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Medio Ambiente:

Tecnologías Ambientales

Research & Development Request

H2020 Fast Track to Innovation (FTI): Synthesis of innovative silica based nano-particles.

Summary

A Spanish company specialized in inorganic chemistry is preparing a H2020 Fast Track to Innovation project proposal. The project is focused on feasibly up-scaling synthesis of innovative silica based nano-particles and validating them in marketable applications of the rubber industry. The consortium, comprised of a chemical manufacturer, a research centre and a multinational company of the rubber industry, is looking for two new partners: a large enterprise and an SME from the rubber sector.

Creation Date	13 January 2016
Expiration Date	18 January 2017
Reference	RDES20160113001

Details

Description

A Spanish company born 50 years ago and specialized in basic inorganic chemistry is developing a project proposal for the forthcoming Fast Track to Innovation call (15th March 2016). The company manufactures sodium and potassium silicates, metasilicate, zeolites, sodium and potassium aluminates, precipitated silica, aluminum silicate and amorphous aluminum hydroxide and counts with different plants in Spain. Its products cover a wide range of physicochemical properties that make their products crucial ingredients in a large number of applications and consequently in markets like detergents, tires, construction, human and animal food, paints, varnishes, agriculture, wastewater and industrial water treatment, the paper industry, rubber, pharmaceuticals, ceramics, etc. The company is really active in R&D and innovation activities, having developed numerous R&D projects and owning several patents related to silica based products.

The aim of the project proposal is to make feasible the synthesis of silica based nano-particles barrier by developing a versatile manufacturing process for the production of diverse nanomaterials. Such a process will allow the creation of a scale economy by means of combining the synthesis of different products' in the same production plant.

This project relies on an existing and patented manufacturing process, which allows big and efficient productions of silica based nanomaterials. The process to be developed will consist of an adaptation of a chemical production plant for the manufacturing of silica-based nano-particles.

Specific project objectives are:
1. Adapting an existing production process to a versatile process for a set of silica-based nano-particles, already synthetized at laboratory scale, tested and demonstrated in relevant applications (TRL6).

2. Achieving a feasibly industrial production of a set of nanomaterials.
3. Demonstrating the technical feasibility of the industrially manufactured nanomaterials in each of the applications.
4. Analyzing the toxicology of developed nanomaterials and evaluating the grouping potential under the REACH normative.

The consortium, currently comprised of a chemical manufacturer, a research centre and a multinational company of the rubber industry, is looking for the following partners related to the rubber industry/sector:
1. One large enterprise for validating the nano-silica in a commercial application.
2. One SME for analyzing the recycling process of the new product and its environmental impact.

Call deadline: 15th March 2016.
Deadline for receiving expressions of interest: 12th February 2016.
Project duration: 2 years.

Advantages and Innovations

Using nano-particles as reinforcement fillers can enhance elastomers' (particularly TPEs and rubber) thermal and mechanical properties in a wide diversity of factors such as: wear resistance, dynamic performance, chemical resistance and material service lifetime. However, the usage of nano-materials as reinforcing fillers for elastomers is not extended due to price restrictions and production limitations. The project will try to tackle this gap.

Technical Specification or Expertise Sought

The consortium is looking for one large enterprise and one SME from the rubber industry/sector. The large enterprise should be experienced in commercial applications of rubber products (such as seals, gaskets, technical parts of vehicles…) and the SME should be able to analyze the recycling and environmental impact of rubber products with nano-aditives.

Stage of Development

Proposal under development

IPR Status

Patents granted

Comment Regarding IPR status

Patented in USA and Spain (with international PCT extension in progress).

Keywords

Technology

02009023	Interior equipment
03004008	Plastics and Rubber related to Chemical Technology
09001	Measurement Tools
10001002	Assessment of Environmental Risk and Impact
10002015	Life Cycle Assessment

Market

08001001	Plastic fabricators

08001018	Polymer (plastics) materials
09001005	Motor vehicles, transportation equipment and parts

NACE

C.20.1	Manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

Two different roles are needed:
- A large enterprise of the rubber industry for validating our nano-silica in a commercial application, such as seals, gaskets, technical parts of vehicles… whose previous experience in projects will be well considered.

- An SME for:
(a) Analyzing the recycling potential of rubber including project's nano-additives.
(b) Analyzing the environmental impact of rubber including project's nano-additives.
Newcomers in EU funding are welcome.

Type and Size of Partner Sought

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

Type of Partnership Considered

Research cooperation agreement

Research & Development Request

A Greek university would like to cooperate with companies who are interested to host post-graduate researchers for semestrial training under funded Erasmus+ project (EU programme for Education , Training , Youth and Sport 2014-2020)

Summary

A university and a research centre in Greece are looking for companies to host researchers of a post-graduate programme on bio-entrepreneurship for training under a funded ERASMUS+ project. The companies should have expertise in research in fields of life sciences, pharmaceuticals, cosmetics, biotechnology, diagnostics or food. Students should be hosted by the research & development or marketing/business planning departments. Trainee costs will be covered by the project. Deadline for EoI:20/2/16

Creation Date	08 January 2016
Expiration Date	02 February 2017
Reference	RDGR20151223001

Details

Description

Post-graduate researchers (3rd semester) that have successfully followed courses in the fields of life and pharmaceutical sciences, food, environmental biotechnologies, molecular and biochemical diagnostics and bio-entrepreneurship will offer their knowledge in companies of the respective fields, as trainees in the research & development department, or in units related to marketing & business planning. Training should focus on one or more of the topics below:
- Research & development issues
- Development and implementation of business plans
- Bio-entrepreneurship, legal/business framework, standards.

The training opportunity combines exchange of knowledge, know-how, expertise and mobility of young researchers.
The training will take place from September to December 2016. Salary, social security and travel costs will be covered by the Greek university, under the ERASMUS+ programme.
The company will have to sign a learning agreement for traineeships. The university and research centre will jointly agree with the company on the programme of the traineeship period, the monitoring and evaluation plan.

Advantages and Innovations

- Knowledge exchange with excellent young researchers in the fields of life sciences, cosmetics, pharmaceutical sciences, food, environmental biotechnologies, molecular and biochemical

diagnostics and bio-entrepreneurship, through transnational mobility
- Training period of 4 months without costs for companies.
- Opening up networking prospects with excellent researchers and their institutions for future collaborations.

Technical Specification or Expertise Sought

Experience of training young researchers in the fields of:
- Life sciences
- Pharmaceuticals, Cosmetics
- Food
- Environmental Biotechnology
- Molecular and Biochemical Diagnostics

As well as R&D-related aspects, the training company should also offer knowledge of entrepreneurship and legal frameworks in the relevant field(s).

Keywords

Technology

06001005	Diagnostics, Diagnosis
06002001	Biochemistry / Biophysics
08002001	Detection and Analysis methods
10002007	Environmental Engineering / Technology

Market

04005	Biochemistry / Biophysics
05001001	Diagnostic services
05008002	Food and feed ingredients

NACE

P.85.4.2	Tertiary education

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

Company to host researchers as trainees. Experience of training young researchers in the fields of:
- Life sciences

- Pharmaceuticals, Cosmetics
- Food
- Environmental Biotechnology
- Molecular and Biochemical Diagnostics

As well as R&D-related aspects, the training company should also offer knowledge of entrepreneurship and legal frameworks in the relevant field(s).

Type and Size of Partner Sought

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

Type of Partnership Considered

Research cooperation agreement

Technology Offer

A Korea SME is introducing a chemical recycling technology for PET (polyethylene terephthalate) wastes

Summary

A Korean SME specializing in the development of eco-friendly materials and facilities has developed a chemical recycling technology for PET wastes. It is eco-friendly, economical and easy to operate. The company is looking for a partner who is interested in recycling PET and is available for technical cooperation or joint venture.

Creation Date	12 January 2016
Expiration Date	02 February 2017
Reference	TOKR20160112002

Details

Description

World environment is being destroyed by indiscriminate waste disposal. Many enterprises interested in environmentally friendly technologies have developed innovative technologies to help the world be a cleaner place. One of them - a technology of recycling PET waste- has been newly developed by this Korean SME.

Usually PET waste generated by beverage bottles, film and fibers can be recycled in 1 of two ways: materials recycling or chemical recycling. Only clean PET waste can be recycled and dirty ones are incinerated.

In the case of chemical recycling, both clean and dirty PET waste can be recycled by this recycling procedure – and this is the technology that the Korean company is offering.

Generally, Chemical recycling methods are classified into four categories which are Glycolysis, Methanolysis, Hydrolysis, and Ammoloysis. From each recycling method, respective compound is gained : TPA(terephthalic acid), BHET(bis-2-hydroxy ethyl tetrephthalate), DMT(dimethyl terephthalate).

The offered PET recycling technology consists of 3 processes:

1) pre-treatment process
For stabilized reaction of PET waste, a pre-treatment process is essential.

2) Glycolysis process
This process can produce PET Oligomer for UPR (Unsaturated Polyester Resin) and polyol for PU (Poly Urethane). It is quite a stable and economical process.

3) Purification process

This process mainly increases the degree of purity of produced PET Oligomer and polyol. It saves operation costs, and minimizes the amount of secondary waste. Plus, high value-added products can be created from the produced materials.

The company is interested in transferring their technology to overseas companies and would like to establish a local factory. Therefore, any enterprises who are interested in PET waste recycling are welcomed, in the context of a joint venture or technical cooperation agreement

Advantages and Innovations

- Available to treat all of the PET waste
- Possible to make PET waste to value added products
- Cost saving in operation
- Easy to operate
- Minimizing secondary waste

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

Available for demonstration and the technology actually has been commercialized. PET Oligomer and Polyol are currently produced for sale in Korean market.

IPR Status

Patents granted

Comment Regarding IPR status

Korean patent granted

Keywords

Technology

02007014	Plastics, Polymers
03004008	Plastics and Rubber related to Chemical Technology
10002007	Environmental Engineering / Technology
10003	Waste Management
10003004	Recycling, Recovery

Market

08001006	Processes for working with plastics
08001018	Polymer (plastics) materials
08004002	Chemical and solid material recycling

NACE

C.20.1.6	Manufacture of plastics in primary forms
C.22.2	Manufacture of plastics products

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought : companies
- Specific area of activity of the partner : Anyone who is interested in recycling PET
- Task to be performed : contract a technical cooperation, create a joint venture together to localize the end-product

Type of Partnership Considered

Technical cooperation agreement
Joint venture agreement

Technology Offer

A Korean SME is offering an electrolyzed sterilizing water generator

Summary

A Korean SME specializing in the development of eco-friendly materials and facilities is offering an electrolyzed sterilizing water generator. It generates HOCl (hypochlorous acid) which has 80 times stronger sterilizing power and is less pungent compared to chlorine bleach. Also, it is environmentally friendly and less corrosive so that it can be used to clean and disinfect kitchen utensils, food factories, and for sterilizing hands. Technical cooperation or joint venture is available.

