EffecTech
Global Leaders in Gas Measurement

CALMERIC
COMPOSITE & ADDITIVE LAYER MATERIALS
ENGINEERING RESEARCH & INNOVATION CENTRE

EFFECTECH CASE STUDY

REDUCING COSTS WHILE IMPROVING EFFICIENCY AND QUALITY FOR TOMORROW'S ENERGY

UNIVERSITY OF WOLVERHAMPTON

European Union
European Regional Development Fund

THE CLIENT

EffecTech are market leaders in calibration and testing services, providing accredited inspection and calibration to the gas, energy, and power industries.

THE CHALLENGE

The company had identified a gap in the liquid hydrocarbon transportation market that could reduce costs and improve quality of supplied liquids to producers of Liquid Petroleum Gas (LPG) and Natural Gas Products (NGP).

Currently, liquid hydrocarbon is transported and stored through piston cylinders that are extremely expensive to purchase and maintain.

THE SOLUTION

EffecTech has a solution, but requires further expertise in prototyping and identifying appropriate materials for the final product: a bag that can be inserted inside a gas cylinder through a standard 1-inch hole. The bag is then filled with liquid hydrocarbon and pressurised on the outside with helium gas to maintain the liquid phase of LPG, which can then be transported worldwide.

The CALMERIC team are working to develop a bag strong enough to be rolled into any size cylinder without causing damage.

- The bag's properties will minimise permeability and prevent leaching of helium gas into the hydrocarbon and vice versa to maintain the quality of the LPG. This is extremely important, as the quality not only determines the price, but maintains EffecTech's reputation for providing high-quality products and services.

Suppliers have been identified to produce the prototypes of the bags that will be tested for the project as well as material properties to be used for the bags.

The team is looking to design and develop solutions of securing the bag to the cylinder using 3D CAD (SolidWorks) with engineering drawings.

WHAT IS CALMERIC?

The CALMERIC project supports SMEs to carry out research & innovation projects in the field of advanced engineering materials, in collaboration with specialist staff and resources in the Centre.

- Composite materials
- Additive manufacturing (3D printing)
- Engineering, Research and Innovation
- Industrial Research Collaborations
- Product optimisation (using less or lighter weight materials)

T 01902 323298 E CALMERIC@wlv.ac.uk W wlv.ac.uk/Calmeric