

# enterprise europe

## Boletín de Oportunidades de Cooperación:

**Nanotecnologías**

**Industria**

**Construcción**

**Materiales**

**Transporte**

**Boletín nº 142**

**Abril 2016**

## **NANOTECNOLOGÍAS**

- Graphene derived nanomaterials
- Elemental, pure and doped boron nano-powders

## **PRODUCCIÓN INDUSTRIAL**

- PS INCOMERA project Modulation of new properties of nanostructured ceramic coatings
- PS MANUNET project on Hybrid technologies for high vacuum metals/metals alloys position for Electro Magnetic shielding on plastic parts
- Automated system for guiding and positioning fruits before feeding the line production
- Technological line with the 4-modular expander for vermiculite exfoliation
- Industrial waste water treatment and water reuse technology
- Swedish SME working with a system measuring uptime of machinery and production efficiency is looking for partners for distribution or license...
- Patterning method of electronic devices on a flexible substrate for mass production is offered
- Assembly for the automated management of plants for the biological treatment of wastewater
- Smart power regulation- and control system for large-scale power consumers in need of reliable grid stability in plants, industrial sites or on...
- Innovative wastewater vermifiltration treatment systems developed by a Scottish company
- Copper and bronze alloys restoration and protection with sustainable bio-coating.
- Vacuum drying plant for metal parts and components.
- Aluminium alloys. High corrosion resistance via conversion coating process
- Oil and gas equipment for the separation of the gas and water emulsion
- Graphene customized treatments based on green chemistry
- Novel Hot Forming and Press Hardening Technology for Automotive Industry
- Modelling and simulation of thermolysis (pyrolysis) processes
- Protocol for energy-efficient design and management of automated warehouses
- New properties of plastic parts by flexible upgrading of single or multicomponent injection moulding machines
- Multicapillary nebulizer for simultaneous nebulization of two or more liquids
- Collaborative automated machines to reduce hard, troublesome and repetitive tasks
- Call for industrial partners: Collaborative project in the area of conductive and anti-corrosive coatings for bulk goods (fasteners)

## **TECNOLOGÍAS DE LA CONSTRUCCIÓN**

- Seeking innovative technology for precast concrete element production
- Innovative optical slab for design walls and high standing architectural elements
- Heating glass panels are offered for development of new models of doors and windows.
- Quick release system adaptable to almost any application needed enabling faster, safer, and easier connection.
- Innovative fence post's support which eliminates the need for concrete and digging
- Innovative optical elements for lighting and building design products
- Sustainable building bricks with a 90% recycled content from construction and demolition waste
- Patented device for dynamic ventilation facades
- A vehicle with folding wings that can ride, fly or float is offered for further development and commercialization under license agreement.
- Development, design and manufacturing of non-metallic liquid nitrogen and liquid helium cryostats (e.g. for cooling of superconducting magnets or...
- Device for testing the integrity of the metal reinforcements in corrosive environments
- Danish company offers new technology for relining and renovating pipes

## **MATERIALES**

- Expertise in porous titanium coatings and structures sought for bio-medical prosthetic applications.
- Fully automated powder coating technology for screws and washers is requested

## **TRANSPORTES**

- Partners sought in the field of agriculture and civil security to integrate existing sensor-based solutions into drones.
- Looking for new technologies and applications to integrate in drones and develop public and civil solutions
- An innovative thermoelectric refrigerator designed for different means of transport is offered under license agreement.
- The Slovak company providing software solutions for transport and logistics offers its innovative software products
- A vehicle with folding wings that can ride, fly or float is offered for further development and commercialization under license agreement.
- Technology of development of self- flying drones with varying aerodynamic circuit.
- Improved operation of silicon photomultipliers in sensory systems
- Composite doors and hatches for marine applications.
- Cost effective pipeline integrity management from space
- Quick release system adaptable to almost any application needed enabling faster, safer, and easier connection.
- Hybrid power unit for motor transport.
- Measurement data management for the water industry

- Marine drone, with innovative capabilities both of glide and of semi-immersion, incorporating a submarine vehicle and a air vehicle.



# ***1. NANOTECNOLOGÍA***

## Technology Offer

# Graphene derived nanomaterials

## Summary

*A Spanish nanotechnology company has developed a procedure to obtain and modify graphene in liquid media. Such procedure avoids harsh conditions and it can be scaled up ensuring the quality of the products. By using this technology, the company is developing a portfolio of nanocomposites by combining graphene with metal nanoparticles and polymers. They are looking for partners for technical cooperation or manufacture agreements.*

<b>Creation Date</b>	16 March 2016
<b>Last Update</b>	17 March 2016
<b>Expiration Date</b>	17 March 2017
<b>Reference</b>	TOES20160315002

## Details

### Description

The Spanish nanotechnology company has developed a new process for the production of graphene based nanomaterials. The final product obtained is pristine graphene nanoplatelets (GNP), stacked in 1-5 layers with sizes ranging from 1-5micrometers. This graphene can be combined with many chemical species in order to optimize ad-hoc graphene nanomaterials for application developers. It can be used in many areas like: supercapacitors, ceramic or polymer composites, conductive inks, coatings, filtration systems, metal alloys, etc....

They have proved the robustness , versatility and suitability of its development platform to manufacture graphene derivatives through combination of pristine.

The company counts on a sound scientific background in the nanotechnology, materials and chemistry fields. They want to develop new alternative materials to serve the needs of several industrial sectors like energy, transport, electronics, lubricants, water treatment, paints and coatings, among others.

Their intention is to become a leading player of the graphene-based nanomaterials sector, a fast growing market segment with a huge potential to disrupt the whole industrial sector in the upcoming years.

Thanks to the unique features of the technology, it has the potential to become a gold-standard method for industrial production of graphene based materials, offering a solution to overcome the critical barriers in exploiting the potential of graphene.

They are looking for partners for co-development of nanomaterials based on graphene. Also partners like manufacturing organisations are sought to manufacture and distribute graphene and graphene-derived composites on a large scale.

### Advantages and Innovations

The process offers clear advantages over competing processes, such as its environmental friendliness, its cost efficiency and its enormous versatility for the production of high added value nanomaterials.

The obtained graphene has the following properties:

- Chemical purity and high structural preservation
- Helps to reduce industrial costs: mild energy input. Single-step procedure. Inexpensive solvents and raw materials
- Green procedure. Absence of harsh conditions and chemical treatment. No- toxic green solvents.
- Versatility: to manufacture a broad variety of high add value composites avoiding chemical reactions or multistep procedures.

## Stage of Development

Concept stage

## IPR Status

Exclusive Rights

## Profile Origin

Private (in-house) research

## Keywords

### Technology

02007005	Composite materials
02007014	Plastics, Polymers
02007022	Conductive materials
02007024	Nanomaterials

### Market

06008	Energy Storage
08001004	Fibre-reinforced (plastic) composites
08001007	Coatings and adhesives manufactures
08001016	Commodity chemicals and polymers
08001018	Polymer (plastics) materials

### NACE

C.20.5.9	Manufacture of other chemical products n.e.c.
M.72.1.9	Other research and experimental development on natural sciences and engineering

## Network Contact

### Issuing Partner

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**Open for EOI :**    **Yes**

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**Client**

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**Type and Size of Organisation Behind the Profile**

Industry SME <= 10

**Year Established**

0

**Already Engaged in Trans-National Cooperation**

No.

**Languages Spoken**

English  
Spanish

**Client Country**

Spain

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**Partner Sought**

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**Type and Role of Partner Sought**

They are looking for partners for co-development of nanomaterials based on graphene, to meet the needs of application developers in different areas including: Li-ion batteries, supercapacitors, polymer composites, ceramic composites, conductive inks, coatings, filtration systems, and metal alloys. And the envisaged collaboration should be under a technical cooperation agreement.

Also partners like manufacturing organisations are sought to manufacture and distribute graphene and graphene-derived composites on a large scale. The collaboration would be considered as a manufacturing agreement.

**Type of Partnership Considered**

Manufacturing agreement  
Technical cooperation agreement



## Technology Offer

### Elemental, pure and doped boron nano-powders

#### Summary

*Italian researchers have developed a method suitable for the industrial production of nano-sized boron powders, optionally homogeneously doped, with improved properties and better performance than commercially available ones. They are looking for industrial partners interested in commercial agreement with technical assistance or in licensing agreement.*

<b>Creation Date</b>	14 March 2016
<b>Last Update</b>	18 March 2016
<b>Expiration Date</b>	18 March 2017
<b>Reference</b>	TOIT20160311002

#### Details

##### Description

Italian researchers have developed an innovative method for the industrial production of nano-sized boron powders (products), optionally homogeneously doped. Such boron nano-powders are used for the fabrication of different products (i.e. superconductors, abrasive, lubricants - boron carbide or nitride, catalysts, rocket propellant) having better performance than commercially available ones. This innovative methodology is cheap, uses standard processes and allows the production of large amount of nano-powders (tons) per batch.

In more detail, while commercially it is possible to find boron powders both amorphous and crystalline, with variable purity and grain sizes, generally at micrometric scale, the doped boron instead is not commercially available and the doping step must be successively done in laboratory by adopting expensive and hazardous processes, both for the technicians and for the environment.

The innovative production method of elementary boron, optionally doped, presented by this italian researcher group, solves such problems. The method includes the following steps:

- dissolving an oxidized boron precursor compound in a solvent able to dissolve it, during this step a doping agent can be added when required;
  - freezing the solution into a cryogenic liquid and operating by sublimation of the solid phase to transform it in a finely divided particulate form, avoiding the solute precipitation/segregation;
  - reduction with a reducing agent, to obtain elementary amorphous boron in nano-sized powder form. If necessary, amorphous boron can be recrystallized by appropriate heat treatment.
- The addition in the step a) of doping agents (elements or compounds), soluble or insoluble, does not change steps b) and c) and the homogeneity of the nano-powders obtained.

The boron nano-sized powders fabricated through this method can be used in different industrial fields, e.g. for the production of MgB<sub>2</sub> (magnesium diboride) superconductors, for the manufacturing of neutron moderators in nuclear plants, for the production of boron compounds (i.e. Boron nitride - BN), sodium borohydride (NaBH<sub>4</sub>), Boron Orthophosphate (BPO<sub>4</sub>), boron carbide (B<sub>4</sub>C), having improved properties/performance.

Examples of product manufactured by using boron powders are superconducting wires, air-bags

triggers, semiconductors, alloys, glasses, abrasives, neutron absorbers, refractory materials, propellant for rockets, bleaches, catalysers, disinfectants.

Industrial partners with chemical expertise able to produce tons of boron nano-powders interested in commercial agreement with technical assistance are sought as well as chemical industry interested in licensing agreement.

## Advantages and Innovations

Boron nano-powders have the following advantages/properties over commercial boron powders:

- fine grain size at nanoscale: the grains of powders obtained are nanostructured and amorphous;
- high degree of purity (95-98%);
- high homogeneity of grains;
- can be intrinsically doped (the customer have not to execute any additional doping process at boron powders or its compounds, such as magnesium diboride (MgB<sub>2</sub>), boron carbide (B<sub>4</sub>C), etc...

The method of production of boron nano-sized proposed by the italian researchers has the following advantages over standard industrial preparations:

- applicability to different Boron precursors;
- doping of final product by adding a single and standard preparation step;
- large amount of product fabricated per batch

## Stage of Development

Prototype available for demonstration

## Comments Regarding Stage of Development

Few grams (1-100 g) of boron nano-sized powders has been produced in the italian researcher's labs: the powders obtained have been tested and shown good chemical-physical proprieties.

Thanks to a new freeze-dry apparatus, the method has been scaled up at pre-industrial scale; this set-up is able to fabricate up to 2kg of B nano-powders per month.

## IPR Status

Patents granted

## Comment Regarding IPR status

- Patents granted: Italian patent No. 1392558
- Patent applied for: European application No. EP 2 199 258 A1

## Profile Origin

Private (in-house) research

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## Keywords

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## Technology

01002006	Magnetic and superconductor materials/devices
02007003	Ceramic Materials and Powders
02007024	Nanomaterials

04001004      Transmission of electricity  
04002005      Generators, electric engines and power converters

## Market

06003010      Distributed power and grid connection  
06009          Energy Distribution  
08001017      Industrial chemicals  
08001019      Speciality/performance chemicals  
09001005      Motor vehicles, transportation equipment and parts

## NACE

C.20.1.3      Manufacture of other inorganic basic chemicals  
C.23.2.0      Manufacture of refractory products  
C.26.8.0      Manufacture of magnetic and optical media  
C.27.1.1      Manufacture of electric motors, generators and transformers  
C.27.1.2      Manufacture of electricity distribution and control apparatus

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

Materials

## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Experience Comments

Carbon doped (C-doped) nano-sized boron powders have a key role in the development of MgB<sub>2</sub>-based (magnesium diboride) conductors. In fact very fine particles permit to produce very thin filaments useful in multi-filamentary wire manufacturing, which can be employed in electric power distribution. Fine filaments are necessary to twist the filaments during multi-filamentary manufacturing lowering the AC (actinium) losses typical of that current transport regime. Furthermore, proper C-doping can increase the performance of critical current density in applied magnetic field. Both those characteristics, nano-sized particles and C-doping, can be obtained with our process for boron synthesis, as consequence new practical applications of MgB<sub>2</sub> (as well as for boron) are possible, such as: medical MRI apparatus, Superconducting Magnetic Energy Storage (SMES), cables for electricity networks and rotor/stator in electric motor and generator. The improved MgB<sub>2</sub>, fabricated by our process, make it a good alternative to the classic low critical temperature superconductors (LTS) in different applications (healthcare, energy storage and distribution, aerospace etc.). In the last years we are working on MgB<sub>2</sub> application through research projects and collaborations with international, private and public groups.

### Languages Spoken

English  
Italian

### Client Country

Italy

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## Partner Sought

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### Type and Role of Partner Sought

The Italian researchers are searching for a partner with chemical expertise able to produce tons of boron nano-powders using their innovative method. The researcher will provide a number of technical services in support to the partner; in fact they are interested to reach a commercial agreement with technical assistance. Furthermore they are also interested in finding a chemical industry to licence their patent and related know-how.

### Type and Size of Partner Sought

SME 11-50, SME <10, >500 MNE, 251-500, SME 51-250, >500

### Type of Partnership Considered

License agreement  
Commercial agreement with technical assistance



**2.**

***PRODUCCIÓN  
INDUSTRIAL***

## Research & Development Request

# PS INCOMERA project Modulation of new properties of nanostructured ceramic coatings

## Summary

*An Italian SME wants to submit a project focused on modulation of new properties of nanostructured ceramic coatings as: anti-scale properties, electrical conductivity to the household appliances, formulations hybrid organic-inorganic transparent for automotive, as well as for new systems of application of ceramic coatings. Partners sought: SME (experience in ceramic-based products formulation), manufacturers of equipment for the application of ceramic-based coatings, R&D centres.*

<b>Creation Date</b>	17 February 2016
<b>Last Update</b>	31 March 2016
<b>Expiration Date</b>	08 March 2017
<b>Reference</b>	RDIT20160217003

## Details

### Description

The SME located in Northern Italy is developing a project idea focused on research and modulation of new properties of nanostructured ceramic coatings as:

- anti-scale properties
  - electrical conductivity to the household appliances
  - formulations hybrid organic-inorganic transparent for automotive
- as well as for new systems of application of ceramic coatings (alternative to application by spraying) in order to expand the range of products that may be coated.

On extra-Europe market there are some products with the requested features but they are subject to restrictive conditions as well as to a very short duration before use. So it would be very interesting to develop in Europe improved nanostructured ceramic products and related application processes that can reduce considerable import costs, to extend the life period of usability of the product and create new market opportunities for local companies.

The company makes available its structure and know-how in the field of coatings applications.

The SME is searching for formulators/coating manufacturer who are interested in working together to develop new innovative nanostructured coatings ceramic based

Partners search for

SME with experience in the field of ceramic-based products formulation, manufacturers of equipment for the application of ceramic-based coatings, maybe alternative to spray applications,

end user of of metal/non metal components interested in increasing the surface properties of products (greater hardness, scratch-resistant, anti-scale, hydrophobic/hydrophilic properties), for example in small and large appliances, for electromedical equipment, for installations for public housings;

laboratories and/or research centers for formulation, testing, analysis of results (specialized in

nanoceramics).

The SME is interested in submitting a proposal to INCOMERA call and is looking for partners from eligible regions (see website <http://incomera.eu>)

Call deadline has been postponed at 13/5//2016 first-stage

Deadline for expressions of interest 30/4/2016

## Stage of Development

Concept stage

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## Keywords

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### Technology

02002002

Coatings

02002015

Surface treatment (painting, galvano, polishing, CVD, ..)

### Market

05004003

Laboratory equipment

07004003

Home furnishing and housewares

07004004

Housewares

### NACE

C.25.6.1

Treatment and coating of metals

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**Open for EOI :**    **Yes**

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## Dissemination

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## Send to Sector Group

Nano- and Microtechnologies

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

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### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
French  
Italian

### Client Country

Italy

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## Partner Sought

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### Type and Role of Partner Sought

- SME with experience in the field of ceramic-based products formulation; - manufacturers of equipment for the application of ceramic-based coatings;
- end user of of metal/non metal components
- laboratories and/or research centers for formulation, testing, analysis of results (specialized in nanoceramics)

### Type of Partnership Considered

Research cooperation agreement

## Technology Offer

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# Call for industrial partners: Collaborative project in the area of conductive and anti-corrosive coatings for bulk goods (fasteners)

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## Summary

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*A German research institution and its partners have developed a solution for coating of small parts on an industrial scale (e.g. metallic fasteners) based on physical vapour deposition (PVD). This development has focused on fasteners for the car industry. The research institution is looking for research cooperation with industrial partners in order to merge both, scientific and practical experience in applications-oriented projects (e.g. joint development of specific structure of layer systems).*

<b>Creation Date</b>	29 March 2016
<b>Last Update</b>	04 April 2016
<b>Expiration Date</b>	04 April 2017
<b>Reference</b>	TODE20160210001

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## Details

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### Description

A research institution from Germany and its partners have developed a solution that focusses on the improvement of anti-corrosive and electrically conductive properties of fasteners for e.g. the car industry. The development is available for coating of small parts on an industrial scale (e.g. metallic fasteners) based on physical vapour deposition (PVD). With it, it is possible to produce 10 µm aluminium-based anti-corrosive coatings on small batches of fasteners in a roughly one-hour coating procedure. Thus new competitive products can result.

Beside corrosion protection, additional functionality is required by the industry, especially for composites and mixed materials. PVD layers have been proven to be superior to other anti-corrosion coatings for these applications.

The research institute and its working group intend to dedicate themselves in the future to further improving the electrical, mechanical and anti-corrosion properties of coatings. Coating architectures with intermediate layers of a second metal can be realized for this purpose and their mechanical and electrical properties will be investigated with regard to applications.

Now the institute is looking for partners from industry, that are involved with scaling up to actual industrial requirements and are interested to develop coatings according their needs and to cooperate in terms of a research cooperation.

### Advantages and Innovations

The developed solution is focused on the improvement of anti-corrosive and electrically conductive properties of fasteners for the car industry.

Main advantages are:

- Save of weight and conservation of natural resources
- Possibility to produce 10 µm aluminium-based anti-corrosive coatings on small batches of fasteners
- Time saving -> production in a roughly one-hour coating procedure
- Continuous evolution of components together with the use of new construction materials -> places new demands on fasteners and their surfaces
- Many options -> with respect to material combinations for various functional layer stacks

Besides corrosion protection, additional functionality is being demanded of coatings, especially for composite and dissimilar materials. For example, equalization of electrical voltages between various component groups is taking place via microcurrents across multiple component interfaces. This equalization benefits from minimum electrical contact resistances.

## Stage of Development

Available for demonstration

## Comments Regarding Stage of Development

Technology solution already developed.

The technology has awakened the interest of industrial coating service firms that are involved in scaling up to actual industrial requirements. It has also been nominated for the 2015 Steel Innovation Award of the German Steel Association.

## IPR Status

Patents granted, Copyright

## Profile Origin

National or Regional R&D programme

## Keywords

### Technology

02002002	Coatings
02002006	Hardening, heat treatment
05005	Micro- and Nanotechnology

### Market

08001007	Coatings and adhesives manufactures
08005	Other Industrial Products (not elsewhere classified)

### NACE

M.71.2.0	Technical testing and analysis
M.72.1.9	Other research and experimental development on natural sciences and engineering

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## Network Contact

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Materials

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

1991

### Turnover

20 - 50M

### Already Engaged in Trans-National Cooperation

Yes

### Certification Standards

ISO 9001

### Languages Spoken

English  
German

### Client Country

Germany

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## Partner Sought

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### Type and Role of Partner Sought

The research institute is looking for a long-term partnership with partners, who are interested in research cooperation in order to merge both, scientific and practical experience in applications-oriented projects and work in a goal-oriented manner.

In concrete, these types of partners (e.g. automotive, lightweight engineering, rail vehicle construction,...) are sought:

- Partners, who are looking for specific characteristics and/or structures of layer systems/components (e.g. electrical conductivity, resistance, ...).
- Partners, who are interested to develop and test common solutions

### Type and Size of Partner Sought

SME 11-50, SME <10, >500 MNE, 251-500, SME 51-250, >500

### Type of Partnership Considered

Research cooperation agreement

## Technology Offer

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# Oil and gas equipment for the separation of the gas and water emulsion

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## Summary

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*A Ukrainian University offers equipment for complex preparation of oil and gas, which structurally combines blocks of oil heating with separation units and the dividing systems with sections for separating of oil-water emulsions and gas separation. The university is looking for partners interested in commercial agreement with technical assistance or in research cooperation in field of separation equipment development.*

<b>Creation Date</b>	18 March 2016
<b>Last Update</b>	04 April 2016
<b>Expiration Date</b>	04 April 2017
<b>Reference</b>	TOUA20160318001

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## Details

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### Description

Oil/gas and three-phase separators are designed for application in oil and gas industry for preparation (degassing, demulsification, desalting, dehydration, separation) of oil for processing.

Gas separators of inertial filter type are designed for application in chemical, oil and gas industries for preparation (cleaning, drying and separation) of industrial gases technological equipment as well as the purification of gas emissions into the atmosphere.

In the development of equipment special attention was paid to energy efficiency and energy saving. In particular for reducing of hydraulic resistance of apparatus the principle of optimization hydrodynamic profiling separation channels is applied that simultaneously increases the effectiveness of separation due to reduction of the probability for entrainment to modes of secondary drop entrainment, including with salvo load on a liquid (cork modes).

The main technical parameters of the equipment:

- 1) separation efficiency: 99,5-99,9%
- 2) efficiency of capture of drops with size  $2R$ :  $> 5$  mm
- 3) content of liquid at the input:  $< 200$  g / m<sup>3</sup>
- 4) drop entrainment:  $< 0,015$  g / m<sup>3</sup>
- 5) hydraulic resistance: 0,015-0,030 MPa

The University has 50 years of experience in implementation of scientific development for the chemical and oil and gas industry and for the last 15 years of research of processes of separation of gas condensate oil and water mix it has been accumulated sufficient experience in development and implementation of new high-performance inertial filter gas separators and phase separators.

The University is interested in establishing of long-term cooperation with potential partners in the form of research cooperation in complex preparation of oil and gas equipment development and / or commercial agreement with technical assistance for equipment supply to improve of technological process.

If customer will be interested in the detailed consideration of the proposal, we are ready to provide services of scientific and technical advice and relevant materials, proving the effectiveness of project decisions after signing of a protocol about confidentiality of received information.

## Advantages and Innovations

The offered separators with innovative solutions are different by the following characteristics:

- high efficiency of gas purification from liquid in a wide range of changes in performance and pressure;
- long service cycle resource and multiple regeneration;
- low hydraulic resistance compared with some gravitational inertial type separators of leading world manufacturers.

## Stage of Development

Prototype available for demonstration

## Comments Regarding Stage of Development

Development is carried out by the customer's specifications

## IPR Status

Patents granted

## Comment Regarding IPR status

A patent for an invention of Ukraine, 2014

## Profile Origin

Consumer programme

## Keywords

### Technology

02002012	Mixing (powder, etc.), separation (sorting, filtering)
05001005	Petrochemistry, Petroleum Engineering
05004001	Filtration and Membrane Processes

### Market

06001004	Equipment and instrumentation
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### NACE

B.06.1.0	Extraction of crude petroleum
B.09.1.0	Support activities for petroleum and natural gas extraction



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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Bio Chem Tech

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## Client

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### Type and Size of Organisation Behind the Profile

University

### Year Established

0

### Turnover

1 - 10M

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
Russian

### Client Country

Ukraine

## Partner Sought

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### Type and Role of Partner Sought

Type: company, institution or any business primarily in oil and gas industry that requires equipment for complex preparation of oil and gas.

Area of activity: oil and gas industry, gas separation, separation of oil-water emulsions.

Partner Role: research cooperation in complex preparation of oil and gas equipment development and/or commercial agreement with technical assistance for equipment supply to improve of technological process.

### Type of Partnership Considered

Commercial agreement with technical assistance

Research cooperation agreement

## Technology Offer

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### **Patterning method of electronic devices on a flexible substrate for mass production is offered**

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#### **Summary**

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*Catalan research centre developed a green, versatile, low-cost and customizable method for patterning graphene oxide onto a myriad of substrates. This technology can be easily performed at industrial scale using the desired shape with micrometer resolution and doesn't require any clean room facility. The ability to print transparent devices offers new possibilities to flexible and wearable electronics. Partners interested in research and technical cooperation, or license agreement are sought.*

<b>Creation Date</b>	18 February 2016
<b>Last Update</b>	08 March 2016
<b>Expiration Date</b>	08 March 2017
<b>Reference</b>	TOES20160218001

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#### **Details**

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##### **Description**

This is a versatile, solvent free, low-cost and customizable method for patterning graphene oxide onto a myriad of substrates.

