Supplier Development

-

The Practical Path To A Better Supply Chain

Kris Gorrepati and Hiren Shah
Cambrian Lab

ZFlow

ZFlow
Designed by
Cambrian Lab

Agenda

- About Cambrian Lab
- Supplier Development - More Important That Ever
- Supplier Development Progression and Elements
- Demo
- Q&A
- Getting Started

About Cambrian Lab

Mission: To Provide Effective and Practical Solutions for New Product and Supply Chain Development

Team

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

Industries

Automotive, High-tech, Semiconductor Equipment, Medical Devices, Consumer Products

Locations

SF Bay Area, Detroit, Boston, Houston

Expertise

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

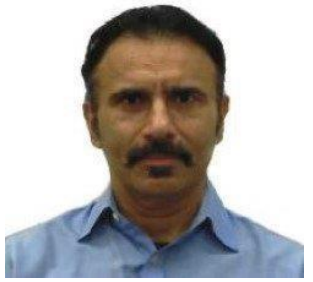
Offerings

ZFlow – Digital Workflow for the Modern Supply Chain

Panelists

Kris Gorrepati

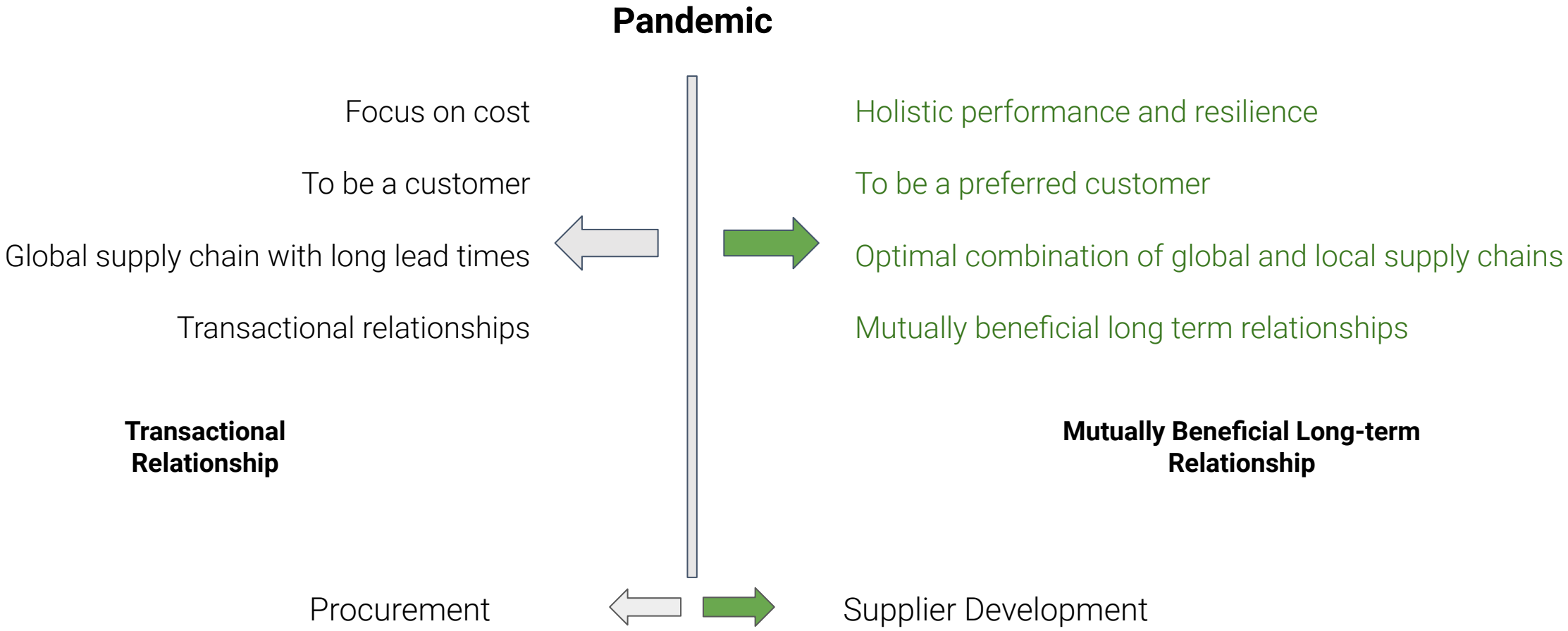
- 20+ years experience in New Product Development and Introduction and Supply Chain Manufacturing
- SAP, Samsung, Ford, Caterpillar
- Auto, High-tech, Software
- Michigan Tech (Mech Engg.), UCLA



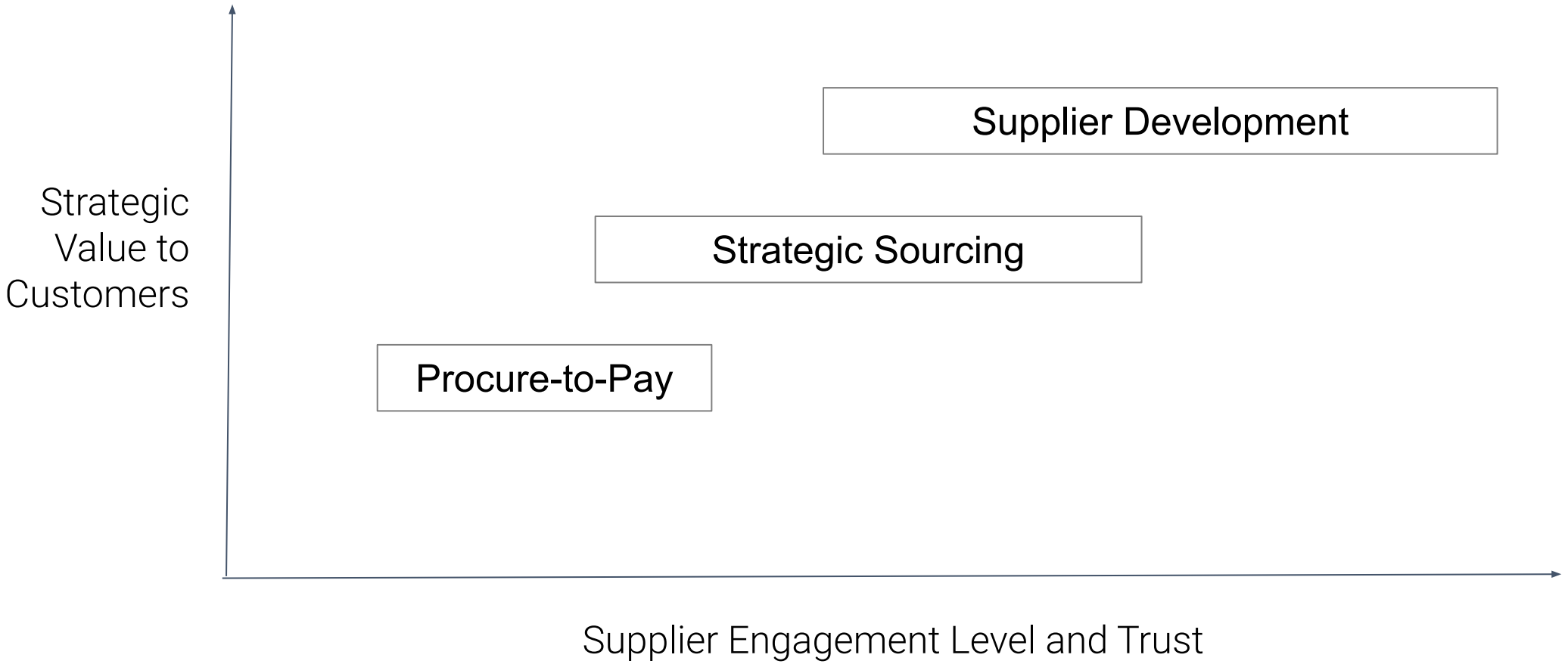
Hiren Shah

- 20+ years experience in ERP, CRM, Finance, Manufacturing
- SAP, Ford, Samsung..
- Auto, High-tech, Software
- Michigan Tech (Elec Engg.), University of Chicago

