ENCONNEX

Born to Innovate

2022 Q3
Mid-Point Update

Global All-Hands
August 4, 2022

Agenda

- News - Robert
- Product Roadmaps - PMs
- Market Insights - Alex
- Quality - Ishpreet
- Closing Thoughts - Robert

What's Happening at Enconnex?

News

New hires

None in July

Big Wins!

New accounts with PBX Interactive and Trip-Wireless

Attention!

Looking for ME in Shanghai
And FE in Reno

Heads Up!

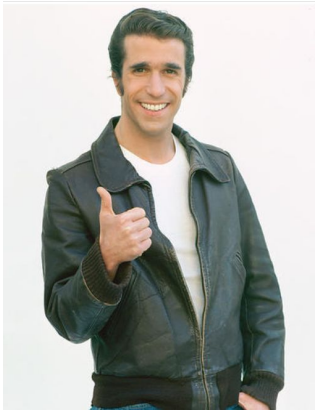
ISO Audit - Shanghai - August 25

Enconnex Evangelist Award Winner

$100

Thank you for promoting Enconnex every day!

Dave Bercovich



PM and Engineering

Real Device Testing - Roadmap

Fandoor for standard cabinets (no change from July)

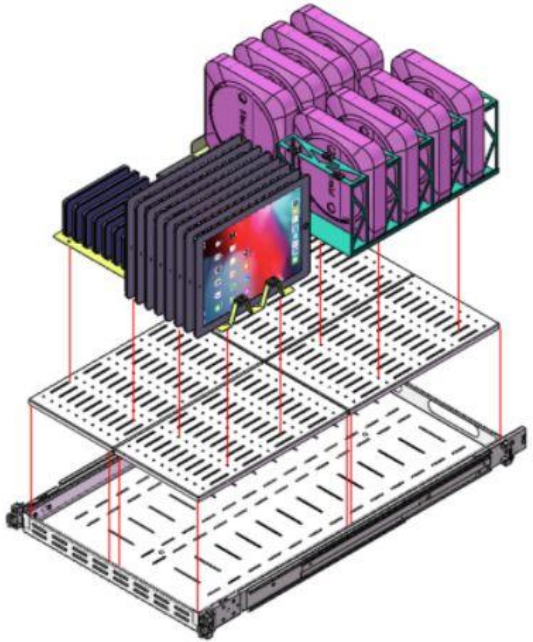
- V5 to integrate the power cutoff switch into the door
- Estimated availability Q3 2022

New Customized iPad Shelf (no change from July)

- Fits 32 iPad Pro, 2 Mac Minis and 2 USB hubs
- Integrated USB hub brackets
- Under Sample validation process

Device holders for flat sliding shelf (update)

- 6 different type of device holders that can securely place phones, tablets, Mac Minis or USB hubs in any combination at any place in the shelf
- Under Sample validation process
- Estimated availability Q4 2022



Connectivity - Roadmap

Copper and Fiber local sourcing

- In process of qualifying alternate local CM as well as other global regions
  - Lead time and cost improvements

Connectivity Tariffs Update

- 25% additional fiber tax no longer applies to Enconnex fibers, AOC, and Transceivers
- 25% additional Copper tariffs remain

Transceivers Coding and Code Validation Capability

- Reno production team working with the factory team on transceiver programming/coding, target readiness this quarter for select SKUs.

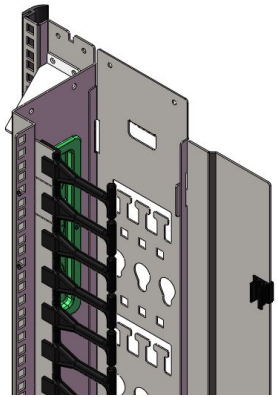
Metal - Roadmap

New Cabinet Project (Update, Target Launch March 2023)

- Increase load-ratings to 4000 lbs Static, 3000 lbs Rolling.
- Frame and Beam Upgraded. Increase internal useful width by 30mm and internal useful depth by 100mm.
- Rear frame integrated PDU channel, recesses PDUs
- Flat package optimization
- Shock pallet and packaging solution
- Unique Industrial design
- Cable management system and Air Dam kit.
- New Brand Name!