The technology uses wax printed membranes for fast patterning and water activation transfer using pressure-based mechanisms. It requires neither a clean room nor organic solvents.

The wax-printed membranes have 50  $\mu\text{m}$  resolution, long-term stability and infinite shaping capability over a variety of substrates, including textile, paper, adhesive film or PET.

The method consists of three steps:

1-Printing: a nitrocellulose membrane is patterned onto the desired shape using a wax printer.

2-Filtering: the wax-printed membrane is set onto the filtering glass and the suspension of graphene oxide is filtered.

3- Pressing: The pattern obtained is transferred by pressure to the desired target substrate.

The printing technology will enable in situ transfer of multiple electronic devices such as supercapacitors, solar cells, biosensors or LEDs.

In addition to graphene oxide, this approach might be suitable for other electronic materials.

Partner sought for Technical or Research cooperation agreement should be involved in

electronic devices manufacturing, and offer their experience to improve the process.

Partner sought for License agreement should be an industrial company interested in applying this patented process to his production.

## Advantages and Innovations

Currently, printed conductive patterns use a combination of poorly conducting carbon with other materials, most commonly silver, which is expensive.

Graphene is a two-dimensional sheet of carbon atoms, just one atom thick. Its flexibility, optical transparency and electrical conductivity make it suitable for a wide range of applications, including printed electronics.

Existing printing methods of graphene are proving to be inefficient. Lithography processes for instance have been found to leave organic residues on the device that might negatively influence transport properties.

The suggested technology is solvent free, fast, low-cost customizable and easy to use. There is no need of a clean room. It allows the transfer of graphene oxide (or other electronic materials) onto almost any substrate, and can be implemented in a roll-to-roll hardware for industrial application.

Depending on the materials and their concentration, the device may be transparent.

## Stage of Development

Prototype available for demonstration

## Comments Regarding Stage of Development

Already used to pattern electronic devices at lab-scale.

## IPR Status

Patent(s) applied for but not yet granted

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

01002007	Nanotechnologies related to electronics & microelectronics
02002002	Coatings
02002015	Surface treatment (painting, galvano, polishing, CVD, ..)
02007022	Conductive materials
02007024	Nanomaterials

### Market

03004003	Other electronics related equipment
05004001	Electromedical and medical equipment

08001020

Electronic chemicals

08005

Other Industrial Products (not elsewhere classified)

## NACE

M.72.1.9

Other research and experimental development on natural sciences and engineering

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## Network Contact

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

Materials

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

0

### Turnover

1 - 10M

### Already Engaged in Trans-National Cooperation

Yes

## Languages Spoken

English  
Spanish

## Client Country

Spain

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## Partner Sought

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### Type and Role of Partner Sought

- Research cooperation: The partner should be a manufacturer of electronic devices interested in improving the innovative process to meet the industrial needs.
- Technical cooperation agreement: The partner should be an industry in the electronic field interested in offering solutions to improve the stability of the printed pattern
- Licensing agreement: the partner should be an industrial company interested in applying this patented process to his production.

### Type and Size of Partner Sought

SME 11-50, SME <10, >500 MNE, 251-500, SME 51-250, >500

### Type of Partnership Considered

License agreement  
Technical cooperation agreement  
Research cooperation agreement

## Technology Offer

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### **Swedish SME working with a system measuring uptime of machinery and production efficiency is looking for partners for distribution or license agreement**

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#### **Summary**

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*The SME based in South East Sweden, which has developed a system for measuring uptime of machines and production efficiency within different industries, is looking for cooperation with other partners. The system can either be sold by the future partner on the basis of a licence agreement or in co-operation with the swedish client with technical assistance. The system is a tool to increase the utilization of machines and a basis for fault monitoring and continuous improvement processes.*

<b>Creation Date</b>	01 February 2016
<b>Last Update</b>	08 March 2016
<b>Expiration Date</b>	08 March 2017
<b>Reference</b>	TOSE20160201001

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#### **Details**

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##### **Description**

The core business of the Swedish company and its system is based on both hardware and software. The first systems have been up and are now running for more than 10 years. They have been proven to work well in the companies where they have been installed. The end customers of the company can either buy or lease the equipment and also buy software licenses.

The developed system is measuring uptime of machines and monitors the machine utilization in real time.

The system can help companies to increase their machine utilization, fault monitoring and provide data for Overall Equipment Effectiveness- OEE.

The main advantage for the end customer is the increase of the production output. According to the Swedish companies' experiences an immediate increase has been seen in close time after the system has been installed.

The system is an important part in the work on continuous improvement.

The Swedish company is now planning to expand and is looking for a long time partnership or cooperation (distribution or license agreement). There are representatives in Denmark, Estonia, Finland and Sweden at present time.

##### **Advantages and Innovations**



The system can help companies to increase their machine utilization, fault monitoring and provide data for Overall Equipment Effectiveness- OEE.

The system gives relevant staff access to data on equipment performance, operating data for the operators, other relevant data for process managers or business management.

The installation of the system is simple and cost efficient as it uses existing LAN, cable or Wi-Fi. The software is also easy to install and easy to handle.

The Swedish company is working with continuous development and has recently developed apps for mobile solutions. Today it is possible to send information from specific machinery to the operators/users via e-mail and mobile apps. This feature gives the operators/users the possibility for information updates in real time.

Applications and licenses for software can be downloaded directly from the website of the Swedish company.

## Stage of Development

Already on the market

## IPR Status

Copyright

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02003001	Process automation
02003005	Information processing & Systems, Workflow
03003	Apparatus Engineering

### Market

03004003	Other electronics related equipment
03007002	Other measuring devices
03007003	Other analytical and scientific instrumentation

### NACE

C.26.5.1	Manufacture of instruments and appliances for measuring, testing and navigation
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## Network Contact

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**Open for EOI :**    **Yes**

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**Dissemination**

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**Send to Sector Group**

ICT Industry and Services

**Restrict Dissemination to Specific Countries**

Germany,    Norway,    Poland,

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**Client**

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**Type and Size of Organisation Behind the Profile**

Industry SME <= 10

**Year Established**

1992

**Turnover**

<1M

**Already Engaged in Trans-National Cooperation**

Yes

**Languages Spoken**

English  
Swedish  
German  
Norwegian

**Client Country**

Sweden

## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought:

A company with a network of contacts to the manufacturing industry who currently sells products or services to those industries. Preferably a company whose products are a complement to our clients product.

- Specific area of activity of the partner:

The partner in mind should have a network of customers within the manufacturing industry or other networks working with LEAN implementations or in any other way connected to a relevant resale organization within that area.

- Task to be performed by the partner sought:

A commercial agreement can be relevant if the system of the Swedish company (with both hardware and software) can be a complement to the partners existing product or service range. If the cooperation will be based on a form license agreement, then the partner in mind should be able to contact potential clients in order to demonstrate and sell or rent the equipment and the system.

Applications and licenses for software can be downloaded directly from the website of the Swedish company.

### Type and Size of Partner Sought

University, SME <10

### Type of Partnership Considered

License agreement

Commercial agreement with technical assistance

## Technology Offer

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# Copper and bronze alloys restoration and protection with sustainable bio-coating.

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## Summary

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*A Swiss university developed a sustainable and ecological method to protect copper and bronze objects with a biologically-induced patina. A kit for small scale application to restore and conserve cultural objects was also engineered. To explore the potential of the method, the team is now looking for partners interested in evaluating it for markets in which copper corrosion is an issue; or with capacity to upscale and commercialize the method. Licensing or tech cooperation considered.*

<b>Creation Date</b>	08 March 2016
<b>Last Update</b>	21 March 2016
<b>Expiration Date</b>	21 March 2017
<b>Reference</b>	TOCH20160308001

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## Details

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### Description

As one of the most commonly used metals throughout history up to present day, copper is found in a vast variety of man-made objects. Durable protection of these objects against destructive corrosion poses a major problem in the conservation-restoration sector and in architecture, as well as for artists working with copper and producers of copper artefacts.

Current treatment methods of copper surfaces involve toxic organic coatings such as waxes and resins containing corrosion inhibitors.

In the search for an ecological solution to conserve copper artefacts and to reduce pollution caused by copper-leaching and by chemicals used for treatment of copper, the Swiss university developed a sustainable method to protect copper and bronze objects with a biological and stable patina.

The method employs a fungal strain which induces the formation of a bio-based patina on the surface of the object. This coating prevents further corrosive destruction of the treated surface and can preserve partially corroded artefacts.

Tailored treatments according to specific demands and application were successfully tested on indoor and outdoor objects, including cultural heritage artefacts, copper and bronze sculptures, and historical monuments.

The method has been optimized and is now ready for commercialization. The university can provide small scale prototype kits for testing.

The team is also keen to explore the suitability of the method for large scale application in other

industry sectors producing copper for outdoor application.

Research or technological cooperations are considered to evaluate the process for markets in which copper corrosion is an issue; or licensing to partners with capacity to upscale and commercialize the method.

## Advantages and Innovations

The method can be applied to

- protect and stabilize stained and unstained copper surfaces
- smooth out chromatic differences on the surface of cupreous objects
- pre-patinate copper and bronze objects
- aesthetically patinate decorative objects

Main advantages:

- active stabilization of corrosion
- conversion of the outer layer of the copper surface into a durable patina
- no use of organic coating
- eco-friendly
- insoluble patina preventing staining of adjacent materials\$

The treatment can be tailored to specific demands.

## Stage of Development

Prototype available for demonstration

## IPR Status

Secret Know-how

## Profile Origin

National or Regional R&D programme

## Keywords

### Technology

02002002	Coatings
02002015	Surface treatment (painting, galvano, polishing, CVD, ..)
02007010	Metals and Alloys
02007011	Non-ferrous Metals
02007015	Properties of Materials, Corrosion/Degradation

### Market

04010	Microbiology
09007002	Manufacture of construction materials, components and systems
09007004	Engineering and consulting services related to construction

### NACE

P.85.4	Higher education
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## Network Contact

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

Nano- and Microtechnologies

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## Client

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### Type and Size of Organisation Behind the Profile

University

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
French

### Client Country

Switzerland

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## Partner Sought

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## **Type and Role of Partner Sought**

The specific area of activity of the partner:

- Copper and bronze conservation and restoration
- Copper manufacturing and protection

The tasks to be performed by the partner sought:

- Adaptation of the method parameters to new markets
- Up scaling of production
- Promotion, distribution and sale of the coating procedure

## **Type and Size of Partner Sought**

>500 MNE, 251-500, SME 51-250, >500

## **Type of Partnership Considered**

License agreement  
Technical cooperation agreement  
Research cooperation agreement



## Technology Offer

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# Aluminium alloys. High corrosion resistance via conversion coating process

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## Summary

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*An Israeli SME specializes in development of chemicals for metal finishing & surface treatment. They offer a new process of conversion coating for aluminium alloys. Advantages over current approaches include high corrosion resistance (achieved even for aerospace alloy 2024) of the treated product, visible colour difference between treated and non-treated alloys etc. Looking for commercial agreement with technical assistance, license or technical cooperation agreement.*

<b>Creation Date</b>	16 March 2016
<b>Last Update</b>	17 March 2016
<b>Expiration Date</b>	17 March 2017
<b>Reference</b>	TOIL20160316001

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## Details

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### Description

An Israeli company, which specializes in the field of chemicals for metal finishing, surface treatment, industrial cleaning, metal working and its applications, is offering a specially developed technology to overcome the aluminum alloy problems of low corrosion stability. The technology was required to achieve superior corrosion resistance for aerospace alloys, especially 2024, essentially sensitive to corrosion, while extremely suitable since meeting the requirements of the aerospace industry (MIL-DTL-5541). The aluminum alloy surface undergoes special pretreatments with the developed chemicals, then is treated with trivalent chromium conversion coating compound. The resulting product successively passes all the operations required by MIL-DTL-81706. The process is environmentally friendly, no hazardous compounds / operations are used. The technology is designed for use in the industrial fields as metal finishing, all aspects of surface treatment, and is especially intended for aluminum alloys. Looking for implementation of the offered technology and adapting it / customizing it to local aspects via commercial agreement with technical assistance, license and technical cooperation agreement.

The company has experience of approx. 30 years in the field of chemicals for metal finishing industry and surface treatment aspects. They are a known approved supplier for Israeli Ministry of Defense.

### Advantages and Innovations

A new aluminium surface pretreatment allows to get the following results:

1. Significant improvement in corrosion resistance of the treated product compared to that nontreated,
2. All the process & its components are environmentally friendly and ROHS (Restriction of Hazardous Substances) – compliant,

3.The final product is light-yellow-coloured, thus visually differing from those not treated.

4.Improvement in corrosion resistance has been achieved also for aerospace AL2024 alloy, as required by MIL-DTL-5541(stands for 168 hours inside salt chamber as required)

## Stage of Development

Already on the market

## IPR Status

Secret Know-how

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02002015

Surface treatment (painting, galvano, polishing, CVD, ..)

02007011

Non-ferrous Metals

### Market

08001012

Speciality metals (including processes for working with metals)

### NACE

C.20.5.9

Manufacture of other chemical products n.e.c.

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**Open for EOI :**    **Yes**

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## Dissemination

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**Send to Sector Group**  
Materials

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English

### Client Country

Israel

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought - industry, commercial bodies;
- the specific area of activity of the partner – manufacturers / representatives / users in the field of metal finishing services, metal surface treatment chemicals;
- the tasks to be performed of the partner sought – implementation of the technology, adapting it to the specific needs (technical consultancy, quality control etc.)

### Type of Partnership Considered

- License agreement
- Commercial agreement with technical assistance
- Technical cooperation agreement

## Technology Offer

# Novel Hot Forming and Press Hardening Technology for Automotive Industry

## Summary

*A Turkish SME, performing research and development on industrial technologies, developed a novel technology for hot forming and press hardening of very thin steel sheets that can not be press hardened in conventional hot stamping lines. The technology enhances faster production, low investment and production costs and higher component microstructure or heat treatment quality especially for automotive body producers. The company is looking for a licensing agreement.*

<b>Creation Date</b>	02 March 2016
<b>Last Update</b>	15 March 2016
<b>Expiration Date</b>	15 March 2017
<b>Reference</b>	TOTR20160302001

## Details

### Description

Automotive companies are working to reduce body weight, decrease fuel consumption and increase safety more than ever. The key factor here is auto body structures comprising of metals having highest possible strength/ weight ratio. Hot stamping / press hardening process has rapidly spread recent years but conventional hot stamping lines has a number of drawbacks. These systems cannot be employed in warm/hot forming of light alloy (aluminum and magnesium alloys) sheets. A conventional hot stamping line requires too much capital investment and too large area in the factory. Another problem is that such systems cannot be applied in press hardening thin sheets.

A Turkish company, performing research and development on industrial technologies, developed a new technology to be used in producing lightweight and high strength auto bodies. This is a new hot/warm sheet forming process making possible hot forming and press hardening of thin steel sheets ( less then 1 mm) which cannot be press hardened in conventional hot stamping lines. Unlike existing hot forming systems this technology is very effective in warm forming of light alloy sheets such as magnesium alloys or high strength aluminum alloys. Production period is faster, investment and production costs are lower and component microstructure (or heat treatment) quality is higher than existing hot stamping systems. The company has recently developed a hot forming and hardening system for production of UHS grade tubular space frame components succesfully.

At the moment this technology is fully developed and ready to be used in mass production. The process and production system are patented.

The company is looking for licensing agreement.

## Advantages and Innovations

Main advantages and innovations are as following:

- The technology enables hot/warm forming of aluminum and magnesium alloy sheets as mass production. Thus much lighter metals can be used in auto panels than that of steel.
- The sheet is heated in the die or during conveying so that heating and forming steps are synchronized thus time and temperature losses are eliminated between heating and forming steps.
- The technology requires reasonable capital investment
- Process cycle is fast.
- Scale problem is completely eliminated due to rapid heating in the die.
- Complex workpieces can be formed since a desired temperature gradient can be provided at the stamping moment.
- Heat treatment quality is better. Fine grain bainitic or martenzitic microstructure is obtained due to rapid heating in press hardening of steel workpieces.
- Higher toughness, higher strength and better strain rates are obtained in the press hardened steel components than that of conventional hot stamping lines.
- Thin steel and light alloy sheets can be hot/warm formed due to eliminating rapid cooling phenomena between heating and forming steps.
- Hot forming and hardening process of tubular space frame components has been recently developed with success. This process enables manufacturing of tubular space auto frames made of 3D hot formed and hardened components as a serial production.

## Stage of Development

Available for demonstration

## IPR Status

Granted patent or patent application essential

## Comment Regarding IPR status

The company is looking for licensing agreements with especially automotive applications sector companies.

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02002005	Forming (rolling, forging, pressing, drawing)
02002006	Hardening, heat treatment
02002009	Machine Tools
02002010	Machining (turning, drilling, moulding, planing, cutting)
02002011	Machining, fine (grinding, lapping)

### Market

08003007	Other industrial equipment and machinery
08005	Other Industrial Products (not elsewhere classified)

### NACE

C.28.4.1	Manufacture of metal forming machinery
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C.28.4.9

Manufacture of other machine tools

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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

Turkish  
English

### Client Country

Turkey

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## Partner Sought

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## **Type and Role of Partner Sought**

Companies active in automotive sector are sought. It is expected from the partner to license the proposed technology.

## **Type of Partnership Considered**

License agreement



## Technology Offer

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# Graphene customized treatments based on green chemistry

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## Summary

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*An Italian startup focus on graphene applications has developed a graphene production technology based on green chemistry. The technology can be used for the treatment or modification of many materials such as plastics, ceramics, composites, metals and so on. The company is looking for commercial agreement with technical assistance with companies dealing with materials issues and properties.*

<b>Creation Date</b>	11 March 2016
<b>Last Update</b>	14 March 2016
<b>Expiration Date</b>	14 March 2017
<b>Reference</b>	TOIT20151214004

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## Details

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### Description

An Italian startup company focused on graphene applications which started its activity on 2013 thanks to private funding, holds a new graphene production technology based on simple and green chemistry.

Long term experience team on nanotechnologies, graphene particularly, is the verve for an active developing business.

Its main activity is the materials treatment with graphene derivates and graphene master batch based on customer's base formulation.

Many materials can be treated or modify with the company graphene, some of which are listed below:

- graphene coating on plastics films, including transparent film;
- graphene coating of metals, ceramic or glass;
- graphene composite;
- printed graphene pattern.

The company regularly interacts with customers for side service on graphene subject.

The company aims at developing and commercializing graphene applications crossing different applications, from electronic to medicine, passing through composites or paint.

The company is looking for companies dealing with material issues and properties (producers of ceramic, glass, electronic products, metals...) for commercial agreement with technical assistance.

## Advantages and Innovations

The technology, allowing the development of a conductive insulator material, is an easy and simple process which can be applied on different materials without damaging it.

Performance of our coating can not reach metal or metal oxide results in term of conductivity but is extremely cheap and easy to use, moreover our coating is flexible and stable.

The graphene coating, extremely thin, does not change the mechanical performance of the material and materials can be recycled as normal ones.

Composite materials prepared with this technology results in a better nanofiller dispersion with advantages on final composite performance.

## Stage of Development

Already on the market

## IPR Status

Granted patent or patent application essential

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02002002	Coatings
02007015	Properties of Materials, Corrosion/Degradation

### Market

08001	Chemicals and Materials
09004	Manufacturing

### NACE

M	Professional, scientific and technical activities
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## Network Contact

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Materials

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2013

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
Italian

### Client Country

Italy

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## Partner Sought

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### Type and Role of Partner Sought

The company is looking for companies dealing with material issues and properties (producers of ceramic, glass, electronic products, metals...) for commercial agreement with technical assistance.

### Type of Partnership Considered

Commercial agreement with technical assistance

## Technology Offer

# Assembly for the automated management of plants for the biological treatment of wastewater

## Summary

*An Italian public research institute has developed a new automated setup to be applied in wastewater treatment plants for carbon and nitrogen removal with advantages over present systems. Denitrification and nitrification processes are monitored using only pH and redox potential probes and are controlled by a smart active feedback loop. Thanks to positive tests carried out so far, the technology seems mature for seeking license agreements with manufacturing process control companies.*

<b>Creation Date</b>	09 March 2016
<b>Last Update</b>	14 March 2016
<b>Expiration Date</b>	14 March 2017
<b>Reference</b>	TOIT20160309001

## Details

### Description

An Italian public research institute, with good experience on monitoring and study of the dynamics of reactions in continuous flow wastewater treatment plants (WWTPs), has developed a new automated setup to control biological nitrogen removal. A simplified monitoring is used with only a pH and a redox potential (ORP) probes in anoxic tank and a pH, an ORP, a dissolved oxygen (DO) probes in oxidation tank. Denitrification and nitrification processes are regulated respectively by adjusting the internal recycle flow rate and modulating the dissolved oxygen content by a feedback controller.

Nowadays, WWTPs have to comply with tighter nitrogen discharge limits as well as low energy consumption and operating costs. For this goal the monitoring of biological nutrient removal process and the optimization of oxygen addition are key points to be addressed by a control logic. However the choice of the most effective control logic strictly depends on the topology of the selected plant.

The activated sludge, continuous flow, pre-denitrification-nitrification plant (fig. 1), is today the WWTP scheme most widely adopted in the world. It is composed by:

- an anoxic tank and an aerobic tank in which, respectively, the denitrification and the nitrification processes take place;
- a settler and an internal recirculation system, which transfer aerobic sludge from the aerobic tank to the anoxic tank.

The two processes may be managed in independent ways, although the operation of nitrification affects to some extent the conditions of the denitrification process and vice versa.

The automated setup proposed is applicable to these plants as a whole, in order to attain higher performances at lower cost.

Nonetheless the mere control of nitrification process alone can still be implemented for plants lacking of the denitrification section.

The proposed setup is best suited for small-medium scale WWTPs, up to 20000 inhabitants. Such plants constitute the vast majority of the ones existing in Europe. The proposed solution hence uses reliable, cheap and simple probes, allowing an optimized, more tight and reproducible control of the operational state of the plant. A safer and stable operation is attained in terms of nitrogen removal and energy efficiency. The system is in an advanced stage of development and is undergoing field tests on a real WWTP managed by a local multi-utility service company.

The monitoring and control of denitrification process is accomplished –by one pH and one ORP probes, both placed in the anoxic tank, and a control unit collecting all the data provided by the probes. The system performs a qualitative real time analysis of the "healthy" conditions of the process, related with the C/N ratio in the influent, keeping it at its best operational state. Any deviation from this condition, detected by real-time analysis of the signals, leads to suitable corrective strategies and actions, involving the regulation of the internal recirculation flow-rate. For management of the nitrification process, a feedback PI controller is used, taking the DO level as controlled variable, and acting by modulation of the aeration system. The assembly includes one pH, one ORP and one DO probes, all placed in the aerobic tank, and also a control unit collecting all data. A real-time numerical analysis of pH and ORP signals allows to estimate the total nitrogen content in wastewater fed to the plant, producing a classification of the conditions of the nitrification process. Finally the control of DO concentration in the tank is performed - thanks to the PI controller manipulating the aeration system - against a variable set point estimated on the basis of the previous classification. The research institute holding this new technology has a good expertise on WWTP control but is not involved in production and commercialization phases. The partner sought can furtherly verify the effectiveness of this technology in view of a licence agreement.

## Advantages and Innovations

The need to continuously monitor denitrification and nitrification processes in order to improve both depurative and energetic efficiency is one of the most important matters in the WWTP sector. The advanced knowledge acquired on the relationships between indirect parameters, such as pH and ORP, and the biological processes, such as denitrification and nitrification, and thus their performances, provides new possibilities to control and monitor these plants at low investment costs. But, until today, this knowledge has only been used to manage a few kind of WWTPs, such as alternate cycle processes and Sequencing Batch Reactor (SBR), while 80% of the plants working in Italy and worldwide use the continuous flow predenitrification-nitrification scheme.

This invention allows to exploit these relationships to achieve an innovative control system able to automatically manage this kind of plants. In treatment plant's operation and maintenance budget, energy costs typically range from 15 to 30% of the overall running cost, while the aeration system, the largest energy consumer, may even reach the 75%. Thanks to this invention, strategies and policies may be implemented to handle most processes and problems in WWTPs. In particular, the energy efficiency of the aeration system may be increased up to 50%, while the biological nutrient removal can be improved up to 30%. Globally, the overall savings can reach 30–50% of the total system cost.

The proposed assembly is based on the acquisition of signals measurable with reliable and cheap probes, in order to keep the cost to a minimum, so that it may be applicable in small-medium plants, which account for about 80% of the total number of WWTPs working in the world.

## Stage of Development

Available for demonstration

## Comments Regarding Stage of Development

The system is in an advanced stage of development and is undergoing field tests on a real WWTP managed by a local multi-utility service company.