Creation Date	12 January 2016
Expiration Date	02 February 2017
Reference	TOKR20160112003

Details

Description

Sanitary management is necessary to ensure a clean and safe life. Proper sanitation in the food service, agriculture, and healthcare industries is important and valuable.
It is because food poisoning has increased as well as super bacteria and viruses have appeared in recent years.
For this reason, food conservation became a difficult issue to solve, and the Korea Food & Drug Administration (KFDA) has emphasized and strengthened sanitary management as regards the Hazard Analysis Critical Control Point (HACCP) system.

This Korean SME's main business is developing eco-friendly materials, devices and facilities. And lately they have developed an electrolyzed sterilizing water generator. The generator automatically generates HOCl, which can be used in the field of food service, agriculture, medical welfare, cosmetics, pharmaceuticals and etc.

Comparison of the characteristics between NaOCl(sodium hypochlorite) and HOCl is as follows.

Characteristics of NaOCl

- Sterilizing power is weaker than HOCl. Therefore, high concentration NaOCl is commonly used.
- -The remaining NaOCl(unpleasant smell lingers in the food and kitchen utensils) smells bad after use
- There is limited area to use (things can be corroded or rusted out)

Characteristics of HOCl generated from the electrolyzed sterilizing water generator

- It has a good antimicrobial property using low concentration HOCl

- Non-toxic / environmentally friendly sterilizing water is provided
- No pungent smell is produced
- The water can be conveniently used as tap water (constantly preserving HOCl concentration in water)
- It can be used everywhere (Spraying is also possible)
- It is economical

HOCl produced by the system has been certified by FDA (Food and Drug Administration), KFDA (Korea Food and Drug Administration) and Japanese Ministry of Health and Welfare.
The company would like to find an overseas partner to transfer their technology for broadening their business through a technical cooperation agreement. Also, by transferring the technology, the company would like to create a joint venture to locally develop and manufacture an end-product. Apart from the cooperation types mentioned above, any types of cooperation can be negotiated.

Advantages and Innovations

- Helping block an epidemic (contagious disease)
- Reasonable cost to produce environmentally friendly sanitizer and disinfectants
- Having 80 times stronger sterilizing power compared to the chlorine bleach
- Possible to be used as a food additive certified by FDA(Food and Drug Administration)
- Removing bad ordours and less pungent than than the chlorine bleach

Stage of Development

Field tested/evaluated

IPR Status

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

Comment Regarding IPR status

PCT applied for but not yet granted
Korean patent granted

Keywords

Technology

06006009	Ionic Liquids
10002007	Environmental Engineering / Technology
10003004	Recycling, Recovery
10004	Water Management

Market

07004008	Other consumer products
08001023	Other chemicals and materials (not elsewhere classified)
08004003	Water treatment equipment and waste disposal systems

NACE

C.27.5	Manufacture of domestic appliances
G.46.4.3	Wholesale of electrical household appliances

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought : companies
- Specific area of activity of the partner: Kitchen appliance manufacturer, Medical device Manufacturer, Agriculture, Fishery, food processing, public hygiene) :
- Task to be performed : technical cooperation for joint further development of applications, joint venture agreement for creating a factory in a local area:

Type of Partnership Considered

Technical cooperation agreement
Joint venture agreement

Technology Offer

Method of recuperative treatment of the zinc ion from residual solutions

Summary

A research team from a Romanian university has invented and patented a method of recuperative treatment of the zinc ions from residual solutions, method that has the advantage of establishing optimum conditions of cleaning solutions containing compounds of zinc waste. The research team is looking for industrial partners interested in license agreements and technical cooperation agreements.

Creation Date	20 December 2015
Expiration Date	19 January 2017
Reference	TORO20151105001

Details

Description

A Romanian research team has invented a method for the zinc ion recovery purification of waste solutions. Industrial platforms today, particularly the electrical industry, the engineering industry, the naval industry, the branch of mining extraction, varnishes, paints, pulp and paper, plastics up to organic synthesis, require zinc compounds. Zinc and combinations, especially salts, oxides, carbonates, represent important raw material in the technologies referred to, matters for which is need the advanced recovery, as well as a return to the technological flow, temporary storage or other methods methods of enhancing efficiency of industrial processes.
The process, according to the invention, consists in that the zinc ion is extracted in a first step, in the form of oxalate of dihydrated zinc phosphate, in the following optimal reaction conditions: the molar concentration of zinc in the residual solution: molar concentration of zinc in solution of approximately 0.03, the solution pH (potential hydrogen) = 5, oxalic acid in excess of approximately 60% and the reaction temperature of 20°C; after that, through low thermal decomposition of the resulting zinc oxalate at a temperature of 340 ... 370°C, the zinc oxide will be obtained.
The zinc oxide thus obtained is used for manufacturing of pigments, zinc salt preparation or as a catalyst in chemical processes.
The foreign partner that the Romanian research team is looking for can be an industrial partner interested in license agreements and technical cooperation agreements,in order to improve the existing method.

Advantages and Innovations

The technical problem solved by the invention relates to establish optimum purification of waste solutions containing zinc compound, in order to capitalize zinc, while solving ecological problems of the environment. Other advantages that can be mentioned are:
-high purity of the lead oxalate;
-superior decantation, filtration and washing speed of the precipitate as compared to the forms

used within other methods;
-considerable reduced volume for the crystallized precipitate;
-crystalline and anhydrous form of the recovered product;
-chemical stability to atmospheric factors (humidity, heat, light, carbon dioxide).
Compared to other technologies, the presented method removes the following disadvantages of known solutions, which are linked to the amorphous state, the unevenness of compositional extracted forms, the large volume of precipitate even in optimum time settling, low speed filtration and washing of the precipitate instability chemistry to atmospheric agents with passage in soluble pollutant forms.

Stage of Development

Field tested/evaluated

Comments Regarding Stage of Development

The method for the recuperative treatment of the zinc ion from residual solutions was tested within several local SMEs.

IPR Status

Patents granted

Comment Regarding IPR status

Patent granted by the State Office for Inventions and Trademarks. IP rights on national level - Romania.

Keywords

Technology

06006009	Ionic Liquids
06006012	Bioprocesses
10002012	Remediation of Contaminated Sites
10004001	Industrial Water Treatment

Market

04005	Biochemistry / Biophysics
08004002	Chemical and solid material recycling
08004003	Water treatment equipment and waste disposal systems
08004004	Other pollution and recycling related

NACE

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

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

The potential partners could be any SME active in the field of engineering industry, electrical industry, etc.
Concerning the technological cooperation agreement sought, would also like to find a foreign partner for the further technological development, by improving the existing method.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Technical cooperation agreement

Technology Offer

Method of recuperative treatment of the nickel ion from residual solutions

Summary

A research team from a Romanian university has invented a method of recuperative treatment of the nickel ion from residual solutions. The method has as main advantage establishing optimum conditions of cleaning solutions containing compounds of the nickel waste. The research team is looking for industrial partners interested in license agreements and technical cooperation agreements.

Creation Date	20 December 2015
Expiration Date	19 January 2017
Reference	TORO20151109001

Details

Description

A Romanian research team has invented a method of recuperative treatment of the nickel ion from residual solutions resulted in the processes related to engineering industry, electrical industry and other related industries that widely use elecrochimical technology- nickel. From the residual solutions result technological flow rinse waters with low nickel and depleted electrolyte, with a higher concentration of metal, and these residual solutions need to be treated.
In a first phase, the process consists in the extraction of the ion nickel as nickel oxalate dihydrate in the following optimal reaction conditions: molar concentration of nickel in solution of approximately 0.02, pH (potential hydrogen) of the solution 4.5, oxalic acid in excess of 100%, reaction temperature of 80° C; then, by low thermal decomposition of nickel oxalate obtained at a temperature of 320 ... 360° C, is obtained nickel oxide.
The nickel oxide thus obtained is used as enamelling oxide adherence to metal surfaces, for preparation of salts or as nickel catalyst in various chemical processes.
The foreign partner that the Romanian research team is looking for can be an industrial partner interested in license agreements and technical cooperation agreements, in order to improve the existing method.

Advantages and Innovations

The technical problem solved by the invention relates to establish optimum cleansing waste solutions whose concentration, namely that of chemical and electrochemical nickel in various metallic and non-metallic supports, rose to levels of 6…7 g Ni2+/ dm3, in order to capitalize nickel as nickel oxalate, while solving ecological problems of the environment.
Other advantages that can be mentioned are:
-high purity of the lead oxalate;
-superior decantation, filtration and washing speed of the precipitate as compared to the forms used within other methods;
-considerable reduced volume for the crystallized precipitate;

-crystalline and anhydrous form of the recovered product;
-chemical stability to atmospheric factors (humidity, heat, light, carbon dioxide).
Compared to other technologies, the presented method removes the following disadvantages of known solutions, which are linked to the amorphous state, the unevenness of compositional extracted forms, the large volume of precipitate even in optimum time settling, low speed filtration and washing of the precipitate instability chemistry to atmospheric agents with passage in soluble pollutant forms.

Stage of Development

Field tested/evaluated

Comments Regarding Stage of Development

The method for the recuperative treatment of the nickel ion from residual solutions was tested within several local SMEs.

IPR Status

Patents granted

Comment Regarding IPR status

Patent granted by the State Office for Inventions and Trademarks. IP rights on national level - Romania.

Keywords

Technology

06006012	Bioprocesses
10002012	Remediation of Contaminated Sites
10004001	Industrial Water Treatment

Market

04005	Biochemistry / Biophysics
08004002	Chemical and solid material recycling
08004003	Water treatment equipment and waste disposal systems
08004004	Other pollution and recycling related

NACE

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

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

The potential partners could be any SME active in the field of electrical industry, the engineering industry, the naval industry, etc.
Concerning the technological cooperation agreement sought, would also like to find a foreign partner for the further technological development, by improving the existing method.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Technical cooperation agreement

Technology Offer

An high frequency monitoring system for integrated water management

Summary

A Greek Technical University has developed an innovative, integrated data collection and in situ processing system with adaptive/high frequency sampling capabilities for river monitoring. The system is based on a system of high quality sensors connected through a wireless network allowing in situ data processing and modeling of integrated river monitoring. Technical cooperation agreement with European municipalities and regional authorities (where rivers exists in their territories) are sought.

Creation Date	17 December 2015
Expiration Date	15 January 2017
Reference	TOGR20151217002

Details

Description

The hydrological and geochemical processes that take place in the Mediterranean region occur at varying special and temporal scales. Temporary river hydrographs are flashy and exhibit characteristic response times ranging from a few minutes to hours during storm and flash events. When high rainfall intensities fall upon crusted soils after long periods of time without precipitation, first flash flood occur which transfer large amounts of sediments and pollutants. The transfer of these materials are short, it takes place under adverse weather conditions and doesn't allow the measurement ,control and mitigation of such phenomena.

