



Boletín nº 169 de Oportunidades de Cooperación:

**Nanotecnologías, Tecnologías de Producción,
Construcción, Materiales, Transporte**

(Octubre 2018)

NANOTECNOLOGÍAS

Technology Offers

- Innovative nanofiber coated mosquito nets for windows which filtrates airborne pollutants, including 2.5 micron particles
- Flexible graphene oxide electrodes by laser radiation
- An innovative semiconductor manufacturing process based on an aluminium alloy
- Micro fluidic system for simulating in vivo-equivalent cell barriers
- Surface modifications and coating technologies for industrial applications
- Ukrainian clinical and research institute is looking for business and manufacturing partners for large-scale production of vaccines based on...
- A new generation of culture plates for in vitro 2D cell-based assays, that provides a biomechanical physiological micro-environment.
- Nanoparticles based on reactive Polypeptides

Research and Development Requests

- H2020-DT-NMBP-03-2019: Companies and R&D centres related to (nano) coatings.

TECNOLOGÍAS DE PRODUCCIÓN

Technology Offers

- Polish research institute offers custom made industrial robots is looking for the commercial agreement with technical assistance

Technology Requests

- Seeking companies or research centres to develop innovative manufacturing methods for the construction of rotor and stator elements of turbomachinery
- Improving safety and convenience of liquid tabs (Pods) packaging
- The SME is looking for partners to develop the system for the production of electricity and air heater on the basis of a technical cooperation...
- Chemical-free extraction technologies of essential oils from rockrose flower (Cistus Ladanifer)
- Small Italian company in the furniture sector is looking for technical expertise and know-how in plastic materials

Research and Development Requests

- PS - FTI - End Users requested for sub-micron laser marking and/or etching using photonic jet

CONSTRUCCIÓN

Technology Offers

- Innovative and patented adaptive photovoltaic facade system
- Hammer for breaking rocks and stabilizing unstable soils

MATERIALES

Technology Offers

- Sintered granite-like glass-ceramic tiles from industrial wastes
- Hammer for breaking rocks and stabilizing unstable soils
- Innovative nanofiber coated mosquito nets for windows which filtrates airborne pollutants, including 2.5 micron particles
- Smart polyurethane pressure-sensitive adhesive with controlled tack

Technology Requests

- A Chinese company is looking for aluminum-scandium alloy processing technology and production technology of al-sc welding wire
- Hotmelt-glues for the production of bio-based strapping material
- A Chinese company is looking for vacuum sealing ceramics manufacturing technology with improved performance
- Small Italian company in the furniture sector is looking for technical expertise and know-how in plastic materials

Research and Development Requests

- A Chinese company is looking for aluminum-scandium alloy processing technology and production technology of al-sc welding wire

TRANSPORTE

Technology Offers

- Extra Grip Suspension - know how for dynamic balance of vehicles upon extreme acceleration
- Universal accumulator powered traction unit
- System for reliable detection of occupancy of parking spaces
- Device to immobilise buses from unauthorised persons with malicious intent



1. NANOTECNOLOGÍA

Technology Offer

Ukrainian clinical and research institute is looking for business and manufacturing partners for large-scale production of vaccines based on dendritic cells thought commercial agreement with technical assistance

Summary

Ukrainian research and development clinical institution that elaborated new immunotherapeutic technologies which focus on the harnessing of dendritic cells (DCs) and other immune and nanoparticles for therapeutic interventions in a wide range of cancers is looking for commercial agreement with technical assistance with partners/ biotech company to develop a GMP-grade commercial-scale production process to enter the medical markets.

Creation Date	12 September 2018
Last Update	27 September 2018
Expiration Date	28 September 2019
Reference	TOUA20180907001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/a00bfe7e-645b-4bfa-8b2a-88af5628b99e

Details

Description

Ukrainian research and development clinical institution was established in 1920. Now it is the leading organization in the country which conducts cancer research on the basic, translational and clinical levels.

R&D Department of the organization has made forces to elaborate new immunotherapeutic technologies which focus on the harnessing of dendritic cells (DCs) and other immune cells as well as nanoparticles for therapeutic interventions, which may be an effective tool for the treatment of a wide range of cancers. Cell-based cancer vaccines can be combined well with other immuno-oncology approaches, to make possible the development of disruptive new combination therapies against hard-to-treat tumor types.

Cancer is still the number one killer disease in the human population and its prevalence will continue to increase with the aging population. There is an immense unmet medical and industrial need to identify effective means for cancer management in addition to other therapies, such as targeted and chemotherapy. Cancer vaccines are amongst the most promising as responses that are triggered by these vaccines reduce the chances for recurrences that inevitably occur in many cancer types. With cancer vaccines, the immune system is stimulated to destroy tumor cells by presentation of tumor-specific antigens to immune effector cells. This can be achieved through infusion of patient-based dendritic cells (DCs) that carry the tumor

antigens.

NCIU put forward a high-potential off-the-shelf DCs vaccine. Vaccine technology is characterized by the two cycles of innovation, which consist of DCs activation, maturation, and loading with tumor antigens, and could overcome obstacles associated with the DCs loading by tumor antigens. The competitive advantages of the proposed immunotherapeutic technology will be driven by increased simplicity, safety, and efficiency, as well as decreased laboriousness and expensiveness. Initially exploiting the same platform, the organization is developing cell-based vaccines against different types of cancer.

The high therapeutic effectiveness of this technology has been demonstrated in pre-clinical and clinical settings. The vaccine has shown in clinical studies to be safe and well-tolerated, and they do induce antigen-specific T cells responses which are exactly the desired effect. Obtained results have shown that DC-based cellular immunotherapy enhanced 10-years overall survival (OS) and event-free survival (EFS) in patients with IIIA stage non-small cell lung cancer. Thus, the 5-years OS rate was 44,4% vs. 30,4% and the 10-years OS rate – 30,3% vs. 13,8% in DCs vaccine and control groups respectively ($p=0,009$); HR=0,60; 95: CI = 0,43-0,85. For patients in DCs vaccine group, the 5-years EFS rate was 42,8 % in contrast to 23,5 % in patients of control group ($p=0,0085$). At 10-years follow-up, the difference in EFS rates between two groups remains statistically significant: 22,6% vs 10,5 % ($p=0,0032$); HR=0,58; 95: CI = 0,42-0,80. These exciting results provide the rationale for the preparation of vaccine batches for clinical phase III studies and beyond, and also start clinical studies in other cancer indications. The execution of clinical studies requires large batches of DCs vaccines that are cultured under GMP conditions. These batches will provide the material volume needed to treat patients in the clinical study setting and will create the potential to produce the vaccines in quantities needed after product approval. Recognizing the unmet needs described above and anticipating the commercial opportunities, there is a need to develop a GMP-grade commercial-scale production process for DCs vaccines for the treatment of lung cancer as well as other cancer indications. The organization is looking for biotech and pharmacy companies to develop a GMP-grade commercial-scale production process to enter the Ukrainian and neighboring countries medical market.

Advantages and Innovations

Vaccine technology is characterized by the two cycles of innovation, which consist of DCs activation, maturation, and loading with tumor antigens, and could overcome obstacles associated with the DCs loading by tumor antigens. This approach allows avoiding a number of shortcomings associated with peptides use such as risk of inducing tolerance, weak DCs activation, proteolytic degradation and reduction of the rapid turn-over of surface MHC/peptide complexes. The competitive advantages of the proposed immunotherapeutic technology will be driven by increased simplicity, safety, and efficiency, as well as decreased laboriousness and expensiveness. Furthermore, cell-associated antigens are efficiently cross-presented in MHCI, while also providing CD4 epitomes that avoid generation of “helpless” CD8+ T-cells. Moreover, additional activation of DCs occurs by contact with danger-associated molecular patterns (DAMP) and free radicals which formed due to mechanical modification of microparticles of tumor cells.

Stage of Development

Available for demonstration

IPR Status

Patents granted

Comment Regarding IPR status

Ukrainian institution as an owner of the vaccine is expected to get trade mark number till July 2019 (the registration is in the process).

Profile Origin

Other

Keywords

Technology

06001003	Cytology, Cancerology, Oncology
06001006	Human vaccines
06002002	Cellular and Molecular Biology
06004	Micro- and Nanotechnology related to Biological sciences

Market

04004	Other Genetic Engineering
05006	Anatomy, Pathology, Immunology, Physiology
05007002	Pharmaceuticals/fine chemicals

NACE

Q.86.9.0	Other human health activities
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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

R&D Institution

Year Established

1920

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Russian

Client Country

Ukraine

Partner Sought

Type and Role of Partner Sought

Type of Partner: pharmaceutical laboratory, biotech and pharmacy companies.

Type of agreement: commercial agreement with technical assistance.

Institution is looking for partners to develop a GMP-grade commercial-scale production process to enter the medical markets.

Type and Size of Partner Sought

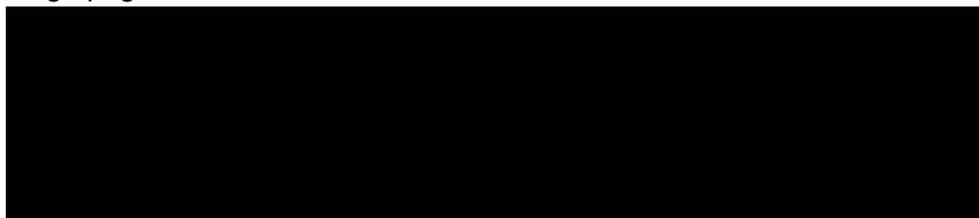
SME 11-50,R&D Institution,SME <10,>500 MNE,251-500,SME 51-250,>500

Type of Partnership Considered

Commercial agreement with technical assistance

Attachments

image.png



Technology Offer

An innovative semiconductor manufacturing process based on an aluminium alloy

Summary

The French TTO (Technology Transfer Office) is acting on behalf of an established public laboratory of the Paris region that has developed and patented an innovative platform that allows to easily build an innovative semiconductor based on a monolithic aluminium alloy. The French public research centre is looking for interested companies for research agreements or license agreements.

Creation Date	03 September 2018
Last Update	19 September 2018
Expiration Date	20 September 2019
Reference	TOFR20180720004
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/480402dd-17a2-43ff-814b-01b3a036ccbd

Details

Description

A French Technology Transfer Office (TTO) is acting on behalf several major laboratories in the Paris region. A research team has developed an innovative platform that allows to easily build a monolithic AlGaAs-on-Insulator for semiconductor (AlGaAs : Aluminium gallium arsenide).

* Market challenges :

The new technologies of optoelectronics (sensors and diodes) require the use of high-capacity lasers to transmit more and more information or to detect light variations with infinite precision (observation of physical phenomena at the nano level or microbiological observation). That is why new materials are being developed to create new light emission devices such as VCSEL (Vertical-cavity surface-emitting laser) or new types of sensors like Surface plasmon resonance (SPR) or LIDAR.

* State of the art :

III-V semiconductors compounds are alloys containing elements from groups III and V in the periodic table. They have particular physical properties due their crystalline structures that are useful for optoelectronics applications. AlGaAs is one of them and has superior performances over silicon such as :

- No Two Photon Absorption at 1.55 μm
- Direct laser emission
- Optical modulation at higher frequency rate.

* Proposed technology :

The laboratory has developed a platform that allow to build a monolithic structure of a thick layer of aluminium oxide (superior to $1\mu\text{m}$), which plays the role of optical material and improves the light capture inside an AlGaAs heterostructure on top of it.

With this technology, it is possible to develop SPR sensors based on a dielectric (instead of gold or silver) which avoids heat peaks that can affect the sensitivity of the sensor.

The platform can also be used to design low lasing threshold and fast modulation laser. These lasers, used in data centers, consume less energy

*Partnership :

The partner sought could be a company interested in :

- a license agreement (the TTO is able to negotiate directly the intellectual property transactions for specific applications), or
- a research cooperation agreement in order to investigate new application.

*Keywords :

- #Photonics
- #Non linear optics
- #Laser
- #AlGaAs
- #Insulator
- #III-V semiconductors
- #Monolithic platform

Advantages and Innovations

The advantages of this new technology are :

- Light confinement
- Low lasing threshold
- High modulation frequency
- High conversion rate for Second Harmonic Generation
- Avoids heat peaks

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

A laboratory proof of concept SPR sensors has been developed and the results shows that the frequency doubling can be easily reached, with a conversion efficiency up to 5 orders of magnitude higher than the established record of second harmonic generation for plasmonic nanoantennas.

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

PCT patent application filed in 2017

Profile Origin

National or Regional R&D programme

Keywords

Technology

01002001	Micro and Nanotechnology related to Electronics and Microelectronics
01002008	Optical Networks and Systems
01002010	Printed circuits and integrated circuits
01002012	Semiconductors

Market

03001001	Semiconductors
03001002	Customised semiconductors
03001003	Standard semiconductors
03001004	Other semiconductors
03001005	Microprocessors

NACE

M.72.1.1	Research and experimental development on biotechnology
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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

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

No.

Experience Comments

The TTO is a private technology transfer company with exclusive rights to source, protect, develop and commercialize scientific findings and technologies stemming from the research laboratories of its partners and shareholders. It is partnering with operating companies and investors, at any development stage, through co-development programs, licensing or startup creation.

Languages Spoken

English
French

Client Country

France

Partner Sought

Type and Role of Partner Sought

Research cooperation agreement: the potential industrial partner should be interested to invest in co-development for another specific application like LASER or VCSELs. A research agreement between the laboratory and a company can be partially funded by the TTO.

License agreement: the TTO is ready to negotiate directly the patents rights for specific applications.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Research cooperation agreement

Attachments



Technology Offer

Flexible graphene oxide electrodes by laser radiation

Summary

A Spanish research institution together with a Romanian University have developed a method for the manufacture of low-cost flexible electrodes obtained from laser processing of graphene oxide (GO) films. Planar electrodes with low electrical resistance and high capacitance per unit area can be obtained, ideal for applications in electrochemical sensors and energy storage (supercapacitors). Industrial partners are being sought to collaborate through a patent licence agreement.

Creation Date	17 September 2018
Last Update	25 September 2018
Expiration Date	26 September 2019
Reference	TOES20180713002
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/e81827a9-bfc7-4d8d-b292-39febb3f59de

Details

Description

Graphene-based materials present extraordinary electrical, mechanical and thermal properties, which make them special for applications in flexible electronics and electrochemical devices. The graphene oxide (GO) with its subsequent reduction (rGO) is the most used because of its lower cost and greater dispersion capacity. However, the re-oxidation and pyrolysis of the rGO when exposed to high temperatures is a drawback when manufacturing stable electrodes. The present method is an alternative technique for obtaining a stable rGO by laser radiation. The treatment consists of irradiating with visible light a GO membrane deposited on a flexible polymeric support, protected on both sides with sheets transparent to visible light. Their function is to eliminate the oxygen reabsorption and to avoid the re-oxidation and pyrolysis of the rGO. After the process, the irradiated zone becomes rGO, while the non-irradiated zone remains intact as GO. This enables the design of electrodes with different patterns (see figures (a) and (b)).

The conditions of the treatment considerably reduce the resistance of the material and increase its electrochemical response (capacitance values of 120 mF / cm²). In addition, the rGO obtained has great mechanical stability and adhesion to the substrate.

The Spanish research centre and the Romanian University are searching for a Company interested in the development and commercialization of this method under a license agreement. The researchers involved in the technology have broad experience in the area and are open to collaborate with possible interested industrial partners.

Advantages and Innovations

- Fabrication of flexible and stable electrodes with greater thickness than those obtained by current laser processes.

- Better performance in terms of resistance and capacitance per unit area than existing laser-based techniques.
- Versatile and cost effective method, suitable for both highly integrated and large-scale graphene-based device applications.
- More ecological process than current methods that use organic / toxic solvents or thermal treatments.
- Application in many fields: energy (supercapacitors, portable electronics, photovoltaic devices), sensors (chemical and biological sensors) and catalysis.