## IPR Status

Patent(s) applied for but not yet granted

## Profile Origin

Other

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## Keywords

### Technology

01003003	Artificial Intelligence (AI)
01003015	Knowledge Management, Process Management
02003001	Process automation
10004002	Municipal Water Treatment

### Market

08002003	Process control equipment and systems
08004003	Water treatment equipment and waste disposal systems

### NACE

E.36.0.0	Water collection, treatment and supply
E.39.0.0	Remediation activities and other waste management services
M.72.1.9	Other research and experimental development on natural sciences and engineering

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**Open for EOI :**    **Yes**

## Dissemination

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### Send to Sector Group

Environment

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

0

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Italian

### Client Country

Italy

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought:  
manufacturing process control companies
- Specific area of activity of the partner:  
companies already active in waste water treatments
- Task to be performed by the partner sought:  
it can furtherly verify the effectiveness of this technology in view of a licence agreement

### Type and Size of Partner Sought

SME 11-50,251-500,SME 51-250

### Type of Partnership Considered

License agreement



## Technology Offer

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# Industrial waste water treatment and water reuse technology

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## Summary

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*A UK SME specialising in industrial wastewater treatment and water reuse has developed a range of compact and cost effective systems which use membrane bioreactor (MBR) technology. This enables treated water to be used as a potable source, providing savings to clients by decreasing their potable water usage, and reducing sewer discharge costs. The company seeks partners for sales support and project delivery via joint venture, license, or commercial agreement with technical assistance.*

<b>Creation Date</b>	16 March 2016
<b>Last Update</b>	17 March 2016
<b>Expiration Date</b>	17 March 2017
<b>Reference</b>	TOUK20160315001

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## Details

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### Description

The UK SME is a pioneering company with a passion for innovation combined with a strong ethos for environmental sustainability. This has led to the development of a highly advanced system for the treatment and reuse of industrial wastewater at customers' facilities. The company's continuous evolution of technology has led to significant reduction in energy requirements for wastewater treatment without detriment to excellent treatment quality and security of operation.

The system is optimised to provide low energy biomass separation, achieved by the combined control of the recirculation and permeate pumps, and backflush system. It can take advantage of deeper bioreactor tanks and use the static hydraulic pressure to assist the ultrafiltration (UF) membrane filtration system. Automatic operation of the air blowers, aeration pumps, low energy configuration system and reverse osmosis (RO) enables plant to operate on demand, and allowing automatic shutdown during periods of lower flow or load. These factors combine to provide lower energy use compared with conventional crossflow or submerged membrane separation systems.

The system is capable of varying the hydraulic throughput, enabling the plant to automatically ramp up during periods of higher flows, whilst optimising energy consumption at the average flow condition. Future hydraulic load can be accommodated by either operating the system at higher energy consumption, or with the simple installation of additional membrane modules into the modular design. If a membrane bank is out of service for maintenance or cleaning then the other bank can ramp up to increase hydraulic throughput.

The company has a process led approach to all aspects of water and wastewater treatment, which ensures the most appropriate technology is identified for each unique application.

Solutions are provided via a combination of in house developed processes coupled with the installation of package equipment and services to provide a fully integrated solution. They are able to deliver a technology solution from concept development to complete installation with the support of onsite operation as required. The passion for sustainable innovation remains core to the company with technology development in the fields of membrane bioreactors and anaerobic digestion of industrial wastewater. Customers benefit from meeting current and future market trends in water reuse, keeping leading companies ahead of their competition in a number of industries.

The technology is proven for industrial wastewater treatment and water recycling in numerous full scale installations in the UK and USA including dairy, food processing, cereal, malting, distillery, brewery and contaminated ground water applications.

The company is looking for partners who can provide sales support and project delivery, and it is anticipated that this will be via joint venture, license, or commercial agreement with technical assistance. Suitable partners would include project delivery companies operating in the industrial wastewater market that require support in the areas of membrane bioreactors and water recycling technologies to provide solutions for their clients. Prospective partners should be able to identify potential projects and support sales activities within their region in the areas of industrial wastewater treatment and re-use. Ideally partners will have experience in project delivery of wastewater treatment plants.

## Advantages and Innovations

The design and operation of the aeration system and bioreactor provides excellent chemical oxygen demand (COD) reduction. Use of UF membranes provides a complete barrier to suspended solids thus ensuring high quality final effluent is guaranteed for watercourse discharge and providing an ideal water quality for downstream RO treatment. The high biomass concentration and hydraulic buffering within the bioreactor enable the system to cope with varying influent. The selected operating parameters enable a low sludge production, reducing offsite tankering.

High flux performance combined with optimised installed membrane area and long membrane life means that whole life costs for operation and membrane replacement are lower than alternative systems. The membranes are also modular and clients are not reliant on a single membrane supplier.

Out-of-tank and low level installation of aeration equipment, UF membrane system and instrumentation in conjunction with good design practice provides easy access for plant maintenance and cleaning. The standard UF mechanical design incorporates lifting points for easy removal of UF membranes.

High biomass concentrations permitted by cross-flow systems enables a smaller bioreactor compared with other activated sludge systems, and coupled with the compact design provides a reduced footprint for the plant compared with alternative systems.

The RO plant is fully integrated and is designed on the same principals as the low energy configuration system. The system is controlled to allow automated start, shutdown, flushing, permeate divert, and cleaning via the permanent clean-in-place (CIP) system. The system automatically controls pump speed and regulates reject pressure to enable control of the permeate flow. Systems are sized appropriately to satisfy client requirements, and can be installed in duty / assist or duty / standby arrangements.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how, Design Rights, Exclusive Rights, Copyright

## Comment Regarding IPR status

As part of an installation the company can provide standardised PLC (Programmable Logic Controllers) and SCADA (supervisory control and data acquisition) software.

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02004	Plant Design and Maintenance
03002	Process Plant Engineering
10004001	Industrial Water Treatment
10004002	Municipal Water Treatment
10004003	Wastewater Recycling

### Market

07003001	Wine and liquors
07003003	Soft drinks and bottling plants
08001008	Membranes and membrane-based products
08004003	Water treatment equipment and waste disposal systems
08004004	Other pollution and recycling related

### NACE

C.11.0.1	Distilling, rectifying and blending of spirits
C.11.0.5	Manufacture of beer
C.11.0.7	Manufacture of soft drinks; production of mineral waters and other bottled waters
E.36.0.0	Water collection, treatment and supply
E.39.0.0	Remediation activities and other waste management services

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## Network Contact

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Environment

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

1997

### Turnover

1 - 10M

### Already Engaged in Trans-National Cooperation

Yes

### Experience Comments

The company have successfully undertaken industrial wastewater treatment and reuse projects directly or in partnership in the UK, Ireland, France, Spain, and the USA.

### Languages Spoken

English  
German

### Client Country

United Kingdom

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought: Industry.

- Specific area of activity of the partner: Project delivery companies operating in the industrial wastewater market that require support in the areas of membrane bioreactors and water

recycling technologies to provide solutions for their clients. Also clients who have a specific requirement for the technology.

- Task to be performed by the partner sought: Partners should be able to identify potential projects and to support sales activities within their geographic region in the areas of industrial wastewater treatment and re-use. Ideally partners will have experience in the delivery of wastewater treatment plant projects.

### **Type and Size of Partner Sought**

SME 11-50, SME <10, 251-500, SME 51-250

### **Type of Partnership Considered**

License agreement

Commercial agreement with technical assistance

Joint venture agreement

## Technology Offer

# Multicapillary nebulizer for simultaneous nebulization of two or more liquids

## Summary

*A Spanish university research group has developed a new pneumatic multicapillary nebulizer which allows the simultaneous nebulization of two or more liquids, miscible or immiscible between them. This device offers the possibility of simplifying the analysis process, reducing the consumption of resources and a high mixing efficiency is achieved. A laboratory-constructed prototype is available for any demonstration. The research group is looking for companies interested in license agreement.*

<b>Creation Date</b>	01 March 2016
<b>Last Update</b>	08 March 2016
<b>Expiration Date</b>	08 March 2017
<b>Reference</b>	TOES20151215001

## Details

### Description

A common problem of the current multiple nebulization-based systems is the fact that the total nebulizing gas flow rate is divided among the various nebulizers or exit orifices of the nebulizer. Therefore, they usually work under non-optimal nebulizing gas flow rate conditions. This fact adversely impacts on the aerosol transport to the plasma. Moreover, most of these systems have additional problems, such as blocking risk and memory effects, which make them undesirable from an analytical point of view, since they do not allow the analysis of complex real samples (e.g., sea water, wastewater, etc.).

Therefore, it is necessary to develop multiple nebulizer-based systems that enable the sample preparation in aerosol phase, having a low blocking risk, low memory effect, high chemical and mechanical robustness, being easy to handle, having high analyte transport efficiency and universal application to any complex real samples.

In order to overcome the limitations described above, a Spanish university research group has developed a novel multicapillary pneumatic nebulizer which allows the simultaneous nebulization of different liquids, miscible or immiscible between them, by means of several independent liquid input capillaries with a single aerosol outlet orifice.

As shown in Figure 1, the nebulizer outer body (1) comprises a pressure chamber (2) for the flow of a nebulizing gas and an inlet tube (3) of said gas and an outlet orifice (4) thereof, open to the outside. Within the pressure chamber a plurality of liquid input capillaries (5) is housed, said capillaries preferably arranged in parallel, whose outputs (6) are commonly positioned in the area of the aerosol outlet orifice and whose inputs are connected to liquid feeding tubes (7), so that each liquid input capillary is connected to a separate liquid feeding tube. Liquid flows to be nebulized are aspirated or pumped through the various feeding tubes and through the liquid



input capillaries of the nebulizer, located within the pressure chamber. At the exit of the liquid input capillaries, the liquid flows interact with the gas flow at high or low speed, and at high or low pressure in the pressure chamber; liquid and gas flows mix together, forming the aerosol which is pushed towards the outlet orifice of nebulizer expelling the nebulized product to the outside.

Companies (small, medium and large) interested in acquiring this technology are sought to expand its product portfolio with this new nebulizer by license agreement.

## Advantages and Innovations

The multicapillary nebulizer has the following advantages and innovations over current multiple nebulizer devices of the state of the art:

- A high mixing efficiency between different nebulized liquids in the aerosol droplets is achieved because the mixing takes place under turbulent conditions of high pressure and speed.
- Even if liquids are not miscible, the device obtains stable emulsions during the time in which the droplet is transported to the plasma.
- It can work either in a conventional way (by nebulizing a single liquid sample or calibration standard), or by combining the sample preparation and sample introduction by simultaneous nebulization of different liquids.
- The work performed manually is reduced and simplified.
- Uncertainty is reduced and accidental errors in the analysis process are eliminated.
- Significant time saving.
- The amount of samples and reagents are reduced.
- Some processes are intensified due to high pressure and speed of liquid flows in the mixing zone.
- The nebulizing gas flow is not divided between different exit orifices, so the working conditions are equal to the optimum working conditions of the spectrometer. In this way, the quantity of liquid input capillaries can be adjusted to the specific application of the nebulizer.
- It can be constructed using adequate dimensions to allow the connection to any commercial spray chamber (for all manufacturers and models of spectrometers based on plasma).
- Depending on the geometry of the exit orifice of the aerosol, an aerosol with excellent characteristics can be achieved over a wide range of liquid flow leading to different nebulization mechanisms.
- This multicapillary nebulizer allows simultaneous mixing and nebulization of two or more liquids, miscible or not.
- This device differs from other conventional nebulizers or multiple nebulizers, by the large number of independent liquid input capillaries with a single exit orifice of the aerosol

## Stage of Development

Prototype available for demonstration

## Comments Regarding Stage of Development



A laboratory-constructed prototype has been developed that it is available for any demonstration (Figure 3).

## IPR Status

Patents granted

## Comment Regarding IPR status

This technology is protected by a Spanish patent (granted through prior patent examination requirements).

## Profile Origin

Private (in-house) research

## Keywords

### Technology

02002012	Mixing (powder, etc.), separation (sorting, filtering)
02007009	Materials Handling Technology (solids, fluids, gases)
05001001	Analytical Chemistry
09001002	Analyses / Test Facilities and Methods

### Market

03007003	Other analytical and scientific instrumentation
05001004	Forensic science
05003005	Drug delivery and other equipment
05005002	Ophthalmology, ear, nose and throat diseases
05005007	Pulmonary medicine

### NACE

M.72.1	Research and experimental development on natural sciences and engineering
P.85.4	Higher education

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

Bio Chem Tech

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## Client

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### Type and Size of Organisation Behind the Profile

University

### Year Established

1979

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

French

Spanish

### Client Country

Spain

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## Partner Sought

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### Type and Role of Partner Sought

Companies that develop liquid nebulization technologies in spectrometric techniques in the field of chemical analysis.

The multicapillary nebulizer can be used for the following application:

- Sample dilution (allowing the automatization of the dilution process).
- Internal standard calibration (allowing interference corrections).
- Standard addition calibration (allowing the automatization and simplification of the process).
- Isotopic dilution analysis.

- Derivatization and chemical vapour generation of analytes (allowing chemical reactions to take place in aerosol phase between the analytes of the sample and calibration standards, and one or more reagents).
- Organic sample analysis (allowing the organic sample analysis in the plasma by emulsifying with aqueous solutions. A high mixing efficiency is achieved and the formation of carbon deposits on the exit orifice of the injector tube is removed).
- Liquid-liquid extraction (reducing the experimental time, analyte losses and sample contamination. In addition, large sample amounts, expensive organic reagents and/or toxic ones are not required).
- Discrete samples/standards introduction (directly introducing the analyte in a discrete way in aerosol phase into the spray chamber, removing diffusion problems).

Co-operation partner: companies that develop new industrial applications in any of the fields above explained to increase their competitiveness through innovation of this new device.

### **Type and Size of Partner Sought**

SME 11-50, SME <10, >500 MNE, 251-500, SME 51-250, >500

### **Type of Partnership Considered**

License agreement

## Technology Offer

# Vacuum drying plant for metal parts and components.

## Summary

*A small Italian company, producer of water recycling and wastewater treatment plants, has developed an innovative vacuum drying plant. This solution is designed for companies with electroplating or cleaning lines as a final drying stage for metal parts or components. The drying plant uses steam and vacuum to remove all residual drops of water or humidity in the drying process. They are looking for commercial agreement with technical assistance or technical cooperation agreement.*

<b>Creation Date</b>	16 February 2016
<b>Last Update</b>	24 March 2016
<b>Expiration Date</b>	24 March 2017
<b>Reference</b>	TOIT20160216001

## Details

### Description

A small Italian company with more than 30 years of experience in the field of water recycling, wastewater treatment and industrial plants, with a special expertise in developing customized process solutions, has developed an innovative vacuum drying plant.

The system consists of a drying chamber in which frames or baskets, which house the galvanized or machined metal parts to be dried, are placed automatically or manually. The drying chamber is then fed with steam at 100°C for some minutes and then vacuum is created inside the chamber at 0.9 mbar in order to remove all the residual moisture.

This drying solution is designed for electroplating or cleaning lines, in particular for companies operating in the metal surface finishing or metalworking markets.

The partnership sought is a commercial agreement with technical assistance with companies wishing to integrate this solution in their production lines or a technical cooperation agreement for further customization or product developments.

### Advantages and Innovations

The main plus of this system is to dry and remove drops of water or humidity in the interstices of machined or galvanized parts where other drying equipments, such as ovens or centrifuges, are not able to give the same final results in terms of quality of the finished product.

The innovation consists in the combined used of steam and vacuum for the drying of metal parts which was never applied for this application. The plant can be placed as final stage of every type of electroplating or cleaning line and can be adapted for any kind of frames and baskets.

The cycle is fully automatic and takes approximately 12 minutes for the drying cycle.

### Stage of Development

Already on the market

### IPR Status

Secret Know-how

## Comment Regarding IPR status

The system has been working since 2003 as final stage of a chromating line for body of valves in aluminium.

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02002001	Cleaning (sandblasting, brushing)
02002002	Coatings
02002003	Drying
02002015	Surface treatment (painting, galvano, polishing, CVD, ..)

### Market

08002007	Other industrial automation
08003007	Other industrial equipment and machinery

### NACE

C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
C.33.2.0	Installation of industrial machinery and equipment

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## Network Contact

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
Portuguese  
Spanish  
Italian

### Client Country

Italy

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought:

the company is looking for small/medium companies which are producing high quality metal components that have interest on improving their production line and are open to develop new customized solutions.

- Specific area of activity of the partner:

Surface finishing, metalworking or cleaning

It can be a final customer or distributor of production equipments

- Task to be performed by the partner sought:

for the commercial agreement with technical assistance: implementation of an improved plant and performance tests;

for technical cooperation agreement: tests and optimisation of the technology for specific industrial sector.

### Type of Partnership Considered

Commercial agreement with technical assistance

Technical cooperation agreement

## Technology Offer

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# Smart power regulation- and control system for large-scale power consumers in need of reliable grid stability in plants, industrial sites or on district level

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## Summary

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*A German start up, active in the energy sector has developed specialized modular systems for smart power regulation and control, which guarantee reliable grid stability and increased energy efficiency for any appliance with high power consumption on plant-, site- or district level. The company seeks partners from industry, municipalities and/or other public or private business entities dealing with energy power supply projects for technical cooperation or joint venture agreements.*

<b>Creation Date</b>	02 March 2016
<b>Last Update</b>	10 March 2016
<b>Expiration Date</b>	10 March 2017
<b>Reference</b>	TODE20160222002

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## Details

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### Description

Power delivery from renewable energy sources is subject to high fluctuations which cause the necessity to implement additional control mechanisms and smart grids in order to avoid damage or losses in case of sudden under- or overload. In many regions worldwide this even applies for applications with conventional energy supply.

A German SME has developed a flexible power control system based on specialized energy storage units and battery management modules combined with smart regulation and control tools. The system guarantees uninterrupted power supply and secure power stability, complex control modes and is therefore suitable for various economic operating models. Furthermore it is adaptable to various dimensions and parameters like

- AC or DC,
- power range from 3 kW to several MW,
- voltage from 48 V to 1000 V (DC) and 230 V to 20 kV (AC) as well as high compatible to be connected to further advanced systems.

The company seeks partners for technical cooperation from industry, municipalities and/or other public or private business entities, who are running, planning or investing in plants or similar industrial sites with high power consumption and the need of reliable, permanent supply. In regions with high market potential also joint ventures with local experts are sought, in order to establish a sustainable cooperation with mutual benefits.

### Advantages and Innovations

Compared to existing solutions the proposed power control and storage system guarantees the uninterrupted power supply despite of any grid fluctuations.



The highly flexible system works reliably on small or large scale (private household or large power station).

It provides a high level of operational safety and reliability.

Further competitive features of the system are its compatibility to most existing power/grid systems, its pricing and its low maintenance costs.

Based on modules it allows customized system design for a wide range of parameters and framework conditions.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how, Trade Marks

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

004008	Energy efficiency
01002003	Electronic engineering
02003003	Component integration
04001003	Storage of electricity, batteries
04002005	Generators, electric engines and power converters

### Market

06002003	Power grid and distribution
06003001	Solar/thermal energy
06003002	Photovoltaics
06003003	Wind energy
06008	Energy Storage

### NACE

C.33.2.0	Installation of industrial machinery and equipment
D.35.1.2	Transmission of electricity
D.35.1.3	Distribution of electricity
F.43.9.9	Other specialised construction activities n.e.c.
M.71.2.0	Technical testing and analysis

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## Network Contact

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**Open for EOI :**    **Yes**

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**Dissemination**

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**Send to Sector Group**

Intelligent Energy

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**Client**

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**Type and Size of Organisation Behind the Profile**

Industry SME 11-49

**Year Established**

2010

**Turnover**

1 - 10M

**Already Engaged in Trans-National Cooperation**

Yes

**Languages Spoken**

English  
German

**Client Country**

Germany

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**Partner Sought**

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## **Type and Role of Partner Sought**

seeks partners for technical cooperation (industry, municipalities and/or other public or private business entities) running, planning or investing in plants or similar industrial sites with high power consumption,  
in countries with high market potential: local experts for joint venture,  
Integration of the power storage and control system into existing or new power supply systems,  
small to large scale e.g. individual or blocks of buildings, districts, municipal, residential or industrial premises, power stations

## **Type of Partnership Considered**

Technical cooperation agreement  
Joint venture agreement

## Technology Offer

# Modelling and simulation of thermolysis (pyrolysis) processes

## Summary

*Lithuanian SME offers its services for computer modeling and simulation (using Monte Carlo methods) of thermolysis (pyrolysis) processes. SME is working in the following fields: -mathematical and computer modeling and simulation of the physical and technological processes; -preparation of techno-economical business (plants) models and detailed business plans based on simulations' scenarios. SME is looking for industrial, R&D partners for commercial, financial or research cooperation agreemen*

<b>Creation Date</b>	26 February 2016
<b>Last Update</b>	24 March 2016
<b>Expiration Date</b>	24 March 2017
<b>Reference</b>	TOLT20160226001

## Details

### Description

Lithuanian small scientific research firm is working in the following fields:

1) mathematical and computer modeling and simulation of physical and technological processes;

2) creation of mathematical and computer business (industry, construction, services, social) models, simulation of various scenarios, and preparation of detailed business plans based on modeling & simulation results.

Technological offer is devoted for the modeling and simulation of the thermolysis (pyrolysis – wide used term) processes.

The main idea for the study of thermolysis processes is to switch from phenomenological kinetics to statistics of direct molecule-molecule processes. There have to be the dynamic picture of evolution of various molecules in time, space and their (molecules) internal structure change.

For the achievement of those purposes there have to be constructed the models of atom-molecule and molecule-molecule elastic and inelastic (non-elastic) collisions of wide spectrum of hydrocarbons.

The destruction, excitation and deformation of those molecules are results of their collisions.

The ensembles of large amount of test molecules have to be taken for the simulations of their dynamical evolution.

The Monte Carlo methods (methods of stochastic simulations) will be used for the numerical simulations of all those processes.

Each process and object will be modeled by use of different approaches as follows:

- 1) original phenomenological models;
- 2) models based on interpolation and approximation of experimental data;
- 3) models based on different theoretical approaches;

4) numerical models;

5) hybrid models.

For the further simulations of evolution of molecules' ensembles, those mathematical models have to have the simple mathematical forms, or in other cases they have to be interpolated via simple numerical expressions (for example - Pade approximation, etc.).

There will be created the sets of working models with different complexity and accuracy for each physical process and object.

The "Final model" (an integrated model involving all processes and evolution of molecules' ensembles) is dynamic, i.e. there is the permanent development phase (of project) giving the pictures of processes with different accuracy, but giving intermediate results in early phases of researches.

During the TO realization time there will be created a set of "Final models" with different levels of complexity. That R&D strategy enables to shorten the products' creation time.

Those models have to enable to simulate the atom-molecule & molecule-molecule inelastic collisions in wide spectrum of their (atoms and molecules) kinetic energy, i.e. to simulate the processes taken place in wide region of temperatures. So it will be able to simulate the thermolysis (pyrolysis) and gasification processes being the targets of our researches for real applications.

There will be used high-level powerful programming languages – C++ (or FORTRAN).

During this work the fully original special computer software (computer models of molecules collisions; computer models of molecules collisions' generation; molecules' ensembles evolution in time, space and internal structure) will be created.

Using results of various scenarios of simulations the phenomenological kinetic coefficients of thermolysis processes at different conditions (temperature, pressure, type of utilization materials, etc.) will be calculated.

The simulation results (including all intermediate results for each process) will be compared with experimental and theoretical data being published in various journals, monographs and gotten via private communications.

Company is looking for partners being interested in above mentioned results/products.

The searched partners would be active in engineering, industry, business or researches.

## Advantages and Innovations

Current technological offer (TO) is oriented to the following (in the field of thermolysis):

1. Scientific knowledge:

1) creation of new original models of physical-chemical processes taken place in thermolysis;

2) test of existing models;

3) more deep understanding of thermolysis processes via use of various quantum theoretical approaches in modeling and simulation;

4) calculation of kinetic coefficients of traditional reactions kinetic equations via use of results of numerical modeling and simulations.

2. Practical applications:

1) simulation of processing of real thermolysis reactors at real conditions (geometry, variety of raw materials being utilized, etc.);

2) help for real design of thermolysis reactors via simulation of problematic areas by use of created software (being created in the frame of current project);

3) creation of empirical numerical models (based on project's simulations) for the fast estimation of various technological situations in practice.

Cooperation/collaboration with engineering and industrial / manufacturing companies has to form the problems being top for them and having to be solved in the frame of TO (via direct modeling and simulation of problematic situations taken place in design and practice).

## Stage of Development

Proposal under development

## Comments Regarding Stage of Development

There is a large experience of firm in mathematical modelling and computer simulation (especially in use of Monte Carlo methods) of physical processes (transport in semiconductors, microelectronics, high energy laser technologies, low-temperature plasma, directed energy technologies (including military), etc.).

Experience in thermolysis (pyrolysis): there are prepared a set of detailed techno-economical computer models of thermolysis (pyrolysis) plants, detailed simulations of those business scenarios, and all those resulting in detailed business plans.

## IPR Status

Other

## Profile Origin

Other

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## Keywords

### Technology

03002	Process Plant Engineering
03004010	Special chemicals, intermediates
05001002	Computational Chemistry and Modelling
05004006	Other Processes
10003002	Incineration and Pyrolysis

### Market

06001004	Equipment and instrumentation
06001006	Chemicals and materials
06003009	Biomass and Biofuels
06007001	Other energy production
08004002	Chemical and solid material recycling

### NACE

C.20.5.9	Manufacture of other chemical products n.e.c.
E.38.2.1	Treatment and disposal of non-hazardous waste
E.38.2.2	Treatment and disposal of hazardous waste
J.62.0.1	Computer programming activities
M.72.1.9	Other research and experimental development on natural sciences and engineering

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## Network Contact

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

Bio Chem Tech

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

1995

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
Russian  
Lithuanian

### Client Country

Lithuania

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## Partner Sought

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## Type and Role of Partner Sought

Type of partner sought:

- researcher, designer, industrialist - business partners (engineering companies, equipment manufacturers, environmental active firms (biomass, MSW, scrap tyres, sewage sludge and other wastes utilization), alternative fuels and chemical intermediate goods production) to cooperate in developing specific software, to test and evaluate it.

