

Hello!

Jason Norris

JHTester Industrial Automation

A proudly owned family business offering system integration and automation solutions to industry for over 40 years.

Digital
Business Card



Our International Impact



“

**WE ARE DRIVEN TO
HELP AUSTRALIAN
INDUSTRY THRIVE...**

MURRAY TESTER- MANAGING DIRECTOR



IPA Presentation 2022 – Hunter Valley



Collaborative Robots



Artificial Intelligence in Automation



Remote Connectivity - Cloud Visualisation



Remaining Competitive with Automation

& Improving
Manufacturing Intelligence



JHT IA CHECK LIST:

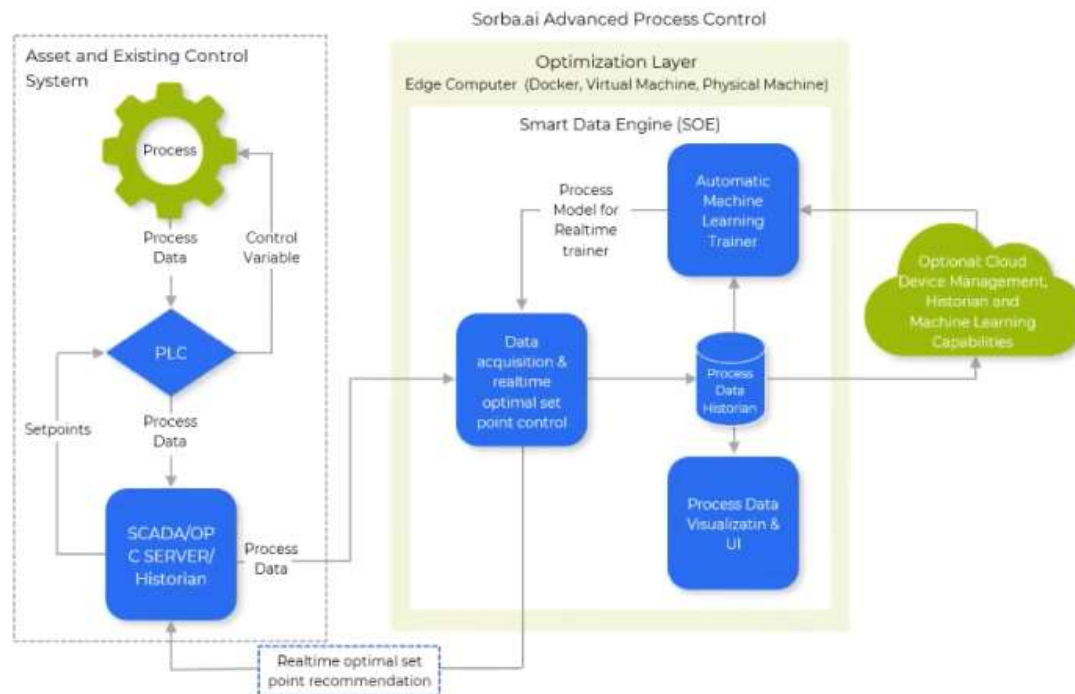
1. Identifying the Motivating Factor for Automation
2. Select the Right Technology
3. Flexibility and Scalability
4. Safety and Compliance
5. Plan for Seamless Integration
6. Data, Analytics and Optimisation
7. Human-Machine/Robot Collaboration
8. Continuous Improvement
9. 360 Review & Validation

JHT Success Recent Success Stories

- What is Smart APC? – Advances Process Optimisation and Control - AI
- Machine Vision with AI – QC Application Optical Character Recognition(OCR) & Local Server Historian
- Innovative Solution of the past Improved Machine Efficiency with Coordinated Motion with Energy Saving
- Automation with Energy Optimisation & Cloud Monitoring – Critical Hardware with Critical Support Package
- Cobot Application – Adopt Technology & Enhance Operational Efficiency
- Kinematics Solution – Mechanism Emulating Robotics

Advanced Process Optimisation & Control (APC)

What is APC – How does it work?



