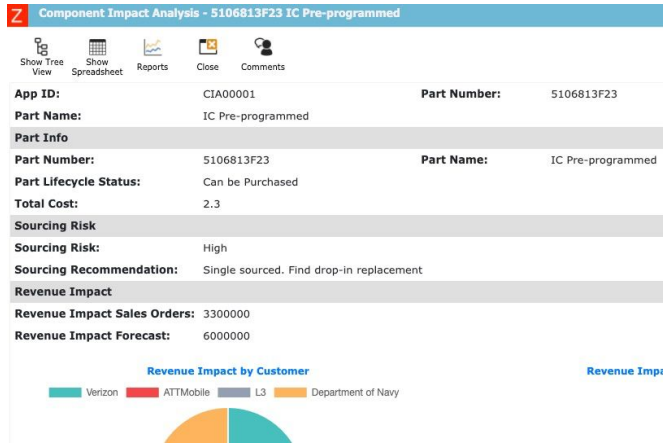
(Functional, Process,  
Quality, Reliability,  
Lifecycle,  
Multi-sourcing)

## Changes

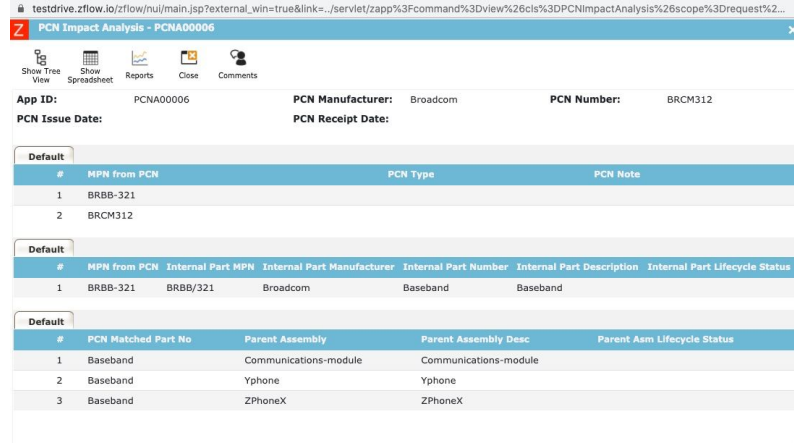
(handling PCNs..)

## End-of-life

# Component Impact and Product Change Notice Analysis



**Component Impact Analysis**  
to understand risk and revenue  
impact of components



**PCN Analysis** to intelligently  
match PCN parts to Internal  
Parts and their impact on  
assemblies and finished goods



# Component End-of-life Strategies

The screenshot displays a software interface with a top navigation bar containing icons for 'Show Tree View', 'Show Spreadsheet', 'Reports', 'Close', 'Logs', and 'Comments'. Below the navigation bar, there are several sections of data:

- Part Info:**
  - App ID: EOLA00001
  - Part Number: Baseband
  - Part Name: Baseband
  - Manufacturer Part Number: SKBB123
  - Manufacturer Name: Skyworks
  - Last Time Buy Date: 2020/08/31 0:00:00
  - Total Cost:
  - Part Lifecycle Status: Can be Purchased
- Status:**
  - Criticality Score: 500
  - Status: Under Watch
- Inventory Info:**
  - Total Demand: 1000000.00000
  - Total On Hand Inventory: 500000.00000
  - On Order Qty: 0.00000
  - Balance Qty: -500000.00000
- Update Info:**
  - Last Update: 2020/07/16 7:43:29
  - Updated By: admin@zflow.io

Below these sections is a table with a 'Default' tab. The table has the following columns: #, Site, Buyer, Demand, On Hand Inventory, On Order Qty, Balance, and Estimated Run Out Date.

#	Site	Buyer	Demand	On Hand Inventory	On Order Qty	Balance	Estimated Run Out Date
1	Shenzen	Robert	0.00000	0.00000	0.00000	0.00000	
2	Taipei	Tim	1000000.00000	500000.00000	0.00000	-500000.00000	2020/09/30 0:00:00

**End-of-life Analysis** to analyze and come up with the right strategy when manufacturer parts are going EOL

- Last Time Buy from Manufacturers (requires visibility into expected future volumes)
- Distributors
- Buy the Design and Contract Manufacture
- Essentially buy time and enough have volume until Redesign and Requalification
- Last resort, EOL your product

# NPI Program and Supply Chain Risk Management

**Supplier Risk Assessment - Intel Intel**

Show Tree View Show Spreadsheet Reports Close Comments

**Part Number:** A10X  
**Part Description:** A10X SOC  
**Manufacturing Plant:** Portland

**Default**

#	Seq No.	Risk Category	Risk Subcategory	Weight	Score	Rating
1	1	Quality		60.00	3	69.00
	# Seq No.	Risk Category	Risk Subcategory	Weight	Score	Rating
	1 1	Quality	Defects per million	30.00	3	33.00
	2 2	Quality	Ease of problem resolution	25.00	2	18.00
	3 3	Quality	Product complexity	15.00	4	22.00
	4 4	Quality	Timeliness of corrective action	25.00	2	18.00
	5 5	Quality	Value of product	5.00	4	7.00
	# Period				Score	
2	2	Disruption		40.00	2	31.00
3	3	Procurement		0.00	0	0.00
4	4	Inventory		0.00	0	0.00
5	5	Intellectual Property		0.00	0	0.00

ZFlow - Digital Workflow for the Modern Supply Chain

View site information: jzflow/nul/main.jsp?external\_wint=true&link=.../service/zapp%3Fcommand%3Dview%26cls%3DProductSupplyChainRiskAnalysis%26scope%3D...

