



enterprise europe

Boletín de Oportunidades de Cooperación:

Nanotecnologías

Industria

Construcción

Materiales

Transporte

Boletín nº 141

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NANOTECNOLOGÍAS

- Safe microencapsulation technology for cosmetics, health, food, nutraceuticals, paper, chemistry and other applications related
- Essential oil loaded mucoadhesive nanocomposite delivery system for gastrointestinal system
- Low cost and versatile fabrication of complementary organic semiconductor devices by UV-VIS irradiation
- Additive manufacturing design and engineering software
- Innovative nanofluidic platforms for biomedical applications
- A new type of reactor for producing different shapes of bacterial cellulose materials

PRODUCCIÓN INDUSTRIAL

- Request for automatic wiring harness manufacturing and related inspection technologies on rear and front light lamps of automotive
- Eastern Europe partners sought for manufacturing capacities
- Scottish Cheese producer seeking wrapping technology for artisan cheeses
- Additive manufacturing design and engineering software
- High frequency impulse measurement (HFIM) technology to measure cracks in real-time during metal processing
- Innovative metering system for pulverised coal
- Fully biodegradable packagings for food industry are offered under license agreement
- Novel technology for optimizing production in continuous-casting steel plants
- Manufacturing technologies to produce aluminium components with improved properties from aluminium and magnesium alloys
- The Slovak company active in the area of galvanizing and bending of metal materials offers their innovative processing services
- Biodegradable emulsion for improving quality of surfaces of precast elements is offered under license agreement
- Method for manufacturing powder metallurgy magnets

TECNOLOGÍAS DE LA CONSTRUCCIÓN

- Looking for manufacturer or supplier of stainless steel bolts /mandrels for dental handpieces
- A Slovak research institute is offering a technology for elimination of ammonium in buildings
- Novel ultralight folding shelter offered

- Construction system for strengthening an existing structure with tension sheets and a corresponding anchoring device
- The composite carcass of fiberglass armature
- Artificial quiding lines with a function of warning zones for platform stations

MATERIALES

- Fully funded flame retardant technology for further development in an incubator program
- Looking for a provider able to produce resistive lines and films on electronic circuits
- New ecological anti-sound wall panels are sought

TRANSPORTES

- H2020-FTIPilot-2016: Industrial partners and public transportation operators are sought to finalize the development of a green urban bus
- H2020 GV-04-2017 Next generation electric drivetrains for fully electric vehicles, focusing on high efficiency and low cost - UK company seeking vehicle manufacturers, primary suppliers or technology providers
- Aero-engine, helicopter transmission system, and land gas turbine sought
- Advanced aero-engine manufacture and repair technology sought
- A Japanese electronics manufacturer is seeking a technology for the miniaturisation of power supply systems
- S2R-OC-IP1-01: Consortium sought needing expertise in very high power density permanent magnet and prospective market studies on traction systems
- Smart parking solution based on image analysis and computer vision
- Cobotic and exoskeleton integration to reduce arduousness in industry



1. NANOTECNOLOGÍA

Technology Offer

Safe microencapsulation technology for cosmetics, health, food, nutraceuticals, paper, chemistry and other applications related

Summary

A French SME offers a new and 100 % safe encapsulation technology for oily products. This technology is based on a patented process to prepare microspheres from agro-based shell material. Pilot scale production has been already done and scale-up procedures are available. Cooperation with industry is sought : licensing, commercial agreement with technical assistance, research or technical cooperation agreement to further explore new solutions.

Creation Date	25 February 2016
Last Update	26 February 2016
Expiration Date	26 February 2017
Reference	TOFR20160209001

Details

Description

The French SME had developed a proprietary technology, involving emulsion solidification by flash crystallization. It permits to prevent active products from oxidation, to protect flavors and to deliver actives in specific areas (e.g. in gastro-intestinal tract, on skin at a chosen temperature...). It can be used to incorporate oily substances (pure and mixed) in an oily matrix material which can be incorporated in aqueous phase making a stable dispersion.

Moreover, the technology which is an alternative to prilling technology does not use any chemical mechanism, but only phase change phenomena. It does not produce any secondary product. INCI (international nomenclature of cosmetics ingredients) formula used is indicated for cosmetics and medical applications, and could be used for organic products. All materials used are completely safe, without any toxicity even concerning surfactants. Not involving chemical reaction and secondary product, it could also be integrated into GMP processes (good manufacturing processes).

This technology is available for several applications such as food, nutraceuticals, cosmetics, paper, chemistry... It can be also be deposited on textile and fabrics.

Release of the encapsulated core product can occur:

- either by diffusion through the shell material in different scale times and intensity for volatile products. Release preferably occurs when there are no more water residues in the product (evaporation),
- and/or under pressure or mechanical stimulus.

Microcapsules are presented in a water dispersion form (slurry) and can be spray-dried. It also exists in powder form and could be used either directly in a solid product or can be dispersed in aqueous phases. This form exists in an auto-dispersible form too, for use in liquid products....

The technology is available for several applications such as food, animal feed, nutraceuticals.... PSD (particle size distribution) could be chosen from 0.5 to 40 µm, depending on the expected applications.

Depending on the applications, microcapsules are presented in a water dispersion form and can be spray-dried. Powder form is preferred for food use, whereas liquid form is highly used for creams and textile deposit.

The powder form can be used either directly in a solid product or can be dispersed in aqueous phases. It exists into an instant version, which exhibits auto-dispersible products...

The company is looking for cooperation with industry to test new applications and developments. They are open to various kind of cooperation depending on the needs as research or technical cooperation agreement, licensing and commercial agreement with technical assistance.

Advantages and Innovations

The technology is an alternative to existing technologies such as prilling, spray drying or gelation. For example, prilling can provide capsules with 70-100 µm minimum PSD (particle size distribution) but is not suitable for food or cosmetic industries.

Full mastery of the particle size : very small microcapsules are obtained in the range of 0.5 to 40 µm. By this way, issues on stability, texture or grainy touch can be easily overcome and some specifications applications can be reached.

No chemical mechanism, but only phase phenomena. All materials are completely safe, without any toxicity event concerning surfactants.

Not involving chemical reaction and secondary product, it could also be integrated into GMP (good manufacturing processes).

Several advantages regarding to other conventional microencapsulation technologies :

- lower price,
- no toxicity,
- INCI (international nomenclature of cosmetics ingredients) 100 % dedicated for cosmetics, food and feed,
- usable in GMP.

Stage of Development

Field tested/evaluated

IPR Status

Patents granted

Comment Regarding IPR status

PCT patent. Under international process.

Profile Origin

Private (in-house) research

Keywords

Technology

02002012	Mixing (powder, etc.), separation (sorting, filtering)
02007024	Nanomaterials
03004011	Care, Hygiene, Beauty
06004	Micro- and Nanotechnology related to Biological sciences
08003	Micro- and Nanotechnology related to agrofood

Market

04017	Micro- and Nanotechnology related to Biological sciences
05003005	Drug delivery and other equipment
08001016	Commodity chemicals and polymers

NACE

M.72.1.1	Research and experimental development on biotechnology
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Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Nano- and Microtechnologies

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2008

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

Several clients outside France.

Languages Spoken

English

French

Client Country

France

Partner Sought

Type and Role of Partner Sought

Type of partner sought : Mostly industry

Specific areas of activity : cosmetics, health, nutraceuticals agrofood, paper, textile or fabrics industries,

Role :

- License agreement : manufacturing and sales of products integrating the technology,
- Research and technical cooperation agreement : Exchange upon new development opportunities depending on specific needs,
- Commercial agreement with technical assistance : Benefit of a technology transfer with engineering or after sales services

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

Technical cooperation agreement

Research cooperation agreement

Technology Offer

Essential oil loaded mucoadhesive nanocomposite delivery system for gastrointestinal system

Summary

A Turkish university is looking for manufacturing, technical and/or research cooperation agreement to produce essential oil loaded chitosan nanocomposites for "helicobacter pylori" eradication therapy. This technology allows encapsulating of essential oils in chitosan based microspheres that improve drug release profile with controlled manner and prolong the gastroretention time for "h.pylori" eradication therapy which is the major pathogenic factor in gastritis, peptic ulcer and dyspepsia.

Creation Date	27 January 2016
Last Update	22 February 2016
Expiration Date	22 February 2017
Reference	TOTR20160127001

Details

Description

A Turkish university has been developing encapsulation technologies for controlled release applications for 10 years. This technology comprises encapsulation of a bioactive agent (essential oil) in polymeric matrix for controlled release, bioavailability and patient compliance. Microspheres are produced by spray drying process so that easily scale-up and commercialization.

Initial studies comprise production of microspheres with uniform particle size distribution, drug release in gastrointestinal system, antibacterial effect against "h.pylori" and in vitro cytotoxicity & biocompatibility assays. This product is designed as functional foods and pharmaceutical agents for "h. pylori" eradication in gastrointestinal system.

This technology could also be used for encapsulation of other active molecules (plant extracts, bioactive molecules, drugs).

The university offers:

- Know-how for encapsulation of bioactives
- Evaluation of biocompatibility and biological functionality for h.pylori eradication

The university is looking for manufacturing, technical and/or research cooperation agreement with:

- SME with drugs/bioactive molecules to encapsulate for oral administration
- Industrial partner for technology transfer/scale-up

Industrial applications: Manufacturing, technical and/or research cooperation with related field:

- Food and nutrition: Functional food or food supplement
- Pharma: Controlled release formulations
- Pharmaceutical coating excipient

Companies located in Germany, France, Spain and Netherlands will be preferable.

Advantages and Innovations

Essential oil loaded mucoadhesive nanocomposite delivery system has the following advantages;

- Decreasing the side and toxic effects instead of synthetic drugs
- Antimicrobial activity against H.pylori
- Development of mucoadhesive gastroretentive system with controlled release of essential oil
- Biodegradable and non-toxic
- Enhancing gastric residence time and provide sustained release.
- Improvement bioavailability of essential oil
- Prevention adhesion of H.pylori to gastric mucosa with mucoadhesive chitosan and thus providing preventive therapy as well as eradication.
- Regeneration of damaged gastric tissue by chitosan and essential oil containing nanocomposite.
- Providing patient compliance and nutritional health support

Stage of Development

Under development/lab tested

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

The patent cooperation treaty application is completed.

Profile Origin

Other

Keywords

Technology

02007024	Nanomaterials
03004007	Pharmaceutics
06001024	Medical Biomaterials
06002007	In vitro Testing, Trials
06004	Micro- and Nanotechnology related to Biological sciences

Market

04009	In vitro Testing, Trials
04017	Micro- and Nanotechnology related to Biological sciences
05003005	Drug delivery and other equipment
05007002	Pharmaceuticals/fine chemicals
05008002	Food and feed ingredients

NACE

A.01.2.8	Growing of spices, aromatic, drug and pharmaceutical crops
C.21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
C.21.2	Manufacture of pharmaceutical preparations

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Healthcare

Restrict Dissemination to Specific Countries

France, Germany, Netherlands, Spain,

Client

Type and Size of Organisation Behind the Profile

University

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Client Country

Turkey

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: SME, university, pharma and/or food industry
- Specific area of activity of the partner: encapsulation, pharma industry with controlled release formulations and herbal based products, food supplement, health sciences.
- Task to be performed by the partner sought: develop this approach/product and commercial production in food or pharmaceutical industry to put into marketing (or introduce this product into the market)

The university is looking for partners located especially in Germany, France, Spain and Netherlands.

Type and Size of Partner Sought

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

Type of Partnership Considered

Manufacturing agreement
Technical cooperation agreement
Research cooperation agreement

Technology Offer

Low cost and versatile fabrication of complementary organic semiconductor devices by UV-VIS irradiation

Summary

A Spanish research institution has developed a simple and efficient method to obtain complementary organic semiconductors by using only a single, solution-processable material and a single deposition step, in combination with light irradiation. This makes it possible to bring printed electronics into the market by focusing on price and real world applicability. Industrial partners are being sought to exploit the existing know-how through a patent license agreement.

Creation Date	04 February 2016
Last Update	29 February 2016
Expiration Date	28 February 2017
Reference	TOES20160204001

Details

Description

fabrication processes of n- or p-type semiconducting devices usually require the deposition of both, n- and p-type materials, which have different processing requirements. In the proposed method, only one solution of a p-type material has to be deposited. Subsequently, it can locally be irradiated with light to convert the material to n-type according to the needs (Fig. a).

Because the deposition itself comprises only a single step, this automatically ensures good electrical as well as physical contact between n- and p- regions, thereby minimizing contact resistance and avoiding dewetting and delamination issues. All of this allows to reduce the minimum process complexity, by not only forgoing the deposition step for the complementary semiconductor layer, but also potentially avoiding the need for further deposition steps of metallic interconnect layers in some devices like thermoelectric generators. Another advantage of patterning using light instead of additive techniques like inkjet printing, is the strongly increased resolution that photolithography offers.

Application to thermoelectricity has been demonstrated, using a large-scale, roll-to-roll coating compatible in-plane geometry that showcases the convenience of the developed method, while also using the inherent advantages of flexible substrates to their fullest (Fig. b).

Advantages and Innovations

- Very simple fabrication processes, to keep costs low.
- Large areas can be coated and then patterned using optical techniques instead of relying on more complicated and less accurate multi-step printing processes.
- Higher thickness homogeneity compared to additive manufacturing.

- Applicability goes well beyond the area of thermoelectric power generation, and will prove useful in other fields, such as large area Peltier coolers, intelligent insulation materials, smart textiles, printed electronics in general.
- The materials used are stable in air over months.

Stage of Development

Available for demonstration

IPR Status

Patent(s) applied for but not yet granted

Profile Origin

National or Regional R&D programme

Keywords

Technology

01002007	Nanotechnologies related to electronics & microelectronics
01002012	Semiconductors
02007018	Advanced Textile Materials
04005005	Solar/Thermal energy

Market

06007001	Other energy production
08001010	Semiconductor materials (e.g. silicon wafers)
08001015	Other speciality materials

NACE

M.72.1.9	Other research and experimental development on natural sciences and engineering
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Open for EOI : **Yes**

Dissemination

Send to Sector Group
Materials

Client

Type and Size of Organisation Behind the Profile

R&D Institution

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

We are looking for industrial partners from the Printed electronics sector, companies interested in the use and exploitation of this fabrication method, under patent license.

Type of Partnership Considered

License agreement

Technology Offer

Innovative nanofluidic platforms for biomedical applications

Summary

An Italian company develops micro and nanofluidic platforms for biological and medical applications such as sieving of biomolecules (DNA and proteins), preconcentration of biomarkers, detection of "single-molecule" and interaction between biomolecules (e.g. antigen/antibody interactions or DNA/protein). The company is looking for a technical cooperation agreement..

Creation Date	05 June 2015
Last Update	09 February 2016
Expiration Date	09 February 2017
Reference	TOIT20150604002

Details

Description

The Italian company focuses on design, development and production of micro and nanofluidic Lab-On-a-Chips (LOCs) for biological and medical applications such as separation, preconcentration and detection of biomolecules (mainly proteins and DNA). Separation of biomolecules from a biological sample is often a preparatory procedure for many biomedical analysis processes, concentration of diluted biomarkers is important for the field of early diagnosis of diseases such as cancer and autoimmune disorders while detection of interactions between biomolecules (e. g. antibody/antigen) is crucial for medical screening.

The company can offer:

- nanofluidic devices for the manipulation of biomolecules even at single molecule level.
- nanofluidic devices for the separation of DNA molecules (even longer than 30 kbp) and of proteins.
- nanofluidic devices with tunable cross section for the manipulation of long biomolecules.
- nanofluidic devices for the detection of interactions between biomolecules, such as DNA-proteins, antigen-antibody, DNA-DNA.
- advanced technologies for the fabrication of integrated nano/microfluidic platforms, made of silicon
- advanced technologies for the fabrication of integrated nano/microfluidic platforms made of polymeric materials
- microfluidic platforms for patch-clamping experiments and electrophysiology analysis
- advanced technologies for controlled antibodies immobilization and label free antigen-antibody immune-complex detection.