The Greek Technical University has developed an innovative, integrated data collection and in situ processing system with adaptive/high frequency sampling capabilities for integrated river monitoring.

The system is based on three sub sections:
a) The system of sensors which include optical (non intrusive) sensors for quality analysis, chemical and sediment content as well as river flow velocity. The velocity is measured by a camera and the sediment flow by an innovative sediment trap. The sensors are connected through a wireless network, and of video processing subsystem (camera).
b) In-situ data processing software: The system is able to process data in situ maintaining high levels of energy autonomy and efficiency.
c) Modeling: Using high accuracy models along with the field measurements, the system is able to predict and visualize the flow of sediments in rivers.

Technical cooperation agreement with European municipalities and regional authorities are sought in order to test and apply the system.

Advantages and Innovations

The innovative aspect of the system is the design of integrated autonomous mechanism (adaptive/high frequency based) which incorporates innovative new generation sensors (optical-non intrusive sensors) for monitoring hydrological parameters along with the capability of in-situ processing of collected data and therefore allowing real time monitoring of rivers. The deployment of optical sensors allows for accurate estimation of river flow velocity and moreover the calculation of river discharge and the concentration of suspended solids that is not possible with the current methods.

Stage of Development

Field tested/evaluated

IPR Status

Secret Know-how

Keywords

Technology

09001009	Sensor Technology related to measurements
10002008	Measurement and Detection of Pollution
10004008	Water Resources Management
10004010	Hydrology

Market

01006004	Communications services

NACE

J.63.9.9	Other information service activities n.e.c.

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

The Greek Technical University is looking for technical cooperation agreements with European municipalities and regional authorities (where rivers exist in their territories) in order to test and apply the system.

Type and Size of Partner Sought

University,R&D Institution

Type of Partnership Considered

Services agreement

Technology Offer

Innovative patented technology for inorganic waste volume reduction

Summary

An Italian SME specialised in innovative solutions for waste valorisation has patented a new system to reduce the volume of inorganic waste which could be applied to industry, commercial activities and private users. This is a low cost production technology which allows to reduce waste volumes over 95%. Partners for license agreements or technical cooperation are sought.

Creation Date	15 January 2016
Expiration Date	22 January 2017
Reference	TOIT20160112001

Details

Description

An Italian SME specialised in innovative solutions for waste valorisation has developed and patented a new system to reduce the volume of inorganic waste. The system can be applied to industry, commercial activities and private users and therefore the Italian company is looking for partners interested in adapting the technology to their needs or might be interested in further development through technical cooperation. The company is also interested in license agreements for their patented technology.

The technology patented by the company allows to cut plastic bottles, aluminium cans and glass bottles in pieces of 1 centimeter of diameter and consequently the volume waste can be reduced by over 95%. The system might be adapted to other machines treating waste or it might be used as a separate machine. The system can be used at home as an household appliance, near drink vending machines for minimizing this kind of waste, in the horeca field as a support for kitchens in restaurants or hotels or for ships and caravans because of their low space availability for waste.
The system is the result of years of study and research and it has been actually patented at international level and industrialized, so it is ready for the market.
The system represents an alternative to other expensive systems known today as the compaction one.
Comparing the cost of compactors with the cost of the presented system, the latter is 30% lower. This technology also allows to insert in the same machine different materials, for example glass, plastic, aluminium or paper to obtain waste volume reduction and dramatically decrease the frequency of delivery of waste for collection. Consequently, there are several benefits resulting from the technology use, starting from the needed space reduction for waste storage up to the environmental benefits resulting in a smaller amount of travels that collection means must perform. Furthermore, all recovered waste will be already pre-processed and will suffer less processing to become a new product, so there will be an evident overall lower production of pollutant emissions.

Advantages and Innovations

Normally, industrial cutting technologies are expensive and it is necessary to use very large engines to process waste. Other used technologies are compaction systems which allow anyway limited volume reduction.
The cutting technology proposed by this company combines the possibility of using small engines with a more effective waste reduction (the initial volume can be reduced by more than 95%).
For example, in a bag waste of 120 liters size, by using a compaction system, it is possible to contain about 290 0.5 liters plastic bottles, whereas this technology allows a 120 litres size bag waste to contain about 600 plastic bottles.
Another important feature of this technology is related to the one centimeter pieces resulting from this cutting system. These pieces are raw materials ready to be reused for new products. Without performing further processing it is thus possible to create a short, economic and environmentally sustainable recycling process.

Stage of Development

Already on the market

IPR Status

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

Comment Regarding IPR status

International patent application

Profile Origin

Private (in-house) research

Keywords

Technology

03010	Household Goods & Appliances
10002013	Clean Production / Green Technologies
10003004	Recycling, Recovery
11001	Socio-economic models, economic aspects
11008	Creative services

Market

07002005	Other retailing
07004008	Other consumer products
07005001	Fast food restaurants
07005003	Hotels and resorts
08004004	Other pollution and recycling related

NACE

C.24.1.0	Manufacture of basic iron and steel and of ferro-alloys
C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
E.38.1.1	Collection of non-hazardous waste

E.38.3.2	Recovery of sorted materials
E.39.0.0	Remediation activities and other waste management services

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:
Companies

- Specific area of activity of the partner:
Manufacturers and any companies active in home appliances, horeca, vending machines, naval, caravan, recycling, waste valorization

- Task to be performed by the partner sought:
Companies operating in the above mentioned sectors might be interested in adapting the technology to their needs or might be interested in further development through technical cooperation. The company is also interested in license agreements for their patented technology.

Type of Partnership Considered

License agreement
Technical cooperation agreement

Technology Offer

Coconut fiber mats for coastal and seashore protection

Summary

Researchers from a German university institute have developed a method of seashore protection using coconut fiber. The method is an initial protection for seeding or planting of shore protection structures such as dykes or dunes. The team is looking for research partners from industry and academia interested in further projects on the use of this material for coastal and seashore protection.

Creation Date	14 January 2016
Expiration Date	15 January 2017
Reference	TODE20160114001

Details

Description

Extreme events such as storm surges result in a number of problems for coast lines - beach erosion being one of them, especially on sandy beaches. Shore protection on the other hand is an expensive procedure and a major factor in the budget of coastal communities. Especially developing countries with long coastlines seek for a economical and ideally locally produced alternative.

In the case of Bali, Indonesia the team found a prototype application of coir fibre geotextiles, serving as initial dune protection. The geotextile was rolled out on the dune head and vetiver seedlings were planted into cutouts. Coir geotextiles will protect the dune in the initial stage, while vetiver grass builds a sturdy root system. In the end, biological degradable geotextiles will decay, avoiding manual deinstallation and serving as nourishment for the plants.
In the case of South East Asia, coir geotextiles are a sustainable, ecosystem-based protection measure, since the material is gained and processed nearby, serving as a local re-investment and thus improving the livelyhood regionally.

The institute focuses on sustainable,ecosystem-based protection measure, since the material is gained and processed nearby, serving as a local re-investment and thus improving the livelyhood regionally.

The institute focuses on sustainable, ecosystembased "soft" coastal protection measures and were able to expand our knowledge and expertise regarding coir and natural fibre geotextiles. The researchers have performed initial material specifications and set up a physical model in which they found a positive influence on sedimentation (erosion). Currently they are investigating further material specifications, which are required for very sophisticated design approaches, including numerical modelling.

For this, the institute offers access to world renowned expertise in physical modelling and access to its hydraulic testing facilities. Partners are offered cooperation on future joint projects

related to the topic under technical or research cooperation agreements.

Advantages and Innovations

- Potection potential for erosion
- Sustainable
- Strong regional and local link (at present: South East Asia)
- Bio-degradable
- Innovation potential in production and application

Stage of Development

Already on the market

IPR Status

Other

Comment Regarding IPR status

The researchers have been supporting prototype facilities / structures with scientific advise.

Keywords

Technology

02007002	Building materials
07003003	Marine Science
10002004	Climate Change mitigation
10002007	Environmental Engineering / Technology
10002009	Natural Disasters

Market

09003001	Engineering services
09003005	Consulting services
09007002	Manufacture of construction materials, components and systems
09007004	Engineering and consulting services related to construction

NACE

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

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

Research partners from industry and academia or local authorities related to costal protection etc. interested in existing know-how and in conducting further projects on the use of this material for coastal and seashore protection.

Type of Partnership Considered

Technical cooperation agreement
Research cooperation agreement

Technology Offer

Green roof

Summary

Inventor from Poland active in the field of architecture and properties created solution for lack of green space in the cities and cleaner air. The green roof can be used/build in urban districts, on the specific construction of buildings, which is also a part of the invention. The inventor is looking for financial agreement, joint venture agreement or research cooperation agreement.

Creation Date	14 December 2015
Expiration Date	05 February 2017
Reference	TOPL20151105001

Details

Description

The inventor from Poland active in the field of tectonics and buildings, invented green roof that can solve the lack of green space and problems with excess of the CO2 in the air in the urban districts.
The green roof is a construction in the shape of a stairs built with terraced houses with joined corners in such a way that the roof of the house is adjacent terrace of the houses built above.

Characterized in that solution is that the building is built by generally known principles. The inventor introduces a solution in which the roof of one building is a terrace of adjacent house and thus every house has a green roof, which is also a large terrace of the house built on a higher floor. Repetitive roofs-terraces form a large green roof that can protect large cubic building of any grade - kindergartens, schools, shops, small services, offices, catering, hotels, sports halls, medical clinics
This solution eliminates the streets and the inconveniences associated with them.

The inventor is interested in cooperation with companies/institutions that will produce/use or install the green roof/house directly on the buildings, build the green roof house following the inventor idea, develop the product to advanced level with financial agreement, joint venture agreement or research cooperation agreement.

Advantages and Innovations

-Solution with green roofs can be installed on most of the roof tops (any kind of roof, under any angles and surfaces)
-Invention is solving problem with the lack of green space in the cities.
-home gardens can be build close to it's owners
-solution is new on the market, because roof corners can be joined, and create a building as a whole property

Stage of Development

Concept stage

IPR Status

Other

Profile Origin

Private (in-house) research

Keywords

Technology

10002013 Clean Production / Green Technologies

Market

09007 Construction and Building Products

NACE

F.41 Construction of buildings

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

Type of partner sought: companies, companies/institutions that will produce/use or install the green roof directly on the buildings.
Specific area of activity of the partner: architecture studios, building companies, universities, green institutions.
Task to be performed: installation/usage of the green roof/house, research and development of the invention to advance level

Type and Size of Partner Sought

Inventor

Type of Partnership Considered

Financial agreement
Joint venture agreement
Research cooperation agreement

Technology Offer

Environmental engineering and plasma technology for decontamination of exhaust gases, air pollution control and elimination of odours

Summary

A German SME active in environmental engineering has developed products and processes based on plasma or scrubber technology to reduce air pollution through purification of exhaust gases. Application areas are all industries where exhaust gases play a role (e.g. chemical and semi-conductor industries). The SME is interested in commercial agreements with technical assistance and in technological and research co-operations to improve the products/processes and to identify new application areas.

