

CASE STUDY

UYT DEPLOYS MOTOROLA HANDHELD MOBILE COMPUTERS FOR REAL-TIME VISIBILITY OVER PRODUCTION



UYT DEPLOYS MOTOROLA HANDHELD MOBILE COMPUTERS FOR REAL-TIME VISIBILITY OVER PRODUCTION TO ENSURE COMPLIANCE WITH HONDA'S JUST-IN-TIME (JIT) SEQUENCES



UYT

Established in 1996 as a joint venture between Japanese and British companies, UYT Limited is an automotive component manufacturer producing Body-in-White (BIW) components and sunroof assemblies. UYT has a strong reputation as a progressive and successful automotive component manufacturer.

CHALLENGE

Meeting a demanding JIT manufacturing schedule

UYT manufactures components for the Honda Civic and CRV models. It set out to upgrade its track and trace technology to dovetail its production with Honda's JIT expectations.

CUSTOMER PROFILE

Company

- UYT
- UK

Industry

- Automotive

Motorola Products

- MC9090 handheld mobile computers

Partner

- Codeway

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“We supply JIT to Honda’s production line. Weekly we receive parts requirements and against this we plan schedules to ensure we meet Honda’s JIT deadlines. We must be able to login raw materials, control what parts we manufacture, keep track of where stillages are and dispatch them in the right order. In a busy plant, staffed by people with varying degrees of IT capability, collecting the real-time data to achieve this visibility is challenging. But with Codeway’s help, we’ve integrated smart bar coding and intelligent labeling technology that provides complete control and ensures we catch up if we’re behind. Today we meet Honda’s sequences 100 percent of the time.”

Chris Foster
IT Manager UYT

THE SOLUTION

Codeway provides complementary expertise and technology

Bespoke applications were developed by UYT to track and trace materials and control every process, while Codeway created a Kanban ticketing system with intelligent labelers. This verifies that robots are making parts to Honda’s schedules. Highly intuitive Motorola handheld mobile computers are used as scanners to read the barcodes on Kanbans, materials, products, and stillages. The computers are wirelessly enabled. This ensures data can be synchronised with the ERP system and automatically feed records into UYT’s business intelligence applications.

THE BUSINESS VALUE

Highly-efficient processes

UYT has immediate visibility of its entire production process - and completely accurate data. Decision-making about stock requirements and production is much more efficient, enabling UYT to hold less inventory.

Costs under the microscope

The automotive industry has a relentless focus on efficiency and cost reduction, especially in supply chains. Says Chris Foster: “In line with this focus, Honda has removed its parts warehouse, stipulating that suppliers deliver parts JIT.”

The change presented a demanding challenge. “To deliver JIT, you need a complete and intricate level of control over production, governed entirely by the need to dovetail with manufacturers’ line schedules,” observes Chris Foster. “Consequently, we decided to deploy new technology to better plan, control, and validate manufacturing and supply to Honda’s JIT demands.”

Application(s)

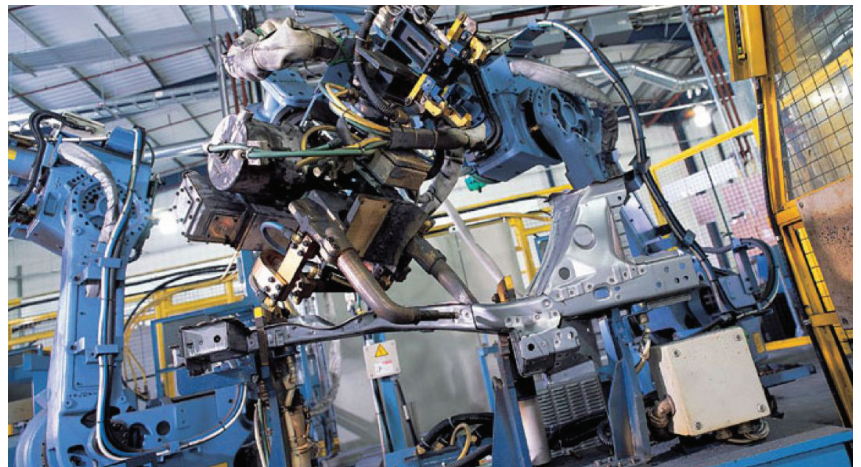
Complete production control and tracking applications spanning:

- Scheduling of Honda’s orders into sets of Kanbans
- Scanning barcodes on Kanbans, materials and parts to verify and control production of parts and labels on the robots
- Scanning barcodes on Kanbans and parts to print Odette labels for stillages and verify their contents
- Scanning stillages to control dispatch and meet deadlines

All data collated on the floor by the Motorola handheld mobile computers is integrated key business information systems. These include IFS for ERP and Crystal Reports for business intelligence

Benefits

- Complete, real-time visibility over production
- UYT adheres to Honda’s JIT sequences
- UYT’s supply chain system adjusts real-time to Honda’s schedule
- Operations are highly efficient – for example, raw materials are ordered precisely to production requirements



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Key objectives

As part of the project, Chris Foster reviewed the case for support from external partners. He comments: “We decided to complement strong in-house programming skills with external expertise from Codeway. They’ve a very impressive record in the automotive sector of deploying systems to plan, control and optimize manufacturing as well as tracking and tracing goods throughout the production process.

