

Technology Strategy Board

Driving Innovation

Press Release

1 July 2010

Minister announces £8.4m investment in Plastic Electronics technologies

A range of specialist plastic electronics businesses are to benefit from a total of £8.4m investment in research and development into new technology that will lead to the creation of a range of new products such as conformable and rollable electronic displays, ultra-efficient lighting and low-cost, long-life solar cells.

The investment was announced today by the Universities and Science Minister, David Willetts, during a speech to the *Tomorrow's Giants* conference in London. Thirteen projects, involving more than 30 industrial and academic partners, will benefit from the funding allocated as a result of two competitions run by the government-backed Technology Strategy Board.

Minister for Universities and Science David Willetts said:

“It is early days for this emerging field, but Plastic Electronics will give rise to a range of new exciting products, such as ultra-efficient lighting and cheaper, longer-lasting solar cells. Looking ahead, this technology offers enormous potential to help our local environment, improve our everyday standard of living and support the nation’s economy.

“The global market for Plastic Electronics is now worth almost \$2 billion (£1.337 billion) and is forecasted to grow to as much as \$120 billion (£80.19 billion) by 2020. The funding I’ve announced today is important in supporting UK businesses to be world leaders in one of the key industries of the future. Commercially exploiting the outputs of the UK’s world-leading science and research base has a vital role to play in helping our economy to grow.”

£7.4m has been offered to eight projects to help build the supply chain and to overcome the barriers to UK exploitation of plastic electronics technology, including over £800,000 from the Engineering and Physical Sciences Research Council (EPSRC). A further £1m has been offered by the Technology Strategy Board to five projects to encourage UK businesses to use plastic electronics in their product development by producing demonstrators with potential for real commercial value.

The projects range from interactive labels for high value brand authentication to interactive audio posters and will enable businesses to overcome some of the barriers that they face in taking new and innovative products to market.

Iain Gray, Chief Executive of the Technology Strategy Board said:

“The UK is among the world’s leading players in Plastic Electronics, and the opportunities to be a major part of a whole new manufacturing sector are very real. The benefits are potentially huge - for the UK economy, our society and the environment. And the sector is predicted to grow at an astonishing rate over the next two decades.

” Very sophisticated plastic electronics technology already exists but we believe that there are huge opportunities out there for much broader incorporation of the technology into products. The challenge is to entice companies, especially those from the design sector, to work with the technology.”

Plastic Electronics allows circuits to be produced at relatively low cost by printing electronic materials onto a range of rigid or flexible surfaces. It is very different from the assembly of conventional silicon-based electronics and will lead to the creation of a whole new range of products.

Ends

Editor's notes

1. Two of the successful projects are:

TOPDRAWER: Thin Organic Prototypes, Design, Research, Applications with Enduser Recognition

This innovative project seeks to show that it is possible to manufacture a printed lighting panel or 'Polymer light-emitting diode (PLED) luminaire' that can be used in a range of aesthetic designs. The aim is to produce the UK's first printed ultra high efficiency PLED luminaire. The project is led by Thorn Lighting and involves Cambridge Display Technology (CDT), Tridonic, Pilkington, Conductive Inkjet Technologies (CIT) and Durham University.

The consortium will develop and demonstrate a printed manufacturing process that will then be integrated into attractive designs that have been created through consultation with potential end-users. This manufacturing process will then be proved and tested within the Printable Electronics Technology Centre (PETEC), the UK's national design, development and prototyping facility based at Sedgefield, County Durham, by the TOPDRAWER team. It will be made possible by the installation of a large-area coating line at PETEC in early 2011. This project will help to build a comprehensive UK PLED lighting supply chain and accelerate the development of a UK printed luminaire manufacturing process. The project seeks to help create a UK capability in novel manufacturing and make us globally competitive in this area.