Pre and Post Pandemic Supply Chains



Strategic Value of Supplier Development



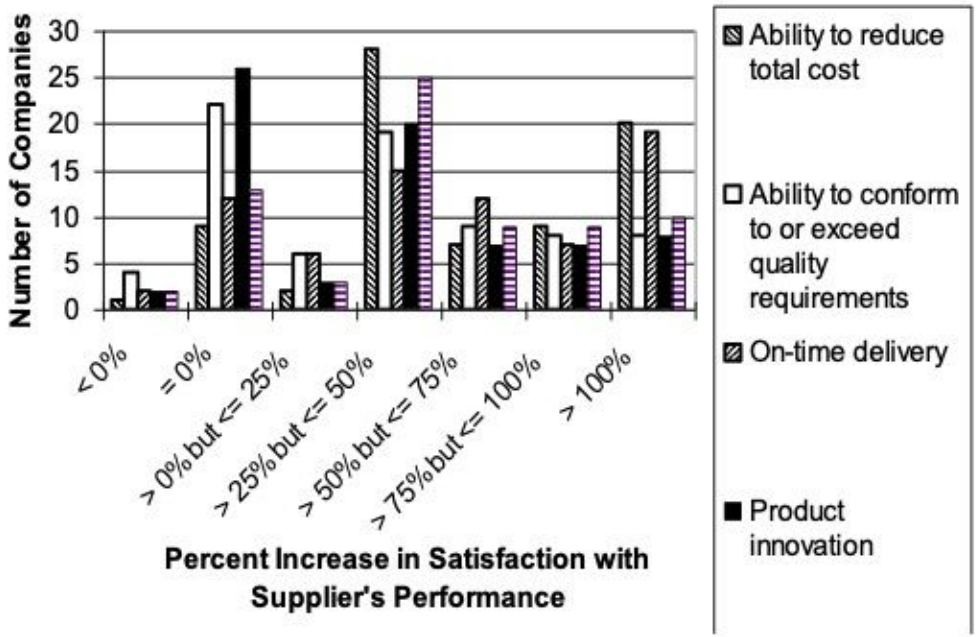
The Business Case for Supplier Development

Figure 2 - Supplier Development Results

Krause, 1997, Survey of 527 firms
Respondents: NAPM members

Criteria	Before Supplier Development	After Supplier Development
Incoming defects	11.65 %	5.45 %
% on-time delivery	79.85 %	91.02 %
Cycle time (from order placement to receipt)	35.74 days	23.44 days
% orders received complete	85.47 %	93.33 %

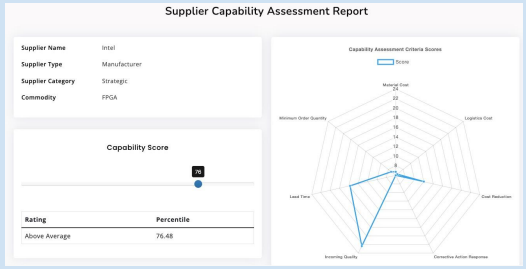
Figure 3 - Satisfaction



Source: Executive report of key results of recent research on supplier development strategies and outcomes – Dr. Robert Handfield

Supplier Development Progression

Evaluation, Audit and Performance Assessment



Capability	Area	Performance Criteria	Question	Program	Weighting Factor	Score	WDOS
Quality	Yield	Yield during startup	How long did it take to hit the target yield	ModelZ	0.00000	8	0
				ModelY	0.00000	9	0
				ModelX	0.00000	9	0
	Defects	Number of Defects	Number of observed defects	ModelZ	0.00000	9	0
				ModelY	0.00000	8	0
				ModelX	0.00000	8	0
Product Technology	Hardware	Fit and Finish	Panel gaps	ModelZ	0.00000	7	0
				ModelY	0.00000	7	0
				ModelX	0.00000	5	0
Process Technology	Process Stability	Throughput	How long did it take to hit the target	ModelZ	0.00000	5	0
				ModelY	0.00000	5	0
				ModelX	0.00000	3	0
Cost	Initial Cost	Initial Cost	What is the initial cost	ModelZ	0.00000	6	0
				ModelY	0.00000	7	0
				ModelX	0.00000	7	0

Potential Supplier → **Qualified Supplier** → **Active Supplier** → **Preferred Supplier**

Identified as a potential supplier

Qualified as a supplier, but no purchasing relationship yet

Supplier with current purchasing agreements and business

Existing high performance supplier (first choice)

Supplier Development Activities

Training | Investment | Engineering Support | Supplier Quality Engineering | Corrective Actions | 8D / A3 Report / Kaizen Event | Recognition and Reward