Stage of Development

Available for demonstration

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

Spanish patent application filed, suitable for international extension

Profile Origin

National or Regional R&D programme

Keywords

Technology

005006003	Laser Technology
04001003	Storage of electricity, batteries
04008003	Micro- and Nanotechnology related to energy
05005	Micro- and Nanotechnology

Market

03002	Batteries
03005	Laser Related
06008	Energy Storage
08001009	Speciality/performance materials: producers and fabricators
08001023	Other chemicals and materials (not elsewhere classified)

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

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

Type and Size of Partner Sought

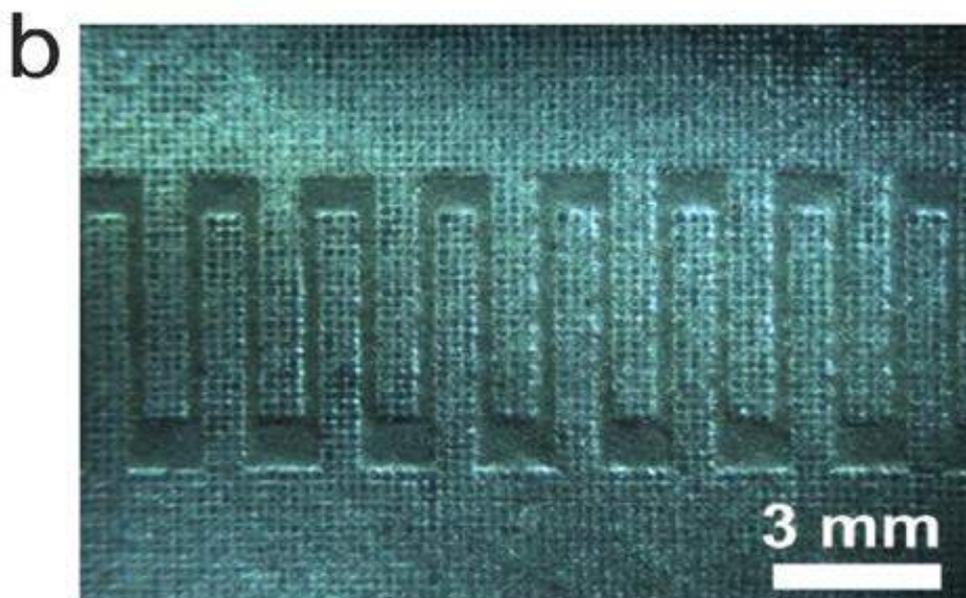
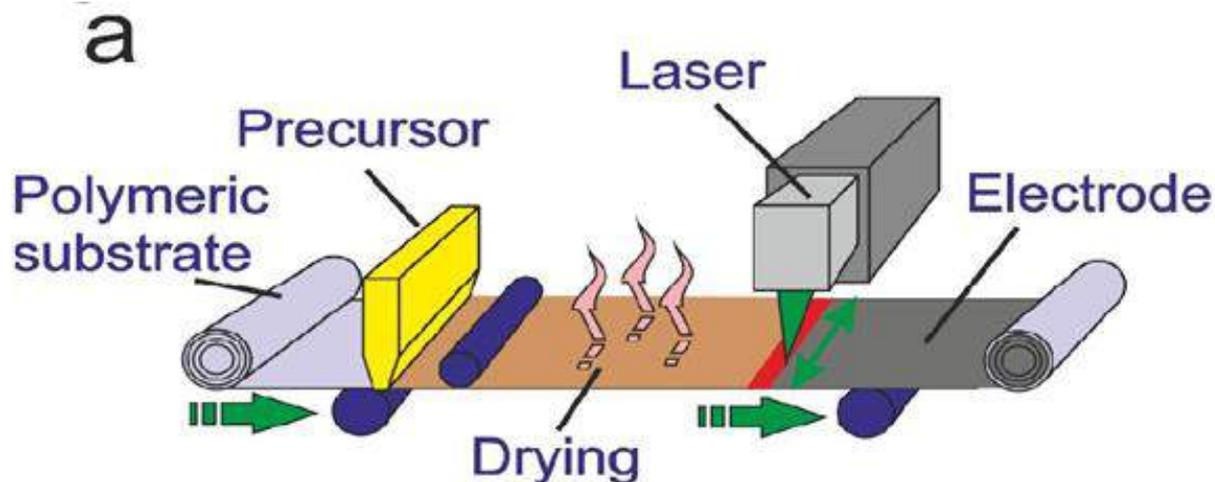
SME 11-50, >500 MNE, 251-500, SME 51-250, >500

Type of Partnership Considered

License agreement

Attachments

laser_figure_English_text.jpg



(a) Operation scheme of the method, (b) optical microscopy image of an interdigital microsupercapacitor.

Technology Offer

A new generation of culture plates for in vitro 2D cell-based assays, that provides a biomechanical physiological micro-environment.

Summary

A French startup has developed soft matrices for in vitro 2D cell culture that offer mechanical features as close as possible to those found in vivo in animal or human tissues. These innovative and patented technology allows the elaboration of either uniform or patterned rigidity culture plates, which provide a new and more physiological microenvironment for cell culture. Partnerships can be considered via commercial agreement with technical assistance or research cooperation agreement.

Creation Date	25 July 2018
Last Update	04 October 2018
Expiration Date	05 October 2019
Reference	TOFR20180720001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/0405476f-c070-444f-bb3f-942ef271f9d8

Details

Description

2D in vitro cell culture and cell-based assays are essential tools for both academic and industry-based research for a wide variety of applications, mostly because they are easy to implement, reproducible, and do not meet ethical concerns. But several recent studies revealed that biological results obtained from current cell culture assays are biased by the lack of mechanical relevance of the in vitro culture devices. Indeed, up to date, cell culture is performed in plastic dishes, whose rigidity is a million times stiffer than the in vivo cell environment. And in vivo, cells are organized in soft organs. And most importantly, it is now proved that the mechanical properties of the microenvironment impact almost every aspect of cell behavior.

To fill this gap and to offer a disruptive way to culture cells in 2D, a French startup based in Grenoble develops a new generation of cellular culture plates that offer soft and biomechanical substrates for in vitro cell culture. Using technologies derived from the microelectronic field, the startup elaborates soft, elastic and flat hydrogels of photo-polymerized polyacrylamide, which can exhibit either uniform or patterned rigidity properties. This patented technology allows to fabricate hydrogels with physiological rigidities (from 0,5 to 100 kPa) and, for the first time, with gradients of rigidity (from Pa/mm to kPa/μm). Consumers can thus test non-uniform mechanical properties based on customizable standard patterns (steps of rigidities, stripes that mimic fibers, geometrical shapes). The culture plates are delivered pre-coated and consumers can choose the chemical coating between 4 proteins of the extracellular matrix (fibronectin, vitronectin,

laminine, collagen I) and amino acid chains poly-lysine or poly-ornithine.

As they combine a micron scale control of the plate mechanical properties with an independent control of the surface chemistry, these new culture plates assume the chemo-mechanical robustness of the culture environment.

The culture plates support long time cell cultures without degradation or modification of their mechanical and chemical properties. They have been developed in standard size and format, from BP35mm to 96 wells microplates. They are very easy to handle, similar to standard plastic culture plates. Consumers can perform cell-based assays (cell survival, proliferation, labeling) and any downstream analysis (PCR : polymerase chain reaction, WB : Western Blot, Flow Cytometry...) as in ordinary devices. They are compatible with microscopic imaging, time-lapse experiment and screening platforms robots.

With the use of patented and innovative technologies, these new culture plates aim to induce the emergence of physiologically relevant cell phenotypes and responses, and are thus dedicated to cancer research, stem cells differentiation, drug discovery, the market of cells and proteins, cosmetics and other applications.

The startup is looking for Commercial agreement with technical assistance with companies (public or private) specialized in one of the field of applications mentioned above. These companies must be interested in testing the soft culture plates for their own cell-based applications and in sharing their results. Indeed, for the coming year, one main objective of the startup is to perform is Proof Of Efficacy.

The startup is also looking for Research cooperation agreement, with companies that have facilities with industrial process, in order to assist the startup through its industrialization step.

Advantages and Innovations

For the first time, these soft culture plates overcome major limitations of in vitro 2D cell culture:

- they enhance the mechanical physiological relevance of the in vitro tests by providing a soft extracellular substrate, using a patented and innovative technology,
- they can reproduce human-scaled, mechanical features of real cell environment,
- unlike silicon gels, hydrogels are unique to reproduce the elastic properties of tissue as met in vivo.
- they are ready to use as they are pre-coated (to ensure the robustness of the surface chemistry),
- they have conditions of use that are identical to plastic or glass microplates,
- they are available in standard formats and compatible with standard analysis tools,
- competitive costs: their prices are similar to pre-coated plastic dishes,
- and, in the context of the transfer toward clinical and industrial models, they could potentially reduce the number of animal testing.

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

Presently, the startup is able to produce small series, hand-made (near to 500 cell culture plates of uniform rigidities per year). The commercial generation of rigidity-patterned substrates for cell culture is developing.

IPR Status

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

Profile Origin

Ref: TOFR20180720001

National or Regional R&D programme

Keywords

Technology

06001012	Medical Research
06001015	Pharmaceutical Products / Drugs
06001019	Stem cell Technologies
06002007	In vitro Testing, Trials
06004	Micro- and Nanotechnology related to Biological sciences

Market

04005	Biochemistry / Biophysics
04006	Cellular and Molecular Biology
04009	In vitro Testing, Trials
04012	Toxicology
04013	Stem cells and biobanks

NACE

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

Dissemination

Send to Sector Group

Bio Chem Tech

Client

Type and Size of Organisation Behind the Profile

Other

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
French

Client Country

France

Partner Sought

Type and Role of Partner Sought

The startup is looking for Commercial agreement with technical assistance with companies (public or private) specialized in one of the field of applications mentioned above. These companies must be interested in testing the soft culture plates for their own cell-based applications and in sharing their results. Indeed, for the coming year, one main objective of the startup is to perform is Proof Of Efficacy.

The startup is also looking for Research cooperation agreement, with companies that have facilities with industrial process, in order to assist the startup through its industrialization step.

Type of Partnership Considered

Commercial agreement with technical assistance
Research cooperation agreement

Attachments

Technology Offer

Surface modifications and coating technologies for industrial applications

Summary

The Dutch SME is a leading developer in the area of functional surface modifications for industrial applications. Its surfaces transform the performance of a multitude of products in a range of applications. The company is looking for partnerships in the framework of a technical cooperation agreement or a commercial agreement with technical assistance.

Creation Date	13 September 2018
Last Update	28 September 2018
Expiration Date	29 September 2019
Reference	TONL20180816002
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/31327c32-9354-43ef-a52e-72adf2da3874

Details

Description

With over 25 years of surface modification experience, the Dutch company develops leading-edge surface technology for a host of industrial applications. A number of proprietary surfaces and coatings have found their way into the market.

The company offers its expertise not only in surface modifications, but also in product development. With years of experience in bringing products to market, the company can assist in the entire design and manufacturing process.

For many industrial products, its material is determined based on qualities needed at the product's surface. The surfaces developed by the company change the way a product's core material interacts with its environment. This frees the path to choose materials that are cheaper and/or easier to work with.

With proprietary technologies, the company can develop a range of surfaces and coatings: whether it is wear resistance, electrical conductivity or insulation, corrosion resistance, etc.

One of the surfaces developed by the company is a proprietary metallic ceramic with hardness of upto 85 Rockwell C, a friction coefficient of 0.05 (equal to Teflon) and a thickness of only a few hundred nanometers. It is widely used in extending the life span of (injection) molds and other tools that would otherwise suffer from excessive wear.

The company is looking for developers, OEM's and production companies who are looking for

surface modifications and coating technologies for new and existing industrial applications. The company's strategic goal is to develop and co-develop surfaces using the various technologies of the company. This includes engineering/consulting services as part of product development and testing. Envisaged partnerships would be in the form of a technical cooperation agreement or a commercial agreement with technical assistance.

Advantages and Innovations

The company is the only known organisation in the world capable of depositing functional metal and ceramic surfaces on polymers at room temperature. This opens up the possibility of making an otherwise metal or ceramic product out of low-cost and easy to manufacture plastics.

Stage of Development

Already on the market

IPR Status

Patent(s) applied for but not yet granted

Profile Origin

Private (in-house) research

Keywords

Technology

02002002	Coatings
02002006	Hardening, heat treatment
02002015	Surface treatment (painting, galvano, polishing, CVD, ..)
02002016	Microengineering and nanoengineering

Market

08001006	Processes for working with plastics
08001007	Coatings and adhesives manufactures
08001009	Speciality/performance materials: producers and fabricators
08001012	Speciality metals (including processes for working with metals)
08001013	Ceramics

NACE

M.71.1.2	Engineering activities and related technical consultancy
M.71.2.0	Technical testing and analysis
M.72.1.1	Research and experimental development on biotechnology

Network Contact

Issuing Partner

Ref: TONL20180816002

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Materials

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Dutch
German

Client Country

Netherlands

Partner Sought

Type and Role of Partner Sought

The company is looking to expand their business, primarily in the EU. Partners may be companies who are looking for surface modifications and coating technologies for new and

existing industrial applications. Envisaged partnerships would be in the form of a technical cooperation agreement or a commercial agreement with technical assistance.

Type of Partnership Considered

Commercial agreement with technical assistance
Technical cooperation agreement

Attachments

Technology Offer

Innovative nanofiber coated mosquito nets for windows which filtrates airborne pollutants, including 2.5 micron particles

Summary

A Czech research and development company which specializes in polymer nanofiber research has developed a nanofiber coated mosquito net. The net filters the air and separates smog, sand, pollen and other airborne pollutants. They are looking for a licensee who is interested in manufacturing a product for the market. License agreements are sought. Company is also opened for further research and development of the product with close cooperation with the partner.

Creation Date	03 September 2018
Last Update	19 September 2018
Expiration Date	20 September 2019
Reference	TOCZ20180831001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/109ca79b-142c-40bb-a962-1476931ad868

Details

Description

A Czech R&D SME invented a specific nanofiber mosquito net. This net consists of several layers: the first layer is a common mosquito net which can vary in colour and net size, the second is a polymer nanofiber layer which provides it with filtration properties and the third is an adhesion layer which binds the net and nanofibers together.

The net protects interiors from airborne pollutants, including 2.5 micron particles (MP), sand and pollen while permits fresh air enter through opened windows or door. The 2.5 MP is that particle size which was defined by the World Health Organization (WHO) as the most harmful for a human body since the lungs don't have any mechanism to effectively clean themselves from such particles. The product is also washable, UV resistant, has high visual transparency, high air permeability and low pressure drop. The product is suitable as a household or industrial protection against smog, sand and pollen.

This Czech company seeks a producer (production licensee) that is interested to manufacture this product under license agreement. This is targeting rather ambitious companies which can sell large volumes of this product and companies which are located in the countries with high import tariffs. Very likely, the product will be popular in areas stricken by high air pollution or sand but it can be also marketed as an anti-pollen protection for people with allergy. The company is also opened for further research and development of the product with close

cooperation with the partner.

Advantages and Innovations

The product has lower pressure drop, higher air permeability, higher filtration efficiency and higher transparency than competing products. The research team can further adjust and prepare custom-made product for potential licensee (manufacturer) depending on their preference. The nanofiber window net has won first prize in one of the largest High Tech fairs in Asia proving popular demand for this type of product in highly air polluted areas.

Company has an extensive knowledge of research, manufacturing process and production line of polymer nanofiber applications. The research team has been closely cooperating for a long time with production line manufacturers which give them additional insight to mass production. The team has also an experience in industrial commercialization. The management team has rich experience in doing business in Europe, Middle East, USA and Asia.

Stage of Development

Already on the market

Comments Regarding Stage of Development

The company currently produces customised batches in the thousands square meters quantity. The product was introduced to Chinese market recently.

IPR Status

Patents granted, Trade Marks

Profile Origin

Private (in-house) research

Keywords

Technology

02007018	Advanced Textile Materials
02007024	Nanomaterials
05004001	Filtration and Membrane Processes
05005	Micro- and Nanotechnology
10002001	Indoor Air Pollution/Treatment

Market

05007	Other Medical/Health Related
08001009	Speciality/performance materials: producers and fabricators
08004001	Air filters and air purification and monitoring equipment

Network Contact

Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

Contact Person

Maria Dolores Guillén Ruiz

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Email

mariad.guillen.ruiz@juntadeandalucia.es

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

2011

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

In general, this company deals with polymer nanofibers with focus on water and air filtration applications. Their fleet product is a nanofiber mosquito net described above, and apart from that also filtration material for air purifiers and water treatment membrane.

Languages Spoken

English
Czech

Client Country

Czech Republic

Partner Sought

Type and Role of Partner Sought

The product has higher market potential in the areas stricken by high air pollution or sand.

Suitable licensee may include:

- Mosquito net manufacturer
- Window manufacturer
- Plastic Industry

Company is also opened for further research and development of the product with close cooperation with the partner.

