

ADLINK San Jose Manufacturing Center (SJMC)

ITAR & FDA
Registered

Production and Quality Operation
Overview - 2025



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Global Reach, Local Touch

ADLINK Global Operation Center

- ▶ Research & Development Centers
- ▶ Sales / Support Offices
- ▶ Manufacturing Site



6 Design Centers

In USA, Europe, Taiwan, China and India

7 Operations & Logistics Centers

In USA, Europe and Asia

22 Support Offices

In USA, Europe, Taiwan and China

2 Manufacturing centers in Taiwan and China

30 YEARS OF EXPERIENCE IN EMBEDDED COMPUTING

ADLINK Manufacturing Centers

Taipei Manufacturing Center (TPMC)

Manufacturing Footprint

12,570 m² (135,302 ft²)

Production Capacity

2 SMT lines, 45K boards/month max
IPC assembly, 15K sets/month max
Panel assembly, 6K sets/month max
Automotive line, 45K boards/month max

Quality Certifications

ISO9001: 2015	
TL9000:2016-H	
ISO13485: 2016	
ISO/IEC 17025: 2017	ISO26262:2018
ISO/IEC 80079-34: 2018	ITAF16949:2016
ISO14001: 2015	ANSI ESD S20.20:2021
ISO45001: 2018	ISO/IEC27001:2013
ISO14064-1:2018	RBA certified



TPMC
Taipei Manufacturing Center



SHOC
Shanghai Operation Center



Redundancy
&
Mutual Backup

Shanghai Operation Center (SHOC)

Manufacturing Footprint

24,409 m² (262,736 ft²)

Production Capacity

3 SMT lines, 70K boards/month max
IPC assembly, 3K sets/month max

Quality Certifications

ISO 9001: 2015
TL 9000
ISO 13485: 2016
ISO/IEC 80079-34: 2018
ISO 14001: 2015
ISO 45001: 2018



Capabilities

Advanced manufacturing technologies
AMR for automated production
AI-driven solutions in manufacturing
Robotics for automated production
Optimized ADLINK Production System
Lean production

HIGHEST COVERAGE IN THE IPC INDUSTRY

ADLINK Quality & EHS Certification

ISO 9001 Quality Mgmt. System



TL 9000 Quality Mgmt. System



ISO 13485 Medical Device Quality Mgmt.



ISO/IEC 80079-34 Explosive Atmospheres



ISO/IEC 17025 Testing & Calibration Laboratories



ISO 26262 Road Vehicles - Functional Safety



ISO 14001 Environmental Mgmt. Systems



ISO 45001 Occupational Health & Safety



RBA Responsible Business Alliance



ISO 27001 Information Security Mgmt.



ANSI/ESD S20.20 ESD Association Standards



IATF 16949 (LOC) Automotive Quality Mgmt. System



ITAR and FDA Registered, ISO 9001-2015 Certified and ISO 13485 Certified

SJMC Operation Overview and Capacity

100+ employees in North America

- 23+ employees for Operation / Warehouse / Service Support

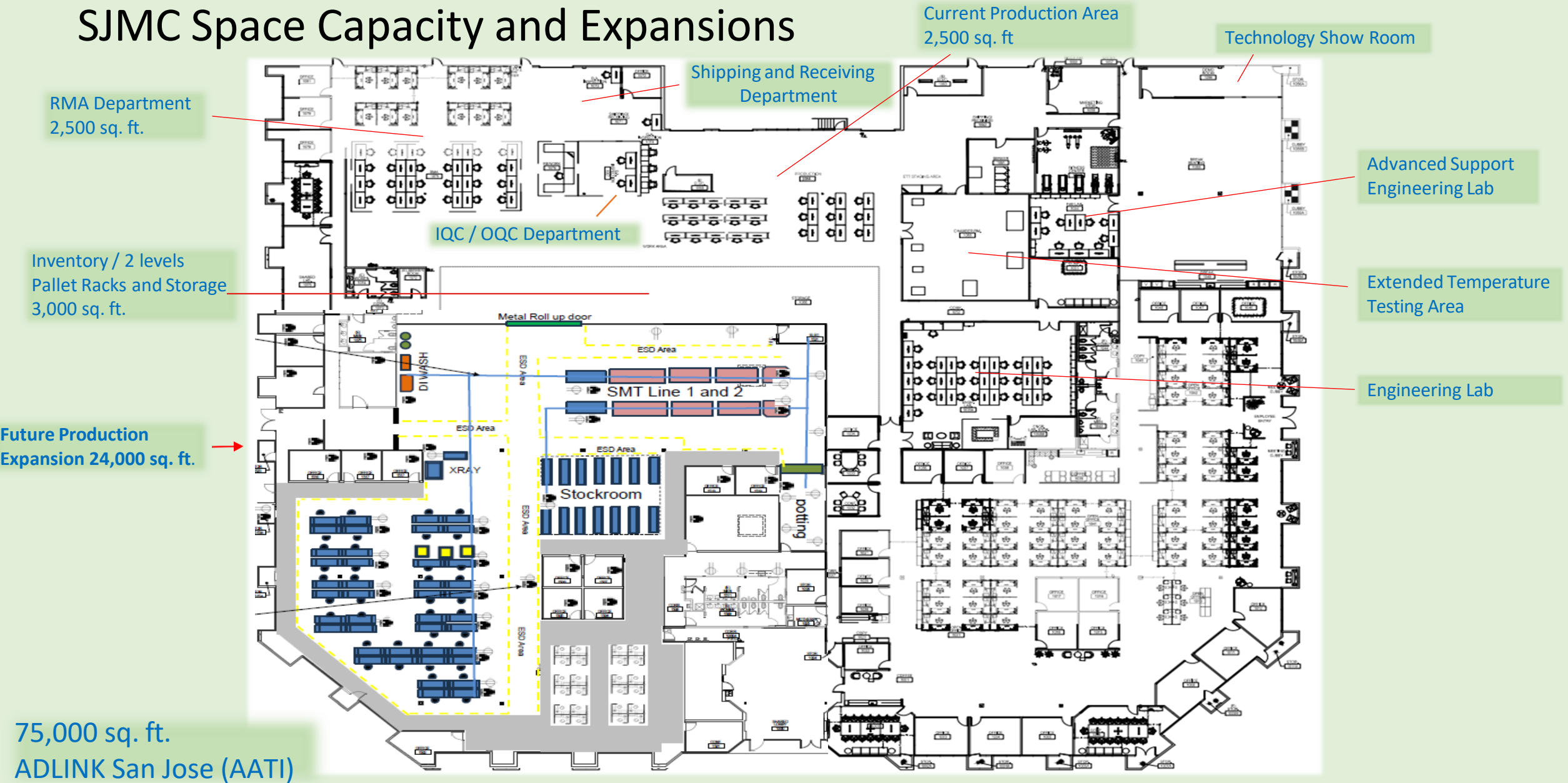
High Mix / Low Volume Products ordered in Production:

- Contain orders in 1-100 units, average within 1-25 units per order
- Sales Order-average 5 days lead time with stock on hand
- Safety Stock (BTOS) work order –average 5-7 days lead time with stock on hand
- Urgent request 4-6 week lead time depending on quantities
- Single Board Computers / Systems @ \$10 Million Shipped Monthly

Flexibility:

- Add Second shift head count / space will be implemented when necessary to double the capacity or any necessary need.
- Large quantity 500+ units/m projects, we can extend our capacity to be integrated in ADLINK Taiwan or China factory and direct drop ship to customer.

SJMC Space Capacity and Expansions



Additional Redundancy

Essential to Mitigate Risk

Current Occupied Floor Space is 45K Sqft.