Advantages and Innovations

The company offers innovative tools for the manipulation of matter at nanoscale level. The proposed technologies allow the fabrication of low-cost micro and nanofluidic devices which are useful for the manipulation of biomolecules even at single molecule level.

Stage of Development

Already on the market

IPR Status

Secret Know-how

Keywords

Technology

05004001	Filtration and Membrane Processes
05004002	Extraction
05005	Micro- and Nanotechnology
06001009	Gene - DNA Therapy
06001013	Medical Technology / Biomedical Engineering

Market

04004	Other Genetic Engineering
04006	Cellular and Molecular Biology
04015	Gene Expression, Proteome Research
04017	Micro- and Nanotechnology related to Biological sciences
05004003	Laboratory equipment

NACE

M.72.1.1	Research and experimental development on biotechnology
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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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry SME 50-249

Year Established

2008

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Italian

Client Country

Italy

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: Companies operating in the field of microfluidics are sought. The requested technical cooperation should focus on developing and producing new nanofluidic devices especially for biomedical and biological analysis.

Type of Partnership Considered

Technical cooperation agreement

Technology Offer

A new type of reactor for producing different shapes of bacterial cellulose materials

Summary

A Turkish university has developed a bioreactor for the production of bacterial cellulose in desired forms. Bacterial cellulose are expected to have lots of usage in medical and healthcare sector in the near future. The university is interested in meeting with related companies in order to form licensing agreements.

Creation Date	31 July 2015
Last Update	16 February 2016
Expiration Date	16 February 2017
Reference	TOTR20150731005

Details

Description

A Turkish university has an invention related to bioreactors used for the production of hollow bacterial cellulose (BC) in desired shapes. This bacterial cellulose can be used instead of hollow structural organs and/or in the repairing of these organs in medical and biomedical fields due to BC's high mechanical, chemical and biocompatibility.

Owing to its structural advantages and being a natural polymer, the usages and applications of bacterial cellulose (BC), which is a biomaterial, have expanded day by day. Three-dimensional fiber network structure, high water-holding capacity, high crystallinity, high polarization, biocompatibility, high mechanical strength, and not being allergen are some of the features that make bacterial cellulose unique.

The university is looking for commercial partners in order to cooperate under license agreement.

Advantages and Innovations

Bacterial cellulose possess usage potential in biomedical fields such as bone tissue scaffold, blood vessel, wound dressing, artificial skin and cartilage, surgical nerve channels, stent coating, contact lenses and peritoneal repairing.

Stage of Development

Prototype available for demonstration

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

Patent application was done but not yet granted. (only Turkey application)

Profile Origin

Private (in-house) research

Keywords

Technology

06004 Micro- and Nanotechnology related to Biological sciences

Market

04007 Enzymology/Protein Engineering/Fermentation

04010 Microbiology

NACE

M.72.1.1 Research and experimental development on biotechnology

Network Contact

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Materials

Client

Type and Size of Organisation Behind the Profile

University

Year Established

0

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Client Country

Turkey

Partner Sought

Type and Role of Partner Sought

Turkish university would like to make license agreement with companies interested in healthcare or medical sectors.

Type and Size of Partner Sought

>500

Type of Partnership Considered

License agreement



2.

***PRODUCCIÓN
INDUSTRIAL***

Technology Request

Request for automatic wiring harness manufacturing and related inspection technologies on rear and front light lamps of automotive.

Summary

A Korean company is looking for automatic wiring harness manufacturing and related inspection technologies associated with continuity, electricity and visual tests on rear and front light lamps of automotive. Certain process is automatic but most manual works need to be replaced with automation and adaptable visual inspection to improve accuracy and speed. They are looking for a partner available for research cooperation and technical cooperation.

Creation Date	19 January 2016
Last Update	09 February 2016
Expiration Date	09 February 2017
Reference	TRKR20160119001

Details

Description

A Korean company is manufacturing wiring harness for automobile lamps. In order to improve accuracy and speed in their process and prepare producing complicated wiring harness for self-driving car etc., they request advanced technologies below.

There are 5 steps in process. Specific requests are:

1. Noncontact cutting with visual inspection:

In order to keep the cutting depth same without abrasion of cutter, they want noncontact cutting technology like laser with cycle time shorter than 1 second. After the noncontact cutting, nothing should be left on the core copper. Cleaning process also may need if necessary. To check the length of wire and residue etc., visual inspection is needed.

2. Inserting multiple wires into various waterproof grommets with visual inspection using automatic technology:

There is no automatic process technology on inserting multiple wires into multiple grommets. At present, they are depending on the manual works for complicated assembly so it often causes errors. In order to solve this problem, they need automatic technology on inserting wires into seals with visual inspection. This technology should include 2 aspects. Firstly it has to distinguish separate sized grommets. Secondly, it needs short changeover time for productivity.

3. Control technology on cable crimping with visual inspection:

When crimping terminals, it needs to keep the pressure and shape same. But they do this only based on manual works, so it causes errors. In order to raise productivity and reduce errors, visual camera inspection is highly recommended on every terminal.

4. Final continuity, electrical and visual tests

Before shipping, products should go through final continuity, electrical and visual inspections. Inspections should include intermittent test to find contact failure and has to be tested with at

least 100HZ and over 400VDC. And the visual inspection program should be operated by the operator easily.

5. Manufacturing execution system

If there are some defective products, manufacturing execution system should be able to trace down the information of defective products, such as operator's name, name of part, manufacturing date, inspection result etc. To do that, the result of each process connected to the network must be recorded in the server.

They are looking for a partner who provides advanced technologies mentioned above and does the research and technical cooperation together.

Technical Specification or Expertise Sought

Non-contact wire cutting

- Cutting without contact like laser
- Available program for different wire cover materials.

Visual inspection

- Available program on all wiring harness parts, terminals, wires, connectors and grommets.
- Distinguishing different color cables for inserting process
- Auto focusing, optical zoom and lighting functions

Electric test

- Intermittent test based on the condition which is at least 100 HZ and over 400VDC.
- Program for different harness connection

Keywords

Technology

01001001	Automation, Robotics Control Systems
01002006	Magnetic and superconductor materials/devices
02003001	Process automation
02004	Plant Design and Maintenance

Market

03001006	Controllers
03004002	Components testing equipment
08002002	Industrial measurement and sensing equipment
08002003	Process control equipment and systems
08002004	Robotics

NACE

C.27.1.2	Manufacture of electricity distribution and control apparatus
C.29.3.1	Manufacture of electrical and electronic equipment for motor vehicles
C.29.3.2	Manufacture of other parts and accessories for motor vehicles
C.33.2.0	Installation of industrial machinery and equipment

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Automotive, Transport and Logistics

Client

Type and Size of Organisation Behind the Profile

Industry SME 50-249

Year Established

1999

Turnover

20 - 50M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

South Korea

Partner Sought

Type and Role of Partner Sought

- Type of partner sought : Company, Research institute
- Specific area of activity of the partner : automatic wiring harness manufacturing and related inspection technologies on rear and front light lamps of automotive.
- Task to be performed : Transfer automatic wiring harness manufacturing and inspection technologies or collaborate with each other for research cooperation.

Type of Partnership Considered

- Technical cooperation agreement
- Research cooperation agreement

Technology Request

Eastern Europe partners sought for manufacturing capacities

Summary

The German mechanical engineering SME with focus on the development of robotic technologies for special purpose manufacturing applications is looking for partners in Eastern Europe with subcontracting capacities in the framework of a manufacturing agreement. The partner should have know-how in welding technologies and electrics, ideally expertise in robotics in order to takeover pre-assemblies or sub-projects.

Creation Date	04 February 2016
Last Update	24 February 2016
Expiration Date	24 February 2017
Reference	TRDE20151221001

Details

Description

The expanding German mechanical engineering SME concentrates on the customized design, development and manufacturing of robotic technologies for various sectors. These include robotic feeding systems, special machinery manufacturing and laboratory automation technologies.

The main application fields are sorting, unloading and placement, as well packaging machines. The robots are implemented into flexible robotic cells, which are cubicles of side lengths varying between 2,0 m and 3,0 m. The cubicles consist of a welded frame and transparent Plexiglas windows and doors.

The specific sub-projects are the manufacturing of the welded frame including the assembly of the complex control cabinets, based on existing 3D drawings, wiring diagrams and parts lists. Another sub-project could be the assembly of the robot and peripheral devices with the corresponding electric wiring.

The company is seeking an industrial partner out of the special machinery manufacturing sector with know-how in welding production for the frames, painting the metal frames and parts and electric know-how for the control cabinets, ideally with expertise in robotic technologies. The partner should be able to offer subcontracting capacities for the pre-assembly of machinery parts, (e.g. the electric wiring) or the takeover of specific sub-projects in the framework of a manufacturing agreement. A long-term partnership is sought. The expected numbers range approximately from 10 to 15 per year.

The partner should already be active on markets of Eastern Europe in order to widen distribution activities there. In return, the partner would benefit of the existing customer base in Germany and Western European countries.

Because of the high success, the company is currently in a strategic realigning process, which also includes the construction of additional manufacturing space in Germany. The final cooperation form depends on the core competencies, capacities and interests of potential

partners.

Application examples are listed for the implementation in robotic feeding systems, special machinery manufacturing and laboratory automation technologies:

- Fully automated unpacking system
- Feeding up to 500 folding boxes per minute
- Feeding product information and outserts
- Modular system for various packaging lines
- Depalettizing, feeding and handling for cartons
- Disposal management for cartons and paper layers

Technical Specification or Expertise Sought

The industrial partner should already be active in the manufacturing sector. Important is the existing know-how in welding production for the frames and electric know-how for the control cabinets, ideally with expertise in robotic and automation technologies. The partner should be able to offer subcontracting capacities for the pre-assembly of machinery parts, (e.g. the electric wiring) or the takeover of specific sub-projects in the framework of a manufacturing agreement. A long-term partnership is sought. The expected numbers range approximately from 10-15 per year.

Stage of Development

Already on the market

IPR Status

Other

Keywords

Technology

01002003	Electronic engineering
02002008	Joining (soldering, welding, sticking)
02006001	Materials, components and systems for construction

Market

08002004	Robotics
08003001	Machine tools, other metal working equipment (excl. numeric control)

NACE

C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
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Open for EOI : **Yes**

Dissemination

Restrict Dissemination to Specific Countries

BosniaandHerzegovina, Bulgaria, Croatia, CzechRepublic, Hungary,
Poland, Romania, Serbia, Slovakia, Slovenia,

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

1995

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
German
Spanish

Client Country

Germany

Partner Sought

Type and Role of Partner Sought

Type of Partner: Industrial Partner

Activity of Partner: Special machinery manufacturing, welding and electric know-how; ideally also in robotics and automation

Role of Partner: takeover of sub-projects (e.g. manufacturing of frame and control cabinet) pre-assembly of machinery parts

Type and Size of Partner Sought

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

Type of Partnership Considered

Manufacturing agreement

Technology Request

Scottish Cheese producer seeking wrapping technology for artisan cheeses.

Summary

A Scottish company which produces a range of artisan hard cheeses is looking for wrapping technology to enhance its packaging process. They require a wrapping machine with not too big a footprint, which will speed up their existing process, ensure a shelf life of at least 10 weeks for the cheese wedges and retain the artisan appearance of the packaged product. They are seeking industrial partners for a technical co-operation agreement or a commercial agreement with technical assistance.

Creation Date	19 February 2016
Last Update	22 February 2016
Expiration Date	22 February 2017
Reference	TRUK20160219001

Details

Description

A well established Scottish company which produces a range of cheeses is seeking technology to improve the efficiency of their packaging process.

The company produces a range of hard cheeses. These are mechanically cut into wedges and at present, these are placed in bags which are then vacuum packed. The packaging process is causing a bottleneck in the process and the company is seeking new wrapping technology which will enhance the process while not losing the artisan appearance of the product.

They are looking for industry partners who may be able to provide or develop a solution through a commercial agreement with technical cooperation or a technical co-operation.

Technical Specification or Expertise Sought

Because of limited space, they require a machine with not too great a footprint.

They need to speed up the process when compared to the present wrapping method of vacuum packing in bag.

They want the final product to retain the look of an artisan product. At present they are using a parchment effect wrapping.

The current shelf life of the product is 10 weeks and they would need to ensure that this is either maintained or extended by the new wrapping method.

Stage of Development

Already on the market

Profile Origin

Private (in-house) research

Keywords

Technology

02003001	Process automation
08001003	Food Packaging / Handling
08002003	Safe production methods

Market

07006	Other Consumer Related (not elsewhere classified)
08002007	Other industrial automation
08003005	Other industrial machinery for textile, paper & other industries

NACE

C.10.5.1	Operation of dairies and cheese making
C.33.2.0	Installation of industrial machinery and equipment
G.47.2.9	Other retail sale of food in specialised stores

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Agrofood

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

United Kingdom

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: Industry
- Specific area of activity of the partner: production/supply of specialist wrapping machinery for use in the food industry.
- Task to be performed by the partner sought: collaborate with the company to provide a packaging solution to enhance their product wrapping process. This may involve a technology agreement or a commercial agreement with technical assistance.

Type of Partnership Considered

Technical cooperation agreement

Technology Offer

Additive manufacturing design and engineering software

Summary

An Italian SME developed a software for structural design of industrial products to be obtained with additive manufacturing technologies. The tool is based on finite element method and can be used to design new products starting from specifications as well as for re-engineering of existing parts, starting from scan data or cad models up to the definition of a new free-form surface model optimised for additive manufacturing. Industrial partners sought for technical cooperation and research

Creation Date	11 February 2016
Last Update	03 March 2016
Expiration Date	03 March 2017
Reference	TOIT20151222001

Details

Description

An Italian engineering company developed a software that allows to design structural parts to be produced with additive manufacturing technologies. The software integrates functions of commercial FEA (Finite Element Analysis) codes, like LS-Dyna & Abaqus for topological optimization and process simulation, in order to get an optimised product considering not only structural and/or thermal product specifications, but also the new technological process constraints. The topological optimization is carried out based on anisotropic material related to layer by layer construction. Manufacturing constraints related to the need of orientation and the use of supports are taken into account in the product definition. Geometrical distortions due to the thermal-structural additive process are taken into account for the dimensioning and tolerancing. The software allows to obtain a free-form surface model as an output.

Manufacturers of components or machines are sought for technical cooperation or service agreement, for prototyping or as end-users. Potentially interested industrial sectors are aerospace, race and sport cars, medical sectors.

The company is also interested in joining a consortium participating to the call FOF-01-2016: Novel hybrid approaches for additive and subtractive manufacturing machines.

Main countries of interest are France, Germany, UK, Spain, Switzerland, Russia, China, USA.

Advantages and Innovations

The proposed methodology absolute innovative key aspect is the integration of functions currently available in several different tools, during the following phases of the product development process:

- Setting up the optimization problem
- Designing an organic structure model
- Defining the semiworked part

The availability of process simulation and Geometric Dimensioning & Tolerancing (GD&T), integrating peculiarities of Additive Manufacturing (AM), allows to get a new comprehensive

design methodology, with the benefits of:

- Accurate product definition
- Optimum structural geometry
- Tolerance definition
- New concept design
- Process stabilization & optimization:
- Semi-finished part definition
- Semi-finished part orientation
- Toolpath & speed optimization
- Layer discretization

Stage of Development

Concept stage

IPR Status

Trade Marks

Profile Origin

Private (in-house) research

Keywords

Technology

02001001	3D printing
02002008	Jointing (soldering, welding, sticking)
02002013	Moulding, injection moulding, sintering
02002016	Microengineering and nanoengineering
02007003	Ceramic Materials and Powders

Market

05005015	Orthopaedics
09001001	Airlines
09001005	Motor vehicles, transportation equipment and parts
09003001	Engineering services
09004007	Printing and binding

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
M.71.1.2	Engineering activities and related technical consultancy

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Aeronautics & Space

Restrict Dissemination to Specific Countries

China, France, Germany, Russia, Spain, Switzerland, UnitedKingdom,
USA,

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Chinese
Russian
French
Spanish
Italian

Client Country

Italy

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:
Manufacturer of components
Manufacturers of machines
- Specific area of activity of the partner:
Aerospace, race and sport cars, medical
- Task to be performed by the partner sought:
End-user, Prototyping

Type of Partnership Considered

- Services agreement
- Technical cooperation agreement
- Research cooperation agreement

Technology Offer

High frequency impulse measurement (HFIM) technology to measure cracks in real-time during metal processing

Summary

A German SME developed a new high frequency impulse measuring system that detects cracks during machining, welding, forming or other production processes. The process is adjusted to the workpiece. The measurement system is able to interrupt the production process automatically in case of failure. Thus maintenance costs and scrap are significantly reduced. They seek partners to implement the technology via commercial agreements with technical assistance and for research for new applications.