Type and Size of Partner Sought

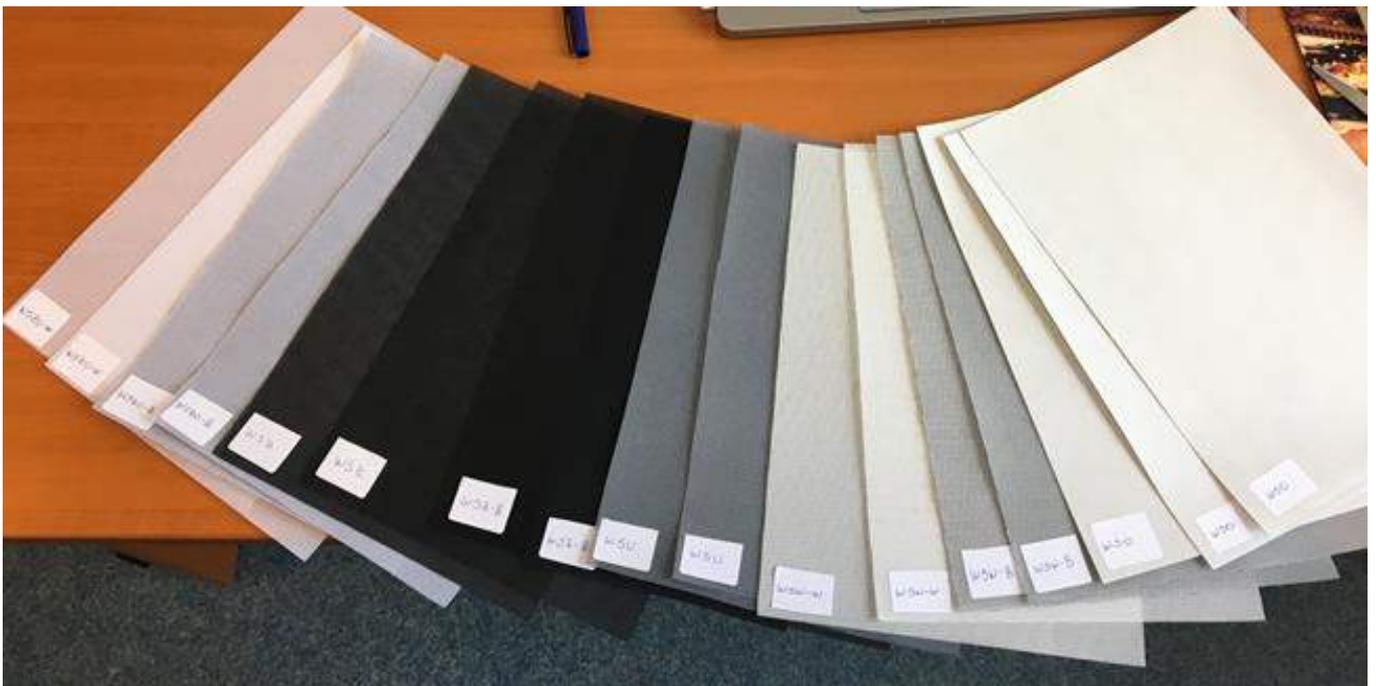
SME 11-50,R&D Institution,SME <10,>500 MNE,251-500,SME 51-250,>500

Type of Partnership Considered

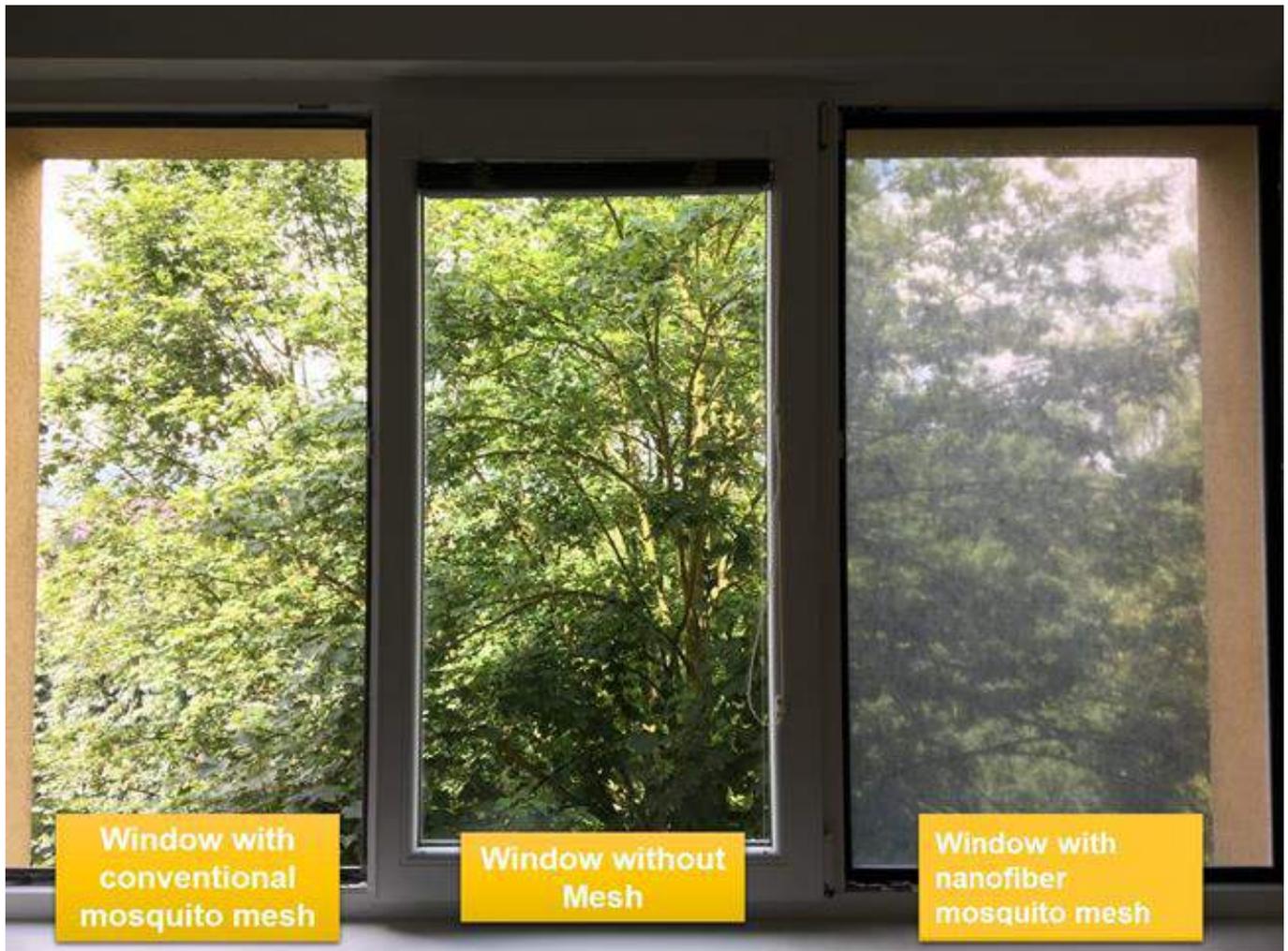
License agreement

Attachments

Window screens.jpg



Window screen Application.jpg



Technology Offer

Nanoparticles based on reactive Polypeptides

Summary

A German university has developed a technology for the production of amphiphilic nanoparticles, which are suitable for medical application. The new technology is dealing with a bifid co-polypeptide consisting of one hydrophilic and one hydrophobic part, thus it is an ideal protection for encapsulated drugs. The university is looking for companies from France, United Kingdom and Switzerland interested in licensing, further developing and marketing; option agreements are possible.

Creation Date	31 August 2018
Last Update	24 September 2018
Expiration Date	25 September 2019
Reference	TODE20180810001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/26b5e08e-50c4-4aec-ba50-bc43ca0bf1e5

Details

Description

The German university has found a technology for the formation of polycysteine nanoparticles that have a chemical constitution, which allows numerous of applications as transport particles for drugs or labelling agents.

Currently there are no basic technologies for nanoparticles available, which are suitable for medical application.

Amphiphilic block copolymers comprising a water-soluble and a water-insoluble block can form core-shell particles or micelles which are described to be useful as labelling materials or for the encapsulation of therapeutics. If such particles are to be used for transporting cargo molecules, they should be sufficiently stable so as to avoid an untimely release of the cargo before or after administration. At the same time, the particles should readily release the cargo at the target location and be degraded. Thus, a desirable property of the particles is the capability for a site specific release of the cargo.

The new technology is dealing with a bifid copolypeptide consisting of one hydrophilic polysarcosine and one hydrophobic polycysteine part. The hydrophilic polysarcosine part prevents an unspecific binding on proteins. The polycysteine part forms autonomous micelles in polar solvents, which are stabilized by cross linked disulphide bridges. Their chemical properties enable the polycysteins to the best possible connection for the encapsulated substance. The polycysteine can be combined with different functional groups. These functional groups comprise basic amino acids or carboxygroups to encapsulate siRNA, mRNA or pDNA.

The resulting micelles can be varied between 50 and 500 nm and are stable in blood, in the cytosol, against glutathione and also survive endocytosis of antigen presenting cells or macrophages.

When the disulfide bonds are cleaved by metabolism, the copolymer loses its stability and the active ingredient will be released.

Further details are described in the patent specification, which would be available upon request.

The university offers non-exclusive and exclusive licenses for production and distribution; option agreements for prior testing and evaluating the technology are possible.

Advantages and Innovations

The advantages of the nanoparticles are:

- They can be combined with different functional groups
- Micelle diameter can be chosen between 50 and 500 nm for optimisation of the system
- Improved solubility in serum
- No immune reaction
- Stable in blood
- Survive endocytosis of antigen presenting cells or macrophages

Stage of Development

Under development/lab tested

Comments Regarding Stage of Development

Lab prototype is available.

IPR Status

Patents granted

Comment Regarding IPR status

Patents valid in F, UK, CH, DE.

Profile Origin

Other

Keywords

Technology

06001012	Medical Research
06001015	Pharmaceutical Products / Drugs
06002001	Biochemistry / Biophysics
06002004	Protein Engineering
06004	Micro- and Nanotechnology related to Biological sciences

Market

04017	Micro- and Nanotechnology related to Biological sciences
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05003005

Drug delivery and other equipment

Network Contact

Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

Contact Person

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Email

mariad.guillen.ruiz@juntadeandalucia.es

Open for EOI : **Yes**

Dissemination

Send to Sector Group

Bio Chem Tech

Restrict Dissemination to Specific Countries

France, Switzerland, UnitedKingdom,

Client

Type and Size of Organisation Behind the Profile

University

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Ref: TODE20180810001

German
Client Country
Germany

Partner Sought

Type and Role of Partner Sought

The ideal partner is a company established in the pharmaceutical market, and would be able to further develop and market the technology.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Technical cooperation agreement

Attachments

Technology Offer

Micro fluidic system for simulating in vivo-equivalent cell barriers

Summary

A German university of applied sciences has developed a micro fluidic barrier system, which is simulating the native in vivo situation as it occurs at cell barriers, e.g. when separating the cell compartments in two different milieus such as intestinal lumen and blood. The university is looking for exclusive or non-exclusive licensing for developing, production and distribution of the technology in United Kingdom or France; option agreements and further technical cooperation are possible.

Creation Date	31 August 2018
Last Update	18 September 2018
Expiration Date	19 September 2019
Reference	TODE20180816001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/96550428-4f79-4964-ad68-2204a0111fba

Details

Description

The German university is specialised in micro fluidic systems and carries out applied research in biological barrier systems.

In vivo like models are very important in the field of pharma- and medical research. They provide the ability to analyse complex relations under defined conditions. To simulate such barrier systems it is suitable to imitate the native conditions as they occur at cell barriers in vivo. For this reason it is necessary to simulate in vivo cell barriers, which are accessible both from the apical and the basolateral side. Static systems such as standard cell cultures ("Transwells") provide only limited means.

The micro fluidic system is simulating the in vivo situation, where the cell barrier separates the compartments in two different milieus such as intestinal lumen and blood. The system comprises a container with one or more micro fluidic modules. Each module consists of two micro-structured polycarbonate (PC) sheets separated by a transmissible poly-carbonate membrane.

With this technology the internalised intestinal mucous membrane can be simulated under in vivo-equivalent conditions. Thus, the micro-fluidic system allows the mono- and/or co-cultivation of cells under extended continuous media flow conditions.

This system can be applied for the research on pharmaceutical compounds as well as

preclinical tests. It is useful for simulating cell barriers like the blood-brain barrier or the lung mucosa as well as the intestinal mucosa. The system can be suitably used for testing the effects of biologically active substances or pharmaceuticals at cell barriers on both sides.

The university seeks to out-license the new technology to companies capable to further develop the technology towards a marketable product and to production. With the functional prototype as a starting point the university is ready to support technical development by a technical cooperation agreement or subcontracting.

Advantages and Innovations

- The system resembles the in vivo situation of cell barriers.
- The cell barrier is accessible both from the apical and the basolateral side.
- Different cell types can be cultured on both sides of the polycarbonate- membrane.

Stage of Development

Prototype available for demonstration

Comments Regarding Stage of Development

Functional prototype available.

IPR Status

Patents granted

Comment Regarding IPR status

EU patent granted; valid in France, UK & Germany

Profile Origin

Other

Keywords

Technology

06001005	Diagnostics, Diagnosis
06002001	Biochemistry / Biophysics
06002002	Cellular and Molecular Biology
06002007	In vitro Testing, Trials
06004	Micro- and Nanotechnology related to Biological sciences

Market

04006	Cellular and Molecular Biology
04009	In vitro Testing, Trials
04017	Micro- and Nanotechnology related to Biological sciences
05001002	In-vitro diagnostics
05003005	Drug delivery and other equipment

NACE

M.72.1.1

Research and experimental development on biotechnology

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Bio Chem Tech

Restrict Dissemination to Specific Countries

France, UnitedKingdom,

Client

Type and Size of Organisation Behind the Profile

University

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

Ref: TODE20180816001

English
German

Client Country

Germany

Partner Sought

Type and Role of Partner Sought

An industrial partner is looked for, which should have technical expertise in micro fluidic technologies and should be interested in licensing, producing and marketing the new technology.

The role of the industrial partner is to identify the requirements of the market with the customer needs and to realise the corresponding further technical development, e.g. technical adaptations or functional extensions, manufacturing requirements etc.

The university of applied science as a cooperation partner offers its expertise to carry out supporting studies.

Type and Size of Partner Sought

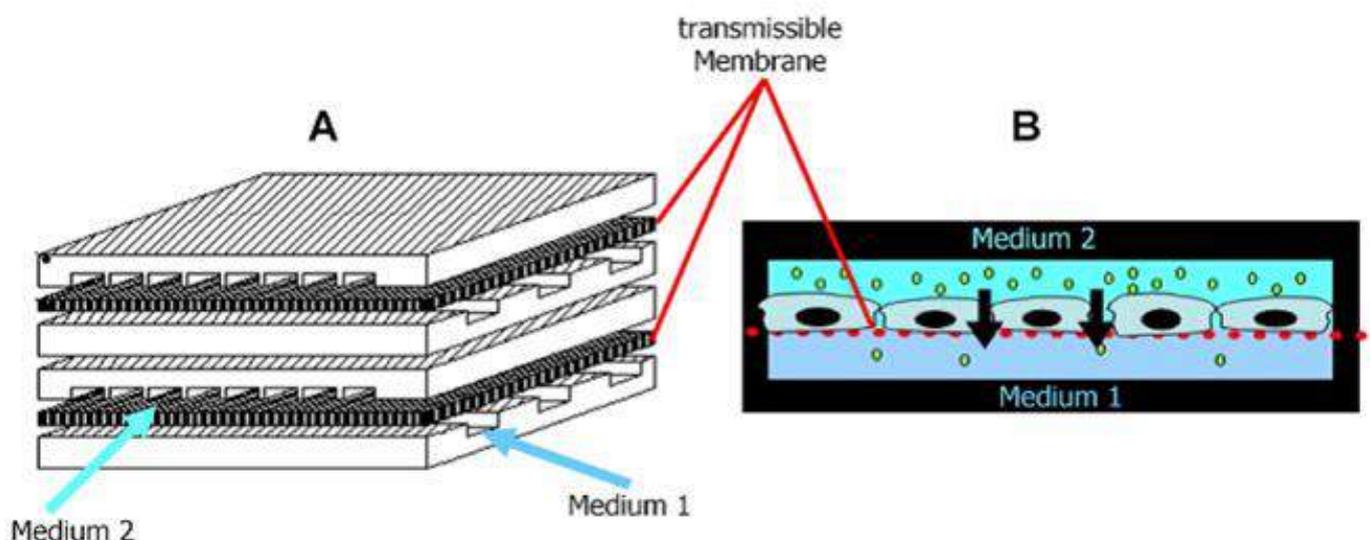
SME 11-50, SME <10,>500 MNE,251-500, SME 51-250,>500

Type of Partnership Considered

License agreement
Technical cooperation agreement

Attachments

Microtech.png





Research & Development Request

H2020-DT-NMBP-03-2019: Companies and R&D centres related to (nano) coatings.

Summary

A Spanish technological centre is preparing an H2020-DT-NMBP-03-2019 proposal that aims to create services for designing and testing nano-enabled surfaces. The sought partners should be companies and R&D centres from different sectors interested in providing new functionalities to their products as well as qualified specialists in standardization and regulation.

Creation Date	17 September 2018
Last Update	26 September 2018
Expiration Date	30 November 2018
Reference	RDES20180917001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/00739eae-20b2-492c-beef-d432a30a88cb

Details

Description

Industry and society have a growing demand on novel materials based on nanotechnologies for innovative surfaces with specific functionalities. The new technologies are subjected to other factors such as qualification, regulation, cost, compatibility and the need to be applicable around the world. In the most recent years it is obvious that nano-enabled surfaces can be applied in nearly every area.