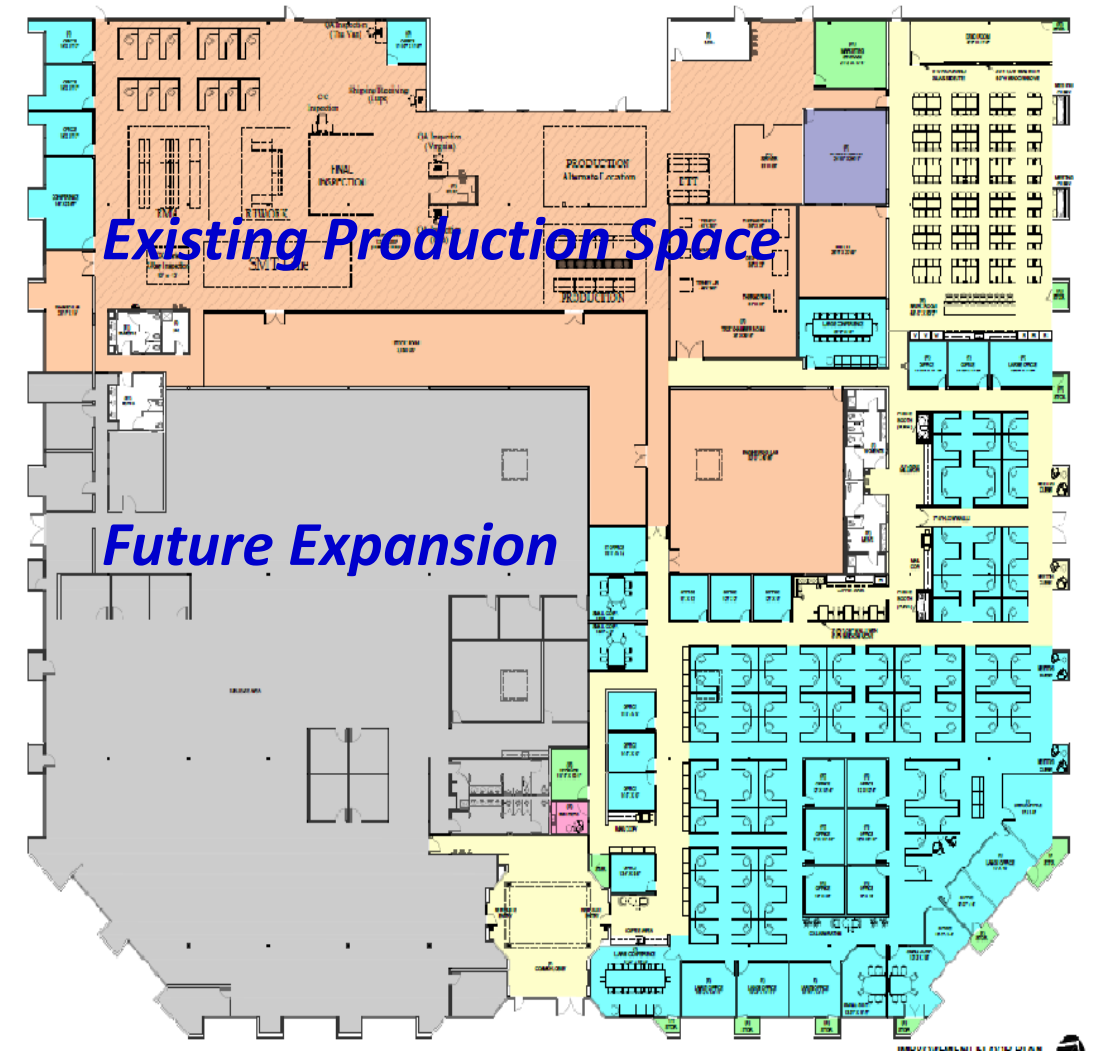
- 37% is dedicated to production
- 63% is dedicated to administrative staff

Facility Capabilities

- Design team/Engineering resources
- Dedicated MFG/QA team
- Quick turn samples (30 days)

Future Expansion

- Manufacturing site w/SMT lines
- Made-in-USA
- Completion date Q4 2025





Supporting Healthcare Innovation with Compliant **Contract Manufacturing** Services at SJMC



Compliant Contract Manufacturing for Healthcare Innovation

FDA Compliance:

- Our facility in San Jose, California, complies with FDA regulations, enabling us to perform contract manufacturing for medical devices.
- We specialize in value-added services and complete box builds for OEMs, aligning with stringent quality and regulatory standards.

Efficient Production Timeline:

- Following product listing submission, we can begin manufacturing in just 2-4 weeks, facilitating a swift market entry.

Expertise:

- 30 Years of Engineering expertise in embedded computing for healthcare applications, including edge computing and AI implementations.



Streamline Your Path to Market

Tailored Manufacturing Services:

- Our FDA-compliant facility offers customized manufacturing solutions designed to meet the specific needs of medical device OEMs.
- Equipped to handle complex assemblies, we integrate advanced technologies like edge computing and AI into medical devices.

Scalable Manufacturing:

- Capabilities to support diverse medical device categories, ensuring flexibility and reliability.

Strategic Impact:

- Working with our FDA-compliant facility reduces your total cost of ownership and accelerates your product's time-to-market.
- We navigate the regulatory landscape to ensure your medical devices meet all necessary compliance criteria efficiently.





ADLINK ITAR Compliance Program in SJMC

Secure, Compliant Solutions for Defense and Aerospace Application



The ADLINK Advantage for Defense Programs

-  ✓ **Enhanced Security:**
Prevent unauthorized access or release of sensitive technical data
-  ✓ **Streamlined Compliance:**
Simplified processes for defense contracts and ITAR requirements
-  ✓ **Specialized Expertise:**
Custom solutions for defense applications with export control compliance
-  ✓ **Supply Chain Security:**
End-to-end control with ITAR-compliant sourcing
-  ✓ **Competitive Edge:** ITAR registration enables full participation in defense programs

Our Comprehensive ITAR Compliance Framework

OFFICIAL REGISTRATION & CERTIFICATION	COMPLIANCE PROCESSES	STAFF READINESS
- Registered with Directorate of Defense Trade Controls (DDTC) as of January 27, 2025 - Registration valid through February 28, 2026 - Authorized to handle ITAR-controlled products and technical data	- Comprehensive ITAR compliance manual implemented - Rigorous classification procedures for USML and CCL - Secure supply chain with ITAR-compliant partners - Controlled technical data management system - Regular compliance audits and continuous improvement	- Specialized ITAR training completed for all relevant teams - Role-specific training on export controls and compliance - Clear understanding of responsibilities for safeguarding controlled hardware and data

Comprehensive ITAR Compliance Framework

SECURE INFRASTRUCTURE



- ✓ Dedicated 400 sq. ft. ITAR manufacturing and testing facility
- ✓ Restricted access with physical security controls
- ✓ Specialized IT infrastructure for classified document handling
- ✓ Robust cybersecurity protocols for technical data protection





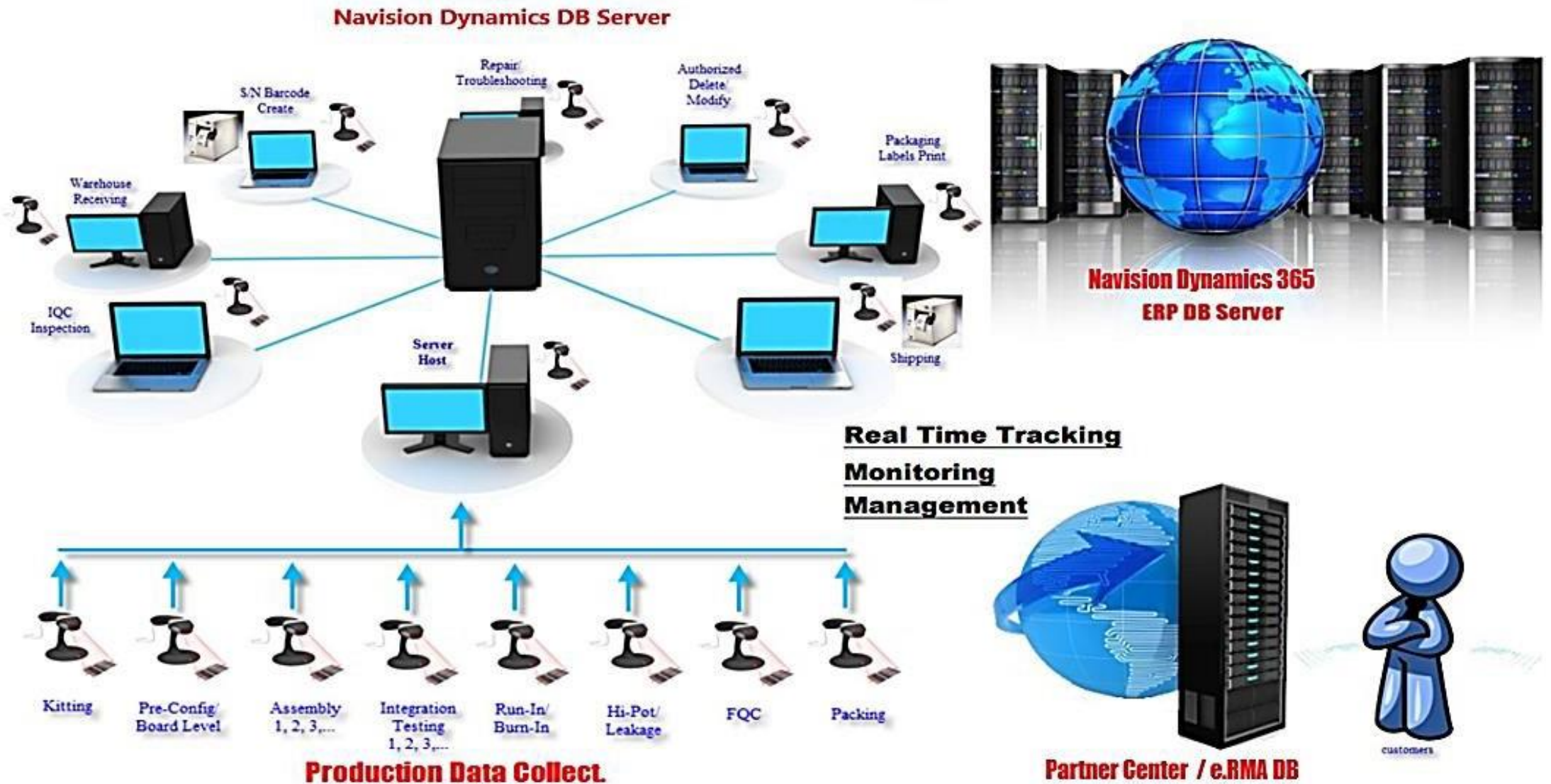
*ADLINK,
Your Trusted Partner for
Defense and Aerospace
Excellence!*

