



Creativity-driven (e.g. design-driven) materials innovation

Why creativity-driven (e.g. design-driven) material innovation?

Innovative materials have been estimated to underpin directly or indirectly 70% of all technical innovations and this percentage is estimated to be steadily growing in the period to 2030. However, multi-functional, reliable, well-performing, safe, sustainable, recyclable materials are essential but not always sufficient for the commercial success of products.

Upstream collaboration between product designers, material scientists and engineers is critically important to link the market pull with the potential of new materials and technologically advanced systems and creative solutions.

How can we foster synergies and collaborations between material scientists and engineers and the creative industries for the generation of growth and jobs in the EU?

Research projects and prizes have been identified as effective instruments that can foster progress, stimulate new ideas and the conception of new products, push innovation, connect players along the value chain and speed up access to market. http://ec.europa.eu/research/industrial_technologies/pdf/materials-in-creative-industries-report_en.pdf (2012). Other instruments like pre-commercial procurement (PCP) as well as public procurement of innovation (PPI) can also be explored.

Examples of recently launched projects:

- ❖ "Design driven development of touch sensitive luminous flexible plastics for applications in care & well-being" (**LIGHT.TOUCH.MATTERS 310311**)
- ❖ "Sky Like Coating Materials for Hypogeal and SkyScrapers Architectures" (**SKYCOAT 310483**)
- ❖ "On-the-fly alterable thin-film solar modules for design driven applications" (**SOLAR DESIGN 310220**)
- ❖ "Networking of materials laboratories and innovation actors in various industrial sectors for product or process innovation" (**INNOMATNET 290583**)

Total budget > 15 million EUR



Examples of projects:

Proposal Acronym:

Solar Design

Title: On-the-fly alterable thin-film solar modules for design driven applications

Abstract: A growing number of designers, architects and industrial manufacturers across the world want to use photovoltaics as a decentralised and sustainable source of energy in their product designs.

Sustainable housing, temporary building structures, outdoor activities, electromobility and mobile computing are developing markets. They will drive the demand for aesthetically pleasing, efficient, light, and even wearable energy solutions.

Solar Design focuses on developing new, tailored, non-toxic materials and a new interconnection process of thin-film solar cells that simplifies the production of customized thin-film modules and allows adjustment of the specifications "on-the-fly" without excessive set-up times. In close collaboration with the designers and architects, new design-driven solutions and software tools for sustainable and decentralised solar-activated products will be developed.

Start Date: 01/01/2013

Duration: 36 months

Website: <http://www.solar-design.eu/index.php>

Coordinator:

Dr Nadja Adamovic, TUWien, Austria

Proposal Acronym:

Light.Touch.Matters

Title: Design driven development of touch sensitive luminous flexible plastics for applications in care & well-being

Abstract: Product designers and material researchers will jointly develop a radically new generation of smart materials that combine touch sensitivity with luminosity.

Based on latest developments in polymeric piezo materials and flexible organic light emitting diodes, these novel light touch materials will be thin, flexible and formable, allowing seamless integration into products.

They promise to greatly expand design freedom and unlock new modes of product-user interaction, enabling us to take the next step in product design: using touch sensitivity and luminosity to produce simple, affordable and intuitive user interfaces.

Light.Touch.Matters focuses on products for design, (health)care and consumer goods, but spin-offs in other crucial sectors for the European industry are expected, including the chemical, automotive and printing industries, as well as mechanical-, electrical-, packaging- and systems engineering.

Start date: 01/02/2013

Duration: 42 months

Website: www.light-touch-matters-project.eu/

Coordinator:

Dr Erik Tempelman, TUDelft, Netherlands