



CREATIF collaboration aims to revolutionise 'smart' fabric production

Imagine that you could print touch sensors and interactive light directly on fabric - if your fabric could be turned into an interactive surface with different inputs and outputs printed in one go, on one surface.

On October 1st 2013 the EU-project, CREATIF kicked off. CREATIF is a unique project that strives to make this imagination possible. Three creative partners; Base Structures (UK), Diffus Design (DK) and Zaha Hadid Architects (UK) will collaborate with four technical and research based partners Ardeje (FR), Grafisoft (BG), Institut für Textiltechnik Aachen (DE) and University of Southampton (UK) in making a **smart fabric printer**.

The CREATIF project is based in the area of smart fabrics and aims to create collaborative tools in the form of intuitive digital software design tools coupled with digital printers in order to facilitate interactive print on fabric. This tool will allow the user to design, create, layout, visualise and simulate smart fabrics by printing active electronic materials in the form of inks/pastes.

CREATIF is funded by EU's Seventh Framework Programme and is a design driven development project. It will provide design solutions and tools for the culture and creative industry (CCI).

Recently developed fabric compatible functional inks and printing techniques allow physical realisation of the designs emerging from CREATIF's collaborative tools. The CREATIF tools will enable any CCI using fabrics to replicate the creative experience of designing smart fabrics, and remove the remaining barriers to entry to this field by significantly reducing the complexity of the process and the technological learning curve required.

The task for the creative partners will be to demonstrate the use of such creative tools in a real environment by producing three advanced smart fabric prototypes for interactive light emission, interactive colour change and sound surfaces. Those prototypes will take the form of interactive modular blinds and interactive exhibition spaces.

Key project data

Title: CREATIF – Digital Creative Tools for Digital Printing of Smart Fabrics

Start date: 1 Oct 2013

End date: 30 Sept 2016

EC Research call: Objective ICT-2013.8.1 Technologies and scientific foundations in the field of Creativity

Project type: STREP

Website: www.creatif.ecs.soton.ac.uk

Partners: Base Structures (UK), Diffus Design (DK), Zaha Hadid Architects (UK), Ardeje (FR), Grafisoft (BG), Institut für Textiltechnik Aachen (DE) and University of Southampton (UK)



Background: In Oct 2012 the EU issued a call within the Information and Communications Technology Programme covering 'Technologies and scientific foundations in the field of creativity'. This call addressed creative tools and aimed to equip different industries with more effective creative tools that make use of all our senses and allow for richer, more collaborative and interactive experiences. This challenge called upon research and industry to unite their forces to produce more powerful and interactive tools for creative industries, enhance the creativity of workers pursuing different professions, and anticipate future trends in research and innovation by encouraging interaction in and between different segments of the creative industries.

Goals: We will demonstrate the creative experience tools use in a real environment by producing, within CREATIF, three advanced smart fabric prototypes which contain printed planar electronics alongside standard graphical designs. These prototypes will directly target the CCI of design, advertising and architecture although the collaborative tool impacts any CCI using fabrics.

The culture and creative industries are a powerful motor for jobs, growth, exports and earnings, cultural diversity and social inclusion, representing 4.5% of total European GDP and 3.8% of the workforce. European industries, in particular small and medium enterprises, are increasingly faced with the need to be more productive, innovative and dynamic in responding to the changing market needs.

One goal is to create a vibrant creative technology ecosystem and increase the innovation capacity of European industries and enterprises by providing them with better tools, capabilities and foresight. A further goal is to enhance, develop and encourage creativity as an essential 21st century skill in professional contexts.

CREATIF embraces these goals by facilitating the creative production and use of smart fabrics without prior knowledge.

Consortium: The consortium consists of University of Southampton (UK) www.southampton.ac.uk, as project coordinator and with world leading expertise in creating smart fabrics by printing electronic functional materials, Institut für Textiltechnik Aachen (DE) www.ita.rwth-aachen.de, specialised in fabric machine design, Grafisoft (BG) www.grafisoft.com, a digital design software developer, Ardeje (FR) www.ardeje.com, an SME specialised in advanced inkjet printers and finally, three creative partners active in both architecture, design and tensile fabrics: Diffus Design (DK) www.diffus.dk, Base Structures (UK) www.basestructures.com and Zaha Hadid Architects (UK) www.zaha-hadid.com

Partner presentation:

	<p>University of Southampton, the department of Electronics and Computer Science is the coordinator of CREATIF. We have been researching printed electronics and sensors for 30 years with particular emphasis on printed smart fabrics for the past 6 years.</p>
	<p>The Institut für Textiltechnik belongs to the Faculty for Mechanical Engineering of RWTH Aachen University. The focus of our research is therefore on the development of new textile machines and new textile processes. We carry out research within publicly funded projects (e.g. EU) and also in direct R&D projects for industry.</p>
	<p>Grafisoft Ltd is an innovative software engineering company with more than 15 years of experience in the development of complex business solutions. It has a wide background in implementation of reliable and custom tailored software applications. Always eager to face challenges and deliver competitive advantage to its partners, the company has gained an impeccable and trustworthy reputation across Europe.</p>
	<p>Diffus Design has a main missions to combine traditional know-how and codified production processes with uncharted 'soft' technologies and complex materials. The idea is to emphasise familiarity, luxury and comfort and try to combine different materials and innovative technology in often unpredictable ways and unconventional twists but always with strong concepts and clear narratives.</p>
	<p>Base Structures designs, manufactures and installs world class tensile fabric structures across the globe. From iconic architectural fabric structures that define a building to smaller scale tension structures that make a statement, Base' reputation for quality and experience is unrivalled. Notable client projects include Up at The O2, Heathrow Terminal 5, London 2012 sporting venues and the Mound Stand at Lords Cricket Ground.</p>
	<p>Zaha Hadid Architects work at all scales and in all sectors. They create transformative cultural, corporate, residential and other spaces that work in synchronicity with their surroundings. Zaha Hadid Architects continues to be a global leader in pioneering research and design investigation.</p>
	<p>Ardeje is acting in significant Research works at the European level, and have been cultivating Science and Technology in terms of fluid jetting for more than fifteen years. Motivated by a sense of results, Ardeje combine technical know-how and total commitment. From design to implementation in specific environment, they develop industrial solutions that meet needs in terms of fluid jetting.</p>

Further information:

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