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TREASORES

<u>Transparent Electrodes for large Area, Large Scale</u> Production of <u>Organic Optoelectronic Devices</u>







Objective

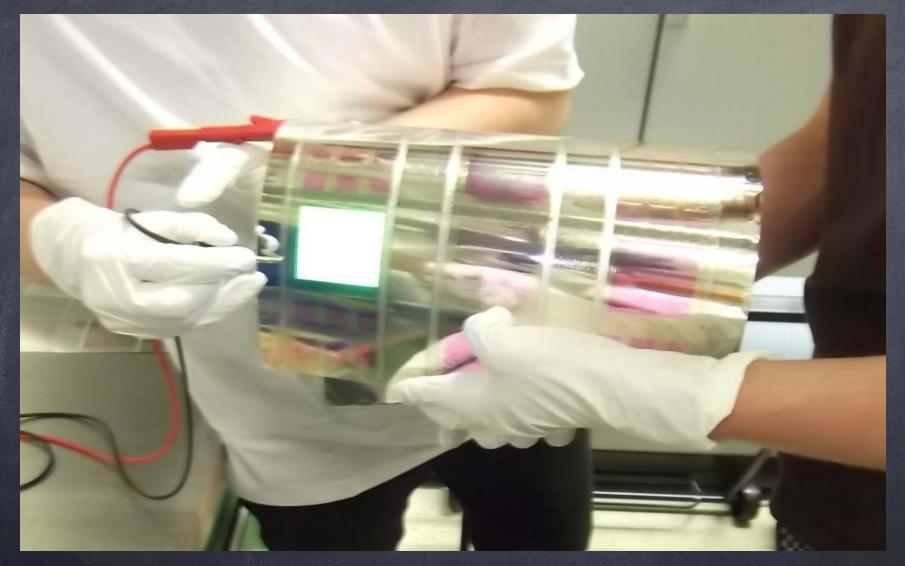
- Cheaper organic optoelectronics by enabling large-scale production
 - For large area light sources and solar cells
 - Using roll-to-roll (R2R) processing (like newspaper printing)
 - Using low temperatures (< 180°C)



Intermediate Goals

- To produce transparent, conductive, flexible barrier foils by exploring:
 - 4 kinds of electrode
 - 3 kinds of barrier/substrate
 - 2 kinds of encapsulation







Targets for R2R

- More efficient devices than 2012 state-of-the-art
 (OLED, OLEC, OPV)
 - Encapsulation webspeed > 1 m / minute
- Production volume >> 100 m²
- + Individual devices > 10 x 10 cm
- + Substrates cheaper than ITO/PET



Benefits/Impact

- No need to use indium tin oxide
 - Cheaper, no supply problems
- Energy efficient processing
- Flexible materials imply:
- Barrier layers and electrodes compatible with R2R production
 - High throughput, easy scale-up
- Potential new markets for large area and flexible devices



The consortium

- 5 countries: CH, DE, ES, FI, UK
- Manufacturing partners: Amcor, Sefar, Osram, Rowo Coatings, Canatu, Eight19
- Other companies: Amanuensis, NPL
- Academic partners: Empa, Fraunhofer Society, Technical University of Dresden, University of Valencia, NanoGUNE, University of Aalto



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