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Photocentric Announces Vision of 3D Printed Batteries

Peterborough based manufacturer Photocentric, are making a significant investment by creating a new battery research division. Photocentric are now focussing their entire research team on the issue of improving energy storage- one of the most important issues to face the Earth today.

Currently leading several grant-funded projects researching into this new 3D printed battery technology, Photocentric has credible claims to have game-changing innovation in this sector. Current funded projects are provided by the Advanced Propulsion Centre under their Technology Developer Programme (TDAP); and Innovate with a collaborative partnership with the Centre for Process Innovation (CPI) and Johnson Matthey into 3D printed solid state batteries.

Photocentric are using novel additive manufacturing techniques to create lighter, smaller batteries to deliver faster charging combined with increased power density. It is hoped that this technology will enable orders of magnitude improvements in battery performance and be used in a future Giga factory based in the UK.

Photocentric consider this to be the most important research project they have undertaken in their 18-year history. They are using their novel visible light polymerisation in combination with their LCD screen-based 3D printers to enable the low-cost mass manufacture of batteries and have several patents filed in this area.

Batteries currently used in the automotive industry are large, heavy, and not optimised for their intended application, with vehicle design ultimately dictated by battery availability. Photocentric intends to 3D print battery electrodes and using the freedom of geometry that the process provides, intends to deliver significant improvements in battery manufacture.

Dr Sarah Karmel, Head of R&D Chemistry at Photocentric commented “currently, electric vehicles are made to fit around the battery module, we want to create customised batteries that fit the vehicle”.

Photocentric are now expanding their team of scientists employing more world-class experts in electro-chemistry and batteries to exploit this exciting opportunity.

About Photocentric

Photocentric has been manufacturing photopolymer resin since 2002 and are the undisputed world-leaders in visible light polymerisation. For nearly two decades, Photocentric has prioritised innovation at the centre of their corporate culture, creating new products for the printing industry. Their patented technology has enabled them to become the leading and most trusted company in making crystal clear craft stamps, both in the UK and the USA. In 2014 they began their journey into 3D printing with the use of LCD screens as the selective light source to harden visible light photopolymer. This has proven to be the company’s greatest innovation and commercial success so far. This technology is starting to change wider volume manufacturing not just additive manufacturing. Today, Photocentric are delivering on their early ambition of using screens to enable custom mass manufacture. This vision has become a reality through the application of a large number of their largest format and technically most advanced printers, the Liquid Crystal Magna. This has proven its disruptive ability by delivering order of magnitude improvements for the customer in terms of cost, productivity, and reliability. Photocentric’s chemical development partnership with BASF is delivering on the promise of producing usable functional parts and they are applying this disruptive technology to a wide variety of industries commencing with automotive, dental, and industrial components.

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