Princes Group
Case Study

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PRINCES
GROUP

Introduction

The heritage of the Princes Group dates back to 1880 when it was first established as a fish importing business in Liverpool. Today, with its head office still proudly located in its home city, Princes is one of Europe's largest food and drink groups, specialising in the manufacture of quality products and grocery supplies for millions of customers every day. The group is responsible for more than 350 food and drink products from many household brands, alongside the Princes' branded range, examples include Napolina Italian cooking ingredients and Crosse & Blackwell, as well as everyday essentials such Olivio, Flora, and Branston Beans. Princes Group has manufacturing facilities throughout the UK and Europe including: Wisbech; Long Sutton; Glasgow; Cardiff; London; Rotterdam; Szamotuly and Foggia, as well as sites further afield in Mauritius.

Building upon an established and valuable Industrial IT and software support relationship with SolutionsPT, Princes Group invited the industrial IT specialists and experts in the field to advance their digital transformation journey. The brief was to help the food manufacturing giant adopt digital technologies that made a single version of the truth available for the measurement, management and control of all operations data and equipment. Initially, the project pertained to a single site at Long Sutton, but the solution needed to be capable of scaling to become the company's blueprint for digital transformation throughout its global operations."

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Introduction (page 2)

Julian Bolton, IT Director, Princes Group, explains the intention behind the system upgrades: "Princes Group is committed to continuously reducing our environmental impact in all facets of food production. This covers everything from food waste to packaging and even includes the lighting we use in our factories. To meet this commitment, we needed to ensure that our unified operations were running as efficiently as possible. For us, this required modernising from outdated, siloed paper-based systems to create a consistent, accessible and accurate digital thread that flows throughout the business."

Challenge

The way Princes recorded the entire production was not uncommon for manufacturers in the food industry. By way of an example, a typical journey through the production process for a single product saw ingredients being brought together, cooked, sealed and palleted over a period of around two hours. This single process produced around 120 physical documents to constitute a report of the journey, which could have fallen victim to error and inaccuracy. If you consider the number of products moving through a Princes Group site and the different shifts responsible for compiling the information, this number of documents and the opportunity for inaccuracy grows exponentially. The process also entailed a lot of repetitive, task-based, and time-consuming human input. Whilst the system worked, it did not operate with the efficiency or accuracy required and didn't future proof the company in the era of digital transformation.

The potential problems around a paper-based system are numerous, especially in the food manufacturing sector where the smallest variance of an ingredient quantity or the miss-labelling of a can means the loss of entire batches, resulting in the waste of production materials, energy, and time. Furthermore, without an accurate, integrated, digital system, disruptions to production or unplanned downtime can only be reported and assessed after the event and there is no guarantee that the true cause will be determined to prevent a repeat occurrence. Preventing both causes of wasted time, ingredients and energy was paramount to Princes.

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Challenge (page 2)

"Everything we do has a sustainability focus, from removing plastic from multi-packs and cartons to wide-reaching initiatives, like working closely with authorities for the sustainable fishing of tuna in the Indian ocean. Working with SolutionsPT is no different, integrating all of our machines and recipes into a single system almost entirely removes the issue of food waste when it comes to raw materials and helps ensure all production facilities are running as efficiently as possible," adds Julian.

Solution

"Princes Group has undertaken the building blocks of what we describe as true digital transformation," says Owen McLoughlin, Key Account Manager at SolutionsPT.

"The company has achieved a complete overhaul of a previously manual process into an automated, digital environment capable of integrating into every other facet of the business. This offers short-term efficiency gains and a quick return on investment as well as the prospect of many further digitally-enabled steps that build on the new knowledge, data and flexibility that has become available," he continues.

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The starting point for Princes Group is the AVEVA software platform, the world's only scalable solution for enterprise SCADA, visualising and contextualising operations processes across the entire organisation. This aligns with Princes' goal of a single version of the truth, enabling secure viewing of enterprise-wide operations whether operators are in the control room, on the plant floor, or in a remote location, such as a global HQ.

Solution (page 2)

Combining both archived historical data and real-time process data, the AVEVA System Platform makes maintenance more efficient. It also means that adding new production lines or altering processes is simpler than ever and can be undertaken using real-life data and proven best practices.

System Platform is the ideal foundation for Princes as it allows countless software systems and services to be integrated, creating the most complete platform for individual needs.

According to Owen, a fundamental inclusion on the platform was deploying AVEVA's model-driven Manufacturing Execution System (MES) and Historian. "The model-driven MES approach digitally maintains order effectiveness and quality within plant operations. It enables the standardisation of operational processes, equipment and activities which aligns exactly with the goals of Princes when it comes to recipe management. This equates to fast gains in productivity while keeping the quality that the customer expects consistent. The Historian measures and logs the performance of every machine in the facility faster than a standard database system at a fraction of conventional storage space" he says.

