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DeepMatter Group Plc

("DeepMatter" or the "Company" or "Group")

DeepMatter collaborates with the Universities of Leeds and Sheffield

DeepMatter (AIM: DMTR), the AIM-quoted company focusing on digitising chemistry, has been selected as a partner for the University of Leeds following a £1.4M EPSRC investment they received to develop automated precision manufacturing approaches in collaboration with the University of Sheffield, AstraZeneca, Somaserve and Samsung.

DeepMatter will provide its DigitalGlassware® platform, a cloud-based platform that allow chemists to share data in real-time and develop digitally enabled scale-up of advanced nanoparticle products. Nanoparticles are an important component in ensuring safe and effective drug delivery of new-generation (mRNA) vaccines and certain anti-cancer drugs. The technology to digitally enable the scale-up of advanced nanoparticle products will be a sustainable, cost-effective alternative to the current method of production, and brings innovation beyond a laboratory setting across several manufacturing environments.

DigitalGlassware® was selected due to its strong fit for early-stage chemical development. It comprises a cloud-based software platform, which allows scientists to easily bring together digitised synthesis protocols (recipes) and contextualises time-course sensor streams from a range of analytical instrumentation, importantly in real-time.

In addition to the cloud-based software, DeepMatter will provide its proprietary low-footprint sensor package, DeviceX, which provides a new perspective on chemical reaction data, as well as a hardware device to interface with the continuous platforms at the University of Leeds. Because of the structuring of content enabled by DigitalGlassware® in the cloud, the aggregated chemical data is easily amenable to ML and AI applications, from which derived insights can be applied to shape new experimental design to improve the outcome of the Grant.

Dr Nicholas Warren, from the School of Chemical and Process Engineering at the University of Leeds, is leading the research alongside colleagues Dr Richard Bourne and Dr Thomas Chamberlain from the School of Chemistry, and researchers from the University of Sheffield.

Mark Warne, CEO of DeepMatter Group, commented: *"We are delighted to be partnering with both the key opinion leaders at the University of Leeds and University of Sheffield, as well as large pharma companies. Our DigitalGlassware® platform will be used to provide a unique perspective on the data helping with both discovery and productivity gains for chemical reactions forming nanoparticles - an essential component in delivering effective mRNA vaccines."*

Dr Nicholas Warren, Associate Professor at the University of Leeds, added: *"Sustainable and cost-effective scale-up is yet to be achieved with nanomaterials production, so to address this issue we are developing platform technologies with advanced chemical reactors underpinned by computational intelligence. The data captured by DigitalGlassware® in real-time allows us to use ML and AI directed decisions contributing to self-optimising reactions helping us to build up an understanding of the processes and fine-tune reaction conditions leading to a scaled-up, commercially viable production of advanced nanoparticle products."*

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About DeepMatter Group plc

DeepMatter is building and commercialising the most powerful data platforms, to enable scientists to easily perform and optimise chemical reactions, by increasingly integrating chemistry with technology. Ultimately this will allow the greater use of artificial intelligence and reaching a point where chemicals can be autonomously synthesised through robotics.

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