

Case Study

Company Name

Vision Innovated

Industry

Sustainable
Techologies

Technology

Science and Technology Facilities Council

Background

Vision Innovated is developing an innovative new lateral closing door hinge named EcoHinges. This new, patented design allows for complete sealing of doors when closed, bringing many benefits over a standard door hinge; energy saving, preventing heat escape and helping to fight against floods and fires.

Challenge

Vision Innovated's most urgent priority was prototyping on a large scale - the company had only a few metal manufactured prototypes of the hinge model but required more examples for customers and to demonstrate to potential investors how the design works. The company worked with an architect to create 3D computer models of the hinge which would allow it to create physical prototypes as demonstration models.

Solution

Via LCR4 START, STFC supported the company through the rapid prototyping of the hinge design. STFC's Advanced Manufacturing Engineer advised on the benefits of using 3D printing to create prototypes for demonstration models; such as the cost and time saving, as well as the ability to personalise the parts. It was suggested that it was possible to engrave logos into the design of the demonstrator parts.

Through the LCR4 START 12 hour assist, Vision Innovated was able to produce prototype parts that demonstrate the functionality of the hinge design. STFC printed the hinge parts in three different colours with the company logo engraved into the parts. The three colours - green, red and blue - represent the three main applications of the door hinge - energy saving, fire and flood prevention, respectively.

Impact

The rapid prototyping support via STFC and LCR4 START has allowed, at a reasonable cost, to replicate examples for demonstrations of the hinges to more potential clients.

The company has used these demonstrator parts to take to COP26 events to gain interest from potential investors. The company has also gone on to work with Liverpool John Moores University (LJMU) to test the design and the accreditation needed to take to market.



The expert advice and parts produced by STFC have been of considerable assistance to us as we can now leave our mass-produced 3D printed examples with interested parties for feedback. With this support being fully-funded by LCR4 START, it has been an invaluable step for the business in getting our idea in front of potential investors and customers



- Ian James Goodman, Vision Innovated

