



COOPERATION OFFER

GENERAL DESCRIPTION

Title

A Lithuanian research centre specialized in laser-induced selective surface activation (SSAIL) is seeking electronics for a technical or research cooperation.

Summary

A physical science research centre from Lithuania is looking for electronics companies who are interested in molded interconnect devices or electronics on glass surfaces. The centre can suggest new cost effective (comparing with state of the art) technology: "Selective surface activation induced by a laser (SSAIL)" for circuit traces formation on both plastic and glass surface. Partners are sought for a technical, research or end-user cooperation agreement.

Description

The centre issuing this offer for cooperation is Lithuania's largest scientific research institution carrying out unique fundamental research and technological development works in the fields of laser technologies, optoelectronics, nuclear physics, organic chemistry, bio and nanotechnologies, electrochemical material science, functional materials, electronics, etc..

The fabrication of circuit traces is the most challenging task in MID production, being both technically difficult to achieve and difficult to make cost effectively.

The Selective Surface Activation Induced by Laser (SSAIL) is a new technology for writing electronic circuits directly onto polymers by modifying surface properties with a laser that has been developed as part of the European Appolo project. Moulded interconnect devices (MID) – an injection-moulded thermoplastic part with integrated electronics – offers material, weight and cost savings by integrating electronic circuits directly into polymeric components. Lasers can write the circuits directly by modifying the surface of polymers followed by an electroless metal plating. SSAIL is a three-step process: the first is surface modification by laser; second is chemical activation of modified areas; and the last step is metal deposition by electroless plating. The new technology offers laser writing speeds of up to 4m/s, and therefore spatial plating pitch is kept narrow at 25µm.

The technology is focused on electrical application and can be applied for the automotive, medical, telecommunication industries and consumer products.

Advantages and Innovations

SSAIL offers a **cost effective** plating method of polymers. Currently the state of the art of MID traces production is to apply Laser direct structuring (LDS) technology, which is capable to metalize plastics only with special dopants (additives) necessary for the plating process. These additives increase the price of the material at least 3 times. SSAIL technology can be applied for standard plastics without any special additives. Thus the suggested technique reduces processing costs by at least three times compared with the current technology used in industry.

The additives used in LDS technology is based on metal compounds. Metal based additives limits MID application for radiofrequency devices, thus SSAIL technology gains benefits in radiofrequency applications.

Another advantage of SSAIL technology against state of the art is that the mechanical properties of the plastic materials remain unaffected by a large amount of special additives.

Current Stage of Development*

- | | |
|---|--|
| <input type="checkbox"/> Under development /laboratory tested | <input type="checkbox"/> Field tested / evaluated |
| <input checked="" type="checkbox"/> Available for demonstration | <input type="checkbox"/> Prototype available for demonstration |
| <input type="checkbox"/> Already on the market | <input type="checkbox"/> Concept stage |

Comments Regarding Stage of Development:



Intellectual Property Rights Status*:

- Patent(s) applied for but not yet granted
 Granted patents
 Copyright
 Design rights
- Secret know-how
 Exclusive rights
 Trade Marks
 Others (registered design, plant variety, etc.)

Comments Regarding IPR Status: (e.g. countries for which protection has been granted or applied for)

PTC/IB2017/055362. Filling date: 2017-09-06. Priority date: 2016-09-13.

DETAILS OF YOUR OWN ORGANISATION/COMPANY

Type* Industry R&D Institution University Private Inventor

Other: please specify

Comments:

Organisation/Company Size* (please tick one box) < 10 employees 11-50 employees
 51-250 employees 251-500 employees > 500 employees

Year Established: 2010

Turnover (only for business profiles): < 1 mio 1 – 10 mio
 10 – 20 mio 20 – 50 mio 50 - 100 mio

Already Engaged in Trans-National Cooperation Yes No

Experience Comments: 5 years' work experience with SSAL

Certification Standards: ISO 9001-2015

Languages Spoken: English

COLLABORATION DETAILS**Type of partnership considered:****Technology Offers**

Commercial Agreement with technical assistance (an agreement arranging the acquisition of a product/technology paired with the provision of a number of services in support of a transfer of technology)

Joint Venture Agreement

License Agreement

Technical co-operation agreement

Research co-operation agreement

Business Offers

Distribution services agreement



- Acquisition agreement
- Franchise agency agreement
- Manufacturing agreement
- Outsourcing agreement
- Subcontracting
- Financial agreement
- Services Agreement

Type and Role of Partner Sought*:

Industries or researchers that are electronics developers and manufacturers or other hi-tech sector companies are sought.

CONTACT

Please contact the RespiceSME coordinator Samantha Michaux for the contact data of the company.

Samantha Michaux
Steinbeis 2i GmbH

michaux@steinbeis-europa.de

