

THE BRIEF

Kershaw Technology Services was established to support the development of medical devices, and work for clients to help solve technical and regulatory challenges encountered in bringing medical devices to market. They provide support and guidance for developers and manufacturers, most commonly for test method verification, process validation and project management.

Kershaw Technology Services are developing a sensor to be mounted on devices that will test the urine of elderly patients in care homes to monitor the level of hydration either on an incontinency pad or directly in the flow. They require a physical prototype of their design so that they can validate the concept and decide on the preferred option.

THE APPROACH

Advanced Manufacturing Engineers based in STFC's Campus Technology Hub (CTH) assessed the computer aided design and worked with the client to understand the requirements of the end use parts. It was identified that it would be beneficial to have specific components made from a clear polymer so that the product's designers could assess the performance of the product and the flow of liquid, and that desired finish would be as close as possible to injection moulded parts.

STFC's engineers produced prototype parts on the J55 Prime colour 3D printer, which is one of the newest 3D printing processes to be installed within the Campus Technology Hub's suite of prototyping equipment. The process was selected due to its fine layer thickness of 18 microns which gives high quality surface finish and dimensional accuracy, ensuring the prototype parts replicate final production components.

THE BENEFITS

Kershaw Technology Services have physical prototypes of the design, which enables them to assemble the parts to test and validate the design, discuss design features with their client and make quicker design decisions moving the development of this device forward towards production.

“Working with the team of engineers in the Campus Technology Hub and the ability to access high end 3D printing equipment to prototype our design has been invaluable in developing the design of this new product quickly and in discussing the design options with our client.”



Regulation - Quality - Product

- David Kershaw of Kershaw Technology Services