PRESS RELEASE
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Dr Themis Prodromakis, Southampton University & Philip King, Newbury Electronics

Newbury Electronics is partnering the University of Southampton and Imperial College in ground breaking research into a new approach to medical diagnostics using PCBs.

- **Group awarded £1 million EPSRC* grant**
- **Great opportunity for UK manufacturing experience to help develop new solution**

Newbury Electronics has been appointed as the manufacturing partner on a new research project which is being funded by a £1 million grant, awarded by the EPSRC (Engineering and Physical Sciences Research Council), for manufacturing low-cost, disposable, point-of-care, diagnostic devices. Working with Dr Themis Prodromakis, Reader in Nanoelectronics within the Nano Research Group of Electronics and Computer Science at University of Southampton, and researchers in The Dept of Infection and Immunity of Imperial College Healthcare NHS, Newbury Electronics will bring their extensive knowledge of manufacturing techniques and materials to this innovative work.

Philip King, director at Newbury Electronics said; "We are delighted to have been appointed as the manufacturing partner for this project. Themis and his team have

come up with an exciting alternative to more traditional diagnostic methods and it is now our job, as the expert manufacturers, to help transform this idea into a feasible product. The inclusion of Imperial College as the clinicians to demonstrate the relevance of this research ensures that valid input from all sides is incorporated right from the initial stages."

Dr Themis Prodromakis' project is looking at manufacturing low-cost, real-time diagnostics that leverages hybrid platforms comprising sensing electrodes on PCBs and discrete active components as the transducers.

Imperial College NHS is highly interested in this research as they believe this could replace the conventional enzyme-linked immunosorbent assay (ELISA), which is the golden standard in diagnostics. The team has already committed to carry out all clinical trials throughout this three year project.

"A project of this nature is the perfect illustration of how academia, manufacturing and the end user can come to together to pool their knowledge and experience to make a real and valuable change;" said Dr Prodromakis. "I have worked with Newbury Electronics in the past and believe that their input will be vital in initial development but also longer term when we are hoping to be able to produce a viable product to take to market. There is a real opportunity for this new diagnostic tool to make a tangible difference to healthcare not only in the UK but in international markets as well."

The first stage is well underway and researchers are spending time with Philip and his team gaining a better understanding of the PCB manufacturing process and how this can be refined and amended to use alternative materials and to finer degrees of accuracy. If the development work goes to plan the first prototypes should be available for initial testing by next year.

This is not the first time that Newbury Electronics has worked in conjunction with a research application. "A project like this has a numerous benefits for us a company aside from the prestige. We will inevitably learn new methods and techniques which we enable us to enhance our entire offering so all our customers will benefit in the

long term. Working at the leading-edge of a new development also puts us in a great position to maximise on any commercial opportunities that might arise in the future as a result of this work. Finally, it is yet another great example of British manufacturing recognising both the challenge and opportunities that are available in the 21st century and we want other UK companies to recognise and engage with the skills and expertise that exists."

Background

Newbury Electronics Ltd started trading in 1956. A management buyout took place in 1987 and Philip King took on his role of Managing Director in 2011. The company offers a full electronic design, PCB design and layout service alongside PCB manufacture and assembly in Newbury, West Berkshire. It employs 65 staff and is dedicated to small and medium batch PCB assembly, specialising in electronic design and manufacture incorporating SMD, SMT, surface mount, BGA, through hole, box build, soldering, test, & rework. Customers can select from electronics design and CAD layout through to printed circuit board design and fabrication, assembly and test, and the company is happy to undertake single, bespoke projects through to the design and supply of manufacture lots of up to 10,000 pcs on its automated SMD assembly lines.

As a contract electronic manufacturer (CEM), each year, the company produces in excess of over 15,000 different PCB designs for its clients, who benefit from the economies of scale built from the volume of orders processed.

For more information visit www.newburyelectronics.co.uk

***** The mission of the EPSRC is to:

- Promote and support, by any means, high quality basic, strategic and applied research and related postgraduate training in engineering and the physical sciences.
- Advance knowledge and technology (including the promotion and support of the exploitation of research outcomes), and provide trained scientists and engineers, which meet the needs of users and beneficiaries (including the chemical, communications, construction, electrical, electronic, energy, engineering, information technology, pharmaceutical, process and other industries), thereby contributing to the economic competitiveness of Our United Kingdom and the quality of life.

For more information visit www.epsrc.ac.uk

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