SJDC Quality Management & Production Process

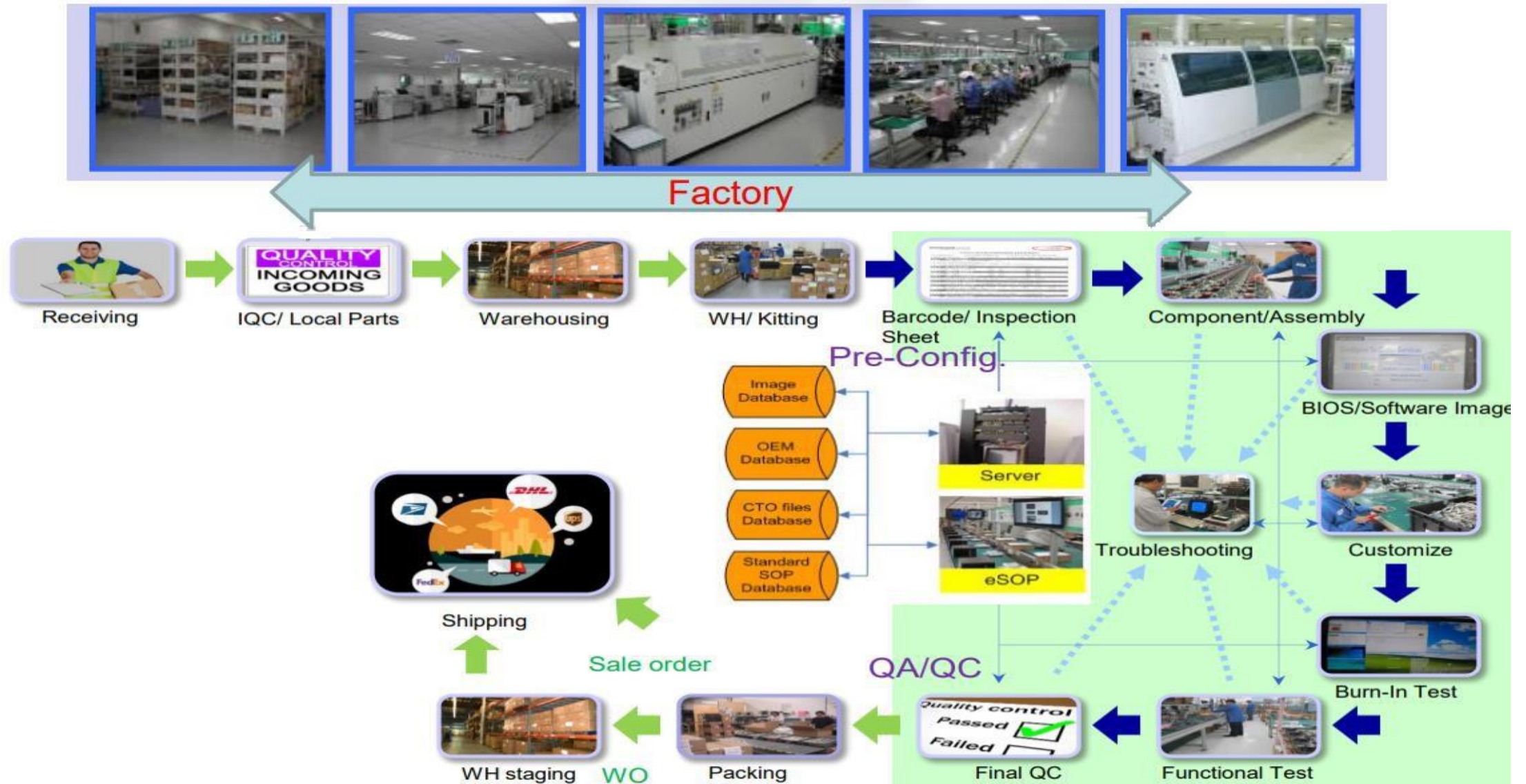
2025



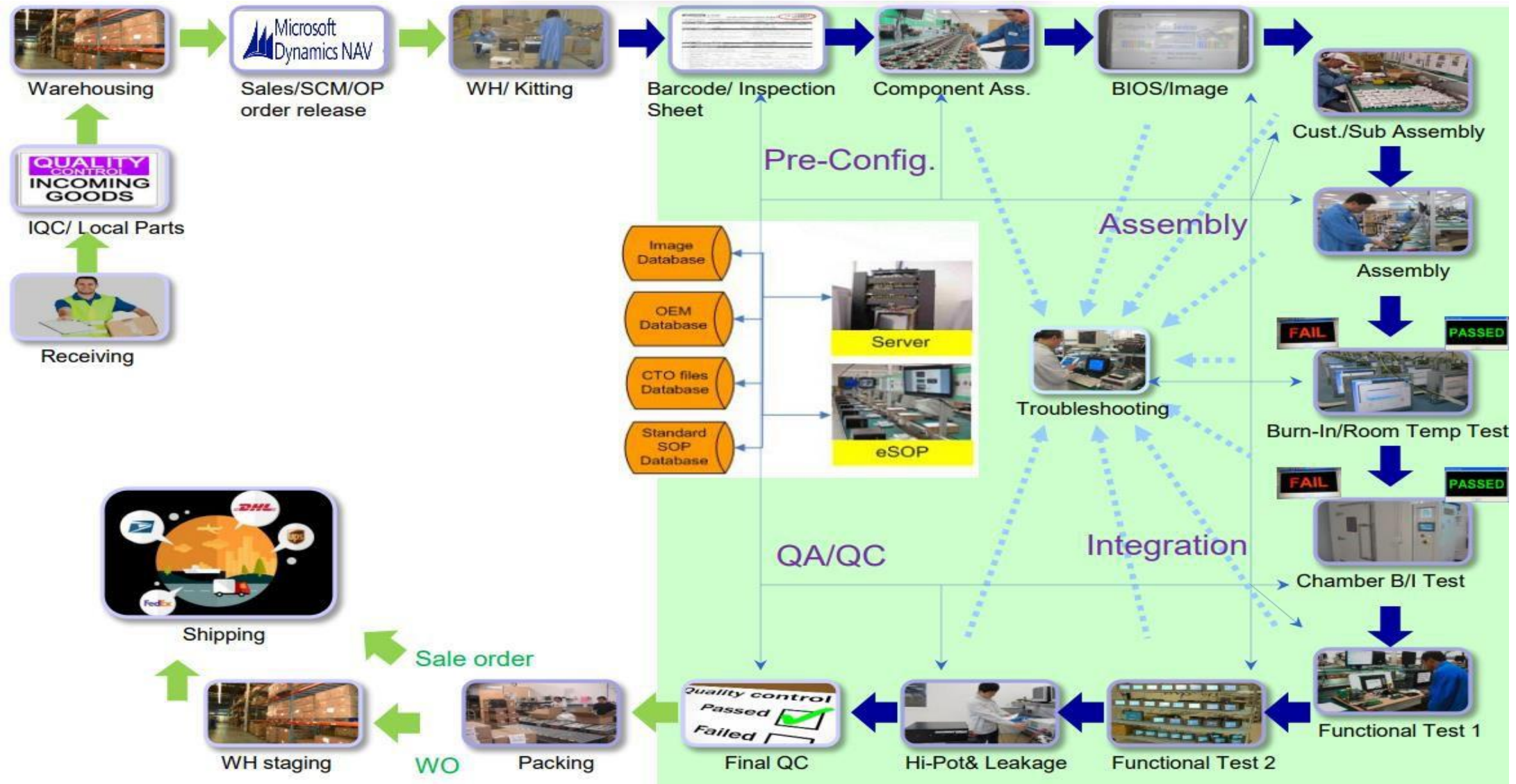
ND365 Process Control & Data Tracking / Navision / e. RMA Database



