Portable environmental chamber licensed to FOM technologies

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The National Physical Laboratory (NPL) has developed a Portable

Environmental Test Chamber, which allows the characterisation of electronic and optical components under precisely-controlled atmospheric conditions. The system has been licensed to FOM Technologies and is now commercially available.

Developed by NPL's Electrochemistry Group, the Portable Environmental Chamber was originally designed for testing the stability of highly sensitive printed electronics components.

Printed electronics is a rapidly emerging technology, which uses conventional printing techniques to create electrical devices from thin, flexible materials. These low-cost devices are ideally suited to a range of diverse applications, from smart packaging to flexible building-integrated photovoltaics.

One of the main challenges facing the printed electronics industry is the sensitivity of components to their environment. Some components need to be fabricated and packaged in inert atmospheres containing as little as one part-per-million of oxygen and water.

Recognising the need among researchers and industry to test the stability of components at very low concentrations of contamination, NPL's Electrochemistry Group developed the Portable Environmental Chamber. The chamber enables electrical and optical characterisation of components under atmospheric conditions which can be controlled with parts-per-million precision.

These chambers have already been used extensively in NPL research to test the performance of organic photovoltaics, which could be a cheaper, light-weight and flexible alternative to currently-used photovoltaic systems.

The Portable Environmental Chamber's design has been licensed to

FOM Technologies, a spin-off from the Technical University of Denmark (DTU) that specialises in developing and supplying R&D equipment for coating and testing of functional printed materials.

Provided by National Physical Laboratory