Creation Date	09 February 2016
Last Update	23 February 2016
Expiration Date	23 February 2017
Reference	TODE20160209001

Details

Description

In straightening press processes, a stamp pushes against a clamped workpiece and bends it. This produces high pulling and thrust forces which can lead to a crack. In that case a shockwave runs through the workpiece and the machine tools causes vibrations in connected machine parts.

A German SME developed a new high frequency impulse measuring system that detects cracks and structural changes during machining, welding, bending and straightening, wire-drawing, forming or numerous other production processes.

The measuring process is adjusted to the workpiece. The measurement system is able to interrupt the production process automatically in case of failure. Thus maintenance costs and scrap are significantly reduced. Measurement computers render it possible to evaluate many production processes, to detect cracks in the very moment they occur and to check if production parameters stay inside tolerance thresholds:

- crack detection
- raise life time of tools
- Tool monitoring
- Process optimization

Broadband vibration sensors pick up the acoustic emission signals on the surface of the machine parts. Thanks to sensor and pre-filtration technology, ratio between signal and noise is very good.

If a crack occurs in a workpiece, this emits a certain kind of signal. This signal is characterized

roughly by three properties: steep start, broadband and smooth finish.

With every workpiece exchange, the device performs a self-test. It checks the pre-amplification chain and the connection as well as the coupling of the sensor itself. It is possible to save threshold values and pre-amplification settings on every measuring position and workpieces. The sensors are capable of detecting signals up to 25 MHz. The machine does 25.000 spectral analyses per second.

The company is looking for industrial partners interested to implement the technology within the framework of commercial agreements with technical assistance. The German company would accompany the adjusting process.

There is also an interest in common research projects with industrial or research partners for the development of new applications.

Advantages and Innovations

Innovation:

Optical measurement systems that are often applied in order to analyse product quality cannot detect cracks that are closed at the surface of the product.

Unlike conventional methods, this new crack detection system works during the process, in real-time. That means the production process can be interrupted immediately in case of failure.

Damaged workpieces can be more easily and accurately be separated from non-damaged workpieces. The data provided allows the optimization of the production process and to reduce scrap. Additionally, it's possible to detect tool wear and to optimize the whole process – for example, to lengthen maintenance cycles or to eliminate sources of trouble.

Advantages of the measurement system are:

- Optimal signal detection and pre-filtering of noise like mechanical or electrical noise
- Measuring is adjusted to the workpiece, tool and process
- Availability of the device is constantly monitored by complex self-testing functions
- Measuring data is stored and can be used later for statistical evaluation
- High reliability

Stage of Development

Already on the market

IPR Status

Patents granted

Comment Regarding IPR status

Europe, USA, Asia

Profile Origin

National or Regional R&D programme

Keywords

Technology

02002005	Forming (rolling, forging, pressing, drawing)
02003005	Information processing & Systems, Workflow
02007010	Metals and Alloys
09001001	Acoustic Technology related to measurements
09001009	Sensor Technology related to measurements

Market

08002002	Industrial measurement and sensing equipment
08003001	Machine tools, other metal working equipment (excl. numeric control)
08003005	Other industrial machinery for textile, paper & other industries
08003007	Other industrial equipment and machinery
08005	Other Industrial Products (not elsewhere classified)

NACE

C.24.2.0	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel
C.24.3.3	Cold forming or folding
C.24.4.1	Precious metals production
C.25.1.1	Manufacture of metal structures and parts of structures
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**

Dissemination

Send to Sector Group

Nano- and Microtechnologies

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

2004

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Certification Standards

ISO 9001:2008
ISO 14001:2004

Languages Spoken

English
German

Client Country

Germany

Partner Sought

Type and Role of Partner Sought

The German company is looking for partners interested in implementing the technology and in common research projects for the development of new applications:

Industrial partners to implement the technology are sought from metal processing industry, i.e., automotive, machine engineering, shipbuilding and metal working. The German company would accompany the adjusting process with know-how transfer and advice.

As there are still new application opportunities for this technology the company is also interested in cooperation with research organizations for the development of new solutions e.g. in smart manufacturing (Industry 4.0), Internet of Things (IoT) and others.

Type of Partnership Considered

Commercial agreement with technical assistance
Research cooperation agreement

Technology Offer

Innovative metering system for pulverised coal

Summary

A German plant manufacturer with international experience in constructing plants for bulk material handling has designed an innovative metering system for feeding a burner with fuel such as pulverised coal or petroleum coke. The company is looking for partners in the industrial sector for commercial agreements with technical assistance and/or technical cooperation agreements for adapting the device for the customers needs or special purposes.

Creation Date	04 February 2016
Last Update	11 February 2016
Expiration Date	11 February 2017
Reference	TODE20160202002

Details

Description

A plant constructing enterprise located in Germany and specialised in manufacturing plants for handling bulk material has designed a metering system for feeding burners with fuel such as pulverised coal (ignite and hard coal) or petroleum coke. The system has been designed to meet the high requirements of dosed conveying with low pulsation (dust reduction). During the development of the device the company emphasised on a plain design, a long durability and a high feeding accuracy.

The point of intersection to the dosing system is the silo discharge rotary valve. According to the Guidelines for Explosion Protection and Prevention 94/9/EG (ATEX) this valve is designed ignition puncture proof and shock pressure resistant. The valve feeds the fuel into a calibration pot that is situated on load cells. The calibration pot loads the fuel evenly to the in-line dosing rotary valve. The rotational speed can be adapted to the target mass flow.

The use of this system is not restricted to feeding burners but can be modified to any other application.

The company is an internationally operating enterprise with a very long experience in constructing and manufacturing bulk material handling plants. Customized conveyor systems, starting at the storage silo, going on with the pneumatic conveyor and ending up to the dust removal device, they are able to plan, design and manufacture the whole plant.

The company is looking for industrial partners that are interested in long-term technical cooperation agreements to adapt the system to special purposes and/or manufacturing agreements to improve existing plants.

Advantages and Innovations

The metering system has a plain design and a long durability. It has a high feeding accuracy and a very low pulsation (dust reduction). In comparison to other metering systems it is adaptable to any material and sector and it can be retrofitted into existing plants.

Stage of Development

Already on the market

IPR Status

Secret Know-how

Profile Origin

Private (in-house) research

Keywords

Technology

02002008	Jointing (soldering, welding, sticking)
02002010	Machining (turning, drilling, moulding, planing, cutting)
02004	Plant Design and Maintenance
02007009	Materials Handling Technology (solids, fluids, gases)

Market

08003002	Hoists, cranes and conveyors
08003005	Other industrial machinery for textile, paper & other industries
08003007	Other industrial equipment and machinery
08005	Other Industrial Products (not elsewhere classified)

NACE

C.28.1.3	Manufacture of other pumps and compressors
C.28.1.4	Manufacture of other taps and valves
C.28.2.2	Manufacture of lifting and handling equipment
C.28.3.0	Manufacture of agricultural and forestry machinery

Network Contact

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

ICT Industry and Services

Client

Type and Size of Organisation Behind the Profile

Industry SME 50-249

Year Established

1912

Turnover

10 - 20M

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

Certification Standards

ISO 9000:2008

ISO 3834-2

DIN 18800:7

other

Languages Spoken

English

German

Client Country

Germany

Partner Sought

Type and Role of Partner Sought

The company is looking for industrial partners handling with bulk material of any range. There are no limits to the sector.

The partner sought has to be interested in long-term technical cooperations to adapt the system to the existing plant and/or technical requirements and/or the partner has to agree with a manufacturing agreement.

Type and Size of Partner Sought

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

Type of Partnership Considered

Manufacturing agreement
Technical cooperation agreement

Technology Offer

Fully biodegradable packagings for food industry are offered under license agreement.

Summary

The Polish scientists have developed an innovative technology of fully biodegradable packaging for food industry. The offered solution is based on paper derivatives, starch and polymer derived from renewable resources (PLA, polylactide). Packagings made according to that technology are thicker and have higher water resistance than other products currently available on the market. The scientists are looking for business partners interested in license agreement.

Creation Date	05 February 2016
Last Update	25 February 2016
Expiration Date	25 February 2017
Reference	TOPL20160204001

Details

Description

The scientists from North-West Poland have developed technology of biodegradable packagings that can be applicable in food industry. The offered solution is ecological - packagings are made paper derivatives, starch and polymer derived from renewable resources.

The offered technology is based on environmentally friendly substances such as i.e. organic salts to modify packaging surface. Packagings made of cellulose with addition of chitosan (natural substance) coating are great alternative for plastic ones. At the same time packagings are thicker, flexible and have better water resistance. Moreover they are antibacterial and fully biodegradable. The solution was tested mainly on fish products and bread (increase of usefulness in case of bread was significant and impressive) however packagings can be used to any type of products from food sector.

The researchers are interested in starting cooperation with business partners active in food or packaging industries who want to implement the offered technology in their entities. Long term cooperation in a form of license agreements (with technical support in implementation process if needed) is offered.

Advantages and Innovations

Offered packagings are thicker and have better water resistance than other products currently available on the market . As the solution is fully biodegradable it is a great alternative to plastic ones. Packagings can be used for all types of food. Prolongation of food products' shelf life is documented.

The scientists have long-term experience in researches over biodegradable packagings

including cooperation with industry and experience in the implementation of numerous projects, all with international partners.

Stage of Development

Available for demonstration

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

Polish and EPO patents pending.

Profile Origin

National or Regional R&D programme

Keywords

Technology

02002002	Coatings
02005004	Packaging for materials

Market

07003002	Health food
08005	Other Industrial Products (not elsewhere classified)

NACE

C.17.1.1	Manufacture of pulp
C.32.9.9	Other manufacturing n.e.c.
M.72.1.1	Research and experimental development on biotechnology
M.72.1.9	Other research and experimental development on natural sciences and engineering

Network Contact

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Open for EOI : **Yes**

Dissemination

Send to Sector Group
Agrofood

Client

Type and Size of Organisation Behind the Profile

R&D Institution

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

Poland

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: food or packaging industry
- Specific area of activity of the partner: manufacturers of packaging in food sector and food companies
- Task to be performed by the partner sought: the scientists are looking for partners who would be interested in implementation of ready-to-use solution. If needed technical support in implementation process is offered.

Type of Partnership Considered

License agreement

Technology Offer

Novel technology for optimizing production in continuous-casting steel plants

Summary

A research team at an Italian university developed a novel solution for optimizing the production process in continuous-casting steel plants: a specialized set of algorithms to plan and control production, using advanced control systems engineering techniques, improves management of resources shared by different workflows, reducing production times. The group is looking for industrial partners for further testing and industrializing the solution within research, technical or services agreement.

Creation Date	26 January 2016
Last Update	15 February 2016
Expiration Date	15 February 2017
Reference	TOIT20160126007

Details

Description

The main problems related to control and optimization in automated industrial processes concern the management of operation sequences and of workflows and the synchronization of equipment for the handling of materials. Process optimization is particularly relevant in continuous-casting steel plants, where the management of overall production times depends significantly on the correct use of equipment to handle materials (ladles, baskets, overhead cranes), which equipment may have restricted availability (due to maintenance or refurbishment) or mobility (due to reciprocal interference) leading to complex management issues.

An Italian university research group utilized in-depth specialized know-how to develop a novel series of algorithms to plan and control production, using advanced control systems engineering techniques for resource management. The proposed solution is able to model, using dedicated theoretical tools, the sequencing and scheduling of automated productive processes.

The application, currently under development, for continuous-casting steel plants intervenes in a combined manner on the control of processing times, to prevent premature solidification, and on the optimization of transport and handling flows of raw and semi-finished materials.

The university is currently looking for industrial partners for further testing and validating the proposed solution. Potential collaboration include License and Services agreement as well as Research and Technical Cooperation agreement.

Advantages and Innovations

The solution has a significant component of specialized know-how combined with a high level of adaptability and customization of the production planning and control techniques used.

The concept can be integrated into automating and control systems already in place: its application requires neither the development of dedicated instruments nor any structural

modifications to existing facilities.

Reference market for the proposed solution is the manufacturing of automation and control systems, a constantly growing market segment and a key element for the efficient and profitable management of industrial plants.

End markets for the technology are steel plants, which see process automation as one of the driving forces behind technological development, both in terms of the integrated management of the equipment and machinery involved, and in terms of the control of complex transformation processes.

Stage of Development

Concept stage

IPR Status

Secret Know-how

Profile Origin

National or Regional R&D programme

Keywords

Technology

02003001	Process automation
02007008	Iron and Steel, Steelworks
03002	Process Plant Engineering

Market

08002003	Process control equipment and systems
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NACE

M.72.1.9	Other research and experimental development on natural sciences and engineering
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Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

ICT Industry and Services

Client

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

Partner Sought

Type and Role of Partner Sought

The research team is looking for industrial partners for further testing and validating the proposed solution.

Potentially interested partners in the development and integration of the technology include:

- manufacturers and integrators of industrial automation and production control systems
- engineering companies and manufacturers of 'turnkey' industrial plants
- manufacturers of steel and metal plants.

Various cooperation options available based on partners' specialization and market interest, including License and Services agreement, Research and Technical Cooperation agreement.

Type of Partnership Considered

Services agreement
License agreement
Technical cooperation agreement
Research cooperation agreement

Technology Offer

Manufacturing technologies to produce aluminium components with improved properties from aluminium and magnesium alloys

Summary

A research centre of a Spanish university has developed various manufacturing processes, moulds and materials to obtain lightweight alloys components (aluminium and magnesium alloys) Their processes are used in manufacturing lines, in various industrial sectors. The components have improved properties like mechanical strength and reduced porosity. The group is interested in research and technical cooperation, and in manufacturing agreement.

Creation Date	20 January 2016
Last Update	08 February 2016
Expiration Date	08 February 2017
Reference	TOES20160119001

Details

Description

The group, based near Barcelona, is leader in the field of Research of semi-solid manufacturing (SSM), masters various techniques such as new rheocasting (NRC), sub-liquidus casting (SLC) and semisolid rheocasting (SSR).

Semi-solid metal (SSM) processing has led to a whole family of new production processes, new equipment and industrial applications for forming alloys and composites to near-net shaped products.

This process is industrially successful, generating a variety of products with high quality parts in various industrial sectors.

Aluminium casting alloys are widely used in the automotive industry because of their good specific mechanical properties.

From these alloys, the research group has experience in the production of components by semisolid metal processing (SSM), with good surface finish and practically free of porosity. They can be improved further by heat treatments, increasing their tensile and yield strength while preserving a high ductility. The corrosion resistance is also increased significantly.

The group has developed new technologies to obtain microstructures suitable for these processes.

The group has also created its own methodologies for the special design of die cast moulds, several of them having industrialized yet.

Partners sought for manufacturing agreement should be able to implement this technology in their manufacturing process.

Partners sought for research or technical cooperation agreement should be able to offer complementary skills aiming to improve the final product (corrosion resistance, ability to anodize).

Advantages and Innovations

This technology semi-solid manufacturing (SSM) is different from the conventional ones, which use either solid or liquid metals/alloys as starting materials.

Semi-solid manufacturing (SSM) processes combine advantages of forming (forging, rolling, extrusion etc.) and casting processes, currently used by manufacturing industries.

