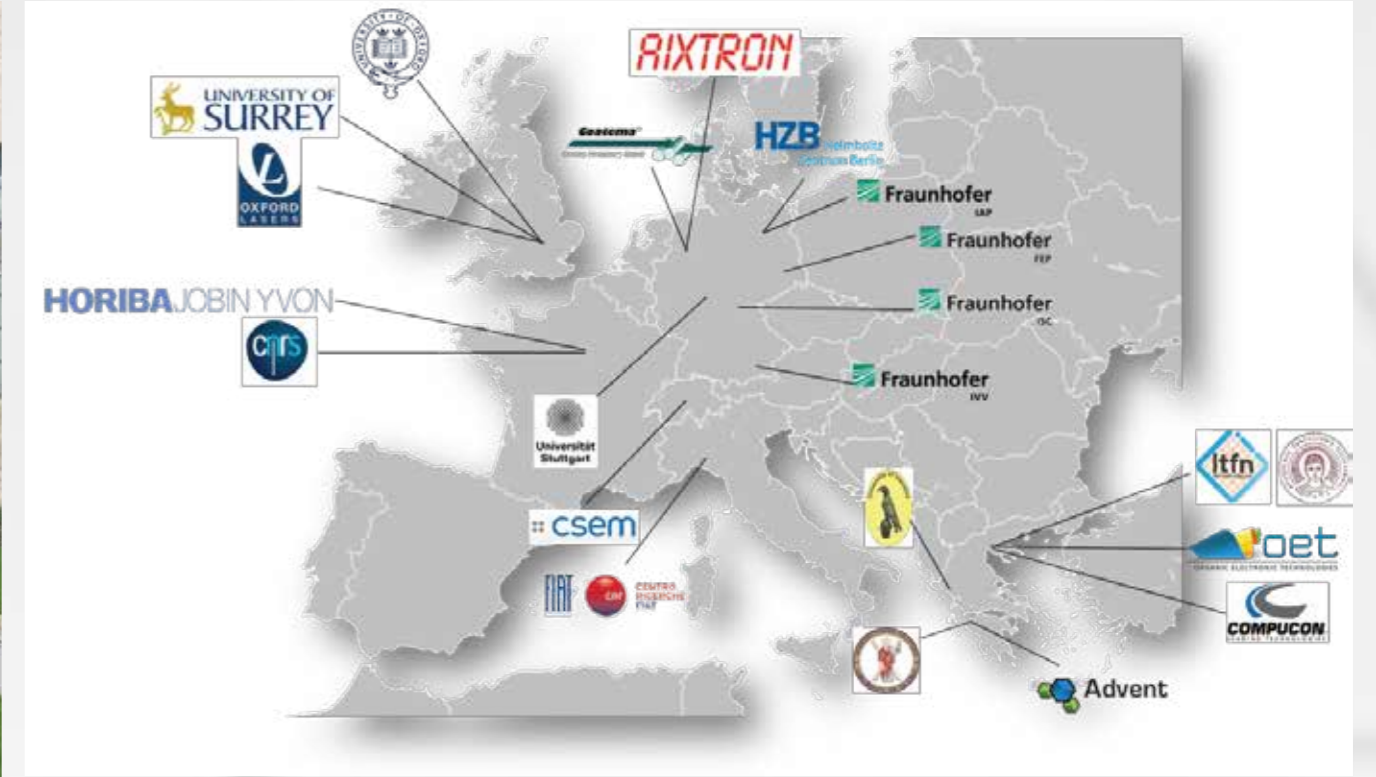


Development of Smart Machines, Tools and Processes for Tailored Organic Electronic Devices

Type: **Large-scale Integrating Project**
 Work Progr.: **FP7 NMP.2012.1.4-1**
 Start Date: **01.01.2013**
 End Date: **31.12.2016**
 Partners: **18 from 6 EU Countries (7 Univ., 3 Inst., 8 Industries)**
 Total Budget: **EUR 11.593.843**
 EC funding: **EUR 7.897.000**
 Coordinator: **Nanotechnology Lab LTFN, AUTH Prof. Stergios Logothetidis**
 Website: **www.smartonics.eu**



