

# Digitizing manufacturing operations using Zoho Creator



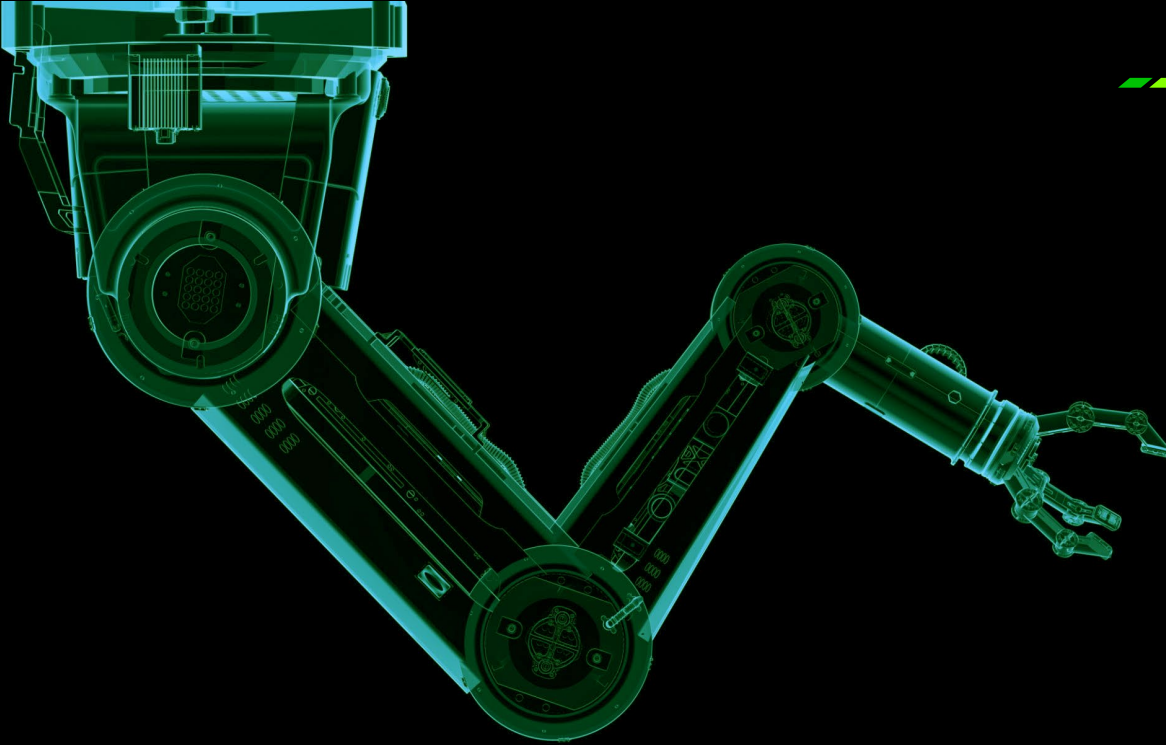
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# About **PBA Systems**

PBA Group/"PBA Robotics" (PBA: Platform for Bots and Automation), founded in 1999, is a regional robotics and automation company that allows businesses of every size to leverage Industry 4.0 technologies to optimize and scale up their operations. From building tech products, specializing in precision and general robotics, to offering turnkey automation solutions, PBA is a technology partner that never stops innovating.





Their purpose is to meet the challenges of the everyday world by making robotics technology accessible to everyone. PBA's core capabilities involve the development of technology which can be applied to businesses across all industries, including a full suite of solutions in mobile robots and robotics & automation, as well as direct drive technology and motion control.

PBA also designs and manufactures its own products, including made-in-Singapore autonomous mobile robots (AMRs), collaborative robot (cobot) arms—the first of their kind manufactured in Southeast Asia—and precision systems. PBA Group has over 30 companies in 10 countries and over 500 employees regionally, with a strong focus on Southeast Asia.