Task to be performed by the partner sought:

- to test and evaluate software with a view to considering commercial agreement with technical assistance, financial or research cooperation agreements.

## Type and Size of Partner Sought

R&D Institution, 251-500, SME 51-250, >500

## Type of Partnership Considered

Financial agreement

Commercial agreement with technical assistance

Research cooperation agreement

## Technology Offer

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# Collaborative automated machines to reduce hard, troublesome and repetitive tasks

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## Summary

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*A French SME, based in northern France, is specialized in robotics for industrial processes improvement. It has strong expertise in automated machines to bring solutions in order to reduce hard, troublesome and repetitive tasks in the industrial processes (manufacturing, supply chain, logistics...). It is looking for partners from industry (processes, logistics, supply chain) to collaborate under technical cooperation agreement or act under technical services agreements.*

<b>Creation Date</b>	10 March 2016
<b>Last Update</b>	18 March 2016
<b>Expiration Date</b>	18 March 2017
<b>Reference</b>	TOFR20160310003

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## Details

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### Description

A French SME, based in northern France and acting in B to B in industrial environments, has a strong experience in industrial automated machines' programming. Industrial processes always show difficult and unhealthy tasks at several stage of the process, which can lead to medical disorder for the employees. In order to reduce troublesome and repetitive tasks, but also improve automation and productivity, robots are more and more used in industry. The new problem shown is therefore the reduction of employees, automated machine replacing human work.

The French SME is proposing automated machine solution taking into account the cooperation between robot and human work. Supported by an engineering office for mechanical studies, it proposes turnkey solutions for process automation projects. The main goal is to reduce hard, troublesome and repetitive tasks. The solution proposed offers a high level of flexibility and a simple and personalized user-machine interface.

Some collaborative automated solutions have already been developed for clients for palletization, machine charging (turning machine, press, special machines), or turnkey solutions for special machines (gluing, assembling, welding, counting, controlling...).

Acting between the automated machine and the product, the French SME is looking for partners wanting to improve their industrial processes and working conditions for their employees. It helps the partners by understanding the process issues and different way of improvement. The added value of the French company is its strong knowledge of the technologies on the market, its ability to propose solutions to integrate automated machine in collaboration with workers, and bring to its partner quality, cost and time-efficient and turnkey solutions to automate their processes. Cooperation types envisaged are technical cooperation agreements or technical

services agreements.

## Advantages and Innovations

Strong knowledge of the robotics technologies on the market  
Collaborative automated machine  
Development of human-machine interface of communication and collaboration offering high flexibility of use  
Offering eco-design studies

Close cooperation with engineering office for mechanical studies  
Partnership with research centers and competitive clusters for technological support on special projects  
SME Certified by main manufacturers of robotics, software and equipment

## Stage of Development

Already on the market

## IPR Status

Secret Know-how

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

01001001	Automation, Robotics Control Systems
02003001	Process automation
02003004	Supply chain

### Market

08002004	Robotics
09003001	Engineering services

### NACE

C.28.4.1	Manufacture of metal forming machinery
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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

2014

### Turnover

1 - 10M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
French

### Client Country

France

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## Partner Sought

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### Type and Role of Partner Sought

Type of partner sought: SMEs dealing with industrial processing where automation can bring them time and cost-efficiency, large and major companies could be of interest for special machine projects.

Fields of activity of the partner sought: agro food industry, transportation industries, chemical industry, steel industry, medical, cosmetics.

The French SME is looking for partners willing to improve their industrial processes and the working conditions for their employees. Partners can collaborate under technical cooperation agreement for the improvement of the processes, sharing knowledge and technical expertise to bring a turnkey solution. French partner can also act under technical services agreement and provide its expertise to understand the process issues and different way of improvement. Services agreements can also be concluded for the implementation of the automated machines

in-situ and for maintenance contracts in the framework of a long term relationship. Best partnership type can be discussed between both partners throughout further exchanges.

## **Type and Size of Partner Sought**

SME 11-50, SME <10, >500 MNE, 251-500, SME 51-250, >500

## **Type of Partnership Considered**

Services agreement

Technical cooperation agreement

## Technology Offer

# New properties of plastic parts by flexible upgrading of single or multicomponent injection moulding machines

## Summary

*A small German engineering company has developed modules to retrofit a broad range of injection moulding machines to enable new properties of plastic parts by sandwich-injection moulding. The SME is searching for industrial partners and research institutions for technical cooperation agreement, commercial agreement with technical assistance or license agreement to implement the modules jointly and to share its knowhow regarding the development and production of sandwich-injection moulded parts.*

<b>Creation Date</b>	25 February 2016
<b>Last Update</b>	09 March 2016
<b>Expiration Date</b>	09 March 2017
<b>Reference</b>	TODE20160225001

## Details

### Description

The small German engineering company is developing supplementary modules for injection moulding machines and offering support to exploit them with the matching technologies, the matching materials and the matching product structures. They offer modules to retrofit a broad range of single- and multi-component injection moulding machines to enable sandwich-injection moulding processes.

With sandwich-injection moulding (also called co-injection), plastic parts with extended properties and advantages can be produced, i.e.

- material cost savings with regrind as core material,
- weight reduction by using foamed polymers in the core,
- increase in strength by fibre reinforced polymers,
- colour effects by different coloured polymers.

In one single process two different plastic materials are injected successively (and also shot time simultaneously) into the injection mould as skin material and core material.

The different characteristics of the skin and the core material and their combination provide a broad variety of features of the resulting multi-functional mouldings.

Sandwich-injection moulding is currently not widespread because it is commonly connected to 2-component machines, which are by 1,2-times to 1,6-times more expensive than standard machines and the moulds must have a cold runner in the most cases.

The developed solution consists of a variety of add-on modules like 2-component sandwich nozzles and intermediate plates and their selection/design as well as of the provided knowhow of the company to select the raw materials and to configure the moulding process to reach the desired product features.

The SME is searching for industrial partners and research institutions for technical cooperation

agreement, commercial agreement with technical assistance or license agreement to implement the modules jointly and to share their knowhow regarding the development and production of sandwich-injection moulded parts.

The searched partners should be active in the area of plastic parts production, the production of moulding machines or components.

The actual type of the agreement depends on the type and the needs of the partner for support.

## Advantages and Innovations

The developed solution opens the way for almost all standard and multicomponent injection moulding machines to execute sandwich-injection moulding processes with very low material efforts for the upgrade.

This enables

- plastic parts production in a very cost saving and environmentally friendly way regarding material consumption (i.e. regrind as core material),
- weight reduction of the parts by using foamed polymers in the core,
- increase in strength by fibre reinforced polymers,
- colour effects by different coloured polymers.

Depending on the type of the parts other effects, basing on possible new product features, are expected.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how

## Profile Origin

National or Regional R&D programme

## Keywords

### Technology

02002009	Machine Tools
02002013	Moulding, injection moulding, sintering

### Market

08001001	Plastic fabricators
08001002	Homogeneous injections/extrusions
08001003	Non-homogeneous injections/extrusions

### NACE

C.28.9.6	Manufacture of plastic and rubber machinery
M.72.1.9	Other research and experimental development on natural sciences and engineering



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## Network Contact

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---

**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Materials

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2002

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
German

### Client Country

Germany

## Partner Sought

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### Type and Role of Partner Sought

Industrial partners, producing plastic parts by injection moulding, are sought for upgrading their machines, joint development of sandwich-injection moulded parts.

Industrial partners, producing injection moulding machines or core parts (tools), are sought for upgrading their portfolio and retrofit their customer's machines.

Research partners, developing new injection moulding technologies respectively parts, are sought for qualifying their technologies/parts.

The type of cooperation depends on the R&D-level of the partner and on the necessary R&D-involvement of the SME.

### Type and Size of Partner Sought

SME 11-50, University, R&D Institution, SME <10, >500 MNE, 251-500, SME 51-250, >500

### Type of Partnership Considered

License agreement  
Commercial agreement with technical assistance  
Technical cooperation agreement

## Technology Offer

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# Protocol for energy-efficient design and management of automated warehouses

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## Summary

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*Researchers from an Italian University developed a novel set of storage policies and methodologies which, applied to the design of new automated warehouses or to existing ones, can significantly reduce energy consumption for the handling of goods. According to the simulations carried out these policies can lower storage costs by 40%. The group is looking for partners to field test and refine the solution and to bring it to market within research/technical cooperation and license agreement.*

<b>Creation Date</b>	04 March 2016
<b>Last Update</b>	11 March 2016
<b>Expiration Date</b>	11 March 2017
<b>Reference</b>	TOIT20160126010

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## Details

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### Description

The solution consists of a series of storage policies that, if applied to the design of new automated warehouses or to existing ones, can significantly reduce energy consumption associated with the handling of goods.

The novel methodologies make it possible to link the level of service required from the warehouse with the consumption of electricity necessary for stocking operations. In particular, they set stocking and sequencing policies for programming stacker cranes and other automated machines, to improve the energy efficiency of such operations.

Scientific studies and simulations supporting the validity of the model were published and numerical simulations have been carried out.

The research group, specialized in Industrial Engineering, is currently looking for partners for field-testing the methodology in an industrial context, refining the solution and co-development and commercialisation opportunities. Research and technical cooperation agreement are considered, as well as license agreements.

### Advantages and Innovations

The proposed methodology enables significant reduction of storage costs by increasing energy efficiency of stocking operations. The development and consolidation of e-commerce has created a need for managing increasingly rapid and automated warehouses, leading to high energy consumption in these facilities: the new solution improves existing technology.

The ultimate beneficiaries of this new methodology are businesses interested in building an automated warehouse. Sectors for which the solution is particularly suitable include food and beverage, pharma, and retail.

### Stage of Development

Under development/lab tested

## IPR Status

Secret Know-how

## Profile Origin

National or Regional R&D programme

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## Keywords

### Technology

02003001	Process automation
02003005	Information processing & Systems, Workflow

### Market

08002007	Other industrial automation
08006001	Process control and logistics

### NACE

H.52.1.0	Warehousing and storage
M.72.1.9	Other research and experimental development on natural sciences and engineering

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## Network Contact

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---

**Open for EOI :**   **Yes**

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## Dissemination

### Send to Sector Group

ICT Industry and Services

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## Client

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### Type and Size of Organisation Behind the Profile

University

### Year Established

0

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

Italian

### Client Country

Italy

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## Partner Sought

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### Type and Role of Partner Sought

The University is looking for partners to field test and refine the methodology and for bringing it to market. The proposed methodologies are addressed primarily to companies that plan and design warehouses and stocking systems, for whom energy efficiency is one of the key variables to account for when designing automation systems. Another potential reference market is that of the planning and design of stacker crane systems.

Research and technical cooperation as well as license agreement are available, in accordance with the partners' specialisation and market interest.

### Type of Partnership Considered

License agreement

Technical cooperation agreement

Research cooperation agreement

## Technology Offer

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# Innovative wastewater vermifiltration treatment systems developed by a Scottish company

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## Summary

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*A Scottish SME with expertise in waste water management designs and manufactures ecological systems which use worms to treat waste water from a range of industries. These systems are more sustainable and have lower capital and running costs compared to conventional treatment works. They are seeking to collaborate with industrial partners for technical co-operation agreements or commercial agreements with technical assistance in order to explore new industrial and geographical applications.*

<b>Creation Date</b>	19 February 2016
<b>Last Update</b>	24 March 2016
<b>Expiration Date</b>	24 March 2017
<b>Reference</b>	TOUK20160212001

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## Details

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### Description

Management of waste water is a major challenge for many industries and the construction of conventional water treatment solutions can be expensive to install and maintain.

A Scottish SME has developed an innovative, ecologically sustainable vermifiltration system using tiger worms for the treatment of waste water. It is suitable both for domestic properties and a range of industries which produce biodegradable waste water streams. These include sewage management, brewing, distilling, agriculture, aquaculture, food processing and tourism businesses.

The company has specialist knowledge of waste water treatment.

They are looking for industrial partners to collaborate through technical co-operation agreements or commercial agreements with technical assistance in order to test and further develop the product for waste water treatment applications (including sludge treatment) in different industries and geographical locations

### Advantages and Innovations

The systems have the following benefits:

- Removal of up to 95% BOD (biochemical oxygen demand) and suspended solids.
- Small physical footprint.
- Low energy and carbon footprint.

Low capital and operating costs.  
Minimal mechanical and electrical requirement.  
Require minimal maintenance.  
No sludge production.  
Modular.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02004	Plant Design and Maintenance
10004001	Industrial Water Treatment
10004002	Municipal Water Treatment
10004003	Wastewater Recycling
10004006	Sludge Treatment / Disposal

### Market

08004003	Water treatment equipment and waste disposal systems
08006001	Process control and logistics
09008002	Water, sewerage, chemical and solid waste treatment plants

### NACE

E.37.0.0	Sewerage
E.39.0.0	Remediation activities and other waste management services

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## Network Contact

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**Open for EOI :**   **Yes**

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## Dissemination

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**Send to Sector Group**

Environment

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

0

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

### Client Country

United Kingdom

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought: Industry
- Specific area of activity of the partner: Waste water and/or sludge treatment in any industry producing biodegradable waste.
- Task to be performed by the partner sought:  
partners required who want to enhance their waste water treatment technology portfolio, including those serving brewing, distilling, agriculture, aquaculture, tourist/golf resorts

### Type of Partnership Considered

Commercial agreement with technical assistance  
Technical cooperation agreement

## Technology Request

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# Technological line with the 4-modular expander for vermiculite exfoliation

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## Summary

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*A micro company from North-East Poland-manufacturer of products from vermiculite, due to rapid expansion and increase in products' demand, is looking for technological line that will be used for manufacturing process of expanded vermiculite, substrates, plates, etc. Key technical requirements are the max. power consumption-260KW and capacity-480 kg/hour. The technology has to be ready to implement. Company is looking for commercial agreement with technical assistance with industry partners.*

<b>Creation Date</b>	25 February 2016
<b>Last Update</b>	09 March 2016
<b>Expiration Date</b>	09 March 2017
<b>Reference</b>	TRPL20160225001

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## Details

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### Description

The micro company from North-East Poland has been operating on the market of vermiculite products from 2012. The company offers wide range of products such as: concentrated and expanded vermiculite, agro vermiculite, addition to the litter, substrates for terrariums and aquariums, incubation substrates and vermiculite plates (boards).

The company has got experience in international cooperation as few years ago it bought the furnaces for vermiculite expand from the German company.

As there is a fast growing demand for its products, the company needs to increase its production capacities and improve the process efficiency. Therefore, the company seeks the technological line for vermiculite expand.

The line has to consist of 4-modular expander and has to be fully automated. The company requires that the technology provider/developer will provide essential materials, devises, etc. as well as it will provide assembly and initial start of the line.

The company is looking for cooperation with industry partners from the European Union in form of commercial agreement with technical assistance. The outcome to the cooperation will be technological line implementation and launching.

The technology line purchase will be co-financed from the European Union Structural Funds project. The company is expecting that technology supplier will provide assembly and service during at least 12 months. These requirements will be specified in cooperation agreement.

### Technical Specification or Expertise Sought

The technical requirements for the technological line are as follows:

1. Maximum power consumption for the whole line – 260 KW;
2. Process capacity - minimum 480 kg of raw materials per hour
3. Cooling system is required to avoid the end product from crushing.

4. Vermiculite cleaning system.
5. Separation system – fraction set from 0,5 to 6 mm

## Stage of Development

Already on the market

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## Keywords

### Technology

02002012      Mixing (powder, etc.), separation (sorting, filtering)  
07001001      Agriculture Machinery / Technology

### Market

09005      Agriculture, Forestry, Fishing, Animal Husbandry & Related Products

### NACE

C.32.9.9      Other manufacturing n.e.c.

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## Network Contact

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**Open for EOI :**    **Yes**

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## Dissemination

### Send to Sector Group

Agrofood

## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2012

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Russian  
Polish

### Client Country

Poland

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## Partner Sought

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### Type and Role of Partner Sought

Type: industrial partner from the European Union

Activity: experience in manufacturing devises for the purpose of vermiculite expanding

Role: the partner will be responsible for technological line providing, essential materials, devices delivery, line implementation and first start. It is expected that technology supplier will provide the line assembly and service.

### Type and Size of Partner Sought

SME 11-50,SME <10,SME 51-250

### Type of Partnership Considered

Technical cooperation agreement

## Technology Request

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# Automated system for guiding and positioning fruits before feeding the line production

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## Summary

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*A Spanish company specialises in fruit processing for industrial use. The company's main activity is aseptic processing and preservation of fruits. It has recently incorporated in its range of products individually quick frozen (IQF) fruit processing by using cryogenic technology. It is interested in acquire an automated system for guiding and positioning fruits to be automatically cut and stoned. It is looking for automation companies for a commercial agreement with technical cooperation.*

**Creation Date** 23 December 2015  
**Last Update** 10 March 2016  
**Expiration Date** 10 March 2017  
**Reference** TRES20151223002

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## Details

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### Description

The company is interested in acquire an automated system for guiding and positioning fruits to be automatically cut and stoned before the line production.

The equipment must be capable of identifying the initial position of the fruit and correct it for an appropriate process. This procedure is currently carried out manually so it would get labour-saving and it would avoid staff fatigue.

The company is looking for an agreement arranging the acquisition of a technology paired with the provision of a number of services in support of, or essential to a transfer of technology. Therefore, the company is interested in cooperation agreement with technical assistance.

### Technical Specification or Expertise Sought

The equipment must be capable of identifying the initial position of the fruit and correct it for an appropriate process.

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## Keywords

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### Technology

02002010	Machining (turning, drilling, moulding, planing, cutting)
08001003	Food Packaging / Handling
08001004	Food Processing

08001005 Food Technology

## Market

07003002 Health food  
07004008 Other consumer products

## NACE

C.10.3.2 Manufacture of fruit and vegetable juice

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## Network Contact

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**Open for EOI :** **Yes**

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## Dissemination

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### Send to Sector Group

Agrofood

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## Client

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### Type and Size of Organisation Behind the Profile

Industry 250-499

### Year Established

1957

### Already Engaged in Trans-National Cooperation

No.

## Languages Spoken

English  
Spanish

## Client Country

Spain

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## Partner Sought

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### Type and Role of Partner Sought

The company is looking for an industrial partner working in the food sector, the specific area of activity of the partner should be automation systems, to establish a commercial agreement with technical assistance.

### Type of Partnership Considered

Commercial agreement with technical assistance



## Technology Request

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# Software solution for building blocks for an end-to-end supply chain planning system

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## Summary

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*A Belgian multinational active in consumer goods looks for plug-in software/systems allowing an efficient supply chain planning. Software providers are sought for technical cooperation or licence agreement with the large account.*

<b>Creation Date</b>	22 March 2016
<b>Last Update</b>	06 April 2016
<b>Expiration Date</b>	06 April 2017
<b>Reference</b>	TRBE20160322001

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## Details

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### Description

A Belgian multinational based in Brussels and active in consumer goods wishes to make the supply chain planning more efficient and aligned to the new ICT technologies. This by a paradigm shift towards the use of crowdsourced building blocks.

Supply Chain Planning today is still based on old methods and standards that are widely supported by various commercial software products. These products are closely tied to the old way of planning that was developed in a world in which the technological advances that are unfathomable today.

As a result, they suffer from the following pitfalls:

- They run in a hierarchical, serial, batch mode, leading to plans being out of date for long periods
- They come with a limited set of pre-defined, locked-in algorithms that cannot be improved or swapped
- They cannot take advantage of new signals and events in the supply chain without bolt-on post-processing.

This large account has strong reasons to believe that the way to rescue supply chain planning from the past is through a paradigm shift toward the use of crowdsourced building blocks instead of locked solutions that are tied to specific technology providers.

The company believes in the possibility of continuous, event-based planning via configurable, smart, and interactive software modules (such as, but not limited to intelligent agents, algorithms, etc.) able to generate and update plans at all stages of the supply chain real-time in a distributed model.

Such a system would be horizontally extendable to take advantage of new events and signals and could be optimized at the global and local levels to achieve the desired business results.

The challenge this company experiences when it comes to implementing this vision is with harvesting the said building blocks (e.g., configurable modules) that can be stitched together for a complete, end-to-end solution. They intend to achieve the goal that is economically viable, as opposed to building them each from scratch.

For such a reason, this company is looking for collaboration with industrial partners able to provide plug-in software to be used in the supply chain planning. The purpose would be setting up a long lasting cooperation allowing the large account to comply with its internal strategy and for the potential partner interact in a systematic way with the large account so as to have immediate access to forthcoming similar requests.

Actually, for the technical cooperation, this large account intends to work together with potential partners having the suitable technical solution (software solution) coupled to the related expertise detailed in the expertise sought and in line with the technical specifications for the software system.

As for the licence agreement, should an already developed software solution exist and be fully compliant with the technical requirements listed, the large account would envisage discussions on the terms of the licence use.

## Technical Specification or Expertise Sought

The company is looking for plug-in software that can perform one or more of the following functions:

- Demand Management: Multi-Model Statistical Forecasting, Promotion & Event Management, Initiative Planning, Forecast Accuracy
- Distribution Network Planning: Inventory Allocation & Optimization, Network Balancing, Phase-In & Phase-Out, What-If Analysis
- Production Planning: Resource Scheduling (Lines & Unit Ops), Capacity Evaluation (Auto-Levelling), Rough-Cut Capacity Planning, Site-Level Initiative Planning
- Transportation Planning: Transport Route Optimization, Truck Load Planning & Load Building, Transportation Forecasting
- Material Supply Management: Supplier Material Schedules, Material Plan Sufficiency, Material Change Management

And throughout all the functions, the Event/Signal Processing.

The company is interested in getting in touch with potential partners with suitable technical solution coupled to the related expertise :

- Existing software entities that deliver one or more of the above capabilities, or other supporting functions
- Potential ecosystem components that can communicate via open standards
- Solutions with documented industry case studies that can be shared
- Systems with the potential to scale

The company is NOT looking for:

- Offers for consultation or expert advice alone
- Solutions that cannot be purchased or licensed for use
- Conceptual designs or frameworks that have not been vetted in industry

Only non-confidential information can be accepted for review

## Stage of Development

Already on the market

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## Keywords

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### Technology

01003008	Data Processing / Data Interchange, Middleware
01003013	Information Technology/Informatics
01003020	Building Automation Software
02003004	Supply chain
02003005	Information processing & Systems, Workflow

### Market

02007011	Manufacturing/industrial software
02007014	Other industry specific software
02007019	Computer-aided instructions
02007024	Programming services/systems engineering

### NACE

C.20.4	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
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## Network Contact

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Open for EOI : **Yes**

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## Dissemination

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### Send to Sector Group

ICT Industry and Services

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## Client

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### Type and Size of Organisation Behind the Profile

Industry >500 MNE

### Year Established

0

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

### Client Country

Belgium

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## Partner Sought

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### Type and Role of Partner Sought

Type of Partner sought: SMEs or industry

Area of expertise : software entities with deep and proved expertise and knowledge of the supply-chain ecosystem/environment

Role of Partner Sought: collaborate with the large account and provide the technical solution sought

### Type and Size of Partner Sought

SME 11-50,SME 51-250

### Type of Partnership Considered

License agreement

Technical cooperation agreement

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**3.**

***TECNOLOGÍAS DE LA  
CONSTRUCCIÓN***

## Technology Offer

# Development, design and manufacturing of non-metallic liquid nitrogen and liquid helium cryostats (e.g. for cooling of superconducting magnets or coils)

## Summary

*A German research enterprise active in the fields of air handling and refrigeration technologies seeks partner for research, service and technical cooperation agreements as well as commercial agreements with technical assistance with the goal to develop new technological solutions and/or applications for non-metallic cryostats (fibre-reinforced plastic). The very low permeation rates allow higher durability for long-term experiments.*

<b>Creation Date</b>	29 February 2016
<b>Last Update</b>	10 March 2016
<b>Expiration Date</b>	10 March 2017
<b>Reference</b>	TODE20160226001

## Details

### Description

A German independent and free research enterprise for air handling and refrigeration with the legal status of a non-profit limited liability company seeks partners with interest in development of new technologies and/or applications of non-metallic cryostats. Research, service and technical cooperation agreements as well as commercial agreements with technical assistance are desired.

Non-metallic (e.g. glassfiber-reinforced plastic - GRP) cryostats for liquid nitrogen and liquid helium can be custom-designed and manufactured in various sizes and for different applications (see examples). Long-standing experience in the designing of cryostats and the know-how necessary for manufacturing and testing is available.

Example 1: Development of GRP cryostats with special properties for the cooling of e.g. iSFCLs (Inductive Shielded Superconducting Fault Current Limiter). These cryostats are also available as pressure vessels.

Example 2: Development of a cryostat for cooling of SQUIDs (Superconducting Quantum Interference Device). Beside special magnetic request a direction independent operation mode is possible, too.

Data for non-metallic helium-cryostat (as example)

Parameter and Value

Volume of liquid helium (LHe) 5 -12 litre (costumer-defined)

Time to complete evaporation of liquid helium 3 – 7 days (dependent on design)

Speed of the liquid helium evaporation Less than 1.6 litre per day

Initial noise of the cryostat  $< 3 \text{ fT} / \text{Hz}^{1/2}$

Example 3: Development of fully position-independent GRP cryostats with an adjustable cold-warm distance (z-axis) for non-destructive material testing. In the case of the measurement of lowest magnetic fields (heart and brain diagnostics) a displaceable x-y-position for the sensor is possible. GRP cryostats, e.g. for geological surveys, can be designed with solid insulation as well.

The cryostats can be designed and manufactured as pressure vessels of class II with an A1 certification according to the European Pressure Vessel Regulation 97/23/EG (European standard).