Dr. Geoff Williams from Thorn Lighting for project "TOPDRAWER" said: *"This is an excellent show of confidence in Polymer OLED (PLED) technology and Thorn's consortium by the Technology Strategy Board. This will strengthen the global position of UK PLED technology".*

For more information on this project please contact geoff.williams@thornlighting.com;

Morris - Manufacture Of Really Reflective Information Surfaces

This is a three year programme that aims to develop large reflective information surfaces that can be used for command/control rooms, electronic whiteboards, posters and signage, and architectural/ interior design (electronic wallpaper). These would be reflective colour display surfaces, made by printed/plastic electronic processes. The project is led by Hewlett-Packard in partnership with Timsons, and the Printable Electronics Technology Centre (PETEC), the UK's national design, development and prototyping facility based at Sedgefield, County Durham. The aim is to develop the specification of a pilot line and material set; projected costs and yields; demonstration devices; components; processes and equipment, and use these to secure investment in pilot and then full manufacturing. The project is based on an innovative approach to reflective colour, particularly applicable to large area plastic displays, and will drive the development of

- highly transparent and highly conducting structured electrodes;
- advances in organic semiconductors/TFT fabrication processes.

Dr. Adrian Geisow from HP Laboratories for project “MORRIS” said: *“It was really encouraging to hear that the “Morris” proposal had been selected. It will be challenging to deliver, but we believe that it is well aligned with the competition’s goal of building the UK supply chain in plastic electronics, as well as being an exciting project in its own right”.*

For more information on this project please contact: adrian.geisow@hp.com;

2. The exact funding figures for each competition are as follows:
Plastic Electronics Demonstrator Competition: £992,990
Plastic Electronics Building the Technology Supply Chain (Collaborative R&D competition): Total: £7,447,380 with £6,619,360 contributed by the Technology Strategy Board and £828,020 by EPSRC.
3. Plastic Electronics will lead to the creation of a whole new range of products such as conformable and rollable electronic displays, ultra-efficient lighting and low-cost, long-life solar cells. Its market value is forecast to rise from \$2 billion today to \$120 billion in 2020. Currently the UK is among the world’s leading players in Plastic Electronics, and the opportunities to be a major part of a whole new manufacturing sector are both real and realisable. The UK has strengths in terms of research, development and commercial activity, and is well-placed to profit economically, in intellectual property obtained and in terms of manufacturing employment. The Technology Strategy Board’s vision is for the UK to build on its position as one of the leaders in this sector, with a vibrant mix of SMEs, larger indigenous companies and global systems businesses.
4. The two competitions help to address a pledge made in the Technology Strategy Board’s strategy for Electronics, Photonics and Electrical Systems published in October 2008 where, having identified the barriers to UK wealth creation, a commitment was made to stimulate the innovation needed to overcome them. In our strategy we stated that in the field of plastic and printed electronics, the UK should target the major issues of *“identifying the applications with the greatest potential for exploitation, bringing together technology providers with the owners of the commercial and technical challenges, and engaging business innovators with the capacity to exploit the opportunities.”*
5. **The Technology Strategy Board** is a business-led executive non-departmental public body, established by the government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve the quality of life. It is sponsored by the Department for Business, Innovation and Skills (BIS). For more information please visit www.innovateuk.org.
6. The **Engineering and Physical Sciences Research Council (EPSRC)** is the UK’s main agency for funding research in engineering and the physical sciences. The EPSRC invests more than £850 million a year in research and postgraduate training to help the nation handle the next generation of technological change. Please see www.epsrc.ac.uk
7. The *Tomorrow’s giants* conference is organised jointly by the Royal Society and Nature. See <http://royalsociety.org/Tomorrows-giants>.
8. For general enquiries about this programme or the work of the Technology Strategy Board please ring 01793 442700. Companies and other organisations seeking further information about these and other funding competitions should visit the competitions page of the Technology Strategy Board website –www.innovateuk.org email competitions@tsb.gov.uk or phone the Competitions Helpline at 0300 321 4357

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