You are sharing your entire screen. [Stop Sharing](#)



1. Pick an asset
2. Determine controllable setpoints (**Control variables**)
3. Determine the heuristic
 - a. **Optimization variable** (Optimization metric)
 - b. Optimization objective (Max or Min)
 - c. **Independent variable** (System boundary)
4. Determine constraints
5. Program tags and scripts
6. Collect data
7. Create the model
8. Create the dashboards
9. Verify setpoint prediction
10. Close the loop
11. Validate results



Video Link

Machine Vision

... with AI – Optical Character Recognition
(OCR)

534547657568
675756756756
7867876889
7878678789789
87798797
7867866976
78975878978

DATA	504	804	8707	804	87777	808	738
DATA	804	804	804	804	804	804	804
DATA	804	804	804	804	804	804	804



1. Prototyping



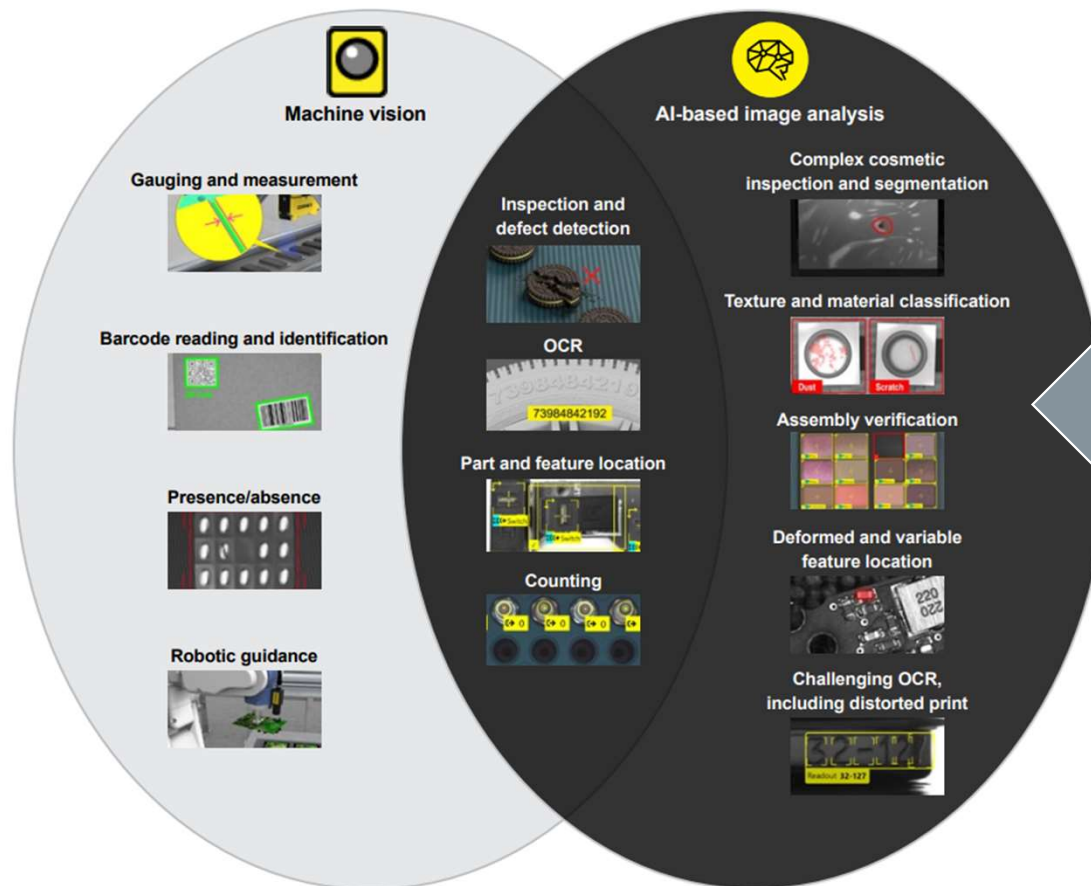
2. Image Data Collection



3. Optimization

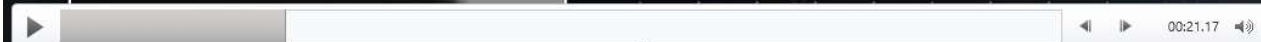
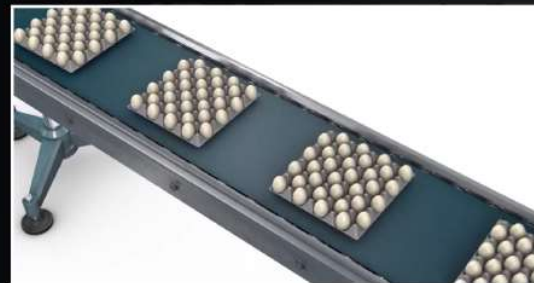
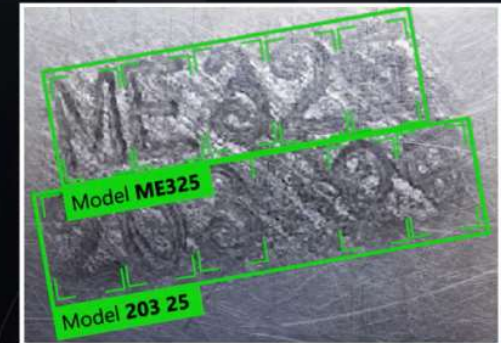