## Advantages and Innovations

Non-metallic (fibre-reinforced plastic) cryostats for cryogenic liquids make several applications of superconductors possible. These cryostats are suited both, for SQUIDs and superconducting coils. Usually such cryostats are built either as a bath cryostat, without or with a warm bore (e.g. ring shaped) or can be designed for sample cooling via thermal conduct. For thermal insulation special multilayer foils (MLI) are used, even when eddy currents have to be avoided within this insulation.

Advantages:

- Suitable for the cooling of SQUID-Sensors
- Non-metallic (GRP)
- Fast filling with LHe via thermosiphon
- GRP exhaust gas cooled radiation shield for high efficiency
- Small cold-warm distance feasible
- Low maintenance
- Other design variants possible on customer request
- High helium and vacuum holding time

The low-noise magnetic field of the cryostat was tested in the magnetically shielded room BMSR-1 of PTB Berlin and is smaller than the lowest resolution limit of the measurement system used.

## Stage of Development

Already on the market

## Comments Regarding Stage of Development

The cryostats are designed and manufactured on customer's demand. Volume production is also possible.

## IPR Status

Secret Know-how

## Profile Origin

National or Regional R&D programme

## Keywords

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## Technology



01002006	Magnetic and superconductor materials/devices
02006006	Construction engineering (design, simulation)
02007005	Composite materials
04002008	Cooling technologies

## Market

05004005	Diagnostic equipment
06008	Energy Storage
06009	Energy Distribution
06011	Energy for Transport

## NACE

C.28.2.5	Manufacture of non-domestic cooling and ventilation equipment
D.35.3.0	Steam and air conditioning supply
M.72.1.9	Other research and experimental development on natural sciences and engineering

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## Network Contact

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### Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

### Contact Person

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

Intelligent Energy

## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 50-249

### Year Established

1990

### Turnover

10 - 20M

### Already Engaged in Trans-National Cooperation

Yes

### Certification Standards

ISO 9001

### Languages Spoken

English  
German  
Russian

### Client Country

Germany

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## Partner Sought

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### Type and Role of Partner Sought

The research enterprise is looking for partners and customers in Europe for development of new technologies, e.g. in the field of energy applications, cryogenics and related research.

Type of partners are industry, public and private research institutes, federal and regional scientific offices.

### Type and Size of Partner Sought

SME 11-50, University, R&D Institution, SME <10, >500 MNE, 251-500, SME 51-250, >500

### Type of Partnership Considered

Services agreement  
Commercial agreement with technical assistance  
Technical cooperation agreement  
Research cooperation agreement

## Technology Offer

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### **Quick release system adaptable to almost any application needed enabling faster, safer, and easier connection.**

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#### Summary

*An Italian SME has developed and patented a quick release system that enables to connect two slings in a fast, safe way, without any specific tool with a 120° degree turn. The pin can be opened/closed by hand up to tens of tons of WLL (Working Load Limit). The system presents a double safety closure, making the accidental opening even with severe vibrations impossible. The company is seeking a partner to cooperate to produce and sell the device and develop new market applications.*

<b>Creation Date</b>	15 March 2016
<b>Last Update</b>	31 March 2016
<b>Expiration Date</b>	31 March 2017
<b>Reference</b>	TOIT20160314002

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#### Details

##### Description

An Italian SME is seeking a partner that produces and markets the quick release system. Preferably an expert in the industry that knows well the market in order to further develop different application to fully satisfy the market's needs and gain a valuable market share from current connection systems that will be obsolete. The company is open for different cooperation suggestions and to negotiations. The patent can also be further developed into new industries that are still unknown to the SME developing it to this day.

Possible fields of application:

- For equipment, as well as assemblable and/or removable accessories, needing a robust, quick and safe connection
- As connecting element of machinery components requiring temporary removal for maintenance.
- As anchoring element in lifting, logistics and transport
- Application on large façades, occasionally removable for maintenance, allowing access inside the building.
- For paneling and temporary fencing, guarantees quick installation and removal
- Safe coupling of the beams when assembling and disassembling sheds and tents in short time
- For scaffoldings and itinerant constructions such as amusement parks, stages for concerts and shows
- Quickly removable connection for superstructures and equipment of large size and weight.

Facilitated periodic maintenance

- Systems of lifting loads with matching belts, ropes, chains
- Rapidly installable connections for movable bridges

- Quickly installable and removable tactic platforms and raised platforms
- Facilitated maintenance in absence of workshops and garages

## Advantages and Innovations

The Innovation of this patent consists in not having to extract the pin horizontally in order to unlatch the device. The pin always remains in place allowing the system to open only with a 120° degree turn on its own axle. The system can be adapted to suit almost any connection link needed.

- **Easiness and Quickness:** The main advantage is that it can be opened by hand (up to several tons of WLL) or without any special tool making it quick, safe, and easy to open/close multiple times. It is very time-cost effective especially for applications where it needs to be opened and closed often.
- **Safety:** is increased because the pin does not detach and the locking-mechanism hinders an unintended opening of the connection link. The risk of workplace-accidents is eliminated by avoiding intermediate stages through an explicit "open" (pin open) or an explicit "close" (pin closed and locked).

## Stage of Development

Available for demonstration

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

Patent Pending - Europe

## Profile Origin

Other

## Keywords

### Technology

02002009	Machine Tools
02006001	Materials, components and systems for construction
02006002	Construction methods and equipment
02009016	Charging system
10001002	Assessment of Environmental Risk and Impact

### Market

08002007	Other industrial automation
08003001	Machine tools, other metal working equipment (excl. numeric control)
08003002	Hoists, cranes and conveyors
08003006	Power transmission equipment (including generators & motors)
08003007	Other industrial equipment and machinery

### NACE

C.28.2.2	Manufacture of lifting and handling equipment
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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Inventor

### Year Established

2012

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
German  
Italian

### Client Country

Italy

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## Partner Sought

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## **Type and Role of Partner Sought**

Industry. Companies interested in the quick release system to use it and/or to produce it and/or to sell it and/or to develop new applications.

Possible fields of activities could be the transportation of goods, (metalworking) industry, construction of facades and scaffoldings.

## **Type and Size of Partner Sought**

SME 11-50,>500 MNE,251-500,SME 51-250,>500

## **Type of Partnership Considered**

License agreement

Technical cooperation agreement

## Technology Offer

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# A vehicle with folding wings that can ride, fly or float is offered for further development and commercialization under license agreement.

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### Summary

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*A Polish SME has developed technology of conveyance equipped in folding wings, floats and wheels. The construction has 3 modes of movement: driving, flying and floating with possibility to take off and touch down from land or water. The company is looking for a partner from aircraft industry who would like to develop the idea and implement it on the market under license agreement.*

<b>Creation Date</b>	26 February 2016
<b>Last Update</b>	10 March 2016
<b>Expiration Date</b>	10 March 2017
<b>Reference</b>	TOPL20160210001

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### Details

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#### Description

A Polish company has developed a project of a vehicle that can drive, fly and float. The project is based on a combination of lightweight, innovative design with new method of wings folding. The conveyance has aerodynamic and hermetic cabin with 3 wheels at the bottom. A set of propellers, two folding wings and floats are mounted to the body. Depending to the movement mode proper elements are used. One-man construction allows to take off and touch down from land or water. The vehicle is equipped with electric wheel drive and combustion engine that drives the propeller in flight or when floating. Its maximum speed on land is 50 km/h and in the air 250 km/h.

The company is interested in development of the vehicle construction therefore it is looking for a partner from aircraft industry who will share his know-how and business contacts but also invest money in project development. A partner will be also responsible for building a prototype and implementation of the offered solution on the market under license agreement.

#### Advantages and Innovations

The conveyance has 3 modes of moving so it is possible to drive on land, fly in the air and float on water. Folding and unfolding wings takes 10 seconds. Construction of the vehicle allows to take off or touch down both on water and land. Maximum speed on land 50 km/h and 250 km/h in the air.

#### Stage of Development

Concept stage



## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

Polish patent pending.

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02006002	Construction methods and equipment
02011001	Aeronautical technology / Avionics
02011002	Aircraft

### Market

08005	Other Industrial Products (not elsewhere classified)
09004008	Other manufacturing (not elsewhere classified)

### NACE

H.49.3.1	Urban and suburban passenger land transport
H.49.3.9	Other passenger land transport n.e.c.
H.51.1.0	Passenger air transport

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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

1998

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English

### Client Country

Poland

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought : industry
- Specific area of activity of the partner: companies with know how in range of aircraft industry
- Task to be performed: The company is interested in establishing partnership with an entity from aircraft industry who will share know-how and business contacts but also invest money in project development. A partner will be responsible for building a prototype and implementation of the offered solution on the market under license agreement.

### Type of Partnership Considered

License agreement

## Technology Offer

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# Heating glass panels are offered for development of new models of doors and windows.

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## Summary

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*A Polish manufacturer of innovative radiators constructed of two glass panels is looking for a partner to develop a new product – a door or a window with a heating glass panel. The unit of 120x60 cm is enough to heat a room of 20-25m<sup>2</sup> with very low consumption of electricity. It is very aesthetic in itself but can also be covered with any graphics. Cooperation in a form of technical cooperation agreement is offered.*

<b>Creation Date</b>	11 March 2016
<b>Last Update</b>	15 March 2016
<b>Expiration Date</b>	15 March 2017
<b>Reference</b>	TOPL20160309001

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## Details

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### Description

A Polish company acts as a manufacturer of electric glass heaters what is a new solution for domestic heating. The heater is made of two glass panels with a laminated PVB (Polyvinyl butyral) interlayer that can be covered with any custom design or graphic. It was rewarded with a gold medal for product innovation.

The construction of the whole unit is clear and safe to use. The heater has a dimension of 120x60cm is enough to heat the surface 20-25 m<sup>2</sup>. Connected to the mains voltage of 230 V it is able to heat up from 45°C to 70°C. A user can regulate the temperature by a thermostat, that is integrated into the plug. 1700 Watts allows for the heater to warm up within 1.5-2 minutes and over the next 5 to 7 minutes transfers heat to the room without power consumption. This means that during 1 hour only for 15 minutes the heater consumes electricity.

The offered solution is eco-friendly and very easy to use. It gives unlimited possibilities for home design as well as for offices or winter gardens – the heating panel can be part of door, window, railing and other elements of interior design. Therefore the company is looking for a partner – manufacturer of doors and windows who would like to develop a new product – door or windows with heating glass elements based on offered panels. The company would like to cooperate with a partner in range of adjusting sizes and shapes of panels while the partner's task would be creation of the final product. Long-term cooperation in a form of technical cooperation agreement is offered.

### Advantages and Innovations

The offered heating panels can be adjusted as elements of doors, windows and other elements of interior design. In the era of efficiency and environmental care panels meet these

requirements. They are energy efficient. The calculation shows that the heater at full power/non-stop uses electricity for about 7.5 min. and gives off heat for about 52.5 min. within an hour. In this mode the heaters power consumption is 226 W/hr, this is a great saving of electricity. It is also characterised by ease of use. Moreover it can be covered with any graphics and as it's made of glass it's anti-allergic.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02006001

Materials, components and systems for construction

02006004

Installations related to construction (energy, lighting, ...)

### Market

09004008

Other manufacturing (not elsewhere classified)

09007002

Manufacture of construction materials, components and systems

### NACE

C.27.5.1

Manufacture of electric domestic appliances

C.27.5.2

Manufacture of non-electric domestic appliances

C.32.9.9

Other manufacturing n.e.c.

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## Network Contact

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Open for EOI : **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2012

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
Russian

### Client Country

Poland

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## Partner Sought

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### Type and Role of Partner Sought

The company is looking for producers of door or windows, etc. who want to create a new product by integration of their production process with the offered solution. The company is able to adjust their heating panels in line with the design of a new product and support its development.

### Type of Partnership Considered

Technical cooperation agreement

## Technology Offer

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### Patented device for dynamic ventilation facades

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#### Summary

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*A Spanish inventor has patented a ventilation and dehumidification device of double sheet facades with air chamber. It can be adjusted depending on weather conditions, from inside the house, and prevents condensation in the air cavity, resulting in energy saving and cosy indoor environments. It has low manufacturing and installation costs compared to traditional solutions. This device is offered for companies interested in a license agreement*

<b>Creation Date</b>	05 February 2015
<b>Last Update</b>	14 March 2016
<b>Expiration Date</b>	14 March 2017
<b>Reference</b>	TOES20150205002

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#### Details

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##### Description

A Spanish inventor has patented device for ventilation and dehumidification of double sheet facades with air cavity. This device is easily adjustable depending on weather conditions from inside the house, allowing it to be open in summer and closed in winter. This device makes the facade work as a ventilated in summer (the most efficient at high temperatures), and as a closed double sheet in winter (the most efficient at low temperatures).

The principle is very simple. The air in the cavity is renewed by the draft generated by "chimney effect" when a device is installed in the bottom of the facade and another at the top. The user simply turns the knob to "open" or "closed" position and ventilates or isolates the air cavity.

Its cylindrical or parallelepiped design and the possibility of manufacturing it in different colours and designs allow an aesthetic integration into the facade (for example replacing a brick in a face brick facade).

Significantly increases comfort in homes, especially in summer, because it prevents the interior brick sheet from heating and continue releasing this heat to the house even hours after having received solar radiation.

It can be made of any material capable of with standing weather conditions, although aluminium or plastic is recommended. Given its small size, manufacturing and installation costs are modest, being an almost negligible in the total cost of the facade.

It's suitable for both new constructions and rehabilitations. This energy saving measure has a huge potential market. For example Spain has approximately 25,000,000 homes, and about 80% of them have double sheet facades.

The most important advantage is that provides you the most energy efficient facade in the

market (the adjustable ventilated double sheet) at a cost almost similar to the normal double sheet (not ventilated) facade, which is a 50% cheaper than the ventilated type. It makes available to any user one of the few dynamic, adjustable, facades that exist at a minimal cost, that will rapidly pay-off thanks to the energy savings generated.

It's also an environmental protection measure since it substantially reduces CO2 emissions to the atmosphere. (Horizon2020's purpose), therefore its implementation is widely favoured and even subsidies are offered to those particulars or communities who undertake such actions.

Since both types of facade, double sheet and ventilated double sheet cavity, are already tested and standardized, this patent doesn't need new research projects, what it does is merge the advantages of both facades (low cost and adjustable ventilation).

The company is looking for companies to transfer of rights involving the authorization by the licensor to use the licensed material by the licensee, in return for a fee or share of royalties.

## Advantages and Innovations

Currently there is no similar product on the market. There are only devices that remain always open to avoid condensation in the air chamber, or expensive systems for opening and closing ventilated facades that can not be adjusted by each apartment owner in a building, and that can not be applied to existing double sheet facades unless another sheet of ventilated facade is built over the existing one, which would excessively increase rehabilitation costs.

This is the only affordable dynamic facade (allows us to individually adjust it in our home according to outside weather conditions) which allows control of two climatological elements that impact on the facades; temperature and humidity.

As main advantages:

- Transforms a traditional facade or double sheet into a ventilated, individually adjustable, one of the best energy efficient and low cost on the market.
- It can be used in both new projects and existing facades.
- Reduced size.
- Reduced manufacturing cost and installation.
- By venting the air chamber, each user can control both the temperature and humidity of it.
- It can be used in all type of buildings: commercial, apartments, town houses, detached properties, etc.
- for energy saving rehabilitation works.
- Great energy savings for the user and, given its low cost, very rapid pay-off.
- Reduced CO2 emissions, therefore installation is subsidized in many countries.
- Increased thermal comfort inside home.

## Stage of Development

Proposal under development



## Comments Regarding Stage of Development

This patent merges the advantages of both types of facade, double sheet and ventilated double sheet cavity. They have already been well tested and standardized. Both devices are flexible and can be adapted to all weather conditions.

## IPR Status

Patents granted

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02006001	Materials, components and systems for construction
04007001	Energy management
04007004	Thermal insulation
10002007	Environmental Engineering / Technology

### Market

09007001	Construction companies
09007002	Manufacture of construction materials, components and systems
09007003	Distribution of building products and systems
09007004	Engineering and consulting services related to construction
09007005	Facility management companies

### NACE

C.22.2.9	Manufacture of other plastic products
C.25.1.1	Manufacture of metal structures and parts of structures
F.41.2.0	Construction of residential and non-residential buildings
F.43.3.9	Other building completion and finishing
M.71.1.1	Architectural activities

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## Network Contact

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### Issuing Partner

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Sustainable Construction

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## Client

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### Type and Size of Organisation Behind the Profile

Inventor

### Year Established

0

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
Spanish

### Client Country

Spain

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## Partner Sought

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### Type and Role of Partner Sought

Potential Partner: Investor, construction company, manufacturer o distributor of construction products, energy efficiency company, manufacturer of facade products.  
Offering to potential customers: License Agreement.

### Type and Size of Partner Sought

SME 11-50,R&D Institution,SME <10,>500 MNE,251-500,SME 51-250,>500

## Type of Partnership Considered

License agreement

## Technology Offer

# Innovative fence post's support which eliminates the need for concrete and digging

## Summary

*A UK landscape gardener is looking for manufacturers and licence partners for his invention: a support for a fence post (type of auger) which eliminates the need to dig and to use concrete. It can be adapted to support gravel boards and can be used with railings and fencing.*

<b>Creation Date</b>	04 April 2016
<b>Last Update</b>	05 April 2016
<b>Expiration Date</b>	05 April 2017
<b>Reference</b>	TOUK20160404001

## Details

### Description

A UK former landscape gardener has developed an invention for a better means of supporting a fence post.

The product is a steel auger flight with a central pipe running through its length which has a point at the bottom end. The pipe is spot welded to the auger flight. The overall height is between 600 - 700mm, overall width between 75 and 100mm. The auger is welded to a housing at the top, which can be square or round to suit the type of fence post or railings.

The auger is screwed into the ground by means of a bar fitted through holes in the housing. There is also a 'spike' version (rather than an auger) which has four fins running along its length which are welded to a similar housing. This type is driven into the ground rather than being screwed in. When the post support is screwed/driven into the ground it leaves the housing exposed at the top ready to fit the fence post into. All the housings can be used with gravel boards. The products are at prototype stage and have patents.

The UK inventor is looking for a manufacturer who can make the product and would also be interested in a licensing agreement to take this product to market.

### Advantages and Innovations

There is no other product like this currently on the market. It is unique because it eliminates the need to dig and there is no need to use concrete. It is therefore easier and quicker to use. It is possible for the product to be re-used, which is an advantage in the construction industry where it might be used to support temporary hoardings. The auger type has the advantage of being adjustable so it can be used with decking. It can be used with both round or square posts.

### Stage of Development

Prototype available for demonstration

### IPR Status

Patents granted

## Comment Regarding IPR status

UK patents

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02006001	Materials, components and systems for construction
02006002	Construction methods and equipment
07001001	Agriculture Machinery / Technology

### Market

09005	Agriculture, Forestry, Fishing, Animal Husbandry & Related Products
09007001	Construction companies
09007002	Manufacture of construction materials, components and systems
09007003	Distribution of building products and systems
09007004	Engineering and consulting services related to construction

### NACE

C.25.1.1	Manufacture of metal structures and parts of structures
C.25.9.4	Manufacture of fasteners and screw machine products
C.25.9.9	Manufacture of other fabricated metal products n.e.c.

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## Network Contact

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Inventor

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Experience Comments

The inventor would consider a private sale of his idea and the associated patents.

### Languages Spoken

English

### Client Country

United Kingdom

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## Partner Sought

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### Type and Role of Partner Sought

The UK inventor is looking for a manufacturer who can make the product and who can take it to market through a license agreement.

The UK inventor will work with the manufacturer to help with the initial design prior to production. Once the products have been satisfactorily made through a manufacturing agreement, he would then be seeking a royalty payment.

### Type of Partnership Considered

License agreement

Manufacturing agreement

## Technology Offer

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# Danish company offers new technology for relining and renovating pipes

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## Summary

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*Replacement of drain pipes in buildings is often expensive and causes considerable disruption. A small Danish company has developed a technology to reline old pipes, making them impermeable and prolonging their lifetime considerably. They are looking for partners to sell the technology either under a license agreement or under a commercial agreement with technical assistance.*

<b>Creation Date</b>	11 March 2016
<b>Last Update</b>	21 March 2016
<b>Expiration Date</b>	21 March 2017
<b>Reference</b>	TODK20150902002

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## Details

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### Description

The Danish company founded in 2011 is a small business specialised in innovative and cost-saving solutions in relation to the renovation of houses, apartments, office buildings and sewers.

Drain pipes in buildings deteriorate over time and can become in such bad condition that a replacement or renovation is necessary. A replacement of the existing old pipes is a costly and time-consuming affair, requiring a lot of disruption and excavation, whereas a renovation using spray for relining the existing pipe is fast and efficient and cost effective. The method using the company's patented technology is to spray the old drain pipes with a new inner lining that ensures durability for many years to come. The pipes are applied with two coats of resin, which close all small cracks and holes and protect against further corrosion. The spraying process leaves the pipes with a smooth inner surface, making it difficult for new particles and waste to build up. For several years, the method has been tested both in the domestic market and abroad and the results are sustainable and long lasting.

The company is well established in Denmark and has some export experience from Norway and Sweden, but they need partners in more countries. In general they are open to find partners worldwide, but the priority is to set up partnerships in Norway, Sweden, Germany, France, the Netherlands, and Baltic countries, as they can not handle too many countries at the same time. A number of different cooperation types are possible and they are interested in discussing options which work best in various regional conditions. Both a commercial agreement with technical assistance to adapt to local markets and potentially also a license agreement for their technology are options.



## Advantages and Innovations

The method has been proven in a variety of situations and works effectively, saving considerable disruption to households or office buildings in terms of replacing pipes under ground or floorboards.

The method is considerably cheaper than replacing pipes and can be carried out much faster than pipe replacement.

The technology has been tried and tested in the Danish market and has proved to be a commercial success, making it an attractive technology to take up in other regions.

The system is environmentally beneficial as it not only prolongs the working life of pipes, but also reduces the risks of leaching from pipes and wastage.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how, Patents granted

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02006005 Construction maintenance and monitoring methods & equipment

### Market

08003007 Other industrial equipment and machinery

### NACE

F.43.3.9 Other building completion and finishing

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## Network Contact

### Issuing Partner

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### Contact Person

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Sustainable Construction

### Restrict Dissemination to Specific Countries

Estonia,    France,    Germany,    Latvia,    Lithuania,    Netherlands,    Norway,  
Sweden,

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

2011

### Turnover

1 - 10M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Swedish  
German  
Norwegian  
Danish

### Client Country

Denmark

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## Partner Sought

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### Type and Role of Partner Sought

The Danish company is looking for partners to sell the technology as well as partners to help with further development of the technology and if necessary adapt to local market conditions. The partners for selling the technology must have knowledge and access to the market in relation to the market for building and renovating buildings, and the partners may help with

further development of the technology and how to adapt the product to local market conditions. Therefore the partners must have technological skills as well as visions and strategy for the development possibilities.

## **Type and Size of Partner Sought**

SME 11-50, University, R&D Institution, SME <10, SME 51-250

## **Type of Partnership Considered**

License agreement

Commercial agreement with technical assistance

## Technology Offer

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# Sustainable building bricks with a 90% recycled content from construction and demolition waste

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## Summary

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*A UK SME spin-out from a leading Scottish university has developed and patented an unfired sustainable construction brick. 90% of the brick's content comes from construction and demolition waste, giving it one of the highest recycled contents in the market. The brick contains no cement, can be produced at less cost than traditional fired clay bricks and can be colour matched. The company seeks demonstration sites across Europe for technical cooperation and brick manufacturers for license.*

<b>Creation Date</b>	10 March 2016
<b>Last Update</b>	24 March 2016
<b>Expiration Date</b>	24 March 2017
<b>Reference</b>	TOUK20160310002

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## Details

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### Description

A clean tech spin-out company from a leading Scottish University specialises in highly sustainable building products.

The company's first product is an unfired sustainable construction unit. This construction unit boasts one of the highest recycled contents in the market - 90% of its content comes from construction and demolition waste.

Products of this nature are critical to upcoming legislation to reduce waste; in particular construction and demolition waste. This unit does not require firing or using cement, providing a real benefit in reducing carbon emissions associated with building products and whole projects.

The company is looking for trial sites and demonstration projects across individual countries in Europe and respective brick manufacturing companies to license the production of the bricks and take them to market.

### Advantages and Innovations

- 90% recycled content of construction and demolition waste
- unfired and does not contain any cement
- can be produced at less cost than traditional fired clay bricks.
- the brick can be colour matched to requirements.

Key Benefits:

- Largest recycled content of any building product on the market - over 90% recycled construction waste
- These unfired units have excellent sustainability credentials - no gas use for firing, or cement required
- Provides a market for recycled aggregates (gravel and sand) from construction and demolition sector
- Significantly lower life cycle environmental impacts compared with traditional clay fired bricks/ cement-based products

#### Applications:

- Creates a new product from waste that would otherwise be landfilled
- Sustainable construction product suitable for internal and external load-bearing and "facing" applications
- Lower cost recycled materials than in traditional bricks / cement-based products as well as reduced production cost per unit

#### Stage of Development

Available for demonstration

#### IPR Status

Patent(s) applied for but not yet granted

#### Comment Regarding IPR status

A UK priority application has been filed. Due to this priority filing, detailed information on the brick is available under confidentiality agreement only (available on request).