The Spanish technological centre is a non-profit, private technological centre with large trajectory in international cooperation. The centre has coordinated 19 of the total 35 participated European projects from FP6 to Horizon 2020 including LIFE and ECO-Innovation programs. The main R&D fields where the centre develops its activities are nanotechnology, new materials and advanced-environment technologies.

The centre is preparing a project proposal to the topic NMBP-03-2019: Open Innovation Test Beds for nano-enabled surfaces and membranes. The project will build an innovative open access platform to offer to companies and technological centers, the capabilities, know-how, networks and services required for the development, testing, assessment, upscaling and market exploitation of nanotechnology-based surfaces. For this purpose, multifunctional nano-coatings based on different matrices (organic and inorganic) and active compounds based on nanoparticles will be designed, developed and tested on different substrates and sectors taking in account of the needs of different industry sectors and of the today's market.

The consortium of this project will be composed by around 17 partners including R&D centres

related to the coatings field and, companies from different sectors.

And some pending required partners are:

- Online quality control experts.
- Technologies on application of coatings experts (RTDs and SMEs)
- Qualified specialists in standardizations and regulation for the different properties (anticorrosion, abrasion resistance, mechanical resistance, etc.).
- Industrial partners interested in new functionalities (improved scratch and abrasion resistance , improved corrosion, super hardness, control reflectivity, self-cleaning, antimicrobial, etc.).

Deadlines:

Official deadline for the call: 22/01/2019

Deadline for expressions of interest: 30/11/2018

Anticipated duration of the project: 208 weeks

Stage of Development

Proposal under development

Keywords

Technology

02002002	Coatings
02003006	Prototypes, trials and pilot schemes
02007015	Properties of Materials, Corrosion/Degradation
02007024	Nanomaterials

Market

08001023	Other chemicals and materials (not elsewhere classified)
08006	Industrial Services

NACE

C.20.3.0	Manufacture of paints, varnishes and similar coatings, printing ink and mastics
M.71.2.0	Technical testing and analysis

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

R&D Institution

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:
RTDs, companies, Universities

- Specific area of activity of the partner:

- * Experts in on line quality control.
- * RTDs and SME with expertise in technologies of application of coatings.
- * Qualified specialists in standardizations and regulation for the different properties (anticorrosion, abrasion resistance, mechanical resistance, etc).
- * Industries interested in new functionalities (improved scratch and abrasion resistance , improved corrosion, super hardness, control reflectivity, self-cleaning, antimicrobial, etc..)

- Task to be performed:
Contribute in the development of the project tasks.

- EU / International project experience:
Appreciated, but it is not compulsory.

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

Program - Call

Framework Program

H2020

Call title and identifier

H2020-DT-NMBP-03-2019: Open Innovation Test Beds for nano-enabled surfaces and membranes (IA)

Coordinator Required

No

Deadline for EOI

30 Nov 2018

Deadline for Call

22 Jan 2019

Project Duration

204 week(s)

Weblink to the Call

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/dt-nmbp-03-2019.html>

Attachments



2.

***PRODUCCIÓN
INDUSTRIAL***

Technology Offer

Polish research institute offers custom made industrial robots is looking for the commercial agreement with technical assistance

Summary

A Polish research institute specializing in robotics and automation offers custom-made industrial robots. The robotic assembly can be used with a very wide range of components and applications, ensuring high efficiency and high repeatability. The Polish Institute is looking for commercial agreements with technical assistance primarily in the fields of automotive and metal processing, to develop robots for new applications or with unusual features.

Creation Date	24 September 2018
Last Update	02 October 2018
Expiration Date	03 October 2019
Reference	TOPL20180924001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/d79b2cbc-c456-4a4d-8be5-ca5eb91fa35c

Details

Description

The robotic industry has a lot of advantages. A polish research institute offers greater opportunities compared with other robotic and automation systems. The robot is a very flexible machine that can be used for a variety industrial tasks.

In the mounting components, the institute offers positions with robots equipped with a variety of mechanical grippers, moldings, vacuum, magnetic and appropriate technological tools. These posts may have carriers, positioners, and appliances such as warehouses parts feeders, systems orientation, manipulators, welding, press and assembly devices design institute or chosen from the offer of leading manufacturers, as well as sensors, force, torque or other parameters measured during assembly. To the control of installation, the institute offers a vision system which is built into the stand or in a separate control device.

A polish institute is seeking commercial agreements with technical assistance. It is interested in developing tailor-made solutions for new clients and in identifying further application fields for the robotic assembly.

Advantages and Innovations

The robot has the following advantages and innovations features:
- kinematic of industrial robot is ready and tested,

- very well designed sensors of robot allowing for precise control of production,
- the industrial robot is flexible and easy to reprogram,
- increasing the flexibility of production;
- reduce costs of production,
- automatic exchange of grippers,
- main machine is very well accessible.

Stage of Development

Already on the market

IPR Status

Copyright

Profile Origin

Other

Keywords

Technology

02002009	Machine Tools
02003001	Process automation
09001009	Sensor Technology related to measurements

Market

08002004	Robotics
08002005	Machine vision software and systems
08002006	Numeric and computerised control of machine tools
08002007	Other industrial automation

NACE

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

Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

Contact Person

Maria Dolores Guillén Ruiz

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Email

Ref: TOPL20180924001

mariad.guillen.ruiz@juntadeandalucia.es

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

1965

Turnover

10 - 20M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Polish

Client Country

Poland

Partner Sought

Type and Role of Partner Sought

A polish research institute is interested in getting into contact with manufacturers who looking for robotic assembly in order to solve a special problem or challenge in the production process. These manufacturers could come from various branches, such as the automotive branch, metal processing, mechanical engineering.

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

Attachments

Research & Development Request

PS - FTI - End Users requested for sub-micron laser marking and/or etching using photonic jet

Summary

For invisible marking, anti-counterfeiting or micro-device inspection/correction, laser machining is generally limited by diffraction to around 10 µm etching or marking. A french lab developed a technique using classical industrial nanosecond laser to achieve sub-wavelength etching and wants to develop an industrial station. With a German partner specialized in laser station construction, an industrial partner is searched as final user wishing to identify/detect defects to submit a FTI project.

Creation Date	21 September 2018
Last Update	02 October 2018
Expiration Date	18 October 2018
Reference	RDFR20180920001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/7b7831a6-4d33-44ef-9e42-a8deba7c38a7

Details

Description

A french lab developed a technique using use shaped optical fiber tips to focus light beyond the diffraction limit in a beam called photonic jet. The technique is adapted to etch or mark surfaces of metallic, semi-conductive or glass materials. The laser spot is smaller than 1 µm, therefore the power density is also very high, typically 10-100 times larger than usually with the same laser.

Possible application fields :

- Sub-µm marking (dot, line)
- Semiconductor processing
- Bio-medical sample processing or preparation
- Generation of electronic functionalities
- Thin film processing
- 3D-machining below 10 µm
- Local thin film deposition

The consotium made of 3 partners (2 french and 1 german) is searching for an industrial partner as "End User". The company should be interested by :

- invisible marking for anti-counterfeiting,
- etching at micrometric scale one of its product to identify defects in a production chain, or to correct the defects
- micron and submicron laser process.

The partner will have to contribute to the writing of the proposal and to the right realisation of its workpackage.

Call : FTI – Fast Track to Innovation
Cut-offs: 23 October 2018, 21 February 2019
Deadline for the EOI : 18/10/2018

Advantages and Innovations

- Smaller size : Laser machining is generally limited by diffraction to around 10 µm etching or marking. Femtosecond laser can perform smaller etchings using non-linear absorption but are expensive.
- Flexibility : Laser machining is flexible, can be dynamically adapted, more than others lithographic techniques. The optical fiber is easy to move in a process and not disturbed by the laser process.
- Gain of energy : Sub- micron etchings or marking can be performed using lower mean power due to the high laser concentration.

Stage of Development

Concept stage

Keywords

Technology

02002004	Erosion, Removal (spark erosion, flame cutting, laser, ..)
02002015	Surface treatment (painting, galvano, polishing, CVD, ..)
02002017	Micromachining, nanomachining
02007010	Metals and Alloys
05003002	Optics

Market

03001001	Semiconductors
03005	Laser Related
06001004	Equipment and instrumentation
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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Network Contact

Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

Ref: RDFR20180920001

Contact Person

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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

University

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
French

Client Country

France

Partner Sought

Type and Role of Partner Sought

Type : SMEs, Industrial partner,

Area of activities : Industrial production

Role : "final user/end user" partner for the project, a company interested by invisible marking for

anti-counterfeiting, a company interested to etch at micrometric scale one of its product to identify defects in a production chain, or to correct the defects, a company interested by micron and submicron laser process.

Contribution to the writing of the proposal and contribution to the right realisation of its workpackage.

Type and Size of Partner Sought

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

Type of Partnership Considered

Research cooperation agreement

Program - Call**Framework Program**

H2020

Call title and identifier

Funding instrument: FTI – Fast Track to Innovation

Submission and evaluation scheme

Cut-offs: 23 October 2018, 21 February 2019

Anticipated Project Budget

1,5 million €

Coordinator Required

No

Deadline for EOI

18 Oct 2018

Deadline for Call

23 Oct 2018

Project Duration

150 week(s)

Weblink to the Call

<https://ec.europa.eu/easme/en/eic-fast-track-innovation-fti>

Project Title and Acronym

MicroLase

Attachments

Research & Development Request

PS - FTI - End Users requested for sub-micron laser marking and/or etching using photonic jet

Summary

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Last Update	02 October 2018
Expiration Date	18 October 2018
Reference	RDFR20180920001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/7b7831a6-4d33-44ef-9e42-a8deba7c38a7

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Description

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- Bio-medical sample processing or preparation
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Cut-offs: 23 October 2018, 21 February 2019
Deadline for the EOI : 18/10/2018

Advantages and Innovations

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- Gain of energy : Sub- micron etchings or marking can be performed using lower mean power due to the high laser concentration.

Stage of Development

Concept stage

Keywords

Technology

02002004	Erosion, Removal (spark erosion, flame cutting, laser, ..)
02002015	Surface treatment (painting, galvano, polishing, CVD, ..)
02002017	Micromachining, nanomachining
02007010	Metals and Alloys
05003002	Optics

Market

03001001	Semiconductors
03005	Laser Related
06001004	Equipment and instrumentation
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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Network Contact

Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

Ref: RDFR20180920001

Contact Person

Maria Dolores Guillén Ruiz

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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

University

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
French

Client Country

France

Partner Sought

Type and Role of Partner Sought

Type : SMEs, Industrial partner,

Area of activities : Industrial production

Role : "final user/end user" partner for the project, a company interested by invisible marking for

anti-counterfeiting, a company interested to etch at micrometric scale one of its product to identify defects in a production chain, or to correct the defects, a company interested by micron and submicron laser process.

Contribution to the writing of the proposal and contribution to the right realisation of its workpackage.

Type and Size of Partner Sought

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

Type of Partnership Considered

Research cooperation agreement

Program - Call**Framework Program**

H2020

Call title and identifier

Funding instrument: FTI – Fast Track to Innovation

Submission and evaluation scheme

Cut-offs: 23 October 2018, 21 February 2019

Anticipated Project Budget

1,5 million €

Coordinator Required

No

Deadline for EOI

18 Oct 2018

Deadline for Call

23 Oct 2018

Project Duration

150 week(s)

Weblink to the Call

<https://ec.europa.eu/easme/en/eic-fast-track-innovation-fti>

Project Title and Acronym

MicroLase

Attachments



3.

***TECNOLOGÍAS DE LA
CONSTRUCCIÓN***

Technology Offer

Innovative and patented adaptive photovoltaic facade system

Summary

An Italian architecture company has developed and patented a façade system that allows the designing of new and efficient buildings and the energy renovation or conversion of the whole or part of existing ones, while responding to net Zero Energy Building (nZEB) requirements and drastically reducing the Green House Gas (GHG) emissions. The company is looking for different funding opportunities to start the development phase of the system.

Creation Date	06 September 2018
Last Update	24 September 2018
Expiration Date	25 September 2019
Reference	TOIT20180905002
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/4c623a12-51c3-42f6-bb84-bb72ecfa7bbc

Details

Description

Climate Change is a phenomenon of global magnitude experienced locally by people, in different contexts and in different ways. This warming phenomenon is particularly manifest in towns where it is amplified by localized anthropogenic heat generated by urban metabolic processes.

Buildings anywhere in the world have major roles to play in environmental sustainability, they are responsible for 40% of global energy consumption. In fact, 60% of the operational energy of a typical building goes to cooling and heating, particularly in high-rise buildings much more energy intensive, especially if they have a glass curtain wall without shading system. Between 40 and 70% of the global Green House Gas (GHG) emissions are generated in towns and the combined effect of GHG emissions produced in and for the town, induce a localized warming UHI effect (Urban Heat Island effect) at a rate much higher than that of the global warming alone.

This is why buildings offer the greatest potential for reducing GHG emissions. The worldwide research in the evolution processes of the building's envelope, is currently addressing efforts in two distinct directions: on the one hand, lowering building energy consumption needs, through the use of dynamic and adaptive envelope systems with better performances to improve the bioclimatic behavior of the building; and on the other hand, targeting the architectural integration of renewable energy systems.

Therefore, BIPV (Building Integrated Photo Voltaic) systems are of primary need. Through these systems, any building can be transformed into a "small generation plant" that produces clean

and renewable energy to satisfy its own needs, re-entering any surplus in a "smart grid" that will be the backbone of the new circular-economy.

The conceptual approach of this innovative system is to respond to these challenges conceiving a façade system that performs these different functions (shading, BIPV, natural ventilations), efficiently and simultaneously, thus reducing construction costs and halving the time of investment recoup.

This patented system combines the single characteristics and unites the benefits of two existing separate facade system types (fixed BIPV and shading systems) already available on the market, overcoming their relative disadvantages when used individually.

It is composed of sliding and folding PV panels that have a dual function: on the one hand to shade, with the opacity of PV layer, the façade from sunlight exposure and improve the bioclimatic behavior of the building; on the other to capture the light radiation and convert it into renewable energy.

The ability of the system to adapt (through the use of building automation systems) in real time to all kind of weather conditions, allows the building to optimize its bioclimatic behavior and the production of renewable energy to satisfy its energy needs, responding to nZEB requirements and drastically reducing GHG emissions.

It will then be possible for each building to produce renewable energy and to exchange any available energy surplus with other buildings reducing, at the same time, the CO₂ emissions. The system is able to reduce the load of cooling/heating systems that contribute to the raising of the building's energy needs and the consequent raising of the temperature levels of its surrounding public spaces Urban (UHI).

In the near future the PV's growing efficiency levels and the reduction of the average daily energy consumption per user will contribute to the generation of a renewable energy production surplus that will guarantee capital gains.

The company is looking for different funding opportunities to start the development phase of the system and to demonstrate its replicability.

Different types of partnerships (commercial agreements with technical assistance, financial, license or manufacturing agreements joint venture or research cooperation agreements) are sought.

Advantages and Innovations

The product's main objective is to overcome the disadvantages of the façade systems available on the market: "adaptive shading systems" and "fixed BIPV (Building Integrated Photo Voltaic) systems", responding efficiently and simultaneously to two different functions through the sliding and folding movement of its PV panel groups, improving the versatility of their use.

The movable PV panels have an important "dual function": on one hand, with the opacity of the PV layer, "to shade" the façade from sunlight exposure and improve the bioclimatic behavior of the building; on the other, the same layer allows "to capture" the light radiation, weather conditions permitting, and convert it into renewable energy.

The use of this system on new or existing buildings will allow:

- to improve the natural ventilation and to reduce the cooling/heating systems loads, reducing the energy needs of the building.
- to adapt in real time and to optimize the production of energy and energy needs.
- to shade the façade and to improve the bioclimatic behavior of the building
- to combine the functions associated with two different types of facade systems and to overcome their respective disadvantages with only one façade system.
- to overcome the limit of the existing Shading systems that only shade the façade and cannot capture light radiation
- to overcome the disadvantages of the existing fixed BIPV systems, which in unfavorable weather conditions (overcast) do not produce energy and induce the use of artificial light to illuminate the interior spaces during daylight hours.

Although the system works with all kinds of photovoltaic panels already available on the market, it offers high aesthetic values when using the third generation OPV (Organic Photovoltaic), DSC (Dye Sensitized Solar Cells) and a:Si (Amorphous silicon) thin film technology; it's possible to

design the PV layer (opacity and patterns) placed between two transparent substrates of one single panel.

Stage of Development

Concept stage

IPR Status

Patents granted

Comment Regarding IPR status

Patent granted for EU and JP.

Profile Origin

Private (in-house) research

Keywords

Technology

02006001	Materials, components and systems for construction
02006002	Construction methods and equipment
02006006	Construction engineering (design, simulation)
04005004	Photovoltaics
04005005	Solar/Thermal energy

Market

06003002	Photovoltaics
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

Network Contact

Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

Contact Person

Maria Dolores Guillén Ruiz

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Ref: TOIT20180905002

Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2003

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Italian

Client Country

Italy

Partner Sought

Type and Role of Partner Sought

Commercial agreement with technical assistance:

The company is looking for potential customers (Builders, Multinationals, Private) interested in using the product through an important pilot project in order to launch the product on the international market. The product can be even used on existing buildings to realize restyling, retrofitting and energy efficiency operations.