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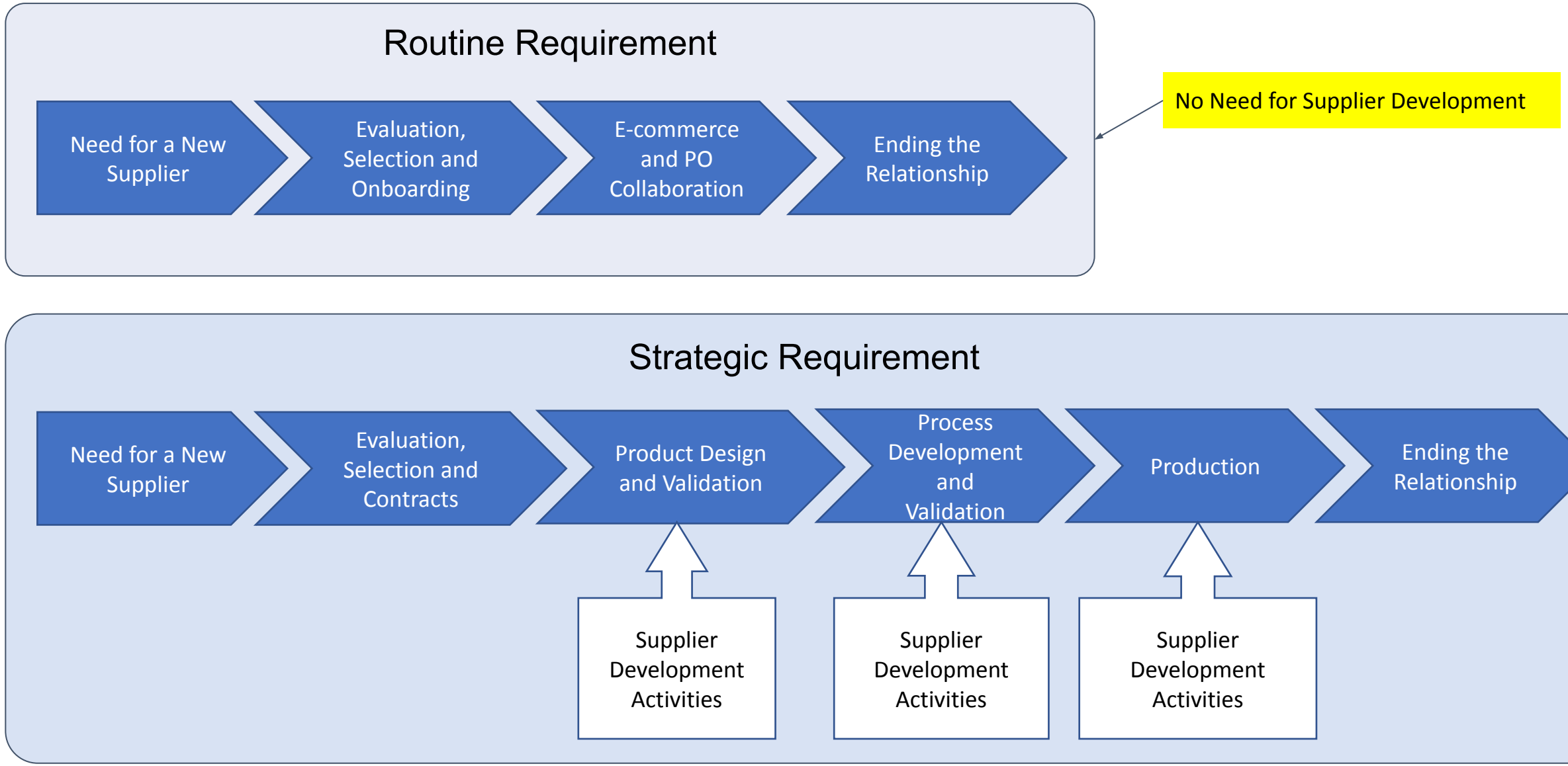
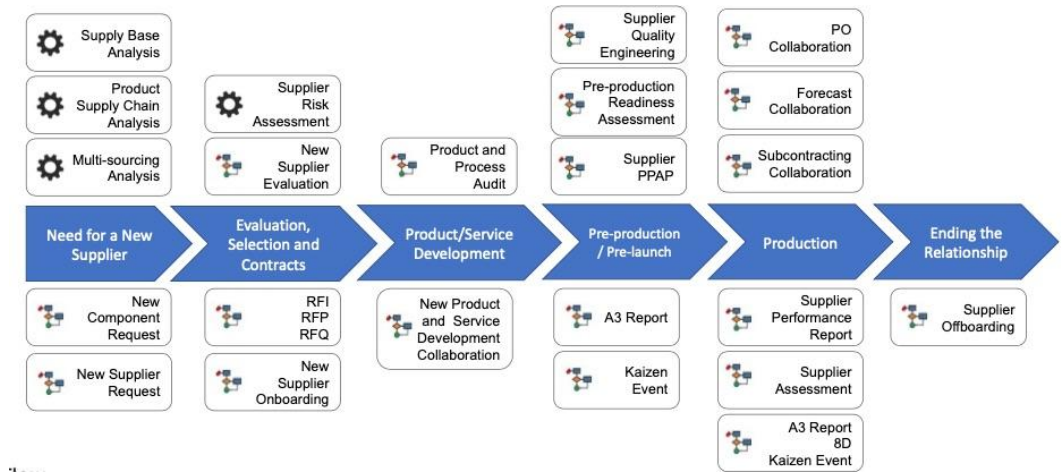
Different Levels of Supplier Development for Different Needs



Supplier Development Today

Not a Systematic Process Nor Supported Well



Companies struggle to support Supplier Development

Effect

Poor Supply Chain Performance

Lack of Supply Chain Readiness

Supply Chain Disruption

New Product Launch Delays

Poor Product and Service Quality

High Warranty Cost

Uniformly bad consequences

Root cause

- Absence of systematic approach, supporting workflows and information
- Requires inordinate amount coordination and complex handoffs
- No cross-functional organizational support
- Information gaps and lack of support for effective and integrated techniques

Supplier Development is poorly supported

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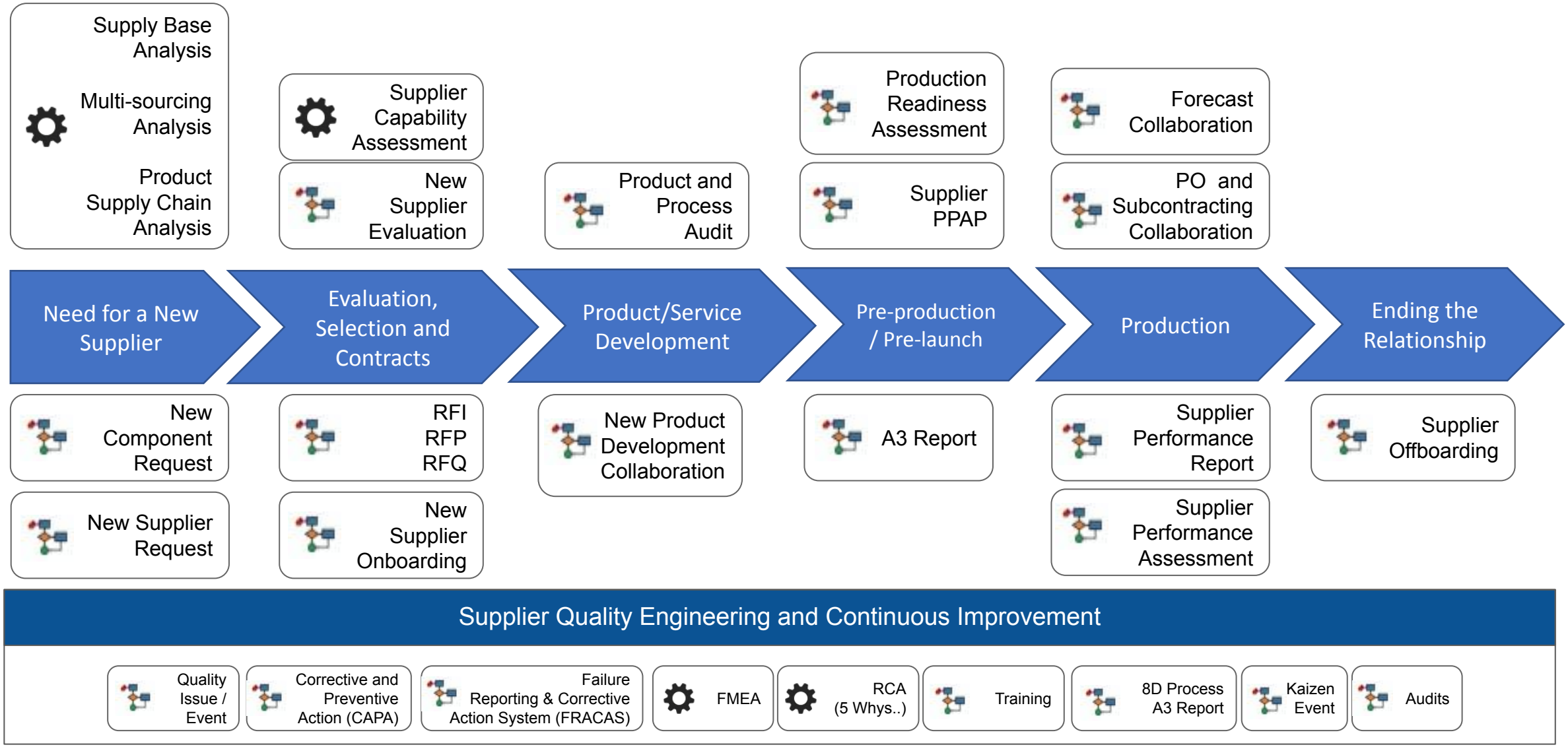
ZFlow for Supplier Development



