



Lithographically defined electrodes on plastic film

Industry Interaction Case Study

iPESS

Progress through partnership: Academia tackle industrial challenges

The team at Organic Materials Innovation Centre (OMIC; www.omic.org.uk) at the University of Manchester, led by Professors Michael Turner and Krishna Persaud, have demonstrated that the printable gas sensor arrays can be used to detect and measure a wide range of molecules in the gas phase.

The novel gas sensor platform under development in OMIC is of interest to CDT Ltd and a collaboration has been established within the CIMLAE iPESS2 project to investigate if the novel sensors can be used to monitor the condition of crops in storage.

CDT began as a spin-out company from the Cavendish Laboratory, University of Cambridge (1992) to develop polymer OLED technology. Since 2007, CDT has been part of Sumitomo Chemical. The 100-strong CDT interdisciplinary team has world-class expertise in physics, chemistry, engineering, microelectronics, materials and life sciences. CDT scientists work on a range of topics from fundamental understanding to optimising materials and devices for market applications across organic electronics, energy harvesting and storage, biosensors, opto-electronic

detection, flexible OLED and OLED displays and lighting.

The team at OMIC, through consultation with CDT, are investigating how the sensor technology may be developed to monitor the volatile gases emitted by a range of crops in storage.

Through this interaction with the University of Manchester in the iPESS project, CDT can provide insight from an industry perspective on the requirements and challenges of measuring volatile organic molecules emitted by crops in storage.

Progress has been made to show that the gas sensor technology can detect the organic molecules of interest. The project is now investigating if the sensing platform can detect the organic molecules of interest under the types of conditions encountered in crop storage.

Working with OMIC has provided CDT with an insight into the novel gas sensing platform and into the work of the OMIC team to develop the technology to meet the challenges of monitoring for the volatile organic compounds associated with the on-set of rot or disease from crops in storage.

“CDT regards the technology under development within iPESS as a very promising approach to gas sensing platforms applicable for many of the measurement challenges in the agricultural sector.”

Dr Nick Dartnell,
Senior scientist,
Cambridge Display
Technology Ltd. (CDT)