Financial agreement:

The company is looking for European and private funding to start the development and prototyping of the product.

Joint venture agreement:

The transversality of the product requires the union of different skills to make it and distribute it. In this regard, it is necessary to set up a Consortium that includes different companies specialized in different sectors:

- 1) General contractor, to distribute the product on the international market.
- 2) Specialized company in R&D e production of PV panels.
- 3) Specialized company to engineering and R&D of movable façade systems.
- 4) Specialized company in building automation systems.

License agreement:

The company is looking for general contractors to distribute the product in different market areas through various licenses for exclusive use for macro areas and for a fixed period, based on license agreements both on fixed and variable royalties.

Manufacturing agreement:

The company is looking for companies specialized in different sectors to prototype, manufacturing, test and certify the product, which being a transversal product needs more skills to be able to produce an innovative and complete product:

1) Company specialized in R&D and production of PV panels in a:Si Thin-film and with third-generation PV technologies (DSC, OPV) and that it is able to provide a wide selection of transparent substrates (even towards their internal partnerships) to be used for individual panels.

2) Company specialized in the engineering and manufacturing of movable façade systems (specifically with experience in sliding and folding facade systems)

3) Company specialized in Building automation systems.

The company should be structured to be able to cover (even towards their internal partnerships) both the software and hardware components of the system (with sensors and actuators to be incorporated into the system);

Research cooperation agreement:

The company is looking for research institutes that collaborate in the development and prototyping of the product. These institutes must be able to carry out R & D in the fields: photovoltaics, simulation, tests, certifications and guarantee the achievement of the requirements required by the product.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement

Financial agreement

Manufacturing agreement

Commercial agreement with technical assistance

Joint venture agreement

Research cooperation agreement

Attachments

01_Adaptive-BIPV-facade-system.jpg



DUAL FUNCTION

to shade the façade
and improve the bioclimatic behavior of the building

to capture the light radiation
and convert it into renewable energy.



02_Creative-design-of-PV-pattern-&-opacity.jpg

FV Pattern & Opacity

2020 Efficiency and Opacity

Year	Module efficiency				
	10%	20%	30%	40%	50%
2020	0.05	0.10	0.15	0.20	0.25
2021	0.07	0.14	0.21	0.28	0.35
2022	0.09	0.18	0.27	0.36	0.45

2022 Efficiency forecast

Year	Module efficiency				
	10%	20%	30%	40%	50%
2022	0.11	0.22	0.33	0.44	0.55
2023	0.13	0.26	0.39	0.52	0.65
2024	0.15	0.30	0.45	0.60	0.75

entre chromatic gamut
working with artificial light
screen printing

The facade will produce renewable energy

even at night

The facade will be used for brand advertising in a sustainable way

03_Restyling-&Energy-Efficiency.jpg



Technology Offer

Hammer for breaking rocks and stabilizing unstable soils

Summary

A Bulgarian company offers a universal hammer for rock breaking (HRB) that has a very small total mass of less than 2000 kg, with an impact part of just 700 kg, which can hit at high speeds up to 22 m/s at any angle in space. High impact velocity is achieved with a solid or liquid jet engine. Due to its small mass the HRB can be transported by any transport machine and hit on rocks in difficult-to-reach places. HRB with high-speed impact can stabilize unstable soils, such as loess and clay.

Creation Date	23 July 2018
Last Update	24 September 2018
Expiration Date	25 September 2019
Reference	TOBG20180722001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/796a6c29-af9b-40e3-b855-1fd4ddc099df

Details

Description

High technology is available for high-speed rock breaking and stabilization of unstable soils. It is realized with a universal hammer for rock breaking (HRB), which can also be used to stabilize unstable soils. Explosive activities in quarries and opencast mines often result in large rock fragments that can not be transported or crushed by crushers. That's why these rocks are detonating, which is slow, awkward and dangerous. To solve the problem, one-shot hydraulic hammers are available that break down the rocks with a dropping impact of up to 8350 kg. These hammers used mechanical hand that rocks can reach up to 12 meters by the holder of hammers. Due to the free fall impact, these hammers can only strike vertically and at a very low speed - up to 4.85 m / s. Another disadvantage is that they make an indirect blow, and with a mediator - a separate wedge. For transportation they use transport equipment whose mass, in a chain variant, reaches 60000 kg.

Bulgarian company offers a universal hammer for rock breaking, that has a very small total mass of less than 2000kg, with an impact part of just 700kg, which can hit at high speeds up to 22 m/s at any angle in space. High impact velocity is achieved with a solid or liquid jet engine. Due to its small mass the HRB can be transported by any transport machine and hit on rocks in difficult-to-reach places. HRB with high-speed impact can stabilize unstable soils, such as loss and clay.

A physical prototype of HRB is created, which has a total mass of 1700 kg, and the impact part has a mass of 700 kg. The solid-fuel reactive engine that powers the impact piece has an initial mass of 30 kg. For the tests are used rock blocks of mineral andesite, which at strength is equivalent to granite. Successful tests have been carried out using two types of impact punches - wedge and conus at a speed of over 21 m / s. The tested HRB has complete engineering and technological documentation. The Reactive Engine has been tested on a stand to produce a

variety of effort - from 1000 to 3000 kg. There is no problem to make demonstrations, to run in regular production and to seek market in Bulgaria and abroad.

Advantages and Innovations

The product is suitable for large scale rock fragments and for breaking rocks in difficult to reach places known to us, as well as stabilizing unstable soils. Advantages of the proposed hammer:

- A very high impact energy (for comparison, the impact energy responds to a hit of a hydraulic hammer with an equivalent mass of 12000kg, that is, this hammer is the most powerful hammer to break in the world!),
- High speed punching,
- Direct strike,
- Combination stroke (this is only possible with the propulsion system offered),
- Possibility to strike at any angle in the space (this is only possible with the actuator used by the offered technology);
- Ability to access hammer to the most inaccessible for the available equipment due to its small total mass,
- Easy service and hammer operation (due to its simple device),
- Working with the hammer is much safer than blasting,
- Low cost of the single hit.

The innovation proposed is a worldwide innovation. For the first time, a hammer is used, whose impact is driven by a solid or liquid jet engine. A high-speed impact is applied, which is very effective for breaking rock and stabilizing unstable soils. Because of its small mass, the offered HRB is very mobile. It can be transported and operated with a truck, concrete pump and helicopter.

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

Tests to determine the optimal methods for stabilizing unstable soils are underway. For these tests it has been developed special loopholes and other facilities. It is expected great interest in this activity of the offered HRB due to the large scale of construction of roads and stable facilities.

IPR Status

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

Comment Regarding IPR status

The patent application has been filled in last June, this year.

Profile Origin

National or Regional R&D programme

Keywords

Technology

002006003	Construction Equipment
02006001	Materials, components and systems for construction
02006002	Construction methods and equipment

02007002 Building materials
02007017 Stone

Market

08003006 Power transmission equipment (including generators & motors)
08003007 Other industrial equipment and machinery

NACE

C.28.9.2 Manufacture of machinery for mining, quarrying and construction
F.43.9.9 Other specialised construction activities n.e.c.

Network Contact

Issuing Partner

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Contact Person

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Sustainable Construction

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

Ref: TOBG20180722001

2016

Turnover

250 - 500M

Already Engaged in Trans-National Cooperation

No.

Experience Comments

The company offering this technology is only ones in the world who have the necessary experience and real results in the development of jet propulsion engines for propulsion of industrial machines.

Languages Spoken

English
Russian

Client Country

Bulgaria

Partner Sought

Type and Role of Partner Sought

Possible partners are both research organizations and manufacturing companies. With them we will be able to expand the possibilities of the offered technology for hammers.

Partner sought is a company, which is leader in the construction and road construction industry, can finance and engage with their specialists in the development of hammering and stabilization hammers powered by jet propulsion engines.

The company prefers to produce and deliver the jet engine with solid fuel, while other companies take over the hammering and stabilization hammer production.

Type and Size of Partner Sought

University,R&D Institution,>500 MNE,>500

Type of Partnership Considered

License agreement
Joint venture agreement

Attachments



4.

MATERIALES

Technology Offer

Hammer for breaking rocks and stabilizing unstable soils

Summary

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Creation Date	23 July 2018
Last Update	24 September 2018
Expiration Date	25 September 2019
Reference	TOBG20180722001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/796a6c29-af9b-40e3-b855-1fd4ddc099df

Details

Description

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Stage of Development

Available for demonstration

Comments Regarding Stage of Development

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02007002 Building materials
02007017 Stone

Market

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08003007 Other industrial equipment and machinery

NACE

C.28.9.2 Manufacture of machinery for mining, quarrying and construction
F.43.9.9 Other specialised construction activities n.e.c.

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Sustainable Construction

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

Ref: TOBG20180722001

2016

Turnover

250 - 500M

Already Engaged in Trans-National Cooperation

No.

Experience Comments

The company offering this technology is only ones in the world who have the necessary experience and real results in the development of jet propulsion engines for propulsion of industrial machines.

Languages Spoken

English
Russian

Client Country

Bulgaria

Partner Sought

Type and Role of Partner Sought

Possible partners are both research organizations and manufacturing companies. With them we will be able to expand the possibilities of the offered technology for hammers.

Partner sought is a company, which is leader in the construction and road construction industry, can finance and engage with their specialists in the development of hammering and stabilization hammers powered by jet propulsion engines.

The company prefers to produce and deliver the jet engine with solid fuel, while other companies take over the hammering and stabilization hammer production.

Type and Size of Partner Sought

University,R&D Institution,>500 MNE,>500

Type of Partnership Considered

License agreement
Joint venture agreement

Attachments

Technology Offer

Innovative nanofiber coated mosquito nets for windows which filtrates airborne pollutants, including 2.5 micron particles

Summary

A Czech research and development company which specializes in polymer nanofiber research has developed a nanofiber coated mosquito net. The net filters the air and separates smog, sand, pollen and other airborne pollutants. They are looking for a licensee who is interested in manufacturing a product for the market. License agreements are sought. Company is also opened for further research and development of the product with close cooperation with the partner.

Creation Date	03 September 2018
Last Update	19 September 2018
Expiration Date	20 September 2019
Reference	TOCZ20180831001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/109ca79b-142c-40bb-a962-1476931ad868

Details

Description

A Czech R&D SME invented a specific nanofiber mosquito net. This net consists of several layers: the first layer is a common mosquito net which can vary in colour and net size, the second is a polymer nanofiber layer which provides it with filtration properties and the third is an adhesion layer which binds the net and nanofibers together.

The net protects interiors from airborne pollutants, including 2.5 micron particles (MP), sand and pollen while permits fresh air enter through opened windows or door. The 2.5 MP is that particle size which was defined by the World Health Organization (WHO) as the most harmful for a human body since the lungs don't have any mechanism to effectively clean themselves from such particles. The product is also washable, UV resistant, has high visual transparency, high air permeability and low pressure drop. The product is suitable as a household or industrial protection against smog, sand and pollen.

This Czech company seeks a producer (production licensee) that is interested to manufacture this product under license agreement. This is targeting rather ambitious companies which can sell large volumes of this product and companies which are located in the countries with high import tariffs. Very likely, the product will be popular in areas stricken by high air pollution or sand but it can be also marketed as an anti-pollen protection for people with allergy. The company is also opened for further research and development of the product with close

cooperation with the partner.

Advantages and Innovations

The product has lower pressure drop, higher air permeability, higher filtration efficiency and higher transparency than competing products. The research team can further adjust and prepare custom-made product for potential licensee (manufacturer) depending on their preference. The nanofiber window net has won first prize in one of the largest High Tech fairs in Asia proving popular demand for this type of product in highly air polluted areas.

Company has an extensive knowledge of research, manufacturing process and production line of polymer nanofiber applications. The research team has been closely cooperating for a long time with production line manufacturers which give them additional insight to mass production. The team has also an experience in industrial commercialization. The management team has rich experience in doing business in Europe, Middle East, USA and Asia.

Stage of Development

Already on the market

Comments Regarding Stage of Development

The company currently produces customised batches in the thousands square meters quantity. The product was introduced to Chinese market recently.

IPR Status

Patents granted, Trade Marks

Profile Origin

Private (in-house) research

Keywords

Technology

02007018	Advanced Textile Materials
02007024	Nanomaterials
05004001	Filtration and Membrane Processes
05005	Micro- and Nanotechnology
10002001	Indoor Air Pollution/Treatment

Market

05007	Other Medical/Health Related
08001009	Speciality/performance materials: producers and fabricators
08004001	Air filters and air purification and monitoring equipment

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

2011

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

In general, this company deals with polymer nanofibers with focus on water and air filtration applications. Their fleet product is a nanofiber mosquito net described above, and apart from that also filtration material for air purifiers and water treatment membrane.

Languages Spoken

English
Czech

Client Country

Czech Republic

Partner Sought

Type and Role of Partner Sought

The product has higher market potential in the areas stricken by high air pollution or sand.

Suitable licensee may include:

- Mosquito net manufacturer
- Window manufacturer
- Plastic Industry

Company is also opened for further research and development of the product with close cooperation with the partner.

Type and Size of Partner Sought

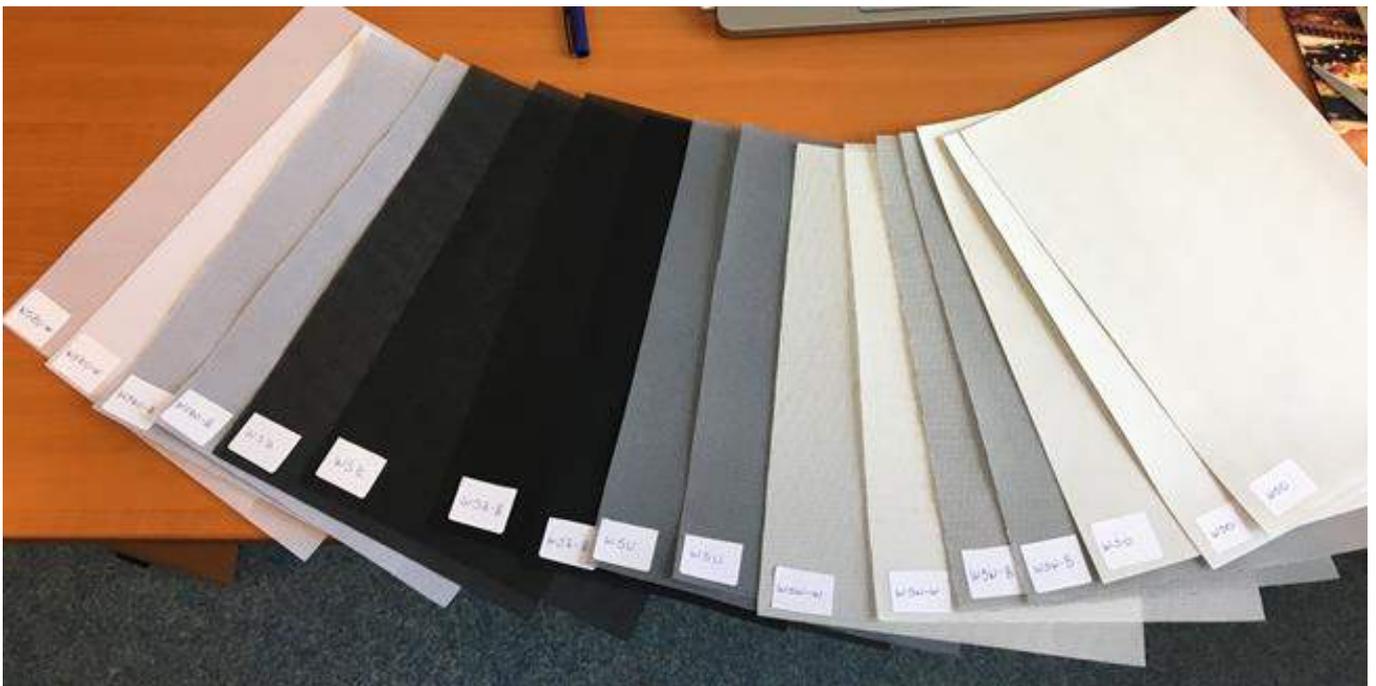
SME 11-50,R&D Institution,SME <10,>500 MNE,251-500,SME 51-250,>500

