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Toyota Racing Development: Using Traceability for Quality Control

# Countering VUCA with Meticulous Traceability

### Without a Trace-

How Industry 4.0 is transforming business models

THIS EDITION OF GLOBAL TALK LOOKS AT HOW -





# Countering VUCA with Meticulous Traceability

There is no doubt that, globally, these are uncertain times - from the UK's surprise Brexit decision to the election in Australia and, of course, significant political changes in the US. Whichever side of politics you find yourself on, there is no doubt that political and economic uncertainty go hand in hand. Macro-economic uncertainty then feeds down to company level and the result is trading uncertainty.

For SYSPRO's customers, this plays out as new deals not being signed or contracts being delayed. In such times, reliance on business information is critical to enable companies to take advantage of the opportunities that economic uncertainty can bring.

Britain's recent withdrawal from the European Union reminds me of the US military acronym, VUCA, which refers to the volatility, uncertainty, complexity and ambiguity that characterize conditions and situations, particularly when influenced by significant change. VUCA has rapidly become a trendy buzzword in management circles. This shift into the corporate world was not unexpected. Businesses want uncomplicated clarity and maximum control over their entire operation – no different from a military strategy.

In a world that is rapidly shrinking as a global village, change has become unavoidable and the speed and volume of change is growing exponentially. New technology and inventions shape and alter the world profoundly, often within short timeframes. For example, consider the impact of mobile technology, open access to IT solutions and cloud computing on businesses.

From an ERP perspective, the first step to managing VUCA is to select and implement an ERP system that addresses the exact needs of the enterprise's business model and all its functions, today, with the agility to adapt and scale as the need arises.

In effect, the solution should strengthen management's foresight while simultaneously enhancing its insight into the business. The management principles of planning, executing, and controlling are all neatly accommodated in an effective ERP system, covering not just the flow of resources and material through the value chain, but also allowing clear visibility and providing relevant critical business information on a real-time basis on any aspect of the organizational process.

That is why we've chosen Traceability as the theme for this edition of *Global Talk*. In the current era of exponential change, the clear visibility mentioned above, as well as the ability to confidently trace all the components in your supply chain, have never been more critical.



One example which puts this in clear perspective is the food industry, where the ability to trace non-conformances back to their prime sources can be extremely serious. If a restaurant patron complains that the chicken he ate tasted strange and subsequently falls gravely ill, it would appear almost impossible to trace the cause of the man's misfortune. The link between the sick patron and the infected chicken appears to be missing. The chicken is gone, and even if a trace of it had been left to analyze, the lack of a traceable trail to the origin of the offending bird would make it difficult to identify from which farm and, more specifically, from which pool or batch of chickens it had originated.

However, if it were possible to trace the chicken right back to the farm and the exact pen, other birds in the same batch could be traced to wherever they had been delivered. Any unsold meat could be withdrawn, and other appropriate preventative action taken.

The good news is that this missing link has been unearthed. A sound ERP system should enable investigators to not only trace the bird back to its origin, but even to identify what it had eaten prior to being slaughtered. Combined with powerful Lot Traceability and other useful features, the system should not only provide tight Inventory Control and Traceability, but also address the requirements for ISO 22000 and most HACCP principles with ease.

SYSPRO has the power and the features required to provide these levels of traceability. Please read on for more examples of how our customers are using SYSPRO's Traceability capability to bring order to an otherwise VUCA world. ❖

Phil Duff, CEO, SYSPRO



## Without a Trace:

How Industry 4.0 is transforming business models

- By Cathie Hall, Managing Director, K3 Syspro

Across the globe, traditional manufacturing Ais transforming. Businesses are looking to reduce supply chain costs, improve productivity and respond more quickly to customers. At the heart of this transformation is a growing stack of technologies, including advancements in robotic capabilities, connected devices on the shop floor, and the Internet of Things. With so many changes currently afoot, the industry is recognizing the need to adapt industrial and business processes to ensure that technology investments can be leveraged to build a greater competitive advantage. As a result, today's manufacturers are vying to take back control of their supply chains, actively seeking ways in which they can cut outgoing costs without compromising on quality and productivity. Now, as manufacturers move to embrace this new revolution known as Industry 4.0, traceability and the ways in which it can be used to transform business models is key.