4. Validation & Deployment



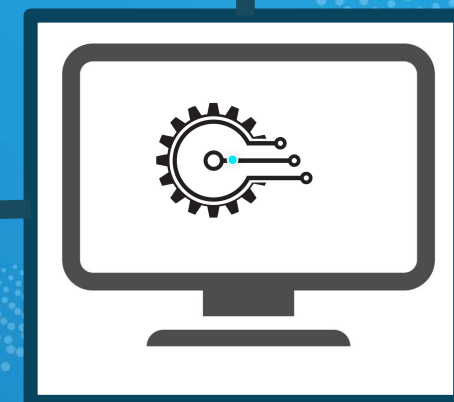
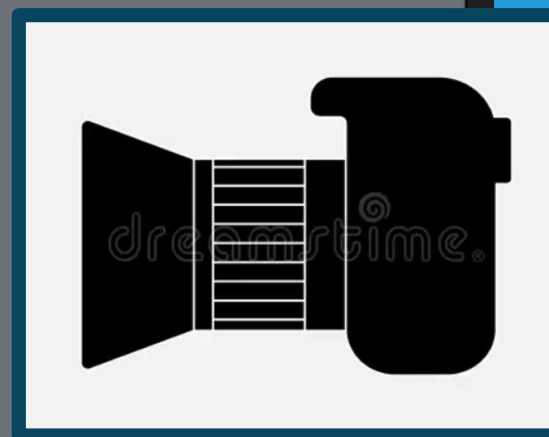
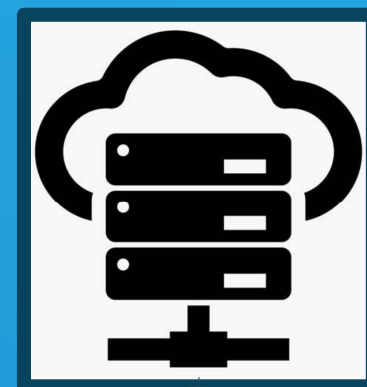
- Opportunity to replace rule based algorithms
- Easy to Configure
- May Tolerate Variation

TO LEARN MORE, VISIT
COGNEX.COM/DEEP-LEARNING



Pattern 1 Pass	1
Read 1 Read Text	030124
Read 2 Read Text	152523

Best Before Batch Code



Client Benefits :