Type of Partnership Considered

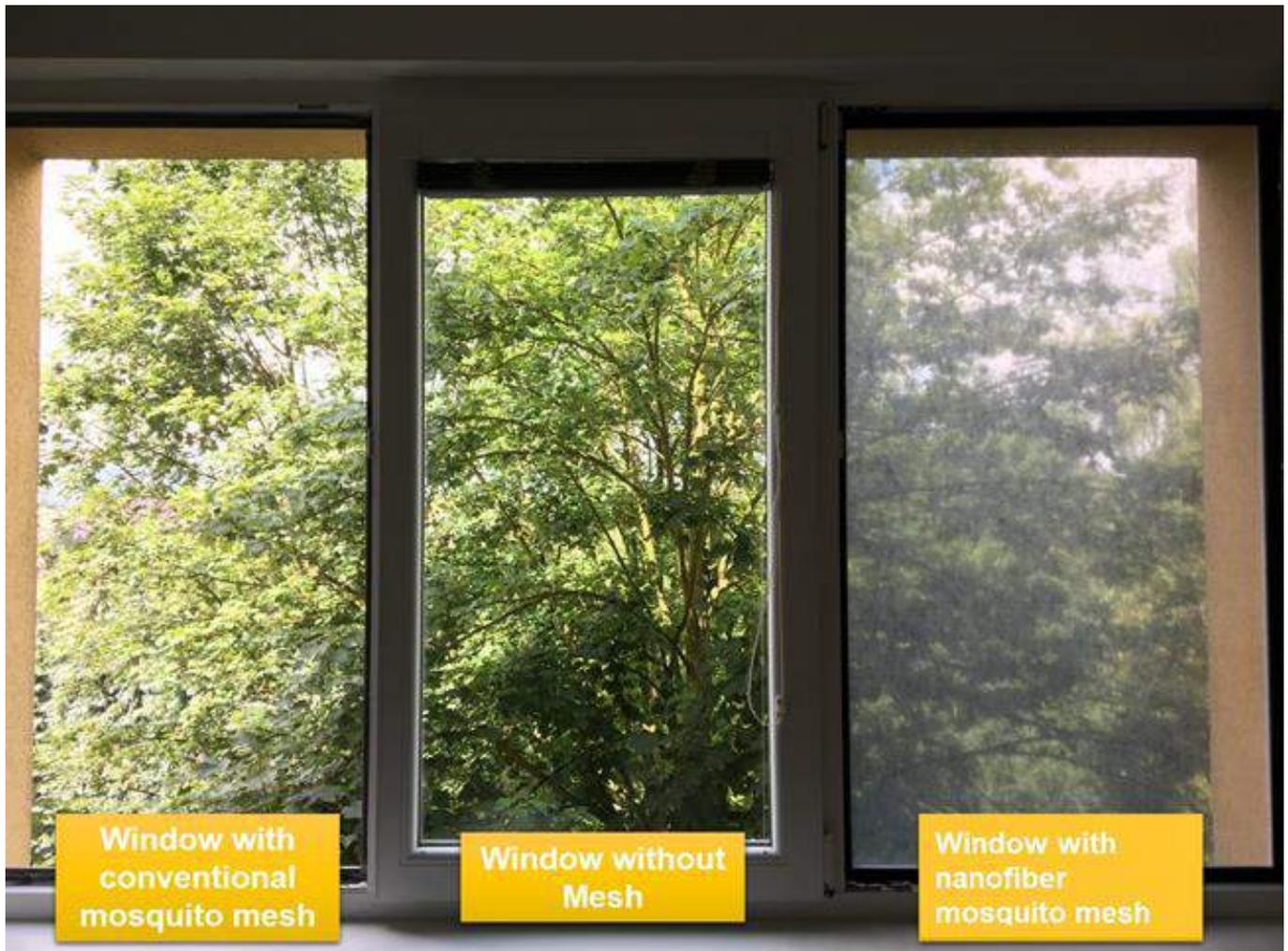
License agreement

Attachments

Window screens.jpg



Window screen Application.jpg



Technology Offer

Sintered granite-like glass-ceramic tiles from industrial wastes

Summary

A Bulgarian research institute with long-term experience in the research and development of glass-ceramics and ceramics from industrial wastes has developed novel granite-like sintered glass-ceramic tiles using hazardous industrial wastes. The institute seeks commercial agreements with technical assistance and research cooperation agreements with industrial partners.

Creation Date	11 September 2018
Last Update	02 October 2018
Expiration Date	03 October 2019
Reference	TOBG20180911004
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/68b64758-6ef6-4bf1-8096-63168dca25e9

Details

Description

The Bulgarian research institute that has developed the granite-like sintered glass-ceramic tiles has more than 50 years of experience in the research and development of novel materials, waste utilisation, coating and technologies related to physical chemistry.

The problem that the institute has addressed is connected with the utilization of industrial (waste metallurgical slag, ash from incinerators of urban waste and other industrial waste) and turning it into an innovative product with improved qualities in comparison to existing ones. The hazardous industrial waste used may range from 50 to 70 percent of the raw material used which is higher in comparison to other similar technologies.

The technology of granite-like glass-ceramics from hazardous industrial wastes is based on the following steps:

- Synthesis of an original glass composition with specific sinter-crystallisation behaviour.
- Preparation of glass batch with high amount of hazardous residues, corresponding to the original glass composition.
- Glass melting at effective technological regime and water quenching of the melt as glass frit.
- Sinter-crystallization of thus obtained glass granulates in refractory molds without preliminary pressing.

Grinding and polishing of the obtained building panels in order to elucidate a granite-like appearance with zero water absorption.

The institute seeks commercial agreements with technical assistance with companies for making a marketable product, providing the necessary expertise during the whole process and research cooperation agreements with companies for testing of new applications of the technology.

Advantages and Innovations

- the novel product gives the opportunity to use high amounts of hazardous industrial wastes ranging from 55 to 70 percent of the raw material needed which has an ecological effect.
- the novel granite-like tiling materials are with 20 percent higher mechanical properties in comparison to existing ones.
- the granite-like effect is result of definite surface crystallisation of the grains and / or chromatic effects due to usage of different frits fractions and gives the tiles an attractive appearance.

Stage of Development

Field tested/evaluated

IPR Status

Secret Know-how

Profile Origin

Private (in-house) research

Keywords

Technology

02007002	Building materials
02007003	Ceramic Materials and Powders
02007005	Composite materials
02007007	Glass
10002006	Ecology

Market

08001013	Ceramics
08001023	Other chemicals and materials (not elsewhere classified)

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**

Client

Type and Size of Organisation Behind the Profile

R&D Institution

Year Established

1960

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Bulgarian
Russian

Client Country

Bulgaria

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: industrial partners;
- Specific area of activity of the partner: companies operating in the ceramics and glass sectors; companies working in the hazardous waste material sector and building sectors;
- Task to be performed by the partner sought: commercial agreements with technical assistance with companies providing the necessary expertise and adaptation during the whole process and research cooperation agreements with industrial partners for testing of new applications of the technology.

Type and Size of Partner Sought

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

Type of Partnership Considered

Commercial agreement with technical assistance
Research cooperation agreement

Attachments

Technology Offer

Smart polyurethane pressure-sensitive adhesive with controlled tack

Summary

A Spanish university has developed an innovative polyurethane pressure sensitive adhesive (PSA) with a controllable degree of stickiness ("tack"). This tack can be abruptly changed within specific short ranges of temperature. This PSA, which is potentially biocompatible, has excellent properties for use in medical applications and in other applications, such as labelling in the transport of goods or refrigerated food. Companies interested in licensing/technical cooperation agreements are sought.

Creation Date	12 September 2018
Last Update	21 September 2018
Expiration Date	21 September 2019
Reference	TOES20180912001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/259d7fce-a45a-4d5a-9feb-f0ddd4ff7bed

Details

Description

Pressure sensitive adhesives (PSAs) have a wide presence in the market, being widely used in different applications such as adhesive tapes, labels or repositionable adhesives in the food, pharmaceutical, security packaging and automotive industries. They are also commonly applied for medical purposes as they are ideal for their ease of application and adhesion to the skin.

There are different types of PSAs depending on their composition and manufacturing process: polyurethane based PSAs, acrylic PSAs, polysiloxane based PSAs, polysiloxane based PSAs, polyisobutylene based PSAs, etc.

Polyurethane based PSAs are more hydrophilic than the rest of PSAs and are biocompatible with the skin so they are preferable for medical applications. However, they present an important disadvantage as they have an inherent low tack and low peel adhesion.

In this sense, a Spanish research group has developed a process for producing a new family of PSAs based on thermoplastic polyurethanes. The new formulation has managed to solve the main drawbacks of the polyurethane PSA, i.e., its low tack at room temperature, obtaining optimum adhesion properties, without sacrificing its cohesion.

The adhesive is synthesized by the reaction of isocyanates and polyols. By controlling the synthesis, a good balance between tack, adhesion and cohesion can be achieved. The main characteristic of these adhesives is that by slightly varying the composition and synthesis

conditions, specific adhesives are obtained with specific tack ratings that operate in short temperature ranges. As an example, several formulations have been optimized for specific applications in the following temperature ranges:

- Between 10°C and 39°C, focusing on an optimal point of adhesion at 37°C. At temperatures below 25° its adhesion capacity drops considerably. This adhesive is ideal for use in medical and skin contact applications.
- Between 5°C and 20°C. This adhesive is ideal for special applications such as labelling for the transport of goods at room temperature (fresh food, beverages, etc.).
- Between -10°C and 5°C. This adhesive also focuses on specific applications such as labelling for the transport of refrigerated goods.

The production process has been carried out satisfactorily at laboratory level where the combination of its components and the synthesis processes have been optimised. The different adhesives obtained have been characterized and their applicability has been validated in different uses, such as biomedical or low temperature conditions.

These PSAs can be applied in the following sectors:

- Biomedical: Body temperature conditions are very stable. A number of polyurethane PSAs have been developed that operate only in these temperature ranges. This has a great applicability for example in the fixation of bandages on the skin. In addition, by slightly varying the temperature, the tack can be eliminated, avoiding patients the usual discomfort of removing the bandages.
- Labelling: There are containers and packages in all types of industries and these must be labelled and wrapped for proper treatment. Sometimes these packages must operate in very specific temperature conditions. This technology makes it possible to define optimum tack in very specific short temperature range, outside of which adhesive tack is considerably reduced. Good label condition can be a good indicator that the package has maintained the preset temperature conditions over time. It can also be useful for removing labels from products once they have fulfilled their function since they can be easily detached by slightly varying the temperature of the label.

The Spanish university looks for companies in the biomedical or labelling sector interested in patent licensing or technical cooperation agreements to scale up this process or to jointly develop R&D projects to look for new applications for these adhesives or adapt them to the necessities of the company.

Advantages and Innovations

The most important advantages of the developed polyurethane PSAs are the following:

- It is not needed to add tackifier during the production process, providing them excellent conditions for medical use.
- They have a permanent stickiness when applying a light pressure with the fingers. It does not require activation for its application, it maintains the joint to the substrate in time and leaves no residue upon removal.
- They are more hydrophilic and biocompatible than other PSA adhesives. In fact, they show a good skin tolerance.
- They have good tack at room temperature and optimum adhesion properties without sacrificing its cohesion.
- Their adhesion degree can be modified in a wide range of values by changing their segmented structure, being always completely transparent.
- By varying the synthesis process, the tack can be controlled on demand by customizing the temperature ranges in which the adhesive is active.

- Adhesion can be easily removed by slight variation of the temperature.

Innovative aspects:

Thermoplastic polyurethane PSAs have many advantages for application in industry or the biomedical sector, but their main disadvantage is their low tack and limited peel adhesion.

The work of this Spanish university has made possible to overcome these weaknesses and to develop a procedure to obtain a family of adhesives with high tack and good peel strength in specific temperature ranges only, decreasing considerably when these limits are exceeded.

This allows to obtain a smart adhesive that can be adapted to the needs of the client's application, customizing the degree of stickiness and the temperature ranges in which it is active.

The new PSAs do not contain solvents and they can be applied on the carrier at moderate temperatures (lower than 120 °C).

Stage of Development

Under development/lab tested

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

Spanish patent applied for but not yet granted.

Profile Origin

Other

Keywords

Technology

02007001 Adhesives

Market

05 MEDICAL/HEALTH RELATED
 05007001 Disposable products
 08001007 Coatings and adhesives manufactures
 08001017 Industrial chemicals
 09004006 Packing products and systems

NACE

M.72 Scientific research and development
 P.85.4.2 Tertiary education

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

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
- Specific area of activity of the partner: Biomedical; Labelling.
- Task to be performed: To help scale the adhesive production process from laboratory to industry level; jointly development of new applications for the adhesives; jointly development to adapt the adhesive to their specific needs.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Technical cooperation agreement

Attachments

image 1.jpg



image 3.jpg

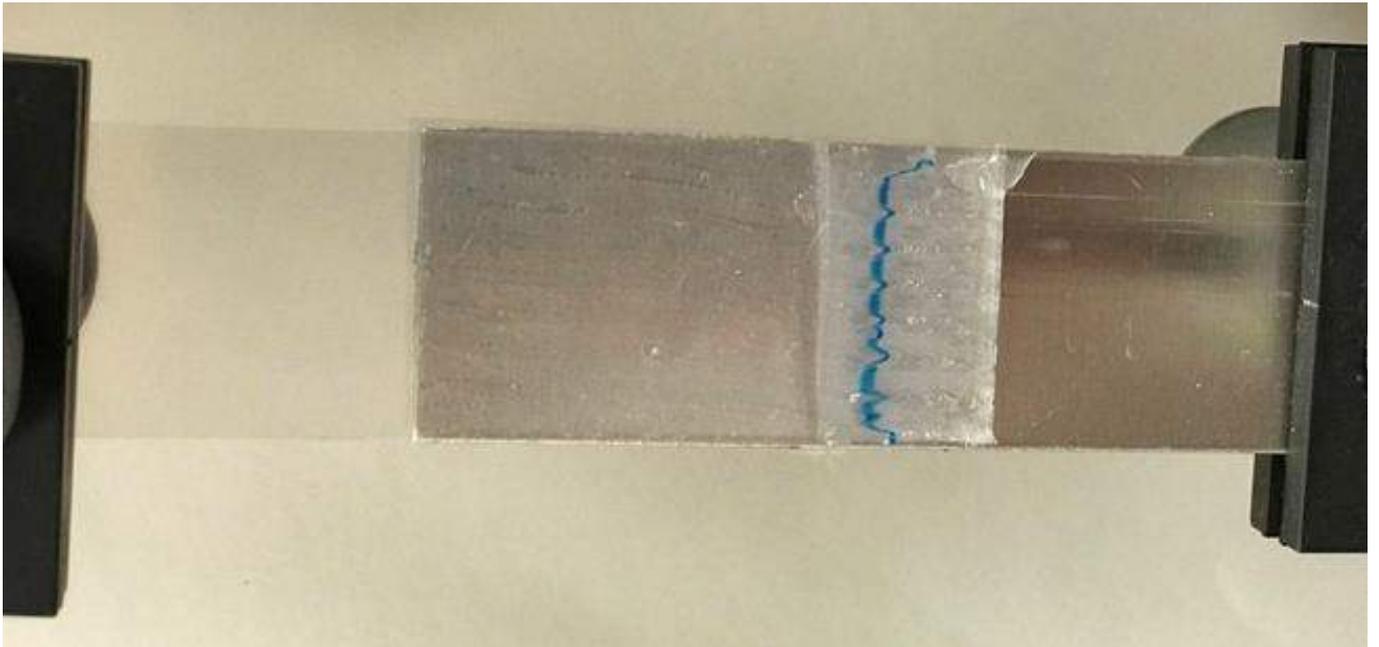
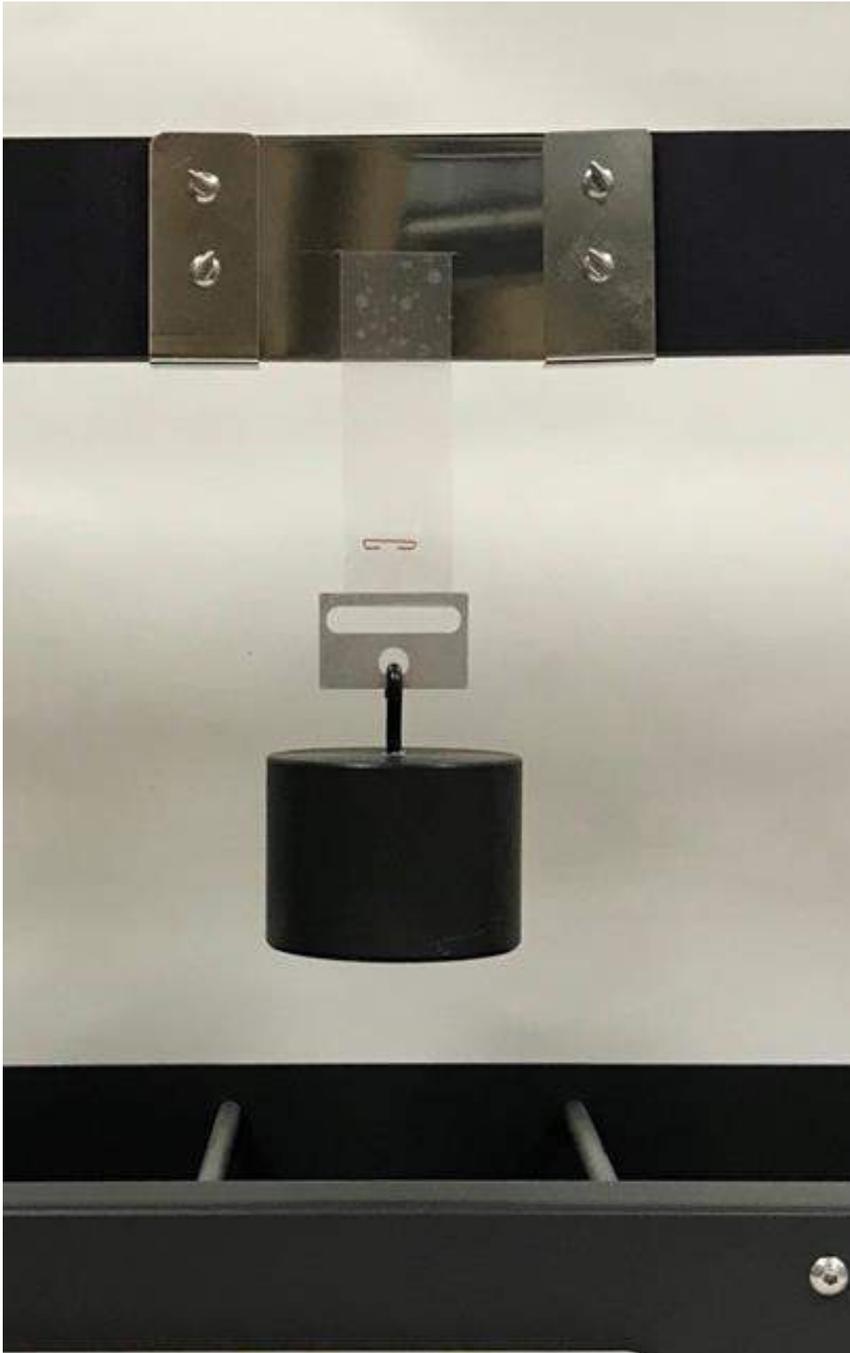


image 2.jpg



Technology Request

A Chinese company is looking for vacuum sealing ceramics manufacturing technology with improved performance

Summary

A Chinese large special ceramic manufacturing company is looking for sealing ceramic manufacturing technology with new energy and high performance. They want to cooperate with partners through research cooperation agreement and technical cooperation agreement.

