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FOR IMMEDIATE RELEASE:

ChemQuest Technology Institute to support application development and market strategy for Universal Matter's sustainable, scalable graphene technology

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Aug. 10, 2022, South Boston, Va. — The ChemQuest Technology Institute has entered a three-year, collaborative innovation agreement to support the growth and validation of Universal Matter's graphene technology based on sustainable feedstocks.

ChemQuest will explore the benefits of the technology in applications for paints and coatings and identify the most valuable markets and opportunities for growth.

"In this collaboration, Universal Matter seeks to leverage ChemQuest's 40-plus years of industry expertise and technology development experience and to validate performance and value creation benefits in the target applications that will ultimately accelerate the industry transformation," said John van Leeuwen, CEO of Universal Matter.

Universal Matter has pioneered high performing, economical graphene technology based on a range of carbon materials, including coal, cokes, biomass and recycled rubber and plastics, which dramatically reduces its environmental footprint versus graphene based on traditional feedstocks.

"Our team is excited to continue working with this unique and valuable material. Not only is Universal Matter's graphene technology sustainable thanks to raw materials based on biological and circular sources – it is also economical, scalable and extremely high performing. This is because of its innovative and novel production process," said Daniel Murad, CEO of The ChemQuest Group.

Universal Matter produces its graphene using rapid, flash-fired bursts of electrical energy. The process enables the bonding of carbon into few layers of turbostratic graphene, as opposed to AB-stacked (Bernal) graphene, resulting in exceptional performance benefits in the target applications. The flash process is modularized into compact manufacturing units and can be



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scaled by adding more modules of identical configuration. Many different carbon-based feedstocks can be transformed into high purity turbostratic graphene using this flash process.

Earlier collaboration between Universal Matter and ChemQuest demonstrated the effectiveness of the technology in formulations for specific applications. Proven performance improvements included compressive strength, tensile strength, barrier properties, rheological enhancement and flow characteristics.

“There is an inherent need and significant business opportunity to improve the performance and sustainability of products in these markets via the upcycling of carbon into ‘green’ graphene, thus improving the mechanical properties of these industrial materials and creating stronger, longer lasting coatings, which also significantly reduce our carbon footprint and greenhouse gas emissions”, according to van Leeuwen.

Expanding on the past work and collaboration between the two companies, the current initiative will focus on developing knowledge for a broader range of applications in paints and coatings.

“We look forward to building on our collaboration with Universal Matter and helping them to create higher performing, more sustainable formulated products,” Murad said. “We recently invested in the expansion of our R&D facilities. Our expanded resources will enable us to independently qualify and quantify the benefits of the technology in a diverse range of market applications, identify the most valuable opportunities and help to expedite their commercial feasibility and market entrance.”

The ChemQuest Group is a global consulting firm focused on tailored business strategy and optimization, technology acceleration and market intelligence. The company’s Technology Institute encompasses a team of application experts and advanced lab facilities in South Boston, Va. (USA).

As part of ChemQuest’s Technology Development pillar, ChemQuest Technology Institute is focused on providing advanced formulation guidance, technology acceleration, raw material validation and performance testing equipment. These services are utilized by suppliers, manufacturers and users of formulated materials, such as coatings, adhesives, sealants and polymers.

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About the ChemQuest Group, Inc.

The ChemQuest Group Inc. is widely recognized among raw material suppliers, formulators and financial investors for its value creation. ChemQuest's four service pillars include Business Strategy & Transformation; Mergers, Acquisitions & Divestitures; Manufacturing Excellence; and Technology & Application Development through the ChemQuest Technology Institute and ChemQuest Powder Coating Research. ChemQuest services extend across 11 formulated product categories and over 13 end-use markets within the specialty chemicals value chain. Our team includes former senior managers from major manufacturers, business owners and senior technical managers, including Ph.D. chemists, with a minimum of 25 years of experience in specialty chemicals. For more information, visit www.chemquest.com.

About Universal Matter

Universal Matter has developed cleaner, faster and more economical technology to commercialize graphene, a carbon-based nanomaterial with multiple applications. Our proprietary Flash Joule Heating process can convert diverse carbon sources into few layer graphene with an almost unlimited number of applications.

Headquartered in Burlington, Ontario, Canada, with U.S. office and innovation center in Houston, Universal Matter's vision is to build on its strong R&D foundation to scale its production process and become the world's leading supplier of higher value and quality graphene solutions. For more information, visit www.universalmatter.com.

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