

Delivery Partner

DefProc

VEC

Background

Based in the Liverpool Science Park, DefProc has over fourteen years of experience in specialised research and development, designing for the manufacturing process and small-run production for testing. Founded in 2013, the company offers end-to-end services, supporting clients from proof of concept, through to passing regulatory testing.

From producing a prototype for an IoT device and connecting a network of sensors to developing the UK's biggest projection-mapped game, DefProc's highly skilled teams support businesses on their ground-breaking projects.

Challenge

DefProc met with Horizons lead VEC to offer an in-depth analysis of the business, exploring their services, technical capabilities and plans to advance these, including plans surrounding advanced additive manufacturing technologies.

Currently using 3D printing technologies for prototyping, DefProc wanted to explore how they could expand this use and what advanced materials the VEC could recommend suiting their needs.

A plan would be needed for smooth integration into their current processes to avoid lag times during any transitional period, in addition to investigating what other areas of the business could adopt emerging technologies for improvement in areas such as quality and speed of production, leading to this equipment utilised for small batch production, in addition to prototyping.

Solution

The VEC hosted a knowledge transfer workshop on additive manufacturing (3D printing). They also conducted a gap analysis comparing DefProc's current 3D printing technologies and capabilities with the cutting-edge machinery they could potentially invest in, whilst considering available resources and specific needs.

The company initially showed interest in advanced 3D printers that could integrate composite materials, such as continuous carbon fibre, fibreglass, and Kevlar, to enhance the strength of parts while keeping them lightweight. This innovation could lead to the creation of more durable prototypes with precise printing capabilities.



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Impact

A more progressive 3D printer using advanced features and materials could boost DefProc's development capabilities. This enhancement could allow the company to expand its range of solutions and potentially reduce production costs for clients by providing small-part manufacturing services.

DefProc has recently developed a prototype of a smart valve as part of their research to assist clients in the hydrogen sector in achieving greater sustainability, thereby aiding them in reaching their Net Carbon Zero objectives.

The new machinery and internal expertise will further assist DefProc in creating functional prototypes. These prototypes play a pivotal role as valuable communication and demonstration tools for stakeholders and clients.

Plans for DefProc include assessing new facilities where they plan to operate a growing operations team, including all new equipment they are investigating to support their production lines.

"The support we received from VEC has given us a clear understanding of the new 3D printing capabilities and advancements available to us. As a result, we can begin to plan our expansion of 3D printing offerings. This will allow us to continue providing the most innovative services to our clients."

Jen Fenner, Managing Director, DefProc

