

## Case Study

### Bachem UK

Delivery Partner

**VEC**

#### Background

Bachem UK is a leading, innovation-driven company specialising in the development and manufacture of peptides and oligonucleotides. The company, which has over fifty years of experience and expertise, provides products for research, clinical development, and commercial application to pharmaceutical and biotechnology companies worldwide, offering a comprehensive range of services.

Bachem UK is working on its continuous digital transformation programme to support its manufacturing operations and future growth.

Having established a relationship with the VEC (Virtual Engineering Centre), collectively the teams are collaborating to explore how advanced digital technologies can enhance their production processes. This partnership focuses on combining applied academic expertise and engineering to real-world manufacturing challenges, supporting innovation within the business.

#### Challenge

As part of its continuous digital transformation initiative, Bachem UK sought to investigate how various emerging digital technologies could improve production tracking and operational visibility throughout the manufacturing process. While the existing systems provided valuable data, there was an opportunity to improve these methods for better interpretation of information, support decision-making, boost efficiency, and promote scalability.

#### Solution

Bachem UK partnered with the VEC to explore innovative, future-led solutions that could be rapidly tested, to equip internal teams with the capabilities and knowledge to continue development beyond the initial project.

Through the Horizons project, Bachem UK and VEC focused on applying digital strategies, software engineering, and data science capabilities to address production tracking challenges.

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#### Solution

The VEC's team of digital experts demonstrated relevant technologies and previous work in this area to design, develop, and build a digital twin model of the production activity.

This allows the Bachem UK team to visualise their data for a comprehensive perspective, facilitating improved planning and streamlined workflows that lead to more effective outcomes. The model can also be utilised for planning any changes to the production line, running different scenarios to ensure they are best prepared and are in a position to deliver on growing demands in the future.

Lastly, a structured knowledge transfer process was implemented, enabling Bachem UK to take ownership of the solution and continue its development independently. This collaborative effort ensured that the solution was not only aligned with Bachem UK's operational needs but also enhanced their internal capability and understanding of the involved technologies.

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#### Impact

The introduction of new digital technologies will support improved production tracking, insight, and decision-making across manufacturing operations. Through close collaboration with VEC, Bachem UK will benefit from valuable knowledge transfer, strengthening internal expertise and upskilling existing staff.

The project supports Bachem UK's long-term digital ambitions, creating the potential for future job creation as the transformation programme progresses. Additionally, the work positions the company to attract further structural funding to continue and scale its initiatives.