



Fast2Light

[Project Lead: Dr Davide Deqanello](https://wcpcswansea.com/research/projects/fast2light)

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Welsh Centre for Printing and Coating

WCPC

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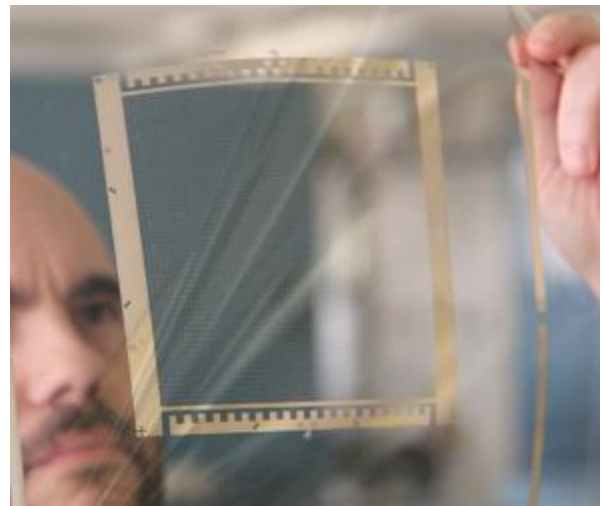
Project Overview

Fast2light is a major FP7 Integrated Project (IP) aimed to the development of large area deposition processes for the roll-to-roll mass-production of thin-film flexible large-area OLED for lighting applications.

Organic electroluminescence (OLED) technologies offer the potential to revolutionise lighting applications, holding the promise to deliver flexible, thin, lightweight and power-efficient light sources.

OLEDs have been object of extensive research in recent years especially for the development of glass-based displays. The transition from small area displays to flexible large-area OLED for lighting present a range of technological challenges that need to be addressed.

The Fast2Light consortium was formed to address the challenges aiming to strengthen the leading position of the European Lighting Industry by enabling new technologies and market possibilities. The objective of the project is the objective to develop novel, cost-effective, high-throughput, roll-to-roll, for fabricating light-emitting polymer-OLED foils for intelligent lighting applications.



The scope of the project comprises all of the layers that are part of an OLED lighting foil. Welsh Centre for Printing and Coating we are responsible for the development of highly conductive transparent layers, involving the development of printing technologies for the accurate large area patterning of organic polymers and for the deposition of micro-scale nanoparticle silver networks.

The Fast2Light consortium consists of 14 partners from 8 countries, including 3 research institutes, 2 universities, 3 SMEs and 6 large enterprises:

- WCPC, Swansea University, Wales, UK
- Budapest University, HU
- TNO-Holst Centre, NL
- IMEC, Interuniversitair micro-electronica, BE
- Gaiker (non-profit organisation), ES
- OTB DISPLAY, NL
- Hanita Coatings, IL
- Oxford Lasers, UK
- PHILIPS Research, NL
- PHILIPS Lighting, DE
- BEKAERT, BE
- AGFA-GEVAERT, BE
- Huntsman, CH
- Orbotech, I

Publications

1. D. Deganello, J.A. Cherry, D.T. Gethin, T.C. Claypole, Impact of metered ink volume on reel-to-reel flexographic printed conductive networks for enhanced thin film conductivity, *Thin Solid Film* , 520:2233-2237, 2012
2. D. Deganello, J.A. Cherry, D.T. Gethin, T.C. Claypole, Patterning of micro-scale conductive networks using reel-to-reel Flexographic Printing, *Thin Solid Films*, 518: 6113-6116, 2010
3. D. Deganello, J.A. Cherry, D.T. Gethin, T.C. Claypole, Roll-to-roll flexographic printing of highly accurate conductive micro-scale networks, *Conference Proceedings Scientific Conference LOPE-C 2012*, pp. 325-328, 2012
4. K.R. van den Hoonaard, S. Harkema, I. de Vries, G. Kirchner, J. J. Michels, D. Deganello, J.A. Cherry, E.W.A. Young, Towards all R2R printed SMOLED For Lighting, Signage and Display, *The XVII International Display Workshop (Japan), IDW'09 proceedings* pp.1619-1622, 2009

Project Partners



Swansea University
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Budapest University of Technology and Economics
Department of Electron Devices



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