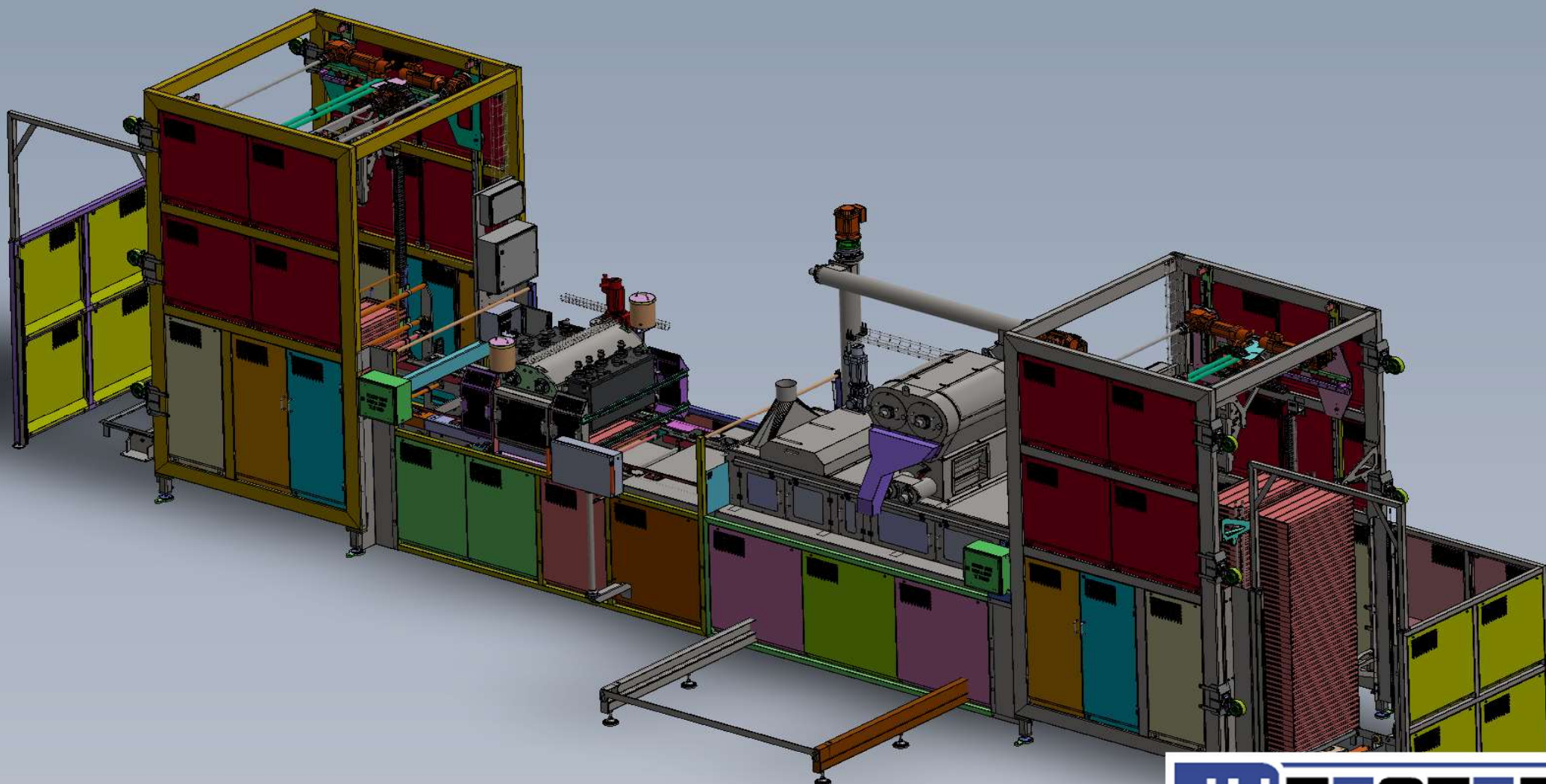
- 1) Remove Need for Product Recall “\$\$”
- 2) Continual Monitored Solution, Auditing Review





Sweet Success





SEW
EURODRIVE



CASE STUDY

THE TASTE OF SWEET SUCCESS

The need for an all-in-one solution for automation tasks comes from a single source, SEW Eurodrive's MOVIC covers complex motion control applications helping a confectionary machine achieve optimum results.

When a candy manufacturer in the United States needed a specific machine to manufacture soft-gummy candies they turned to JH Tester, who have been providing machine control solutions for over 10 years to the candy manufacturer.

Located in the western suburbs of Sydney, JH Tester Industrial Automation has been in operation for over 35 years. Family-owned and operated, the company was started in 1980 by John Tester providing technical service and support to the textile industry. Over 20

years ago, JH Tester transitioned its focus to the design and manufacture of automated systems for a variety of sectors, including manufacturing, food and beverage, building, mining, infrastructure, and water processing.

"Our specific strength is motion and motion control – anything that has servo controls is our sweet spot" Tester said. "And we also have strengths in PLCs and HMIs. We pride ourselves on providing innovative simple automation solutions to often complex challenges in the manufacturing sector."



CASE STUDY – MOVIC MODULAR AUTOMATION SYSTEM

that if one axis is slowing down or putting power back into the DC bus, other axis can utilise that power. With effective project planning, this it is possible to have a smaller power section than the collective sum of the control axis, if all axis are not motoring simultaneously, offering a significant savings from an OEM perspective.

Aside from the smarter power solutions, and compact design platform, the MOVIC- Movidrive Modular also presented performance enhancements with motor resolution of 65,536ppr which has proven to offer exceptional motor performance. Another important aspect for implementing this hardware was the integrated safe circuit with level PLe performance.

The simplicity of the MOVIC-C MOVISUITE software package allowed easy integration for the entire hardware package. "It also has only one platform to program for the 18 axis – it uses a common master virtual encoder to coordinate many axis, making it highly-coordinated," said Tester. "The end product, in this example the confection machine, is therefore highly user-friendly and meets our standard for creating simple solutions to complex challenges."

