APPOLO INFO

Project Name
Hub of Application Laboratories for Equipment Assessment in Laser Based Manufacturing

Project Acronym
APPOLO

Grant Agreement
n. 609355

Contract type
Collaborative project

Research Area
FP7-2013-NMP-ICT-FOF Equipment assessment for sensor and laser based applications

Starting Date
01 September, 2013

Duration
48 months

Number of Partners
21

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- BERNER FACHHOCHSCHULE · SWITZERLAND
- LAPPEENRANNAN TEKNILLINEN YLIOPISTO FINLAND
- UNIVERSIDAD POLITECNICA DE MADRID SPAIN
- EKSPLA UAB · LITHUANIA
- TIME-BANDWIDTH PRODUCTS AG SWITZERLAND
- ONEFIVE GMBH · SWITZERLAND
- NEXT SCAN TECHNOLOGY BV · NETHERLANDS
- AMSYS LTD · ISRAEL
- ELAS UAB · LITHUANIA
- LIGHTMOTIF B.V · NETHERLANDS
- EIDGENOESSISCHE MATERIALPRUEFUNGS- UND FORSCHUNGSANSTALT · SWITZERLAND
- CENTRO RICERCHE FIAT SCPA · ITALY
- DAETWYLER GRAPHICS AG · SWITZERLAND
- ABENGOA SOLAR NEW TECHNOLOGIES SA SPAIN
- MONDRAGON ASSEMBLY SOCIEDAD COOPERATIVA · SPAIN
- BIOAGE SRL · ITALY
- ENGAGE - KEY TECHNOLOGY VENTURES AG GERMANY
- FLISOM AG · SWITZERLAND
- SACHSISCHE WALZENGRAVUR GMBH GERMANY

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APPOLO

HUB OF APPLICATION LABORATORIES FOR EQUIPMENT ASSESSMENT IN LASER BASED MANUFACTURING

http://www.appolo-fp7.eu
http://www.appolohub.eu

This project is co-founded by the European Community under the Information and Communication Technologies (ICT)

SEVENTH FRAMEWORK PROGRAMME

appolo HUB

APPOLO HUB is a network of laser laboratories that provide laser micromachining assessment services for industry partners. The Hub is part of the APPOLO project dedicated to test novel laser micromachining technologies for industry.

Lasers have been approved as a tool for diverse material processing. New application ideas, come from universities and research institutions, are implemented by spin-offs, but effective and low-cost production requires equipment assessment for the end-user.

Goal of APPOLO

To exploit distributed knowledge existing at:

- academic application labs,
- equipment manufacturers,
- system integrators,
- end-users,

and to enable the development of industrial laser processing for innovative products, technologies and machineries.

APPOLO Objectives

Establish/coordinate connections between:

- the end-users, which have demand on
- laser technologies for (micro)fabrication, universities,
- the laser equipment manufacturers (preferable SMEs: for integration, lasers, beam control and guiding, software, etc.)

APPOLO HUB is a network of laser application laboratories assessment services for industry partners. providing laser micromachining APPOLO HUB offers service to assess and and verify novel laser manufacturing technologies for industrial use.

WORK PACKAGES

WP1. Operation of the hub of application laboratories (RTD)

WP2. Assessment of the ps-laser for CIGS scribing

WP3. Assessment of the scribing technology for CIGS solar cell with ps-lasers

WP4. High-speed surface texturing by lasers

WP5. Surface functionalization by laser texturing

WP6. Laser direct writing for flexible 3D electronics

WP7. Laser direct writing for flexible electronics and photovoltaics

WP8. On-line monitoring tools for laser-based technology assessment

WP9. Dissemination, training and exploitation

WP10. Project management and implementation of the Competitive calls

WP11. Implementation of assessment selected via competitive call

APPLICATION AREAS OF APPOLO TECHNOLOGIES

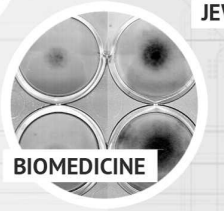
PHOTOVOLTAICS

AUTOMOTIVE

JEWELRY

ELECTRONICS

MACHINERY


BIOMEDICINE

PRINTING

APPOLO APPLICATIONS

Laser texturing for printing/decorative applications. Laser processing with ultra-short laser pulses gives the possibility for texturing of surfaces with sub-micrometre size structures. Due to the small, size these structures are optical active and give the product designers an unexplored option in terms of appearance and functionality.

Dedicated nanostructures on moulds for surface functionalization. Replication of functional surfaces on polymer can be achieved by texturing the mould. Lightmotif and CRF cooperate with the goal to obtain a method that enables the production of polymer parts for car interiors with added functionality due to a micro- and nano-textured surface, achieved by a textured mould. The surfaces should show a “sof-touch” effect that results from a largely reduced contact area of skin and polymer part.

New laser activation and chemical deposition concepts. Both, laser-induced surface activation and selective electroless metal deposition were advanced in creating Moulded Interconnect Devices (MID). The main aim is to perform surface processing validation on standard automotive plastics instead of using highly specialized material with expensive additives.