#### Profile Origin

Private (in-house) research

## Keywords

#### Technology

02006001	Materials, components and systems for construction
02007002	Building materials

#### Market

09007001	Construction companies
09007002	Manufacture of construction materials, components and systems
09007003	Distribution of building products and systems

#### NACE

C.32.9.9	Other manufacturing n.e.c.
F.43.1.1	Demolition
F.43.2.9	Other construction installation
F.43.3.9	Other building completion and finishing

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## Network Contact

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### Issuing Partner

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Sustainable Construction

### Restrict Dissemination to Specific Countries

Austria, Bulgaria, Canada, Denmark, Germany, Ireland, Spain,  
UnitedKingdom, USA,

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
Portuguese  
Spanish

### Client Country

United Kingdom

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought:

Demonstration Projects with construction companies / housebuilders / research institutions sought for technical collaboration.

Brick manufacturers sought to produce and distribute the bricks under licence.

- Specific area of activity of the partner:

sustainable construction, brick / block manufacturing, waste management

- Task to be performed by the partner sought:

Manufacture and distribution under licence.

Development of demonstration projects

### Type of Partnership Considered

License agreement

Technical cooperation agreement



## Technology Offer

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# Innovative optical elements for lighting and building design products

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## Summary

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*A French SME specialized in interior design products has developed high standing optical elements (slab) which can be used for several kinds of uses according to needs & researched visual effects. Design building products, furniture and luminaries manufacturers are sought for technical cooperation to adapt this technology to their products. Commercial agreements with technical assistance could be of interest too.*

<b>Creation Date</b>	01 March 2016
<b>Last Update</b>	11 March 2016
<b>Expiration Date</b>	11 March 2017
<b>Reference</b>	TOFR20160301003

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## Details

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### Description

A French SME offers innovative means for high standing communication, design & decoration. The technology proposed is based on customized optical transparent slabs which can be applied and used in diverse ways; enabling games of light & images, bringing brightness to spaces without the use of external energy.

This is composed of an optical glass module system which incorporates 16 lenses and a frosted glass screen.

Images and lightings can be displayed in different manners:

- Casting of the images in real features (horizontal projection) on floors or walls, whatever the distance from the light source, or from the reflector and bulb. The technology suits ideally for luminaries and glasses-like displays.
- Simple replication of pictures; transmitting real pictures, multiplying images/light sources in 16 smaller scattered elements over the 16 lenses (tufting option thanks to sandy surface). Solution relevant e.g. for interior architecture elements with a potential communicative added value (doors, walling, marketing display...).

Two international patents cover that innovative transparent slab. Its primary use is to transmit light and exterior images to inner spaces, but it could be used outside too. On the whole outer surface of the optical lenses; components capture light and movements, projecting them through the slab in the form of animated images (potentially multiplying & enhancing images according to the expected games of light).

The slab is based on an optical geometric technology, capable to be customized and integrated in different environments according to the specific requirements. The slab can be cut and adapted to various shapes, especially to be placed in front of different kinds of LED lighting devices.

The French company is looking for partners open to innovations : high standing manufacturers of luminaries & furniture; design, building products suppliers; architects (interior and exterior architecture); organizations dealing with agencies for communication, design creation or artistic display.

Technical cooperation agreements for adaptation of the technology to the products of partners are proposed, but commercial agreements with technical assistance could be of interest too.

## Advantages and Innovations

- The slab allows to modify the spectral distribution of light without use of complex and expensive solutions like polarising filters or nematic-phase liquid crystals controlled by an electric field, and to create specific lighting fractal effects. Innovative games of lights so produced enable to attract people's attention, to enhance a product or a logo for example.
- The slab can be used in spaces open to the exterior sources of light, allowing bringing brightness and optical vision without using external energy. Enhance therefore a light source, while enabling energy saving.
- The slab can be adapted to various kinds and shapes of products ; it is fireproof resistant to mechanical shocks and stones impacts.

## Stage of Development

Already on the market

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

WO patent applied

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02006001	Materials, components and systems for construction
03010	Household Goods & Appliances

### Market

09007002	Manufacture of construction materials, components and systems
09007004	Engineering and consulting services related to construction

### NACE

M.74.1.0

Specialised design activities

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## Network Contact

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### Issuing Partner

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Materials

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2009

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
French

### Client Country

France

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## Partner Sought

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### Type and Role of Partner Sought

Type of partner sought : high standing manufacturers of luminaries & furniture / design building products suppliers / architects

Task to be performed: technical cooperation to use and/or adapt the French technology to further the development of the partner's products.

Commercial agreement with technical assistance could be of interest too, the French company supporting the partner with the transfer of the technology.

### Type and Size of Partner Sought

SME 11-50, SME <10, >500 MNE, 251-500, SME 51-250, >500

### Type of Partnership Considered

Commercial agreement with technical assistance

Technical cooperation agreement

## Technology Offer

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# Innovative optical slab for design walls and high standing architectural elements

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## Summary

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*A French SME has developed a high standing optical element (slab) which can be used for building walls and other architectural elements to produce original visual effects. Design building products manufacturers and architects are sought for commercial agreement with technical assistance with possibility to adapt this technology to specific needs.*

<b>Creation Date</b>	11 March 2016
<b>Last Update</b>	16 March 2016
<b>Expiration Date</b>	16 March 2017
<b>Reference</b>	TOFR20160301004

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## Details

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### Description

The high standing optical element (slab) proposed can be used for to build aesthetic walls and other architectural elements to produce original visual effects. It can be applied and used in diverse ways; enabling games of light & images, bringing brightness to spaces without the use of external energy.

This is composed of a module system of partitions walls made of optical glass which incorporates 16 lenses and a frosted glass screen, representing in self-supporting sidewalls with a modular optical glass wall system.

Images and lightings can be displayed in three different manners:

- Casting of the images in real features (horizontal projection) on the opposite floor or wall, whatever the distance from the light source, or from the reflector and bulb.
- Focused output of the light source on one single point 7 cm distant from the slab: suitable for one-way light transmission (see without being seen: transmit both light and images while preserving the privacy of the walled spaces). It concerns potentially partition walls, glasses, doors or architectural elements requiring privacy.
- Simple replication of pictures while using only one-single face of the slab; transmitting only real pictures, multiplying images/light sources in 16 smaller scattered elements over the 16 lenses (tufting option thanks to sandy surface). Solution relevant e.g. for interior architecture elements with a potential communicative added value (doors, walling, marketing display...).

Two international patents cover that innovative transparent slab.

Its first use is to transmit light and exterior images to inner spaces. On the whole of the outer surface of the optical lenses; components capture light and movements, projecting them through the slab in the form of animated images (potentially multiplying & enhancing images according to the expected games of light).

The slab is based on optical geometric technology, capable to be customized and integrated in different environments according to the specific requirements. It offers a whole range of possibilities for architects, designers and homebuilders. It can be used to add value to high standing architecture projects such as high-end hotels, upscale homes, exclusive shops, retail spaces or dining establishments.

The French company is looking for partners specialized in the field of design building products / architectural projects management.

The types of cooperation expected are preferentially commercial agreements with technical assistance or technical cooperation to adapt the technology to specific requirements.

## Advantages and Innovations

- Spaces more and more open to the exterior sources of light, bringing brightness and optical vision without using external energy.
- Innovative games of lights enable to attract people's attention, to enhance a product or a logo.
- Enhance therefore a light source, while enabling energy saving.
- Can be adapted to various kinds, shapes and dimensions of walls
- The slab is fireproof resistant to mechanical shocks and stones impacts

## Stage of Development

Already on the market

## IPR Status

Patents granted

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02006001	Materials, components and systems for construction
02006006	Construction engineering (design, simulation)

### Market

09007002	Manufacture of construction materials, components and systems
09007004	Engineering and consulting services related to construction

### NACE

M.74.1.0	Specialised design activities
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## Network Contact

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### Issuing Partner

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Materials

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2009

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
French

### Client Country

France

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## Partner Sought

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## **Type and Role of Partner Sought**

The French company is looking for partners specialized in the field of design building products / architectural projects management.

The types of cooperation expected are preferentially commercial agreements with technical assistance (french support for the best technical and aesthetic use of the product), or technical cooperation agreements to adapt the technology to specific requirements of the partners (adaptation of the product to specific local construction needs / special architectural projects).

## **Type and Size of Partner Sought**

SME 11-50, SME <10, >500 MNE, 251-500, SME 51-250, >500

## **Type of Partnership Considered**

Commercial agreement with technical assistance  
Technical cooperation agreement

## Technology Offer

# Device for testing the integrity of the metal reinforcements in corrosive environments

## Summary

*An Italian academic spin off, specialized in geotechnical solutions for the mitigation of environmental and natural hazards, is developing a device for testing the integrity of the metal reinforcements (metal bars or strand cables to stabilize soil or rock slopes or to reinforce retaining walls, e.g.. tie-rod, anchoring, etc.) through an innovative non-invasive technique based on ultrasonic vibratory waves. The company is interested in reaching financial and/or joint venture agreements.*

<b>Creation Date</b>	22 February 2016
<b>Last Update</b>	08 March 2016
<b>Expiration Date</b>	08 March 2017
<b>Reference</b>	TOIT20160222001

## Details

### Description

An Italian academic Spin off, active in the field of civil and environmental engineering, provides geotechnical consulting for the design, construction and management of civil infrastructures, as well as for the assessment of natural hazards and for environmental protection projects.

In particular, the company has lead an intensive research activity to develop a device for detecting, in corrosive environments, the integrity of the metal reinforcements, like metal bars and strand cables used to stabilize soil or rock slopes or to reinforce retaining walls (es. tie-rod, anchoring, etc..).

With this aim, the company has developed an innovative non-invasive and non-destructive technique that allows an early recognition of damage.

In fact prompt recognition tests, capable of highlighting the loss of performance, would enable to undertake remediation before that the corrosion effects, caused by aggressive ground conditions or stray currents, become catastrophic.

The innovative method is based on the propagation of ultrasonic vibratory waves through metal elements (bolts, anchors or nails) and on the back analysis of recorded signals, without damaging or causing any disturbance.

The company is searching foreign partners active in the construction and management of preventive works from hydrogeological instability interested in creating a joint venture, or financial partners willing to invest in the development of the innovative technique.

### Advantages and Innovations

Metal-tensioned systems, like bar or strand anchors, installed in rocks or soil masses to stabilize slopes, may lose efficiency and eventually reach failure due to corrosion caused by aggressive ground conditions or stray currents. Traditional investigation techniques, adopted to test the integrity of reinforcements, focused on pull-out tests, are too invasive, expensive and time consuming and cannot be extensively performed on reinforcing installations. Through the

innovative technique developed by the company, based on the propagation of ultrasonic waves and on the back analysis of recorded signals, simple tests are run from the external end of the anchoring, without causing any disturbance. Furthermore it is possible to obtain in a very short time a complete description of the geometrical characteristics.

A periodic repetition of tests may soon evidence flaws and restrictions, before they turn into a defective functioning of the systems, enabling in this way an immediate and comprehensive assessment of the reinforcement and a prompt remediation.

Thanks to its speed, the technique can be applied to monitor wide reinforcing structures, even when formed by thousands of elements, in order to implement cost effective and sustainable maintenance plans. Additionally, since results are recordable on magnetic support, each test can be certified, geo-referred with global positioning and uploaded into an informatic tool to be used for the early recognition of damage. Generally speaking, the integration of all these tools could in short time trigger a best practice for the management of infrastructural networks spread over large territories (railways, highways, etc.), becoming a mandatory standard from regulatory institutions. Finally, it may create a new market for investors along with several job opportunities.

## Stage of Development

Under development/lab tested

## Comments Regarding Stage of Development

The basic method has been successfully tested in the laboratory by a team of qualified academic researchers. A first trial equipment has been developed and a mathematical algorithm has been implemented for the definition of signals and interpretation of measurement. At present, the system is going to be improved with the testing in the field on different case studies, with the design of an integrated equipment including sensors and acquisition instruments, and with its customization to the different existing types of reinforcements (anchors, nails, strand cables, piles). The preliminary laboratory tests suggest that the technique is ready to be extended to full scale examples

## IPR Status

Other

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02006005      Construction maintenance and monitoring methods & equipment

### Market

05007004      Monitoring equipment

### NACE

M.71.2      Technical testing and analysis

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## Network Contact

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### Issuing Partner

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Sustainable Construction

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

2013

### Turnover

1 - 10M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Italian

### Client Country

Italy

## Partner Sought

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### Type and Role of Partner Sought

The partner sought should be a financial investor able to sustain the development and improvement of the innovative solution proposed by the Italian company. Joint venture is offered to partners active in management of preventive works from hydrogeological instability, willing to support the adaptation of the technology for other markets. Ideally, the desired partner should have also sales and distribution capability to support the company's commercialization ambitions.

### Type and Size of Partner Sought

SME 11-50, >500 MNE, 251-500, >500

### Type of Partnership Considered

Financial agreement  
Joint venture agreement

## Technology Request

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# Seeking innovative technology for precast concrete element production

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## Summary

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*A French SME, based in northern France, is specialized in concrete precast element production and building construction. It is looking for a partner having an innovative technology (patented technology, equipment...) which is willing to share this technology on a new European production site. Partnership considered could be licensing, or building a joint-venture. The French company offers its renowned know-how in concrete precast and presents a strategic location in Europe.*

<b>Creation Date</b>	10 March 2016
<b>Last Update</b>	14 March 2016
<b>Expiration Date</b>	14 March 2017
<b>Reference</b>	TRFR20160310001

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## Details

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### Description

A French SME, located in northern France, is specialized in the production of concrete precast element and building construction with precast elements. The company is proposing tailor made reinforced concrete elements, fitting with the clients specifications and has a renowned know-how and expertise in this field.

The factory offers a production area of 9000m<sup>2</sup> with welding workshop, formwork design, and concrete pouring. Elements produced could be simple one such as post or beam, but also balconies, and aesthetic concrete pieces (color dyed, stamped...). Application can be for individual houses, collective equipment or urban elements. Aesthetics pieces are of interest for landscaping projects or for original facades. The company operates in markets of all sizes in the northern part of France (between Paris to Belgium).

The company is willing to innovate in this field by integrating new technology in its processes or in its products. This technology has to give to the company a competitive advantage and strong impact on the market, while maintaining the advantages of the French company which are the quality of its products and its reactivity.

The French company wants to cooperate with this partner in the framework of license agreement or joint-venture agreement. The French company offers its renowned expertise for production of reinforced concrete elements and its strategic location in the north of France, close to UK, Benelux, and France markets. Commercial agreement with technical assistance could be of interest too for the acquisition of the technology.

### Technical Specification or Expertise Sought

Innovative technology for the production of concrete precast elements, respecting handwork production tools and expertise of the actual company

Innovative technology for new product(s) in concrete and construction, based on precast elements

Propositions could be patent licensing, sharing mould technologies, special machines for the production of concrete building element, specific expertise to transfer to the French factory, etc. Other materials than concrete could also be of interest, like the wood resin for example.

## Stage of Development

Available for demonstration

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## Keywords

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### Technology

02006001	Materials, components and systems for construction
02006002	Construction methods and equipment
02006006	Construction engineering (design, simulation)

### Market

08002004	Robotics
08003007	Other industrial equipment and machinery
09007002	Manufacture of construction materials, components and systems

### NACE

F.41.2.0	Construction of residential and non-residential buildings
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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

Sustainable Construction

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

1916

### Turnover

1 - 10M

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
French

### Client Country

France

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## Partner Sought

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### Type and Role of Partner Sought

Field of activity of the partner sought: construction industry, precast element manufacturer, 3D printing companies

Type of partner sought: inventor, start'up, SME, large company, R&D center

The company is willing to innovate in the field of precast elements for construction. It needs to integrate new technology in its processes or in its products. This technology has to give to the company a competitive advantage and strong impact on the market in order to give a strong added value to the final client. It is expected to keep the current advantages of the French company which are the quality of its products and its reactivity.

The French company wants to cooperate with the partner in the framework of license agreement to exploit the innovative patented technology of the partner. Both partners can also build a joint-venture. The French company offers its renowned expertise for production of reinforced concrete elements and its strategic location in the north of France, close to UK, Benelux, and France markets.

Commercial agreement with technical assistance could be of interest too for the acquisition of the technology. The best partnership suitable for both partners could be discussed throughout

further exchanges.

## **Type and Size of Partner Sought**

SME 11-50, Inventor, R&D Institution, SME <10, 251-500, SME 51-250, >500

## **Type of Partnership Considered**

License agreement

Commercial agreement with technical assistance

Joint venture agreement

**4.**

# ***MATERIALES***

## Research & Development Request

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### **H2020-FTI Pilot -01- 2016: Looking for artificial turf grass manufacturer and/or compounder of the material for the manufacturing of functionalized artificial turf grass (nor Spanish, neither Italian)**

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#### Summary

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*A Spanish technological centre and two organizations from Spain and Italy are building up a Horizon 2020 Fast-Track-to-Innovation project aimed at the functionalization of artificial turf. A consortium partner is sought for the role of artificial turf grass manufacturer and/or compounder of the material for the manufacturing of artificial turf grass. (An artificial turf's infill manufacturer is NOT sought).*

<b>Creation Date</b>	17 March 2016
<b>Last Update</b>	21 March 2016
<b>Expiration Date</b>	21 March 2017
<b>Reference</b>	RDES20160317001

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#### Details

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##### Description

The objective of the project is to apply controlled release micro-encapsulated technologies with aromatic, UV/heat protection and/or hydrophilic agents for its application in functionalized artificial turf that simulates natural one, thus enlarging its lifespan, natural aspect and natural aroma.

Functionalized micro-capsules will be both integrated/embedded within the polymeric matrix and conveyed through a spray application.

The spray is in the market, although some improvements are required for further duration of the effects. The compound has already been tested and applied within a relevant environment. This is time now to transfer it at the industrial scale. The turf functionalization is asked for the commercial target.

This is a very near to market call (starting from TRL6) and results must be in the market in three years after the project start.

The results of the project will allow further expansion and the internationalization of the companies involved.

The value chain of the consortium is based on the following roles:

- MATERIALS' RESEARCH INSTITUTE
- AN INNOVATION COMPANY THAT PRODUCES THE TECHNOLOGY OF MICRO-

## ENCAPSULATION

- AN INNOVATION COMPANY THAT PRODUCES THE ELASTOMERIC infill GRANULE for GROUND simulation
- A COMPOUNDER OF THE material for the manufacturing of artificial turf grass IN FORM OF PELLET
- A TURF grass MANUFACTURER (sought).

Current consortium is made up of one RTD and two innovative companies which manufacture micro-encapsulated materials in form of spray and artificial turf's infills, respectively.

The searched partner/s should not be Spanish, neither Italian industry organization (whether if it is SME or not is not relevant) with any of the following profiles:

- Pellets producer / Compounder
- Artificial turf grass manufacturer

Both will be in charge of definition of industrial scale specifications of pellets/turf filaments, industrial scaling and commercial validation.

European PIC code would be required for the cooperation to the project. If the applying organization has not participated in a European project yet, help would be provided if necessary for the registration process.

The role of the partner in the project will be: providing information on the market specifications, manufacturing the aimed product with new functionalized materials, industrial scaling up and technical & economical validation. Introduction within its products range is expected in three years time from the project starting.

The proposal is being prepared for the next H2020-FTI Pilot -01- 2016 (Fast Track to Innovation Pilot), whose first cut-off is next June, 1st.

The project is expected to last 3 years from project start to reaching full production capability.

Funding awards for an FTI Pilot Project are at a rate of 70% of eligible project costs.

Expressions of Interest to be received by 30/04/2016.

## Stage of Development

Proposal under development

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## Keywords

### Technology

- |          |  |
|----------|--|
| 02007014 | Plastics, Polymers                                 |
| 03004008 | Plastics and Rubber related to Chemical Technology |

### Market

- |          |   |
|----------|---|
| 07001007 | Other leisure and recreational products and services        |
| 07004006 | Garden and horticultural products                           |
| 08001009 | Speciality/performance materials: producers and fabricators |
| 09004008 | Other manufacturing (not elsewhere classified)              |

## NACE

C.20.1.6 Manufacture of plastics in primary forms  
C.22.2.9 Manufacture of other plastic products

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## Network Contact

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### Issuing Partner

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**Open for EOI :** **Yes**

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## Dissemination

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### Send to Sector Group

Materials

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 50-249

### Year Established

1985

### Turnover

1 - 10M

### Already Engaged in Trans-National Cooperation

Yes

### Client Country

Spain

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought: Industry (not necessarily SME).
- Specific area of activity of the partner: Compound in form of pellets manufacturer and turf manufacturer.
- Task to be performed: providing information on the market specifications, manufacturing the aimed product with new functionalized materials, industrial scaling up and technical & economical validation. Introduction within its products range is expected in three years time from the project starting.

### Type and Size of Partner Sought

SME 11-50, SME <10,>500 MNE, 251-500, SME 51-250,>500

### Type of Partnership Considered

Research cooperation agreement



## Technology Request

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# Fully automated powder coating technology for screws and washers is requested

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## Summary

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*Romanian SME specialized in steel solutions for buildings is searching for screws and washers powder coating and packing technology. The technology should offer a fully automated solution (assembling line). The type of collaboration is likely to be commercial agreement with technical assistance.*

**Creation Date** 25 February 2016  
**Last Update** 09 March 2016  
**Expiration Date** 09 March 2017  
**Reference** TRRO20160208002

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## Details

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### Description

The Romanian SME is a private and autonomous company whose main activity is exclusively steel processing. The company develops, manufactures and markets semi-finished steel components and systems for construction, engineering and industry.

Established in 2000, the company increased its activity in a spirit of continuous improvement, knowing a strong and rapid development through diversification of activity in the construction sector. The production and sales program of the company includes a wide range of steel solutions, from simple civil and infrastructure components to precision products for construction machine-tools sector.

Today, the company has established and implemented simultaneous measures necessary to fulfill the requirements expressed in ISO 9001: 2008, ISO 14001: 2005 and OHSAS 18001: 2008.

The technology requested must offer an efficient, performant and innovative solution for screw and washers powder coating. The assembly solution technology (powder coating and packing) must be realized in a continuous process.

Regarding the desired type of cooperation, the company is interested in an agreement for the acquisition of a technology and support services for the realization of an assembling line for powder coating screws and washers.

### Technical Specification or Expertise Sought

The company is looking for manufacturers with expertise in producing fully automated powder coating for screws and washers solutions.

Machine capacity and detailed technical specifications (screws and washers sizes) will be analysed in the preliminary stage of discussions.

## Stage of Development

Already on the market

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## Keywords

### Technology

02002002	Coatings
02007008	Iron and Steel, Steelworks

### Market

08002007	Other industrial automation
08003001	Machine tools, other metal working equipment (excl. numeric control)

### NACE

C.25.1.1	Manufacture of metal structures and parts of structures
C.25.5.0	Forging, pressing, stamping and roll-forming of metal; powder metallurgy
C.25.7.3	Manufacture of tools
C.25.9.4	Manufacture of fasteners and screw machine products

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## Network Contact

### Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

### Contact Person

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### Phone Number

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### Email

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**Open for EOI :**    **Yes**

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## Dissemination

### Send to Sector Group

Sustainable Construction

## Restrict Dissemination to Specific Countries

Austria, Belgium, Bulgaria, China, Croatia, Czech Republic, Denmark,  
Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Japan,  
Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain,  
Sweden, Turkey, United Kingdom, USA,

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## Client

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### Type and Size of Organisation Behind the Profile

Industry 250-499

### Year Established

2000

### Turnover

10 - 20M

### Already Engaged in Trans-National Cooperation

Yes

### Certification Standards

ISO 14001:2005

ISO 9001:2008

OHSAS 18001

### Languages Spoken

Romanian

English

### Client Country

Romania

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## Partner Sought

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### Type and Role of Partner Sought

The company is looking for manufacturers with expertise in producing automated powder coating machines for powder coating sealing fasteners.

### Type of Partnership Considered

License agreement

Manufacturing agreement

Commercial agreement with technical assistance

Technical cooperation agreement

Joint venture agreement

## Technology Request

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### **Expertise in porous titanium coatings and structures sought for bio-medical prosthetic applications.**

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#### **Summary**

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*A UK SME has developed a unique interfacing system between biomedical prosthetic devices and the human body which will bring tremendous benefits for users and have a disruptive market impact. The UK SME seeks other SMEs (or research institutions), that have developed porous titanium coatings or structures for biomedical applications, for co-development of a new application of such a material. A research or technical cooperation agreement is requested.*

<b>Creation Date</b>	07 March 2016
<b>Last Update</b>	11 March 2016
<b>Expiration Date</b>	11 March 2017
<b>Reference</b>	TRUK20160307001

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#### **Details**

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##### **Description**

An East of England SME is developing a system that will revolutionize the way bionic, prosthetic devices connect and interact with the body. Whilst prosthetic technologies have accelerated rapidly in research laboratories, the way they are connected to the body has not changed for hundreds of years. Today, because of this bottleneck, amputees have to make do with prosthetics that are painful, expensive and lack functionality.

This innovation has the potential to transform the lives of millions of amputees world-wide, opening up a major commercial opportunity.

The company itself has considerable understanding and expertise relating to the junction between dissimilar tissue in the body such as bone and tendon. It also has expertise in terms of neuroscience and computational modelling in the biomedical field. This has enabled it to develop the system to the point of pre-clinical trials.

Further development to commercialisation will benefit from cutting edge materials' science relating to the surfaces and structures suitable for and used in the current and future generations of prosthetic devices. Therefore, the SME seeks partners with relevant materials' developed or expertise in this area, namely in porous titanium coatings or structures for bio-medical applications.

Through such a partnership, the SME might apply for funding from the Eureka Eurostars programme to support this next development stage. Whether or not it is able to attract such funding, it would be interested in a collaborative development project with any partners (including SMEs, research institutes or university research teams) that have such materials' expertise.

A research cooperation or technical cooperation agreement would be considered.

