Case Study
Corefitz Solutions

Delivery Partner
LIVERPOOL JOHN MOORES UNIVERSITY

Background

Corefitz Solutions has developed the PASS-Piping Access Snorkel System, which facilitates cleaning and inspection of fired heaters with common headers. These headers are typically found in oil and gas refineries, petrochemical plants, cogeneration plants, and steam boilers.

The system enables mechanical decoking (pigging) of internal pipe coils. After cleaning, the coils can be inspected by other means, such as an intelligent camera device. Previously, access to these coils was not possible.

Corefitz Solutions operates its own engineering workshop and laboratory for in-house production of cleaning tools, known as pigs. These tools remove deposits up to 5.5 on the Mohs Hardness Scale. They can eliminate materials such as titanite, found in jacketed pipe units (JPUs) in the alumina industry. They also handle coke deposits common in oil and gas, calcifications, and other mineral industry deposits. Currently, the organisation manufactures cleaning tools from 55mm to 200mm, with larger options available on request.

Challenge

After Corefitz Solutions met the Horizons team at Liverpool John Moores University (LJMU), an initial consultative support process began. This included a digital diagnostic and readiness assessment. The effort focused on improving the Pigging Product Assembly line to boost productivity, quality, and inventory. These changes aim to elevate customer service and increase profitability.

Solution

Technical experts from the Horizons team at LJMU have focused on leveraging digital simulation and manufacturing execution systems software to enhance line productivity, product quality, and inventory management, all aiming to boost customer service levels and profitability.

Additionally, Horizons has utilised this software to optimise the PIG (Pipeline Cleaning Tool) assembly line. As a result, productivity has improved significantly due to reduced assembly times, coupled with clear build instructions that enhance the quality of the final product.

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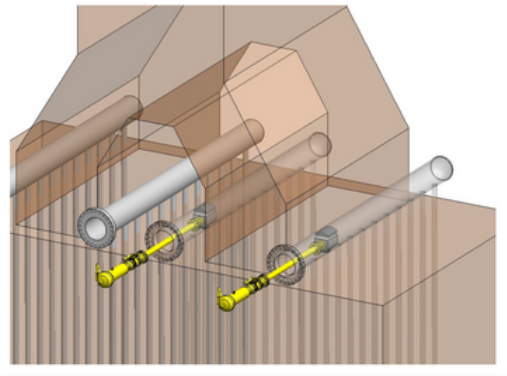
Impact

The thorough digitisation of various products has enabled Corefitz Solutions to accurately assess the costs associated with warehouse inventory and to locally source abrasive PIG components. This agility allows the business to efficiently fulfil orders, thereby enhancing its competitiveness in the market.

As a result of this upgraded process, Corefitz Solutions anticipates an increase in productivity by **19.84%**.

Furthermore, initial designs of mold inserts have been created using visual design software. This effort aims to explore alternative manufacturing methods and more cost-effective materials through a forthcoming knowledge base innovation project.



"Our partnership with Horizons has been a real eye-opener, providing us with the opportunity to implement a new digital process that greatly enhanced the productivity of the Pigging manufacturing assembly line.

This advancement has enabled us to effectively measure the time required for filling orders and the cost of warehouse inventory. As a result, the project has empowered our business to fulfil sales orders promptly, boosting our market competitiveness and elevating our customer service standards."

Kevin Fitzpatrick,
Director of Corefitz Solutions Ltd