# The Challenge

Their production process was completely manual, so they had a lot of manual errors taking place since there wasn't a proper system in place—from quality issues to labeling data, scanning QR codes, and more. Since the production records were paper-based, it was cumbersome to achieve any insight or gain information to improve on time delivery and perform root cause analysis.

In addition, the manufacturing process was facing quality issues like yield loss and defective products being shipped out.



# The Solution

After struggling with their previous system, they finally decided to build a **production tracker application** for their process. They were attempting to streamline two critical functions. First, they hoped to digitalize the production data from their manufacturing sites so that they could begin making operational decisions based on the results of the production tracker. Second, they wanted to use the software to validate test results because they were in the process of manufacturing electrical components. It's critical to ensure that the functional and dimensional specs of the product are within their standards after each step of manufacturing. What they wanted to do was minimize their product failure rate during these processes, where they feed the product testing data to Zoho using their instruments, and then they have to define the testing parameters on this operator.



*"This system was able to pass or fail in the process testing. What this enabled us to do was to tighten up our quality tracking mechanisms, and we made sure that every product shipped from the factory is actually performing well and within our requirements."*

**Daryl Tan**

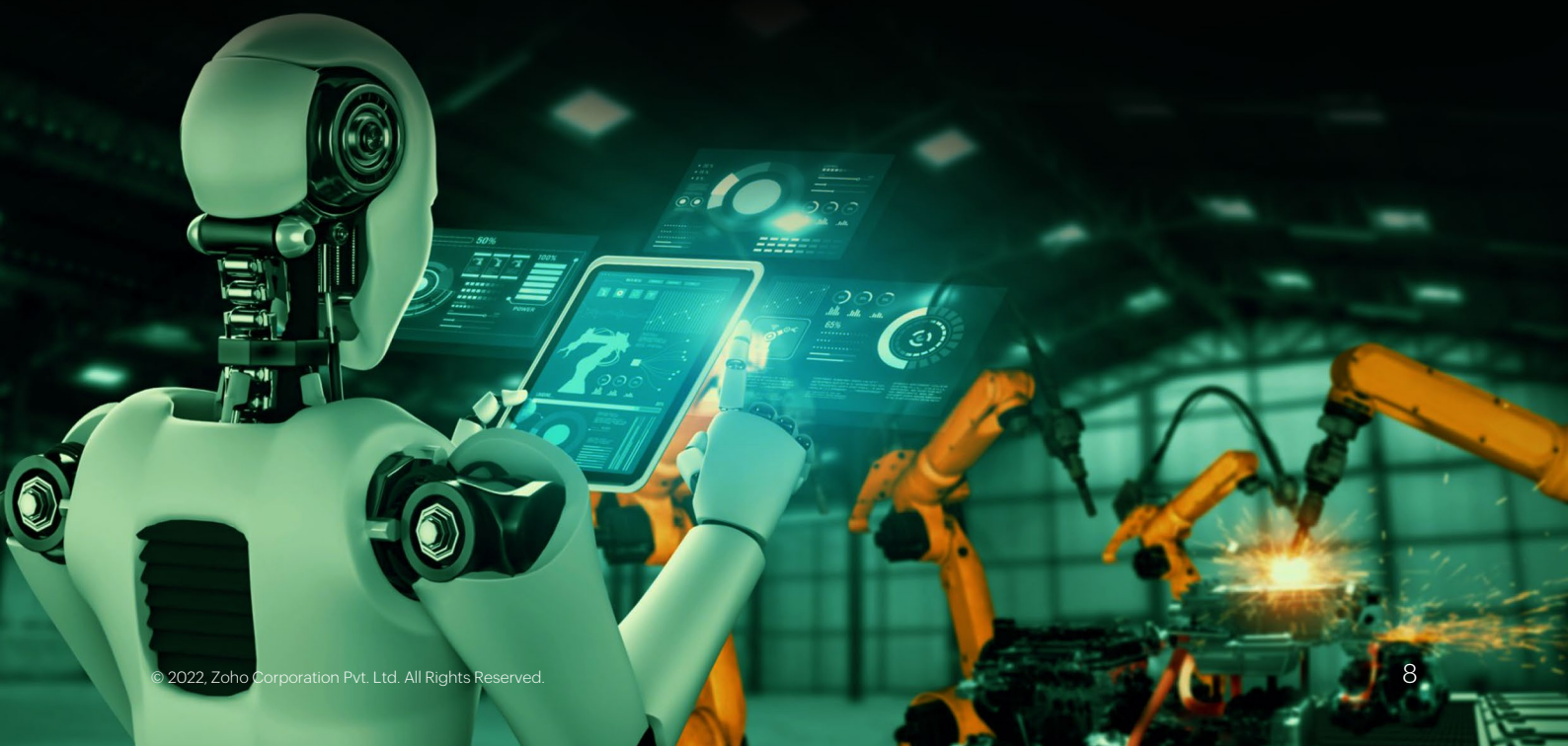
Manufacturing Operation Manager

PBA Systems

PBA updates their job sheet with a QR code. Then the operators can secure code A and begin testing on the tablet, feed data from the instrument to the production tracker, and notify the operator whether the test is part of it. They also integrated it with other apps on Zoho Creator to improve their capabilities, such as reading and printing the label onto their products. They then linked it to the production tracker, so that once more motors have passed other tests, the operator can print out the label.

The Production Tracker app was developed with the following objectives in mind:

- Achieving high process integrity using systems and tools instead of people for the quality checking process. A product could not move from process to process without meeting the required specs, and the integrity of the process is achieved as the test equipment uploads the results to the Production Tracker, which then decides whether to allow the product to move on to the next station.
- Digitalizing production data to capture output, cycle times, and the performance of each operator and each process. The insight provided by the data helps to improve on-time delivery and perform root cause analysis for defects.
