

Reach

For immediate release

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**Haydale Graphene Industries plc**

('Haydale')

**Haydale awarded SMART funding to develop ultra-efficient, graphene infused heat transfer fluids**

Haydale, (AIM: HAYD), a global technology solutions company, is pleased to announce the award of a SMART Flexible Innovation Support Grant ("SMART FIS") from the Welsh Government, to accelerate development of ultra-efficient, graphene infused heat transfer fluids. This support will assist in the development and proof of concept of scientific innovations, in a commercial setting.

Hydratech, a division of Liquitherm Technologies Group and longtime manufacturer of aqueous-based heat transfer fluids, have been awarded a collaborative SMART FIS to work in partnership with Haydale on the project.

By infusing Hydratech heat transfer fluids with Haydale functionalised graphene, there is potential to maximise thermal conductivity and thermal diffusivity, and thus significantly increase the efficiency of all fluid-based heating and cooling systems. The resulting graphene-infused heat transfer fluids would be classified as Fluidstate Superthermal Conductors, or FSC's.

Key target sectors intended to benefit from FSC, would be those using domestic and commercial heat pumps, including air source, ground source, geothermal and water source. By increasing the Coefficients of Performance of all heat pumps, the associated users - including and especially domestic households - will benefit from much reduced running costs. I.E., smaller heating bills, whilst significantly reducing greenhouse emissions.

As part of a new innovation strategy for Wales, aimed at supporting Welsh industry by increased investment in research, development and innovation, the SMART FIS funding will enable both companies to accelerate their development of FSC towards market-ready products, with the project totalling £147,221 with a grant value of £73,610 shared between the partners.

**Stephen Hickson, MD of Hydratech commented:**

"We are excited to collaborate and partner with Haydale, who bring a unique material solution to industry wide challenges. Our range of heat transfer fluids are already widely used, but the development of a more conductive and thermally efficient fluid will be warmly welcomed by domestic, commercial and industrial users alike, and simultaneously support the drive to Net Zero CO2 by 2050."

**Keith Broadbent, CEO of Haydale, commented:**

"This support from Welsh Government will accelerate the development of our technology and processes, particularly for thermal fluid innovation, where we believe functionalised graphene can pave the way for the next generation of energy-efficient heating, particularly in situations where an air source heat pump can be installed in domestic and commercial properties."

Ends -

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**Notes to Editors**

**Haydale** is a global technologies and materials group that facilitates the integration of graphene and other nanomaterials into the next generation of commercial technologies and industrial materials. With expertise in graphene, silicon carbide and other nanomaterials, Haydale can deliver improvements in electrical, thermal, and mechanical properties, as well as toughness through its state-of-the-art functionalisation. Haydale has granted patents for its technologies in Europe, USA, Australia, Japan, and China and operates from five sites in the UK, USA, and the Far East.

For more information please visit: [www.haydale.com](http://www.haydale.com)

**Hydratech** began as a family run business in 1998 formulating and manufacturing inhibited glycols, antifreeze solutions and water treatment chemicals including inhibitors and cleansers, for protecting cooling and heating systems. Now part of the larger Liquitherm Technologies Group, Hydratech are recognised as the industry's leading heat transfer fluid experts for process and hydronic systems. Hydratech invest heavily in research and development, to ensure they remain at the forefront of the heat transfer fluid industry.

For more information please visit: [www.hydratech.co.uk](http://www.hydratech.co.uk)

**About SMART Flexible Innovation Support (FIS)**

The Welsh Government is committed to building a stronger, fairer, greener Wales, based on the principles of fair work.

The Welsh Government is committed to delivering a stronger, fairer, greener Wales, based on the principles of fair work, sustainability and the industries and services of the future. This includes supporting demand-driven Research, Development, and Innovation in Wales, and facilitating effective collaborations which drive prosperity and deliver real benefits for Wales' people and its environment.

Our cross-Government Economic Mission and innovation strategy Wales Innovates have building stronger foundations for growth, supercharging the industries of the future and empowering Wales' regions at their hearts. We support organisations to innovate and introduce new products and services, to trade with the UK and the rest of the world, to improve our skills base and to ensure that Wales remains competitive in the fourth industrial age. We are also working to enable more Welsh organisations to become carbon-light or carbon-free.

Through SMART FIS, the Welsh Government helps to create jobs and improve people's lives by driving cutting-edge research and innovation. SMART FIS is a unique Welsh Government scheme with the single aim of helping Welsh organisations achieve "Innovation Excellence" by supporting their Innovation Plans with the Welsh Government team of Specialists, access to expertise, consultants and funding.

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