Benefits of semi-solid metal (SSM):

- Reduce solidification shrinkage and the tendency to hot tearing
- Lower operating temperatures
- Shorter solidification times
- Light weight and near net shape process (replacement of steel components)
- Reduce thermal shock (longer die life)
- No gas entrapment
- Complicated shapes can be made more easily using lower loads
- The compactness of the piece is higher, leading to improved mechanical properties

Stage of Development

Under development/lab tested

Comments Regarding Stage of Development

some of the processes mentioned have been successfully implemented by the group into industrial manufacturing lines

IPR Status

Secret Know-how

Comment Regarding IPR status

Dissemination of non-classified data.

Profile Origin

Private (in-house) research

Keywords

Technology

02002005	Forming (rolling, forging, pressing, drawing)
02002006	Hardening, heat treatment
02002013	Moulding, injection moulding, sintering

02007010 Metals and Alloys
02007019 Lightweight materials

Market

02007011 Manufacturing/industrial software
08001009 Speciality/performance materials: producers and fabricators
08001012 Speciality metals (including processes for working with metals)
08003001 Machine tools, other metal working equipment (excl. numeric control)

NACE

C.25.5.0 Forging, pressing, stamping and roll-forming of metal; powder metallurgy
C.29.3.2 Manufacture of other parts and accessories for motor vehicles

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Materials

Client

Type and Size of Organisation Behind the Profile

University

Year Established

1971

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

French

Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

Companies and R&D Institutions

Partners would provide projects guidelines in automotive, nautical or in general appliances production. They will offer technical cooperation in order add benefits like by increasing the corrosion resistance, or the ability to anodize the components obtained.

Specific area of activity of the partner:

Preferably experienced in utilization of lightweight materials in automotive, nautical or in general appliances production

Academia and/or industry experience in other sectors will be welcomed

Type and Size of Partner Sought

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

Type of Partnership Considered

Manufacturing agreement

Technical cooperation agreement

Research cooperation agreement

Technology Offer

The Slovak company active in the area of galvanizing and bending of metal materials offers their innovative processing services

Summary

The Slovak experienced manufacturer of handmade metal utility and decorative products for gardens and households is looking for potential business partners from abroad. The company is offering specific services and know-how in the area of bending and galvanizing different types of metal materials. The company is interested to make a new long-term partnership in the form of manufacturing or services agreement.

Creation Date	21 January 2016
Last Update	10 February 2016
Expiration Date	10 February 2017
Reference	TOSK20160121001

Details

Description

The Slovak company founded in 1953 is a manufacturer of the unique handmade metal products with the specific method of production giving products long life warranty. The company was established by craftsmen, blacksmiths and carpenters.

The company deals with pressing and bending of metal sheets with thickness dimensions of 0.4, 0.5 and 0.6 mm and with cutting off from these metal sheets up to a thickness of 1.6 mm too. On one of the laser-fibre machines, company heats the treating metal plates up to 6 mm, black galvanized aluminium and brass as well. The company has got its own firing zinc place where the melted zinc is applied on products. Whole process is performed handmade. The company welds on automated robots, but also has got hydraulic scissors and bridge saws. Other type of service offered is dividing of metal sheets. The Slovak company has got its own powder coating paint shop with the size of 1.5 x 1 meter.

The company is interested to conclude manufacturing or services agreement with the European companies from the following areas of activity: machining, forming, surface treatment and similar sectors.

Advantages and Innovations

The company's portfolio includes around 300 different products signifying a high degree of variability in metal materials processing. Whole production is handmade. Its products have been placed on markets in France, Italy, Japan, Germany, the United States and Great Britain. For instance, on the British market it supplies products to the Buckingham Palace. The company

has its own showroom and was nominated for the award “Employer of the Year 2015” in the Slovak Republic.

Stage of Development

Already on the market

IPR Status

Exclusive Rights

Profile Origin

Private (in-house) research

Keywords

Technology

02002005	Forming (rolling, forging, pressing, drawing)
02002010	Machining (turning, drilling, moulding, planing, cutting)
02002015	Surface treatment (painting, galvano, polishing, CVD, ..)
02007010	Metals and Alloys

Market

08003001	Machine tools, other metal working equipment (excl. numeric control)
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NACE

C.25.5.0	Forging, pressing, stamping and roll-forming of metal; powder metallurgy
C.25.6.1	Treatment and coating of metals
C.25.6.2	Machining

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Materials

Restrict Dissemination to Specific Countries

Austria, CzechRepublic, France, Germany, Hungary, Italy, Netherlands,
Poland, Sweden,

Client

Type and Size of Organisation Behind the Profile

Industry SME 50-249

Year Established

1953

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
German
Russian
French
Czech

Client Country

Slovakia

Partner Sought

Type and Role of Partner Sought

The Slovak company is looking for companies active in the area of processing metal materials for manufacturing and services agreement. Potential business partners should be interested to finish their metal materials in the final stage of manufacturing process using innovative methods of galvanizing and bending these types of materials.

Type and Size of Partner Sought

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

Type of Partnership Considered

Services agreement

Manufacturing agreement

Technology Offer

Biodegradable emulsion for improving quality of surfaces of precast elements is offered under license agreement.

Summary

A Polish SME operates as a manufacturer of construction chemicals. They have developed a biodegradable emulsion for precast elements to improve quality of their surface. Similar substance available on the market is much more expensive and is not resistant to low temperatures. Moreover, the offered solution is easy and safe in use and very effective. The company is looking for partners interested in starting production under license agreement.

Creation Date	22 January 2016
Last Update	03 February 2016
Expiration Date	03 February 2017
Reference	TOPL20160122001

Details

Description

A small company from North-West Poland has developed an innovative emulsion that allows to achieve the highest quality of precast elements' surface. The offered solution is biodegradable, which means it is safe for environment. In comparison to similar product available on the market (there is only one competitor on the market) the emulsion is odourless and incombustible. The main innovation is that it is resistant to low temperatures (up to -10 Celsius degrees) therefore it is also easy to store. It is also safe and easy to use, no special skills or knowledge is required. Another advantage of the developed emulsion is its high quality and efficiency.

The manufacturer is interested in sharing its know-how with other manufacturers of construction chemicals and investors who want to enter the market. The company is looking for partners in USA, China, Japan, India, Canada and South Korea who want to start the production of the offered emulsion. If needed partner will receive support in the implementation process. In return the manufacturer wants to get an initial payment, monthly payment for using the product and the percentage of sales. License agreement is offered.

Advantages and Innovations

High quality and efficient emulsion for precast elements is odourless and incombustible. It is very easy to use so even non-qualified employee can work with it with no danger of accident. Another innovative aspect of the offered solution is its resistance to low temperatures what makes it easy to store and improves properties of coated elements. Comparing to similar product available on the market this emulsion is eco-friendly and much cheaper.

Stage of Development

Already on the market

IPR Status

Secret Know-how

Profile Origin

Private (in-house) research

Keywords

Technology

02002002	Coatings
02002004	Erosion, Removal (spark erosion, flame cutting, laser, ..)
02002006	Hardening, heat treatment
02006001	Materials, components and systems for construction
02006002	Construction methods and equipment

Market

08001017	Industrial chemicals
08001021	Other speciality chemicals
08005	Other Industrial Products (not elsewhere classified)
09004008	Other manufacturing (not elsewhere classified)
09007002	Manufacture of construction materials, components and systems

NACE

C.20.5.9	Manufacture of other chemical products n.e.c.
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Open for EOI : **Yes**

Dissemination

Restrict Dissemination to Specific Countries

Canada, China, India, Japan, SouthKorea, USA,

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2013

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

Poland

Partner Sought

Type and Role of Partner Sought

Type of partner sought: industry

Specific area of activity of the partnership: manufacturers of construction chemicals, investors who wants to enter to that industry and start the production

Task to be performed by the partner sought: the company is looking for partners who are interested in gaining know-how to start the production of biodegradable emulsion. The partner's task is to implement the production process in his/her entity. If needed the company will support the implementation process. In return the company expects a fee including an initial payment, monthly payment for using the product and the percentage of sales.

Type of Partnership Considered

License agreement

Technology Offer

Method for manufacturing powder metallurgy magnets

Summary

Andalusian research group has developed a new method for permanent magnets production, mainly those containing rare earths in their composition. It substitutes the conventional press+sinter method by a quick consolidation technique, based on a FAST (Field Assisted Sintering Technique) process, simplifying the magnet manufacturing and reducing the fabrication cost. They look for companies or research centers interested in license agreement, research cooperation agreement or technical cooperation

Creation Date	02 December 2015
Last Update	25 February 2016
Expiration Date	25 February 2017
Reference	TOES20151014001

Details

Description

The research group is located in the south of Spain. Its main activities are focused on the following fields: nanomaterials, development of sintered materials from aluminium moulds for transport industry, modeling and use of the electrical resistance sintering, diagnosis and restoration of the cultural heritage and working risk prevention.

The main innovation of the described method is the way to consolidate the material in order to obtain the magnet. Field assisted sintering techniques, as electrical resistance sintering or electrical discharge consolidation/sintering, are techniques where the sintering process is carried out in a very quick way, even less than one second, therefore being possible not to use controlled atmospheres to avoid the material interaction with atmosphere. On the other hand, the technique allows obtaining magnets with the desired final geometry, the whole time of the process with the material in the same container.

Many electrical and electronic applications make use of permanent magnets, in many cases of small size, as those mainly aimed to produce with this manufacturing technique. Many sector are continuously using such devices in their products, and therefore, makers of such devices could be interested in the developed method.

The international market of permanent magnets is growing and is expected that it will generate around 14 billion euro by 2020 through their use in basic technological applications. Good examples are their use for transport (cars, bicycles, vans...), electrical appliances or for eolic turbines generators.

A good impact on the international market is envisaged since lower cost and higher quality during the production process will be achieved using this innovative production method.

They look for partners to sign a licence, research or technical cooperation agreement in order to bring the new technology to the permanent magnets market or collaborate in further developments and applications according to the requests of the clients. The specific way of collaboration will be agreed with the final client, depending on the mutual interest.

Advantages and Innovations

The conventional method of press followed by furnace sintering is now substituted by an electrical consolidation method. This allows joining in a single step the previous pressing/sintering processes, and, due to the promptness of the process, the use of controlled atmospheres is not necessary. The steps of magnetization, and eventual thermal treatments, can be carried out in the same container, without being necessary to manipulate the product

Advantages: The simplification of the consolidation process, and the possibility of finishing the magnetization without being necessary to manipulate the product, makes this method economically attractive. The use of thin dies during the FAST process allows the magnetization coil to be very near the powder, improving results. On the other hand, the process can produce very small parts with the final or very near the final desired shape, with a clear advantage on the field requiring these small near-net-shaped parts.

Stage of Development

Under development/lab tested

IPR Status

Patent(s) applied for but not yet granted

Profile Origin

Private (in-house) research

Keywords

Technology

01002006	Magnetic and superconductor materials/devices
02002006	Hardening, heat treatment
02002012	Mixing (powder, etc.), separation (sorting, filtering)
02002013	Moulding, injection moulding, sintering

Market

03001009	Other electronics related (including keyboards)
03004003	Other electronics related equipment
08001012	Speciality metals (including processes for working with metals)
08003001	Machine tools, other metal working equipment (excl. numeric control)

NACE

M.72.1.9	Other research and experimental development on natural sciences and engineering
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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

R&D Institution

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

Type of partner sought: Companies and Research Centers

Specific area of activity: Permanent magnets, rare earth, electrical resistance sintering, electrical discharge consolidation/sintering

Type of cooperation sought:

- A licence agreement, in order to bring the technology to the market
- A research cooperation agreement, to collaborate in further development of this technology
- A technical cooperation agreement, to adapt the technology to specific needs

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Technical cooperation agreement
Research cooperation agreement



3.

***TECNOLOGÍAS DE LA
CONSTRUCCIÓN***

Technology Request

Looking for manufacturer or supplier of stainless steel bolts /mandrels for dental handpieces

Summary

A Norwegian SME is looking for a supplier of very small stainless bolts. The request is urgent as the previous supplier has problems meeting the required standard.

Creation Date 26 January 2016
Last Update 11 February 2016
Expiration Date 11 February 2017
Reference TRNO20160126001

Details

Description

A Norwegian SME is searching for a supplier of stainless steel bolts, also known as mandrels. The mandrels are used as the "socket piece in dental hand pieces, used at low speed (600-2000 RPM). The bolts needed are essential to create the finished products which are small brushes used in medical environments. The bolts are 14.1 mm long and 2.33 mm diameter, with a 6 mm hole in the top without winds.

Assembly is done elsewhere, and not expected to be executed by the supplier of the bolts.

Technical Specification or Expertise Sought

The supplier of the bolts needs to be ISO - certified within ISO 9001, and be able to document the certification. We will supply technical drawings with tolerances etc.

The assembly of bolts onto the brushes is not expected to be done by the supplier.

Stage of Development

Already on the market

Keywords

Technology

02006001 Materials, components and systems for construction

Market

05007001 Disposable products

NACE

C.25.9.9

Manufacture of other fabricated metal products n.e.c.

Network Contact

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2012

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Norwegian

Client Country

Norway

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:

A supplier of the bolts, described in the pictures attached. More specifications can be obtained by the Norwegian SME.

- Specific area of activity of the partner:

Manufacturer/ supplier of stainless bolts.

- Task to be performed by the partner sought:

Manufacture and supply of very small stainless bolts, as a component in small brushes.

The partner is required to

- 1) be ISO certified ISO 9001
- 2) communicate in English

Manufacturing agreement offered.

Type of Partnership Considered

Manufacturing agreement

Technology Offer

A Slovak research institute is offering a technology for elimination of ammonium in buildings

Summary

A Slovak research institute has developed a new technology for elimination of ammonium, which is released from building walls into interiors as a result of an application of a concrete mixture with a anti-freezing additive containing ammonium. They are ready to discuss research cooperation agreement, licensing or joint venture agreement.

Creation Date	14 January 2016
Last Update	26 February 2016
Expiration Date	26 February 2017
Reference	TOSK20160114001

Details

Description

The Slovak research institute was established in 1967. Their research is concentrated on intentional and spontaneous structural changes in polymers in relation to their properties. Research projects are mainly focused on modification by introduction of functional groups, grafting, cross-linking, thermal and light stabilization of polymers, on mechanism of emulsion polymerization, preparation of new polymer materials based on polymer mixtures and composites, materials for biotechnology and biomedicine and supports for liquids chromatography. New chromatographic separation and characterization techniques for complex polymer systems are being developed, as well.

The presence of ammonium in buildings could be solved by the technology presented here, which was developed by this Slovak research institute. The ammonium is formed as a result of inappropriate application of antifreeze urea-containing additive in the concrete mixture. Two procedures have been proposed as a solution in the past:

- a) demolition of the constructions (parts, where urea-containing antifreeze additives have been added);
- b) using the heating system of the building to speed up the urea decomposition and removal of the ammonium formed by ventilation. The alternative a) is expensive and in most cases demolition of whole building would be necessary, the alternative b) would need, besides the expenses of heating, a period of several months or even few years. The problem is effectively and much less expensively solved by the designed technology according to the patent application. The ammonium formed is chemically bound by an appropriate compound placed on an inert carrier. Both the active ingredient and its product of the reaction with ammonium are ecologically harmless.

This method should be used for new buildings during the construction period.

The institute is ready to discuss licensing, research cooperation agreement or joint venture agreement.

Licensing - the research institute is offering a license of this technology. The partners here could be the construction companies, companies from other related industries or any industrial partner, to whom this technology could be suitable.

Research cooperation agreement - the research institute offers their pool of R&D capacities. The potential partner could be from industrial sector but also from academic sector.

Joint venture agreement - the institute is looking for a specific partnership from which both engaged partners benefit. The form of cooperation is rather opened in this case - the institute offers a technical consultancy and technical training. These types of cooperation have been chosen because they are fitting today's needs of this research institute in a very best way.

Advantages and Innovations

This kind of decomposition and elimination of the ammonium is very a clever method with a high potential for use in the future. The ammonium formed is chemically bound by an appropriate compound placed on an inert carrier. Both the active ingredient and its product of the reaction with ammonium are ecologically harmless and represent no health risk.