New 4 Post Open Rack (In PRD creation)

- Low cost
- Short lead time
- Fast assembly
- Cable management and accessory family



EdgeRack - Roadmap

EdgeRack 5M (**UPDATE**)

- Self-contained cooling unit, 5kW, variable capacity, 31U usable IT space.
- Easy installation, with rollers, bottom rack-mounted .
- Built-in water processing device.
- Environmental control inside cabinet.
- Prototype verifying, estimated launch Q4 2022.

EdgeRack Industrial 8M (**UPDATE**)

- 900mm x 1300mm x 2100mm , NEMA 12 / IP54.
- Self-contained cooling unit, 8kW, variable capacity, 42U usable IT space.
- Built-in water processing device.
- Environmental control inside cabinet.
- Easy installation and maintenance.
- Compliance test, estimated launch Q4 2022.

Power - Roadmap

AC6000 next generation (**DELAY**)

- New battery selected for better safety factor and supply chain
- New controller design for much more features and space for future updates
- Expandable design for AC9000 and for longer run battery
- Estimated Availability - **Q2 2023**
- Outsourcing some portions of the design to speed up the development

TAA PDU (**DELAY**)

- 3 models sent to CSA for UL testing
- **8-15** models being released to cover the wide range of North American circuits
- General availability **Q4 2022**

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Product Management Market Insights

Understanding RF Shielding Basics

By Alex Zhang

08.04.22

- What is RF Shielding?
- What is Faraday Cage?
- Faraday Cage Uses
- Faraday Cage Uses in IT & DC
- RF Range in Electromagnetic Spectrum
- RF Shielding in CyberSecurity
- SCIF vs TEMPEST vs Defense Shield

What is RF Shielding?

From Techopedia:

Radio frequency (RF) shielding is a solution used for blocking radio frequency interference. It involves the construction of an enclosure to reduce the electric and magnetic transmissions from one space to another. Radio frequency shielding helps to protect electronic and computer devices from radio frequency interference issues that can affect their performance and functionality.

What is Faraday Cage?

What Is a Faraday Cage?

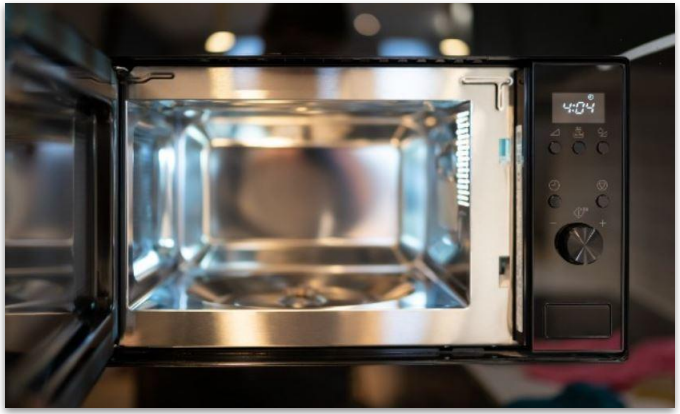
An enclosure that uses a conductive material to attenuate undesirable electromagnetic frequencies. Microwave ovens are commonplace examples of Faraday cages. The shielding on network cables is also based on Faraday cage principles.

History of the Faraday Cage

The Faraday cage was invented in 1836 by English scientist Michael Faraday, who discovered that an electrical conductor could be used to block electromagnetic fields. He observed that a charge was present only on the conductor's surface and did not affect its interior.

He demonstrated the effect by building a room shrouded in metal foil and bombarding it with high-voltage electrostatic discharges. An electroscope inside the room showed that no electric charge was present. The charge remained on the foil's surface and never penetrated the shielding to enter the room.

