AFRC
ADVANCED FORMING RESEARCH CENTRE
UNIVERSITY OF STRATHCLYDE

University of Strathclyde Glasgow

Kibosh

Oil and gas entrepreneur secures early investment with upscaled proof of concept

Background

Ross Dickinson, Founder, Inventor and Technical Director of small, local firm Kibosh Ltd, initially developed the innovative Kibosh Rapid Pipe Repair Clamp for domestic use. Offering a quick and effective means of repairing leaking pipes, he recognised the opportunity to adapt the clamp for use within the oil and gas sector.

Providing potential cost benefits for industry clients by reducing and eliminating downtime from loss of pressure containment, the Kibosh Rapid Repair Clamp could increase asset integrity and provide easier and faster pipe maintenance.

Customer challenge

Developing its product for use within the oil and gas sector would be challenging due to the strict regulations for products used across this safety critical environment.

Seeking engineering design expertise, Kibosh approached the Oil & Gas Innovation Centre (OGIC) to find a suitable academic partner and was introduced to the University of Strathclyde's Advanced Forming Research Centre (AFRC). OGIC part-funded the research project with the AFRC.

Customer quote

"This project has been crucial for developing the Kibosh rapid repair clamp for the oil & gas sector. We now have a clear and focussed route, which follows the required industry standards. Getting the backing and support from OGIC and the guidance and knowledge from the AFRC provided Kibosh Ltd with the best platform to work from and ultimately gave the company the credibility, which led to securing the right investors."

Ross Dickinson, Managing Director, Kibosh

How did the AFRC help?

The AFRC has significant experience of developing high integrity products for use across various industries. Its Product Realisation team worked with Kibosh to develop its domestic pipe repair product into an upscaled proof of concept that would be suitable for oil and gas applications.

Ensuring the integration of relevant oil and gas industry standards, the team generated a comprehensive product design specification that defined requirements for two different product size designs.

Concepts were generated based on requirements and then modelled as 3D parts using Computer Aided Design (CAD). Parts for both design variants were then refined, guided by both Finite Element Analysis (FEA) and the creation of physical concept models using the AFRC's in house 3D printers.

Once refined, all the required parts from one of the design variants were machined out of carbon steel. This assembled one off metal concept model demonstrates the design and allowed Kibosh to present its device into the oil and gas sector.

The AFRC's broad range of onsite manufacturing expertise has also supported method of manufacture assessment, providing guidance on suitable manufacture routes when upscaling to production, also signposting test houses and suppliers.

Business impact

The assembled metal concept model provided Kibosh with a physical demonstrator, which has enhanced credibility and contributed towards securing investment. This model, partnered with computer generated visualisations is used for display at industry trade shows to help stimulate interest in the product.

Outputs from the project will form the basis for a design pack, which will support product qualification and ultimately its acceptance by the oil and gas industry.