The starting point has to be cost control: from looking at the design of a product to see if material requirements can be reduced, or if cheaper parts can be used without jeopardizing quality; to looking at whether raw materials can be sourced domestically, thus reducing the exposure to high import prices; to finally examining the manufacturing process to further reduce waste.



This isn't anything the majority of UK manufacturers don't already do as a matter of course, but changing the ways that manufacturers currently think about these processes, instead adopting an approach which champions the ways that technology can facilitate this objective, can enable businesses to create leaner processes, gain greater control over costs, and improve business efficiencies.

Within industries such as aerospace, automotive, consumer packaged goods, pharmaceutical, food and beverage and numerous others, it has become increasingly important to be able to locate specific lots of finished goods to speed up the process of recalls when a defect or hazard of a particular part or ingredient has been identified. These situations can present themselves at any point within the supply chain, and when not addressed quickly, can be catastrophic.

The good news is that the technology required to do this needn't be prohibitively expensive. For many businesses, it may already be implemented across the business. SYSPRO ERP users can effectively track materials from vendor receipt through to delivery of the product to the customer, as well as all levels in-between. Users can identify which materials require lot tracking and the stages of production where information needs to be recorded throughout the manufacturing process. For most manufacturers, a substantial amount of working capital is typically tied up in inventory. This often means that responding to fluctuations in the wider business landscape is slower than the level a manufacturer would like to be operating at. Introducing better forecasting for sales and inventory, ensuring supply and demand are aligned, and preventing high levels of obsolete stock all help reduce overall stock levels, keeping cash levels higher and the business more agile. Although many businesses have tackled excess inventory, there is often much more that can be done by employing complex data algorithms which can understand and predict patterns far better than human analysis.

When looking at the ways in which technology can accelerate business change, manufacturers need to actively move from a landscape which has been organized around labor, assets and knowledge pools to one which embodies connectivity, thereby transforming existing business models with technology which facilitates traceability throughout each stage of the value chain.

Growth will come as a result of those companies that organize business models around digital power, combining assets to gain better knowledge of both the manufacturing landscape and their customers.  $\clubsuit$ 



SYSPRO simplifies success by providing innovative, industry-built software that solves complex challenges unique to manufacturing and distribution. Future proof your business and experience the power of simplicity.

Simplify Complexity | Expertise | Future Proof

# Toyota Racing Development: Using Traceability for Quality Control

Since its inception in 1979, Toyota Racing Development (TRD) has played a significant role in Toyota racing history, developing cutting-edge race engine technology for a wide range of motor sports activities. The unique in-house operation includes complete engine design, development and assembly as well as production and development of engine component manufacturing.

The company, which designs, develops and manufactures NASCAR's Sprint Cup Racing Engines, has facilities in Southern California and North Carolina. It manufactures approximately 300 racing engines a year. TRD's racing history includes a list of diverse and notable accomplishments, including numerous championships and victories in some of the world's most prestigious events.

As TRD began increasing its manufacturing in the late 1990s, the company realized it needed a true ERP system to help with the process. Previously, TRD only had an inventory control system that lacked MRP, did not allow workers to access real-time data, and was not able to integrate all departments of the business.

Jay Gordon, Senior Systems Support, TRD, says: "The difference between SYSPRO and our old system is like night and day. When we started, all we had was an individual with a spreadsheet, or a piece of paper - it was random. It wasn't something that people in the company could use as and when they needed to."

Bob Dowe, Vice President and CFO of Toyota Racing Development, says: "SYSPRO's MRP system was something that we needed as we started manufacturing in the early 2000s. It was an activity that we weren't doing before, so we felt MRP was a module that was truly needed." According to Gordon, all of TRD's parts are lot traced, and the majority of the major components are serialized in SYSPRO, so that every component is logged and tracked.

"Everything is accounted for and tracked," he says. "We know exactly where every part is, which engine it's for, what team it went to. If there's a failure, we need to know if that same part is in another engine. Our business is about winning races, not blowing up engines."