SBC Process Flow



System Assembly Process Flow



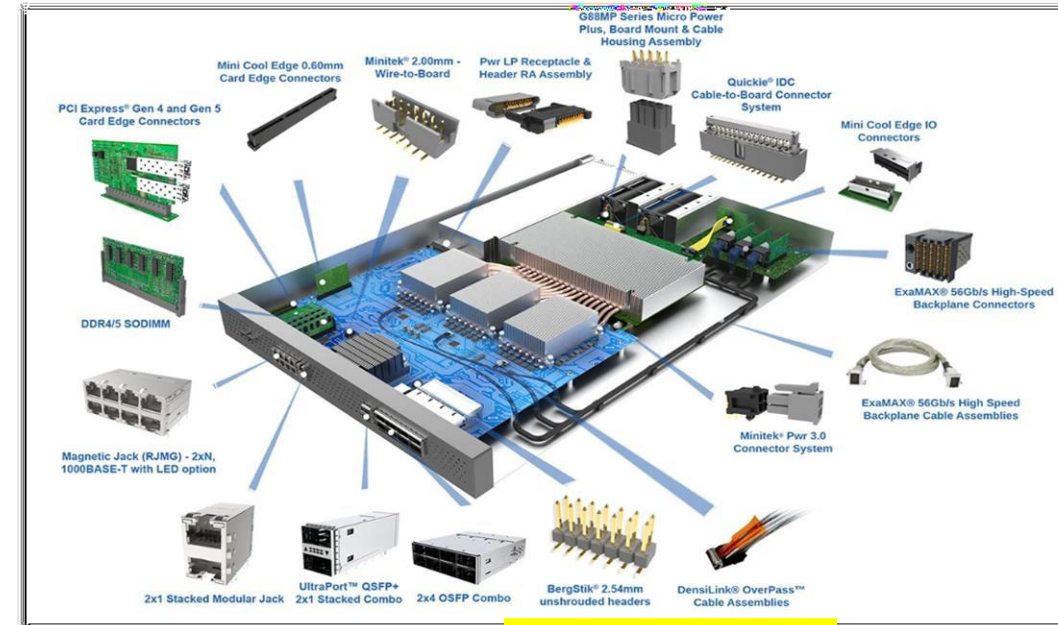
Pre-Configuration and Board Level Capabilities

Board Level / System Level Process

- ✓ Barcode Label / Test Log preparation
- ✓ Component Level assembly and testing
- ✓ SBC Functional / Reliability Extended Temperature Testing
- ✓ SBC Asset Tagging & Serialization

CTOS Extra Services:

- Custom HW/SW Configuration
- Mfg. Process Documentation – CTO file / OEM file / DTOS process
- Custom labeling, image/device labeling / packaging
- Software Imaging / Duplication – Disk / Storage Devices
- Formatting/Bootloader setup for storage / software duplication
- Embedded Software Installation – Linux, MS Windows, VX Works
- Customized BIOS/Firmware upgrades, BIOS setup based on CTO file / OEM File / DTO projects
- Software/image version verification / customized burn-in/testing
- Rework ECN/ECO/QA changes on projects



COMPONENT ASSEMBLY



LABELING/ASSET TAGGING



SBC FUNCTIONAL TESTING



MODIFICATION



IMAGE DUPLICATING

Integration Capabilities

CTOS Standardized

- BIOS / Firmware configuration and setup
- System level assembly and functional testing
- System Preparation / H/W Drivers installation
- Software Imaging / Duplication – Disk/System
- Secured FTP server for Image Mgmt. / Sharing
- Peripherals setting and storage formatting
- Equipment / Tools for Linux / Windows Testing
- Room Temp Burn-in process (Optional – 24, 48, 72 Hrs.)
- Extended Temperature Testing (-40°C - +85°C)
- Test Log Report / Burn-in data recording
- Urgent Request Expediting Service



AUTOMATE IMAGE DOWNLOAD



WI-FI / GPS / EQUIPMENT TESTING



ROOM TEMP. RUN-IN



CHAMBER BURN-IN

Assembly Capabilities

CTOS Extra Services

- Standardized, Complex and Mechanical assembly
- Mfg. Process Documentation – CTO file / OEM file / DTOS Services
- Chassis Logo silk-screening support or assembly
- Chassis wire harness and cable assembly and modification
- Customer's consigned parts assembly / testing
- Ruggedized housing chassis assembly
- Modification request
- Customized chassis assembly
- Customized barcode serialization and labeling
- Small-Mid-Large volumes system level assembly



- BUILD TO ORDER SERVICES (BTOS)
- CONFIGURE TO ORDER SERVICES (CTOS)
- DESIGN TO ORDER SERVICES (DTOS)



SHEET METAL / MECHANICAL ASSEMBLY



EQUIPMENT / CUSTOMIZED TESTING



MODIFICATION / CUSTOMIZED LABELING

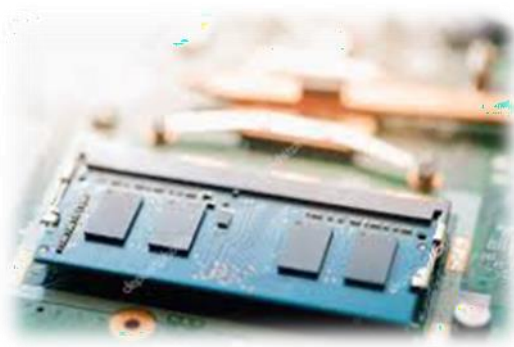


DESIGN & MANUFACTURING SERVICES

Complex Integration Capabilities

Value Add / Extra Services

- Updating BIOS / Firmware
- Customized BIOS Settings
- Customized testing / Customers test equipment
- Configuration setup with all Microsoft Operating Systems
- Memory Integration
- Conformal Coating Services , Acrylic, Urethane, Parylene
- BGA Underfill and Encapsulation Services
- Extended Temperature Testing (-40°C - +85°C)
- Forward ETT test results to customer
- Peripherals setting and storage formatting
- Room Temp Burn-in process (Optional – 24, 48, 72 Hrs.)
- Urgent Request Expediting Service



RAM Integration & Firmware updating



Software Activate and Register



Extended Temperature Testing



Future - Customized Burn-in

CTO FILE / Test Reporting



SAMPLE TESTING & PREPARATION

Salesperson:

1. Customer Information (to filled out by KAM)

Customer Name	TBD
Program Name	TBD
Customer Contact Name	TBD
Customer Telephone Number	TBD
Customer E-mail	TBD
Customer Address	TBD

2. Product Information (to be filled out by KAM)

Standard Product Name	TBD
Standard Product Part Number	TBD

3. Special Requests (to be filled out by KAM / PSM)

This product is based on standard product XX-XXXXX-XXXX (product description) with following upgrades:
1. TBD
2. TBD

4. Test Instructions (to be filled out by PSM)

TBD

5. Checklist (to be filled out by testing PSM & KAM)

Datasheet included?	☐ Yes	☐ No
PSU & Power cord included (if system)?	☐ Yes	☐ No
Operating System load (if system)?	☐ Yes	☐ No
Does customer require thermal solution?	☐ Yes	☐ No
Does customer require memory?	☐ Yes	☐ No