Stage of Development

Field tested/evaluated

Comments Regarding Stage of Development

Ready to be applied.

IPR Status

Patents granted

Profile Origin

Private (in-house) research

Keywords

Technology

02006001	Materials, components and systems for construction
02006002	Construction methods and equipment

Market

08001018	Polymer (plastics) materials
09007002	Manufacture of construction materials, components and systems

NACE

C.20.5.9	Manufacture of other chemical products n.e.c.
C.22.2.9	Manufacture of other plastic products

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

R&D Institution

Year Established

1967

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Slovak

Client Country

Slovakia

Partner Sought

Type and Role of Partner Sought

Type: for research cooperation agreement - partners active in research (no preference if they are from industrial sector or academics),
for joint venture agreement or for research cooperation agreement - preferably business partner.

Role:

License agreement - licensing of the technology. The partners could be the construction companies, companies from other related industries or any industry partner, to whom this technology could be suitable.

Research cooperation agreement - the Slovak institute offers their pool of R&D capacities.

Joint venture agreement - the institute is looking for a specific partnership from which both engaged partners benefit. The form of cooperation is rather open in this case - the institute offers a technical consultancy and technical training.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Joint venture agreement
Research cooperation agreement

Technology Offer

Novel ultralight folding shelter offered

Summary

A UK company has prototyped a novel ultra light folding shelter which includes electric generation, water collection and waste disposal. The solution can be used for outdoor leisure, humanitarian relief and temporary housing infrastructures. The user is able to assemble the product via simple colour coordinated components in less than 10 minutes. The company is looking to partner with portable housing fabricators through commercial agreements with technical assistance and/or financial agreement.

Creation Date	05 February 2016
Last Update	16 February 2016
Expiration Date	16 February 2017
Reference	TOUK20160205001

Details

Description

A UK company has prototyped a novel ultralight folding shelter that uses special folding techniques to create a literal pop-up house. It is about the size of a large motor-home and includes electric generation, water collection and waste disposal. The idea is to make an off-grid, nomadic home, that can be towed by bicycle or fit in the boot of a car. The product opens up new possibilities for outdoors leisure, humanitarian relief and temporary housing infrastructures. The company is looking for technical cooperation agreement in order to transfer the knowledge to portable housing fabricators to carry out the experimental prototype and testing phase. The company is also looking at private investors potentially interested in investing in the product through financial agreements.

Advantages and Innovations

The product brings a number of innovations in light weight structural design, with myriad applications for structures of all kinds. Brings new recycling and storage ideas for energy, heat and waste. It is far more usable and accessible than caravans and motorhomes - opening up new possibilities for outdoors leisure, humanitarian relief and temporary housing infrastructures. The user is able to assemble the product via simple colour coordinated components in a short period of time (less than 10 minutes).

Stage of Development

Prototype available for demonstration

IPR Status

Secret Know-how

Profile Origin

Private (in-house) research

Keywords

Technology

02006001	Materials, components and systems for construction
02006006	Construction engineering (design, simulation)
10002007	Environmental Engineering / Technology
10002009	Natural Disasters
11007	Sports and Leisure

Market

05007005	Hospital and other institutional management
07001007	Other leisure and recreational products and services
09007001	Construction companies
09007004	Engineering and consulting services related to construction

NACE

M.71.1.2	Engineering activities and related technical consultancy
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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2015

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

United Kingdom

Partner Sought

Type and Role of Partner Sought

The company is looking for technical cooperation agreement in order to transfer the knowledge to portable housing fabricators to carry out the experimental prototype and testing phase. The company is also looking at private investors potentially interested in investing in the product through financial agreements.

Type of Partnership Considered

Financial agreement
Technical cooperation agreement

Technology Offer

Construction system for strengthening an existing structure with tension sheets and a corresponding anchoring device

Summary

The civil engineering department of a Greek university with expertise in earthquake protection of structures has developed innovative methodology for reinforcing an existing construction using a strengthening anchoring device with external application of fiber reinforcing plastic (FRP) tension sheets, in such a way that premature failure by debonding of these sheets is avoided. The university is looking for a construction company to license the international patent protecting this technology.

Creation Date	08 February 2016
Last Update	03 March 2016
Expiration Date	03 March 2017
Reference	TOGR20160205001

Details

Description

The civil engineering department of a Greek university is particularly active in developing technologies for earthquake protection since Greece is particularly prone to earthquakes.

Existing old constructions (such as bridges, buildings, silos etc), often need strengthening in order to sustain increasing loads or new earthquake requirements. In addition, some of the existing structures are deteriorating due to their age or environmental conditions, or they are damaged after a strong earthquake.

One of the basic ways of strengthening existing structures is by using so-called fiber reinforced polymer (FRP) layers externally. The polymer sheets are anchored to the concrete parts for the desired transfer of tensile forces that develop on these layers. The strengthening of a structure by means of a FRP reinforcing device may consist in bonding FRP sheets to the surface of the structure by applying epoxy or other adhesives. At the point where the structural member meets its supporting member or foundation, the load carried by the FRP sheets must be transferred safely to the supporting member or foundation. Consequently an anchoring device is incorporated in order to transfer this load suitably so as to insure the effectiveness of the strengthening system.

The present anchoring device is qualified as a "hybrid" (hybrid anchoring device - H.A.D.) due to the fact that it combines the secure anchoring of the FRP sheets employed in such a strengthening scheme, while at the same time offering an increase of the ductility of the various structural elements due to its plastification.

The present invention aims at remedying the drawbacks, thereby further improving the resistance of a structure by providing an anchoring device for a surface bonded sheet. In

particular, an arrangement is proposed, which is comprised of at least one structural element (point 5 in Figure 1 attached) and a support element (point 6 in Figure 1) connecting and co-operating with each other. Furthermore, the arrangement is also comprised of at least one anchoring device (point 4, Figure 1). As can be seen in Figure 2 (attached), the developed load is transferred from the FRP sheet (point 3, Figure 2) to a supporting member or foundation (Point 6, Figure 2), through the anchoring device. Sheet 3 is bonded to the surface of the strengthening structural member 5 (shown in Figure 1) by epoxy or by any other conventional bonding materials. The anchoring device 4 is thus attached to the supporting member 6. Figure 2 shows an enlarged detailed view of the anchoring device 4. FRP sheet (3) is wrapped around the outer surface of a horizontal holder (1) consisting of a shaft, preferably circular, thus transferring the load carried by sheet 3 to the anchoring device 4 and further through its fastening 2. The latter consists of bolts engaged vertically in corresponding holes. Thus, the load is transferred to the supporting member 6 or the foundation.

The anchoring device, proposed in this invention, combines two significant features: the secure anchoring of the strengthening scheme and the elastic-plastic behaviour of the anchoring device, wherein this behaviour could be achieved by the capacity for yielding of the metallic or non-metallic materials which are the horizontal shaft and basically the lock-down means. Due to this behaviour, the stress distribution on the composite or steel or other metallic or non-metallic material, reinforcing sheet, plate or shell is distributed more evenly, which results in a better use of the composite material.

This reinforcing device is protected with an international patent. The civil engineering department of this Greek university is looking for a construction company interested to license the patent.

Advantages and Innovations

The present invention can be used as an anchoring device together with FRP sheets to be utilized in a strengthening scheme for a particular construction in order to significantly increase the maximum capacity of its structural elements. The displacement capacity is also increased, due to the plastification of the device.

Anchoring devices that already exist on the market (such as the L-shaped angle anchor) present a number of disadvantages, such as the generation of a large out-of-plane distortion of the FRP sheet from its loading plane, which finally leads to a reduced load-carrying capacity of the strengthening scheme, especially under cyclic loads.

Another drawback of retrofitting using FRP is the problem caused by debonding of the FRP sheet from the supporting member or foundation. A technique called "near surface mounted (NSM)" has been developed, which uses small metallic or non-metallic bonds, to improve the debonding of the FRP sheet from the concrete structure. The major disadvantage of this technique is that it cannot be used, or it does not behave effectively, when it is used to strengthen joints in order to upgrade their flexible capacity.

Thus, it is obvious that there is a need for incorporating an improved anchoring device or system to make the load transfer mechanism safe and trustworthy, which improves the strengthening of existing structures. The present invention provides a remedy to the drawbacks indicated above, thereby further improving the resistance of a structure by providing an anchoring device for a surface bonded sheet.

Stage of Development

Prototype available for demonstration

IPR Status

Patents granted

Comment Regarding IPR status

Patents have been granted and are registered in:-

- Canada (Canadian IPO)
- EU (European Patent Office)
- global (World IPO)

Profile Origin

Private (in-house) research

Keywords

Technology

- | | |
|----------|---|
| 02006002 | Construction methods and equipment |
| 02006006 | Construction engineering (design, simulation) |

Market

- | | |
|----------|---|
| 09007001 | Construction companies |
| 09007002 | Manufacture of construction materials, components and systems |

NACE

- | | |
|----------|--------------------|
| P.85.4.2 | Tertiary education |
|----------|--------------------|

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Sustainable Construction

Client

Type and Size of Organisation Behind the Profile

University

Year Established

1926

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Greek

Client Country

Greece

Partner Sought

Type and Role of Partner Sought

Type: SME

Activity: Construction company

Role: interested in licensing and implementing the patent.

Type and Size of Partner Sought

SME 11-50, SME 51-250

Type of Partnership Considered

License agreement

Technology Offer

The composite carcass of fiberglass armature.

Summary

A small Russian enterprise from Perm developed the production technology of fibreglass armature and flexible communications for their use when building concrete constructions. The fibreglass armature is intended for use as a reinforcing element instead of normal steel armature in constructions of different function. The organization looks for partners for the commercial agreement with technical assistance.

Creation Date	16 February 2016
Last Update	04 March 2016
Expiration Date	04 March 2017
Reference	TORU20160216003

Details

Description

One of the principal problems in building of concrete constructions when using steel is corrosion. The most aggressive agents are the alkalis and chlorides connected to water and oxygen. Other circumstances causing keen interest in nonmetallic armature were need of support of anti-magnetic and dielectric properties of some products and constructions, limitation of an inventory of the ores suitable for production of steel and always the scarce alloying additives.

The Russian production company which is engaged in the sphere of development and production of composite construction materials developed manufacturing techniques of fiberglass reinforcing carcass in the form of the reinforcing grid made from fiberglass on technology of the bound drawing.

The developed technology represents the equipment and sequence of operations of manufacture of a carcass from fiberglass a method bound drawings with use of composite materials such as fiberglass, epoxies, hardeners of epoxies, modifiers. Bars are placed at the same time on a vertical and a horizontal, creating thereby a reinforcing carcass.

At the moment the technology and the equipment on which it is possible to make reinforcing carcasses are ready to industrial implementation. Now in the market internal and external there is no analog of a self-intense reinforcing carcass. There are close technical solutions (such as a basalt grid, the metal gauze), but all of them concede in characteristics. Basalt in strengthening characteristics and segments of use. Metal in that, number and in grid resilience on oxidation that as a result negatively influences strength indices and longevity of construction.

When using this technology production of fiberglass reinforcing carcasses which can be used by construction companies during the building of concrete constructions and repair of roads is possible, and because of the to characteristics can replace completely iron carcasses that will give the considerable lowering of Prime cost in case of construction, and also will increase period of operation of construction constructions. The made composite grid and armature on the developed technology can be applied in constructions of civil and industrial engineering, and also in case of construction and repair of highways.

The company offers implementation of the developed technology in the company of the construction materials which are engaged in production, for production and sale of fiberglass armature. Production and sale of the developed fiberglass armature on channels of the partner will become result of cooperation. Type of cooperation is sought the commercial agreement with technical assistance.

Advantages and Innovations

The innovative aspect of the offered technology consists in production of reinforcing carcass in the form of the reinforcing grid made from fiberglass on technology of the bound drawing.

The made carcass constructions in addition to corrosion resistance possess the increased physicommechanical properties, convenience in application and have self-tension necessary for increase of durability of ready concrete constructions taking into account requirements of all normative requirements of the controlling organizations

The made armature and grid have the following advantages:

1. Density of composite armature is 4 times less, than at steel armature in case increasing strength properties of elastically. In case of full-strength changeover of a reinforcing carcass its weights decreases more than by 10 times.
2. The composite armature isn't exposed to corrosive attack in the majority of hostile environment, including in the alkaline environment of concrete.
3. Coefficients of thermal extension of armature and concrete are most approached to each other that excludes a formation of cracks, in case of change of temperature.
4. Heat conduction of an composite is more than 100 times lower, than at steel.
5. The composite armature doesn't lose the properties, at low temperatures unlike cold brittleness of steel armature.
6. The offered armature is diamagnetic and has dielectric properties that allows to apply it in such buildings and constructions as hospitals, the airports, radar stations, different military constructions.

Stage of Development

Already on the market

Comments Regarding Stage of Development

The technology and the equipment for manufacture of reinforcing frames are ready for industrial use

IPR Status

Secret Know-how, Patents granted

Comment Regarding IPR status

Russian patent for the invention was granted in 2013

Profile Origin

National or Regional R&D programme

Keywords

Technology

02006001

Materials, components and systems for construction

Market

09007002

Manufacture of construction materials, components and systems

NACE

C.23

Manufacture of other non-metallic mineral products

Network Contact

Issuing Partner

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Contact Person

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry SME 50-249

Year Established

2009

Turnover

50 - 100M

Already Engaged in Trans-National Cooperation

Yes

Certification Standards

ISO 9000

Languages Spoken

English

Client Country

Russia

Partner Sought

Type and Role of Partner Sought

Type of partner: SME.

Field of activity: the companies which are engaged in production of construction materials.

Partner's role: implementation of technology in own production for production of reinforcing elements.

Type and Size of Partner Sought

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

Type of Partnership Considered

Commercial agreement with technical assistance

Technology Offer

Artificial quiding lines with a function of warning zones for platform stations

Summary

A small Czech company offers a polymer profiled railway platform boards with tactual form for people affected by blindness. These artificial quiding lines with a warning function for railway platforms are unique by a shape of groove and standard full pigmentation that assures a durable colour fastness for purblind people. It can be used outdoor or indoor. The company is looking for an industrial partner or a railway building company for commercial agreement with technical assistance.

Creation Date	09 February 2016
Last Update	29 February 2016
Expiration Date	28 February 2017
Reference	TOCZ20160208001

Details

Description

Boards are easy to install and very resistant to salt, frost, oil products, acid rains and any other atmospheric effects. A walking surface is created by a regular protrusion and channels with a deepness of 6,5 mm and channels spacing 20-25 mm dimension. The board has a dimension of 250x400/50 and 150x400/50. The design ensures the explicit detectibility by a blind man using the technique of a long white stick walking.

For reaching the visibility the quiding line should have a minimum width of 250 mm.

Surface of the platform board is plain, easy to clean and without slippery. The company is looking for an industrial partner or a railway building company for commercial agreement with technical assistance.

Advantages and Innovations

These boards solve both problems for blind and purblind people. Main advantage is a special shape of the groove developed as a safety board for blind men as well as colour and surface fastness caused by a pigmentation not only on surface but also inside the board. Surface coloured in a usual way loose colour mainly by abrasion which is a probl em for purblind people who are majority of affected persons.

Stage of Development

Field tested/evaluated

Comments Regarding Stage of Development

Field tested in the Czech Republic.

IPR Status

Design Rights

Comment Regarding IPR status

Design Rights granted in the Czech Republic.

Profile Origin

Private (in-house) research

Keywords

Technology

02006001	Materials, components and systems for construction
02007002	Building materials
02007005	Composite materials

Market

08005	Other Industrial Products (not elsewhere classified)
09001007	Other transportation
09007002	Manufacture of construction materials, components and systems

NACE

F.43.9.9	Other specialised construction activities n.e.c.
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Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Automotive, Transport and Logistics

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2001

Turnover

>500M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Client Country

Czech Republic

Partner Sought

Type and Role of Partner Sought

The company is looking for an industrial partner or a railway building company for commercial agreement with technical assistance.

