Objective

Printed electronics (PE) is set to revolutionise the electronics industry over the next decade and can offer Europe the opportunity to regain lost market share. Printed electronics allows for the direct printing of a range of functional (conductive, resistive, capacitive and semi-conducting) nanomaterials formulations to enable a simpler, more cost-effective, high performance and high volume processing in comparison to traditional printed circuit board and semiconductor manufacturing techniques. It has been reported by Frost and Sullivan that the market for printed electronics will increase in revenues from $0.53Bn in 2010 to $5.04 Bn in 2016 at a compound annual growth rate of 32.5%.

However, the migration towards low-cost, liquid-based, high resolution deposition and patterning using high throughput techniques, such as inkjet printing, requires that suitable functional nanomaterials formulations (e.g. inks) are available for end users in industrially relevant quantities. Presently, there are issues with industrial supply of nanomaterials which are low cost, high performance, environmentally friendly and tailored for high throughput systems. Therefore better collaboration is warranted between supply chain partners to ensure nanomaterial production and nanomaterial formulations are tailored for end use applications to meet this need.

The INSPIRED project will address these fundamental issues within the printed electronics industry: Ensuring that suitable functional nanomaterials formulations (inks) are available for end users in industrial scale quantities. Production of these nanomaterial formulations on an industrial scale and then depositing
them using cost-effective, high throughput printing technologies enables rapid production of printed
electronic components, on a wide variety of substrates. Therefore, enabling new electronics applications,
whilst overcoming the problems associated with traditional manufacturing.

**Field of Science**

nano-materials

commerce

semiconductor

migration

**Programme(s)**

H2020-EU.2.1.2.1. - Developing next generation nanomaterials, nanodevices and nanosystems

**Topic(s)**

NMP-05-2014 - Industrial-scale production of nanomaterials for printing applications

**Call for proposal**

H2020-NMP-PILOTS-2014

[See other projects for this call](#)

**Funding Scheme**

IA - Innovation action

**Coordinator**

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