"High rates of productivity can be achieved with the application of the MOVIC-C", Tester said, with up to 2.5 tonnes of candy per hour able to be produced by the confection machine. The centrally-coordinating, multiple electronics cam curves enables multiple axis synchronisation for a virtual axis. "Because it is a highly integrated automated solution, we have very precise cam arrangements. While, normally, you'll see clients using mechanical cams, we are using electronic cams to more effectively tie axis together," Tester said.

"And the cams can be changed on-the-fly, which allows configuration of the machine while it is actually working. It means that we can change and modify the cam while the motor is running, modify the time unit of the machine and modify the lathe profile of the pumps during operation. These things are ordinarily very difficult to do while a machine is in motion. So on-the-fly updating of cams is a big advantage in this package."

If there are issues with the drive, they can be swapped for others, while the SEW MOVIC-C controller can download the parameters in the drive and reconfigure a drive with a minimum of disturbance.

"This kind of flexibility eliminates downtime. You don't have to stop the machine to load up a cam profile," Tester said. "And this, once again, creates higher productivity and higher efficiency in all sorts of ways."

flexibility eliminates downtime. You don't have to stop the machine to load up a cam profile," Tester said. "And this, once again, creates higher productivity and higher efficiency in all sorts of ways."

Using the latest technology integrated into the MOVIC-C product range has provided many advantages for JH Tester. "We were ahead of the market using such innovative new technologies. We have had a close relationship with SEW for a long time now, and they're a great company to work with," Tester said.

"As we develop new solutions with their products, we are now piloting many advanced and cutting-edge industrial automation solutions with SEW. So, it is a very fruitful relationship that works very well for both of us."

The MOVIC-C's Ethernet connectivity also means that JH Tester can also deliver high-level after sales support with remote access. "We remotely monitor the machine and make sure it is functioning efficiently and as designed for purpose."

Indeed, customer service and support on both a local and international level is something that JH Tester prides itself in providing to the manufacturing sector. "We reduce complexity in what can be very complex systems; we've simplified the cabinets; we provide high speed communications on the motion platform. The resultant benefits are simplicity and power," said Tester.

