

AFRC

ADVANCED FORMING RESEARCH CENTRE

UNIVERSITY OF STRATHCLYDE



Advanced Forming Research Centre FreeFlow Technologies

Project Information

Project Type: Collaborative research and development

Funding Stream: Energy Transfer Partnership

Background: FreeFlow Technologies is a Glasgow based electric bicycle manufacturer. The company has developed a lightweight and efficient pedal assist e-bike. This was achieved through an innovative gearing technology system.

Problem

FreeFlow Technologies approached the Advanced Forming Research Centre (AFRC) for support in reviewing its bike designs and drawings from a manufacturing perspective to ensure that the bicycle parts could be economically manufactured. In addition, investigation into manufacturing routes for both low and high volume production routes were required.

What we did

The AFRC carried out a design review with FreeFlow Technologies to identify design changes in order to reduce the economic impact of manufacturing prototypes. This was followed with a workshop held by the AFRC with FreeFlow Technologies to explore alternative methods of manufacturing; balancing design and product criteria against manufacturing process constraints.

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Result

AFRC researchers refined and simplified component designs where possible. All information was included in the drawings to ensure that the manufacturing process was efficient and cost effective. In accordance with FreeFlow Technologies' design and product criteria, researchers identified optimal routes for manufacturing the bike.



"At FreeFlow Technologies we strive to design technology that will change the future of urban transport and create a healthier planet at the same time. Working with the AFRC has helped us achieve these goals and more. In fact, we were pleased to hear that this bike design has helped us reach the finalist category in the 2016 Eurobike awards. This awards ceremony celebrates new products and outstanding innovations in the cycle industry and we are very excited to find out the result later this year."

Neil McMartin, founder of FreeFlow Technologies

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