ZFlow – Digital Workflow for the Modern Supply Chain

Systematic approach (framework and workflows) to Supplier Development

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

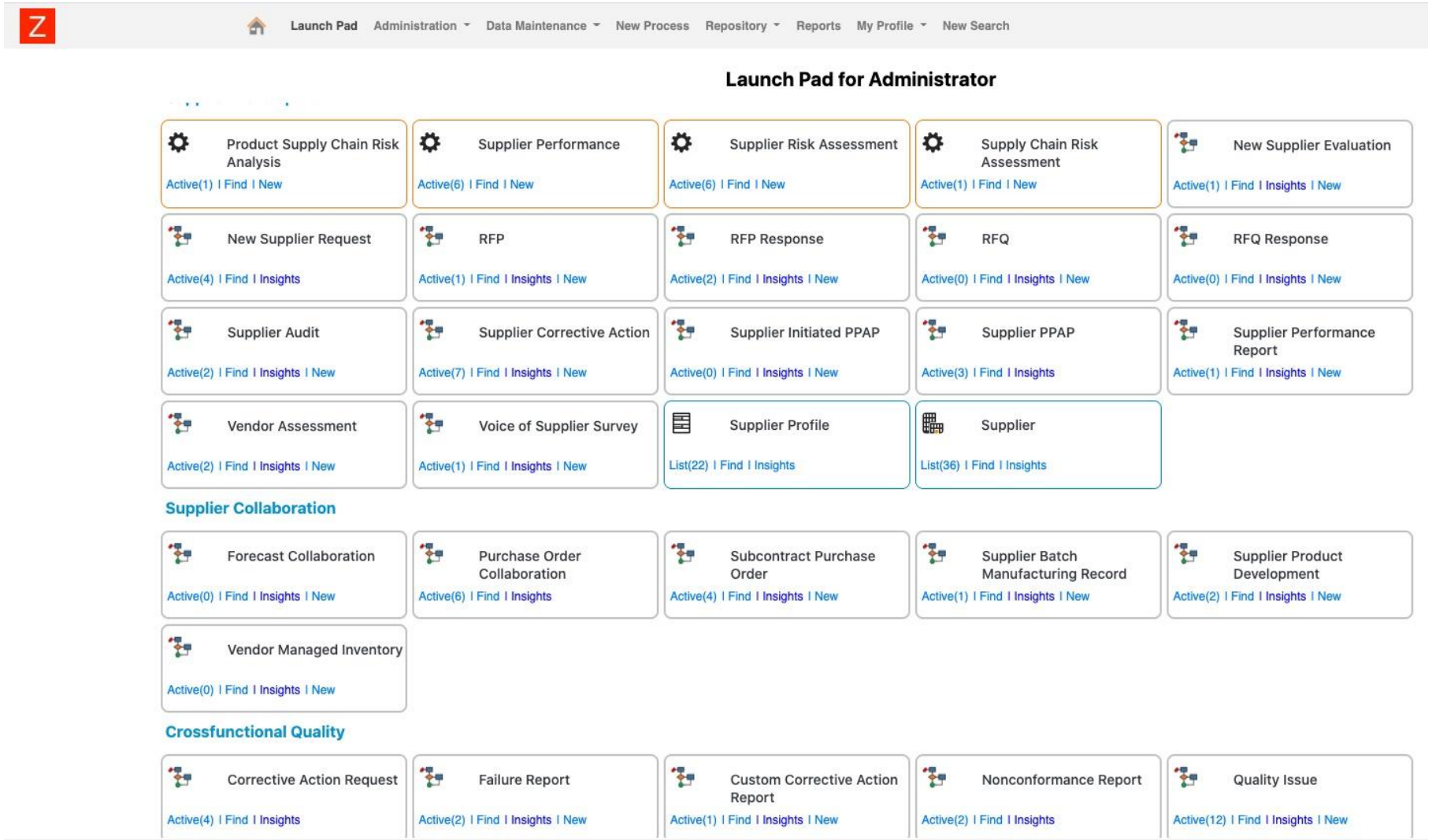
Zero-code

Involves Right People at the Right Time

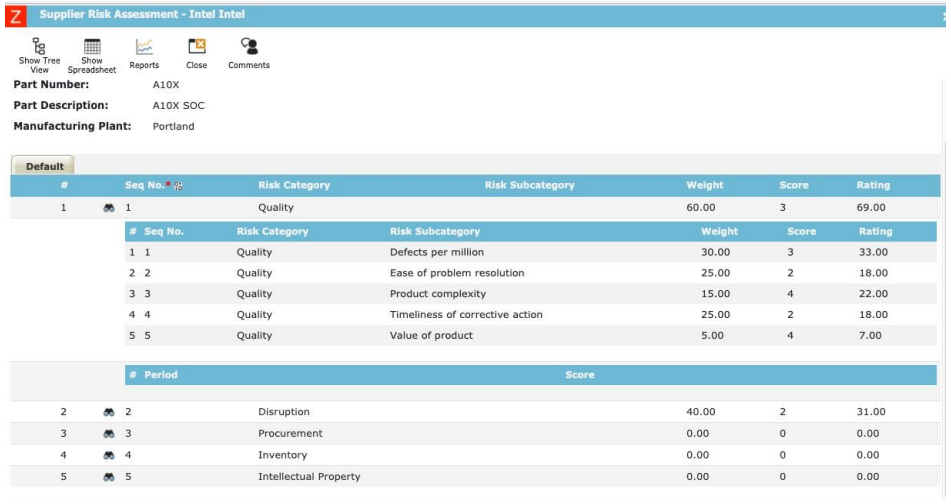
Supply Chain Ready

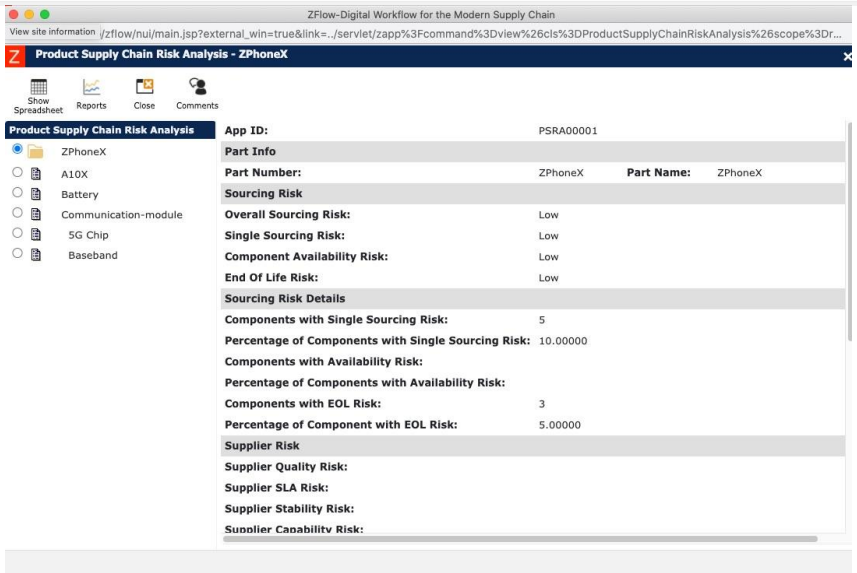
Integrated and effective assessments and techniques