Faraday Cage Uses



Microwave Oven

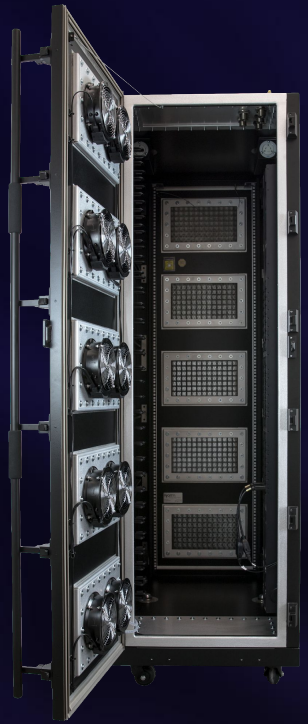
Airplanes

Faraday Cage Uses

MRI (Magnetic Resonance Imaging)

Conductive Clothing

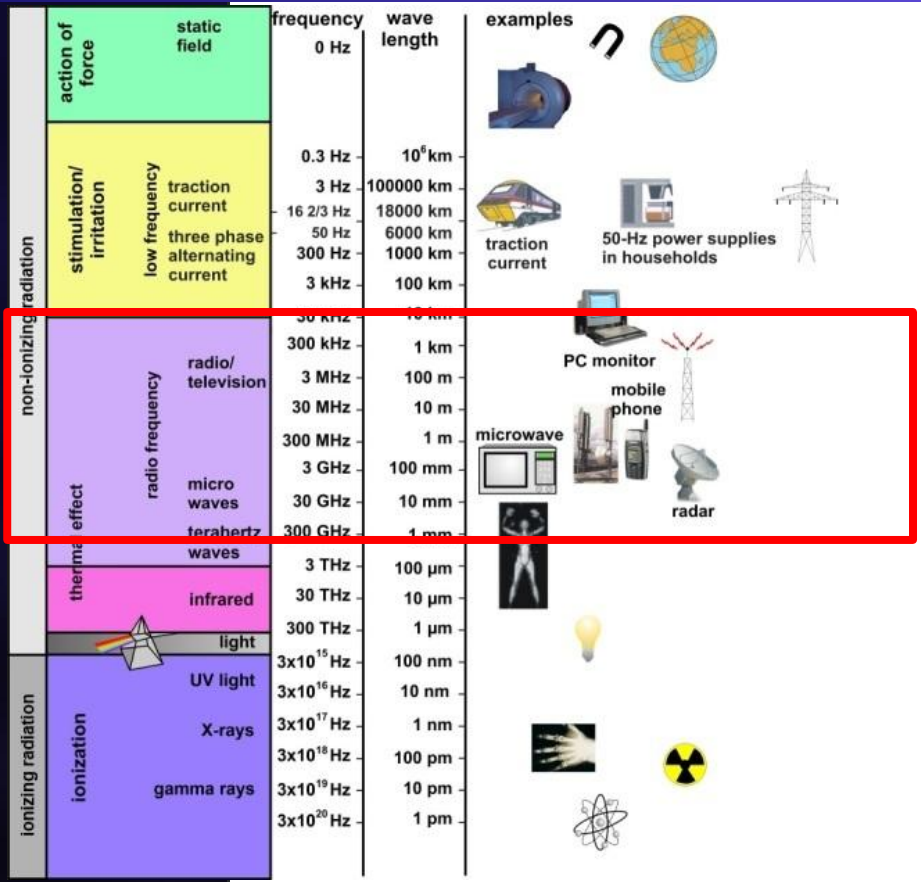
Faraday Cage Uses in IT & DC



Faraday cages also have several applications in IT and DC. For RDT It enables App developers to increase testing density, improve testing efficiency, and get accurate results faster by segregating testing devices into different RF shielded enclosures to avoid co-channel interference.

They can also shield sensitive equipment from electrical disturbances and prevent side-channel attacks in which hackers intercept and analyze electromagnetic emissions.

RF Range in Electromagnetic Spectrum



Radio Frequency (9 kHz–300 GHz)

RF Shielding in Cybersecurity

Historically, the primary purpose of the RF shielded enclosure has been as a technical surveillance countermeasure (TSCM) for cybersecurity mitigating risks from power analysis and EMI side channel attacks. The proliferation of WiFi, Bluetooth, and other wireless technologies pose a newer, more obvious eavesdropping threat.

