

**PLEXUS**

®

*The Product Realization Company*

# EVALUATING YOUR SUPPLY BASE

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Plexus Corp.

# AGENDA

- *Brief background on Plexus and Counterfeit Controls*
- *Plexus' audit process and ARP6178*
- *Audit process steps*
- *Pre-Audit Paperwork*
- *Interview Process*
- *Onsite Assessment*
- *Scoring System*
- *Audit Findings and Selection*
- *Summary*

# BACKGROUND

- Counterfeit Prevention Team in Place
- Executive Management Oversight of our Counterfeit Controls and Processes
- Put in place a Counterfeit Prevention Procedure that was flexible enough that could be incorporated into the all the market sectors
- Built and implemented an internal Plexus Counterfeit Part Prevention Training Plan
- **We over specify our requirement is to use OCM or Authorized/Franchise sources both internally to our teams and externally to our customers (brokers are a last resort)**
- 99% of our purchases are made through OCM or Authorized/Franchise sources
- Engage our Customers in the process
- Continuous updates of our Forms, WI, SOP's and Test Specifications

# BACKGROUND

- All Customer Teams including, Materials and Customer Management personnel are required to go through, re-certification and pass the test annually to the Plexus Counterfeit Part Prevention Training Plan
- Plexus over specifies the preference to buy from OCM/OEM and Franchised distribution (brokers are a last resort)
- Historically have audited our brokers annually which includes a rigorous assessment process
- Random/Surprise and recurring audits of Matrix Brokers
- Risk Profile and scoring process for all Broker Buys
- Restrict Open Market/non traceable product from being purchased
- Robust Counterfeit Prevention Policy that flows down requirements to all suppliers
- Open and active discussions with our customer based on Industry Best Practices and Plexus Processes and Controls
- Internal inspection and testing processes are used to verify product acceptance

# BACKGROUND

- **Active member and participant in industry projects and standards committee's**
  - *AS5553: Counterfeit Electronic Parts: Avoidance, Detection, Mitigation and Disposition*
  - *G-19D AS6081: Counterfeit Avoidance "Distributors Certification"*
  - *G-19A AS6171: Test Method Standard: Counterfeit Electronic Parts*
  - *G-19DR ARP6178: Counterfeit Electronic Parts: Tool for Risk Assessment of Distributors*
  - *iNEMI Members*
    - *Co-Chair - iNEMI Counterfeit Components – Assessment Methodology and Metric Development Project*
  - *IDEA-QMS-9090 Review Committee*
  - *CALCE/SMTA active member and technical committee member*
  - *ACC - Diminishing Manufacturing Sources and Material Shortages (DMSMS) & Counterfeit Parts Prevention membership*