6. Customer Splash Screen? (to be filled out by KAM)

☐ Landscape ☐ Portrait ☐ None

7. Sales Force Opportunity Link (to be provided by KAM)

TBD

8. Checklist (to be filled out by testing AE)

Functional test performed	☐ Yes	☐ No
---------------------------	------------------------------	-----------------------------

9. Checklist (to be filled out by AMS)

Thank you letter included?	☐ Yes	☐ No
Double confirm shipping instructions	☐ Yes	☐ No
Waybill number provided to KAM	☐ Yes	☐ No

FM02106 Rev. AB



Incomming Board Inspection, Test Check List

Manufacturer: _____ Quantity Received: _____

Assembly Description: _____ Part Number: _____

Work Order Number: _____ Date Received: _____

Quantity Tested/Inspected (See sampling plan below): _____

Lot Disposition ☐ Pass ☐ Fail

NOTE: A sample of the boards will be pulled randomly from each assembly run received. The appropriate documentation package must be obtained from Document Control (DWGs: 935, 001, PC5, RD6, TW6; and SW: TS6). One board from the test sample must be **fully** inspected against the official documentation; that is, every single part on the board must be scrutinized. All other boards in the test sample require a visual inspection and functional test. Special attention must be given to the items listed below:

TEST / INSPECTIONS		CLASS	RESULTS		
			Pass	Fail	N/A
1	ID LABELS: Do all labels meet documentation requirements (Standard board P/N, 935 P/N, FAB P/N and rev level, BIOS 710 or 716, GAL labels, custom labels if applicable, etc.)? Are labels placed in the correct positions.	MAJOR / MINOR			
2	WORKMANSHIP: Damage (board, traces, parts), parts placement (centered); solder joints (cold, lack of, excess); contamination of contact pins (with solder, flux, grease, etc), cleanliness of board (flux residues, grease, etc.).	MAJOR / MINOR			
3	PARTS ROTATION: Make certain rotation sensitive parts like ICs, Tantalum Capacitors, Diodes, LEDs, Locking Connectors are oriented properly.	MAJOR / MINOR			
4	CUSTOM CONNECTORS / HEADERS: Based on the 001 BOM, check parts deletion and substitution.	MAJOR / MINOR			
5	CONNECTOR / HEADER PIN REMOVAL OR CUTTING: Make certain connector / header pins are removed and /or cut as specified by the assembly and associated RD6 drawings.	MAJOR / MINOR			
6	KEY PINS: Make certain key pins are installed at the correct connector positions.	MAJ / MIN			
7	CONNECTOR / HEADER LOCATION: Make certain connector / header are inserted on top or bottom side as specified by the assembly and associated RD6 drawing.	MAJOR / MINOR			
8	CONNECTOR / HEADER ROTATION: Make certain connector / header orientation meets assembly and associated RD6 drawing specification.	MAJOR / MINOR			
9	STACK-THROUGH CONNECTOR ALIGNMENT (if applicable): Make certain the stack-through connectors are fully seated and the stack-through pin rows properly aligned.	MAJOR / MINOR			
10	HEADER / STACK-THROUGH CONNECTOR PIN ALIGNMENT (if applicable): Make certain all header / stack-through connector pins are straight and properly aligned.	MAJOR / MINOR			
11	CUSTOM SHUNT JUMPER SETTING: Make certain shunt jumper selection meets 001 BOM (and TW6 dwg) specs.	MAJOR / MINOR			
12	CUSTOM CMOS SETUP: Make certain CMOS setup selection meets TW6 drawing specs.	MAJOR / MINOR			
13	RTV (if applicable): Make certain RTV is applied as specified in the RD6 drawing.	MAJ / MIN			
14	EPOXY (if applicable): Make certain epoxy is applied as specified in the RD6 drawing.	MAJ / MIN			
15	TIE-WRAPPS (if applicable): Make certain tie-wraps are installed as specified in the RD6 drawing.	MAJOR / MINOR			
16	BIOS: Make certain the correct BIOS is loaded. The BIOS is specified under a 710 or 716 number in the 001 BOM. In rare occasions the final custom BIOS is loaded after all testing has been completed as specified in the TW6 drawing.	MAJOR / MINOR			

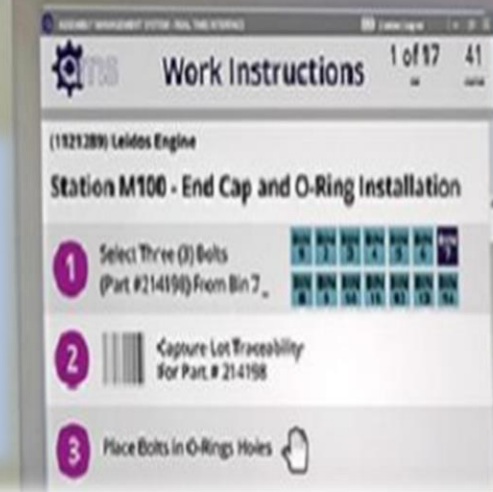
FM02004C

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SJMC (Electronic) eSOP

Assembly Management System

- Share Point DB
- Paperless SOP/CTO/OEM
- Manufacturing Process Doc.
- Agile PLM Change/Rev Control
- Read Only
- Controlled by Prod. Eng.