ZFlow for Supplier Development

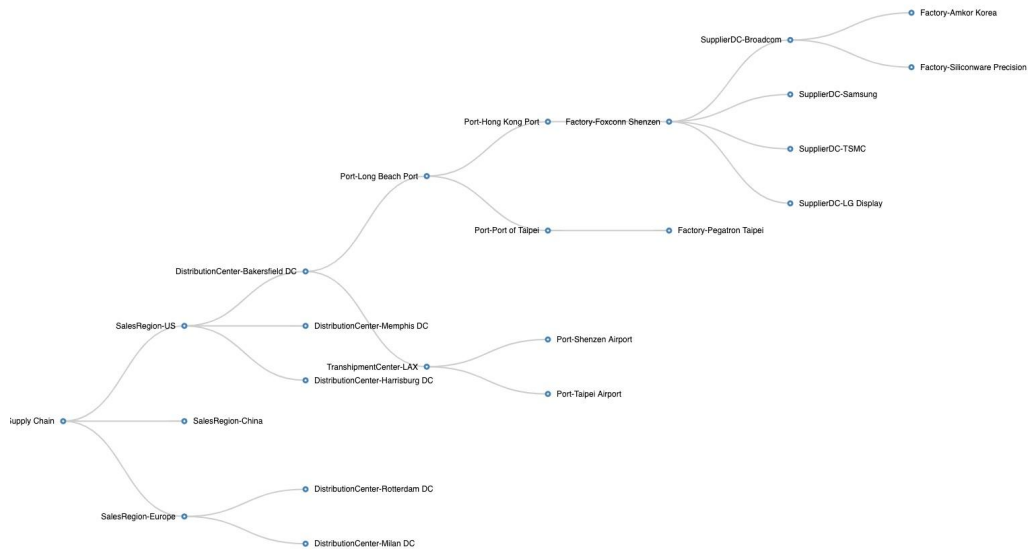


Innovative Supply Base, Product Supply Chain and Multi-sourcing Assessments

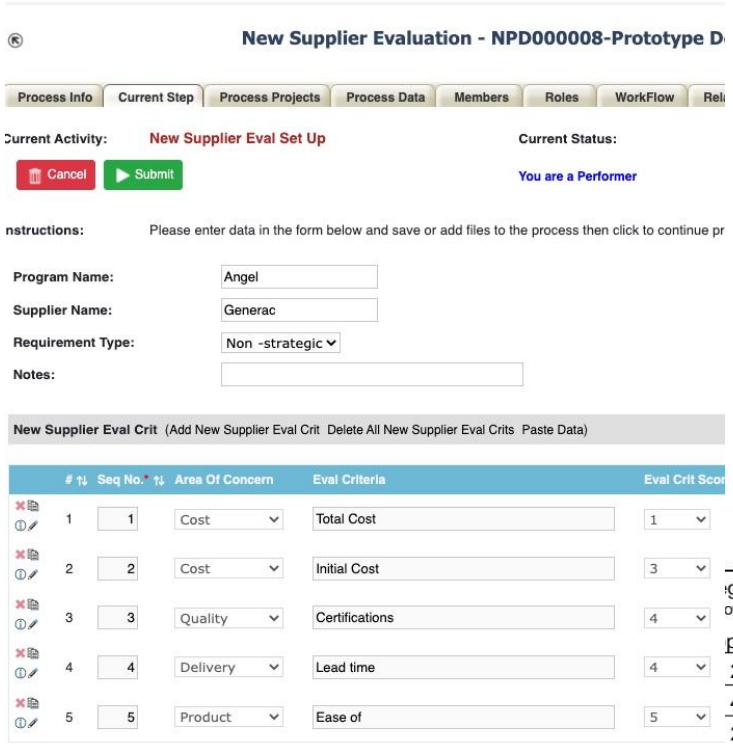




Part Number	Source	Supplier Name	Supplier Relationship Status	Supplier Maturity Level
ZPhoneX	ExternalManufacturing			
User Interface	ExternalSource			
Cameras	ExternalSource	LG Innotek	Preferred	Integrated
Mechanical	ExternalManufacturing			
A10X	ExternalSource	Intel	Preferred	
Memory	ExternalManufacturing	Micron	Preferred	Integrated
Power Management	ExternalSource			
Communications-module	ExternalManufacturing			
Display	ExternalSource	Huizhou Desay	Qualified	
Glue Logic	InternalSource			
Electromechanicals	ExternalSource			
Battery	ExternalSource	Honcell	Qualified	Basic
Box Contents	ExternalManufacturing			
Cameras	ExternalSource			
Camera-Lens	ExternalSource	Yujingguang Kantatsu Largan	Qualified Qualified Qualified	Basic Advanced Advanced
Communications-module	ExternalManufacturing			
GN-Receiver	Procured	Qorvo	Qualified	
Baseband	Procured	Skyworks Broadcom	Preferred Preferred	
BT-WLAN-Module	Procured	Broadcom	Preferred	
BT-GNSS-Frontend	ExternalSource	Broadcom	Preferred	
RF Frontend	Procured	Analog	Active	Advanced
RF Transceiver	Procured	Qualcomm	Qualified	
RF Frontend	Procured			
Envelope Tracking IC	Procured	Texas Instruments	Preferred	Integrated



Evaluating and Selecting New Suppliers



		gree of fulfillment ow, 2=medium, 4=high	
		plier A	supplier B
		2	4
		4	2
		2	1
Delivery and payment terms	1	2	4
Service level and delivery reliability	4	2	4
Short lead times in flow of goods	2	4	2
Capability for custom production	1	4	2
Capability for joint R&D	2	2	4
Financial stability	4	4	2
Importance of buyer rather low	2	4	1
International support	2	4	2
Total score (number of points)	Max. = 104 (= 26·4)	78	70
100% minus gap	Max. = 100%	75%	67%

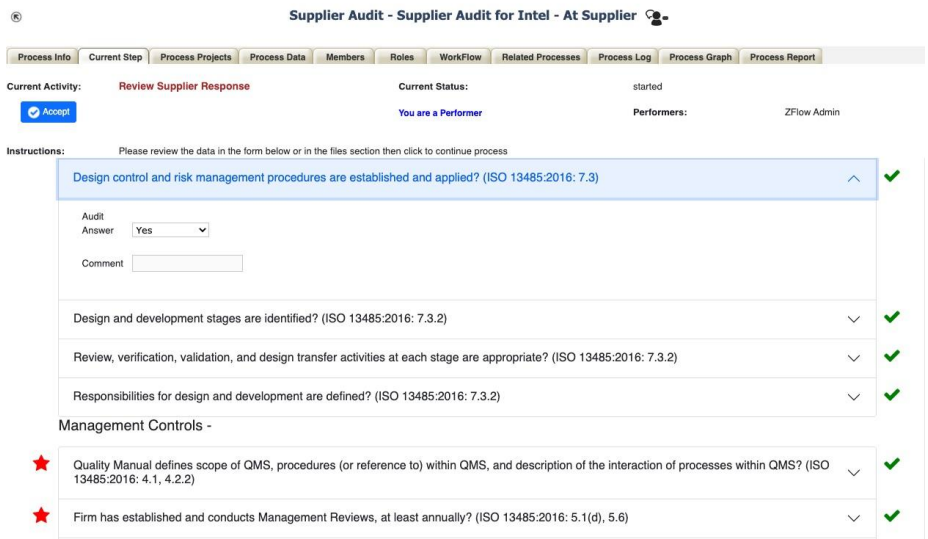
Research, Assessment and Audits for Evaluating and Selecting New Suppliers

Supplier Research → Supplier Self Assessment → Product and Process Audit

IATF, VDA, ISO 13485..

P2	Project management
2.1	Is the project organisation (project management) established and are tasks & authorities specified for the team leader and team members?
2.2*	Are the resources required for the project development planned and available and are all changes displayed?
2.3	Is there a project plan and has this been agreed with the customer?
2.4	Is change management in the project ensured by the project organisation ?
2.5*	Are the responsible personnel within the organisation and in the customer's company involved in the change control system ?
2.6	Is there a QM plan for the project ? is this implemented and monitored regularly for compliance ?
2.7*	Is there an established escalation process and is this implemented effectively ?