## Technical Specification or Expertise Sought

The partner will need to have developed porous titanium coatings and structures as used in bio-medical, orthopaedic implant situations. These should have the ability to be controlled in porosity and pore size and the partner should be able to produce in either bulk free standing structures OR substantially thick coatings (1mm-2mm).

## Stage of Development

Concept stage

## Comments Regarding Stage of Development

Different aspects of the innovation have been demonstrated in various contexts by other people and there is no theoretical reason why they cannot be combined in this application. First stage clinical trials are about to be undertaken.

## IPR Status

Secret Know-how

## Comment Regarding IPR status

The SME is being advised by professional intellectual property rights lawyers and will be filing patents as and when it is appropriate. All discussions with potential collaborative partners will take place under formal non-disclosure agreements (NDAs).

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## Keywords

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### Technology

02007005	Composite materials
02007011	Non-ferrous Metals
06001013	Medical Technology / Biomedical Engineering
06002011	Bionics

### Market

05004001	Electromedical and medical equipment
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### NACE

M.72.1.1	Research and experimental development on biotechnology
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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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**Dissemination**

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**Send to Sector Group**

Materials

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**Client**

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**Type and Size of Organisation Behind the Profile**

Industry SME <= 10

**Year Established**

2015

**Turnover**

<1M

**Already Engaged in Trans-National Cooperation**

Yes

**Experience Comments**

Strong relationships have been established with clinical trials and development organisations in the USA.

**Languages Spoken**

English

**Client Country**

United Kingdom

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**Partner Sought**

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## **Type and Role of Partner Sought**

The partner will most likely be an SME (especially if the decision is taken to seek funding support through the Eureka Eurostars programme) with a strong level of materials' science knowledge and expertise relating to porous titanium coatings and structures. Research Institutions or University research teams with such capability will also be considered.

Their role will be to collaborate with the SME in the development of new prosthetic devices that integrate with the core technology being developed around the device/body interface. A research cooperation or technical cooperation agreement will be considered.

## **Type and Size of Partner Sought**

SME 11-50, University, Inventor, R&D Institution, SME <10, SME 51-250

## **Type of Partnership Considered**

Technical cooperation agreement  
Research cooperation agreement





# **5.** ***TRANSPORTES***

## Technology Offer

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### **Quick release system adaptable to almost any application needed enabling faster, safer, and easier connection.**

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#### Summary

*An Italian SME has developed and patented a quick release system that enables to connect two slings in a fast, safe way, without any specific tool with a 120° degree turn. The pin can be opened/closed by hand up to tens of tons of WLL (Working Load Limit). The system presents a double safety closure, making the accidental opening even with severe vibrations impossible. The company is seeking a partner to cooperate to produce and sell the device and develop new market applications.*

<b>Creation Date</b>	15 March 2016
<b>Last Update</b>	31 March 2016
<b>Expiration Date</b>	31 March 2017
<b>Reference</b>	TOIT20160314002

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#### Details

##### Description

An Italian SME is seeking a partner that produces and markets the quick release system. Preferably an expert in the industry that knows well the market in order to further develop different application to fully satisfy the market's needs and gain a valuable market share from current connection systems that will be obsolete. The company is open for different cooperation suggestions and to negotiations. The patent can also be further developed into new industries that are still unknown to the SME developing it to this day.

Possible fields of application:

- For equipment, as well as assemblable and/or removable accessories, needing a robust, quick and safe connection
- As connecting element of machinery components requiring temporary removal for maintenance.
- As anchoring element in lifting, logistics and transport
- Application on large façades, occasionally removable for maintenance, allowing access inside the building.
- For paneling and temporary fencing, guarantees quick installation and removal
- Safe coupling of the beams when assembling and disassembling sheds and tents in short time
- For scaffoldings and itinerant constructions such as amusement parks, stages for concerts and shows
- Quickly removable connection for superstructures and equipment of large size and weight.

Facilitated periodic maintenance

- Systems of lifting loads with matching belts, ropes, chains
- Rapidly installable connections for movable bridges

- Quickly installable and removable tactic platforms and raised platforms
- Facilitated maintenance in absence of workshops and garages

## Advantages and Innovations

The Innovation of this patent consists in not having to extract the pin horizontally in order to unlatch the device. The pin always remains in place allowing the system to open only with a 120° degree turn on its own axle. The system can be adapted to suit almost any connection link needed.

- **Easiness and Quickness:** The main advantage is that it can be opened by hand (up to several tons of WLL) or without any special tool making it quick, safe, and easy to open/close multiple times. It is very time-cost effective especially for applications where it needs to be opened and closed often.
- **Safety:** is increased because the pin does not detach and the locking-mechanism hinders an unintended opening of the connection link. The risk of workplace-accidents is eliminated by avoiding intermediate stages through an explicit "open" (pin open) or an explicit "close" (pin closed and locked).

## Stage of Development

Available for demonstration

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

Patent Pending - Europe

## Profile Origin

Other

## Keywords

### Technology

02002009	Machine Tools
02006001	Materials, components and systems for construction
02006002	Construction methods and equipment
02009016	Charging system
10001002	Assessment of Environmental Risk and Impact

### Market

08002007	Other industrial automation
08003001	Machine tools, other metal working equipment (excl. numeric control)
08003002	Hoists, cranes and conveyors
08003006	Power transmission equipment (including generators & motors)
08003007	Other industrial equipment and machinery

### NACE

C.28.2.2	Manufacture of lifting and handling equipment
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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Inventor

### Year Established

2012

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
German  
Italian

### Client Country

Italy

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## Partner Sought

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## **Type and Role of Partner Sought**

Industry. Companies interested in the quick release system to use it and/or to produce it and/or to sell it and/or to develop new applications.

Possible fields of activities could be the transportation of goods, (metalworking) industry, construction of facades and scaffoldings.

## **Type and Size of Partner Sought**

SME 11-50,>500 MNE,251-500,SME 51-250,>500

## **Type of Partnership Considered**

License agreement

Technical cooperation agreement

## Technology Offer

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### Hybrid power unit for motor transport.

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#### Summary

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*A Russian research team has developed a hybrid power unit for transport vehicles, which applies a sequential circuit for arranging elements: an internal combustion engine, an alternating current generator, an energy storage system, a traction electric motor. The unit reduces the hydrocarbon fuel consumption due to exclusion of the engine's idle mode. The team is looking for partners for the establishing of research cooperation agreement, technical cooperation, the signing of the license agreement.*

<b>Creation Date</b>	25 February 2016
<b>Last Update</b>	09 March 2016
<b>Expiration Date</b>	09 March 2017
<b>Reference</b>	TORU20160225001

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#### Details

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##### Description

A Russian research team from Vologda city has developed a hybrid power unit for transport vehicles. Under present-day conditions a topical task is to stabilize specific fuel consumption and to optimize an internal combustion engine's (ICE) operating mode in case of the changing load of the transport vehicle's engine. In this connection the use of an ICE coupled with electromechanical transmission is widely adopted. The energy efficiency of the said devices is achieved by virtue of that the system uses an electric motor, which provides the sustained power mode under the changing external load. The shortcoming of the said devices is that they do not provide the condition of the maximum use of the internal combustion engine at its full-load curve.

The development of Russian research team is different from its analogues in that it applies a sequential circuit for arranging basic elements: an internal combustion engine, which operates in the optimum load regime – an alternating current generator – an energy storage system – a traction electric motor. The main advantage of the unit is that it allows to significantly reduce (by 2 times approximately) the hydrocarbon fuel consumption to 4.5 liters / 100 kilometers due to exclusion of the internal combustion engine's idle mode, and due to absence of the parallel mechanical power flux. At the same time a car's carrying capacity is reduced insignificantly, the emission of harmful substances into the environment is decreased by several times, and dynamic and energy characteristics of the transport vehicle are improved. The rated power of the motor is 11 kW, and the maximum one is 25 kW. It is possible to drive only in the electric car mode without using the internal combustion engine by virtue of recharging the traction accumulator battery from the city electric grid.

The company is looking for partners for the purpose of introducing the development into the production process. In this connection there are the following possible forms of cooperation: technical cooperation, development implies tests on existing businesses, as well as the license agreement - in the case of transfer of rights to the development of existing industrial enterprises. In addition, it is possible to conclude an agreement on scientific cooperation, within which will be

carried out additional tests installation and completion of the development will be carried out under the parameters of a particular customer.

## Advantages and Innovations

The innovativeness of the idea consists in applying a sequential circuit for arranging basic elements: an internal combustion engine, which operates in the optimum load regime – an alternating current generator – an energy storage system – a traction electric motor.

The use of the unit will allow the following:

1. Fuel consumption is reduced by more than 2 times due to exclusion of the internal combustion engine's idle mode.
2. A transport vehicle's dynamic and energy characteristics are improved due to absence of the parallel mechanical power flux.
3. A car's service life without the battery replacement is increased to 7 years owing to abandonment of complex mechanical transmission.

## Stage of Development

Under development/lab tested

## IPR Status

Patents granted

## Comment Regarding IPR status

The Russian Federation 4 patents, 2007-2012

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02008005      Road Transport

### Market

09001005      Motor vehicles, transportation equipment and parts

### NACE

C.27.1.1      Manufacture of electric motors, generators and transformers

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## Network Contact

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Automotive, Transport and Logistics

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## Client

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### Type and Size of Organisation Behind the Profile

University

### Year Established

1967

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

### Client Country

Russia

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## Partner Sought

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### Type and Role of Partner Sought

Type: industrial enterprise, SME.

Area of activity: car industry.

Role: license agreement - the acquisition and implementation of technology in the production process ; technical cooperation and a research cooperation agreement - joint test development , its improvement and refinement .

### Type and Size of Partner Sought

SME 11-50,>500 MNE,251-500,SME 51-250,>500

## Type of Partnership Considered

- License agreement
- Technical cooperation agreement
- Research cooperation agreement

## Technology Offer

# Technology of development of self- flying drones with varying aerodynamic circuit.

## Summary

*A Russian company from Novosibirsk has developed a technology of development of high-speed unmanned aerial vehicles and intelligent systems management. The devices can be used to deliver small cargo, monitor objects, photograph and videotape. In contrast to existing devices they don't need a special runway, are also low energy consumption. The company is interested in technical cooperation with a partner to develop the aerial vehicle for the specific use.*

<b>Creation Date</b>	11 March 2016
<b>Last Update</b>	15 March 2016
<b>Expiration Date</b>	15 March 2017
<b>Reference</b>	TORU20160311001

## Details

### Description

In various industries there are a number of problems that require the fastest automatic or semi-automatic organization, monitoring and control of remote locations before arrival of human. The solution of such problems can be found in fast delivery by air and small loads of measuring and monitoring, with further fine-discharge, long-term monitoring, vertical landing.

The small Russian company from Novosibirsk has developed an unmanned (self-flying) aerial vehicle, which has a low energy consumption (129 A / h while cruising), does not require a runway, has long range (over 100 km), can hover in place and accurately delivers the goods weighing 5-7 kg quickly (over 150 km/h).

This is possible due to the special technology with the changing wind scheme. During takeoff and landing it uses longitudinal and transverse helicopter scheme, and during the flight it uses airplane scheme.

The analogues are other unmanned vehicles such as aircraft, in particular ones with the ability to hover in place and lower the cargo. However, such devices require a runway.

Multicopters can be also considered as analogues; they are now used by large commercial agents for the delivery of products. However, such multicopters are heavy energy consumers (in flight mode they use all engines) and cannot travel long distances. The most widespread type of unmanned aerial vehicles of combined aircraft and helicopter type are not able to ensure the requirements for the flight range, cannot hover and land without a runway. Hybrid analogues are currently at the R&D stage, they have worse cost-effectiveness (specific delivery of 1 kg per 1 km) because of energy efficiency design.

At the same time, the development of the proposed aircraft is estimated to be of smaller budget (up to 130 000 euros) in comparison with analogues (estimated by 650 000-900 000 euros).

The company has experience in attracting federal and regional funding to upscale to industrial design (R&D subsidies from the regional program and other).

The company is interested in technical cooperation. The partner from ICT sector is required to

have knowledge and experience in the areas of security, monitoring and tracking, logistics and delivery, and the readiness to switch to unmanned technologies for solving specific tasks. The company intends to develop and adapt technology for a specific sector with the assistance of the partner. As a result of technical cooperation, the product will be modified for solving specific partners's tasks, for example, the delivery system (logistics) or monitoring.

## Advantages and Innovations

Innovative features of drone is adapting aerodynamic configuration, which allows combining advantages of both aircraft (distance over 100 km) and helicopter (vertical takeoff and landing without special runway, precise pick-up and loading, hanging in the air).

The advantages are:

- Manual or automatic takeoff when receiving a signal from the control systems for the quick response to the incident;
- Fast delivery (over 150 km/h) of cargo in difficult road and weather conditions over long (over 100 km) distances (through the use of the aircraft scheme, it has the lowest aerodynamic resistance);
- The built-in camera provides full presence effect of the operator on the site though FPV survey mode (First Person View).

The device has high energy efficiency (consuming less than 130 A/h) due to a special design. It provides relatively low cost of delivery.

## Stage of Development

Field tested/evaluated

## Comments Regarding Stage of Development

The demonstrational device is ready for use.

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

Patent search has been conducted, the device can be patented. The application submitted in Russia in the late 2015.

## Profile Origin

Private (in-house) research

## Keywords

### Technology

01001001	Automation, Robotics Control Systems
02009002	Hybrid and Electric Vehicles

### Market

08002004	Robotics
09001006	Airfield and other transportation services

### NACE

C.26.1	Manufacture of electronic components and boards
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C.26.5	Manufacture of instruments and appliances for measuring, testing and navigation; watches and clocks
H.51.2	Freight air transport and space transport
H.53.1	Postal activities under universal service obligation
M.72.1	Research and experimental development on natural sciences and engineering

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## Network Contact

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### Issuing Partner

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

Automotive, Transport and Logistics

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2015

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

No.

**Languages Spoken**

English

**Client Country**

Russia

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## Partner Sought

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**Type and Role of Partner Sought**

Type: SME, industry.

Sphere of activity: companies active in security, monitoring and tracking, logistics and delivery, and the desire to use unmanned technologies.

Role: technical cooperation for upgrade of the product for the specific task.

**Type and Size of Partner Sought**

SME 11-50, SME <10,>500 MNE,251-500,SME 51-250,>500

**Type of Partnership Considered**

Technical cooperation agreement

## Technology Offer

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# The Slovak company providing software solutions for transport and logistics offers its innovative software products

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## Summary

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*The Slovak company active in the area of development and implementation of innovative software solutions for transport and logistics offers their products to manufacture, transportation and expedition companies. The company is interested to make a new long-term partnership in the form of services agreement with companies active in industrial manufacturing, transportation and expedition areas.*

<b>Creation Date</b>	12 February 2016
<b>Last Update</b>	08 March 2016
<b>Expiration Date</b>	08 March 2017
<b>Reference</b>	TOSK20160212001

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## Details

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### Description

The Slovak company was established in 2010. From the beginning company aims its activities to develop software solutions in the areas of logistics, transportation and manufacturing planning. The company's logistic systems allow to process the requests to order components, suggest the optimal transport solution, secure the orders and manage unloads of incoming cars and railway wagons on materials handling point.

The expedition systems of company support effective planning and storage of incoming material. Software solutions also allow to monitor whole process of material handling via visual management and control which material has been dispatched and which is forthcoming. Invented software solution uses modern web technologies and provides simple and exact tool how to manage, monitor and optimize income and outcome of material in whole supply chain mechanism. Products of company are aimed to solve problems without need to communicate at working site. The products are developed for purpose to give employees information without need to communicate with each other, so this solutions helps to save time in manufacturing process. The system visualise whole process via augmented reality on LCD panels. Logistic product has been developed as a superstructure for effective processes which relates with managing of incoming material and expedition material and products. The system allows to suggest graphic optimization of routes and extraction of trucks.

The company is seeking for a new long-term partnership in the form of services agreement with companies active in the areas of manufacturing, transportation and expedition. The company desires to supply their innovative software solutions for these type of small and medium



enterprises in Europe. Training of the system users and assistance with implementation of company's products is also offered as a value added service.

## Advantages and Innovations

The company nowadays cooperates with 12 significant domestic and foreign companies from the areas as follows: wood processing, car producers, home appliances producers and logistics companies. The Slovak company is a holder of certificate Microsoft Silver Partner with competence silver application development and industrial design of a specific light system for adding or selection parts from the logistics supermarket. The company exploits a LED flashing signals in its software products helping employees to decide which part in assembling process is required.

## Stage of Development

Already on the market

## IPR Status

Patents granted

## Profile Origin

Private (in-house) research

## Keywords

### Technology

01003006	Computer Software
02003005	Information processing & Systems, Workflow
02008003	Logistics
02008005	Road Transport

### Market

02007011	Manufacturing/industrial software
02007022	Software services
02007025	Consulting services
08006001	Process control and logistics

### NACE

J.62.0.1	Computer programming activities
J.62.0.2	Computer consultancy activities
J.62.0.3	Computer facilities management activities
J.62.0.9	Other information technology and computer service activities

## Network Contact

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**Open for EOI :**    **Yes**

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**Dissemination**

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**Restrict Dissemination to Specific Countries**

Austria,    Belarus,    CzechRepublic,    Estonia,    Germany,    Hungary,    Italy,  
Poland,    Spain,    Ukraine,

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**Client**

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**Type and Size of Organisation Behind the Profile**

Industry SME 11-49

**Year Established**

2010

**Turnover**

<1M

**Already Engaged in Trans-National Cooperation**

Yes

**Languages Spoken**

English  
German  
Slovak

**Client Country**

Slovakia

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**Partner Sought**

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## **Type and Role of Partner Sought**

The company is seeking for new european partners from areas of industrial manufacturing, transportation and expedition companies that can use company's offering innovative software solutions.

## **Type and Size of Partner Sought**

251-500,SME 51-250,>500

## **Type of Partnership Considered**

Services agreement

## Technology Offer

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# A vehicle with folding wings that can ride, fly or float is offered for further development and commercialization under license agreement.

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### Summary

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*A Polish SME has developed technology of conveyance equipped in folding wings, floats and wheels. The construction has 3 modes of movement: driving, flying and floating with possibility to take off and touch down from land or water. The company is looking for a partner from aircraft industry who would like to develop the idea and implement it on the market under license agreement.*

<b>Creation Date</b>	26 February 2016
<b>Last Update</b>	10 March 2016
<b>Expiration Date</b>	10 March 2017
<b>Reference</b>	TOPL20160210001

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### Details

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#### Description

A Polish company has developed a project of a vehicle that can drive, fly and float. The project is based on a combination of lightweight, innovative design with new method of wings folding. The conveyance has aerodynamic and hermetic cabin with 3 wheels at the bottom. A set of propellers, two folding wings and floats are mounted to the body. Depending to the movement mode proper elements are used. One-man construction allows to take off and touch down from land or water. The vehicle is equipped with electric wheel drive and combustion engine that drives the propeller in flight or when floating. Its maximum speed on land is 50 km/h and in the air 250 km/h.

The company is interested in development of the vehicle construction therefore it is looking for a partner from aircraft industry who will share his know-how and business contacts but also invest money in project development. A partner will be also responsible for building a prototype and implementation of the offered solution on the market under license agreement.

#### Advantages and Innovations

The conveyance has 3 modes of moving so it is possible to drive on land, fly in the air and float on water. Folding and unfolding wings takes 10 seconds. Construction of the vehicle allows to take off or touch down both on water and land. Maximum speed on land 50 km/h and 250 km/h in the air.

#### Stage of Development

Concept stage

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

Polish patent pending.

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02006002	Construction methods and equipment
02011001	Aeronautical technology / Avionics
02011002	Aircraft

### Market

08005	Other Industrial Products (not elsewhere classified)
09004008	Other manufacturing (not elsewhere classified)

### NACE

H.49.3.1	Urban and suburban passenger land transport
H.49.3.9	Other passenger land transport n.e.c.
H.51.1.0	Passenger air transport

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## Network Contact

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### Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

### Contact Person

Maria Dolores Guillén Ruiz

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

1998

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English

### Client Country

Poland

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought : industry
- Specific area of activity of the partner: companies with know how in range of aircraft industry
- Task to be performed: The company is interested in establishing partnership with an entity from aircraft industry who will share know-how and business contacts but also invest money in project development. A partner will be responsible for building a prototype and implementation of the offered solution on the market under license agreement.

### Type of Partnership Considered

License agreement

## Technology Offer

### Composite doors and hatches for marine applications.

#### Summary

*A Dutch SME is specialized in composite products, has developed composite doors and hatches for marine applications. The doors and shutters are already used in high speed naval vessels minesweepers. The company is looking for shipyards and designers that want to integrate the composite doors and hatches into their products and for agents and marine equipment suppliers who want to enlarge their product line. Cooperation based on a commercial agreement with technical support.*

<b>Creation Date</b>	15 March 2016
<b>Last Update</b>	05 April 2016
<b>Expiration Date</b>	05 April 2017
<b>Reference</b>	TONL20151224001

#### Details

##### Description

The Dutch SME is specialized in composite products and has developed composite doors and hatches for marine applications. The doors are manufactured with an integrated locking mechanism in different versions. The doors and shutters are already used in high speed and naval vessels, minesweepers and also on a sustainable fishing vessel. The expectation is that these products will also increasingly be used in other types of vessels. All composite ship doors and hatches are certified.

The model range of doors and hatches comprises a series of standard dimensions and designs. For these common measures high-precision aluminium moulds have been developed. In addition to the standard other sizes can be chosen for by using a modular mould system. The company monitors and controls the quality by working with modern production processes according to the ISO 9001 certification.

The company is looking for shipyards and designers that want to integrate the composite doors and hatches into their products. The company can give technical support to these partners in developing the best solutions regarding materials and construction for their application.

And the company is looking for agents and marine equipment suppliers that want to enlarge their product line. Cooperation based on a commercial agreement with technical assistance

##### Advantages and Innovations

Cost reduction is the most important element in the world of commercial shipping. In comparison to the prevailing steel doors the great advantage of composite is the relatively low weight. So a substantial reduction of fuel consumption can be achieved when this material is used in transportation equipment.

Another advantage is that these products are maintenance free.

There is the possibility of feature integration. For example, properties as isolation, ballistics, flame retardation and electric insulation can be incorporated into the doors. The company can



give technical support in this feature integration.

Aesthetically, the products look much better than a steel door due to the smooth finish and the comfortable use. The doors have a much nicer and tighter finishing than the steel doors. The doors are more comfortable to use.

In production a modular mould system is used to realize a wide range of sizes.

## Stage of Development

Already on the market

## IPR Status

Design Rights, Trade Marks

## Profile Origin

National or Regional R&D programme

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## Keywords

### Technology

02002013	Moulding, injection moulding, sintering
02007005	Composite materials
02007019	Lightweight materials
02009005	Shipbuilding

### Market

08003007	Other industrial equipment and machinery
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### NACE

C.22.2.9	Manufacture of other plastic products
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## Network Contact

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

Materials

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

2002

### Turnover

1 - 10M

### Already Engaged in Trans-National Cooperation

Yes

### Certification Standards

ISO 9001

### Languages Spoken

English  
German

### Client Country

Netherlands

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## Partner Sought

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### Type and Role of Partner Sought

The company is looking for shipyards and designers, searching for new lightweight and design solutions, that want to integrate the composite doors and hatches into their own products and for agents and marine equipment suppliers who want to enlarge their product line.

### Type and Size of Partner Sought

SME 11-50, SME <10, >500 MNE, 251-500, SME 51-250, >500

### Type of Partnership Considered

Commercial agreement with technical assistance

## Technology Offer

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# An innovative thermoelectric refrigerator designed for different means of transport is offered under license agreement.

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### Summary

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*A group of Polish scientists has developed a refrigerator that is dedicated for installation in different means of transport. Thanks to applied solution, the device can be powered by both mains power and direct current. As it has low energy consumption it is perfect solution in case of supplying energy from battery. The researchers are looking for a manufacturer of household goods who will design a final product and will launch it on the market under license agreement.*

<b>Creation Date</b>	11 March 2016
<b>Last Update</b>	15 March 2016
<b>Expiration Date</b>	15 March 2017
<b>Reference</b>	TOPL20160304001

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### Details

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#### Description

The research team from Western Pomerania in Poland has developed an innovative thermoelectric refrigerator. The device can be produced in a version for main power supply connection, but also with direct current power supply of 12V. This makes it suitable for installation in different means of transport, such as cars, boats, yachts and railway wagons. The offered refrigerator is based on new wiring diagram and new switching order, which allows for better performance. The refrigerator has a usable capacity of 48 liters and may generate a temperature lower by 16-22 Celsius degrees comparing to the surrounding temperature. The solution has limited power consumption up to 62W at boot-up mode and 16W in a saving mode, which is crucial when it is running on battery.

The scientists are looking for manufacturers of household goods who would be interested in introduction of the refrigerator on the market under a license agreement. The partner and the scientists will work on the development of the final product together.

#### Advantages and Innovations

The offered solution is based on new wiring diagram and new switching order that allows to reduce energy consumption even 3,5 times what is crucial when the device is running on battery. The refrigerator has higher energy efficiency classes comparing to similar products available on the market.

#### Stage of Development

Available for demonstration

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

EPO procedure pending.

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02008004	Railway Transport
02008005	Road Transport
02008008	Water Transport
03010	Household Goods & Appliances

### Market

07004004	Housewares
09004008	Other manufacturing (not elsewhere classified)

### NACE

M.74.9.0	Other professional, scientific and technical activities n.e.c.
P.85.4.2	Tertiary education

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## Network Contact

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### Issuing Partner

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---

**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

University

### Year Established

1946

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English

Russian

### Client Country

Poland

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## Partner Sought

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### Type and Role of Partner Sought

The scientists are looking for a partner who is acting as a manufacturer of household goods. At the moment there is a working prototype. The partner's task will be to design the housing of the device (including shape, colour, shelves etc.) with specific elements of specific providers inside. The researchers will take part in the process of creation of the final product.