Creation Date	13 January 2016
Expiration Date	19 January 2017
Reference	TODE20160113003

Details

Description

The German SME was founded in the year 2000 as a spin off from a German university. The company offers products for exhaust gas cleaning for industrial applications starting from process engineering and resulting in installations of big industrial plants. Exhaust gas cleaning is very important in almost all industrial sectors such as e.g. the chemical and semi-conductor industries and the SME especially develops and builds plasma systems for air pollution control for these industries. This includes the removal of contaminants from exhaust gas flows or the elimination of odours as a contribution to cut harmful emissions from the environment.

The SME has e.g. developed a patented technology based on steam plasma to remove CFCs (Chlorofluorocarbons) from exhaust gas streams and a nonthermal plasma (NTP) for odour reduction. The designed solutions always depend on the specific problems of their partners and contribute to cut harmful emissions from the environment. The company opens up new paths in environmental engineering using and adapting high-technology and state-of-the-art processes. New technologies developed by the company include:
• Scrubber for ethanol
• Packed column scrubber for chemical absorption
• Steam plasma system for PFC (perflurocarbon) decomposition
• Steam plasma for pyrolysis application
• Electrofilter for wood furnaces

The company wishes to strengthen its technical co-operations and its research co-operations to further improve products and processes and to identify new application areas. Moreover, the SME is looking for partners interested in identifying and testing suitable solutions from the

company's portfolio and integrating and adapting these solutions to their production processes.

Advantages and Innovations

The company offers very high flexibility - solutions can be tested, identified and optimised for all kinds of industries with very different problems with exhaust gases.
The advantages of the technologies compared to conventional technologies depend very much on the application areas and the specific problems of the partner. However, all solutions offered by the company are adapted to these specific problems and result in an improved reduction of harmful emissions in exhaust gases. This reduction can be reached with their new technologies:
• Plasma scrubbers to decontaminate exhaust gas in the semi-conductor industry
• Thermal plasma sources with steam as the process gas
• Non-thermal plasma sources to reduce odours
• Bio-filters
• Chemical wet scrubbers for harmful exhaust gases
• Adsorption systems for exhaust gas containing solvents
Moreover, the SME offers emission analyses and has mobile test systems to carry out exact measurements of exhaust gas parameters which is the basis for the design of an exhaust gas decontamination system. They also offer their expertise during the concept phase for this decontamination of system.

Stage of Development

Already on the market

Comments Regarding Stage of Development

All technologies are on the market except the electro filter for wood furnaces which is available for demonstration.

IPR Status

Secret Know-how

Profile Origin

Other

Keywords

Technology

09001002	Analyses / Test Facilities and Methods
10002001	Indoor Air Pollution/Treatment
10002007	Environmental Engineering / Technology
10002008	Measurement and Detection of Pollution

Market

03001001	Semiconductors
08001017	Industrial chemicals
08001023	Other chemicals and materials (not elsewhere classified)
08004001	Air filters and air purification and monitoring equipment
08004004	Other pollution and recycling related

NACE

M.74.9.0 Other professional, scientific and technical activities n.e.c.

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought;

research institutes, universities, and industry

- Specific area of activity of the partner:

For technical and research co-operations:
environmental studies, process and environmental engineering, exhaust air technology or other
For commercial agreements: all kind of industries were exhaust gases are relevant

- Tasks to be performed by the partner sought:

Research agreement - joint funded research projects of all kinds (research institutes, universities, industry), topics: Plasma¬ technology for environmental applications (disposal), generally: new techniques for exhaust air treatment
Technical co-operation - execution of consistent experiments, academic research, scientific support (research institutes, universities) , identification of new application areas
Commercial agreement with technical assistance – integrate and adapt services and products to new application areas or specific requirements. This also includes tests of the SME whether their solutions are applicable and reasonable for their partners.

Type of Partnership Considered

Commercial agreement with technical assistance
Technical cooperation agreement
Research cooperation agreement

Technology Offer

Technology for production of 3D fibre formed parts without PUR (polyurethane) for acoustic and thermal insulation

Summary

A German SME has developed a new technology for production of 3D fibre formed parts for acoustic and thermal insulation. Nearly every kind of staple fibres can be used (e.g. polyether sulphone, cotton, hemp, flax) and the new technology can replace the common PUR production technology. Applications are e.g. sound insulation parts in cars or insulations in the construction sector. The SME searches commercial agreements with technical assistance or license agreements with partners from industry.

Creation Date	25 January 2016
Expiration Date	26 January 2017
Reference	TODE20160122001

Details

Description

Due to their advantages (good shaping properties, good combination of density, rigidity, elasticity) PUR foam based parts are widely used in many industrial sectors. However, there exist significant business opportunities for new materials that approach the advantages of PUR foam as it also has some significant disadvantages: poor recyclability, poor consumer acceptance of PUR due to perceived dangers from precursor monomers or additives.

Therefore a German SME has developed and patented an innovative technology for the production of 3D fibre formed thermal and acoustic parts for isolation and insulation from various materials. The innovation consists of a new system for blowing in fibres and flakes into the production mould without using a semi product like sheets. Thus varying densities and internal structures can be manufactured in one single production step. Moreover, the system allows production from a larger range of different materials than is possible with conventional technologies: The materials could be fibres or a mixture of fibres with foam flakes, thermoplastic fixed with a binder. Nearly each kind of fibres may be taken: Cotton, hemp, flax basalt, glass and PES (polyether sulfone), etc. The technology thus allows the production of isolation and insulation 3D parts for various applications. It has been successfully used in automotive, construction, medical or rehabilitation applications.

Examples for potential applications:
Automotive:
Inner /Engine side dashboard, floor insulation, hood liner, bonnet liner, luggage compartment insulation, fender, underbody panelling, door panel, instrument panel, etc.

Nonautomotive:
Upholstery of furniture, 3D wooden parts, pipe isolation, etc.
3D carbon fibre parts for different usage
Thermal insulation of 3D parts

On the one hand the German SME offers development of 3D fibre formed parts together with companies that produce insulation parts for thermal or acoustical isolation. They also design prototype parts for market evaluation and build moulds and machines for serial production of 3D fibre blown parts. The SME would also transfer the new manufacturing technology to the partner under a commercial agreement with technical assistance.

On the other hand the German SME offers to share the technology with machine manufacturers that are interested in new markets by replacing PUR technology with new fibre technology (e.g. textile machinery manufacturer).This can also be done under a commercial agreement with technical assistance. With respect to the individual application, the company offers customised solutions including machines for fibre preparation with blow-in machines, tools and machines for subsequent processes.
They also offer a transfer of the technology to interested machine manufacturers so that they can produce the machines themselves and possibly sell them under a licence agreement.

Advantages and Innovations

- By building 3D parts directly from fibres with the new technology, no semi products like sheets are necessary. Therefore the costs for one production step are eliminated.
- Also the offcut from the final part could be reduced by using a moulding edge according to the outside shape of the part.
- The densities inside the part are optimized according to the mechanical load and could be combined with endless fibres, placed in defined directions.
- Homogeneous or non-homogeneous density and equal or non-equal thickness are possible.
- Material and weight saving up to 50% is possible.
- Usage of recycling material reduces material costs in addition.
- Better consumer acceptance as natural fibres can be used instead of PUR.

Stage of Development

Field tested/evaluated

IPR Status

Patents granted

Comment Regarding IPR status

The technology is patented in Europe, USA and Brazil.

Profile Origin

Private (in-house) research

Keywords

Technology

02002005	Forming (rolling, forging, pressing, drawing)
02007005	Composite materials

04007004	Thermal insulation
10002014	Noise Pollution
10003004	Recycling, Recovery

Market

06006001	Thermal insulation
08001009	Speciality/performance materials: producers and fabricators
08003005	Other industrial machinery for textile, paper & other industries
09001005	Motor vehicles, transportation equipment and parts
09007002	Manufacture of construction materials, components and systems

NACE

C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
M.74.9.0	Other professional, scientific and technical activities n.e.c.

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:
Industrial companies

- Specific area of activity of the partner:
1. The partner should be a machine manufacturer of e.g. textile machinery and be in the market already.
or
2. Manufacturer of 3D parts in automotive, furniture, textile or other industries with part production.
If he produces parts of PUR foam, he should be interested in expanding into new areas without foam.

Task to be performed:
1.The (textile) machine manufacturer should be interested in new markets by replacing PUR technology with new fiber technology. He should have already clients in automotive, furniture and textile industry.

2. A production partner should be interested in the production of fibre isolation or insulation parts. Good relations to the automotive industry, especially interior area are preferable

Nevertheless, the German SME is open to exploring new fields of application of the new production system as it is looking to opening new markets.

Type of Partnership Considered

License agreement
Commercial agreement with technical assistance

Technology Offer

UK SME offers its 'risk reduction' software application specifically developed for industrial asset owners / operators in the oil, gas, power and chemical industries

Summary

A UK SME based in north east England with 40 years' experience combining industrial plant model making and development of software technologies for the oil, gas, power and chemical industries, offers its risk reduction web based solution to industrial asset owners and operators to: - demonstrate a risk reduction plan to reduce insurance premiums - have quantifiable data on improvement costs to assist in budget planning License agreement offered. Demonstration available on request.

Creation Date	22 October 2015
Expiration Date	01 February 2017
Reference	TOUK20151021001

Details

Description

Founded in 1973, the company started life as industrial plant model makers, and over the last 40 years has grown into a leading hub for the development of innovative technology solutions for the oil, gas, chemical and power industries.

The company's range of software products are used by an extensive network of partner organisations in 23 countries around the world.

The risk reduction application is specifically designed to enable owners and operators of assets such as oil refineries, chemical processing plants, offshore platforms or any other type of industrial asset to quickly and critically determine the level of risk of:
- fire
- explosion
- gas release
- human system failure
- process safety

Cloud based / and offline use
Although the software is a web based application, users are able to work offline, particularly when working in internet restricted zones or sites such as offshore platforms. Captured data is automatically updated to the live web application each time a mobile device is connected to the internet.

Compatibility

The application works across Android, Apple and Windows platforms / mobile devices.

The application includes an observations feature enabling a user to highlight issues directly to senior members of a team, ensuring full transparency and accountability.

Multiple asset owners / operators
Organisations operating multiple assets over separate locations can view these via the web application. It also features a colour coding performance indicator system that instantly allows the user to identify best performing assets, and those which are struggling to meet an organisations improvement level.

Comparing assets to global standards
The application enables owners and operators the ability to anonymously compare assets against other assets in the system, highlighting where they fit on a global standard.

User process
A custom set of questions per industrial asset type are applied, for example:

- Oil refinery
- Chemical plant
- Onshore terminal
- Offshore gas platform
- Oil platform

Each question set is accompanied with the appropriate guidance to assist answering, each answer is attributed a weighting. Upon completion of answering the applicable question set a risk score for the asset is generated, showing where each asset sits among other similar asset types within an organisation.

