

SMT Layout

Here it is our SMT layout, and we can see all of the equipment's and how is built our manufacturing line for SMT.

Firstly we have the work table for paste validation and in this same table an operator places the QR codes printed assigned to that workorder, after that the pcbs are placed on a FIFO to enter on deck equipment to put it the solder paste previously conditioned and validated.

After that, the PCB is following his process and once arrives to the next equipment called Pick & place, where all the component are placed, worth the redundancy, and this is our most important equipment on SMT, once the unit has processed it needs to be inspected with the AOI (automatic optical inspection) to detect defects on the unit

and if the unit has defects it should sent to repair area.

if the unit it OK, it depends on if the unit has completed or it lefts the another side of the pcb

once the unit has completed and with no defects keeps flowing on the line to the depanelized or programming area

and this is how we build or PCBAs(MX1 models of mains or MX2 scards)

Overview applications

Solder Paste Validation

Before this system, **==we couldn't easily track how long the solder paste==** had been prepared for use. So we did it manually with an analog timer and It was challenging to ensure that it had the right amount of time to be ready, which sometimes led to issues during the SMT process.

Now, the system tracks the solder paste, ==**making sure it meets the required ambient time before it's used**== This ensures better quality and fewer errors during production.

The results have been very positive. We've seen improved quality in the SMT process and a reduction in errors caused by improperly prepared solder paste.

- Preventing usage if the required time has not been met.
- Eliminating the need for manual controls.

Scan QR

Before this system, tracking the units on the production line was a manual process. This often led to mistakes and we had issues in counting and problems in keeping track of the work orders. It made the production process less efficient and harder to manage.

Now, with the system, we scan the QR codes on each unit to automatically count and track them. This gives us complete visibility into the production line and helps us ensure every unit is accounted for, whether it's being repaired, scrapped, or finished.

- Work order counts
- Improve system traceability in the production process.

SMT Validation

So as you can see, this is our 3rd application for the SMT area, and this is our most important App, this is where you can notice if the FUJI equipment is correctly loaded doing a match

Before using this system, we had so many issues cause couldn't ensure that the right components were placed in the correct place on the PCB during the SMT process. Mistakes would sometimes go unnoticed until later, causing rework, including scrap

Now, the system verifies the component setup by scanning the module, position, and part number, checking it against what's in the database. If everything matches, it gives the operator a "Pass" result; if not, it shows a "Fail." This ensures the accuracy of the component placement from the start.

AOI Record

Before we had this system, ==**we used to track everything manually**==. This often led to mistakes and made it hard to ==**know what was happening in real-time**==. We couldn't easily see where each unit was in the process, and that caused delays, extra work, and more waste.

Now, with the new system, we can scan and record each unit automatically. This means we always know where each unit is—whether it's being repaired, scrapped, or finished. It's helped us become more accurate, reduced mistakes, and allowed us to manage our resources better.

Programming Area

This application is under development, and his release date will be on October 20,

and his objective is to record and track all the finished units with no defects after all the proceeses that have they passed, and is also for set WO status(closed, open, running),