EMI Side Channel Attacks

Electronics transmit RF signals and spurious emissions from system operation. Analysis of the signals can provide information to eavesdroppers. Reproducing screens, recording keystrokes, interpreting critical encryption methodology, and, in some cases, capturing data are all known possibilities. These attacks circumvent network security, encryption, and traditional physical/cybersecurity countermeasures. The United States government deploys shielded rooms (SCIFs) and TEMPEST computers to address this issue.

Differential Power Analysis

In a similar issue, the changes in system power allows eavesdroppers to discern cryptographic methodology and, in some cases, keys necessary to decrypt information. The Enconnex RF shielded rack uses a robust power line filter to mitigate the power analysis side channel risk.

SCIF vs TEMPEST vs DefenseShield

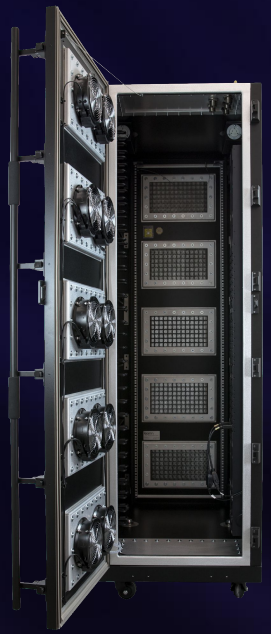
Customers use sensitive equipment in a shielded SCIF (Sensitive Compartmented Information Facility). This is a room large enough to work and host equipment.

- Pros: Big, allows a user to work inside a shielded area.
- Cons: Permanent, Moving or expanding sites is difficult. Difficult to maintain. Expensive.

Customers could purchase TEMPEST (Telecommunications Electronics Material Protected from Emanating Spurious Transmissions) or similar equipment with suppressed emanations.

- Pros: Approved for very specific use
- Cons: Top secret. The applications are limited to specific branches and uses. Limited selection. Expensive.

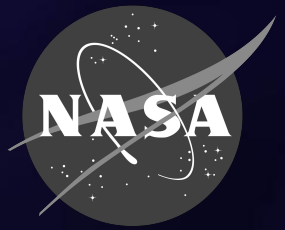
SCIF vs TEMPEST vs DefenseShield



DefenseShield Racks provide an alternative solution

- Lower total cost than a shielded room when accounting for installation
- Lower maintenance than a shielded room
- Lower implementation cost than TEMPEST equipment
- Allows use of off the shelf electronics opposed to expensive TEMPEST equipment
- Lasts for generations of IT systems
- Provides granular, sectionalized signal and physical security

Our Customers



Quality

Quality Policy

Quality Overview

Updates:

- ISO Surveillance Audit completed with zero nonconformities
- Spot audits completed
- Enconnex China successfully completed stage 1 audit

Upcoming

- Stage 2 audits in China
- Enhancements to existing vendor management
- Training LMS systems
- Internal audits in september

TUV- Positive Findings

4) Audit Findings

The audit findings related to the audited standards are listed in the Annexes to this report (see. Annex ISO 9001:2015).

All information gained during the audit will be treated with strict confidentiality by the auditor and the certification body. In the review of the sampling approach applied to the audit, weaknesses and nonconformities may still exist which have not been identified during the audit.

No.	Process/ Site	Standard Clause	Positive findings (POS)
1	QMS	4.4	Excellent Process Map
2	Documentation	7.5	Well organized documentation system, linking all elements of the EMS framework together
3	Leadership	5.1	Clear commitment to the QMS by leadership
4	Risk	6.1	Effective risk analysis tools (PESTLE, SWOT, Risk Matrix)
5	Awareness	7.3	Clear Buy-In and integration of system at all levels of the organization

TUV- OFIs

The following recommendations and opportunities for improvement provided by the auditor are intended to contribute to the continual improvement of the management system.