- Data provided is displayed on live dashboards for quicker analysis and problem solving.





*"We eliminate errors in label printing to make tracking more seamless. And what this ensures is that every motor that has a label goes through the entire process, so it validates the integrity of the process. We also do some analytics to make sure the production that we plan for is on track, with the help of Zoho Creator."*

**Daryl Tan**

Manufacturing Operation Manager  
PBA Systems



# The Benefits

*"I think the largest impact is ensuring that the products that we manufacture meet our quality standards, and therefore help us serve our customers better."*

**Ivan Ling**

Digital Transformation Office

PBA Systems



## **Digitization**

Improves quality control and helps in eliminating errors in printing labels, and can be done upon final inspection.



## **Tracking progress**

Helps management and production supervisors in monitoring the output of production against plans.



## **Traceability**

Provides better traceability and helps with quicker root cause identification of NCR.



## Quality

Provides instant email alerts to notify when rejects occur, and the total number of them. Also ensures that any reject during production is addressed before it moves to the next stage of the process.



## Analytics

Provides detailed analysis by creating customizable dashboards and reports.



## QR Codes

Helps them update their job sheet with QR code to secure code A and begin testing in the tablet and more.

*"There is a reduction in errors—and that's why our quality issues have drastically dropped. I think it's dropped like 70 or 80%. We're seeing a lot of fewer errors output-wise."*

### Ivan Ling

Digital Transformation Office

PBA Systems

# The Future

PBA Systems is now looking to expand their operations to other countries and are planning to set up warehouse or production facilities in China and Taiwan. The production tracker will be utilized in these two areas.

*"The next step for us would actually be rolling this software out across all our factories—China, Taiwan, and Singapore—and to actually cover more products and factories and expand coverage. And in terms of development, we want to actually try to improve a bit more than UI and UX, so that it's easier for our operators and our engineers to utilize the platform."*

## **Daryl Tan**

Manufacturing Operation Manager

PBA Systems

# About

## Zoho Creator

Ever hit a roadblock with software development? With more than 25 years and 13,000+ customers across the globe, catering to various industries and businesses of all sizes, Zoho Creator offers the best solutions for all your app development problems. And you don't even have to know any coding. All you need to do is sign up and start building right away!

### Top brands that use our platform:





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