Type and Size of Partner Sought

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

Type of Partnership Considered

Commercial agreement with technical assistance



4.

MATERIALES

Technology Request

Fully funded flame retardant technology for further development in an incubator program

Summary

An Israeli MNE manufacturer and marketer of industrial chemical products is seeking flame retardant technologies and products. The company is interested in accelerating the development of sustainable new products and processes, as well as providing solutions for major global challenges within the company's incubator program. Identified technologies that meet the basic criteria (detailed in description) will receive funding to mature the technology if required, or be considered for licensing.

Creation Date	19 July 2015
Last Update	01 March 2016
Expiration Date	01 March 2017
Reference	TRIL20150719001

Details

Description

An Israeli chemical company is seeking innovative Flame Retardant (FR) materials and technologies. The company's incubator will fund early stage technologies to mature them towards licensing by the company. The MNE is interested in establishing cooperation under financial or licensing agreements with innovative SMEs or research institutions developing flame retardant technologies and products.

The specific interests are:

1. Brominated flame retardants compatibility improvement with non polar matrices: MNE is seeking a cost effective technology to improve the compatibility of brominated flame retardants (BFR), with non polar matrices.

Background: Brominated flame retardants (BFR) are used in many polymers, among which polyolefins which are non-polar. Being acidic, the flame retardants tend to bloom out of non-polar matrices. As a leader in BFRs, our company seeks technologies to mitigate the problem, especially in polyolefins. Encapsulation is one solution the MNE is examining, but other technologies may be considered. Special emphasis is placed on retaining the hosting polymer's properties and on low cost, being a prerequisite in this market.

Criteria: cost effective; compatible with a variety of non polar matrices; environmentally friendly; availability of feedstock materials.

2. Antimony Trioxide (ATO) alternative as flame retardant synergist: the MNE is seeking a cost effective synergist as an alternative to Antimony Trioxide to deliver halogen in the gas phase from plastic composites during combustion

Background: As the field of flame retardants evolves, so is the need for better and more cost

effective synergists. ATO has served for years as the major synergist for Halogen based FRs. Current fluctuations in price, and the ongoing need for innovation dictate the need to develop alternatives. As a leading FR producer, with particular strength in Halogen based ones, the MNE seeks to replace the ATO with an equally effective, yet price effective material.

Criteria: cost effective; sustainable; low carbon footprint; availability; similar to Antimony Trioxide in its influence on physical/mechanical properties of the plastic

3. Intumescent flame retardants for polyolefins: the MNE is seeking novel Intumescent flame retardants for use in polyolefins. The MNE are particularly interested in polypropylene, EVA and polyethylene.

Criteria: compatible with the polymeric matrix; efficient at meeting required FR standards for the intended application; non water soluble; not intended for use as a coating; environmentally safe; cost efficient.

4. Non halogenated reactive flame retardants for textile: the MNE is seeking durable, formaldehyde free non halogenated reactive flame retardants for use in textile

Criteria: Efficient at meeting required FR standards for the intended application; Environmentally safe; Cost efficient.

5. Non halogenated flame retardants for polyamides and polyesters: the MNE is seeking novel non halogenated flame retardants for use in polyamides and polyesters.

Criteria: Compatible with the polymeric matrix; Efficient in meeting FR criteria such as UL-94 and LOI requirements; Minimal impact on electrical and mechanical properties in the end-application; Environmentally safe; Cost efficient.

6. Reactive non-halogenated flame retardants for epoxy formulations: the MNE is seeking novel reactive non-halogenated flame retardants for epoxy formulations

Criteria: Efficient in meeting FR criteria such as UL-94 and LOI requirements; Minimal impact on electrical and mechanical properties in the end-application; Environmentally safe; Cost efficient

Technical Specification or Expertise Sought

MNE is seeking collaboration with an entity that has R&D facilities and is interested in developing the technology further.

The company is seeking the following technologies and/or products:

1. Brominated FR compatibility improvement with non polar matrices
2. ATO alternative as FR synergist
3. Intumescent FR for polyolefins
4. Non halogenated reactive FR for textile
5. Non halogenated FR for polyamides and polyesters
6. Reactive non halogenated FR for epoxy formulations

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

Any stage from the concept stage to the available for demonstration stage is considered to collaborate with.

IPR Status

Secret Know-how, Patent(s) applied for but not yet granted, Patents granted, Copyright

Comment Regarding IPR status

Any IPR status of the requested technology is possible for cooperation.

Keywords

Technology

02006003	Fire Resistance/Safety
02007002	Building materials
02007018	Advanced Textile Materials
10001003	Fire Safety Technology

Market

08001017	Industrial chemicals
08001023	Other chemicals and materials (not elsewhere classified)

NACE

C.13.3.0	Finishing of textiles
C.20.5.9	Manufacture of other chemical products n.e.c.

Network Contact

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Materials

Client

Type and Size of Organisation Behind the Profile

Industry >500 MNE

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

Israel

Partner Sought

Type and Role of Partner Sought

Type of partner sought: SME or Research institutions.

For the purpose of maturing flame retardant innovative technologies with the utilities and expertise of the Israeli Industrial partner.

Companies/institutions of interest will receive full funding/licensing agreement for maturing the selected technologies.

Analytical laboratories, pilot facilities and high level R&D teams will be available to partner.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement

Financial agreement

Technology Request

Looking for a provider able to produce resistive lines and films on electronic circuits

Summary

A private company from Spain that develops electronic instruments is looking for a provider able to produce resistive lines and resistive films to be used in electronic circuits. Companies and organizations for a manufacturing agreement or a technical cooperation agreement are sought.

Creation Date	12 January 2016
Last Update	29 February 2016
Expiration Date	17 February 2017
Reference	TRES20160112001

Details

Description

A Spanish SME is looking for an organisation able to produce resistive lines and resistive films to be used in electronic circuits.

The resistive lines should have a resistance of around 350 Ohm/sq and a permitivity lower than 8 (the lower the better). The resistive film should have a resistance of around 12 Ohm/sq and a permitivity of at least 10 (the higher the better).

It should have the technical capabilities to deposit the right materials on a substrate, meeting a defined width and thickness with great accuracy.

Mostly resistive lines are made of carbon ink and resistive films are made of tantalum nitride but any alternative material or technology that meets and/or improves the requirements will be considered.

This organization should have the technical capabilities to deposit the right materials meeting a defined width and thickness with great accuracy. The substrate needed is not decided yet but we can see 2 main options: FR4 or glass.

A manufacturing agreement or a technical cooperation agreement which would contribute to the improvement of the final product is sought.

Technical Specification or Expertise Sought

The resistive lines should have a resistance of around 350 Ohm/sq and a permittivity lower than 8 (the lower the better). The resistive film should have a resistance of around 12 Ohm/sq and a permittivity of at least 10 (the higher the better).

Typical resistive lines are made with carbon ink and typical resistive films are made with tantalum nitride. However, any alternative material or technology meeting the requirements will be considered.

Stage of Development

Concept stage

Keywords

Technology

01002005	High Frequency Technology, Microwaves
01002010	Printed circuits and integrated circuits
02007010	Metals and Alloys
02007022	Conductive materials

Market

03007003	Other analytical and scientific instrumentation
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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**

Dissemination

Send to Sector Group

ICT Industry and Services

Client

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
French
Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

A manufacturing or a technical cooperation agreement with a provider and/or manufacturer of resistive lines and films is sought. The partner should be able to develop and manufacture the lines and films and contribute with its expertise to the improvement of the final product.

- Type of partner sought: Industry or research center, with the right means to produce the lines and films. There is no need for a big production capacity, series are short (10 to 100 units).
- Specific area of activity of the partner: PCB manufacturer, research organization
- Task to be performed by the partner sought: Advise on materials and technology, produce the resistive lines and films.

It is important to have the right technological means to be able to deposit the right materials on a substrate, meeting a defined width and thickness with great accuracy.

Type of Partnership Considered

Manufacturing agreement
Technical cooperation agreement

Technology Request

New ecological anti-sound wall panels are sought

Summary

A Lithuanian company works in the area of road construction and is looking for new ecological anti-sound wall panels. The company is looking for the partnerships that enables development and implementation of anti-sound wall panels (placed near the highways and other noisy environments to reduce the level of traffic sound) from ecological materials. Novel as well as already-on-the-market solutions are sought for a commercial agreement with technical assistance or manufacturing agreement.

Creation Date	25 February 2016
Last Update	25 February 2016
Expiration Date	25 February 2017
Reference	TRLT20160223001

Details

Description

A Lithuanian company works in the area of highway and road construction and seeks to develop the ecological anti-sound wall panel.

Anti-sound wall panels are placed on the sides of the highways and other noisy environments in order to reduce the level of traffic sounds reaching the buildings that are situated near these highways. The company has extensive practice installing these panels.

There are many different types of anti-sound wall panels, however, any economically viable eco-based solution did not reach the market yet. The company is looking for the partners that could develop and manufacture anti-sound wall panel from ecological materials - recycled, reused, environment-friendly etc.

Technical Specification or Expertise Sought

Proposed solutions should be based on ecological materials (for example - recycled, reused, environment-friendly etc.) only. The technology should allow to develop commercially viable solution.

Stage of Development

Concept stage

IPR Status

Other

Keywords

Technology

02006001	Materials, components and systems for construction
02006005	Construction maintenance and monitoring methods & equipment
02007002	Building materials
03007	Sound Engineering/Technology

Market

09004008	Other manufacturing (not elsewhere classified)
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

F.41.2.0	Construction of residential and non-residential buildings
F.42.1.1	Construction of roads and motorways
F.42.1.2	Construction of railways and underground railways

Network Contact

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2010

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Russian

Lithuanian

Client Country

Lithuania

Partner Sought

Type and Role of Partner Sought

The partner sought is expected to provide the SME with expertise and solution on anti-sound wall panel from ecological materials

The partner is expected to work closely with the SME in order to introduce/implement novel anti-sound wall panel from ecological materials.

Type and Size of Partner Sought

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

Type of Partnership Considered

Manufacturing agreement

Commercial agreement with technical assistance



5. ***TRANSPORTES***

Research & Development Request

H2020 GV-04-2017 Next generation electric drivetrains for fully electric vehicles, focusing on high efficiency and low cost - UK company seeking vehicle manufacturers, primary suppliers or technology providers.

Summary

UK company based in the north east of England is seeking vehicle manufacturers, primary suppliers or technology providers to be partners in this H2020-GV-2016-2017 call. The project aim is to develop innovative electric drivetrains that will take into account design for manufacturing, low weight and material cost.

Creation Date	03 February 2016
Last Update	15 February 2016
Expiration Date	15 February 2017
Reference	RDUK20160108005

Details

Description

This UK company specialises in the design and manufacture of electrified ancillary systems for electric vehicle powertrains delivering powertrain efficiency improvement through reduced parasitic losses and improved thermal management.

The company is looking for partners to work on a proposal for this Horizon 2020 call to develop a new more efficient highly integrated electric vehicle powertrain with reduced parasitic losses and a lower cost.

Project Challenge

Developments have already been undertaken in recent years to optimise drivetrain components for fully electric vehicles (FEVs), in particular in terms of efficient use and recovery of energy. However, the next generation of electric drivetrains should be conceived to also take into account design for manufacturing, low weight and material cost.

Proposals should address one or several of the following aspects;

—Functional system integration of electric machines (e.g. high speed motors) with transmissions, optimisation of energy recovery with the integration of braking systems.

—Lower cost electric machines through reduced need for rare earth magnets and designs optimised for lower cost manufacturing processes.

—Integration of power electronics with battery charging functions together with associated control and of wide bandgap semiconductors providing high temperature, high power density, and high frequency capabilities.

—Modular electric power train components compatible with both full electric and hybrid applications, sub-systems and topologies with enhanced NVH[1], reliability, safety and fault tolerance and robustness, fit for mass manufacturing.

Expected impact of the project will lead to the next generation electric drives, with reduced costs through systems integration and optimised design and configuration of motors and power electronics for volume manufacturing processes. Therefore, actions under this topic are expected to contribute to the achievement of climate action and sustainable development objectives.

It is envisioned that the partners will collaborate to develop a new highly modular electric vehicle drivetrain with low cost power electronics and electrical machines. The drivetrain will use advanced thermal and lubrication management systems to reduce parasitic losses and facilitate the use of lower cost system architecture.

The drivetrain could use a high speed electrical machine and gearbox, or a low speed electrical machine with a simplified gearbox. It is envisioned that the design will use electronic control to replace the mechanical differential and that a modular motor unit and gearbox with synchronisation capability will provide drive to each wheel.

Company contribution to the project

The company has expertise in electrified ancillary systems, advanced thermal management, parasitic loss reduction, power electronics design, systems integration, multiple motor control strategies including e-diff, distributed control strategies, productionisation and manufacturability of mechatronic systems

Partner Sought

The company is seeking vehicle manufacturers from either the on-highway or off-highway sector, primary suppliers and technology developers with expertise to support development of a novel motor or battery system who would be interested in collaborating on this H2020 project to develop a new lower cost powertrain solution.

Technology developers of interest would be involved in the design of high efficiency and low cost motors and inverters and gearbox design.

Deadline for call 1st February 2017
Deadline for EOI 30th November 2016

Stage of Development

Concept stage

Keywords

Technology

02009002 Hybrid and Electric Vehicles

Market

09001005 Motor vehicles, transportation equipment and parts

NACE

C.29.1.0 Manufacture of motor vehicles

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Automotive, Transport and Logistics

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

2003

Turnover

<1M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

United Kingdom

Partner Sought

Type and Role of Partner Sought

Partners Sought

The company is seeking vehicle manufacturers from either the on-highway or off-highway sector, primary suppliers and technology developers who would be interested in collaborating on a new lower cost powertrain solution to collaborate on a project.

Technology developers of interest would be involved in the innovative design of high efficiency and low cost motors and inverters and gearbox design.

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

Research cooperation agreement

Research & Development Request

H2020-FTIPilot-2016: Industrial partners and public transportation operators are sought to finalize the development of a green urban bus

Summary

A French SME is looking for industrial partners and public transportation operators for a Fast Track to Innovation project. The partners are more likely buses manufacturers, engineering companies, public transportation operators, cities, that are interested in developing, implementing and testing a plug in electric urban bus. The French SME is also considering applying to the SME Instrument – phase 2.

Creation Date	22 January 2016
Last Update	12 February 2016
Expiration Date	12 February 2017
Reference	RDFR20160115001

Details

Description

Buses represent 80% of the total European transport; developing more sustainable buses will have a major impact on the environment. Today, even if electric and hybrid buses are more environmentally-friendly, charging time and classical hybrid power trains limit the autonomy and the efficacy of those buses.

The French SME has developed a unique concept based on a multi-hybrid system, coupling 3 different energy sources and a bi-modular frame (a module for passengers and another one for energy) allowing a full capacity usage of the vehicle.

The SME is a well-established SME with 3 main activities :

- car body shop,
- retrofitting of road and rail vehicles and interior
- interior design and refitting of shops and professionals premises

Based on its 60-year experience in refurbishing and retrofitting, and its collaboration with local authorities, the company decided to diversify its activity and to develop an innovative concept of green urban bus: the plug-in electric urban bus.

The first version of the bus has the following characteristics:

- Available in 2 lengths: 10 & 12 meters
- 90 people capacity (mid-size bus)
- 200 km autonomy

- Low energy consumption, reduced emissions
- No additional cost for the set-up of the bus
- Easy access for passengers with wheelchairs and mobility-impaired persons

For a Fast Track to Innovation project, the company is looking for industrial partners and public transportation operators interested in developing, testing and implementing a plug in electric urban bus:

- buses manufacturers
- engineering companies
- public transportation operators
- cities...

The company has targeted the June cut-off of the Fast Track to Innovation call but might apply to the following cut-off (October 2016), if the proposal is not ready.

Deadline for Expressions of Interest: 01/05/2016

The French SME is also considering applying to the SME Instrument – phase 2.