No.	Process/ Site	Standard Clause	Opportunities for Improvement (OFI)
1	Risk	6.1	Consider adding a 'Context' column to current risk matrix
2	Internal Audit	9.2	Consider training one auditor to solely perform the internal audit of the QMS framework processes

Audit Report

TÜV Rheinland of North America, Inc.

TÜVRheinland®
Precisely Right.

Client	Standard(s)	Certification Number(s)	Audit Type
Enconnex LLC	ISO 9001:2015	74 300 4778 & 4778/01	First Surveillance

3	Management Review	9.3	Consider adding 'current status' under target box on objectives slides
4	Management Review	9.3	Consider capturing meeting discussion notes more clearly and adding more detail on meeting outputs (e.g. in .ppt notes box, directly on slides or separate meeting minutes
5	Customer Owned Property	8.5.3	Consider calling out customer owned property by designating one consistent sticker to designate all customer property more clearly on MRB red tags and property in warehouse
6	Documentation	7.5	Consider updating warehouse training log to specify completed trainings in the trainings due column
7	QMS	4.4	Consider adding standard clauses to process map and calling out which areas impact specific departments

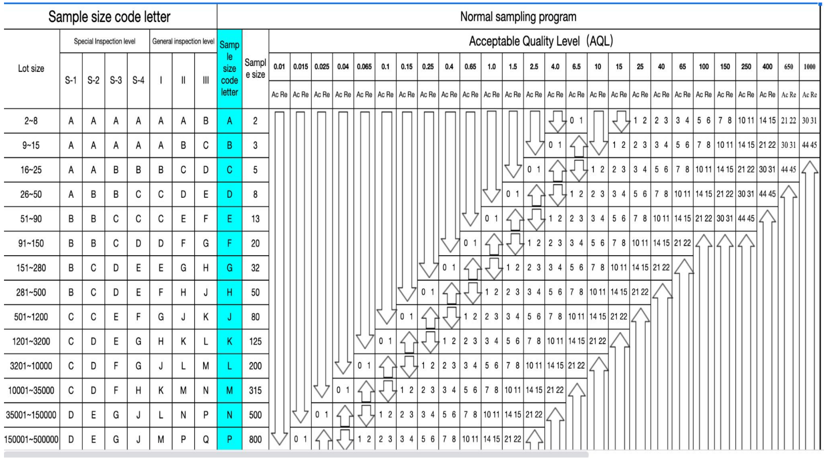
What has Changed?

- AQL calculator
- Inspections
- NCR
- CAPA
- Complaints

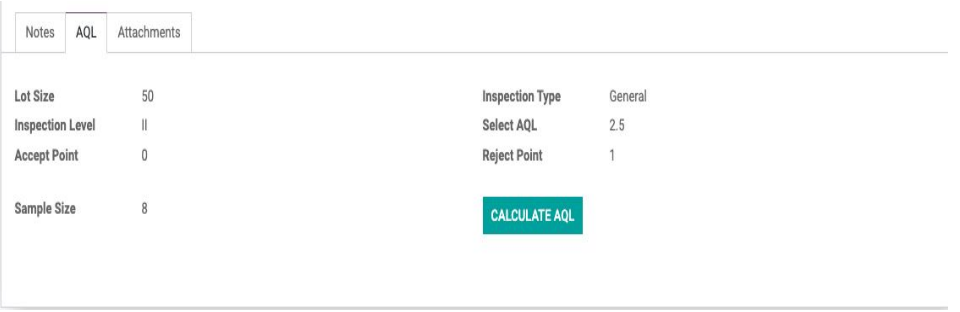
Implementation of AQL Calculator in Odoo

Before: We were earlier using spreadsheets to perform AQL sampling when performing inspections. Below is an example of how we used to perform calculations earlier.

Now: We perform inspections using the AQL calculator build into our Odoo system. This helps us perform automating calculations giving a sampling size based on the lot size and inspection criteria entered.