With SYSPRO's Inventory Control module, people across the organization have immediate, easy access to all the information they need in real time. "It's centralized, and all the data's easy to get. Any time people want information, it's all there. They get what they need immediately," Gordon says.

Ben Metcalf, Team Leader/Logistics Coordinator, Toyota Racing Development, says: "SYSPRO has helped us build winning racing engines. In the engine build shop, we're able to go into SYSPRO, look up part and serial numbers, and find inventory. Creating a work order for an engine enables us to get all the parts out in a timely fashion."

Dowe agrees, and concludes: "What's impressive about SYSPRO is the pace of change, and the fact that the company is constantly looking to improve the product. We have a good relationship with SYSPRO, and they do a good job of listening to the customer." .



# Tracing Across the African Continent

As the African economy continues to grow, more and more organizations are focusing on compliance and quality, which lead to traceability. In this article, we look at three of SYSPRO's customers in this region, all of which rely on traceability to manage quality, recalls, liability, counterfeit parts, cost savings and inefficiencies in manufacturing.



# Flies High with SYSPRO

Aerosud Holdings employs 680 employees and manufactures an average of 2000 parts and assemblies a day for more than 20 international customers, including Airbus, Boeing Commercial Aircraft, BAE Systems, Agusta Westland Helicopters and Spirit Aerosystems.

Faced with exponential growth, an average of 4000 parts requiring individual invoices and delivery documentation and customer processes which varied greatly, Aerosud recognized the need for a solution to effectively and efficiently manage its supply chain and inventory. SYSPRO was implemented across all the companies in the group, integrating seamlessly with its business processes and providing a multi-dimensional view of the business. In addition, SYSPRO integrated with Aerosud's Product Lifecycle Management solution. The fully integrated financials, inventory, Work in Progress and production provided Aerosud with company-wide access to one view of the truth. Automation eliminated manual activity with its corresponding errors, and userfriendly reporting allows the management team a multidimensional view across the business. The organization now has the ability to close the loop and view supplier performance.

Most importantly, Aerosud now has access to the necessary information for business assessment reports that will enable it to provide traceability of the system and production.







Union Carriage & Wagon (UCW) provides innovative rail transport solutions to South Africa and selected export markets. The company is world-renowned for the design and manufacture of electric locomotives, diesel electric/diesel hydraulic locomotives, intercity passenger coaches, electric multiple units, railcars and all-purpose freight wagons.

A long-term SYSPRO user, UCW decided to upgrade its SYSPRO solution and created a detailed blueprint of the business and its processes using SYSPRO's Systems Process Modeling (SPM) software. With SPM, UCW was able to get a better understanding of the business, identify any gaps within the business processes, and decide how best to bridge them with the ERP solution.

SYSPRO e.net Solutions functionality is used to capture and post the movement of stock from the receiving area to the warehouse. All data is captured using scanners. Similarly, the issuing of materials for a job is captured via scanners by using job-specific generated barcodes.

The SPM solution is now being used as a blueprint for how the business should function in future. This has allowed for much greater functionality within the system, such as the processing of cost estimates and quotations, which had historically been performed manually.

### Collaborative Seton and SYSPRO Team adds Bottom-Line Value

A committed and collaborative Seton South Africa and SYSPRO team approach added bottom-line value to Seton SA and created a competitive advantage in the marketplace. The Seton Group is a leading global supplier of automotive leather whose key clients include BMW-Mini, Daimler-Mercedes Benz, Volkswagen, Toyota and Land Rover.

In addition to the global challenges facing the leather industry, Seton SA was faced with a legacy business system, processes which did not support the efficient management of financials, inaccuracies between processes and ineffective supply chain forecasting. The company made a strategic decision to implement a fullyintegrated SYSPRO solution, including SYSPRO e.net Solutions.

Through the capabilities of SYSPRO e.net Solutions, Seton SA now has additional tracking and control. The tracking and management of operations has been streamlined with enhanced visibility. Additional benefits include significantly extended reporting capabilities to satisfy Seton's management reporting requirements and the ability to manage true yield – a critical manufacturing and quality control milestone. By establishing true yield, Seton will be able to make solid business decisions on the profitability of the operation now and going forward.