P3	Planning the product and process development
3.1	Are the product and process-specific requirements laid down ?
3.2*	Has manufacturing feasibility been assessed in a cross-functional manner, based on the requirements which have been determined for product & process'
3.3	Are there plans for the product and process development ?
3.4	Have the necessary resources been taken into account for the product and process development ?
3.5	Is QM planning arranged for sourcing bought-in products and services ?



Different Evaluation Techniques at Different Stages

Need for a New Supplier → Evaluation, Selection and Contracts → Product Design and Validation → Process Development and Validation → Production → Ending the Relationship

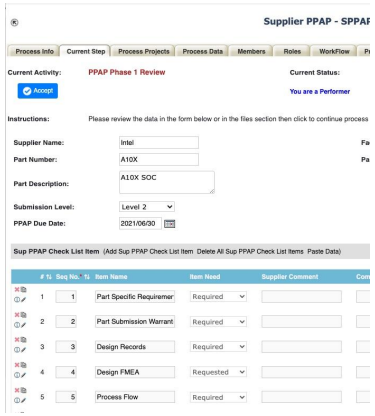
Potential Supplier Assessment

Preliminary Product and Process Audit

Production Readiness Assessment (PPAP.)

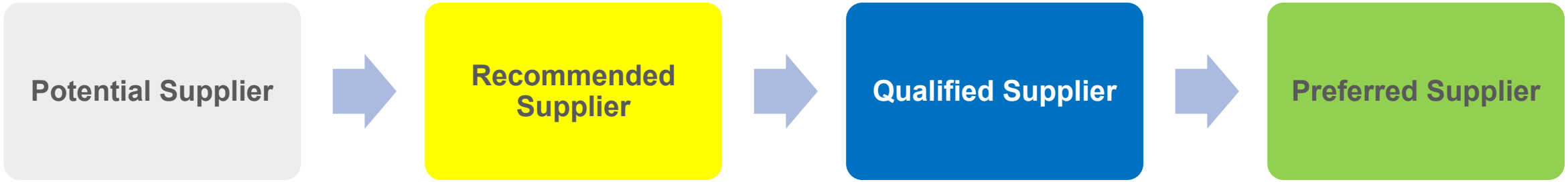
Production Assessment

Process Audits, Performance Monitoring and Assessment



Supplier Quality Engineering

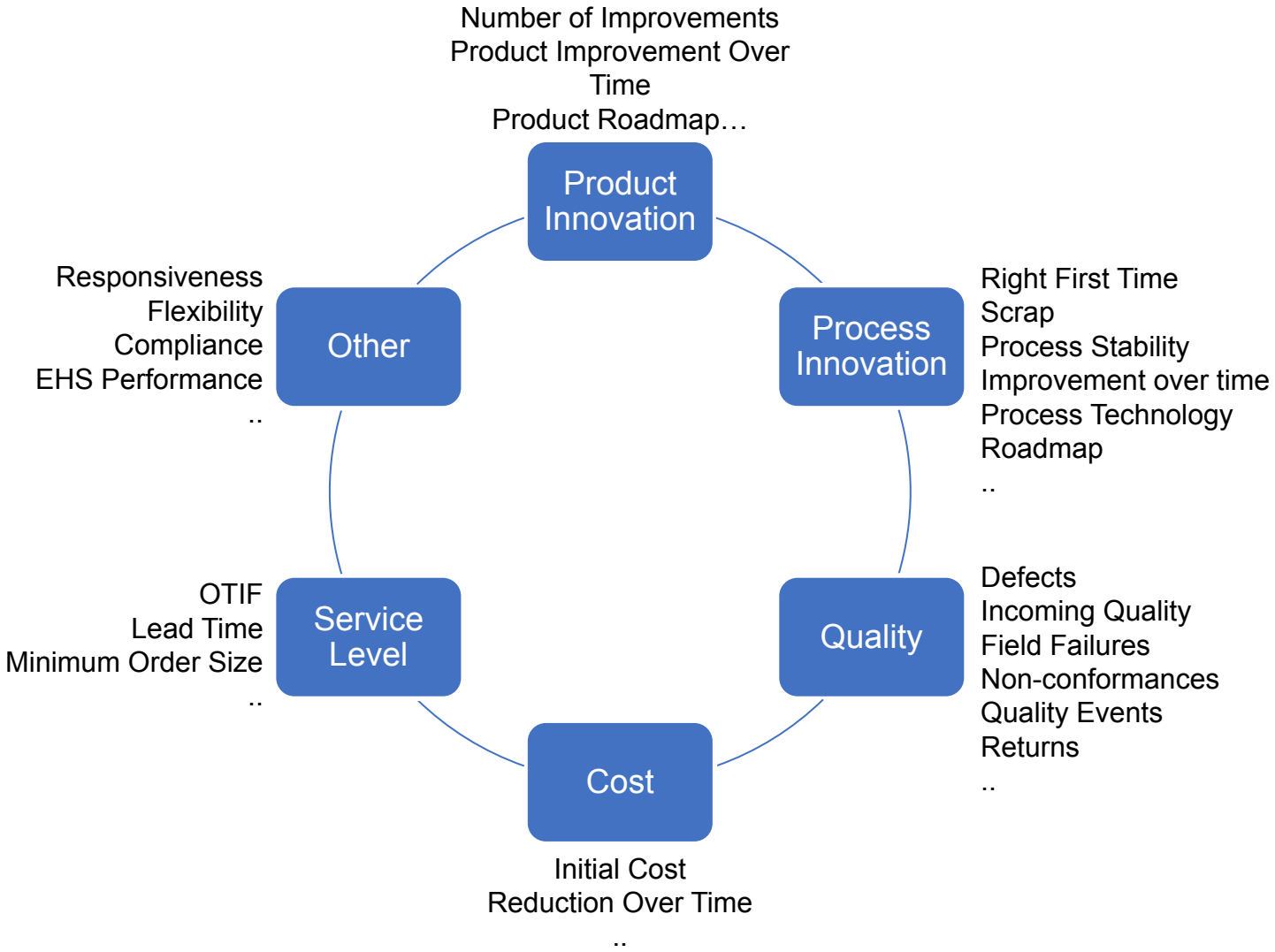
Key Aspect of Supplier Development

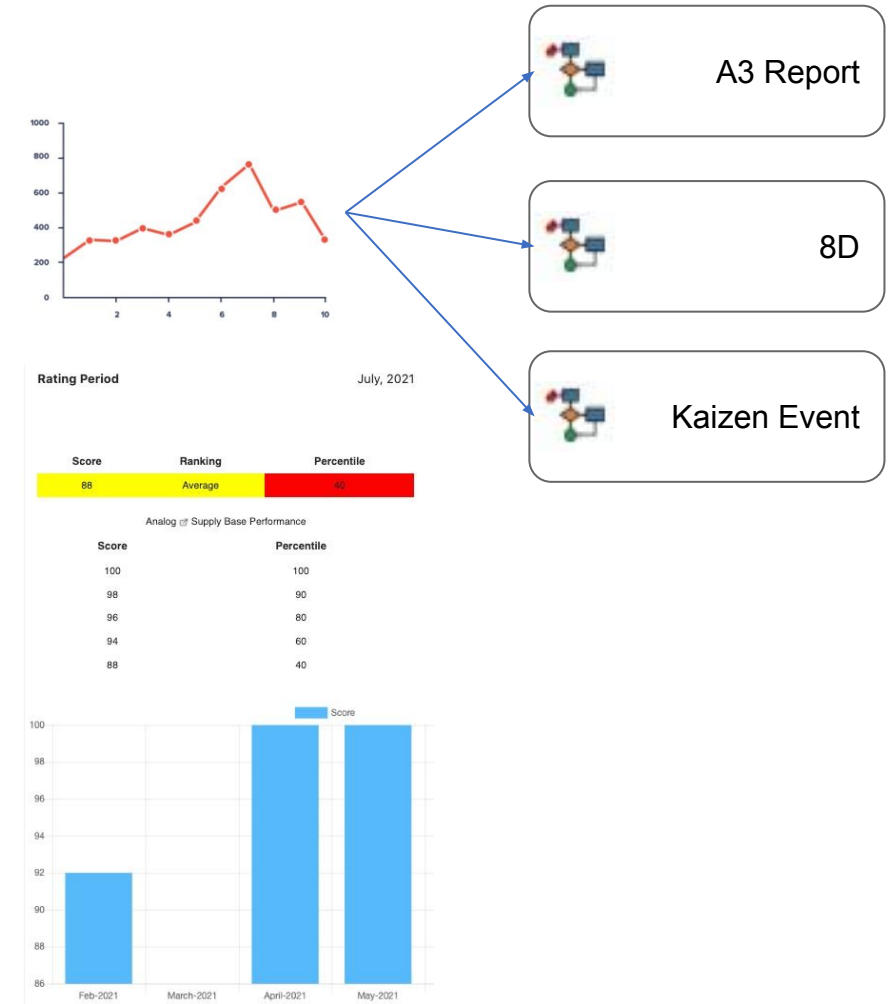


- Quality Management System Training
- Product and Process Audits
- Post-audit Corrective and Preventive Actions
- Statistical Process Control
- Gemba walks

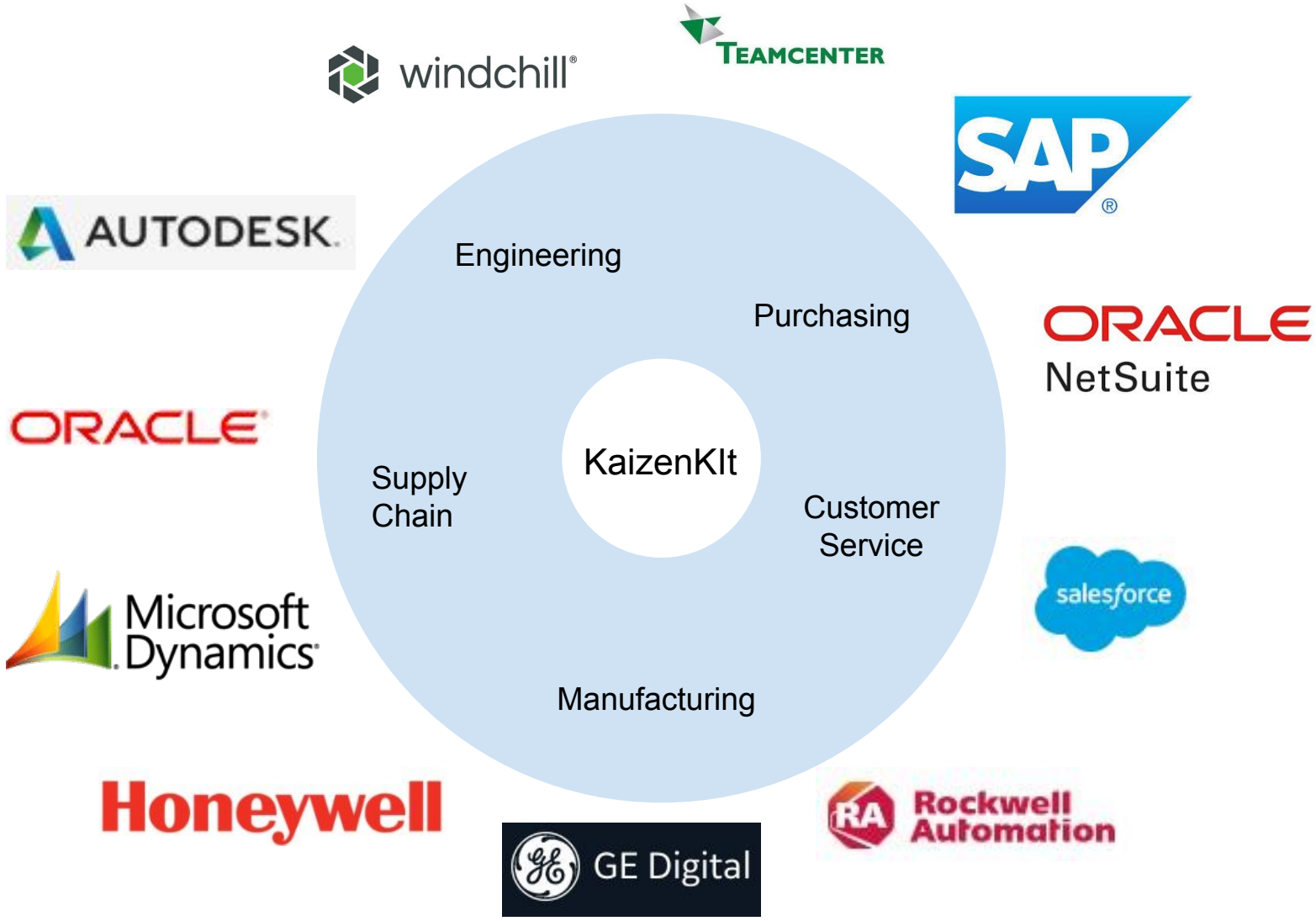
- Quality certifications
- Part and process specific qualification and training
- Advanced Product Quality Planning (APQP)
- Production Part Approval Process (PPAP)
- Continuous Improvement Projects (A3, 8D..)
- Failure Reporting and Analysis
- Corrective and Preventive Action System

