

FASTOOL PROJECT: Fast and automated tool manufacturing

Fastool is a three year collaborative research initiative supported by the European Commission to develop technical solutions for improving the productivity and competitiveness of European mould toolmakers, through advances in:

Knowledge-based NC programming
Automation
Lean manufacturing

Generating direct cost saving in manufacture, increasing efficiency and competitiveness, the project has a direct support from the European Commission



HIPERMOULDING PROJECT: Extreme Cycle Time Reduction of Injection Moulding Process by using High performance Injection Moulds and Moulding Processes

Throughout the optimisation of the conformal cooling, it is possible to obtain an efficient thermal distribution and to reduce in about 35% of the injection moulding cycle, which will allow some benefits not only in the project, but also in the product's manufacturing and utilisation.

The HIPERMOULDING project, aims the development and dissemination's knowledge, in order to achieve a time reduction in the injection moulding cycle by the optimisation of the conformal cooling.

This technology intends to reduce the time of the injection cycle, the energy consumption of the injection moulds, and also to improve the injection mould durability. These goals will not only achieve a 20% cost reduction of the plastic parts, but also a better quality of manufactured parts.

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TallersFiestas
Moldes de inyección de plástico
Plastic injection moulds

TallersFiestas, S.L.
Vendrell, 47D
08227 Terrassa (Barcelona)
SPAIN

CIF B-60435161

Tel. (+34) 93 788 03 63
Fax. (+34) 93 789 24 66
e-mail: comercial@tallersfiestas.com

HARDPRECISION PROJECT: Simultaneous five-axis hard milling for highest precision

European tool and die making SMEs are facing a steady loss of competitiveness in their markets, since existing manufacturing technologies cannot fulfil the increasing demands on part quality. These companies are eagerly seeking for new technologies to enhance the economic production of high-quality tools and dies.

The main objective of this project is to develop a five-axis hard milling process for highest precision. This new technology will enable end-users to produce high-quality products in less than 62% of current times. This will provide them with a substantial lead over their overseas competitors. The project will encompass the optimisation of a milling machine by applying light-weight parts and the enhancement of milling technology for high-hard materials by process monitoring, as well as of cutting tools and tool coatings for high-performance hard milling operations. Moreover, a part measurement system capable of quality control within the machine tool will be developed.

Besides contributing to an improvement of the bonds between Member States and new members, the project will encompass scientific, technical and wider societal objectives:

- Better scientific and technological knowledge about milling of high-quality surfaces on hardened materials
- Lifetime enhancement of tools and dies, contributing to further knowledge and productivity of the EU-industry
- Drastic reduction of hazardous substances in the production of tools and dies significantly improving EU environmental and health conditions.



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 SPAIN

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 e-mail: comercial@tallersfiestas.com

MICROMANUFACTURING: New Manufacturing Technologies to Face the Challenge of Miniaturization

MICROMANUFACTURING is a project co financed by the Ministerio de Ciencia e Innovación of the Spanish Government and the European Regional Development Fund (ERDF) that emerged in response to the multiple economical forecasts that show a sustained growth of the micro technologies at a 10% annual rate for the following years. In particular, it is expected that the worldwide demands of micro components will increase considerably in sectors such as automation, biotechnology, electronics and medicine.

The main goal of this project is to create a breakthrough in the Micro Engineering Technologies. Within that purpose, the consortium contains 21 partners with a broad experience and recognized prestige in the field of precision manufacturing. The main technologies dealt with in this project are the mechanical micromachining, laser micromachining, micro-electro-discharge machining, micro forming of metallic components, microinjection of plastic components, and design of ultra precision machine and devices.

The increasing demand of high precision products has turned the Micro Engineering as one of the most attractive fields for researchers and entrepreneurs all over the world. This is your reference website to acquire broad knowledge about the micromanufacturing techniques that currently can be found at industries and/or at research level in the fabrication of microcomponents.



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