### Type of Partnership Considered

License agreement

## Technology Offer

### Cost effective pipeline integrity management from space

#### Summary

*A Dutch company offers a technology to improve the performance of pipelines in the petroleum industry. The cost effective technology will allow operators to detect safety incidents earlier and more effectively, at lower overall inspection costs. The company is looking for a commercial agreement with technical assistance.*

<b>Creation Date</b>	10 December 2015
<b>Last Update</b>	05 April 2016
<b>Expiration Date</b>	05 April 2017
<b>Reference</b>	TONL20150408004

#### Details

##### Description

For high-pressure gas transmission pipelines currently over 35% of all failures are reported by the public and so initially not observed by the operator of the pipeline (source: European Gas pipeline Incident data Group , 2010). Over 50% of the pipeline failures are caused by third party activities (e.g. excavations).

The Dutch company, specialized in tools and services for monitoring critical infrastructure, offers a technology to improve the performance of pipelines in the petroleum industry. This technology is targeted to improve the performance of detection of third party activities: earlier detection at a lower overall inspection cost. It further enables to monitor the appearing and disappearing of objects in the servitude area of transmission pipelines. These objects (e.g. excavators) may indicate a threat to the integrity of the pipeline.

The technology is based on state-of-the-art synthetic aperture radar (SAR) instruments on-board of an existing fleet of remote sensing satellites. Only recently the quality of these instruments (in terms of spatial resolution and short revisit times) has become sufficient to provide these services.

The present focus of the company lies on the oil and gas market. However, they are also looking for partners in other markets (e.g. power lines, highways, etc.) to explore the opportunities in these market segments as well.

The company is looking for companies to implement the technology into their operations in the framework of a commercial agreement with technical assistance.

##### Advantages and Innovations

With this new technology the Dutch company introduces evidence-based inspection. This allows operators to simultaneously optimise the frequency (“Only inspect when there is evidence”) and

improve the effectiveness (“Only inspect where there is evidence”). Threats will be detected via routine monitoring of the pipeline infrastructure using free available high quality data from Earth Observation (EO) satellites. It further will offer services to monitor third party interference (TPI), ground movement and system health. Together these categories cover 72% of all failures in high-pressure gas transmission pipelines (source: European Gas pipeline Incident data Group , 2010).

In the coming years the rapid decline in cost of high resolution satellite data will lead to an increase of market share of asset monitoring from space.

## Stage of Development

Already on the market

## IPR Status

Patents granted

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02009018	Measurement devices
02009022	Security systems

### Market

08002002	Industrial measurement and sensing equipment
08002007	Other industrial automation
08005	Other Industrial Products (not elsewhere classified)
08006001	Process control and logistics

### NACE

B.06.1.0	Extraction of crude petroleum
B.06.2.0	Extraction of natural gas
H.49.5.0	Transport via pipeline

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## Network Contact

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

Aeronautics & Space

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

2012

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

Dutch

### Client Country

Netherlands

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought: industry, government agencies
- Specific area of activity of the partner: oil transportation related industry
- Task to be performed by the partner sought: implementation of the pipeline integrity monitoring into a company's or organisations pipeline management operations.

## Type of Partnership Considered

Commercial agreement with technical assistance

## Technology Offer

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# Improved operation of silicon photomultipliers in sensory systems

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## Summary

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*A Slovenian research institute and a Slovenian SME jointly developed a sensory system based on silicon photomultipliers (SiPM) useful in research and industrial measurement systems based on SiPM. The system improves the operation of SiPM by reducing the systematic error caused by sensor saturation. License agreement and/or technical cooperation are offered to companies interested in development of new products, or improving existing products with built-in precise SiPM-based sensory systems.*

<b>Creation Date</b>	26 February 2016
<b>Last Update</b>	10 March 2016
<b>Expiration Date</b>	10 March 2017
<b>Reference</b>	TOSI20160226001

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## Details

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### Description

A Slovenian research institute and a Slovenian SME have developed a sensory system based on silicon photomultipliers (SiPM) capable of eliminating the systematic error due to the sensor saturation from the output signal.

Typical sensory systems based on SiPM are usually composed of SiPM sensors connected to a multichannel analyser that collects, and enables further analysis of, the signal from these sensors. Since the SiPM sensors consist of thousands of microcells, the statistics of the binomial saturation allows for a relatively modest relative uncertainty in the number of temporarily inhibited microcells.

The device developed by the Slovenian researchers represents a sensory system consisting of SiPM sensors connected to a multichannel analyser through a fast analogue-digital converter and correction processor. The analogue-digital converter converts the electrical signal to digital signal (a series of numbers), which is further processed in the correction processor. This processor generates another series of numbers, corrected to such values that would have been obtained from the sensor, if there was no binomial saturation. Thus, proportional representation of the actual light incident on the sensor is reflected. The corrected signal is then further processed in a multichannel analyser that prepares a list with records of impulse amplitudes.

The correction processor of the device compensates the binomial saturation in such a way that in each suitably chosen short time interval the processor executes the following: (1) prepares an estimate on the number of microcells that are still inhibited, on the basis of known sensor properties, and based on estimation of the number of previously inhibited microcells prepared during previous time intervals; (2) prepares an estimate on the current sensor sensitivity, which

is proportional to the number of currently active microcells. From these data, an estimate on the actual light input to the sensor is prepared, by taking into account the reduced sensor sensitivity due to the number of inhibited microcells.

The device is directly useful in further processing in research and industrial measurement systems, in medical diagnostic devices and cameras, security systems and all other systems, which have built-in silicon photomultipliers (e.g. in the fields of hazard and threat detection, biophotonics, high energy physics, LiDAR surveying technology, and so on).

Since the technology aims to reach its full potential in an industrial setting wherever precise sensory SiPM is needed, industrial partners are sought. The technology is in the field of finer mechanics, therefore technical cooperation is sought in order to facilitate continuous development rather than just routine production. License agreements and / or agreements for technical cooperation will enable the researchers to maintain their focus on the research behind the technology whereas up-scaling to industrial level will be carried out in the industrial partner's setting.

The technology was developed in a close collaboration between a Slovenian institute and a Slovenian SME and the knowledge behind the presented device relates to both: the assembly of the device and its operation as well as the algorithms based on correction tables were prepared by a systematic search of parametric space of amplitudes and timestamps. The researchers from the Slovenian institute are nuclear physicists with competences in spectroscopic measurements of photons by high resolution detectors and active members of global nuclear laboratory scientific networks participating in the planning, execution and analysis of coincidence experiments with polarised electron beams and polarised targets, whereas the Slovenian SME is a top global semiconductor company known for its processor expertise, software and system-wide view competences.

## Advantages and Innovations

In the regime of piled-up pulses of light the SiPMs may be subjected to conditions where:

a) A significant proportion of SiPM microcells have been excited by light within a short period of time. Consequently the overall light sensitivity of a SiPM sensor for further incident light is significantly reduced, which is known as "binomial saturation" resulting in non-linear response of the system and its reduced dynamic range;

b) High occurrence rate of the measured light flashes causes overlapping of flashes over time. Consequently the gain of the sensor depends not only on the brightness of the pulse being measured, but also on the temporal dynamics and amplitudes of the most recent preceding pulses.

Binomial saturation and overlapping of flashes over time are compensated by introducing the correctional processor unit into the sensory system device. The analogous signal from SiPM is converted to digital and corrected based on pre-prepared estimation for temporary detector sensitivity.

The technical solution reduces the systematic measurement error in determining the intensity of brightness of frequent flashes of light and improves the operation of sensory systems, which have built-in silicon photomultipliers, such as research and industrial measurement systems, medical diagnostic devices and cameras, security systems etc.

## Stage of Development

Prototype available for demonstration

## Comments Regarding Stage of Development

The researchers have knowledge on how to further develop the technology and adjust it to industrial needs (e.g. industrial prototype) under license agreement with the option of technical cooperation.

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

In addition to substantial amount of secret know-how related to the researchers' expertise, a patent application was filed in October 2014 covering the most important properties and principles of operation related to the device described here.

## Profile Origin

National or Regional R&D programme

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## Keywords

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### Technology

01003008	Data Processing / Data Interchange, Middleware
02009009	Sensors for cars and transport
05003002	Optics
06001013	Medical Technology / Biomedical Engineering
10002010	Remote sensing technology

### Market

02007012	Medical/health software
02007015	Integrated software
03007002	Other measuring devices
08002002	Industrial measurement and sensing equipment

### NACE

M.72.1.9	Other research and experimental development on natural sciences and engineering
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## Network Contact

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### Issuing Partner

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**Open for EOI :**   **Yes**

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## Dissemination

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### Send to Sector Group

ICT Industry and Services

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

1946

### Turnover

20 - 50M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Slovenian

### Client Country

Slovenia

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## Partner Sought

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### Type and Role of Partner Sought

Industrial partners involved in production and development of new or existing products with incorporated precise sensory SiPM based systems are sought to adjust it to industrial needs. Licence agreements and/or technical cooperation agreements are sought. The possibility of joint applications to EU calls is not excluded.

### Type and Size of Partner Sought

SME 11-50,SME <10,251-500,SME 51-250,>500

### Type of Partnership Considered

License agreement

Technical cooperation agreement



## Technology Offer

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# Measurement data management for the water industry

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## Summary

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*A small German company offers a management system for water measurement data that can be applied in many areas, e.g. in monitoring of rain, floods, water and wastewater plants, hydrology and others. Advantages include higher resolution and the possibility to combine data from many different sources. Partners are sought to implement the system within commercial agreements with technical assistance.*

<b>Creation Date</b>	14 March 2016
<b>Last Update</b>	17 March 2016
<b>Expiration Date</b>	17 March 2017
<b>Reference</b>	TODE20160314002

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## Details

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### Description

A small German company is specialised in management solutions for measurement data in the field of hydrology and environmental protection. Their activities range from basic evaluation over data processing and to hydrologic expert reports.

The company develops measurement data management systems for all water applications, such as urban drainage, groundwater, precipitation, climatology or water quality. The systems render possible to administrate indicators of any parameter.

They offer newly optimised standard software for time series information systems. This is more user-friendly and more easily configured now. It is independent from operating systems.

The software can be tailored to any activity profile. The administrator can show or hide individual functions and thus enable many applications, such as:

- Simple system with basic functions
- Tool to visualize (with a map)
- Expert system with extensive correction – analysis - correction function.

It is possible to access time series any time. Several hydrographs of different parameters can be shown in one graph. The various time series can be linked. Standard reports as well as special evaluations are available. Selected data can be published via internet.

Statistics functions are manifold to describe, e.g., low tide analysis, peak discharge, heavy rain analysis and others.

Partners from the water sector, such as engineering firms, utilities or public sector are sought for commercial agreements with technical assistance to implement the system and adjust it to their

requirements with the German company's assistance and consultancy.

## Advantages and Innovations

- Unlike commonly used systems, heterogeneous data from different sources can easily be processed
- Higher resolution than commonly used systems. Detailed data are stored over a long period of time
- Expert system can be tailored to user specifications
- Very user-friendly through ongoing further development and optimisation

## Stage of Development

Already on the market

## IPR Status

Secret Know-how

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02009018	Measurement devices
10002011	Soil and Groundwater Pollution
10004	Water Management
10004002	Municipal Water Treatment
10004005	Rain Water

### Market

02007001	Systems software
08002002	Industrial measurement and sensing equipment
09008002	Water, sewerage, chemical and solid waste treatment plants

### NACE

C.26.5.1	Manufacture of instruments and appliances for measuring, testing and navigation
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## Network Contact

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**Open for EOI :**   **Yes**

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**Dissemination**

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**Send to Sector Group**

Environment

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**Client**

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**Type and Size of Organisation Behind the Profile**

Industry SME <= 10

**Year Established**

0

**Turnover**

<1M

**Already Engaged in Trans-National Cooperation**

Yes

**Languages Spoken**

English  
German

**Client Country**

Germany

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**Partner Sought**

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**Type and Role of Partner Sought**

Partners are sought for commercial agreements with technical assistance:

Type:

Engineering companies, public sector, municipalities, water treatment plant operators

Area of activity of partner:

Monitoring or operation of water or wastewater plants, monitoring of rain, flood and other water parameters, hydrology

Tasks to be performed:

Implement the system. The German company will offer support and consultancy in tailoring the system to the requirements and can offer related services where required.

## **Type of Partnership Considered**

Commercial agreement with technical assistance

## Technology Offer

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# Marine drone, with innovative capabilities both of glide and of semi-immersion, incorporating a submarine vehicle and a air vehicle.

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## Summary

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*An Italian startup, led by researches, designs and assembles marine drones, already patented, with a modular structure, for surface, underwater and air applications. It is exploitable for different applications and markets thanks to the possibility to glide and semi-dive and to add additional modules. Academic institutions for research agreement and industrial partner for manufacturing agreements are sought. Also a commercial agreement with technical assistance will be proposed to both partners.*

<b>Creation Date</b>	15 March 2016
<b>Last Update</b>	04 April 2016
<b>Expiration Date</b>	04 April 2017
<b>Reference</b>	TOIT20160315001

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## Details

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### Description

The Italian company is led by a staff of researchers, with specific competences in mobile robotics, naval automation, programming microcontrollers, development of electronic cards, radio communication equipment terrestrial and satellite, networks and computer science, automatic control, Computer Assisted Design (CAD) modeling, fluid dynamics analysis. The team experimented, between 2010 and 2014, the construction of two marine remote-controlled drones, one with a petrol engine and the other with electric propulsion and tilting side floats.

In 2011 it was realized the first marine drone prototype, petrol fueled. After its testing, a new prototype was realized with exclusive electric motor and tilting side floats. In November 2014 this drone has been tested at the Lake of Piana degli Albanesi waters (Palermo-Italy).

Currently it is being implemented with new features, such as the ability to glide and semi-immersion, and the incorporation of submarines and air modules.

The realized marine drones are innovative marine vehicles, without pilot, remotely controlled with robust electronic devices (from the industrial automation sector), characterized by low price and by a modular design adaptable to customer requirements.

The base technology consists in a vehicle with an electric motor and jet propulsion, with two floats driven by servo actuators that enable the stabilization during the surfing the glide and dive operations phases.

The innovative vehicle with a remote control system is implemented through terrestrial and satellite links for radio connection.

These features allow the drone to operate in every marine environment, to move quickly (in relation to the power and type of engine choice) and to dive, making it useful for operations such

as search and rescue, environmental instrumental survey, archeological survey, multimedia survey.

The technology on board allows to patrol and perform reconnaissance of oil platforms, coastlines, lakes, rivers, dams and ports, to make morph bathymetric reliefs and physical, chemical, environmental and archeological analysis

The team intend to explore research agreements with research institutions to design a new hull for the drone and manufacturing agreement with small or medium-sized industrial enterprises, interested in the implementation of innovative marine drones, and in the placing of such technologies on the market. The proposers will ensure the relative technical assistance.

## Advantages and Innovations

The Semi-Immergible Unmanned Surface Vehicle (SI-USV) Drone has innovative elements, such as the ability to glide and to operate in semi-immersion (that allows to operate in shallow waters) with considerable quickness, depending on the version with electric or hybrid engine, and it becomes almost invisible in semi immersion.

In this way the product can be used to realize patrols, reconnaissances and supervisions or to make instrumental survey without being affected by wave motions.

It is also possible to recharge the incorporated batteries by docking stations (buoy) with telemetry capability, able to provide an almost unlimited autonomy.

The modular design also allows to insert several types of modules for monitoring waters and archaeological research, according to the client needs.

The drone can be realized in 2 sizes (2 or 6 meters), is easy to be transported in the appropriate cart, and is characterized by a low price level, approx €. 50,000.

Finally the remote control via terrestrial or satellite radio communication link allows to never lose contact with the drone, regardless of its location.

## Stage of Development

Field tested/evaluated

## IPR Status

Patents granted

## Comment Regarding IPR status

The patent application for the marine drone with capability of semi-immersion and glide was registered in Italy in 2012 and the patent was granted in 2015. The proposers intend to deploy new features of navigation and immersion, which will lead to a new Italian patent deposit, to be extended to different states of the European community.

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

01001001	Automation, Robotics Control Systems
01003021	Remote Control
02009005	Shipbuilding

## Market

08002003 Process control equipment and systems  
08002005 Machine vision software and systems

## NACE

C.30.1.1 Building of ships and floating structures  
M.72.1.9 Other research and experimental development on natural sciences and engineering

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## Network Contact

---

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**Open for EOI :** **Yes**

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## Dissemination

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### Send to Sector Group

Environment

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2016

### Already Engaged in Trans-National Cooperation



No.

## Languages Spoken

English  
Italian

## Client Country

Italy

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## Partner Sought

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### Type and Role of Partner Sought

The company is searching for:

- partners in the academic sector to reach a research cooperation agreement in order to design a new hull for the innovative marine drone;
  - partners in industrial sectors, with skills in the production of drones not specifically on marine sector. In this case a manufacturing agreement will be proposed also to build the new hull;
- To both partners the proposer will ask to cooperate and to create a synergy in order to realize and place on the market their innovative marine drones. In case of success a commercial agreement with technical assistance is envisaged.

### Type and Size of Partner Sought

SME 11-50, University, R&D Institution, SME <10

### Type of Partnership Considered

Manufacturing agreement  
Commercial agreement with technical assistance  
Research cooperation agreement

## Technology Request

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# Looking for new technologies and applications to integrate in drones and develop public and civil solutions

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### Summary

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*A Spanish SME specialized in developing RPAS (Remotely Piloted Aircraft Systems) and Unmanned Aerial Vehicle (UAV) related technologies is looking for new technologies such as sensors, applications and software to integrate and improve their already developed RPAS to develop specialized high-level solutions. A technical cooperation agreement is sought.*

<b>Creation Date</b>	07 March 2016
<b>Last Update</b>	09 March 2016
<b>Expiration Date</b>	09 March 2017
<b>Reference</b>	TRES20160307001

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### Details

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#### Description

A Spanish SME experienced and focused on developing Remotely Piloted Aircraft Systems / Unmanned Aerial Vehicle (UAV/RPAS) and integrating new technologies to drones, is looking for new applications that can be integrated on UAV/RPAS. The company is experienced in all engineering areas related to unmanned aerial systems, their control and command, and the third parties payload integration in order to provide specialized solutions for a broad range of applications.

Their UAV/RPAS are lightweight systems with a powerful payload/airframe ratio, suitable to be classified in the MALE (Medium Altitude, Long Endurance) category which can offer a long autonomy RPAS which can be used to integrate all kind of sensors and offer a complete solution to companies from several sectors.

This SME has long experience in civilian applications using remote sensing techniques and has experience developing solutions for smart cities, forest & fire management and agriculture amongst others.

This SME has been performing projects jointly with specialized sensor manufacturers and research institutions, providing their capabilities to develop ad-hoc airframes as well as their competencies on fine tuning for complex aerial systems, test and validation.

Due to the wide range and diversity of projects, there are a set of examples classified by type of partners involved and project impact.

- Remote-sensing device manufacturers for agriculture, society and waste control:

orthophotography, digital elevation models, aerial thermography and georeferenced aerial images.

- Ad-hoc sensors from research institutions for climate change and environment control: atmospheric data surveillance, river flow anomalies, dynamics of the river-sea interface on delta, forestry health & wealth evaluation.

- Sensor integration and novel software for secure societies: mine location and their georeferencing (demining campaigns), human disaster response and automated search and rescue.

Their focus also includes all test and validation campaigns to help third parties in the payload integration validation and characterization, also command & control systems and flight planning systems, in order to help third parties in a seamless deployment to operational stage.

This SME is looking for solutions/sensors that could help improve processes once they are integrated on a custom-made drone and is offering their capabilities and technology to add value to any sensor, device or application suitable to integrate in an autonomous flying system.

A technical cooperation agreement is sought with companies with state of the art technologies that are looking to integrate them in drones to increase the capabilities of the technology and offer a differential and more innovative and efficient solution.

## Technical Specification or Expertise Sought

The sensor and/or application should be:

- Suitable to be integrated in an RPA/UAV
- It should be unique
- It should solve a specific demand from one of the industries mentioned on the profile.
- It should be already on the latest stages of development and/or on the market

## Stage of Development

Available for demonstration

## IPR Status

Secret Know-how

## Keywords

### Technology

01001001	Automation, Robotics Control Systems
01003023	Environmental and Biometrics Sensors, Actuators
01004007	GIS Geographical Information Systems
02011001	Aeronautical technology / Avionics
09001009	Sensor Technology related to measurements

### Market

05004002	Rescue and emergency equipment
09001006	Airfield and other transportation services
09003001	Engineering services
09005	Agriculture, Forestry, Fishing, Animal Husbandry & Related Products

### NACE

C.26.5.1	Manufacture of instruments and appliances for measuring, testing and navigation
M.71.1.2	Engineering activities and related technical consultancy
M.72.1.9	Other research and experimental development on natural sciences and engineering
M.74.9.0	Other professional, scientific and technical activities n.e.c.

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## Network Contact

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### Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

### Contact Person

Maria Dolores Guillén Ruiz

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**Open for EOI :**    **Yes**

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## Dissemination

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### Send to Sector Group

ICT Industry and Services

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2003

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

No.

## Languages Spoken

English  
Spanish

## Client Country

Spain

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought: A technical cooperation agreement with R&D centre, university and/or private company with solutions such as technologies related to sensors, applications and software that can potentially be integrated in RPAS
- Specific area of activity of the partner: sensors, solutions that cover a large extension of land such as agriculture, wildfire, smart city, applications or services suitable to be improved by integrating them in an automated aerial framework such as telecommunications, border security, facilities surveillance, etc.
- Task to be performed by the partner sought: provide the expertise on the solution (application, sensor, etc) and collaborate integrating it on an RPA. Prepare a suitable business plan proposal for the RPAS/UAV application integration and its market opportunity, in order to perform a risk/benefit assessment in the early cooperation stages

### Type and Size of Partner Sought

SME 11-50, University, R&D Institution, SME <10, >500 MNE, 251-500, SME 51-250, >500

### Type of Partnership Considered

Technical cooperation agreement

## Technology Request

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### **Partners sought in the field of agriculture and civil security to integrate existing sensor-based solutions into drones.**

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#### **Summary**

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*French SME that manufactures fully plug-and-play Remotely Piloted Aircraft Systems (RPAS) looks for partners in the fields of agriculture and civil security to co-develop drone-integrated solutions responding field real needs. A joint venture agreement is ideally sought.*

<b>Creation Date</b>	21 March 2016
<b>Last Update</b>	29 March 2016
<b>Expiration Date</b>	29 March 2017
<b>Reference</b>	TRFR20160321001

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#### **Details**

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##### **Description**

This French SME has been specializing since 2009 in Remotely Piloted Aircraft Systems (RPAS). Managed by an experienced engineer, the company is acquainted to controlling and commanding unmanned aerial systems.

The company just finalized two prototypes of MALE (Medium Altitude, Long Endurance) drones, which have the advantages to be vertical take off and landing and fully plug-and-play. It has therefore the ability to integrate any existing sensor-based application into its aircraft systems. This enterprise has already been working locally with civil security institutions and wineries to integrate specific application into its drones. Its objective now is to co-develop joint solutions with enterprises for specific applications. It therefore needs a partner willing to integrate already existing sensor-based applications in its plug-and-play drones.

The company therefore wants to collaborate through a joint venture agreement with enterprises of the civil security and agriculture fields. It offers its engineering capabilities in the command, control and flight planning systems in order to allow the deployment of the jointly-developed solution to an operational scale. The final goal of the project is to develop replicable ready-to-market solutions.

##### **Technical Specification or Expertise Sought**

This SME looks for partners in the agriculture and civil security which sensor-based applications are to be integrated into a drone. The co-developed solution should respond a real need that exists in the partner's sector, whether solving a problem or optimizing an existing process for farmers, breeders or civil security authorities (fire rescue teams, police forces, etc.).

## Stage of Development

Field tested/evaluated

## IPR Status

Secret Know-how

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## Keywords

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### Technology

01003021	Remote Control
02011002	Aircraft
09001009	Sensor Technology related to measurements
10002010	Remote sensing technology

### Market

05004002	Rescue and emergency equipment
06006002	Metering and monitoring
08002002	Industrial measurement and sensing equipment
09001006	Airfield and other transportation services
09005	Agriculture, Forestry, Fishing, Animal Husbandry & Related Products

### NACE

C.30.3	Manufacture of air and spacecraft and related machinery
C.30.3.0	Manufacture of air and spacecraft and related machinery

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## Network Contact

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### Issuing Partner

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### Email

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2015

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

No.

### Experience Comments

All the enterprise's drones components are CE marked.

### Languages Spoken

English  
French

### Client Country

France

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## Partner Sought

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### Type and Role of Partner Sought

This SME is looking for partners being enterprises working in the field of agriculture or civil authorities. In both cases, they should have sensor-based applications offering the possibility to be integrated into an aircraft system, related to applications such as, for example : wine storehouses controlling, forest fire monitoring, meteorology, smart cities, etc.

It will be expected from the partner to collaborate in the definition of the tender specifications of the jointly developed solution, as well as providing its full expertise in its field. Help will also be expected in the final marketing of the developed solution.

### Type and Size of Partner Sought

SME 11-50,R&D Institution,SME <10,>500 MNE,251-500,SME 51-250,>500

### Type of Partnership Considered

Joint venture agreement