The application also identifies where money can be best spent on improvement and modification to a plant, process and personnel via effective improvement management.

The UK company recommend asset owners / operators utilise a third party risk consultancy to moderate the information captured in the survey, and to score the risk reduction to be gained by performing the improvements captured during the survey.

A demonstration of the application is available on request.
The full application is offered under a license agreement.

Advantages and Innovations

The application enables
- a clear understanding of the cost of performing site safety improvements
- effective budget management
- ability to prioritise improvements across a multiple asset portfolio
- user-friendly application through the use of hand-held mobile devices.

Stage of Development

Already on the market

Comments Regarding Stage of Development

Demonstration available on request.

IPR Status

Trade Marks,Exclusive Rights

Profile Origin

Private (in-house) research

Keywords

Technology

10001002	Assessment of Environmental Risk and Impact

Market

02007014	Other industry specific software
06002001	Oil, gas and coal

NACE

M.74.9	Other professional, scientific and technical activities n.e.c.

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

Type of partner sought:
Owners / operators of industrial assets across the oil, gas, power and chemical industries.

Role of the partner sought:
A software license agreement is offered to partners.
A demonstration is available on request.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement

Technology Offer

Smartphone app predicts harmful algal blooms in in-land waters

Summary

A German university has developed an algae estimator, a smartphone app that predicts harmful algal blooms in in-land waters. The university is looking for interested app users to gain futher data for data mining in order to comprehensively monitor the water quality of a given region. Interested partners from industry and research are also offered technical cooperation and joint research projects.

Creation Date	09 December 2015
Expiration Date	13 January 2017
Reference	TODE20151209001

Details

Description

An institute of the German has developed an android mobile application for a harmful algal blooms (HAB) prediction based on a modified Verhulst equation (Nt=N0 (k-N0)*exp(-r0*t)) from a variety of easy to measure input parameters, such as lake temperature, Secci depth, dissolved oxygen (DO), light (lux) and chlorophyll-fluorescence (Chl a).

As chlorophyll values are not normally easy to access for the user the reserchers used equations for chlorophyll a estimation using partial least square analysis (total Chl a (µg/l) = -6,4775 21,6396 * inverse Secci depth (m) 0,0006 * square (DO surface (%); r2=0.69; cyanobacterial Chl a (µg/L) = 0.409 – 0.7486 * surface temperature(°C) 17.6979 * inverse Secci depth (m)); r2=0.76) from a data set obtained from a shallow lake (Stadtgraben, Germany, 2013).

Data were collected by seasonal weekly sampling of eutrophication parameters (temperature, conductivity, DO, phosphate, ammonia, nitrite, nitrate, Chl a, Secci depth). Temperature differences within water depth layers diminished towards late summer with full circulation stage reached in August. This coincided with full development of algal bloom (defined as cyanobacterial Chl a = 40 µg/L) and a sharp drop in phosphate and ammonia levels at the bottom.

The model developed from there does show a deviation of max. 16% between estimated and real values in bioreactor experiments and is now under validation in different freshwater lakes.

The institute is open for various forms of research and technical cooperation with academia and industrial partners interested in monitoring of water quality in shallow lakes.

Advantages and Innovations

Harmful algal blooms (HAB) mainly caused by cyanobacteria in freshwater ecosystems present a health risk to the public within eutrophied shallow lakes due to algal toxins released into the water. Thus, algal growth should be monitored during summer seasons, especially in recreational areas. Traditionally, water samples are sent to a lab to analyze for algal blooms, costing time and money. Models predicting HAB from easily measurable parameters on a smartphone could help individuals to take precautionary measures in order to prevent health risks from drinking and bathing in water and raise public awareness.

Stage of Development

Already on the market

IPR Status

Secret Know-how

Profile Origin

National or Regional R&D programme

Keywords

Technology

01004001	Applications for Health
01004002	Applications for Tourism
06001018	Virus, Virology/Antibiotics/Bacteriology
10002006	Ecology
10004010	Hydrology

Market

02007007	Applications software
07001007	Other leisure and recreational products and services

NACE

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

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:
1) App users / testers from industry, research, public bodies and private persons for data gaining.

2) Research organisations, public bodies and industrial partners from sectors related to in-land waters protection or operators of recreational areas interested in technical cooperation and further joint research projects.

Type of Partnership Considered

Technical cooperation agreement
Research cooperation agreement

Technology Offer

Digestion technology for biogas plant

Summary

A German company, active in the machine tools sector, developed a modular designed container for the retrofitting of a biogas plant. The advantage of the technology is the increasing in biogas productivity and the possibility to insert diverse materials into the biogas plant via bio-extrusion. The company seeks industrial partners for further development under a technical cooperation agreement and/or for a commercial agreement with technical assistance.

Creation Date	01 February 2016
Expiration Date	08 February 2017
Reference	TODE20160115002

Details

Description

The German company, active in the machine tool sector, has long-term experience in environmental engineering. Under the slogan "Together we can expand your existing biogas plant or design a new one" the company is open for international co-operation.
The modular designed container for the retrofitting of a one-megawatt-biogas-plant is a further development of the company.
It can also be provided for newly constructed plants. The advantage of this technology is the increase in biogas productivity and the possibility of inserting diverse materials into the biogas plant via bio extrusion. Bio extrude of variable size can be embedded in the isolated container. A conveyor belt with detector does the feeding of the extruder. All metals are inductively discharged over a bypass. It is possible to integrate a tapper unit. In the process the material is conveyed over a drop shaft into the extruder. The filtrated material is ejected on the front site of the container via a stainless steel tube. From here, it falls selectively onto conveyor belt, worm gear or pump which leads the material into the fermenter. A crane is located inside of the container, for the purpose of maintenance work. All plant components are driven by the centralised control system.

Process of bio-extrusion:
The developed process named bio-extrusion occurs through hydrothermal (thermo-mechanical) pulping. The procedure has proven to be very efficient in the substantial and energetic usage of fibre plants. The substrate undergoes a comminution and is reduced into smaller pieces during the process. Pressure and
high temperature, as a result of an alternating load and multiple pressure/stress relive cycle inside of the twin-screw extruder, lead to the comminution of the substrate up to the point where the cell structure is homogenised. The biogas yield increases due to the better biochemical-availability and a highly enlarged surface area. This leads to the development of new bacteria stains and to an improved C/N-ratio, because the cellulose and hemicelluloses is opened and released from the embedding lignin coat. The 5- and 6-times sugar is made quicker available. Low molecular and fast transforming substances develop, for example alcohol and other

compounds.

Improved mechanical characteristic:
- Adequate for substances which are difficult to apply in biogas plants, like solid manure, landscaping appliances, maize straw, grass, whole plants, bio-waste
- No floating layers
- Good transportability and passing potential in pipes and valves
- Low stirring energy due to the extruding substrates ability to intermediate ply
- High homogeneity of the substance (extruder is an intensive mixer)
- High dry mass contents insert through solid path

Enhancement of biomechanical decomposition:
- Development of new bacterial strains depending on the "nutrient environment" by the boundary layer mechanic
- Faster reaction rate for the decomposition process of the biomass through an enlarged surface area and optimal reaction and environmental conditions
- Reduction of retention time by an improved degree of digestion volume reduction of digestion chamber
- Improved gas production rate of the organic dry matter content
- Enhanced volumetric loading with improved c/n ratio

The company seeks industrial partners for further development under a technical cooperation agreement and/or for a commercial agreement with technical assistance.

Advantages and Innovations

Agcronomic advantages:
- Increment through the usage of hybrid ray instead of maize silage (both extruded)
- Monoculture of maize as bioenergy crop is replaced by a liberal crop rotation
- Logistical efforts: high dry mass content, fewer water transports
and thereby less volume to be transported, less humidity inside the plant and accordingly to be sprayed on the fields
- Reduction of silo space and digestion tanks
- Fields are quicker available
- The land value improves due to a liberal crop rotation

Stage of Development

Already on the market

IPR Status

Secret Know-how

Profile Origin

Private (in-house) research

Keywords

Technology

04005012	Waste to energy - other
07001001	Agriculture Machinery / Technology
10002007	Environmental Engineering / Technology

Market

03007002	Other measuring devices
06003009	Biomass and Biofuels
08002001	Energy management
09005	Agriculture, Forestry, Fishing, Animal Husbandry & Related Products

NACE

C.28.3.0	Manufacture of agricultural and forestry machinery

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

The company is looking for partners from the industry.
Specific area of activity could be agriculture, user of biogas plants and recycler of organic waste.
Role of partner sought is testing the new equipment with technology or improving of an existing biogas plant and/or further development.

Type and Size of Partner Sought

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

Type of Partnership Considered

Commercial agreement with technical assistance
Technical cooperation agreement

Technology Request

Request for biodiesel production technology using high FFA(free fatty acid) especially on pre-treatment and post-treatment process

Summary

A Korean SME is looking for a biodiesel production technology using high FFA(free fatty acid) UCO(used cooking oil) especially pretreatment (transesterification) and post-treatment (separation, washing, refining, etc). The sought partner should have references in manufacturing and installing a corrosion resistance module. They have only completed reaction process using catalyst. They are looking for a partner available for licensing agreement and research cooperation agreement.

Creation Date	12 January 2016
Expiration Date	18 January 2017
Reference	TRKR20160112001

Details

Description

A Korean company, a manufacturer of car parts through a factory automation system, has already developed biodiesel production equipment which uses low FFA(free fatty acid) feedstock. It can produce around 3 tons biodiesel per hours.

But In order to convert high FFA into biodiesel, they need technologies for pre-treatment(transesterification) and post-treatment(separation, washing, refining, etc.)

And in all these processes, sulfuric acid and alkali are used as major reaction substances. So proper corrosion-resistant technology is highly needed to ensure its durability. The company is aiming to produce 70 tons in 24 hours a day combining batch and continuous process.

They’re looking for a partner who provides an advanced technology mentioned above and does the research and development together to create a completed module with packaging technology.

A company or a research institute which has references in manufacturing and installation of corrosion resistance packaged pretreatment and post-treatment module is sought. Preferred partner countries are Austria and Italy.

*Until August 2016, this TR only opens to Russian partners.

Technical Specification or Expertise Sought

1. Producing biodiesel of 70 tons in 24 hours
2. Corrosion resistance
3. Reliable, economic, and innovative pretreatment and post-treatment technology

Stage of Development

Already on the market

IPR Status

Secret Know-how

Keywords

Technology

04005	Renewable Sources of Energy
04005003	Liquid biofuels
04005012	Waste to energy - other
10002007	Environmental Engineering / Technology
10003004	Recycling, Recovery

Market

06003	Alternative Energy
06003009	Biomass and Biofuels
08004	Pollution and Recycling Related

NACE

E.38.3.2	Recovery of sorted materials

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: Company, Research institute
- Specific area of activity of the partner: Biodiesel production
- Task to be performed: Transfer the partner's technology to the Korean company and collaborate with each other by researching and developing a completed module

*Until August 2016, this TR only opens to Russian partners.