Creation Date	28 August 2018
Last Update	19 September 2018
Expiration Date	20 September 2019
Reference	TRCN20180828001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/c58bc2e7-7beb-4cf1-a8b1-a3ce0d8a6f03

Details

Description

The company is engaged in research, development, and application of zirconia ceramics, alumina ceramics and talcum ceramics. Its main production includes new energy series ceramics, thermostat series ceramics and electric light source series ceramic products, which are widely used in automobile, household appliances, lamps, traffic track and other fields. The company which established in 2010, is located in Loudi City, Hunan Province.

They are looking for sealing ceramic manufacturing technology with new energy and high performance.

(1) Achieve a breakthrough in matching dry pressing molding of Al₂O₃ ceramics and metallization.

A. make a breakthrough based on traditional 95% Al₂O₃ ceramics craft formula.

B. make a breakthrough in control ceramic grain size by dry pressing molding process

C. make a breakthrough in metallization formula design, sintering temperature design

□□ The products are functional vacuum sealing ceramics. In order to ensure that the folding strength and sealing strength conform national standards, the folding strength of ceramics need to reach 350Mpa and the sealing strength reaches 135Mpa. Therefore, the following difficulties need to be overcome in the dry pressing molding process and metallization process of ceramics:

A. On the basis of ensuring the grain size of the porcelain, the ceramics should be as compact as possible with small pores and low porosity without delamination or cracking;

B. Achieve breakthroughs in the selection and post-processing of raw materials such as

metallization Mo and Mn to ensure the mutual penetration and the grain matching of the metallization layer and the ceramic matrix;

C. When dry pressing, the binder and other additives are as few as possible, and the fluidity of the powder in the closed space is also a problem in the pressing process.

D. When printing, it shall not only ensure good paste fluidity and surface smoothness, but also reduce the introduction amount of adhesive for paste and the subsequent degumming.

They want to cooperate with partners through research cooperation agreement and technical cooperation agreement.

Technical Specification or Expertise Sought

(1) Study out the optimal proportion scheme of 95%Al₂O₃ ceramics suitable for vacuum sealing to improve the folding strength of the ceramics, increase the sealing strength of 95%Al₂O₃ ceramics to 135Mpa from traditional 90Mpa, and reduce the porosity and cracking of the ceramic matrix.

(2) Develop separate upper and lower molds and adjustable structure molds to achieve the uniform density of all parts during product pressing, and guarantee the smoothness of pressing and moulding of complex structure products. To reduce the cracking and delamination of vacuum seal ceramics and improve the product qualification rate.

(3) Study the paste additive formula suitable for Al₂O₃ ceramic printing, reduce the amount of additive in the preparation of metallization paste, improve the fluidity and uniformity of screen printing metal paste, and ensure that the metal powder is evenly coated on the ceramic surface.

(4) Develop the metallization formula suitable for vacuum sealing ceramic components made of dry pressing 95%Al₂O₃ ceramics, so that the ceramic matrix and metal layer glass will move smoothly when the metal is burned, which can guarantee the best match between dry pressing 95%Al₂O₃ ceramics and Mo Mn.

Keywords

Technology

02007003 Ceramic Materials and Powders

Market

03004003 Other electronics related equipment

09001005 Motor vehicles, transportation equipment and parts

09008001 Electric companies

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry 250-499

Year Established

2010

Turnover

100 - 250M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

Chinese

Client Country

China

Partner Sought

Type and Role of Partner Sought

The company is looking for R&D institution or company involved in sealing ceramic manufacturing technology with new energy and high performance. The company is interested in research cooperation and technical cooperation.

Type of Partnership Considered

Technical cooperation agreement
Research cooperation agreement

Attachments

Technology Request

A Chinese company is looking for aluminum-scandium alloy processing technology and production technology of al-sc welding wire

Summary

A Chinese scandium producing company is looking for aluminum-scandium alloy processing technology and production technology of Al-Sc welding wire. They want to cooperate with partners through research cooperation agreement and technical cooperation agreement.

Creation Date	28 August 2018
Last Update	19 September 2018
Expiration Date	20 September 2019
Reference	TRCN20180828002
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/d9809644-4ec7-44f0-a791-169960e08da8

Details

Description

The company which established in 2011, is located in Changsha City, Hunan Province.

The company is specialized in the research and development, production and sale of scandium and its products. It is mainly provide high-strength and lightweight al-sc alloy sheet, profile and welding wire, etc, aims to reduce weight of vehicles and saving energy.

The company is looking for aluminum-scandium alloy processing technology and producing technology of al-sc welding wire.

1. Processing technology of al-sc alloy. After adding trace scandium, the structure of aluminum alloy has changed. Therefore, corresponding processing technology also should adjust accordingly.
2. Heat treatment process of al-sc alloy
3. Production technology of al-sc alloy welding wire includes the preparation of blank and the wiredrawing.

They want to cooperate with partners through research cooperation agreement and technical cooperation agreement.

Technical Specification or Expertise Sought

1. Processing technology of al-sc alloy. After adding trace scandium, the structure of aluminum alloy has changed. Therefore, corresponding processing technology also should adjust accordingly.
2. Heat treatment process of al-sc alloy
3. Production technology of al-sc alloy welding wire includes the preparation of blank and the wiredrawing.

Keywords

Technology

02007010 Metals and Alloys

Market

09001005 Motor vehicles, transportation equipment and parts

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry 250-499

Year Established

2011

Turnover

>500M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

Chinese

Client Country

China

Partner Sought

Type and Role of Partner Sought

The company is looking for R&D institution or company involved in aluminum-scandium alloy processing technology and production technology of al-sc welding wire. The company is interested in research cooperation and technical cooperation.

Type of Partnership Considered

Technical cooperation agreement
Research cooperation agreement

Attachments

Technology Request

Hotmelt-glues for the production of bio-based strapping material

Summary

A German SME active in the development of strapping materials to secure loads and packages is actually developing a bio-based, compostable strapping solution. The company is working with a wood based yarn and needs a, preferable hot-melt, glue to finish their product. The SME is searching for experienced partners in the processing of hotmelt glues to find a suitable glueing solution. Targeted types of cooperation are joint further development and commercial agreements with technical assistance.

Creation Date	17 September 2018
Last Update	20 September 2018
Expiration Date	21 September 2019
Reference	TRDE20180917001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/8cfc0e15-cdf4-4fce-abcd-3cc6ccb15040

Details

Description

A German SME active in the development, production and sales of strapping materials to secure loads and packages is actually developing a bio-based, compostable strapping solution. The strapping material is either used to fix loads on i.e. palletes as well as to fix larger load units on i.e. trucks. The products are also used for baile presses.

The German SME is looking for partners for the further development of the product. For the development of their product, they need a glueing concept, which enables the parallel connection of several lines of wood-based yarns. The number of lines and the diameter of the yarn differs according to the necessary tensile force of the final product. An ideal solution would be a biodegradable glue which is applied in hot, liquid conditions.

The company is working with wood based yarn and needs a, preferable hot-melt, glue to finish their product. The company is searching for experienced partners in the processing of hotmelt glues to find a suitable glueing solution. The German SME is searching for partners for the joint further development or for partners who can deliver a solution as commercial agreement with technical assistance.

Technical Specification or Expertise Sought

Technology and know-how to find the right, preferably bio-degradable glue and an application system which enables the use of existing production equipment, using conventional hotmelt glueing systems.

Keywords

Technology

02007001 Adhesives

Market

08003005 Other industrial machinery for textile, paper & other industries

NACE

C.13.1.0 Preparation and spinning of textile fibres

C.20.5.2 Manufacture of glues

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

Ref: TRDE20180917001

Industry SME 11-49

Year Established

2009

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

German

Client Country

Germany

Partner Sought

Type and Role of Partner Sought

The SME is either searching for joint venture partners for the joint development of a glueing solutions or for commercial partners who can deliver a ready-to-use product and technical assistance in the described applications and processing of the glue.

Type of Partnership Considered

Commercial agreement with technical assistance

Joint venture agreement

Attachments

Technology Request

Small Italian company in the furniture sector is looking for technical expertise and know-how in plastic materials

Summary

An Italian company in the furnishing and manufacturing industry with competence in the design and development of contemporary seating and furnishings is looking for a partner able to offer know-how/technology solutions for new plastic items. The company intends to expand its production by collaborating with a R&D centre or a manufacturer with expertise in developing innovative, eco-sustainable, versatile products in plastic. Partnership sought: technical cooperation or manufacturing agreements.

Creation Date	20 September 2018
Last Update	04 October 2018
Expiration Date	05 October 2019
Reference	TRIT20180920001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/b2552546-1a58-4c82-b9a3-ce8994e58464

Details

Description

The small Italian company operates in the furnishing and manufacturing industry in the North-East of Italy and it is member of the Italian Chair District, geographically located at the heart of Friuli Venezia-Giulia, a region bordering Slovenia and Austria. It is a young company, created by people with a consolidated experience in special design, interior decoration, combined with high production skills and materials knowledge. The company is interested to start new technical collaboration paths and to gain new market opportunities especially in the Northern Europe geographical area.

The company has competence and know-how in the design and development of contemporary seating and furnishings and highly customised solutions for seats and tables using various materials, such as wood and metal, for hotels, offices, museums, cinemas and theaters, hospitals, nursing homes, churches.

The Italian company is looking for new partnership collaborations with foreign partners that can offer innovative know-how and technology solutions for the production of new plastic items. The aim is to expand the production in the plastic field by starting a collaboration with a research centre or a manufacturer which has specific expertise in developing innovative, sustainable and versatile products in plastic.

The final goal is to set a technical cooperation agreement in which the partner should be able to offer highly innovative and performing plastic solutions with low environmental impact. Such competence may be combined with the high skills in customised and innovative design processes of the Italian company to develop a new and improved plastic production line, with

eco-sustainable characteristics. In addition, a manufacturing agreement with the partner can also be established aimed at producing components/products for which specific know how and skills are required.

The international collaboration may help the Italian company to further broaden its international focus and have the opportunity to enter in a new market area with a more consolidated and structured presence through the agreement with a local partner.

Technical Specification or Expertise Sought

The Italian company is already producing seats and furnishings with plastic materials. However, its expertise has grown more in the development of wooden and metallic products. The interest of the company is to enlarge and improve the production of its plastic products portfolio. The partners searched should be able to offer sophisticated technical plastic components or plastic profiles increasing reliability in production, providing specific contours, used as connecting elements and enabling completely new designs. The partner should supply special know-how and technologies to offer high-performance and versatile plastics, with tailor-made and improved combinations of properties. Expertise in pultrusion and extrusion may be useful to offer customized product solutions. The offer of materials capable of performing a multiplicity of functions and which can also be processed easily and efficiently can increase the quality and marketability of the final furnishing products. Capacity to deal with eco-sustainable materials will be a plus.

Keywords

Technology

02001001	3D printing
02007014	Plastics, Polymers

Market

08001001	Plastic fabricators
08001006	Processes for working with plastics
08001018	Polymer (plastics) materials

NACE

C.16.2.9	Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials
C.25.9.9	Manufacture of other fabricated metal products n.e.c.

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

Industry SME <= 10

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

The Italian company is interested in collaborations with partners from all the EU countries with a special focus on Germany and France.

Languages Spoken

English
German
French
Czech
Spanish
Italian

Client Country

Italy

Partner Sought

Type and Role of Partner Sought

The ideal partner is a research centre with specialisation in plastics processes and production and/or a manufacturer with specialisation in plastic furniture material. An agreement can be signed for a technical cooperation where the know-how of the Italian company in customised design is combined with expertise in plastic material of the foreign partner to improve the actual production of plastic furniture and develop a new high-performing and eco-sustainable line of products. Moreover, a manufacturing agreement will be considered too for the production of components and products requiring specific expertise and skills.

Type of Partnership Considered

Manufacturing agreement
Technical cooperation agreement

Attachments



5. ***TRANSPORTES***

Technology Offer

Universal accumulator powered traction unit

Summary

A Czech university developed a universal accumulator powered traction unit which enables reliable and safe operation in hazardous environments where there is a danger of explosion of methane and/or coal dust. The university is looking for an industrial partner which would be able to use the unit, under a license or research cooperation agreement.

Creation Date	04 September 2018
Last Update	08 October 2018
Expiration Date	09 October 2019
Reference	TOCZ20180904006
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/e3643596-7fc1-473f-9407-8cfd1c1619ab

Details

Description

The special unit into the hazardous environment was developed by Czech university. The unit can help in the places where there is a danger of explosion of methane and/or coal dust. The developed unit eliminates noise and exhaust fumes of the existing sources. The unit is also more flexible, movable and safer than existing solutions.

Its accumulated source of energy can be recharged in a place close to the area of its operation. It is equipped with rechargeable accumulators enabling its operation independent of external energy sources (e.g. power supply cable and/or pressure air supply hose or hydraulic oil supply hose). This unit travelling on an overhead steel profile track can be used for handling of heavy loads. The device is equipped with hoist of 1,5 ton lifting capacity on hook for handling of loads.

Areas of utilization:

- deep mining of coal and/or other minerals (where there is a danger of explosion)
- chemical and oil processing industry
- production of paints
- rubber and plastics production industry
- power plants (fuel processing and coal milling)
- other hazardous workplaces where there is a danger of explosion of gas and/or dust.

The university is offering license or research cooperation agreement to the industrial partners interested in technology. The university is ready to transfer the rights involving the technology to interested partners, or is ready to work together with partners on the further research of the technology.

Advantages and Innovations

- Significantly eliminates limitations and disadvantages of existing driving sources e.g. noise and exhaust fumes, towed cable supply and/or insufficient pressure air supply.

- Accumulators as its integral source of power can be recharged in a place close to the area of its operation.
- Enables reliable and safe operation in hazardous environment where there is a danger of explosion of methane and/or coal dust.
- 1,5 ton lifting capacity hoist for load handling.
- Nominal traction travel force from 16 up to 20 kN.
- Controlled travel speed up to 20 m/min
- Recharging station allowing connection to grid 3 x 400 – 500 V/50 Hz.

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

Prototype successfully tested on the surface testing track.
Certificate for operation in hazardous environment of underground coal mines in processing.

IPR Status

Other

Comment Regarding IPR status

Application for registered design pattern submitted.