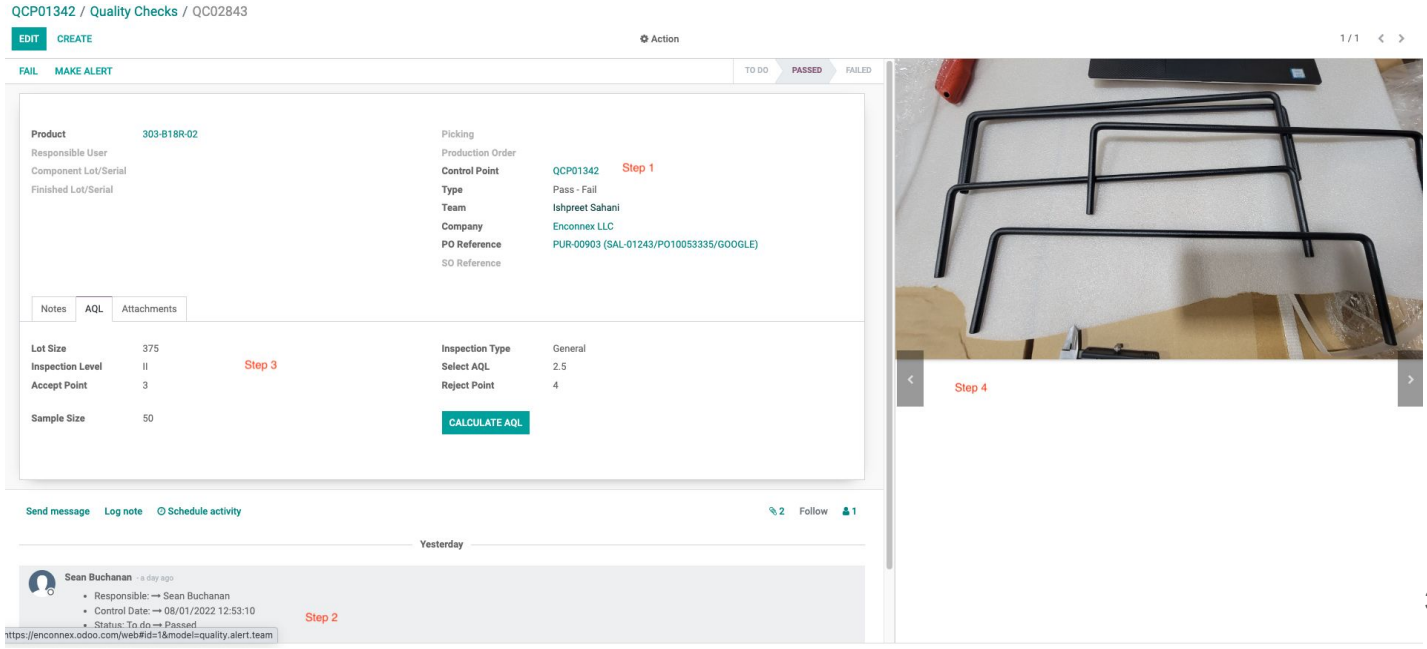
Lot size	Special Inspection level S-1	S-2	S-3	S-4	General inspection level I	II	III	Sample size code letter	Sample size
2~8	A	A	A	A	A	A	B	A	2
9~15	A	A	A	A	A	B	C	B	3
16~25	A	A	B	B	B	C	D	C	5
26~50	A	B	B	C	C	D	E	D	8
51~90	B	B	C	C	C	E	F	E	13
91~150	B	B	C	D	D	F	G	F	20
151~280	B	C	D	E	E	G	H	G	32
281~500	B	C	D	E	F	H	J	H	50
501~1200	C	C	E	F	G	J	K	J	80
1201~3200	C	D	E	G	H	K	L	K	125
3201~10000	C	D	F	G	J	L	M	L	200
10001~35000	C	D	F	H	K	M	N	M	315
35001~150000	D	E	G	J	L	N	P	N	500
150001~500000	D	E	G	J	M	P	Q	P	800



Inspection records

Before: The inspection records were based on a manual approach relying on the logistic team to alert the QC personnel using the slack messaging system and company cone identification program for performing quality checks and receiving material. Records were signed off or manually stored in a spreadsheet.