With this solution in place, Princes Group can work from a single digital thread. The potential for inconsistencies in reporting and recipe management have been removed and no matter where the facility is located or what product it produces, the entire enterprise is working from a single version of the truth with the data and insight that enables the continuous efficiency improvements.

Importantly, the new approach has helped Princes to resolve further challenges unique to food manufacturing.

Software Integration

One such issue for food manufacturers concerns the plethora of software environments that they must be able to move between to meet the requirements of their machine builders and the retail giants that sell their products.

It is common for food manufacturers to work with a multitude of Original Equipment Manufacturers (OEMs) to meet the specific needs of different manufacturing processes. The standard protocol in these situations is to use the software environment provided by the OEM. This software is usually a standard food & beverage solution for the OEM and not tailored to the specific needs of the manufacturer.

Similarly, further along the supply chain, major retailers often require manufacturers to purchase their ecosystem software to streamline warehousing and supply.

"As a supplier to retailers all over Europe, and with an OEM list as long as your arm, it wouldn't make sense, or even be possible, to purchase or employ every system." Continues Julian. "By working with SolutionsPT and implementing AVEVA software, we are investing once, in really strong technology that future-proofs operations. This approach still meets every strict standard associated with food production, no matter if we are introducing a new OEM or entering a new retail store. Working with SolutionsPT gives us an agnostic approach to hardware and software," he concludes.

Results

The Princes and SolutionsPT relationship is a long and beneficial one, stretching far beyond the benefits felt within a single site.

"Working with SolutionsPT throughout this long collaboration has brought many benefits. At the Long Sutton site, the result is a true digital transformation. Gone are the days of paper-based reporting and now our valued and skilled onsite operators have more time to focus on productivity-improving activities. We now have full visibility of the entire process at every stage, highlighting historic performance and providing the tools for improved maintenance and tackling downtime. Even planned downtime happens on schedule without any surprises, providing the maximum uptime" says Julian.

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SolutionsPT work on collaborating with companies, not simply the distribution of software. Working with their customers at every stage of the process, whether that is implementing a new management system or joining a meeting with a new OEM to ensure compatibility.

Results (page 2)

"Having SolutionsPT's expertise with us has been invaluable, no longer are capabilities bound to specific vendors with strict rules on what is or isn't possible. SolutionsPT are there in the meetings to show what is possible in the best way for Princes Group. Their knowledgeable team have been there at every step in the story, helping us to break down silo's within the business, champion new inclusive approaches, and equip our staff with the right digital tools to transform our future.

"The combination of best-in-class AVEVA software and the expertise of SolutionsPT has created what we call Princes' Perfect Flow. Not only were they heavily involved in the development of this system but they continue to be involved as we assess the future capabilities of this system. Princes' Perfect Flow results in 10% increase in OEE as soon as it is implemented within a site," adds Julian.

The goal for Princes has always been to operate in the most efficient way, not for the benefit of the bottom line alone, but rather for the good of the environment and the thousands of people they employ. By reducing raw material waste, improving OEE and streamlining plant floor operations the food and drink group is harnessing the potential of digital transformation to deliver against each of those targets now, and long into the future.

"The boost in OEE really is the icing on the cake for this solution and we've only scratched the surface of what is possible as a result of this implementation. The capabilities we now have at our fingertips mean we can continue our mission for sustainable operations. Digital Transformation is an ongoing journey, one that Princes will never stop travelling and we know that SolutionsPT will be by our side, supporting every step along the way.

Results (page 3)

The technology we have deployed has future-proofed our operations and positioned us well to stay ahead of the curve of constantly evolving consumer needs, habits, and, increasingly, environmental expectations of food suppliers. Adding or altering a production line is no longer a time-consuming task and the software and hardware agnostic capabilities of AVEVA mean bringing in new OEMs is simpler than ever."

"We are in the process of rolling out the solution across all facilities and expect the benefits to multiply as we build from our new, flexible, digital foundation. As we seek to become an employer of choice, we strive to empower workers through new technology. Being this advanced in digital transformation means we are already looking to the next stage with machine learning," concludes Julian.

Get in touch

We'd love to hear from you

Here's how you can contact us

TELEPHONE

+44 (0)161 4954600

EMAIL

info@solutionspt.com

WEBSITE

www.solutionspt.com

OUR ADDRESS

SolutionsPT Ltd
Unit 1 Oakfield Road
Cheadle Royal Business Park
Cheadle
SK8 3GX