

Objective FoF-ICT-2011.7.2

Manufacturing solutions for new ICT products

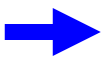


Challenge 7: ICT for the Enterprise and Manufacturing

The Factories of the Future (FoF) initiative is part of the European Economic Recovery Plan launched in November 2008 to respond to the global economic crisis. This Public-Private-Partnership (PPP) aims at helping EU manufacturing enterprises, in particular SMEs, to adapt to global competitive pressures by improving the technological base of manufacturing across a broad range of sectors. The ICT contribution to this initiative aims at improving the efficiency, adaptability and sustainability of manufacturing systems as well as their better integration within business processes in an increasingly globalised industrial context. Challenge 7 is fully dedicated to supporting the FoF PPP.

The Challenge includes the areas:

- 'Smart factories' including application experiments of control and sensor-based systems, laser systems and industrial robots.



'Manufacturing solutions for new ICT products' addressing manufacturing processes for Organic Large Area Electronics (OLAEs) and organic photonics.

- 'Virtual factories and enterprises' addressing end-to-end integrated ICT allowing for innovation and higher management efficiency in networked operations and supporting the emergence of 'smarter' virtual factories and enterprises.
- 'Digital manufacturing' including products life cycle management, modelling, design and optimisation.

Research addressing this Challenge in particular will encourage international cooperation under the Intelligent Manufacturing Systems (IMS) scheme.

Manufacturing solutions for new ICT products

Organic Large Area Electronics (OLAE) is based on a combination of new materials and uses large area production processes to provide completely new applications and products that are generally thin, cheap, lightweight and flexible. Key to realising the potential is developing low cost, high volume and high throughput manufacturing technologies of electrical, electronic and photonic components. This objective aims at a "from lab to fab" approach i.e. bridging the gap between research prototypes and low-cost mass production methods. Applications range from OLED lighting, organic photovoltaics and printed batteries, to signage and displays, organic and large area sensor arrays, organic and printed electronics as well as flex/foil-based integrated smart systems.

Projects are expected to be industry-driven and the proposed work should include strong quality control, testing and validation elements in order to demonstrate the feasibility of the manufacturing at an industrial scale.

Target Outcomes

Feasibility demonstrators for industrial, low cost, high volume and high throughput

manufacturing processes and production of organic and large area electronics and photonics products. Solutions should in particular make use of roll-to roll wet

deposition, but could also address evaporation, hot-embossing, laser processing and other low-temperature processes. R&D will focus on addressing the main roadblocks such as patterning processes, resolution and registration accuracy, process stability,

multilayer lamination, encapsulation, automation, in-line quality control, and architectures to cut production costs. Standardisation and end-of-life / disposal / recyclability issues should be addressed as appropriate.

Expected Impact

- New market opportunities for European manufacturing industry in new low cost, high volume and high throughput manufacturing processes for OLAE products tailored to meet key societal and economic needs; and, extending the range of applications of "conventional" industries (e.g. printing and plastic), into the OLAE field.
- Availability of European-produced OLAE products tailored to meet key societal and economic needs.

Funding Schemes

IP

Indicative budget distribution

EUR 20 million

Call

FP7-2012-NMP-ICT-FoF

(to be published on July 20, 2011; deadline for submission of proposals: December 1, 2011)

For further information:

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