JH TESTER
INDUSTRIAL AUTOMATION

CASE STUDY – MOVIC MODULAR AUTOMATION SYSTEM

Australian Innovation as reported by Foodmag.com.au

Automation with Cloud Connectivity



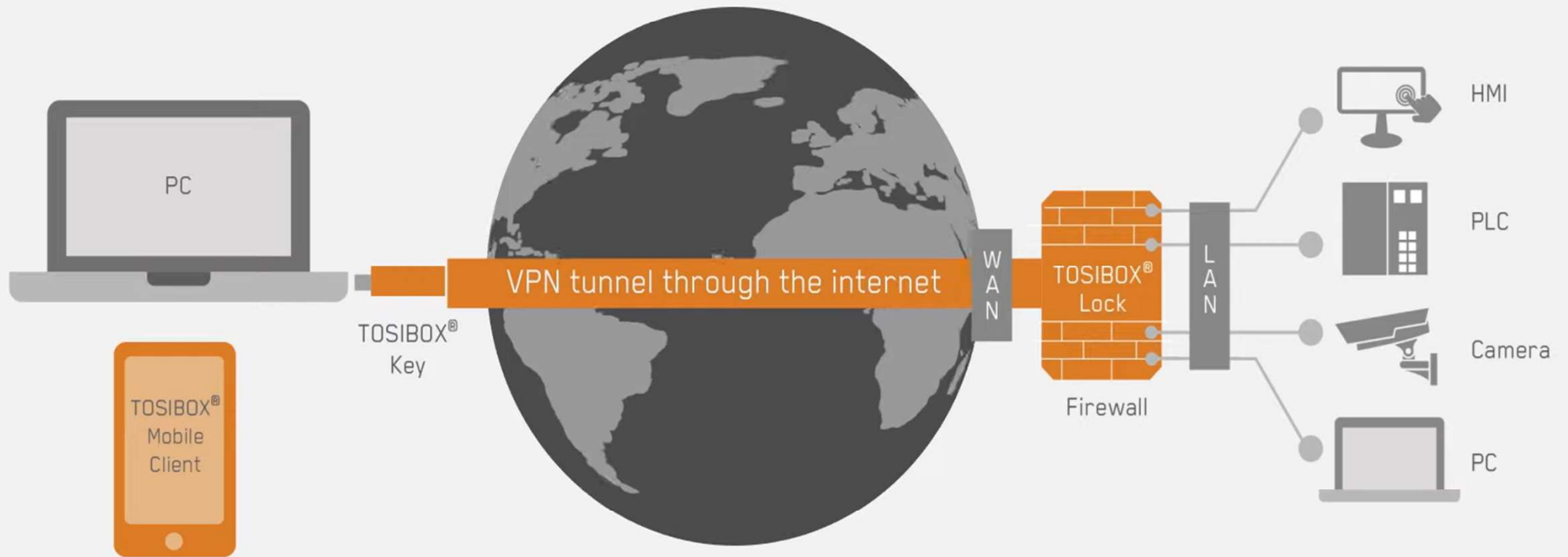


Machine Control with Cloud Visualisation

OHBC Crane Application – Hoist, LT, XT
Client Classification - Critical Asset
Power Rating 250kW + AFE
Communications – FO & Industrial Ethernet
Safety – ProfiNET
Semi Auto Positioning Crane
Secure Remote Connection - 4G Modem
AWS Amazon Cloud Solution + VM
RTD Visualisation - WIN CC Unified (HMI Emulation)
CCTV Pass Thru
Alarm History

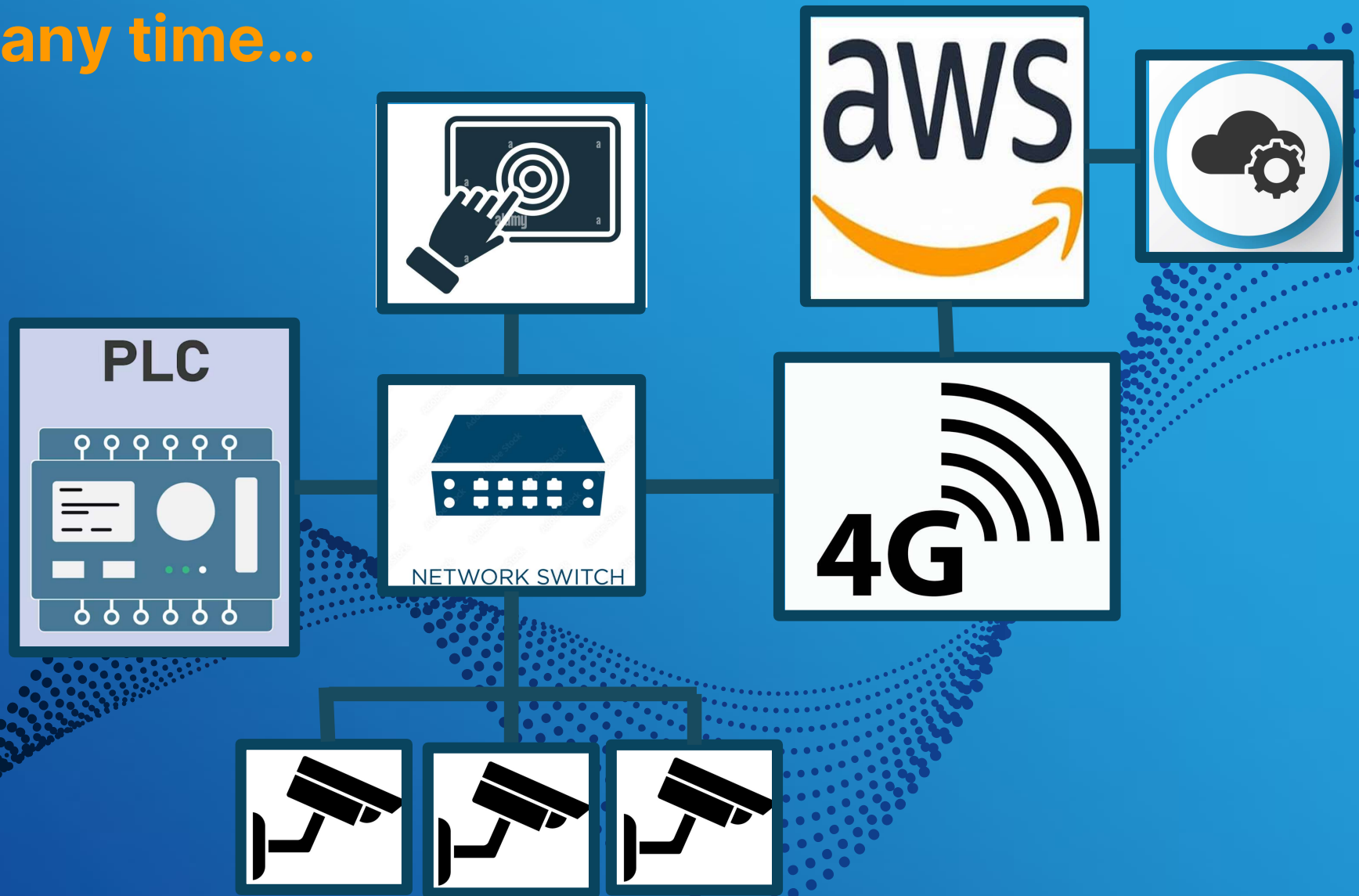
Anywhere any time...

