

IMPRESS

Flexible compression injection moulding platform for multi-scale surface structures

The IMPRESS project aims to develop an injection moulding platform to produce plastic components with micro or nano-scale functional features.

IMPRESS will combine up-to-date and advanced facilities based on three main modules: a tool-manufacturing module, which involves different technologies for micro-nano direct manufacturing, an injection-moulding module, including equipment fitted with up-to-date hardware, and an intelligence module which is dedicated to advanced process control and the online integration of measurement tools (known as metrology).

This technology is already used in some restricted sectors of industry, such as the recording media industry (for CDs, DVDs and Blue Ray) and more recently in the production of anti-counterfeit holograms.

At present, technologies which add functions to plastic parts with surface micro or nano texturation only exist in very specific areas. As a result, the plastics industry lacks an overall means of developing new products

and bringing them onto the market. In addition, long development cycles, excessive costs and high risk often prevent the industry from moving into the micro/nano area.

The objective of the IMPRESS project is to develop a complete injection moulding system (known as a technology platform) and to extend this so it is able to be used in much wider areas of industry, thereby helping to create new avenues of research for micro- nano-scale manufacturing.

This will significantly reduce time-to-market and bring down mass production costs for high-precision and cost-effective plastic components. Moreover, the platform will be tailored to offer total flexibility, with the aim of addressing a large number of high added value emergent applications in different sectors.

According to project coordinator Mael

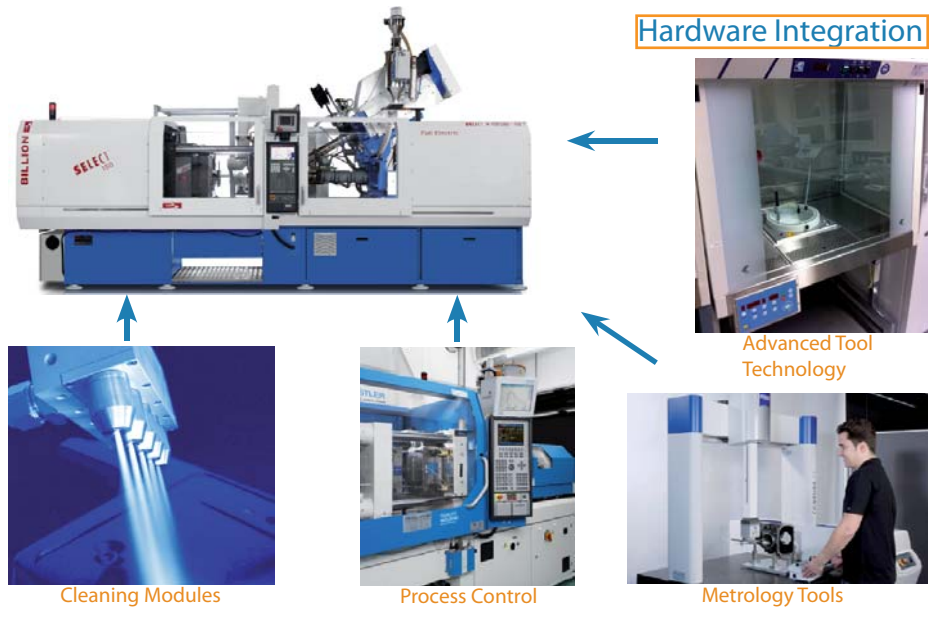
START	May 2010
DURATION	36 months
TOTAL BUDGET	€7.0 million
EU SUPPORT	66%
EU GRANT ID	FP7-NMP 260174
COORDINATOR	Mael Moguedet (PEP)

Moguedet: "All partners appreciated the speed of the PPP funding scheme in finalising the project during the negotiation phase. We were all eager to start the project and I believe this will be of great help in achieving our objectives in good time."

Project Number 023



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Cleaning Modules

Process Control

Metrology Tools

Advanced Tool Technology

Hardware Integration