Advantages and Innovations

Current main innovative advantages of the bus are:

- Plug in hybrid & range extender
- Reduction of empty weight (around 20%)
- Full capacity usage of the vehicle
- Energy consumption, noise and CO2 emission of small cylinder engines
- “Connected vehicle” equipped with sensors to allow data collection
- Warranty of batteries: data collected allows the monitoring of the battery ageing
- Integrated SAE (Society of Automotive Engineers) standards- Equipped with on-board screen to display key parameters of the hybridisation and video feeds from on board cameras

Foreseen innovations:

- Full electric version
- Maintenance forecasting: bus operator will be provided with data collected by the network of on-board selected “calculators”
- Driver-aid system providing live support to the driver to optimise the usage capacities of the bus
- Optimization of energy consumption of the auxiliaries, including an highly efficient air conditioning system
- Development of algorithms to enhance the management of smart multi-hybridization
- Smart tools development for remote and advanced forecasting, based on a real time data exchange with the bus
- Hydrogen / Fuel cell version
- Adaptation to right hand drive (if needed)

Technical Specification or Expertise Sought

Industrials partners and public transportation partners are sought to further develop, implement and test this new plug in electric urban bus.

Stage of Development

Already on the market

Comments Regarding Stage of Development

The first version of the bus, which was homologated in 2014, has already been delivered to 4 French cities (2015).

IPR Status

Patent(s) applied for but not yet granted, Patents granted

Keywords

Technology

02009002	Hybrid and Electric Vehicles
02009012	Automotive engineering
02009013	Body and main parts

Market

09001	Transportation
09001005	Motor vehicles, transportation equipment and parts

NACE

C.29.2.0	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers
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Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Automotive, Transport and Logistics

Client

Type and Size of Organisation Behind the Profile

Industry SME 50-249

Year Established

1955

Turnover

20 - 50M

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

SAE Standards

Certification Standards

other

Languages Spoken

English
German
French

Client Country

France

Partner Sought

Type and Role of Partner Sought

Partners sought:

- Industrial partners: bus manufacturers, engineering companies (composites, fuel cell, maintenance forecasting...)
- Public transportation operators and cities interested in implementing green urban bus

Task to perform:

- Adapt the technology of the bus to different operations environments
- Finalize the development of the plug in electric urban bus
- Demonstrate and evaluate the bus performances in real operating conditions
- Development of new types of vehicle
- Demonstrate the benefits of hybrid electric buses in a mix urban/rural environment
- Cost benefit analysis of a hybrid electric bus compare to a pure electric bus

Type and Size of Partner Sought

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

Type of Partnership Considered

Research cooperation agreement

Technology Offer

A device is offered to power the trailing throttle of electric cars, usable within the construction of electric cars and is offered via financial agreement or license agreement.

Summary

Currently, the aggregates for the production of electric energy are built into electric cars. Their main disadvantage is that they are expensive and must be built into each electric car. A Slovak inventor has developed a cheaper, more practical alternative. The technical solution offered can be used in the car industry, especially for the design of electric vehicles. The inventor is looking to offer this technology to partners via financial agreement or via license agreement.

Creation Date	08 January 2016
Last Update	23 February 2016
Expiration Date	23 February 2017
Reference	TOSK20160108001

Details

Description

This technical solution relates to a device based on an electric rechargeable battery of an electric car and its utilization for limited movement of an electric car during the time when a main battery of an electric car is discharged.

Currently, the aggregates for production of electric energy are rather built-in electric cars. Their main disadvantage is, that they are very expensive and must be built-in each one electric car.

The above mentioned limitation can be completely eliminated by using the device designed according to the proposed engineering solution. By using the electric car's spare battery, which is a main part of the presented device, there is no need to use an aggregate in order to produce electric energy for the trailing throttle of the vehicle. By connecting the spare battery of the electric car to the electric power network of the car, the vehicle is capable of limited electric movement. By relieving the electric car from the aggregate (as is the case when using the spare battery) the costs of driving are reduced. The device for the electric car's trailing throttle consists of a functionally-charged spare battery connected to the electrical power network and by the discharged main battery of the car connected by electric cables via a switch.

This technological solution can be implemented as follows:

The core of this technological solution rests in the fact that with a discharged main battery (please see nr. "1" in the picture below) of an electric car and with a functionally-charged spare battery (2) connected to the electrical power network (6) of electric car with electric cables (4)

and with a flick of the switch (3), the electric car is capable of limited movement. The presence of the spare battery (2) in the electric car is needed for the trailing throttle of the electric car only when the main battery (1) is discharged. The capacity of the spare battery (2) is limited by its weight (max. 50 kg).

Within this device, the connection of a spare battery of an electric car to the electrical power network is secured via a switch, which switches the source of electrical power - the main and the spare battery. The connection continues through electrical cables with four terminals. The terminals are attached to the pole cable terminal of the battery. The terminals are unplugging and reconnecting to the pole cable terminals of batteries only when the electric current and electric voltage is off. After the connection of the terminals to the pole cable terminals of spare battery, the switch switches the way the electric circuit between the spare battery and the electric power network is created - thus, the electric car is capable of movement with a capacity of spare battery.

After changing of the main battery of the electric vehicle, or after replacing of the main battery, the spare battery is disconnected and the main battery is connected in a opposite direction compared to the connection of the spare battery. Then the electric vehicle is capable of movement again.

The object of this technical solution can be used in the car industry, especially for the design of electric vehicles. The Slovak inventor prefers a cooperation via financial agreement (the inventor has an innovative project for the development of product, needs financing and offers the project to investors) or via license agreement (the Slovak inventor is offering a license/looking for licensees).

Advantages and Innovations

- environmental protection - no exhaust pollutants
- lower production costs compared to other currently used technical solutions

Stage of Development

Available for demonstration

IPR Status

Design Rights, Patents granted

Comment Regarding IPR status

Granted utility models in Slovakia, international patent granted.

Profile Origin

Other

Keywords

Technology

02008005	Road Transport
02009002	Hybrid and Electric Vehicles
02009011	Air pollution control for cars and transport
02009012	Automotive engineering
02009017	Electrical supply system

Market

03002 Batteries
03003 Power Supplies
06011 Energy for Transport

NACE

C.27.1.1 Manufacture of electric motors, generators and transformers
M.72.1.9 Other research and experimental development on natural sciences and engineering

Network Contact

Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

Contact Person

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Inventor

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Experience Comments

Picture in an attachment introduces a wiring circuit of this technology solution. Legend for picture in an attachment: 1 - discharged main battery 2 - functionally-charged spare battery 3 - switch 4 - electric cables 5 - electrical appliance of electric car 6 - electrical power network of electric car

Languages Spoken

English
Slovak

Client Country

Slovakia

Partner Sought

Type and Role of Partner Sought

Type and a field of activity of partner: company - industry - companies active in automotive industry, electric cars development.

Role: The Slovak inventor wishes a cooperation via financial agreement (the inventor has an innovative project for the development of product, needs financing and offers the project to investors) or via license agreement (the Slovak inventor is offering a license/looking for licensees).

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
Financial agreement

Technology Offer

Hybrid smart farmer

Summary

A Polish inventor running a designing company developed a prototype of small tractor. It is an electric (hybrid) vehicle designed to work in the garden, indoor and outdoor of small and large objects, backyards, driveways. The company is looking for licensees and partners to cooperate with on the basis of joint venture and commercial agreement with technical assistance.

Creation Date	28 January 2016
Last Update	16 February 2016
Expiration Date	16 February 2017
Reference	TOPL20160128001

Details

Description

This Polish company has been working for 4 years on designing of special and innovative products. The company has been selling its own patented products but also develop products for external companies from concept until the construction of the prototype. One of them is this hybrid small vehicle that can serve as a smart farmer – intelligent multi purpose tractor.

Powered by electricity derived from 4 batteries with a total capacity of 240Ah provides continuous operation for 2-4 hours and at having to work over that time a special generator can be install which provides unlimited lifespan. Operating time depends only on the amount of fuel (hybrid). In addition, the device (after the installation of the generator) can be used as an alternative power supply in 230V / 2 kW for other electrical equipment, e. g. trimmer, chainsaw, pump etc.

Drive to the front wheels with a diameter of 19x7 inches using 2x500W BLDC (BrushLess Direct-Current) motors provide power and speed with high maneuverability (vehicle is able to rotate in place). Small size (80x125x 65) cm makes that it occupies little space in the garage. The tractor is equipped with a basket of 200l capacity to collect grass clippings, leaves, sand, garbage. After removing a trash the platform can be mounted to carry materials by weight of up to 150 kg (riding wheelbarrow).

Easily attached equipment (lawn mower, snow blower, sweeper) height-adjustable, placed before the device makes the wheels do not knead the grass, not ram the snow, all the "waste" is taken in front of the device. At a later stage a vehicle will be equipped with a module memory (learning) activity and the distance so that the device can itself e. g. mow the grass or sweep the driveway and over the safety of the work will oversee a series of specially made proximity and location sensors.

The company is looking for licensees, joint venture partners and offers cooperation within commercial agreement with technical assistance. The desired outcome of an international partnership would be improvement of technology and growth in sales.

Advantages and Innovations

A wide range of accessories makes tractor a smart farmer. It is capable to:

- mow the grass
- sweep floors, concrete, cube, asphalt, etc.
- collect leaves
- snow clearing
- carry loads up to 150 kg
- grab, push, shovel.

Vehicle operation is organic, emission CO₂ = 0, no fluids such as oils and greases, quiet operation (56dB), economical, very cheap operation - fully charging the batteries is the cost of ca. EUR 1.

Control is via electronic intuitive control panel located in the hermetic and impact-resistant casing. Additionally, the panel can be removed and control the device remotely (e. g. when working on the device can be dangerous for the operator, i. e. boggy terrain, high temperatures, high water level, etc).

Stage of Development

Concept stage

IPR Status

Secret Know-how

Profile Origin

Private (in-house) research

Keywords

Technology

02009001 Design of Vehicles

Market

08003004 Industrial trucks and tractors

NACE

C.25.2.1 Manufacture of central heating radiators and boilers
 C.25.7.3 Manufacture of tools
 C.28.2.9 Manufacture of other general-purpose machinery n.e.c.
 C.28.9.9 Manufacture of other special-purpose machinery n.e.c.
 M.74.1.0 Specialised design activities

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination**Send to Sector Group**

Automotive, Transport and Logistics

Client**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

Polish

Client Country

Poland

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

Industrial companies from special vehicles manufactory sector, seeking new products for their portfolio. The potential partners should be ready to collaborate in line with considered cooperation agreements.

Type of Partnership Considered

- License agreement
- Commercial agreement with technical assistance
- Joint venture agreement

Technology Offer

Cobotic and exoskeleton integration to reduce arduousness in industry

Summary

A French company is looking for Spanish integrators to adapt and distribute their technologies of exoskeleton and cobots. The technologies offered are mechanical and mechatronic exoskeletons which reduce arduousness at work and are applicable to many markets, including: industry (transport, mechanic, foundry, food) logistics, construction, medical and agriculture. Spanish partners are sought for a cooperation agreement with technical assistance.

Creation Date	07 January 2016
Last Update	12 February 2016
Expiration Date	12 February 2017
Reference	TOFR20160107001

Details

Description

The French company is a developer and an integrator of robotic and cobotic technologies for human services.

Today, many professions with a lot of lifting work or in bent-over work positions encounter issues and, as a result, employees suffer back pains. A solution can be the use of mechanical and mechatronic exoskeletons.

The proposed technology is a lightweight exoskeleton for humans. The light weight is made possible as no motors are being used.

Moreover, the exoskeleton allows the operator to walk, turn, reach and make other moves, which is not the case with other back supports such as corsets or braces. 40% of back muscle activity is reduced by using this exoskeleton.

This exoskeleton needs to be adapted by the partner for each specific user/operator, according to the operator's size and morphology. These exoskeletons are already well introduced in the French manufacturing industries and also in logistics-based ones.

The offered technologies are applicable to many markets such as industry (transport, mechanics, foundry, agrofood) and also logistics, construction, medical, agriculture, etc.

A commercial agreement is sought with technical assistance with partners located in Spain, to identify and promote the exoskeleton's use in industry.

The partner should adapt the exoskeleton to each operator's specific requirements regarding their field of activity and morphology.

Advantages and Innovations

- Back pain reduced
- Lightweight
- User-friendly
- Adapted to each morphology

Those technologies have very few competitors nowadays and are already implemented in many French companies. Potential is very large and new developments will arrive in 2016.

Stage of Development

Already on the market

IPR Status

Design Rights, Trade Marks

Profile Origin

Private (in-house) research

Keywords

Technology

01001001	Automation, Robotics Control Systems
02008003	Logistics
02009016	Charging system
06001020	Physiotherapy, Orthopaedic Technology
11004	Technology, Society and Employment

Market

05007007	Other medical/health related (not elsewhere classified)
09001007	Other transportation
09003005	Consulting services
09004001	Business products and supplies
09004008	Other manufacturing (not elsewhere classified)

NACE

C.28.2.2	Manufacture of lifting and handling equipment
C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
G.46.1.8	Agents specialised in the sale of other particular products
M.71.1.2	Engineering activities and related technical consultancy

Network Contact

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Open for EOI : **Yes**

Dissemination

Restrict Dissemination to Specific Countries

Spain,

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
French
Spanish

Client Country

France

Partner Sought

Type and Role of Partner Sought

The partner will have to distribute and adapt the products to the Spanish market in collaboration with the French company.

Type and Size of Partner Sought

SME 11-50, SME <10

Type of Partnership Considered

Commercial agreement with technical assistance

Technology Offer

S2R-OC-IP1-01: Consortium sought needing expertise in very high power density permanent magnet and prospective market studies on traction systems

Summary

A French pool of laboratories, gathered by a cluster for motors and electrical devices for energy efficiency based in northern France, is willing to participate within a S2R-OC-IP1-01 “Tools and methodologies supporting the development of next generation traction systems, and brakes” project proposal. A coordinator and partners are being sought with expertise in digitalization and big data, eco-labelling and very high power density and energy density.

Creation Date	27 January 2016
Last Update	16 February 2016
Expiration Date	16 February 2017
Reference	TOFR20160127002

Details

Description

The French cluster specialized in motors and electrical devices for energy efficiency, based in North of France, has gathered 4 laboratories which are willing to participate within a Shift2Rail open call for non-JU members S2R-OC-IP1-01-2016. The topic of this call is “Tools and methodologies supporting the development of next generation traction systems, and brakes” and the partners are willing to take part to one of the two main specific challenges on “Traction Systems”.

The four laboratories share large experience in electrical engineering, power electronics, electro technical systems, electric actuators and motor function systems with embedded energy. Within the specific challenge “Traction Systems”, the pool of laboratory can take work packages on two of five streams:

- Research on very high power density permanent magnet motor for wheel mechanical integration
- Prospective market studies on traction systems

The specific expertise of the pool of laboratories is in these several subjects, showing their ability to answer to the specific challenges mentioned above:

- Electrical machines and motor function systems
 - o Physics and electronics of materials, devices, interfaces and contacts
 - o Power electronics
 - o Converters
 - o Actuators
 - o Energy storage

- o Monitoring the electrical component aging
- o Ecodesign and lifecycle analysis

Electromagnetism (for permanent magnet motors)

- o Physics and engineering of electromagnetism
- o Electromagnetic simulations and multi-physics modeling
- o Predictive maintenance methods based on the analysis of the external magnetic flux

Efficiency improvement

- o Noise & vibrations analysis and improvement
- o Power electronics optimization
- o Energy efficiency increase
- o Modeling electrical grids

These laboratories are used to work together and with leading companies from railway industry, electrical motor manufacturing, power supply and electrical industries. They are laboratory references in the rail and transportation oriented projects. They have also been working in cooperation with several international research centers and universities and are experienced in participating in European project in the framework of H2020 or former research funding programs.

The French cluster is leading this inquiry and is the contact point for the external stakeholders concerning this initiative. It used to work with companies and research laboratories within collaborative R&D projects.