# SUPPLIER AUDIT/EVALUATION



*The Product Realization Company*

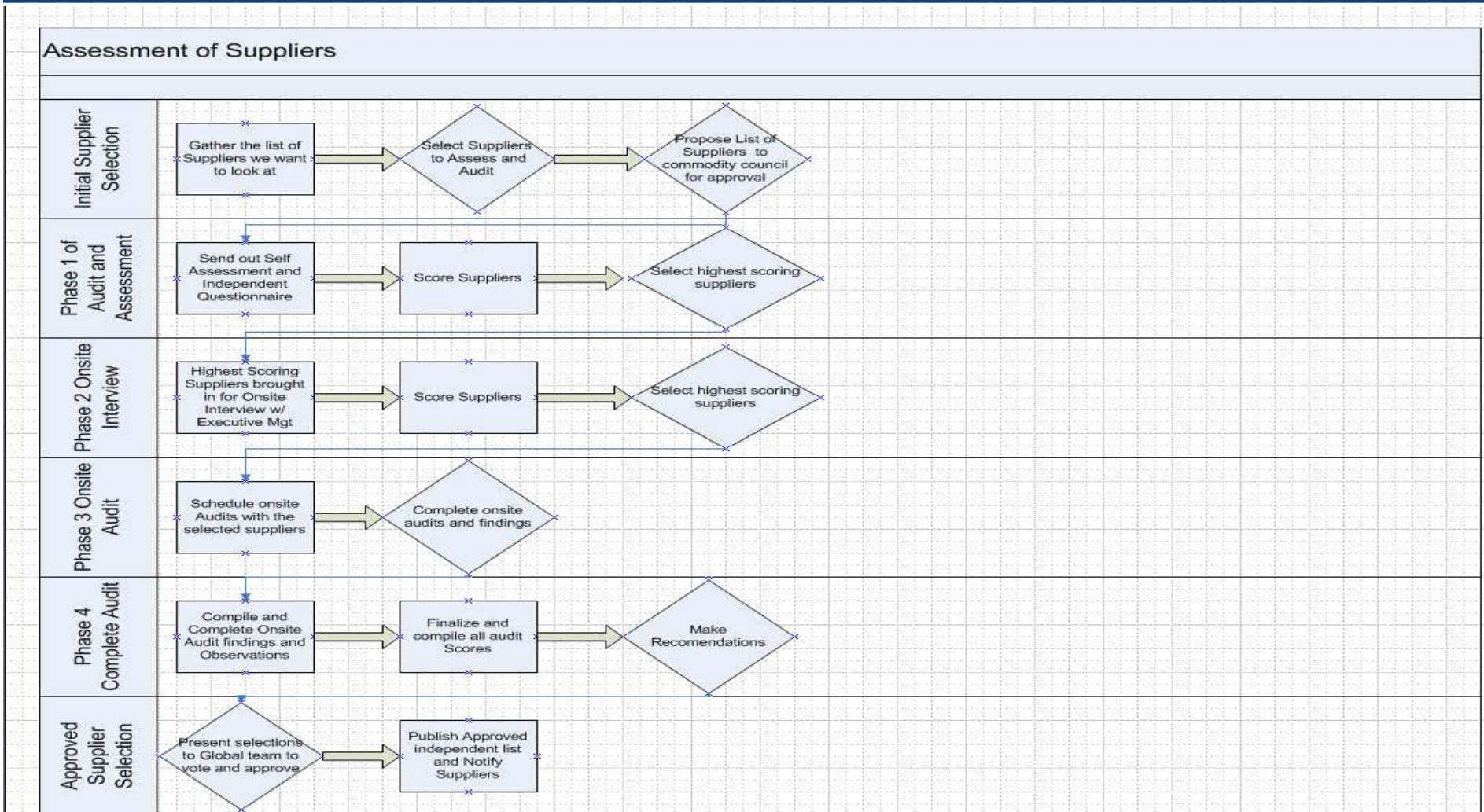
# GAP ANALYSIS TO ARP6178

- Complete a GAP analysis on your audit process to ARP6178
  - Plexus did a Gap analysis of our Audit process to the ARP6178
- Identify the GAPS
  - Identify if the GAPS can or should be incorporated into your processes
- Integrate or Adopt the ARP6178 check list and scoring system

Non-Authorized Distributors Assessment									
Summary									
CONFIDENTIAL									
Audit Date:		FACTOR RATING							
 Supplier Name:		SCORE	NO	DEF	IMP	QUAL	OUT	WEIGHT	SCORE
		%	SYSTEM	ICIENT	ROV	IFIED	STANDING		
ELEMENT SUBSYSTEMS			0%-19%	20%-39%	40%-69%	70%-89%	90%-100%		
1	Element #1 - Supplier Management	0.00%	X					0.20	0.00%
2	Element #2 - Order Management	0.00%	X					0.15	0.00%
3	Element #3 - Product Acceptance	0.00%	X					0.20	0.00%
4	Element #4 - Inventory Management and Shipping	0.00%	X					0.15	0.00%
5	Element #5 - General	0.00%	X					0.15	0.00%
6	Element #6 - Plexus Requirements	0.00%	X					0.15	0.00%
<b>SYSTEM RATING</b>								<b>0.00%</b>	
Previous System Rating									



# AUDIT PROCESS STEPS



**\*Each of the first three steps have a score and all three scores are calculated to come up with an overall Final Audit Score**



# SELF ASSESSMENT & QUESTIONNAIRE

## Self Assessment on Quality Management Systems

- Quality Management and Controls
- Training
- Purchasing and Supplier Management
- Order Management and Control
- Warehouse Management and Controls
- Shipping and Packaging Controls

# SELF ASSESSMENT & QUESTIONNAIRE

- Questionnaire – General Company and Industry related Information
  - Company Profile
  - Financials
  - Industry Memberships
  - ISO and QMS Certifications
  - Counterfeit Prevention/Avoidance Processes
  - Warranty and Insurance
  - Inspection Process
  - Test/Inspection Equipment
  - Support Structure

# INTERVIEW PROCESS

- Plexus' audit process includes onsite interview
- Top scoring Suppliers from Self Assessment and Questionnaire
- Required to bring in top executives and quality management
  - Give them 90 minutes to present to the team/panel
  - Heavy emphasis on:
    - » Quality
    - » Testing
    - » Counterfeit Prevention and Component Identification
- Each are then given a score by the panel
- Self Audit and Interview Scores are added up
- Select top suppliers to set up onsite audits