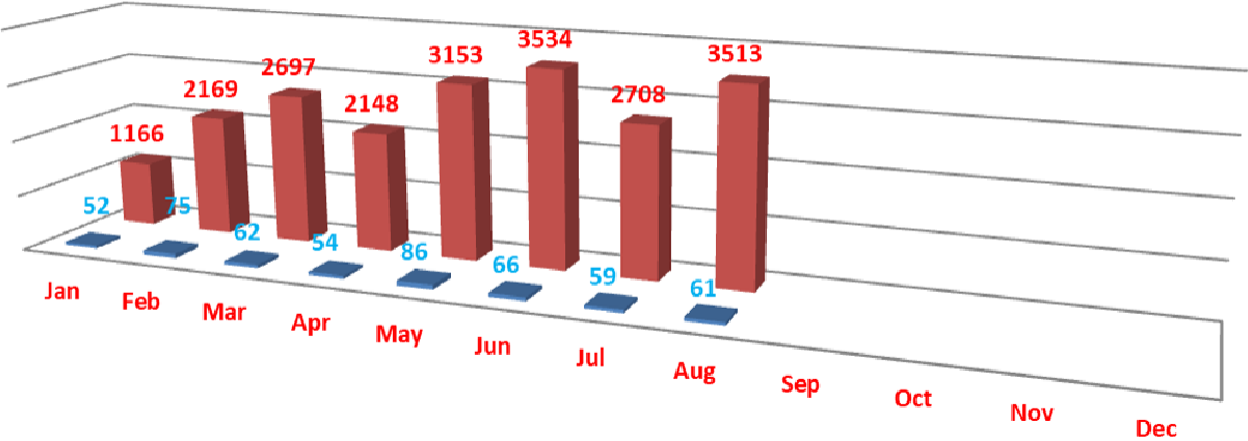


SJMC (CTOS) Production Loading / Workload Info

All Work Load

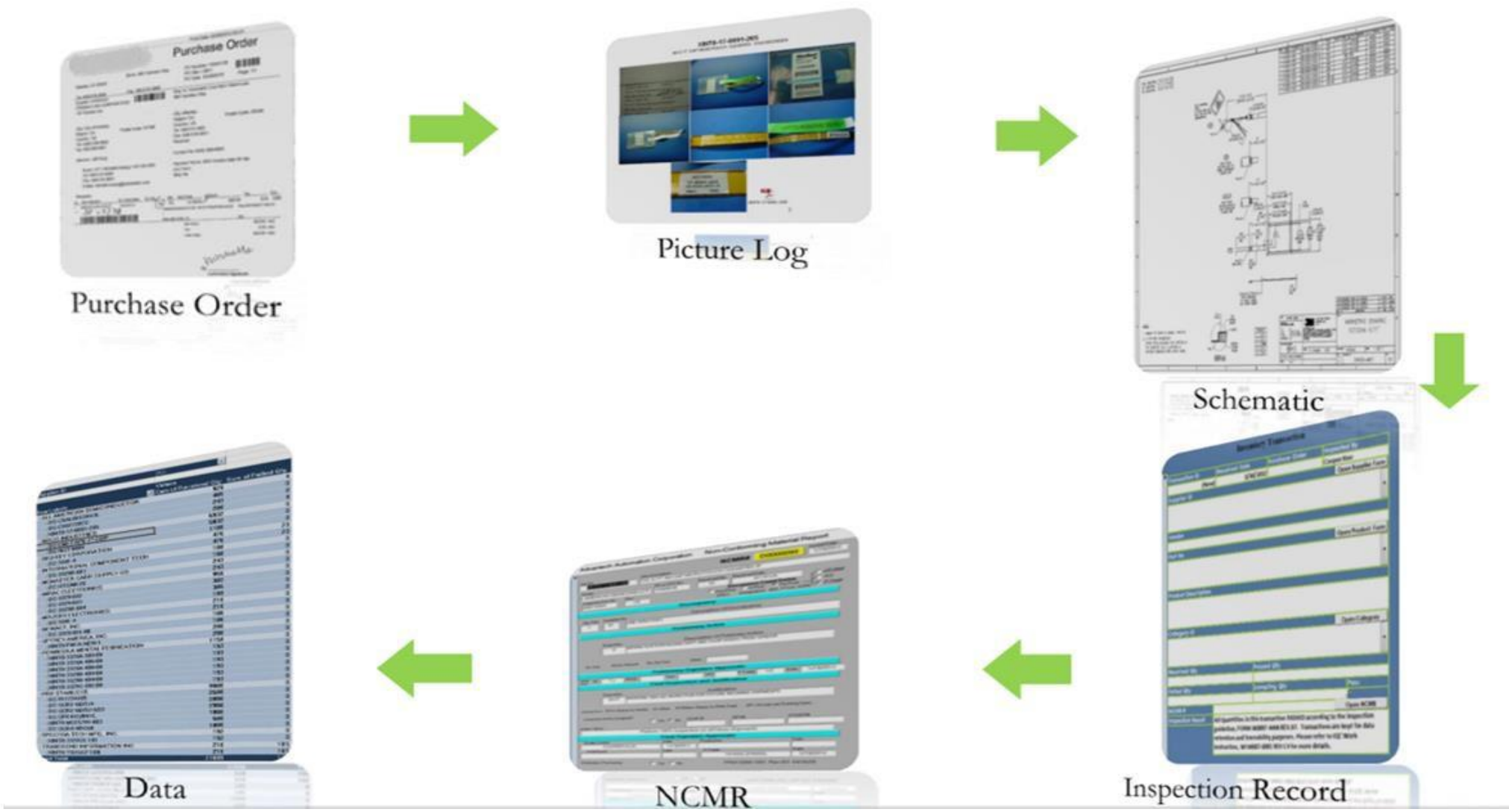
Month	MOR QTY
Jan	1344
Feb	1967
Mar	1362
April	1678
May	3101
June	2483
July	3644
Aug	3014

Production Workload (CTOS)

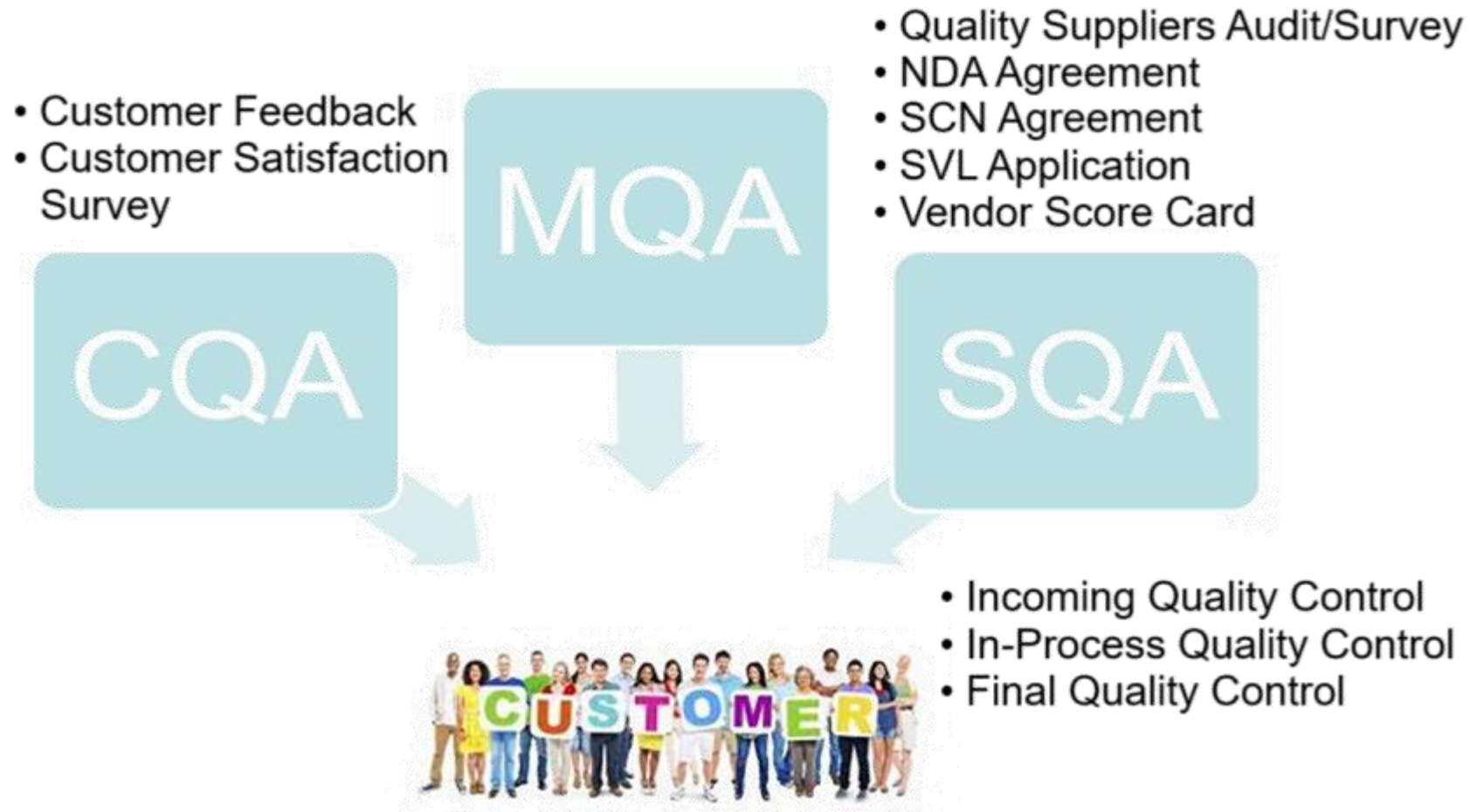


Real Time Order Status
Tracking
Production Loading / Monitoring
Order Pending / Shipment Hold
Order Status Lookup

