**Haydale Graphene Industries plc**

**(“Haydale” or the “Company”)**

**Heads of Terms for R&D Collaboration with Alex Thomson Racing**

Haydale Graphene Industries plc (AIM:HAYD), the Company focused on enabling technology for the commercialisation of graphene, whose functionalisation process has been verified by the National Physical Laboratory, is pleased to announce they have signed Heads of Terms (“HoT”) for a collaboration agreement with Alex Thomson Racing (“ATR”), the HUGO BOSS sponsored extreme sailing team. The parties are now working to finalise legally binding agreements.

Highlights

* Haydale subsidiary, EPL Composite Solutions Limited (“EPL”) to conduct review of ATR manufacturing process to ascertain weight saving opportunities
* Evaluate introduction of Haydale functionalised GNPs into both carbon fibre reinforced plastic (“CFRP”) polyester and epoxy resins to enhance strength and reduce weight
* Seeking longer term grant funding to establish specialist teams incorporating the ATR suppliers to apply the combined knowledge of all parties to improve the overall boat performance
* Haydale have agreement with the Welsh Centre for Printing and Coating (“WCPC”) to join the collaboration

Under the terms of the agreement, EPL, will work with ATR to incorporate Haydale enhanced graphene materials in their R&D programme with the desire that this material is incorporated in future boat builds and sail concepts.

The initial work will include an immediate review to ascertain weight saving opportunities. In particular, the parties are keen to make use of the work done by Haydale in adding their functionalised Graphene Nano Platelets (“GNPs”) into both CFRP, polyester and epoxy resins. Importantly, recent work carried out with Cardiff University shows ground breaking improvements of 40% in plane shear strength of CFRP whilst the US based research institute Aerospace Corporation endorsed the use of Haydale’s GNPs in achieving more than a 100% increase in structural strength and stiffness for epoxy resin systems.

In addition, the team will review bearings and friction points plus critical areas such as delamination of materials and thermal heat management.

The parties will also seek grant project funding for longer term assignments, as well as setting up specialist teams incorporating the ATR suppliers to apply the combined knowledge of all parties to improve the overall boat performance. The Welsh Centre for Printing and Coating (“WCPC”) has also agreed to collaborate with Haydale and ATR with a remit to advise on the inclusion of Haydale Graphenes into barrier films and coatings and to investigate how specific graphene enhanced coatings can improve boat performance.

Ray Gibbs, CEO at Haydale, commented:

“We are extremely pleased to have reached this agreement with ATR. The technology used in their boats is state of the art; they pay attention to all aspects of performance. However, using our technology and the skills we can call on in EPL, coupled with WCPC, will allow us to review all aspects of the boat, including using a graphene based coating for improved boat finish and utilising the barrier properties of graphene to reduce osmosis. We are really excited to be working with ATR.

Fundamentally this agreement demonstrates the belief that Haydale materials advice and technology can make a difference in the high tech world of competitive offshore boat racing. We hope that this will then allow Haydale to move into further commercial applications in high performance sports.”

Stewart Hosford, Managing Director of Alex Thomson Racing added:

‘’It is exciting to be using such industry leading technology in our R&D programme. It is important that we deliver a vessel that has the strength to race around the world, but keeps the weight of HUGO BOSS to a minimum. It is similar to Formula One in that you need to keep the vessel light to ensure optimum speed without a compromise on strength, providing the results for the title sponsor whilst racing. I am looking forward to seeing the results and using this technology in future design concepts.’’

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**About Haydale**

Haydale has developed a patent-pending proprietary scalable plasma process to functionalise graphene and other nanomaterials. This enabling technology can provide Haydale with a rapid and highly cost-efficient method of supplying tailored solutions to enhance applications for both raw material suppliers and product manufacturers.

Functionalisation is carried out through a low-pressure plasma process that treats both mined, organic fine powder and other synthetically produced nanomaterial powders, producing high-quality few layered graphenes and graphene nanoplatelets. The process can functionalise with a range of chemical groups, with the level of functionalisation tailored to the customer’s needs. Good dispersion improves the properties and performance of the host material and ensures the final product performs as specified.

The Haydale plasma process does not use wet chemistry, nor does it damage the material being processed; rather, it can clean up any impurities inherent in the raw material. The technology is a low energy user and most importantly environmentally friendly. The Haydale method is an enabling technology, allowing the Company to work with a raw material producer who seeks to add value to the base product and tailor the outputs to meet the target applications of the end user.

Haydale, based in South Wales and housed in a purpose-built facility for processing and handling nanomaterials, is facilitating the application of graphenes and other nanomaterials in fields such as inks, sensors, energy storage, photovoltaics, composites, paints and coatings.

[www.haydale.com](http://www.haydale.com)

**About Alex Thomson**

Alex Thomson is the youngest yachtsman to ever win a round-the-world race. When he triumphed in the Clipper Round the World Race in 1998/99, he set a record he still holds today. In 2003 Thomson made a spectacular debut in the world of solo sailing by breaking the distance world record.

In 2008 he claimed second position in the Barcelona World Race, setting his second distance world record in a monohull. Following this, he focused completely on the world's toughest single-handed yachting race: the Vendée Globe in which the competitors sail 26,000 nautical miles (46,300 km) nonstop around the world. In 2013 he finished this classic in third place.

[www.alexthomsonracing.com](http://www.alexthomsonracing.com)

**About Five° West Ltd**

Five° West Limited is a sports consultancy specialising in the sailing and marine industry. The team’s experience in professional sailing allows development and delivery of a fully integrated solution for brands, rights holders and sports governing bodies. Five° Wests services include Sponsorship Consultancy, Commercial Rights Management, Marine Infrastructure Projects, Technical Campaign Management, Talent Representation and Host City Bid Management.

Five° West’s exceptional experience and connections within the sports industry and the world of business, enables the team to deliver high value return on objectives and investment. As a company they maximise the commercial potential of professional sailing and marine projects on a world stage, as well as shaping the careers of sports personalities and talent.

[www.fivewest.co.uk](http://www.fivewest.co.uk)