**Product Supply Chain Risk Analysis - ZPhoneX**

Show Spreadsheet Reports Close Comments

**Product Supply Chain Risk Analysis** App ID: PSRA00001

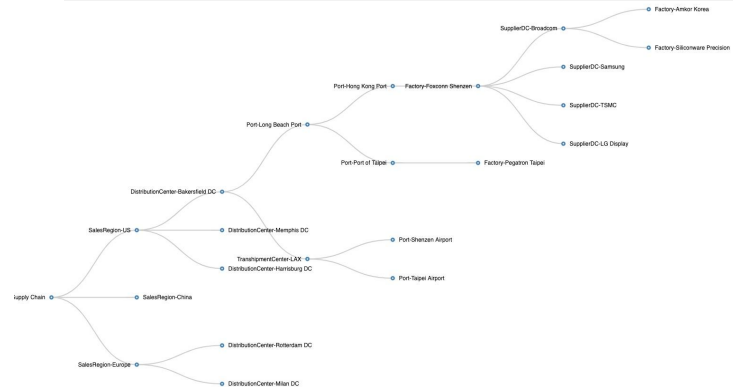
**ZPhoneX**

**Part Info**  
**Part Number:** ZPhoneX **Part Name:** ZPhoneX

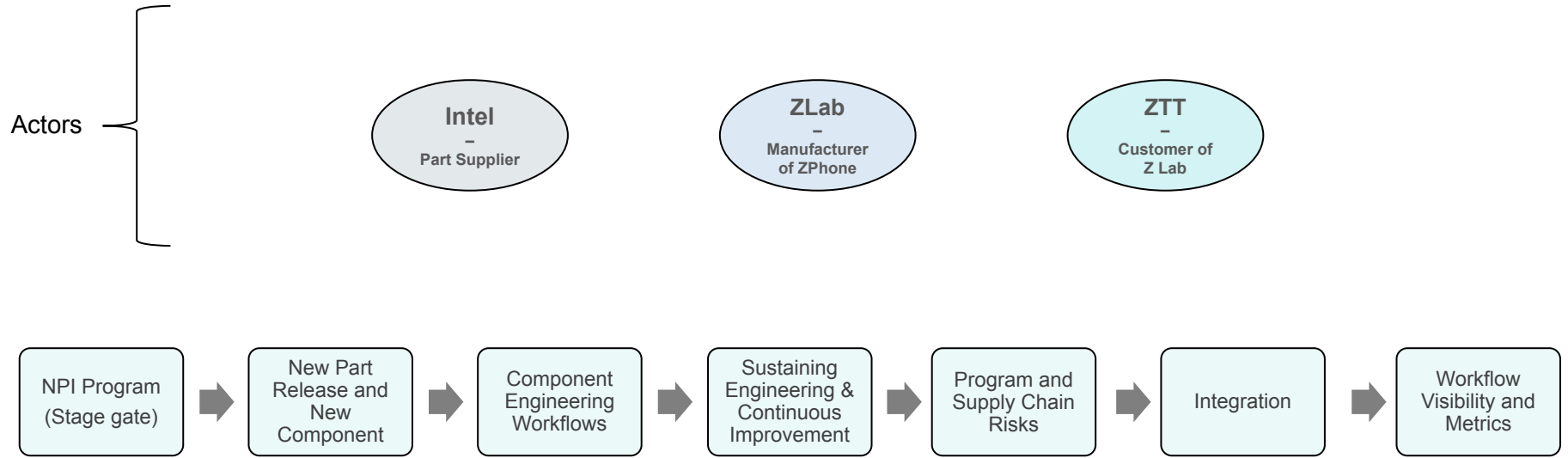
**Sourcing Risk**  
**Overall Sourcing Risk:** Low  
**Single Sourcing Risk:** Low  
**Component Availability Risk:** Low  
**End Of Life Risk:** Low

**Sourcing Risk Details**  
**Components with Single Sourcing Risk:** 5  
**Percentage of Components with Single Sourcing Risk:** 10.00000  
**Components with Availability Risk:**  
**Percentage of Components with Availability Risk:**  
**Components with EDL Risk:** 3  
**Percentage of Component with EDL Risk:** 5.00000

**Supplier Risk**  
**Supplier Quality Risk:**  
**Supplier SLA Risk:**  
**Supplier Stability Risk:**  
**Sunolier Canability Risk:**



# Demo



# Summary

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

[Test Drive ZFlow](#)

[Free Proof-of-concept](#)

# For More Information

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