OGIC Project Case Study:
Blueshift International Materials with University of Strathclyde

AeroZero®

Blueshift is a US-based corporation, founded in October 2013, to focus on the commercialisation of polymer aerogels for application in oil and gas; aerospace; radio frequency and radar; automotive and building materials.

Blueshift's initial product is AeroZero®, a polyimide aerogel provided in tough and highly flexible thin films, semi-flexible wafers and thicker monoliths that are at least 500 times stronger than conventional silica aerogels. The product's 100% polymer construction also produces no dusting, negating the production of dangerous particulates and resultant dangerous materials handling protocols.

Within the oil and gas industry the development of cleaner and more durable aerogel blankets will improve insulation for deep-sea pipe-in-pipe oil and gas pipelines by reducing installation costs, improving pipeline compression resistance, reducing the amount of steel in pipeline constructions, and consequently increasing oil and gas flow and assurance.

Blueshift engaged with OGIC to support the development of the Polymer Aerogel Blanket, and selected the University of Strathclyde as its academic partner.

The work proposed and executed by Strathclyde focused on the blanket design and validation of the selected design. They proposed a multi-disciplinary team comprising of experts in composites design, composites engineering, and materials science. The team utilized an integrated design-build-test iterative process and carried the project through proof of concept, processing improvements and material modification.

Blueshift required fast track delivery and Strathclyde's multi-disciplinary, integrated approach accelerated the project.

"This was Blueshift's first experience working with a Scottish University. The team demonstrated an exemplary level of technical expertise.
The well-managed and executed project integrated a multi-disciplinary approach to solve our challenging material science issues. We were pleased with the results stemming from the high quality technical work ."
Dr Garret Poe, Executive VP, Blueshift

"R&D in superinsulating composites presented a timely opportunity to address critical challenges faced by the Oil & Gas industry, who would like to push the envelope in energy conservation. The promising outcomes from this initial phase of the project has demonstrated the University of Strathclyde's continued support, to this industry for new product development in this area."
Dr Liu Yang, Lecturer
Department of Mechanical and Aerospace Engineering
Strathclyde University

Blueshift is continuing to work with the University of Strathclyde as they take this project onto the next phase of development.

"We highly value our partnership with OGIC and the University of Strathclyde. This collaboration really supports Blueshift's drive of getting our polymer aerogel blanket to market."
Tim Burbey, President, Blueshift.

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