

Case Study

Pharmapac

Delivery Partner



Background

Pharmapac began 27 years ago hand-packing pharmaceutical products in a single unit within the Valley Road industrial estate. The company has since expanded and worked across all available units on-site but was subsequently contracted.

The primary service continues to be the packaging of pharmaceutical products. Nonetheless, Pharmapac has broadened its offerings by providing mixing services before the bulk shipping of products from major suppliers.

All equipment utilised complies with strict pharmaceutical standards, with consistent and thorough cleaning protocols in place. Additionally, Pharmapac employs both automated and semi-automated lines to handle various products, primarily dry goods such as tablets and powders.

Challenge

Given the small quantities of product involved, the allowable tolerances, including weight limits, are stringent. Weighing results are recorded by hand due to the significant regulatory requirement for a validated automated system.

The Wirral chamber introduced Pharmapac to the Horizons LJMU teams as initial meetings established the company's desire to explore sophisticated automation. Another concern of Pharmapac was the accuracy of delivery of small quantities of fine powder, looking for a solution that could be de-risked before implementing new strategies.

Solution

Taking into consideration the research already undertaken by Pharmapac, the Horizons teams continued to focus on the material flow issue. During the investigation, areas for further investigation could be identified, along with explorations of additional potential solutions not previously considered.

During a visit to the Pharmapac premises, it became apparent that a common feature is an inherent imbalance between the elements. This results in some parts of the production line being paused, whilst lagging parts caught up, resulting in an inefficiency in the plant and staff time.

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Analytical software used to create and test simulated production lines was demonstrated to key members of the Pharmapac team as the Horizons team, including an LJMU student, then led a discussion regarding the uses and advantages that such a software package would bring to the company.

The Horizons teams also gave a general demonstration of modern digital technologies, exposing a sample of automated and established pharmaceutical packaging lines for showcasing modern sensing technology.

Addressing the issue of inconsistent powder delivery will eliminate a recurring problem that hampers production. This challenge not only leads to product waste, but also requires time to clear blockages on the line, making it significant.

Analytical software can optimise resources before the installation of new lines. This tool enables quick and confident assessments before installation, reducing the time required for line development and additional benefits throughout its lifespan.

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Impact

The objective of this student project was initially to address the challenges associated with powder delivery in small quantities. However, the insights gained, combined with the methodologies planned for implementation, will provide the company with valuable new knowledge.

Implementing production line analytical software could significantly enhance Pharmapac's operations. Considering their self-identified unique selling proposition of innovation and a proactive mindset, this software can be utilised often, especially as new lines are consistently established. Additionally, the adoption of broader technologies should provide valuable insights for strategic decision-making as Pharmapac prepares for future adaptations.