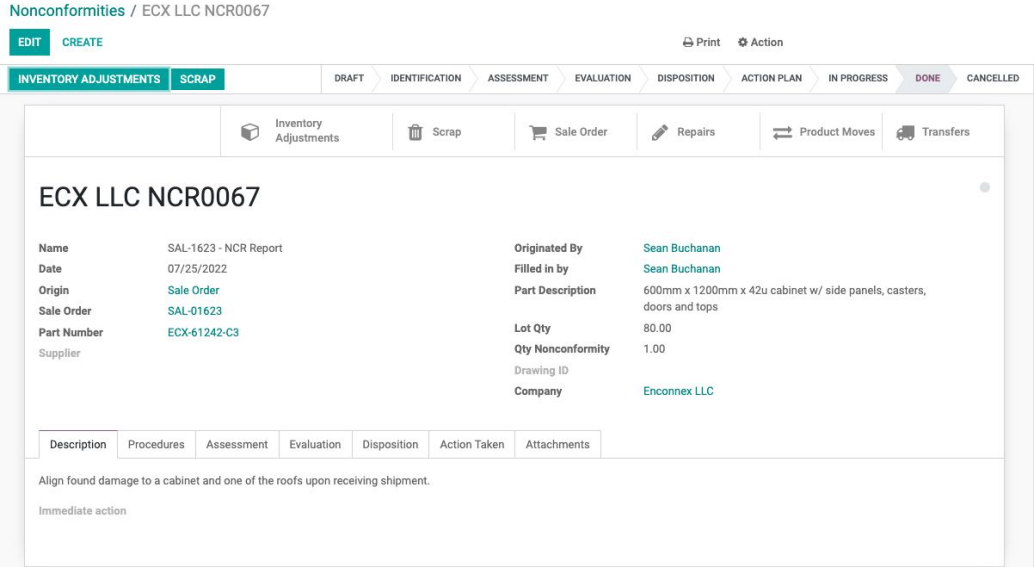
Now: Company Oddo system is now used to create quality control points, perform quality checks, and store pictures.



Non-conformance Report (NCR)

Before: Nonconformities were captured in a word document and QC was responsible to maintain all the records in the shared drive.

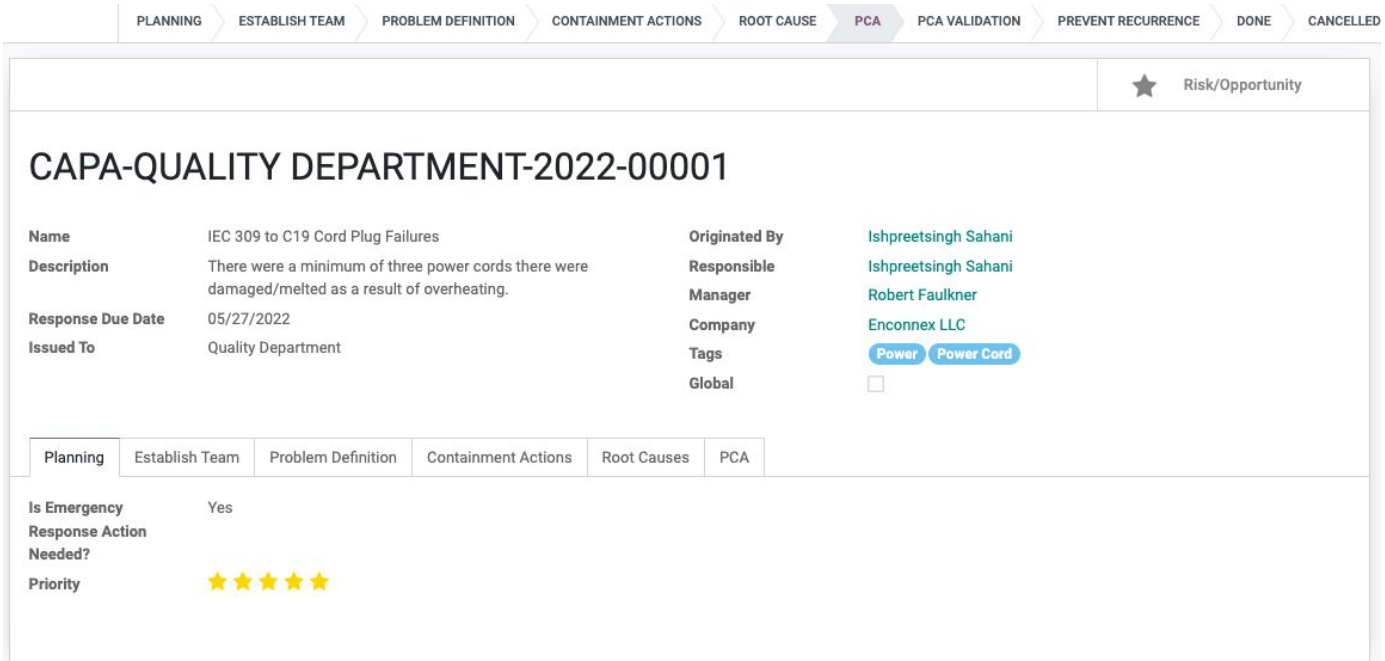
Now: A system-level incident management module has been developed in Odoo that manages all non-conformities. Nonconformities discovered during incoming, outgoing, in-process, or already shipped products can now be traced using the following inputs: purchase orders, sales orders, ECOs, and manufacturing orders.