# ONSITE QUALITY AUDIT – KEY AREAS OF FOCUS

- Training Requirements and Records
  - Ask to see them
  - Are the up to date
- Purchasing/Sourcing and Supplier Management
  - Observe with employee responsible
- Order Management and Control
  - Observe with employee responsible
- Warehouse Management and Controls
  - ESD Controls
  - Cleanliness
  - Humidity controls
  - NCM and Quarantine products controls
- Inspection Process
  - Observe full inspection of a part - standard inspection process
  - Observe full inspection of a part – exception
  - What equipment do they use
- Shipping and Packaging Controls
  - Are proper controls in place
  - MSL/MSD requirements
  - Re-Packaging product controls

# ONSITE QUALITY AUDIT – KEY AREAS OF FOCUS

- Industry Memberships
  - Validate their memberships
  - Are they current
- ISO, IDEA and QMS Certifications
  - Validate the certificates
  - Are they current
- Counterfeit Prevention/Avoidance Processes
  - Ask to see their control plan
- Warranty and Insurance
  - Validate the certificates
  - Are they current
- Test/Inspection Equipment
  - Condition and Age
  - Used
  - Calibrations up to date – ask to see records
- Support Structure
- Review Quality Management and Controls

# SCORING SYSTEM

## ARP6178


- 0 = Element Not Addressed – no system implemented to address the element
- 1 = Element Not Fully Addressed – systems partially implemented, major discrepancies identified Corrective action required
- 2 = Improvement Needed – systems implemented with only minor issues, corrective action required
- 3 = Element Fully Addressed – systems fully implemented and effective, meets requirements

## Plexus

- 0 = No System
- 1 = Deficient
- 2 = Improvement Needed
- 3 = Qualified
- 4 = Outstanding

### Non-Authorized Distributors Assessment Summary

CONFIDENTIAL

Audit Date:		FACTOR RATING						WEIGHT	SCORE
Supplier Name:		0%-19%	20%-39%	40%-69%	70%-89%	90%-100%			
 Supplier Name:		SCORE	NO SYSTEM	DEFICIENT	IMPROVED ELEMENT	QUALIFIED	OUTSTANDING		
ELEMENT SUBSYSTEMS		%							
1	Element #1 - Supplier Management	0.00%	X					0.20	0.00%
2	Element #2 - Order Management	0.00%	X					0.15	0.00%
3	Element #3 - Product Acceptance	0.00%	X					0.20	0.00%
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5	Element #5 - General	0.00%	X					0.15	0.00%
6	Element #6 - Plexus Requirements	0.00%	X					0.15	0.00%
<b>SYSTEM RATING</b>									<b>0.00%</b>
Previous System Rating									



# COMPLETE AUDIT

- Document the Audit
  - Complete Check List and Scoring
  - Create a formal cover letter
    - » Overall audit score and status of supplier where appropriate
    - » List key Positive Observations – Things they are doing well
    - » List key Negative Observations – Things you observed they could use some improvements on
    - » Indicate any CAR's you need them to address – Major Improvements or processes that weren't being followed
- Once CAR's are addressed, finalize the audit and roll all scores together

# SELECTION PROCESS

- Make selection
- Present Selections to global team to vote and approve
- Notify those that are selected
- Notify those that weren't

Supplier Name	Global/ Regional	Stocking/ Non- Stocking/ Specialty	Phase 1 - Self Assessment Audit Score	Phase 2 - Onsite Interview Score	Phase 3 - Onsite Audit Score	Overall Audit Score	Inhouse Capabilities to meet Plexus TAL/TBL Requirements	General Comments and Concerns
Supplier 1								
Supplier 2								
Supplier 3								
Supplier 4								
Supplier 5								
Supplier 6								
Supplier 7								

# SUMMARY

- ✓ *Develop a Audit Check List and Survey Tools*
- ✓ *Survey potential suppliers to identify the audit short list*
- ✓ *Schedule and conduct audits*
  - ✓ *Make sure to observe real time as the employee is doing that job function*
  - ✓ *Do not allow the supplier to just run through everything in a conference room*
  - ✓ *Ensure the employee doing the job is explaining what they are doing not the Manager*
  - ✓ *Ask to see proof of their records and training requirements – are they up to date*
  - ✓ *Ask to see proof of their certificates – are they current or expired*
- ✓ *Select strategic partners*
- ✓ *Continuously monitor your selected sources – Regular Business reviews to discuss Quality, OTD, Feedback from sites*
- ✓ *Ensure reoccurring audits are done*