Type of Partnership Considered

License agreement
Research cooperation agreement

Technology Request

Seeking solution for complete replacement of antibiotic in animal semen for artificial insemination

Summary

A French innovative company specialized in animal artificial insemination, aims to replace completely the use of the antibiotic in the semen. The R&D SME is looking for active molecule or mechanical effect solution that would have a cytotoxic property or could inhibit bacteria and their metabolism. The SME is seeking partner bringing know-how, experience or method to develop a suitable solution. Commercial Agreement with Technical Assistance, Technical Cooperation, License Agreement is sought.

Creation Date	19 January 2016
Expiration Date	31 January 2017
Reference	TRFR20160119001

Details

Description

According to the European regulations to come on the restriction of the use of antibiotics as part of the problem of antibiotic resistance phenomena, the French company specializing biotechnology for animal reproduction is seeking a partner able to offer alternatives to the use of antibiotics.

The alternative solution (molecule, substance, additive, material...) must be put in contact with semen and offer a way to struggle against the development of bacterial flora that might contaminate it.

The French SME is seeking partner bringing know-how, experience or method to develop a suitable solution for animal artificial insemination. A Commercial Agreement with Technical Assistance, Technical Cooperation, Joint Venture or License Agreement is sought.

Technical Specification or Expertise Sought

The proposed molecule / method / solution must:
- have an antibacterial broad-spectrum (Gram+ / Gram-)
- have a mechanical or chemical effect
- have a bactericidal or inhibitory action
- not be spermicidal to avoid damaging the conservation of semen and its fertilizing capacity
- be easy to implement
- be inexpensive

Current and Potential Domain of Application: Artificial insemination

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

The solution could be already on the market

Keywords

Technology

03004007	Pharmaceutics
06002008	Microbiology
06002011	Bionics
07001009	Veterinary Medicine
10002006	Ecology

Market

04010	Microbiology
04012	Toxicology
05009003	Animal health
09005	Agriculture, Forestry, Fishing, Animal Husbandry & Related Products

NACE

M.75.0.0	Veterinary activities

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:
Biotechnologist, Pharmaceutical Industry, Laboratory, University, Research organization, Technical Centre…

- Specific area of activity of the partner:
Microbiology, Infectious diseases, Immunology, Phagotherapy...

- Task to be performed by the partner sought:

To provide product/molecule or technical solution to be tested in the field of artificial insemination

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Commercial agreement with technical assistance
Technical cooperation agreement
Joint venture agreement

Technology Request

Look for sustainable food packaging made up of 100% recycled materials

Summary

A Brussels-based (Belgian) start-up operating in the catering services looks for food packaging solutions that are entirely made up of recycled materials and that are fully recyclable. The company already uses compostable and environmental friendly packaging but would like a solution avoiding any extraction of new raw materials at the source.The company looks for commercial agreement with technical assistance with producers or suppliers of food sustainable packaging.

Creation Date	18 January 2016
Expiration Date	26 January 2017
Reference	TRBE20160118001

Details

Description

Two entrepreneurs have launched in Brussels, Belgium, a new concept of sustainable catering (restaurant service).

The company is looking for food packaging solutions of different formats which must be fully aligned with the philosophy of the start-up. It means a packaging which is made up of 100% recycled material and which can be 100% recycled after use.

The company wants to broaden and green even more the type of food packaging it currently uses.

It aims for commercial agreement with technical assistance with producers or suppliers of food sustainable packaging that will help the company monitor and reduce the environmental impact of its packaging.

**** BACKGROUND

The company is a take-away counter / shop of daily specials made of qualitative products compliant with the slow food concept and the short food supply chain, then in line with bio, local, ethics, greedy approaches to food. Special attention is paid to product's origin, the production condition and processing method.

The objective of this Brussels-based start-up is to provide their clients with a qualitative, varied, tasteful, fast, easy and affordable meal for dinner made of good and fair food. A way to fight against the homogenisation of taste in food industry and its distribution chains, against meals made of ingredients with pesticides, chemical fertilisers and genetically modified organism (GMO).

The whole customer experience has to be aligned with this philosophy and its overall concept behind the sustainable project, including the food packaging chosen for food sales. This latter must be environmental-friendly throughout its entire life cycle.

Technical Specification or Expertise Sought

The start-up already uses compostable and environmental friendly packaging but would like to go one step further by finding packaging solutions made up entirely of recycled materials avoiding any extraction of new raw materials. The packaging should be 100% recyclable.

Moreover, the catering packaging materials must offer safe and stable packaging that guarantees safety and food quality along the entire product self-life and compliant with the following technical requirements:

• Suitable to food contact
• Compliant with oven use (at least for 15 minutes at 180° (Celsius degrees)
• Compliant with microwave use
• Affordable Price : max € 0.5 / piece
- Transparent closure to let the clients see the content (meal)

FORMAT : the company is interested in packaging solutions for the following types of take-away packaging:
- soup bowls
- sauce jars
- take-away meals (size : 18 cm x 12 cm x 5 cm / capacity: 1 L)

In a full life cycle approach, transport distance between the potential supplier and the Brussels-based company will also play an important role in the selection criteria and this includes as well the material on which the solution is based (eg sugar cane is recyclable but the countries of origin are far from Belgium).

Stage of Development

Already on the market

Comments Regarding Stage of Development

The proposed packaging solution must already be fully developed and available on the market, with no further development needed.

Keywords

Technology

08001003	Food Packaging / Handling
10002013	Clean Production / Green Technologies
10002015	Life Cycle Assessment
10003001	Biotreatment / Compost / Bioconversion
10003004	Recycling, Recovery

Market

07003002	Health food
07005001	Fast food restaurants

07005002	Other restaurants
09004006	Packing products and systems

NACE

I.56.1.0	Restaurants and mobile food service activities
I.56.2.1	Event catering activities

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

Type of partner sought: Industry (small or large industry)
Specific area of activity of the partner: producers or suppliers of food sustainable packaging

Task to be performed by the partner sought: provide the Belgian start-up with a turn-key sustainable packaging solution made up of recycled materials and 100% recyclable.

The cooperation envisaged is a commercial agreement with technical assistance so as to help the company monitor the environmental impact of its packaging.

Type and Size of Partner Sought

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

Type of Partnership Considered

Commercial agreement with technical assistance

Technology Request

Development of fiber samples with specific thermal properties for application in 3D-fibre formed parts for acoustic and thermal insulation

Summary

A German SME has developed a new technology for production of 3D-fibre formed parts for acoustic and thermal insulation that can be applied e.g. in the automotive, construction or medical sector. The technology allows production from a large range of different materials and the SME is looking for new fibres for their products/applications that have suitable thermal properties. The SME searches companies for a technical or research co-operation and in a second step for a manufacturing agreement.

Creation Date	25 January 2016
Expiration Date	26 January 2017
Reference	TRDE20160120001

Details

Description

A German SME has invented and patented an innovative technology for the production of 3D fibre formed thermal and acoustic parts for isolation and insulation from various materials. The innovation consists of a new system for blowing in fibres and flakes into the production mould. Thus varying densities and internal structures can be manufactured in one single production step. Moreover, the system allows production from a larger range of different materials than is possible with conventional technologies: The materials could be fibres or a mixture of fibres with foam flakes, thermoplastic fixed with a binder. Nearly each kind of fibres may be taken: Cotton, hemp, flax basalt, glass and PES (polyether sulfone), etc. The technology thus allows the production of isolation and insulation 3D parts for various applications. It has been successfully used in automotive, construction, medical or rehabilitation applications.
A big market are PUR (polyrutheane) foam based parts, which could be replaced with the new technology, if the right fibres are available.

Fiber based parts are lighter than PUR foam parts. Together with the new technology it is possible to implement different densities for better performance than with PUR.
It exist significant business opportunities for new materials that approach the advantages of PUR foam (good shaping properties, good combination of density, rigidity, elasticity) while at the same time eliminating its disadvantages (poor recyclability, poor consumer acceptance of PUR due to perceived dangers from precursor monomers or additives).

Up to now, however, no fibre on the market has the same resiliency like foam under higher temperature conditions.
Therefore, the SME is looking for a technological or research co-operation with a laboratory or

institute which can develop fibres with thermal properties that come up to the SME's requirements for their applications. Once a suitable fibre has been found the SME will also look for a manufacturing agreement for these fibres.

Technical Specification or Expertise Sought

The requested partner should be experienced in fibre development and provide/develop fibres applicable for products with stable resilience of up to 80C.
For trials some kg of material are needed, for start of serial production later several 1.000t per year.

Keywords

Technology

02007005	Composite materials
02007015	Properties of Materials, Corrosion/Degradation
04007004	Thermal insulation
10002014	Noise Pollution
10003004	Recycling, Recovery

Market

06006001	Thermal insulation
08001009	Speciality/performance materials: producers and fabricators
08003005	Other industrial machinery for textile, paper & other industries
09001005	Motor vehicles, transportation equipment and parts
09007002	Manufacture of construction materials, components and systems

NACE

C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
M.74.9.0	Other professional, scientific and technical activities n.e.c.

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: Laboratory, institute

- Specific area of activity of the partner:
Laboratories with good experience in fiber development.

- Task to be performed:
Development and possibly in a second step production of fibre samples that will be tested and evaluated by the SME.

Type of Partnership Considered

Manufacturing agreement
Technical cooperation agreement
Research cooperation agreement

enterprise europe network

Medio Ambiente:

Agua y Residuos

Research & Development Request

H2020-MSCA-RISE-2016. Medical imaging agents based on gadolinium - manufacturer SME is being sought for a staff exchange proposal.

Summary

A Spanish university is willing to submit a H2020-MSCA-RISE (staff exchange) project proposal. The aim of the project is to develop and validate an efficient and cost-effective process to remove several pollutants from water bodies. The consortium is almost closed and they are looking for an SME (non-Spanish) manufacturer of medical imaging agents and pharmaceuticals.

Creation Date	20 January 2016
Expiration Date	21 January 2017
Reference	RDES20160120001

Details

Description

Several research groups have evidenced the presence of a wide range of Environmental Pharmaceutical Persistent Pollutants (EPPPs) in different water bodies (drinking water, groundwater, surface water, and effluent wastewater) at concentrations up to µg/L level. Some of these EPPPs are characterized by their environmental persistence such as cytostatic drugs used in chemotherapy or gadolinium chelates as contrast agents (Gd-CA) employed in magnetic resonance imaging (MRI).

Actual technologies for the removal and degradation of these compounds, including electrochemical, photochemical, and biological methods have been developed. However, these methods are expensive and sometimes inefficient for the complete removal or even the recovery of some value from the treated water (e.g. Gadolinium). Therefore, there is a need for developing an efficient and cost-effective process that is capable of treating large volumes of waters containing low concentration of these pollutants.