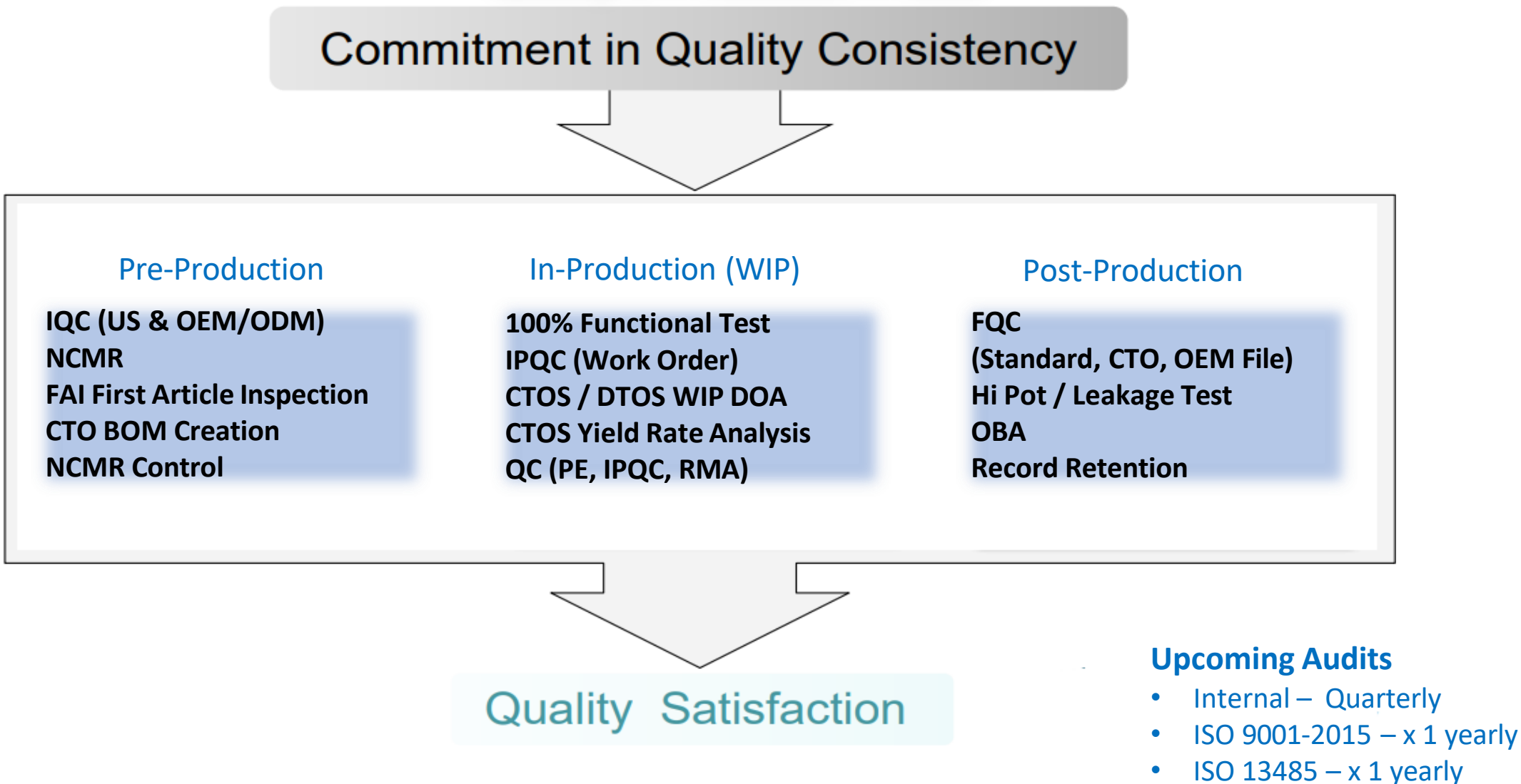
SJMC Sub-Tier Supplier Info / Vendor Management