4G VPN
Fast Speed & Ultimate

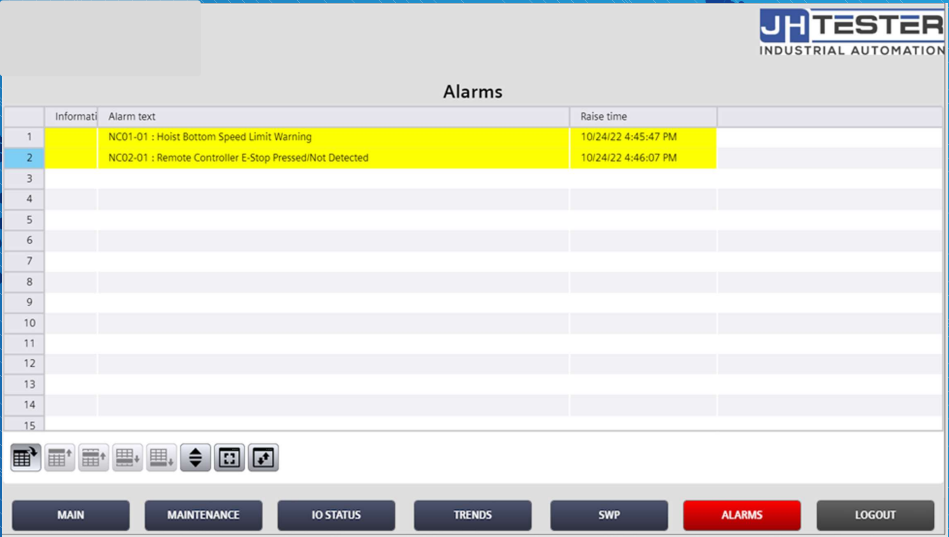
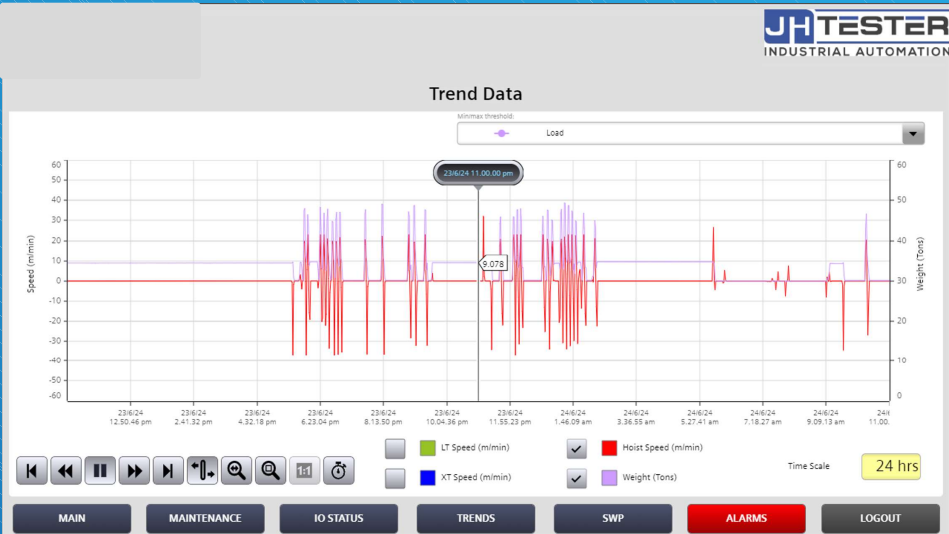


How it works.

Anywhere any time...