PHARMACLEAN aims at the design, development and validation of an integrated process including novel nanofiber based nanocomposite materials for an effective degradation of persistent pollutants as well as the recovery of raw materials from contaminated water streams in a continuous operation mode. PHARMACLEAN will employ novel nanocomposites fibrous membranes (NFM) to set up efficient separation processes allowing the treatment of different polluted water streams and a complementary Advanced Oxidation Process through e.g., “clean Fenton process” by using a wasteless heterogeneous catalyst.
The suggested approach offers versatile, fast, highly efficient, and low-cost treatment for wastewaters, as well as the recovery of raw materials (e.g. Gadolinium among other potential metals). In this sense, PHARMACLEAN involve the cooperation between industry and academia of partners from Europe and Cuba to perform the required R&D to demonstrate the

technical and economic feasibility of the developed process, including the technical formation of specialist as a fundamental activity to project success. PHARMACLEAN foresees meaningful knowledge and technology transfer from the academia to the industrial sector, through the partners' well-established reputation as transfer hubs.

The SME (non-Spanish) sought should be involved on the co-development of the methodology and test the technology proposed above.

Call: H2020-MSCA-RISE-2016. Research and Innovation Staff Exchange
Call deadline: 28/04/16
EoIs deadline: 01/04/16

Stage of Development

Under development/lab tested

Keywords

Technology

10003004	Recycling, Recovery
10003009	Rare Earths Metals Treatment
10004001	Industrial Water Treatment
10004003	Wastewater Recycling
10004006	Sludge Treatment / Disposal

Market

05002001	X-rays
05002003	Ultrasound imaging
05002005	Other medical imaging
08004002	Chemical and solid material recycling
08004003	Water treatment equipment and waste disposal systems

NACE

C.21.2.0	Manufacture of pharmaceutical preparations
C.32.5.0	Manufacture of medical and dental instruments and supplies
E.36.0.0	Water collection, treatment and supply
E.38.2.1	Treatment and disposal of non-hazardous waste
E.39.0.0	Remediation activities and other waste management services

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

European (non-Spanish) company dedicated to the manufacturing of medical imaging agents and pharmaceuticals used to allow diagnosis and monitoring of diseases to improve diagnostic and procedure monitoring for various pathologies, e.g. those based on gadolinium.

Tasks to be performed:
• Selection of Gadolinium drugs pollutants to be monitored
• Co-development of a methodology to determine selected EPPPs and their metabolites in water solutions at trace levels including suspended matter at nanosize level
• Characterization of the fabricated products
• Application of developed methods to follow up the efficiency of treatment processes studied in the project.
• Test of developed integrated technology for the recovery of Gadolinium and environmental pollution monitoring and physicochemical characterization of pharmaceutical effluents and groundwater through state-of-the-art analytical equipment.
• Participation in outreach activities

Type and Size of Partner Sought

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

Type of Partnership Considered

Research cooperation agreement

Research & Development Request

Interreg Adrion Programme: Sustainable and innovative reuse of dredged sediments from ports

Summary

Slovenian research institute intends to submit a transdisciplinary project proposal to 1st call of INTERREG ADRION programme to find a permanent and efficient solution for the sediment that is being dredged in ports in order to construct and maintain navigation paths. The institute is looking for research organisations specialized in agricultural experiments, SMEs with experience in commercialization (market research) and creative studio specialized in public relations for communication purpose.

Creation Date	02 February 2016
Expiration Date	09 February 2017
Reference	RDSI20160202001

Details

Description

Slovenian research institute intends to submit a transdisciplinary project proposal to the 1st call of INTERREG ADRION programme to find a permanent and efficient solution for the sediment that is being dredged in ports in order to construct and maintain navigation paths.

State of the art and challenge addressed:
Dredging is a procedure where sediments are excavated from shallow waters in order to construct and maintain a safe navigation for vessels. Most major ports in the world require dredging at some time to enlarge access channels and turning basins, and to provide appropriate water depths along waterside facilities. Furthermore, these channels often require frequent and regular maintenance dredging. Taking into consideration the fact that about a half of the world's population lives within 200 km of the coastline with a need of transporting people, equipment and materials it is clear that there is a ever-growing demand of maintaining and enlarging the coastal areas (including harbours, beaches and water pathways). Dredging, albeit being a necessary activity, could potentially have a range of environmental effects. Therefore, as a society, we are urged to explore this issue on two levels:
1. assess the potential effects of dredging spatially and in time
2. taking into consideration the necessity of dredging exploring the alternative, sustainable reuse of the dredged materials.

The latter has been a topic of active research in the past as traditionally the dredged material is filled into special lagoons. However, there are some sustainable possibilities of reusing this material. The dredged material can be reallocated and re-used for road construction, for beach renourishment, for creating construction materials and in agriculture.

Project Objective:

Within this project we will exploit the possibilities of using the dredged sediment for creating soil to be used in agricultural purposes.

Work packages:
1. analysis of dredged sediment in order to define its structure, environmental safety and possibilities of reuse
2. agricultural experiments in order to determine its best mode of employ
3. plan for commercialization
4. communication and dissemination (very important WP)

Outcomes:
The solutions of usage of this material in construction materials have already been explored worldwide and on a European level. The focus of this project is to explore and bring solutions, for the possible use of this material in agriculture, which is also promising and deserves special attention.

Partners requested:
The institute is looking for research organisations specialized in agricultural experiments, SMEs with experience in commercialization (market research) and creative studio specialized in public relations for communication purposes. The partners should come from Croatia, Italy or Greece.

The deadline for project submission is 25th March 2016. Interested partners should respond to this posting by February 25th, 2016. The planned duration of the project is 24 months.

Advantages and Innovations

The innovation lies in the sustainability of the whole project. If successful, the solution could be used permanently, thus opening new jobs and resolving the possible environmental adverse effects of the dredged sediments that can be disposed on the surface.

Stage of Development

Proposal under development

IPR Status

Secret Know-how

Keywords

Technology

07003003	Marine Science
10003001	Biotreatment / Compost / Bioconversion
10003003	Land and Sea Disposal
10004006	Sludge Treatment / Disposal
10004009	Marine Environment

Market

08004004	Other pollution and recycling related

NACE

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

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

The Slovenian research institute is looking for partners among research organisations and SMEs specializing and having expertise in:
- agricultural experiments: company or research organization sought for experiment of optimal mixture of soil and tests of yield on selected plants
- assistance with commercialization (market research): company sought for market research and future commercialization plan of the soil obtained from sediments
- creative studios with expertise and experience in public relations, (for communication purposes in collaboration with the coordinator)

The partners sought should come from Croatia, Italy or Greece.

Type and Size of Partner Sought

SME 11-50,R&D Institution

Type of Partnership Considered

Research cooperation agreement

Technology Offer

A new energy efficient cleantech pneumatic system CPS (closed pneumatic system)

Summary

A Finnish company is specialised in improving energy efficiency of industrial pneumatic systems by structural means and has invented a closed pneumatic system (CPS), the idea of which is based on the recycling of compressed air. Used compressed air is gathered into the return piping and circulated for reuse purposes. The invention can be applied in various compressed air systems. Licensing or selling of the patent, commercial agreement with technical assistance or technical cooperation is sought

Creation Date	12 January 2016
Expiration Date	27 January 2017
Reference	TOFI20160108001

Details

Description

A Finnish company specialises in improving energy efficiency of industrial pneumatic systems by structural means. They have developed a closed pneumatic system (CPS). The inventor of the system is a doctor of science in technology. Conventional pneumatic systems are open. The CPS can be applied in all kind of industrial applications. Most of the existing pneumatic systems can be transformed to closed ones.
The energy savings potential is obvious in industrial applications e.g. woodworking industry in Finland. The invention has been performed in two pilot systems. The Finnish company is searching for partners in order to help take the invention forwards to market through licensing or selling the patent, commercial agreement with technical assistance or technical cooperation. Partners are sought in EU countries, USA and China.

Advantages and Innovations

Improving Energy Efficiency
In CPS, depending on the application, the savings of electrical energy can be even 50% compared to open systems.

Environmental Effects
Hazardous waste is eliminated. Oil in waste water is eliminated.

Working Environment Effects
Oil aerosol, noise problems caused by compressed air and effects of dust in working environment are eliminated.

Savings in costs

Fixed costs (maintenance) and energy costs are typically lower in CPS. Thus, repayment period for investment costs is typically under one year.

Leaks can be easily detected in real time.

Large scope of applications
CPS can be applied in all kind of pneumatic applications totally or partially. Existing pneumatic systems can often be transformed to closed ones.

Stage of Development

Proposal under development

Comments Regarding Stage of Development

The invention has been performed in two pilot systems.

IPR Status

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

Comment Regarding IPR status

Patents granted in 12 European countries, USA and Canada. A patent for a CPS compressor has been applied for (not granted).

Profile Origin

Private (in-house) research

Keywords

Technology

004008	Energy efficiency
10003004	Recycling, Recovery

Market

09003001	Engineering services

NACE

M.71.1.2	Engineering activities and related technical consultancy
M.72.1.9	Other research and experimental development on natural sciences and engineering

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

There are various approaches to commercialize the CPS including selling the patent, licensing or contracting manufacturers of compressors in order to produce a compressor adapting to the new technology.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Commercial agreement with technical assistance
Technical cooperation agreement

Technology Offer

A Korean SME is offering a water purifier and a water softener using a Capacitive De-Ionization(CDI) technology

Summary

A Korean SME specializing in development of eco-friendly materials and devices provides a technology of purifying and softening water by eliminating dissolved ions from water. It is eco-friendly, energy saving, high in recovery efficiency and easy to operate. The company is looking for a partner who manufactures washing machines, water purifiers or water softeners for commercial agreement or technical cooperation.

Creation Date	12 January 2016
Expiration Date	29 January 2017
Reference	TOKR20160112001

Details

Description

Due to global water crisis, the whole world concentrates on water recovery. One of the key ways to resolve this problem is to find a method which can provide low cost and high efficiency in desalination.

Capacitive De-Ionization (CDI) is electrochemically controlled method for removing salt from aqueous solutions by absorbing ions in the electrical double layer region at an electrode-solution interface.

Generally, Electrodes for Capacitive De-Ionization (CDI) is made by coating graphite with mesoporous activated carbons, adding ion-exchange membrane and staking a spacer.

However, this Korean company has developed a new technology of producing CDI electrodes by coating graphite with mesoporous activated carbons and ion monomer. After a spacer is added.

The technology makes it possible for cost reduction. Also, it saves the more energy by decreasing membrane fouling compared to the conventional technologies such as Reverse Osmotic(RO) or Ion Exchange Resin. Furthermore, labor cost can be saved as well as no second hazardous pollutants can be created. As an eco-friendly technology, it does not use detrimental chemicals or salt, and everyone can easily operate this product.