Profile Origin

COSME

Keywords

Technology

02009002	Hybrid and Electric Vehicles
02009003	Railway Vehicles
02009006	Traction/Propulsion Systems

Market

08003002	Hoists, cranes and conveyors
08003003	Mining machinery

NACE

B.05.1.0	Mining of hard coal
B.09.9.0	Support activities for other mining and quarrying

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

University

Year Established

1849

Turnover

50 - 100M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
German
Russian
Czech

Client Country

Czech Republic

Partner Sought

Type and Role of Partner Sought

The university is looking for industrial partner who would be interested in license agreement or research cooperation agreement. The university is ready to transfer the rights involving the technology to interested partners, or is ready to work together with partners on the further research of the technology.

The unit can be used in the following industrial sectors:

- deep mining of coal and/or other minerals (where there is a danger of explosion)

- chemical and oil processing industry
 - production of paints
 - rubber and plastics production industry
 - power plants (fuel processing and coal milling)
 - other hazardous workplaces where there is a danger of explosion of gas and/or dust
- The unit was tested in a coal mine underground workplace.

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
Research cooperation agreement

Attachments

Technology Offer

Device to immobilise buses from unauthorised persons with malicious intent

Summary

A UK company has developed a standalone electronic device to provide enhanced control over who is authorised to drive a vehicle, which incorporates a smart card. The immobiliser device is able to integrate with existing third party equipment on a bus such as telematics and smart ticket machines, to ensure that only an authorised driver can start the bus. They are seeking bus companies interested in having the device installed by the company via commercial agreement with technical assistance.

Creation Date	04 September 2018
Last Update	17 September 2018
Expiration Date	18 September 2019
Reference	TOUK20180830001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/819c2b3d-4309-44e3-9d30-bfed00cc6a25

Details

Description

A common cause for concern among bus operators is the potential for unattended vehicles to be driven away by unauthorised persons with malicious intent. This misuse can raise insurance premiums, destroy vehicles and cause loss of life, with vehicles stolen for reasons ranging from 'joyrides' to terrorism.

A common feature on today's buses is smart ticketing machines that require an authorised driver to log on before the ticket machine will function. The UK company's immobiliser can utilise the log in function of the ticket machine to enable the ignition and/or start functions of the bus, via a driver's smart card.

The device can be adapted and fitted by the UK company to a specific bus ticketing system and can be incorporated within a driver's existing company smart card. If the bus is broken down or abandoned, the bus company can provide a pin number to police or towing companies to start the vehicle in the absence of the driver's smart card.

They are seeking bus companies throughout Europe that want to incorporate this additional security system into their buses, and can be adapted to existing equipment on a range of buses. They offer ongoing service support and installation of the devices via commercial agreement with technical assistance.

Advantages and Innovations

The system has the following features:

- Ignition inhibit
- Start inhibit
- RJ45 Key activation
- Ticket machine interface
- Keypad interface
- LED Indication of operation
- Flange mounted ABS (anti-breaking system) Box
- Dual RJ45 Port
- Universal fitting
- 12V or 24V supply
- Full circuit protection
- Multi-choice inputs
- Tamper proof
- Easy integration
- OE (original equipment) and retrofit
- 3 year warranty

Stage of Development

Available for demonstration

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

Patent applied for is for the EU.

Profile Origin

Other

Keywords

Technology

01002003	Electronic engineering
01002013	Smart cards and access systems
02008005	Road Transport
02009022	Security systems

Market

02003	Specialised Turnkey Systems
03003	Power Supplies
03004003	Other electronics related equipment
03008004	Other electronics related (including alarm systems)

NACE

H.49.3.1	Urban and suburban passenger land transport
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H.49.3.9

Other passenger land transport n.e.c.

Network Contact

Issuing Partner

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Client Country

United Kingdom

Partner Sought

Type and Role of Partner Sought

Type: Industry

Activity of partner: Transport/bus company

Specific role of partner sought: Implementation of system in their fleet of buses.

Type of Partnership Considered

Commercial agreement with technical assistance

Attachments

Technology Offer

System for reliable detection of occupancy of parking spaces

Summary

An electronic engineering research group from a Spanish university presents an artificial vision system with telemeter, which combines the information from a video camera and an steerable telemeter, to inform and guide the user when finding a parking space regardless of the vehicle type or size or the environmental conditions. The research group looks for license agreements, collaboration agreements or commercial agreements with technical assistance with public administrations and carparks

Creation Date	11 September 2018
Last Update	25 September 2018
Expiration Date	26 September 2019
Reference	TOES20180907001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/425bd43e-9158-4216-9686-de791af80f57

Details

Description

Currently, there is no reliable detection system for the occupancy of parking spaces, so the combination and proper treatment of the information from a video camera and a steerable telemeter as proposed in this invention, represents an advance in obtaining the occupancy of the parking spaces.

An electronic engineering research group from a Spanish university has developed system including a device that obtains the occupation status of each of the parking spaces within the area supervised by a sensor node that is composed of a video camera, a laser telemeter on a pan-tilt platform and a processing algorithm.

Its main features are the following:

- Camera and telemeter on a pan-tilt movement platform, as a single set of remote sensing for the detection of the occupation status of the parking spaces.
- Calibration in the installation to guide the system conveniently to the different squares of the supervised parking area.
- Algorithm of data fusion and its application to the detection of occupation of parking spaces: identification of empty spaces; vehicle entry / exit detection; fusion of video and distance data to indicate the occupation status of a place.

Once the parking occupation has been detected entirely, the system can guide the driver

through his mobile phone, through an application to be developed.

The research group is looking for town halls and companies who are interested in optimizing the use of existing infrastructure and vehicles to make parking more efficient. The cooperation types would be collaboration agreements, commercial agreements with technical assistance or license agreements.

Advantages and Innovations

The novelty of the patent is mainly in the combination of the information obtained from both systems: image of the square, recognition of the space (floor) that corresponds to each parking space, detection of movement of a car in an area in the sequence of images that can mean that it occupies or leaves free a parking space close to a particular area, and the measurement of distances to the parking spaces of interest of the affected area, so that there are results of occupation of parking spaces more reliable, allowing its use in surface parking systems.

The new system includes a new distance measurement device, merging the video and distance measurements to provide an appreciable improvement in the detection of occupied spaces.

The requirements of the supervision in a parking make the use of an adjustable telemeter suitable, and can be added to the supervision cameras that currently exist with the linked cost reduction compared to current systems.

Stage of Development

Under development/lab tested

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

Profile Origin

Private (in-house) research

Keywords

Technology

01002004	Embedded Systems and Real Time Systems
01004003	Applications for Transport and Logistics
02009007	Artificial intelligence applications for cars and transport
02009008	Navigation and embedded systems
02009009	Sensors for cars and transport

Market

08002003	Process control equipment and systems
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09001005

Motor vehicles, transportation equipment and parts

NACE

O.84.2

Provision of services to the community as a whole

Network Contact

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Intelligent Energy

Client

Type and Size of Organisation Behind the Profile

University

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Ref: TOES20180907001

Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

The research group is looking for town halls with the aim of establishing an intelligent urban parking management system in order to achieve sustainable mobility in urban areas. The collaboration type would be commercial agreements with technical assistance.

In the same way, companies in charge of the management/administration of car parks to license agreements or collaboration agreements are also sought. These partners are expected to offer a great added value in the development of an application that combines the knowledge of free spaces and the vehicle movement through the parking. It can provide the right indications to the users, guiding them to find a free space to park.

Type and Size of Partner Sought

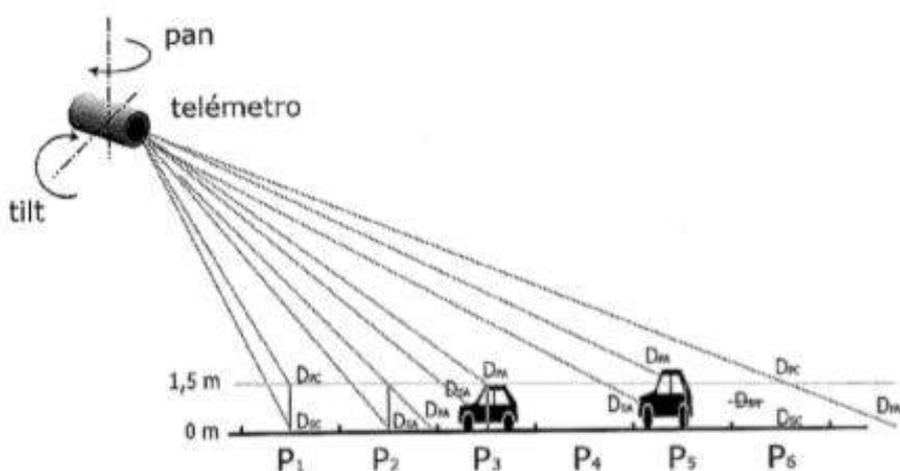
SME 11-50, Inventor, R&D Institution, SME <10, >500 MNE, 251-500, SME 51-250, >500

Type of Partnership Considered

License agreement
Commercial agreement with technical assistance
Technical cooperation agreement

Attachments

System for reliable detection of occupancy of parking spaces.PNG



Schematic drawing of distance measurement from an adjustable telemeter with two degrees of freedom pan-tilt

Technology Offer

Extra Grip Suspension - know how for dynamic balance of vehicles upon extreme acceleration

Summary

A Bulgarian inventor working in the field of vehicle stability developed a new extra grip suspension for dynamic balance of vehicles upon extreme acceleration producing better tire grip during all acceleration kinds - from 7% to more than 35 % higher for all wheels, and reducing the rapid load vibrations at the tire contact patch. It is applicable to all vehicle types. Partnership through commercial agreement with technical assistance, license or technical cooperation agreement is sought.

Creation Date	17 August 2018
Last Update	27 September 2018
Expiration Date	28 September 2019
Reference	TOBG20180817001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/9828e626-ca5a-42fe-aa49-8c54d045f739

Details

Description

The insufficient stability of vehicles at extreme situations (sharp turns, sudden stopping or sharp acceleration) is a problem today because of the dynamic imbalance of the vehicle body (relatively loose of grip) due to relatively reduced pressure on them. The wheels skid or idle according to the situation, which makes the vehicle unstable and non-steerable.

The approaches for solving of this problem up to now are the use of electronic stabilizations which automatically alter the braking force of some of the wheels or reduce the engine power to eliminate skating or idle and to adapt the wheel's rotation to the vehicle speed. Those work with some delay, the grip pressure on some wheels is not sufficient and the result is bad steering and insufficient safety.

The solution developed by the Bulgarian inventor working in the field of vehicle stability is a mechanical upgrade to the suspension called Extra Grip Suspension (EGS). The inventor has deep theoretical and practical technical knowledge in engineering and a huge driving experience. EGS produces better tire grip during all kind of accelerations - from 7% to more than 35% higher for all wheels and reduces rapid load vibrations at the tire contact patch. EGS consists of widely used suspension parts to allow, after some modifications, new connections between them and a new function. It works without delay and produces maximal possible grip – much higher than in the case of suspensions ordinary used. It improves the stability, steering and safety of vehicles and the efficiency of all used electronically operated stabilization systems as well.

EGS technical principle is applicable to all vehicle types by few different, but similar device versions in the following areas:

- mass production in automotive industry (private, commercial and special vehicles),
- tuning kits for some appropriate models,
- racing cars and F-1,
- all-terrain vehicles,
- electrical vehicles,
- motorcycles,
- low cost vehicles,
- truck trailers, etc.

When it is combined with electronic management it works as a kind of enhanced vehicle dynamic control, enhanced dynamic stability control, enhanced electronic stability program, etc.

EGS ensures:

- energy efficiency – because it works without using energy from vehicle systems (engine or battery). It is very useful for electric vehicles and improves energy efficiency of whole vehicle as a system;
- technical efficiency – as far as it consists of well-known details - widely used in suspensions today, but combined in a new way;
- cost efficiency – because it is low weight and low cost device (from 1kg to about 12 kg depending on vehicle type) combined with maximal effect;
- safety and insurance efficiency – as far as it pre-determines a higher traffic safety, less vehicle damages and less expenditure for insurance companies.

Options of realization:

- EGS can be designed according to the vehicle type and model purpose;
- it could be easily adjustable (also automatically adjustable) according to the road surface - softer or harder;
- electronic stability management of the respective type can be adapted (modified) if necessary for optimized action.

The inventor is looking for international partners to conclude the following types of agreements in order to disseminate and/or improve the developed solution. Commercial agreement with technical assistance is sought under which acquisition (transfer) of the innovative suspension parts is envisaged, supported by technical consultancy by the creator for its efficient use. In the case of licensing implementation of the solution in the automotive industry is expected against payment of license fee or royalties. And under technical cooperation a further technological development is envisaged. It is also possible to conclude other types of contracts depending on the wish of the potential partner and the negotiations, e.g. manufacturing agreement for transferring of the know-how “EGS”.

Advantages and Innovations

- When EGS is used, the higher acceleration leads to better vehicle balance.
- Low weight and low cost combined with maximal efficiency.
- The fastest action (the action begins from 0,00 sec and creates maximal possible grip power for 0,05 to 0,15 seconds).

EGS also ensures improved dynamic performance:

- better acceleration - 25 – 31 %;
- higher speed at turns - 3 – 15 %;
- extremely shorter braking - 8 – 20 %;
- smaller circle radius (at full throttle) - 18 – 22 %.

Stage of Development

Prototype available for demonstration

Comments Regarding Stage of Development

Basic R&D is fulfilled, prototyped and tested on street cars. Tests are made on different training and testing tracks – ground surface of a rally school and asphalt surfaces like a racing track. The efficiency of technology is proven. TRL6-7.

IPR Status

Secret Know-how

Comment Regarding IPR status

The innovation is a new technical principle by its essence. This principle is applicable by similar, but patently different devices in different vehicles. A few patent applications are necessary for full patent protection. This is connected with disclosure of information for the patenting procedure. The necessary patent applications are postponed for later stage. For this reason combined protection as know-how is applied for the moment.

Profile Origin

Private (in-house) research

Keywords

Technology

02009001	Design of Vehicles
02009002	Hybrid and Electric Vehicles
02009004	Road Vehicles
02009006	Traction/Propulsion Systems

Market

09001005	Motor vehicles, transportation equipment and parts
09003001	Engineering services

NACE

M.71.1.2	Engineering activities and related technical consultancy
M.71.2.0	Technical testing and analysis
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

Inventor

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Bulgarian
Russian

Client Country

Bulgaria

Partner Sought

Type and Role of Partner Sought

Partners from the automotive industry are preferred - producers of vehicle suspension components like springs, air cylinders, antiroll bars, tampons and similar parts and devices of suspension or automotive manufacturers. R&D organizations or universities working in the automotive field are also appropriate.

The partner is expected to: acquire the know-how accompanied by offering him the necessary technical support for its efficient use (in case of commercial agreement with technical assistance), implement the solution in his activity (produce and sells innovative suspension parts) and pay a license fee or royalty as a reward (in case of license agreement), continue the technological development based on his specific existing technological capacity (in case of technical cooperation).

It is also possible to conclude other types of contracts like manufacturing agreement for transferring the know-how of “EGS” for vehicle dynamic balance, stability and safety depending on the interest of potential partner and negotiations’ outcome.

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
Commercial agreement with technical assistance
Technical cooperation agreement

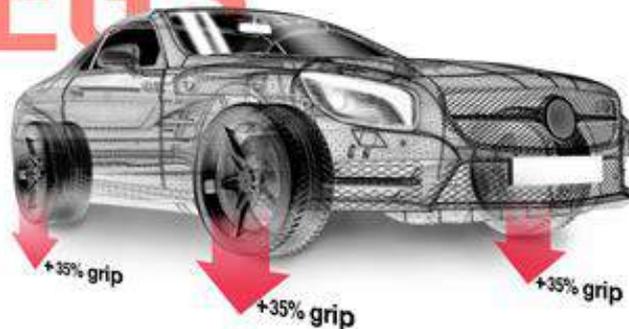
Attachments

Image-suspension.jpg

VEHICLE DYNAMIC BALANCE

EXTRA GRIP SUSPENSION (EGS)

EGS



* This picture is only to illustrate the result. It is got from public source on internet.

IMPROVED DYNAMIC PERFORMANCES :

- Better acceleration 25 - 31 % ➤ Extremely shorter braking 8 - 20 %
- Higher speed at turns 3 - 15 % ➤ Smaller circle radius (at full throttle) 18 - 22 %

ESSENCE of the INNOVATION

Extra Grip Suspension (EGS) is a mechanical upgrade to the suspension. It produces better tire grip during accelerations - from 7% to 35 % higher for all wheels and reduces rapid load vibrations at the tire contact patch.

EGS consists of widely used suspension parts - after some modifications. It produces maximum possible grip and improves the efficiency of all used electronically operated stabilization systems.

When it is combined with electronic management it works as kind of :

Enhanced Vehicle Dynamic Control (EVDC),
Enhanced Dynamic Stability Control (EDSC) or
Enhanced Electronic Stability Program (EESP).

ADVANTAGES of EGS

- Bigger acceleration - Better vehicle balance
- Low weight and the lowest cost combined with maximal efficiency
- The fastest action (the action begins from 0,00 sec and creates maximum possible grip power for 0,05 to 0,15 seconds)

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