Supplier Performance Reporting and Assessment

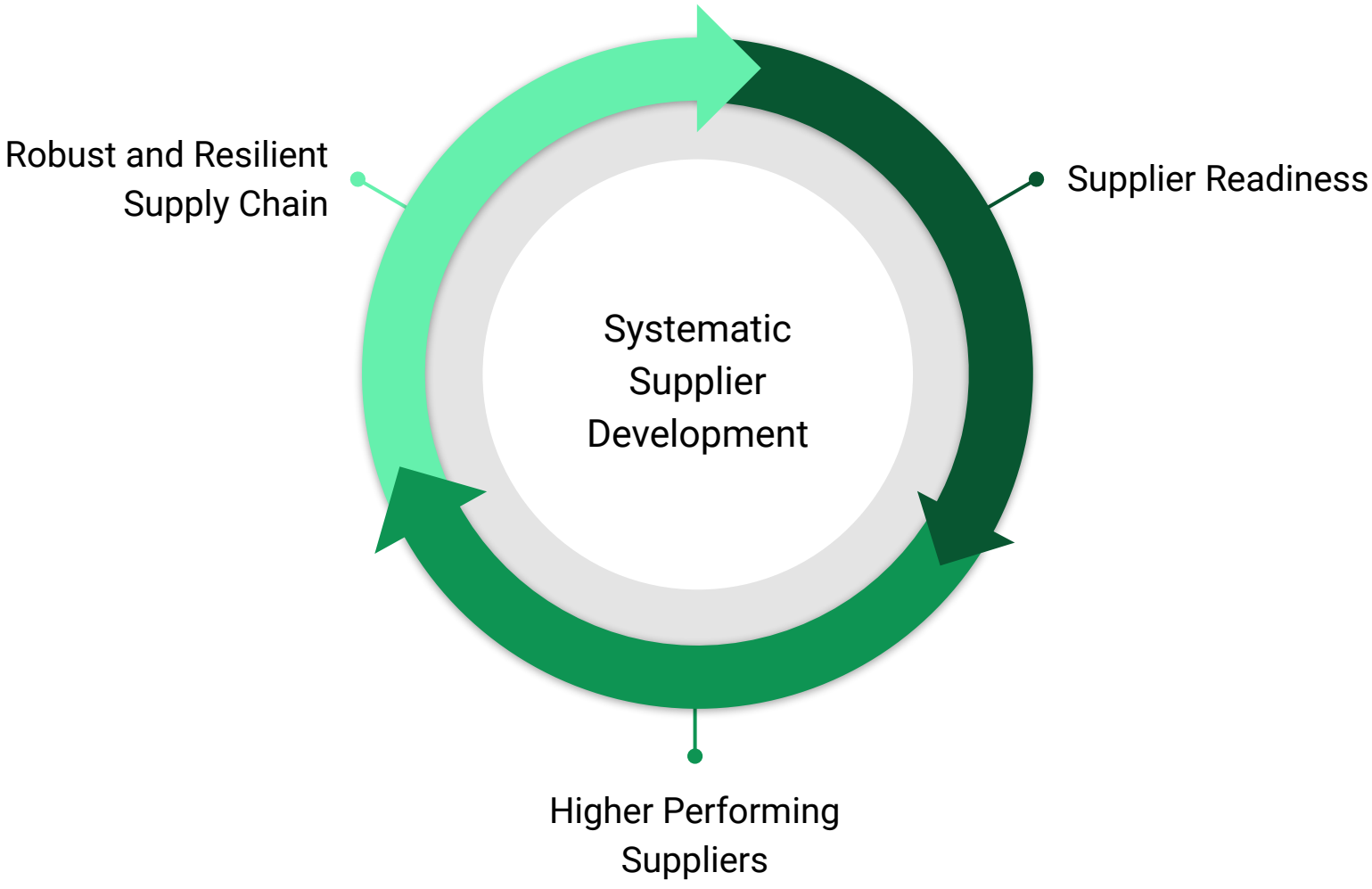




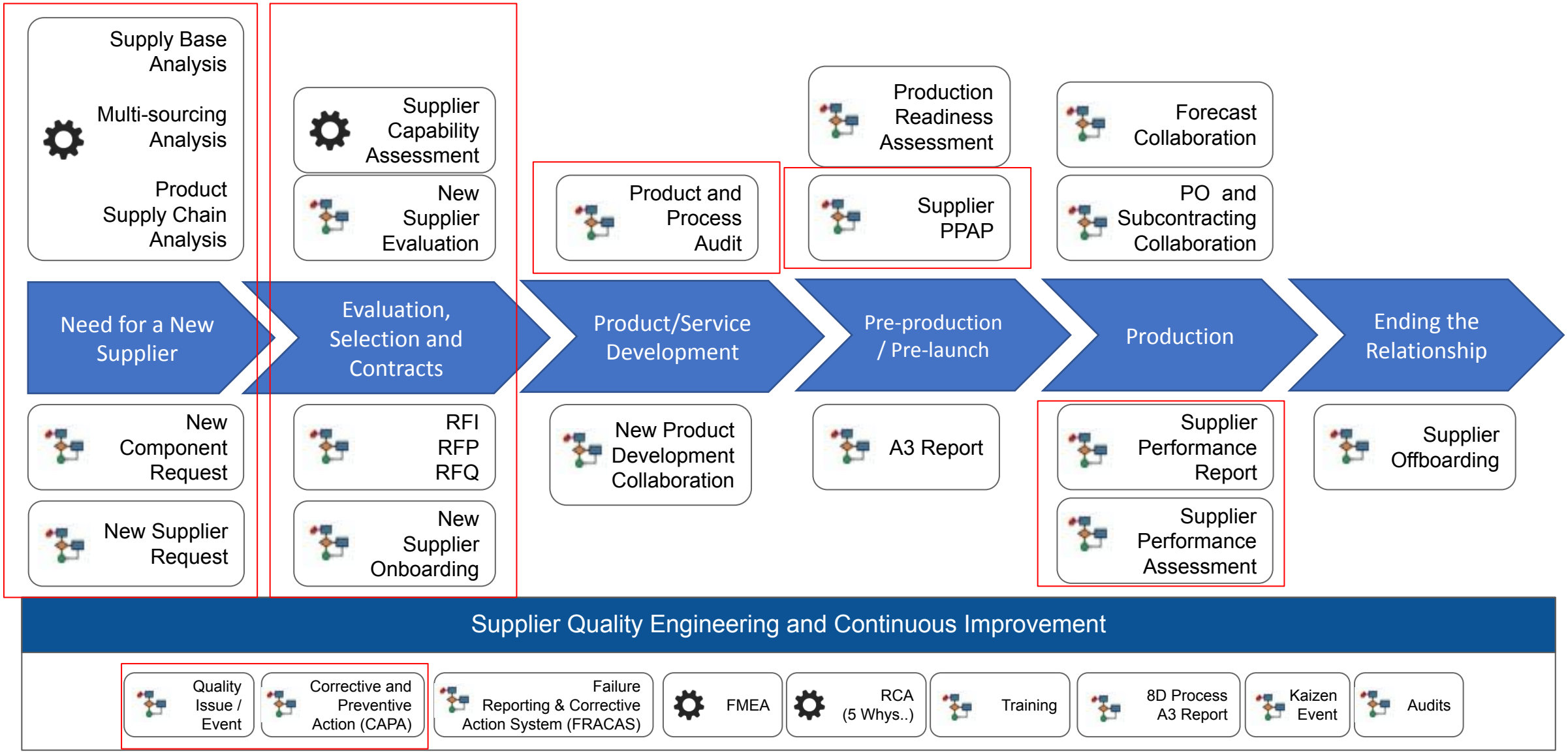
Rich Capabilities for Integrating to ERP, Design, Manufacturing and Supply Chain Applications



3 Reasons for Systematic Supplier Development



Demo


Supply Base Analysis
Multi-sourcing Analysis
Product Supply Chain Analysis
Supplier Capability Assessment
New Supplier Evaluation
Product and Process Audit
Production Readiness Assessment
Supplier PPAP
Forecast Collaboration
PO and Subcontracting Collaboration
Need for a New Supplier
Evaluation, Selection and Contracts
Product/Service Development
Pre-production / Pre-launch
Production
Ending the Relationship
New Component Request
New Supplier Request
RFI RFP RFQ
New Supplier Onboarding
New Product Development Collaboration
A3 Report
Supplier Performance Report
Supplier Performance Assessment
Supplier Offboarding
Supplier Quality Engineering and Continuous Improvement
Quality Issue / Event
Corrective and Preventive Action (CAPA)
Failure Reporting & Corrective Action System (FRACAS)
FMEA
RCA (5 Whys..)
Training
8D Process A3 Report
Kaizen Event
Audits

Summary

- ZFlow supports Supplier Development in a holistic manner
- Easy to adopt Internally as well as with the Supply Chain
- Easy to get started

Test Drive ZFlow

Free Proof-of-concept

Free Pilot

Contact Us

Kris Gorrepati

Cambrian Lab
+1-408-569-3744
Kris.gorrepati@cambrianlab.net

Hiren Shah

Cambrian Lab
+1-650-704-5436
Hiren.shah@cambrianlab.net

https://www.zflow.io