Corrective Action and Preventive Action (CAPA)

Before: Corrective and preventive actions were captured in a word document and QC was responsible to maintain all the records in the shared drive.

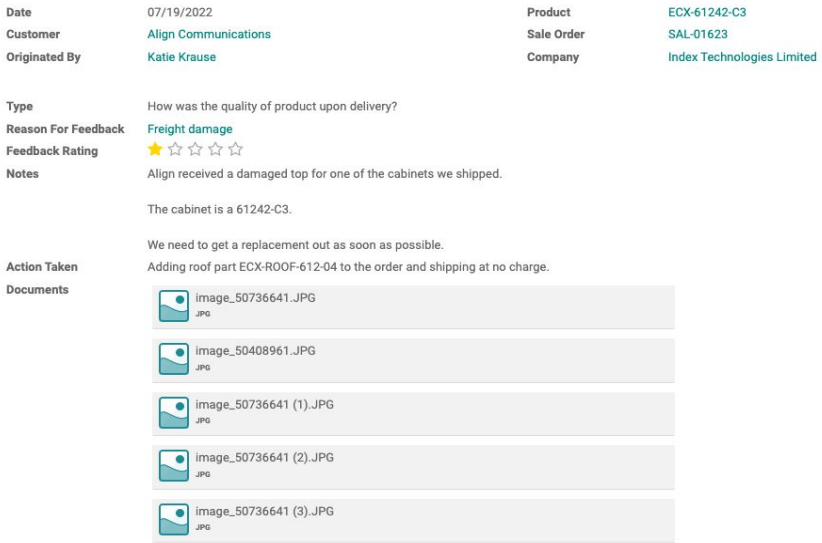
Now: A system-level incident management module has been developed in Odoo that manages all CAPAs.



Complaints

Before: The complaints were recorded in a spreadsheet.

Now: A complaints tab has been built into the system to track complaints against certain POs, SOs, and products to facilitate quick escalation and improvement, which can later be exported for management review.



What's Next?

- Engagement on learning management systems
- Assigning actions for risk and opportunities
- Assessing and defining the scope for ISO 14001

Closing Thoughts

Communicate Expectations

“Expectations lead to Disappointment
Disappointment leads to Frustration
Frustration leads to Strife
Strife leads to the Dark Side”

I expect:
Careful communication
Continual feedback
Sharing of needs
Individual Accountability
Team Mentality
Big Picture Thinking
Work/Life Balance

Thank You

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