

Case Study

Bryken Precision Engineering Ltd

Background

Bryken is a subcontract manufacturer that specialises in precision-engineered machined components. Founded in 1982 by Brian Taylor and Ken Dovaston, Bryken has evolved into a prominent supplier for the Automotive and Oil & Gas sectors, catering to numerous blue-chip companies and well-known brands in the UK and around the world.

As a family-owned enterprise, Bryken is currently managed by the next generation of the Taylor family, who oversee all facets of manufacturing operations. The company has a strong tradition of investing in digital manufacturing systems, advanced technologies, and employee development. Additionally, Bryken is acutely aware of the transformative possibilities that Industry 4.0 presents for their business models.



Delivery Partner



Challenge

The Horizons team at Liverpool John Moores University (LJMU) identified that Bryken encountered major issues with their facility flooring, which was delaminating and required immediate replacement. This project represented a significant expense.

To tackle this concern, a Digital Floor Plan was developed using 3D scanning technology, which supported an initial space utilisation analysis. This advanced technology offered detailed insights into the current facility condition, aiding in planning necessary repairs and optimising space usage more effectively.

Moreover, Bryken needed to enhance its stock management system, particularly in recognising and handling old or obsolete inventory that was no longer in demand. By introducing a barcoding system, stock management saw substantial improvements.

Once all inventory items were barcoded, Bryken could easily monitor stock levels, pinpoint outdated or surplus stock, and streamline inventory processes. This initiative aimed to minimise waste and ensure available stock aligned with customer needs.

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Solution

The Horizons team suggested a range of solutions to improve Bryken operations. Among these were recommendations for upgraded stock management hardware systems to enhance inventory tracking and management. The team also proposed creating a seamless internal 3D model of the ground and first floor levels, complete with 2D plans, to offer a detailed view of the facility.

To boost operational efficiency, the Horizons team suggested incorporating Augmented Reality (AR) tags on essential equipment components which would provide descriptions and key dimensions, simplifying the identification and understanding of the equipment for staff.

Moreover, the team recommended developing a 3D internal and external walkthrough for the company website. This feature would enhance potential customer awareness and understanding of the factory facilities and products. They also concentrated on optimising workflows for crucial production equipment to streamline operations and increase productivity.

Lastly, the team backed and submitted a Capital Grant application to secure a digital vision performance system for the shop floor. This system would improve monitoring and management of shop floor activities, leading to overall operational enhancements.

Impact

A digital map of the Bryken facilities, encompassing internal layouts and external views, will offer a clear and detailed perspective of the entire site, enabling better understanding and more informed decision-making.

Additionally, the development of 3D walkthrough imagery will enhance the company website, boosting potential customer awareness and comprehension of the factory facilities and product offerings. This visual tool will facilitate a better understanding of the scale and capabilities of the organisation's operations.

The support from Horizons has involved employing digital scanning hardware and software to create a 3D digital map that will better utilise the new production layout. Furthermore, the company will introduce new data analytics visualisation screens to support a new KTP project focused on shop floor machine cell clustering and data collection, leading to a projected 20% increase in productivity.

“Our partnership with Horizons has been a real eye-opener and has given us the means to consistently, reliably increase our manufacturing production rate, efficiencies and de-risk digital innovation investment costs.”

Phil Taylor, Director, Bryken Precision Engineering Ltd