Fraunhofer IWS

FRAUNHOFER-INSTITUT FÜR WERKSTOFF- UND STRAHLTECHNIK IWS

PRESS RELEASE

Scientists presented ten TOLAE projects in Dresden

(Dresden/Brussels, 27.10.2017) At the Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS, ten representatives of EU projects dealing with the subject "Thin, Organic and Large Area Electronics" (TOLAE) met for discussion. During the workshop, held from October 24 to 25, 2017, they presented their interim research results. The European Commission supports these projects as part of the Horizon 2020 program.

Representatives of international consortia presented an interim status of their European projects at the TOLAE workshop in Dresden. The Fraunhofer IWS had invited partners from Germany, Finland, France, the Netherlands, Portugal, Italy and Spain to Dresden. Dr. Udo Klotzbach, project coordinator of ALABO ("Advanced Laser Ablation on Barrier films for Organic and Large Area Electronic Devices") and head of the business unit "Microtechnology" at Fraunhofer IWS, explains: „We will combine the activities in Europe in the field of TOLAE. How far have research and development progressed and which added value do they bring within the EU? Also in the future, it will continue to be important to generate networks and projects in order to support research and the European economic landscape". During the workshop, topics such as coating, encapsulation, electronics and laser material processing were presented as well as new product concepts such as light tiles, printed sensors and thermoelectric generators. Within the ALABO project, IWS scientists together with further partners are researching future flexible and organic solar cells, which can be produced cost-efficiently using the roll-to-roll process.

Förderung aus dem EU-Forschungsprogramm Horizont 2020

Flexible solar films for a diversified range of applications

In the future it should be possible to apply thin flexible solar foils in various fields. Possible areas of application include, for example, the automotive industry or architecture. Dr. Klotzbach specifies: "It is conceivable to equip car roofs, bonnets or building facades with organic solar modules in order to support the development of electric mobility and passive houses. The advantages of organic photovoltaics are their flexibility, low mass, inexpensive production in roll-to-roll technology and the minimal material usage compared to conventional rigid silicon-based photovoltaic modules.

Presse and Public Relations
Dr. Ralf Jäckel | Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS | Phone +49 351 83391-3444 | Winterbergstraße 28 | 01277 Dresden | www.iws.fraunhofer.de | ralf.jaeckel@iws.fraunhofer.de

Contact
Business Unit Manager Microtechnology: Dr. Udo Klotzbach | Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS | Phone +49 351 83391-3252 | Winterbergstraße 28 | 01277 Dresden | www.iws.fraunhofer.de | udo.klotzbach@iws.fraunhofer.de

The ten project partners

The European research projects listed below are funded by the European Union under the Horizon 2020 research program.

- ALABO – Advanced Laser Ablation on Barrier films for Organic and large area electronic devices
  - https://www.alabo.eu
- HAPPINESS – Haptic Printed and Patterned Interfaces for Sensitive Surface
  - https://www.happiness-project.eu
- LOMID – Large cost-effective OLED microdisplays and their applications
  - http://www.lomid.eu
- LORIX – Large Organic Robust Imager for X-Ray Sensing
  - https://lorix-project.eu
- LUMENTILE – Luminous Electronic Tile
  - https://www.lumentile-project.eu
- OPTINTEGRAL – Advertisement displays manufactured by hybrid in-mould integration
  - https://optintegral.eu
- PI-SCALE – Bringing flexible organic electronics to pilot innovation scale
  - http://pi-scale.eu
- ROLL-OUT – High-performance, Flexible, Autonomous Systems manufactured with Unique, Industrial Roll-to-roll equipments
  - http://www.roll-out-2020.eu
- TRANSFLEXTEG – Large area transparent thin film thermoelectric devices for smart window and flexible applications
  - http://www.transflexteg.eu
- SMARTEES – Smart Emerging Electronics Servicing DIH
  - http://cordis.europa.eu/project/rcn/211064_de.html

About Horizon 2020

Horizon 2020 is the largest research and innovation program in the history of the European Union. It will provide funds of nearly EUR 80 billion over a seven-year period (2014 to 2020) in addition to the private participations that this investment will entail. The program promises countless breakthroughs, discoveries and world innovations by inviting you to bring great ideas from the lab to market.

About TOLAE

TOLAE stands for "Thin, Organic and Large Area Electronics". Components from this area offer high potential for the development of novel smart products. The basis is their small thickness, low mass and flexible shape as well as the possibility of extremely inexpensive production of sensors, batteries or lighting elements, for example. TOLAE solutions can be used in a variety of market sectors. The European Commission supports this development by raising TOLAE as a topic within horizon 2020.

The projects aim to map R&D activities along the value chain and at the same time not to lose sight of recycling aspects.

About ALABO

ALABO stands for "Advanced Laser Ablation on Barrier Films for Organic and Large Area Electronic Devices". The overall goal of this project is the development of organic electronic components on flexible barrier films. In order to increase the service life and cost-effectiveness of thin, large-area electronic components, Fraunhofer IWS Dresden as well as six other project partners from industry and research are developing processes for the production of flexible organic solar cells. These processes include, for example, coatings, laser scribing or encapsulation, but also technologies for quality assurance. These technologies comprise in particular the determination of the water vapor barrier layers' performance. In this way, the project partners try to achieve a significant reduction in material consumption. An important key to the success of the ALABO project is the close integration of the consortium. It consists of three industrial partners and four research institutes coming from four European countries.

Come and visit us at the 10th International Laser and Joining Symposium at the Congress Center Dresden on February 27 to 28, 2018. Further information is available at www.lasersymposium.de.

Roll-to roll: innovative and efficient procedure for the fabrication of solar foils.
© Heliatek / Baldauf & Baldauf

FRAUNHOFER-INSTITUT FÜR WERKSTOFF- UND STRAHLTECHNIK IWS

Dr. Udo Klotzbach, project coordinator and head of the business unit "Microtechnolgy" at the Fraunhofer IWS, presented his results to international EU project partners at the TOLAE workshop.
© Fraunhofer IWS Dresden