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**Haydale Graphene Industries plc**

**(“Haydale” or the “Company”)**

**Update on Reactor Capability**

Haydale Graphene Industries plc (AIM:HAYD), the Company with the enabling technology for the commercialisation of graphene, and whose plasma functionalisation process has been independently shown to improve the mechanical performance of epoxy resin systems and Carbon Fibre Reinforced Plastic (CFRP) is pleased to provide the following operational update.

Highlights:

* Two new HD60 reactors delivered in December now operational
* Significantly larger HD200 delivered February 27th ;4 weeks ahead of schedule
* Subsequent increase in processing capability and operational flexibility
* Three more HD60 reactors on order for June delivery

In December 2014, Haydale announced the delivery of two new Rotovac HD60 plasma reactors from Tantec A/S. These reactors are now both fully operational and provide Haydale increased processing capability and operational flexibility in functionalising graphenes and other nano materials. Consequently, Haydale has ordered a further three Rotovac HD60 units for delivery by the end of June 2015 of which two will be shipped to overseas locations as part of the strategic move to create “centres of excellence” on a worldwide basis.

Haydale has now taken delivery of an additional significantly larger reactor, the HD200, to fulfil anticipated increased customer orders following successful sampling and supply from the smaller units. This unit has now passed its factory acceptance test at Tantec A/S and has arrived four weeks earlier than expected. Commissioning has already commenced.

Ray Gibbs, CEO at Haydale, commented:

“I am very pleased with the progress made since engaging with Tantec. That we are able to receive the HD200 ahead of schedule is testament to the professionalism of Tantec and further demonstrates that, in Tantec, we have the right partner. The build quality, engineering and subsequent performance from our second-generation machines is outstanding.

At this stage in the development of the graphene industry, customers are looking for consistent quality of functionalised graphenes in kilograms, not initially tonnes, although volume will follow successful trialling. It is however crucial that the samples provided are capable of being repeated in larger commercial volumes and that is exactly what we can provide We now have 3 HD60 plasma reactors in operation providing the required flexibility to process a variety of materials for different customers simultaneously. The arrival of the larger machine further increases our capability as the demand for volumes increases.”

Kim Saabye, European Sales Director and partner in Tantec, added:

“We have been impressed with the technical knowledge displayed by the Haydale technicians and our production team are rightly proud of the significant innovation in and performance of our new larger HD200 reactor.”

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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 also tailor the outputs to meet the target applications of the end user.

The Haydale view is that the market currently does not require tonnes of functionalised graphene but rather the confidence in the materials performance and the consistent replication of that performance.

Demand will grow with increasing evidence in the performance improvements generated when using graphene. Commercialisation and hence increased demand requires the correct functionalisation of the right graphenes to improve its dispersion leading to enhanced material properties.

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 Tantec A/S**

The Tantec Group is a privately held company founded in 1974, and is a leading manufacturer of standard and customized Plasma and Corona systems for surface treatment of plastics and metals to enhance adhesion properties. They have more than 40 years of experience in delivering and manufacturing quality, high-end surface treatment products for any industry.

Tantec “surface treaters” are sold worldwide to end-users and OEM’s through our own branch offices and more than [30 partners worldwide](http://www.tantec.com/main-offices.html).

Tantec A/S is the headquarter located in Lunderskov, Denmark, in a purpose-build factory from 1989, housing sales, service, research and development of specialized mechanical and high quality electronic surface treatment equipment.

Tantec EST Inc. is covering sales and service to the North American customers since 1987, now from a new location in Glendale Heights IL, just outside Chicago.

Tantec GmbH in Wimsheim, and Tantec GmbH Nord in Hamburg, are sales and service offices as well as manufacturing facilities established in Germany in 1995 and 1998.