Case Study
Trojan Lighting Solutions

Delivery Partner

LIVERPOOL JOHN MOORES UNIVERSITY

Background

Trojan Lighting Solutions designs, manufactures, and supplies lighting systems for various commercial and civic clients. While components and manufactured items can be purchased from the company, a key service that sets them apart from competitors is their ability to survey buildings and develop the design of complete installations.

Customers for this service include healthcare trusts, social housing suppliers, retail and educational establishments. These customers require extensive and reliable information regarding environmental impact and return on Investment.

The production of complete units takes place in St Helens, while components are obtained from reliable suppliers in China, Eastern Europe, and various other countries worldwide. A key area of expertise is the retrofitting of intricate existing buildings.

The newly fitted lights can feature integrated smart nodes that connect to third-party organisations, overseeing control networks within the structure. Unlike many similar products, these nodes are compatible with various overarching systems, ensuring flexibility.

Challlenge

Exploring methods to reduce risk through improved procurement or adopting a systematic approach to predict and de-risk the supply chain was identified as a valid strategy to improve company operations. Investigating digitally enhanced prediction and planning could lead to more accurate forecasting of stock depletion, reducing the risk of low stock or halted work due to missing parts.

Reviewing the production line, including its multiple configurations, revealed that adding value in this area is possible. Understanding the line's requirements, limitations, and necessary flexibility is crucial. While traditional automation is often costly and inflexible, recent technological advancements offer viable solutions. Introducing these technologies and their associated costs could enhance line efficiency and address recruitment challenges.

Scopes 1, 2, and 3 are becoming increasingly important as mandatory implementation approaches, with Scope 3 being particularly challenging. Highlighting commercially available resources could aid its adoption. Additionally, AI is becoming valuable for managing complex data-driven tasks, such as calculating Scope 3 impacts, so understanding its use and limitations would be beneficial in addressing this issue.

Solution

As technologies and techniques for addressing various aspects of the assist were explored, it became clear that the challenges were so interconnected that addressing them as separate work packages was impractical. Moreover, solutions identified for one area often proved beneficial if implemented more broadly across the company.

A single report with multiple links to further resources became the main output, with plans to enhance this with various demonstrations after the formal conclusion of the assist. This approach allowed the proposed technologies and methods, including their potential for wider adoption, to be fully considered before implementation.

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The use of technology to improve the accuracy of predicted demand, enhanced by incorporating sales confidence in projects or historic seasonal demand, rather than just firm orders, will increase production efficiency. Lean manufacturing can then be refined by ensuring the availability of components when needed for assembly. Improved stock control will further enhance this process.

Broader recommendations included workforce training as part of an overall strategy to improve consistency and build quality. Although many identified solutions are directly applicable to the shopfloor, they are equally valuable in other departments, and reviewing potential applications throughout is recommended.

While detailed activities (such as mapping the production line) could not be carried out within the timeframe, the recommendations focus on addressing the initial issues.

By improving current systems to enhance planning accuracy and component distribution, all objectives related to safeguarding against variable supply and boosting production have been considered.

Impact

A holistic approach offered the greatest value to the company. Usually, breaking assists into individual areas is common, but in this case, it might have imposed unnecessary limitations. Applying technology without considering good practices would provide only a partial solution. Horizons teams demonstrated flexibility by customising assists to meet the specific needs of companies, maximising impact.

This assist, along with follow-up demonstrations, will help Trojan Lighting Solutions consolidate their position and improve efficiency through various paths. It also lays a solid foundation for future growth, as implementing changes after expansion is more challenging. Understanding available technologies and processes will enable the development of a cohesive plan to enhance the current situation and support future growth.

Working with the Horizons team has been a very positive experience. They were proactive, highly knowledgeable, and brought strong real-world experience of the manufacturing sector. The recommendations were practical, sensible, and realistic to implement. The resulting scope of work has given us a clear, strategic approach to improving efficiency, with many of the actions now incorporated into our ongoing improvements register.

Stuart Aiken, Marketing Manager, Trojan Lighting Solutions