Anywhere any time...



Client Benefits:

1. IoT Devices with Real Time Visualisation of Machine Performance
2. Reporting for crane usage for scheduled services by OEM
3. Facilitates Critical Remote Support Services

Collaborative Robot





JH TESTER
INDUSTRIAL AUTOMATION

Client Benefit in Cobot Welding Solution:

Trade Shortages Drives Wages UP – Fantastic ROI!

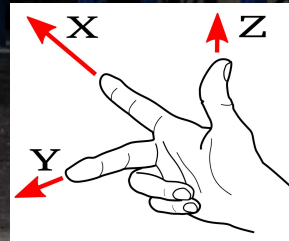
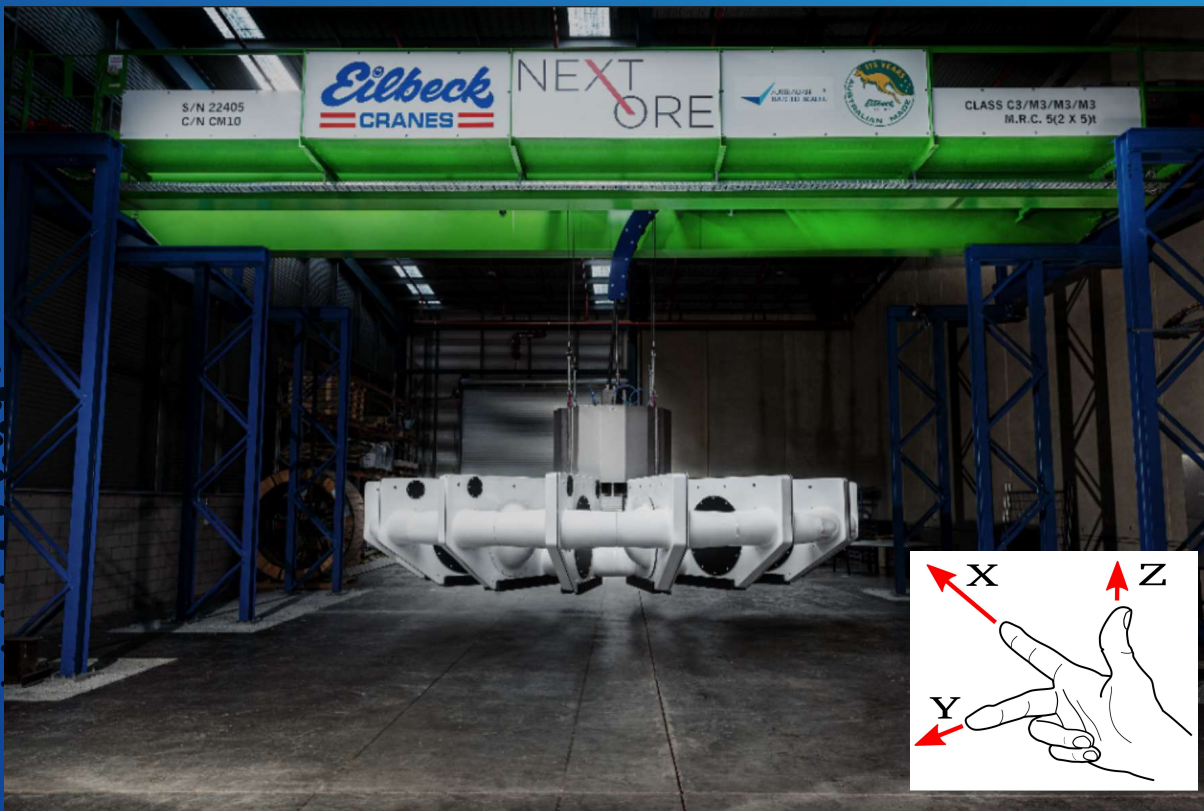
Perfectly handles Simple Tasks with increased payback for duplicated works.

Application facilitates increased uptime for Cobot

Collaborative design and quick programming



Kinematics Motion Solution 5T: XYZ₁Z₂



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**INNOVATION NEED
NOT BE LIMITED
BY INDUSTRY...**

MURRAY TESTER- MANAGING DIRECTOR



QUESTIONS ?

The background features two wavy, horizontal lines composed of small, light blue dots. These lines are positioned behind the main text, creating a subtle, textured effect. The dots are more densely packed in some areas, giving the lines a sense of depth and movement.

THANK YOU ALL!