The French cluster and the pool of laboratories are looking for partners to work on a proposal for this open call. The partners should have experience and expertise in these 3 elements of the "Traction systems" specific challenge:

- Digitalisation and big data
- Eco-labelling
- Very high power density and energy density

Joining an existing consortium, where additional competences on prospective market studies and very high power density permanent magnet motors are needed, is the preferred strategy of the cluster and laboratories. They are also open to partners able to fulfill the requirements hereinabove mentioned to build the consortium (a coordinator is then needed too).

Call: S2R-OC-IP1-01 "Tools and methodologies supporting the development of next generation traction systems, and brakes"

Call Deadline: 17/03/2016

Advantages and Innovations

The specific expertise of the pool of laboratories is in these several subjects, showing their ability to answer to the specific challenges mentioned above:

Electrical machines and motor function systems

- o Physics and electronics of materials, devices, interfaces and contacts
- o Power electronics
- o Converters
- o Actuators
- o Energy storage
- o Monitoring the electrical component aging
- o Ecodesign and lifecycle analysis

Electromagnetism (for permanent magnet motors)

- o Physics and engineering of electromagnetism

- o Electromagnetic simulations and multi-physics modeling
- o Predictive maintenance methods based on the analysis of the external magnetic flux

Efficiency improvement

- o Noise & vibrations analysis and improvement
- o Power electronics optimization
- o Energy efficiency increase
- o Modeling electrical grids

Thus, thanks to these expertise and experience on these subjects, the laboratories can manage the two parts “Research on very high power density permanent magnet motors for wheel mechanical integration” and “Prospective market studies”. Their experience in previous and ongoing project on similar subject are of interest to reach the expected impact of designing tools and methods to contribute to the achievement of life cycle cost minimization.

Stage of Development

Proposal under development

IPR Status

Other

Profile Origin

Other

Keywords

Technology

- | | |
|----------|-------------------|
| 02008004 | Railway Transport |
| 02009003 | Railway Vehicles |

Market

- | | |
|----------|--|
| 06011 | Energy for Transport |
| 08003006 | Power transmission equipment (including generators & motors) |
| 09001005 | Motor vehicles, transportation equipment and parts |

NACE

- | | |
|----------|---|
| M.72.1.9 | Other research and experimental development on natural sciences and engineering |
|----------|---|

Network Contact

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Open for EOI : **Yes**

Dissemination**Send to Sector Group**

Automotive, Transport and Logistics

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

R&D Institution

Year Established

2010

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

The four laboratories are here represented by the cluster to join together a consortium. Then the cluster is the contact point for the pool of laboratories

Languages Spoken

English
French

Client Country

France

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

The French cluster and the pool of laboratories are looking for partners from research and industry to work on a proposal for this Shift2Rail open call SR2-OC-IP1-2016 "Tools and methodologies supporting the development of next generation traction systems, and brakes". The partners should have experience and expertise in these 3 elements of the "Traction

systems” specific challenge:

- Digitalization and big data (in traction systems): Establish benchmark of existing major trends, comparing them to other domains like consumer electronics, house connected objects, internet sectors, connected cars, etc. The progress beyond the benchmark will have to be analyzed and recommendations provided on potential re-use of concepts or technologies from other sectors for traction components.

- Eco-labelling: The work should analyze and describe what type of eco-labelling could potentially be implemented for traction systems. It will include the analysis and recommendations as to the type of information, targets of the communication, benchmark and transfer of other existing approaches (example: cars, planes, consumer electronics), and potential channels of communication. The target would be to have comparable eco-label communication between railway sector companies and between railway and other transport modes. Energy, CO2 emissions, noise, air pollution, recyclability, electromagnetic emissions could be included in the studies.

- Very high power density and energy density: Currently, the existing energy storage technologies do not provide the needed energy and power density performances, apart from light rail vehicle applications, limiting the use of such technologies to progress on other train types, or hybrid vehicle, like regional trains or locomotives. The work should include research and development of tools and methodologies for technology transfer from other sectors, e.g. automotive, in order to bring higher technical performances to railways.

The work should also include support and expertise needed to trigger these changes, including:

- Analysis of existing regulation issues for adhesion management in braking;
- Comparison of more advanced adhesion management concepts with existing regulation;
- Identification of gaps between adhesion management concepts and regulation;
- Making proposals for solving these conflicts, notably by developing a specific roadmap

Joining an existing consortium, where additional competences on prospective market studies and very high power density permanent magnet motors are needed, is the preferred strategy of the cluster and laboratories. They are also open to partners able to fulfill the requirements hereinabove mentioned to build the consortium (a coordinator is then needed too).

Type and Size of Partner Sought

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

Type of Partnership Considered

Research cooperation agreement

Technology Offer

Smart parking solution based on image analysis and computer vision.

Summary

A Swiss start-up, spin-off of one of the major Swiss Universities, is offering intelligent computer-vision software to automatically determine outdoors parking occupancy and duration from images, in real time. It enables the deployment of smart parking solution at very affordable prices for cities. Interested in commercial partners willing to include such technology, provided as software or as a service, in their portfolio of solutions for parking operators and municipalities.

Creation Date	08 January 2016
Last Update	08 February 2016
Expiration Date	08 February 2017
Reference	TOCH20160108001

Details

Description

A Swiss startup active in the IT domain developed a software technology for digital image analysis: using a sophisticated algorithm it automatically determines in real-time which ones, among the parking spots visible in an image, are available and which ones are busy. In addition, for the busy parking spots, it also determines how long each vehicle has been parked.

At the heart of the presented technology is a highly accurate computer vision algorithm that functions under a variety of lighting and weather conditions. The software works out of the box and accuracy can be further improved (99%+) with scene-specific calibration.

Possible applications of such algorithm include smart navigations for drivers, to direct them to the available parking spot closest to their destination. The software could also enable better planning (by knowing aggregated statistics) and enforcement (by knowing which vehicles are overstaying) by parking operators and city administrations.

Currently the software is exclusively applied to the smart parking domain, but related applications such as traffic monitoring can also be foreseen. Possible applications to unrelated domains, still within the image analysis field, can also be envisaged: the algorithm can be very accurately adapted to determine whether a specific type of object is present or not in an image. The Swiss company is looking for parking management companies, or providers of smart city / smart parking solutions to adapt the software to their needs and improve it with their market feedback. A commercial agreement with technical assistance is thus sought, to license the algorithm and adapt it to the partner's needs. The partner sought will implement the software with technology adaptation by the Swiss company, and provide the Swiss company with market feedback for improvement and/or personalisation of the solution.

Advantages and Innovations

The computer-vision based smart parking solution has several advantages compared to the currently used sensor-based technology.

- It is based on common camera hardware, which is easy to find, install and remove as well.
- A single camera can cover in average 12 parking spots in a standard city-center configuration. In favorable configurations such as large outdoors parking lots even more than 50 parking spots can be analyzed from one camera.
- Detection accuracy is above 99%, comparable to ground mounted sensors.
- Sensors suffer from interference with metallic components such as tram or metro rails, and have problems in case of snow, rain and leaves on the sensors. They also physically interfere with snow ploughing operations. The presented image-based solution solves these problems.
- A ground mounted sensor can only be installed in delimited parking spots, while the presented computer-vision solution can work in non-delimited parking strips and wider areas in which vehicles are not allowed to park.
- It can be deployed based on existing video-surveillance systems or even webcams in public areas.

Stage of Development

Already on the market

IPR Status

Secret Know-how

Comment Regarding IPR status

As the core solution is software-based, there are no plans to apply for patents. Copyright will be applied soon.

Profile Origin

Other EU programme

Keywords

Technology

01003003	Artificial Intelligence (AI)
01003006	Computer Software
01003012	Imaging, Image Processing, Pattern Recognition
02009007	Artificial intelligence applications for cars and transport
02009009	Sensors for cars and transport

Market

02006004	Data processing, analysis and input services
02006005	Big data management
02007016	Artificial intelligence related software
09001005	Motor vehicles, transportation equipment and parts
09001007	Other transportation

NACE

J.58.2	Software publishing
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Open for EOI : **Yes**

Dissemination

Send to Sector Group

ICT Industry and Services

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
German
French
Italian

Client Country

Switzerland

Partner Sought

Type and Role of Partner Sought

Parking Management Company, Provider of Smart City / Smart Parking solutions. The partner sought will implement the software with technology adaptation by the Swiss company, and provide the Swiss company with market feedback for improvement and/or personalisation of the solution.

Type and Size of Partner Sought

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

Type of Partnership Considered

Commercial agreement with technical assistance

Technology Request

Advanced aero-engine manufacture and repair technology sought.

Summary

This company specializes in aero engine devices such as turboprop, turboshaft, and piston, manufacture of industrial gas turbine, aviation repair, aviation sub-contract and production, as well as manufacture, sale and maintenance of aero components, is looking for R&D and manufacture technology of turboprop, turboshaft, piston engine and gas turbine, repair technology of aero engine, and manufacture technology of aero engine components. Agreement type: licensing, research or technical cooperatio

Creation Date	18 January 2016
Last Update	09 February 2016
Expiration Date	09 February 2017
Reference	TRCN20160115004

Details

Description

The company is in domestic leading position regarding manufacturing, international subcontracting and processing of small and medium sized aero engine components. It has a scientific and complete managing system, a strict quality control system and a thorough processing and manufacturing system. It has core technical advantages in five axis machining of integral wheel and blisk, precision machining of curvic end tooth, as well as the manufacture of cartridge receiver components. The company is capable of repairing 650 turboprops, turboshafts, and small and medium sized turbofan engines per year. It has been awarded over ten patents in the field of aircraft components manufacturing.

It is looking for R&D and manufacture technology of turboprop, turboshaft, piston engine and gas turbine, repair technology of aero-engine, as well as manufacture technology of aero-engine components.

Technical Specification or Expertise Sought

R&D and manufacturing technology of turbo-prop, turbo-shaft, piston engine and gas turbine, repair technology of aero-engine, and manufacturing technology of aero-engine components.

Stage of Development

Already on the market

IPR Status

Granted patent or patent application essential

Keywords

Technology

02008001	Air Transport
02009026	Energy supply system
04002009	Turbines

Market

06010003	Energy for Industry
09001005	Motor vehicles, transportation equipment and parts

NACE

C.30.3.0	Manufacture of air and spacecraft and related machinery
----------	---

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Aeronautics & Space

Client

Type and Size of Organisation Behind the Profile

Industry 250-499

Year Established

2011

Turnover

>500M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

Chinese

Client Country

China

Partner Sought

Type and Role of Partner Sought

Partner should reach international advanced level in related field.

Type and Size of Partner Sought

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

Type of Partnership Considered

Services agreement
License agreement
Technical cooperation agreement
Research cooperation agreement

Technology Request

Aero-engine, helicopter transmission system, and land gas turbine sought.

Summary

This Chinese institute specializes in R&D of aero-engine, helicopter gearing down system and gas turbine, is looking for technologies of aero-engine, helicopter transmission system, and land gas turbine under joint venture, license, research cooperation or services agreement.

Creation Date 18 January 2016
Last Update 09 February 2016
Expiration Date 09 February 2017
Reference TRCN20160115005

Details

Description

This institute is a R&D center of small- and medium-sized as well as micro aero-engine in China, a pre-study base for helicopter gearing-down system as well as an engineering base for light land gas turbine. It is the only aerodynamic institute that combines pre-study and model development. Its products, including helicopter gearing-down device, turboshaft engine, small and medium sized turbofan engine, contribute to the construction of China's national economy. It is looking for technologies of aero-engine, helicopter transmission system, and land gas turbine.

Technical Specification or Expertise Sought

Technologies of aero-engine, helicopter transmission system, and land gas turbine.

IPR Status

Patents granted, Granted patent or patent application essential

Keywords

Technology

02008001	Air Transport
02011003	Helicopter
04002009	Turbines

Market

06011

Energy for Transport

NACE

C.30.3.0

Manufacture of air and spacecraft and related machinery

Network Contact

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Aeronautics & Space

Client

Type and Size of Organisation Behind the Profile

Industry 250-499

Year Established

1968

Turnover

50 - 100M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

Chinese
Client Country
China

Partner Sought

Type and Role of Partner Sought

Companies or research institutes with advanced technologies of aero-engine, helicopter transmission system, and land gas turbine.

Type and Size of Partner Sought

University, Inventor, R&D Institution, >500 MNE, 251-500, >500

Type of Partnership Considered

Services agreement
License agreement
Joint venture agreement
Research cooperation agreement

Technology Request

A Japanese electronics manufacturer is seeking a technology for the miniaturisation of power supply systems

Summary

A Japanese electronics manufacturer is seeking research and technical partnership opportunities in EU countries. The company is aiming to miniaturise power supply systems that are equipped in devices and control panels. They expect a partnership opportunity on joint research or technical cooperation, i.e. commission development with a relevant partner that has proven experience in the field of power supply systems.

Creation Date	19 January 2016
Last Update	08 March 2016
Expiration Date	03 February 2017
Reference	TRJP20160118001

Details

Description

A Japanese electronics manufacturer is seeking research and development partnership opportunities in EU countries.
The company's research area is power electronics.

Its research aims to miniaturize the power supply systems that are equipped in devices and control panels. While making the devices smaller they are attempting to maintain a power density of 2W/cc.

They are seeking a technology that meets their requirement for a compact and highly efficient switching power supply. They expect a partnership opportunity on joint research or commissioned technical development. They have no preference with regards to the size of the partner organisation.

Technical Specification or Expertise Sought

The company is seeking an innovative technology to miniaturize a switching power supply that has a power factor correction circuit for industrial application.

They are mainly looking for the following three technologies:

1. Single stage converter technology of high frequency and high efficiency.
This is to achieve soft switching using a resonant circuit.

Reference article: "A Bridgeless Single-Stage Half-Bridge AC/DC Converter - IEEE TRANSACTIONS ON POWER ELECTRONICS, VOL. 26, NO. 12, DECEMBER 2011"

The following points should be improved in this area:

- High voltage stress being applied to the switching device;
- Reduction of the ripple of output;
- Output holding time.

2. An insulation DC / DC converter technology that operates at high efficiency and high frequency to achieve a power factor correction circuit technology and soft switching that can be applied to the amplifier circuit.

The company will consider partnership opportunities with those companies that are able to perform at least one of aforementioned three technological methods. The opportunity is not strictly limited to these three methods however, and the company will be flexible in assessing other methods of achieving the following specifications.

Specifications:

- Input conditions: 90 ~ 240V AC / Output voltage: 24V DC,
Rated output current: 5A = 120W, 10A = 240W, 20A = 480W
(one of the above three models or all)
- Size: Power Density 2W / cc or more (Including a noise filter)
- Efficiency: 120W: 91% or more, 240W: 93% or more, 480W: 95% or more
- Power factor: the rated 0.9 or more
- Temperature: at 60 °C environment (natural air cooling), none of the parts should reach the upper limit temperature. The temperature of the transformer and the choke coil is 115°C or less.
- Noise: CISPR11 standards achievement of the class B
- Power retention time: enable to maintain the output for 20 milliseconds once the input is cut off.
- Output ripple voltage: 240mV (= 2% of the output voltage) or less. It must be insulated between primary and secondary.

Keywords

Technology

01002003	Electronic engineering
01002006	Magnetic and superconductor materials/devices
01002012	Semiconductors
02009017	Electrical supply system

Market

03001	Electronic Components
03003	Power Supplies

NACE

C.27.9.0	Manufacture of other electrical equipment
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Network Contact

Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

Contact Person

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Nano- and Microtechnologies

Restrict Dissemination to Specific Countries

Austria, Belgium, Bulgaria, Croatia, Cyprus, CzechRepublic, Denmark,
Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy,
Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal,
Romania, Slovakia, Slovenia, Spain, Sweden, UnitedKingdom,

Client

Type and Size of Organisation Behind the Profile

Industry >500 MNE

Year Established

1933

Turnover

>500M

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

They have been involved in collaboration with a foreign university for four years.

Languages Spoken

English

Client Country

Japan

Partner Sought

Type and Role of Partner Sought

This proposal is open to companies, universities, research institutes and start-up enterprises with proven expertise in the required fields.

The partner should be able to develop or propose solutions to the required needs under a joint research or commission development agreement.

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
Research cooperation agreement