### Vanns Spices

# Finds SYSPRO a Necessary Ingredient

Vanns Spices manufactures spices, spice blends, heirloom beans, grains, rice and flavorings. Although the family-owned, Baltimore-based company sells products under the Vanns label, the majority of the firm's business is directed at developing and producing private label spice lines for markets, restaurants and web sites.

In fact, Vanns has blended private spice products for specialty food retailers in major gourmet markets such as Washington, D.C., New York and San Francisco. The company has also created a variety of mustards, barbecue rubs and blends for condiments, salad dressings, marinades and sauces for high-profile TV chefs and cookbook authors including Martha Stewart, Graham Kerr, Julie Sahni, Steven Raichlen and Michael Chiarello. Vanns acquires spices from around the globe as well as from importers in the US. The spices are processed and blended at the firm's Baltimore manufacturing facility, where strict quality controls are enforced.

Mick Whitlock, President of Vanns Spices, emphasizes that the company is extremely selective about the products it buys and uses natural forms of sterilization such as steam and heat. "We do not employ any chemical sterilizing or irradiation which can affect the flavors of the spices," he says.

Vanns produces all private label spice blends to order. "Though we have several large customers for which we maintain inventories, it would be extremely difficult for us to stock items, particularly with the various packaging requirements of 80 private label customers," Whitlock says. "Our customers tell us how many of each spice or blend they want, and we then produce the desired labels and fill the packaging to order."



The company's SYSPRO solution easily enables the custom-shop type manufacturing necessary to fill the numerous spice blends and private label order variations. In addition to various spices and spice blends, some customers want glass bottles with red caps, some want glass bottles with green caps, while others want plastic bottles with green caps.

"Using the SYSPRO inventory forecasting and trial kitting functionalities, we can easily determine if we have sufficient inventory on hand to fill the orders and, if not, what we must order," Whitlock says.

Vanns installed SYSPRO software in May 2009. The company had previously been using WINMAN software, which was not only dated, but also unable to produce the required reports. "For example, our supermarket customers require the ability to do lot tracking," Whitlock points out. "Although we make more than 2,000 blends of spices, with SYSPRO Lot Tracking we can tell which spice went into which blends. We can trace the origin of every grain of spice and into which blend it went - even into which bottle and onto which customer's shelf."

SYSPRO is also responsible for the stringent inventory controls now in place at Vanns. "Prior to implementing SYSPRO, we had huge inventory variances, but now our inventory has been optimized to efficient levels," he says. "I wouldn't say that we've reduced our inventory, but we have better control of it. We're not out of product, which was often the case in the past. Now, we're getting the notifications we need in a timely manner. Our previous software didn't allow us to do that, and it was very cumbersome even to get an inventory report. We sort of did it by a 'touch and feel' before ... now, we're doing it in black and white." Whitlock discusses the other reasons why SYSPRO was Vanns' choice. Even though it would have been easy to upgrade the firm's incumbent software, it would still have failed to fulfill all its requirements.

"Plus, we wanted to tie our manufacturing software into customer service software, so the SYSPRO CRM (Customer Relationship Management) software was as attractive as the other SYSPRO features, such as lot tracking. SYSPRO seemed a perfect fit all the way around from accounting to manufacturing to traceability," Whitlock says.

The company's choice of SYSPRO has been validated many times over. "The software's reporting functionality, linked into Crystal Reports, is phenomenal," Whitlock says. "I can show our board what products we sell the most of, which are our most profitable and so on. The reports give us an in-depth picture of our company at any point in time."

SYSPRO has also been instrumental in Vanns' ability to compete. The company now knows the exact costs of its products, and is able to efficiently analyze the costs of its materials. In addition, SYSPRO has enabled Vanns to determine rising product prices, thereby enhancing purchasing efficiencies.

"We do have more efficient manufacturing now and, while a great deal is due to SYSPRO, we've also added quite a bit of new machinery. Since implementing SYSPRO, we have fewer employees and more sales, which indicates the wisdom of our selection of SYSPRO." �





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