

STREAMLINING PRODUCTION AT A LEADING COFFEE COMPANY.



ABOUT THE COMPANY

This manufacturer is a large pure coffee company in Australia and the country's number one coffee brand. Established many decades ago, the company produces 100% Arabica coffee at its production facility and has registered trademarks all over the world, in countries including Canada, USA, Japan, Fiji, Singapore, South Korea, Malaysia, Thailand, Philippines and New Zealand.

THE CHALLENGE

On the plant floor, machine operators were recording data manually to log downtime and produce OEE reports. "I noticed that the data varied across different shifts and teams and when we shifted people around, those differences moved across with the team," says the General Manager of Manufacturing. Suspecting there was profit being left on the table, he was interested in automating data to get more control into operations and more immediate feedback for operators. As a filling operation, they were also looking for ways to reduce 'giveaway' and curtail packaging losses during production.

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THE SOLUTION

Two years ago, the GM proposed automating plant floor data to his board of directors and started investigating solutions, including PLCs and SCADAs.

After visiting a company in Europe that had implemented Plantnode, he contacted Shoplogix partner John Broadbent of Paradigm for Excellence in Sydney, Australia and decided to implement the Shoplogix solution. In June 2010, Plantnode was installed on every production line of packaging equipment, four in total.

THE RESULTS

Increased productivity

Broadbent advised the manufacturer to mount Plantnode on the units and turn them on without informing the operators to record a silent baseline in what Shoplogix calls 'Blind Mode'. This enabled the company to establish a baseline to compare manually recorded data against Plantnode Machine Truth™, which showed a 13-20% difference. While the GM believed the company had about 70% OEE, Plantnode showed true OEE was 59%. "He actually had 11 percentage points available to him that he didn't know he had," says Broadbent. By day five, they achieved an increase in efficiency of 22%. "If you make someone accountable and display what they are doing it makes them more conscious about how they behave," says the GM.

Decreased downtime

For operators, it was difficult to manually record stoppages and why they occurred, so they often got missed. Operators quickly embraced using the Plantnode barcode scanner which enabled them to scan reasons for downtime and categorize them into 'buckets' including business-decision downtime (e.g. not running on weekends); planned downtime (e.g. breaks, meetings); and unplanned downtime (e.g. breakdowns).



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“The operators love scanning barcodes rather than picking up a pen to write down the time, date and duration of the downtime and the reason for it,” says Broadbent.

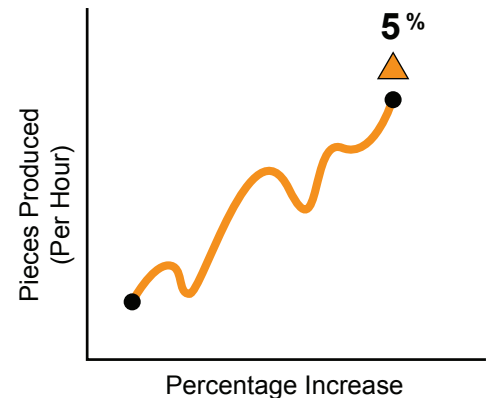
Plantnode also helped the company pinpoint discrepancies in the time it took operators to perform certain tasks. With set-ups, changing from product A to product B averaged about 8.5 hours. Once Plantnode was installed, management discovered that some operators were able to change products in just eight. “They discovered that one or two operators had worked out a better way to do a product change so they got them to train the other operators to pick up extra production time,” says Broadbent.

Realizing results sooner

The GM knew it would take eight to twelve weeks to implement a SCADA system and get results whereas Plantnode’s set-up is simpler and faster: “It took about eight hours of wiring for our site electricians to get one Plantnode up and running,” he says. “We rolled out four lines in one week. The fact that we could do it all in-house and weren’t relying on programmers or coders was one of the key benefits for us.”

Enthusiastically accepted by machine operators

Plantnode was implemented with a one to two hour training session with good acceptance among the operators. “Even with employees who had been there for 20 years, who usually have change management issues, the uptake was fantastic,” says Broadbent. Plantnode’s LED message boards which provide immediate feedback on performance have been a real game changer. The manufacturer uses KPI reporting with Plantnode outputs tied to Andon traffic lights (red=stopped; yellow=waiting; green=running) and that traffic light method is used in the LED display. As soon as the LED displays were turned on, there was an immediate improvement of 5%. “People got feedback as to how they were doing and just seeing it was enough to make them work more efficiently,” says Broadbent.



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They also display the last reason for downtime so another feeder in the plant can see what's going on with the other line. For example, if the machine has a broken shaft and a mechanic has been called, another operator may jump over and help. "That's working well for us; the guys are working more as a team."

Accounting for scrap and reducing giveaway

The company's foil packaging on its 250g coffee packages is worth almost as much as the coffee it contains so management was interested in indentifying packaging losses or yield. With Plantnode, coffee packets are now counted as they are going into the machine from a roll and again as they come out filled with coffee so it's possible to track how much packaging material is lost during production.

Reducing giveaway was another big gain after implementing Plantnode. "With a filling operation, the international weights and measures organizations in most countries stipulate that in a 500g packet, a certain amount, such as 99% would have to be above 495g", explains Broadbent. "Most people would pack 10-15% heavy so they make sure they comply." This company put the signal that checks weights into Plantnode to see how they were faring against their target, reducing the giveaways immediately. They are now able to trim back their giveaway so they put less coffee in the packet while still complying with the weights and measures.

Reporting made easy

The company uses Plantnode Enterprise (PNE) for aggregated reporting to build reports enabling plant-wide comparisons. "These detailed, flexible reports, provide information on why lines are stopping, so improvements are now being driven directly by plant floor personnel," says Broadbent. "PNE allows you to slice and dice information into different views to see if one operator is performing better than another, if one shift is better or the quality is better from one line to the next."

Thanks to Plantnode's pre-planned reports, a 21-year old engineering graduate runs the company's continuous improvement program, creating the reports in PNE. "That gives you an idea of how easy this system is to use and operate", says the GM.

Conclusion

Four months after implementing Plantnode, this coffee manufacturer has achieved a complete return on investment. "Plantnode has had a 100% success rate for us," says the GM. "It was a minimal investment, something we could control and modify internally and was very adaptable to what we needed." With Plantnode on its packaging equipment, the company plans to implement more Plantnodes on its processing and batch roasting equipment. "We are very confident with the product. The next step is to use Plantnode to improve Asset Utilisation across the entire operation," says the GM.