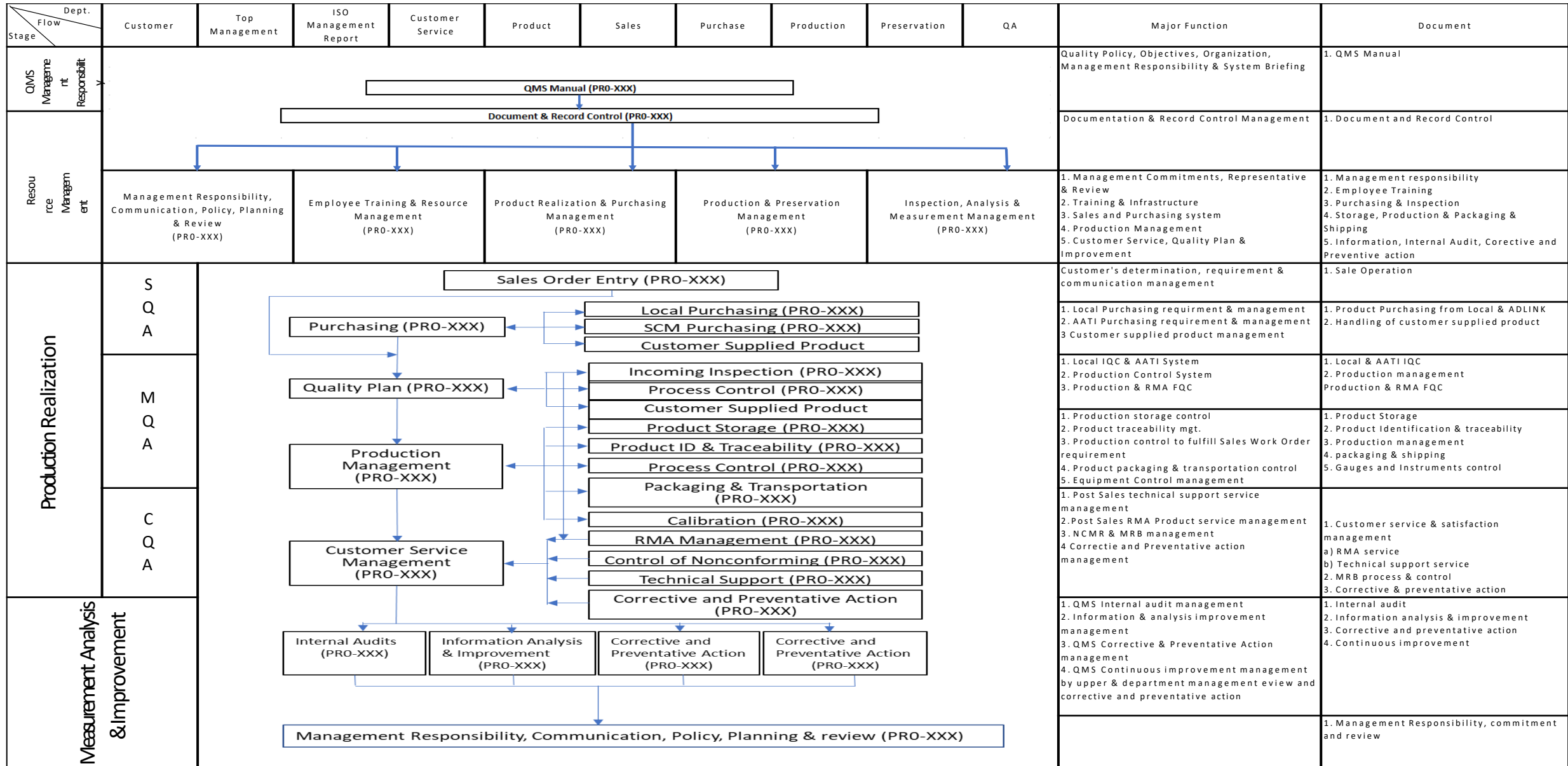
SJMC Closed Loop Quality System



Quality in Production Phase

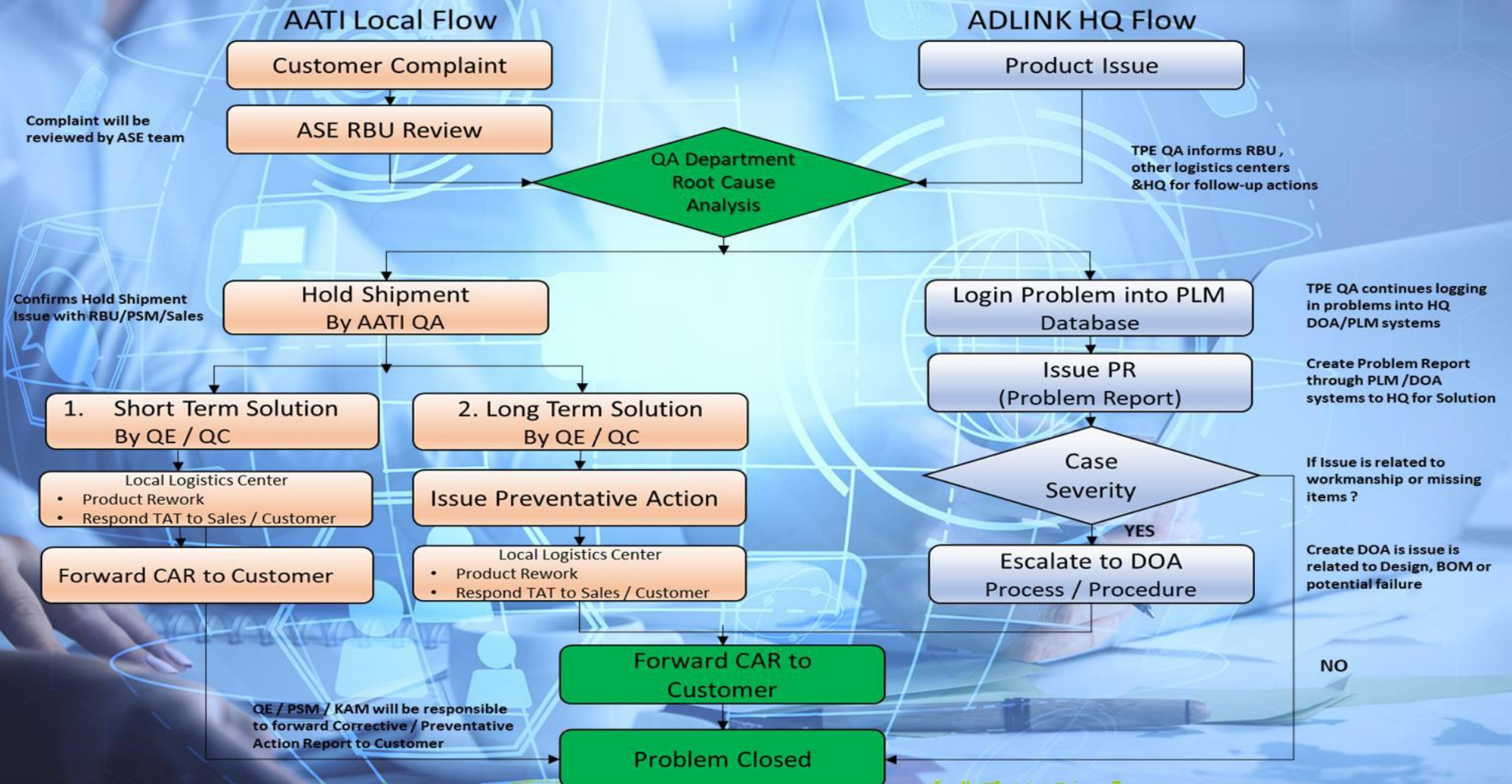


SJMC QMS Flow Chart



SJMC Quality Assurance

Corrective and Preventive Process



SJMC Quality Feedback System

ADLINK Support



Sales / PSM / KAM login
Customer Complaint / Problem



Navision Customer Complaint QFS Analysis

1. Complaint / Problem Verified / Validated by QA team
2. Closed Loop Corrective Action Initiated
3. Solution Presented to Customer

Key Account Manager (Leader)

1. Routine Meetings
2. Help Solve Customer Problems

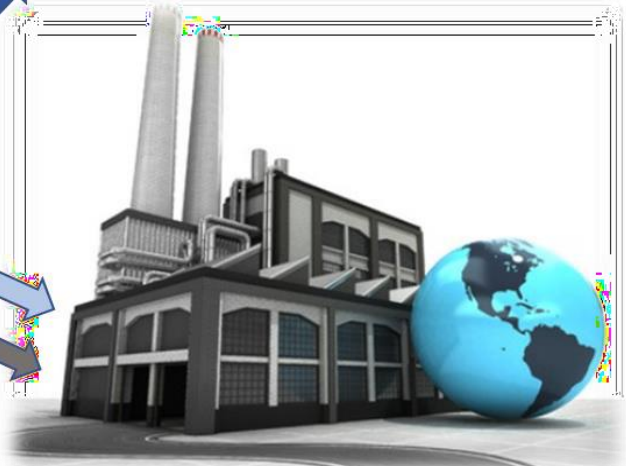


HQ (DOA Process)

AATI RMA Process

1. Receiving / RCA coordination
2. Report, Finish, Return

Design Issue



Manufacture and Component Issue
Contact window is AATI RMA team

SJMC Quality Defect Report System

ECN-001358

Order-ECN • Replace the BIOS FW-72132-0140 (CS05.BIN) to FW-72132-0190 (CS07.BIN) with the following changes: 1. Added SMBus PEC support to SMBus CMI ACPI code.

✓ Approve

✓ Acknowledge

✗ Reject

💬 Comment

➡ Next Status

🔗 Navigator

⌵ Actions

Cover Page | Affected Items • | Workflow • | Relationships | Attachments • | History

Page Two | Page Three | ---DVT--- | ---PM--- | ---LC---

P/N: ECN-001358

Status: SAP (2)/Supply modification

Change Type: Order-ECN

Description: Replace the BIOS FW-72132-0140 (CS05.BIN) to FW-72132-0190 (CS07.BIN) with the following changes:

1. Added SMBus PEC support to SMBus CMI ACPI code.

2. Removed most smart battery functionality due to conflicts with it and the SMBus CMI code. The customer does not need this support. Note, this is an issue that needs to be addressed in the standard BIOS. It is unrelated to the PEC support that was added.

3. Change Fast Boot default to Disabled.

Remark: Customer approval letter attached.

Workflow: ECN Workflow

Originator: Do Thanh (thanh.do)

Date Originated: 03/21/2023 02:04:59 PM PDT

Date Released: 04/05/2023 07:56:23 PM PDT

Final Complete Date:

Business Unit(BU): COM

▼ Summary (ECN Workflow)

Originate

→

Supervisor

→

DVT

→

PM

→

PDCC

→

CCB

→

PDCC Review

PLM Released

→

Gateway

→

SAP (1)

→

SAP (2)/Supply modification

→

SAP (3)

→

Complete



6450 VIA DEL ORO
SAN JOSE, CA 95119-1208
TEL: (408)360-0250
FAX: (408)360-1199
www.adlinktech.com

CAPA No.

SCAR15014

Due Date

10/24/21

Status

Initial

Report Type

SCAR

Preventative and Corrective Action Report

Category:

Other

Customer:

AATI

Contact Name:

Item No.

Item Name

Item Description

Serial No.

SEVERAL

Quantity

162

Customer PO No.:

Referenced No.

Description:

WRONG POSCAP (80-47710-7680) issue.

Observations

Record By:

ADLINKTECH

Date:

09/24/21

In July, one customer returned a product(HD-550) for no boot issue. After analyzing by R&D and supplier, it was found the POSCAP is not correct. It should be 470uF 6.3V POSCAP assembled on the board but the actual part we used is 470uF 2.5V. With further investigation, we found this supplier shipped wrong POSCAP to

1. 2 Corrective actions needed. One from TPE and one from the supplier.

2. Why this was not captured at TPE incoming, same for supplier

Root Cause Analysis

Why the failure was made?

After internal investigation, we confirmed that one of our POSCAP capacitor suppliers shipped wrong parts to us in one purchasing order. ADLINK has since always got POSCAP capacitors (Spec: 470uF 6.3V, ESR: 10mΩ) through an authorized component distributor (TAIYUAN SENKO CO., LTD.). The distributor recently faced with a shortage of electronic components and turned to purchase POSCAP capacitors from the spot market. Because the specification of POSCAP capacitors were implemented vacuum sealing for packaging, hence, the distributor did not scrutinize specification and marking of those POSCAP capacitors purchased from spot market. In addition, the distributor did not officially notify ADLINK ahead that the incoming POSCAP capacitors came from spot market.



FAILURE ANALYSIS REPORT

Customer:

PNY

Report No:

TPE-IL-22-036

DOA/RMA NO:

R2206076

Module Name

MXM-RTX3000

Serial NO:

LA01VNBA01...169pcs

Shipping Date:

2021 Oct, Nov

Report Date:

2022 Sep 20

Issue Reported:

Oxidization/Corrosion is found on the gold finger.
AATI(PNY) returned 169pcs to ADLINK Taipei.



Approved By:

Anerson Lu

Written by:

Vivian Tseng

1. Problem Verification

AATI returned 169pcs of MXM-RTX3000 to ADLINK Taipei. After screening, 148pcs were found with the same failure. Failure rate is 88%. There is unknown black substance remaining on golden finger.

2.Failure Analysis

1. Sent faulty board to PCB vender for analysis. According to SEM, EDX analysis result, the black substance is considered as copper sulfide. The copper sulfide is removable and only existed on the surface of golden finger. The gold layer is no corrosion. Analysis result also shows no sulfide is found on other area of board.

AATI PLM has Systematic ECO work flow

ADLINK | Leading Edge Computing

AATI CAPA's follow standard 4D format methodology

AATI NCMR's follow standard FA reporting format

Questions?
Thank you!



ADLINK Technology, Inc.

6450 Via Del Oro, San Jose, CA 95119
United States

Tel: +1-800-966-5200
Fax: +1-408-600-1189
info@adlinktech.com



www.adlinktech.com