Also, they’ve worked with us for a decade now, they know our people and systems well and have the right mix of skills to understand the vision and deliver it. They’re a flexible and accommodating team too; if we need a spec change they do it fast and are proactive – these are great assets.”

A key focus for the project team was to deploy the capability to align production with Honda’s schedules and review workflow processes within the plant to simplify and standardize the way data is collated.

Integrating with Honda’s schedule

“At a top line we scoped out several key components. First, we required a production system that would enable us to take Honda’s schedules, delivered to us weekly, and program our cells to produce against this,” observes Chris Foster.

“Second, we defined at each step what data needs to be collected, deploying smart printers to create bar code labels. And third, we deployed Motorola handheld mobile computers to collect the data from the barcodes. The handheld computers include simple GUI interfaces written by my team using .net apps and SQL. The interfaces populate data collected from the bar codes into business information systems such as our Enterprise Resource Planning (ERP) application.”

When it came to selecting the Motorola handheld mobile computers to collect data, Codeway advised UYT to deploy Motorola’s MC9090. “Our main considerations here were the accuracy of the scanner integrated with Motorola’s handheld mobile computers, battery life and, most importantly, product ruggedness, as we work in an uncompromising industrial environment. We took a good look at the options and opted for the MC9090 – it scans precisely over a greater distance. It also seemed indestructible a fact some of the forklift drivers have tested by inadvertently running over them! In fact, in 18 months, we’ve not sent one back.”

The handheld mobile computer’s performance is in keeping with the success of the technology deployed by UYT which is enabling it to effectively plan, optimize and control production to meet Honda’s JIT sequences.

Planning and production optimization

The core component of the technology deployed by UYT is a Kanban ticketing system developed by Codeway. This takes the production schedule and data supplied by UYT’s ERP application, to group the Kanbans to plan and optimize production efficiency. The Kanbans control the operation of each robot cell, telling them what needs to be made and when, ensuring that UYT has complete visibility of what’s required and how this will be achieved. In addition, by collating data throughout production, and integrating this information with UYT’s business information systems such as its ERP application, performance is continuously validated against Honda’s schedule. Furthermore, as products are finished, orders for materials and parts are automatically triggered by the ERP application, based on the data it receives from the shop floor.

Data capture

Each process from goods-in – primarily in the form of steel coil – to parts manufactured by robot presses, to welding and finishing, to stillage and on to dispatch, requires the recording of data through barcodes produced by smart printers dotted throughout the manufacturing site. This ensures that UYT captures a real-time view of performance. The maintenance department has also bar coded parts and equipment and also uses the Motorola handheld mobile computers to control stock checked out by engineers who are repairing line equipment and automate ordering of spares through the ERP application in real-time.

Checks are built into the system too. “At each point in production, we back flush the process as to keep us up to date with inventory.” says Chris Foster. “Of course, the system is only as good as its data. But this is one of the beauties of the technology; it’s second nature for a line operator or welder to finish a piece of work, pick up the handheld mobile computer, scan the barcode and move on to their next job.”

The technology also overcomes some of the problems inherent in vehicle production.



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Smart thinking

A left door looks very much like a right door and this can lead to incorrect parts in a stillage. But the system ensures that products are stored and dispatched correctly. When a cell produces a part, it sends a confirmation to its label printer.

The line printer cross-references this query against the schedule, and creates an Odette label with all parts information. Each robot that produces more than one variant has two printers – a master and slave, with the master printing labels for right-hand parts and left-hand parts. The printers are located in different areas of the plant and ensure that when parts are produced, they're placed in the correct stillage area with the Odette labels slotted in a holder on the stillage. Forklift drivers then scan the label. This informs the driver which dispatch line the stillage should be taken to, while the dispatch team can see when an order is fulfilled. The display of real-time production information ensures the plant stays on track.

Displaying continuous performance

Across the plant, screens provide a real-time feed of production performance including where operations are on schedule or where they're falling behind. The information also feeds into Crystal Reports and SQL reporting services – UYT's business intelligence software.

"The technology provides an exceptional degree of control and insight over production performance: our senior managers can see at a glance through traffic light signals how we're performing and, more importantly, if any part of our operations is in danger of falling behind. This means we can proactively address issue before they become production-impact problems. The continuous stream of information and how we use it has transformed our business," comments Chris Foster.

Foresight delivers major business improvements

When reviewing the success of the technology deployed with Codeway, Chris Foster concludes: "Honda's efficiency drive catalyzed our efficiency drive. Previously, we relied on making 'more than enough' to ensure we hit Honda's line requirements, we now produce precisely what's needed to Honda's sequence schedule. The systems we've deployed automatically create production schedules that ensure cells work as efficiently as possible. We can also see exactly where we are, address any performance issues, adjust stock in real-time, and have complete control over raw materials and validate their transformation into finished parts. Consequently, we hit Honda's sequences removing the possibility of costly fines."

About Codeway

Codeway provides complete expertise across technologies, planning, integration, deployment and support to help companies identify, track, and control things anywhere in manufacturing and supply chains. Its unique blend of experience, capabilities, and enthusiasm ensures customers profit handsomely from automatic identification and data capture technologies including bar coding, mobile computing, labeling and RFID.

For more information on how Motorola's MC9090 mobile handheld computer can improve your manufacturing and logistics operations, please visit us on the web at www.motorola.com or access our global contact directory at www.motorola.com/enterprisemobility/contactus

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