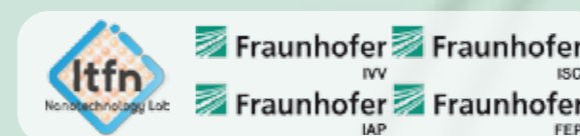
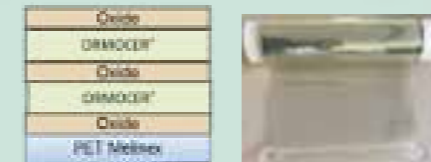
Objectives & Major Achievements

Smart Nanomaterials for OEs by Process & Computational Modelling Optimization

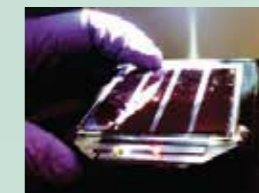
Upscalable High performance Polymer Organic Semiconductors



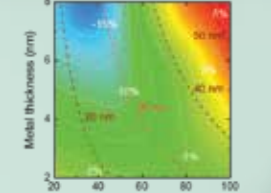
Upscalable Ultra High barriers for Encapsulation with high self lives



Plasmonic NPs by Laser



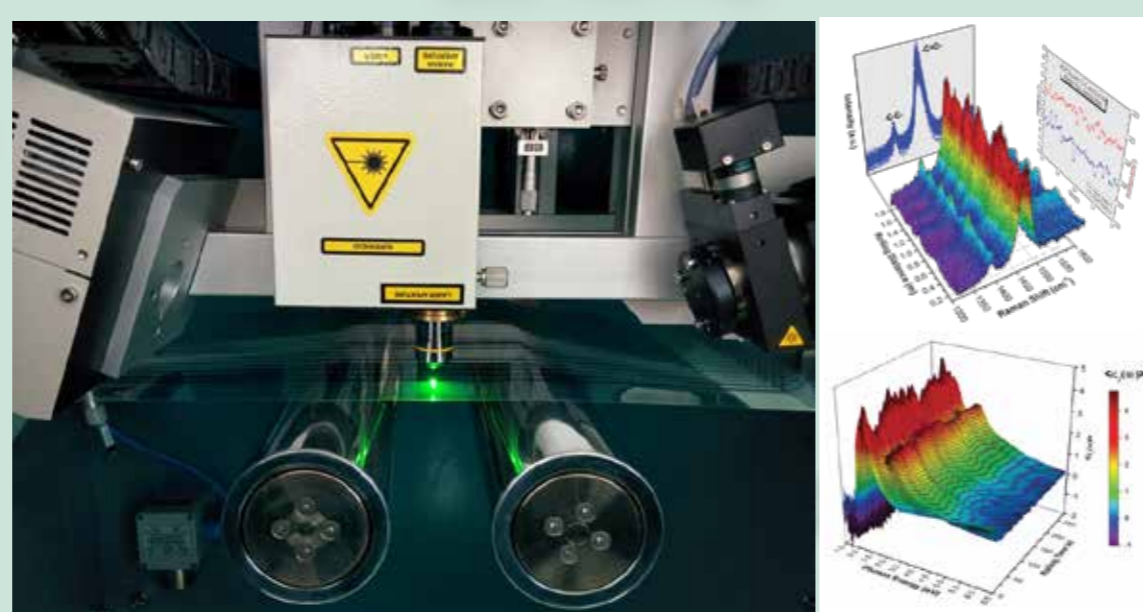
Computational Modelling for OPVs



Smart Technologies

R2R Printing and OVPD machines combined with precision sensing (SE, RS, PL), Laser tools & Inkjet Printing

Novel In-line Optical Metrology (SE, RS, PL)



Novel In-line Inkjet Printing



In-line Patterning



Unique Pilot Lines

for precision Synthesis of OE Devices, and Evaluation for Industrial applications (e.g. Automotive)

R2R Pilot Line equipped with Precision Sensing & Patterning Tools



OVPD Pilot Line equipped with Precision Sensing & Tools



Smartonics Records

S2S OPV Cell: 8.01%
 S2S OPV Module: 5%
 R2R OPV Cell: 5.36%
 R2R OPV Module: 3.51%
 OVPD OPV Cell: 4.0%
 OPV Lifetime > 8 years (WVTR: < 1·10⁻⁵ g/m²d)
 OPV Roof power: 12W, Voltage: 18V

Fully R2R Printed OPV devices



OPV powered Automotive Roof



Dissemination/Exploitation Metrics

Papers: 35
 Press Releases: 9
 School Lectures: 27
 Participations in Exhibitions: 68
 Conference Presentations: 193
 Conference Organization: 15
 Patents > 5

Partners