The company is looking for a European manufacturer in the field of washing machines, water purifiers or water softeners and would like to transfer their technology to the partner by contracting a commercial agreement with technical assistance. Furthermore, they are looking

for a partner for technical cooperation by testing of new aplication. Other partnership can be negotiated, so if anyone is interested, feel free to create an expression of interest for further information.

Advantages and Innovations

- More energy saving compared to the conventional technologies such as Reverse Osmotic(RO) or Ion Exchange Resin
- High in pure water recovery rate
- Possible to control the amount of minerals in water
- Easy to operate the system
- Not using detrimental chemicals or salt

Stage of Development

Field tested/evaluated

Comments Regarding Stage of Development

The technology has been completed and the end-product is successfully made for demonstration or field test, but research is needed for its various applications.

IPR Status

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

Comment Regarding IPR status

Korean patents granted.
USA patent applied but not granted yet.
EU patents applied but not granted yet.
PCT patents applied but not granted yet.

Keywords

Technology

06006009	Ionic Liquids
10003004	Recycling, Recovery
10004	Water Management
10004004	Drinking Water

Market

07004004	Housewares
08004003	Water treatment equipment and waste disposal systems

NACE

C.27.5	Manufacture of domestic appliances
G.46.4.3	Wholesale of electrical household appliances

Open for EOI : **Yes**

Partner Sought

Type and Role of Partner Sought

- Type of partner sought : companies
- Specific area of activity of the partner : in the field of manufacturing washing machines, water purifiers or water softeners
- Task to be performed :sell the product in the partner's local area or transfer technology to apply to various applications

Type of Partnership Considered

Commercial agreement with technical assistance
Technical cooperation agreement

Technology Offer

A Korea SME is introducing a chemical recycling technology for PET (polyethylene terephthalate) wastes

Summary

A Korean SME specializing in the development of eco-friendly materials and facilities has developed a chemical recycling technology for PET wastes. It is eco-friendly, economical and easy to operate. The company is looking for a partner who is interested in recycling PET and is available for technical cooperation or joint venture.

Creation Date	12 January 2016
Expiration Date	02 February 2017
Reference	TOKR20160112002

Details

Description

World environment is being destroyed by indiscriminate waste disposal. Many enterprises interested in environmentally friendly technologies have developed innovative technologies to help the world be a cleaner place. One of them - a technology of recycling PET waste- has been newly developed by this Korean SME.

Usually PET waste generated by beverage bottles, film and fibers can be recycled in 1 of two ways: materials recycling or chemical recycling. Only clean PET waste can be recycled and dirty ones are incinerated.

In the case of chemical recycling, both clean and dirty PET waste can be recycled by this recycling procedure – and this is the technology that the Korean company is offering.

Generally, Chemical recycling methods are classified into four categories which are Glycolysis, Methanolysis, Hydrolysis, and Ammoloysis. From each recycling method, respective compound is gained : TPA(terephthalic acid), BHET(bis-2-hydroxy ethyl tetrephthalate), DMT(dimethyl terephthalate).

The offered PET recycling technology consists of 3 processes:

1) pre-treatment process
For stabilized reaction of PET waste, a pre-treatment process is essential.

2) Glycolysis process
This process can produce PET Oligomer for UPR (Unsaturated Polyester Resin) and polyol for PU (Poly Urethane). It is quite a stable and economical process.

3) Purification process

This process mainly increases the degree of purity of produced PET Oligomer and polyol. It saves operation costs, and minimizes the amount of secondary waste. Plus, high value-added products can be created from the produced materials.

The company is interested in transferring their technology to overseas companies and would like to establish a local factory. Therefore, any enterprises who are interested in PET waste recycling are welcomed, in the context of a joint venture or technical cooperation agreement

Advantages and Innovations

- Available to treat all of the PET waste
- Possible to make PET waste to value added products
- Cost saving in operation
- Easy to operate
- Minimizing secondary waste

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

Available for demonstration and the technology actually has been commercialized. PET Oligomer and Polyol are currently produced for sale in Korean market.

IPR Status

Patents granted

Comment Regarding IPR status

Korean patent granted

Keywords

Technology

02007014	Plastics, Polymers
03004008	Plastics and Rubber related to Chemical Technology
10002007	Environmental Engineering / Technology
10003	Waste Management
10003004	Recycling, Recovery

Market

08001006	Processes for working with plastics
08001018	Polymer (plastics) materials
08004002	Chemical and solid material recycling

NACE

C.20.1.6	Manufacture of plastics in primary forms
C.22.2	Manufacture of plastics products

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought : companies
- Specific area of activity of the partner : Anyone who is interested in recycling PET
- Task to be performed : contract a technical cooperation, create a joint venture together to localize the end-product

Type of Partnership Considered

Technical cooperation agreement
Joint venture agreement

Technology Offer

A Korean SME is offering an electrolyzed sterilizing water generator

Summary

A Korean SME specializing in the development of eco-friendly materials and facilities is offering an electrolyzed sterilizing water generator. It generates HOCl (hypochlorous acid) which has 80 times stronger sterilizing power and is less pungent compared to chlorine bleach. Also, it is environmentally friendly and less corrosive so that it can be used to clean and disinfect kitchen utensils, food factories, and for sterilizing hands. Technical cooperation or joint venture is available.

Creation Date	12 January 2016
Expiration Date	02 February 2017
Reference	TOKR20160112003

Details

Description

Sanitary management is necessary to ensure a clean and safe life. Proper sanitation in the food service, agriculture, and healthcare industries is important and valuable.
It is because food poisoning has increased as well as super bacteria and viruses have appeared in recent years.
For this reason, food conservation became a difficult issue to solve, and the Korea Food & Drug Administration (KFDA) has emphasized and strengthened sanitary management as regards the Hazard Analysis Critical Control Point (HACCP) system.

This Korean SME's main business is developing eco-friendly materials, devices and facilities. And lately they have developed an electrolyzed sterilizing water generator. The generator automatically generates HOCl, which can be used in the field of food service, agriculture, medical welfare, cosmetics, pharmaceuticals and etc.

Comparison of the characteristics between NaOCl(sodium hypochlorite) and HOCl is as follows.

Characteristics of NaOCl

- Sterilizing power is weaker than HOCl. Therefore, high concentration NaOCl is commonly used.
- -The remaining NaOCl(unpleasant smell lingers in the food and kitchen utensils) smells bad after use
- There is limited area to use (things can be corroded or rusted out)

Characteristics of HOCl generated from the electrolyzed sterilizing water generator

- It has a good antimicrobial property using low concentration HOCl

- Non-toxic / environmentally friendly sterilizing water is provided
- No pungent smell is produced
- The water can be conveniently used as tap water (constantly preserving HOCl concentration in water)
- It can be used everywhere (Spraying is also possible)
- It is economical

HOCl produced by the system has been certified by FDA (Food and Drug Administration), KFDA (Korea Food and Drug Administration) and Japanese Ministry of Health and Welfare.
The company would like to find an overseas partner to transfer their technology for broadening their business through a technical cooperation agreement. Also, by transferring the technology, the company would like to create a joint venture to locally develop and manufacture an end-product. Apart from the cooperation types mentioned above, any types of cooperation can be negotiated.

Advantages and Innovations

- Helping block an epidemic (contagious disease)
- Reasonable cost to produce environmentally friendly sanitizer and disinfectants
- Having 80 times stronger sterilizing power compared to the chlorine bleach
- Possible to be used as a food additive certified by FDA(Food and Drug Administration)
- Removing bad ordours and less pungent than than the chlorine bleach

Stage of Development

Field tested/evaluated

IPR Status

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

Comment Regarding IPR status

PCT applied for but not yet granted
Korean patent granted

Keywords

Technology

06006009	Ionic Liquids
10002007	Environmental Engineering / Technology
10003004	Recycling, Recovery
10004	Water Management

Market

07004008	Other consumer products
08001023	Other chemicals and materials (not elsewhere classified)
08004003	Water treatment equipment and waste disposal systems

NACE

C.27.5	Manufacture of domestic appliances
G.46.4.3	Wholesale of electrical household appliances

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought : companies
- Specific area of activity of the partner: Kitchen appliance manufacturer, Medical device Manufacturer, Agriculture, Fishery, food processing, public hygiene) :
- Task to be performed : technical cooperation for joint further development of applications, joint venture agreement for creating a factory in a local area:

Type of Partnership Considered

Technical cooperation agreement
Joint venture agreement

Technology Offer

Innovative patented technology for inorganic waste volume reduction

Summary

An Italian SME specialised in innovative solutions for waste valorisation has patented a new system to reduce the volume of inorganic waste which could be applied to industry, commercial activities and private users. This is a low cost production technology which allows to reduce waste volumes over 95%. Partners for license agreements or technical cooperation are sought.

Creation Date	15 January 2016
Expiration Date	22 January 2017
Reference	TOIT20160112001

Details

Description

An Italian SME specialised in innovative solutions for waste valorisation has developed and patented a new system to reduce the volume of inorganic waste. The system can be applied to industry, commercial activities and private users and therefore the Italian company is looking for partners interested in adapting the technology to their needs or might be interested in further development through technical cooperation. The company is also interested in license agreements for their patented technology.

The technology patented by the company allows to cut plastic bottles, aluminium cans and glass bottles in pieces of 1 centimeter of diameter and consequently the volume waste can be reduced by over 95%. The system might be adapted to other machines treating waste or it might be used as a separate machine. The system can be used at home as an household appliance, near drink vending machines for minimizing this kind of waste, in the horeca field as a support for kitchens in restaurants or hotels or for ships and caravans because of their low space availability for waste.
The system is the result of years of study and research and it has been actually patented at international level and industrialized, so it is ready for the market.
The system represents an alternative to other expensive systems known today as the compaction one.
Comparing the cost of compactors with the cost of the presented system, the latter is 30% lower. This technology also allows to insert in the same machine different materials, for example glass, plastic, aluminium or paper to obtain waste volume reduction and dramatically decrease the frequency of delivery of waste for collection. Consequently, there are several benefits resulting from the technology use, starting from the needed space reduction for waste storage up to the environmental benefits resulting in a smaller amount of travels that collection means must perform. Furthermore, all recovered waste will be already pre-processed and will suffer less processing to become a new product, so there will be an evident overall lower production of pollutant emissions.

Advantages and Innovations

Normally, industrial cutting technologies are expensive and it is necessary to use very large engines to process waste. Other used technologies are compaction systems which allow anyway limited volume reduction.
The cutting technology proposed by this company combines the possibility of using small engines with a more effective waste reduction (the initial volume can be reduced by more than 95%).
For example, in a bag waste of 120 liters size, by using a compaction system, it is possible to contain about 290 0.5 liters plastic bottles, whereas this technology allows a 120 litres size bag waste to contain about 600 plastic bottles.
Another important feature of this technology is related to the one centimeter pieces resulting from this cutting system. These pieces are raw materials ready to be reused for new products. Without performing further processing it is thus possible to create a short, economic and environmentally sustainable recycling process.

Stage of Development

Already on the market

IPR Status

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

Comment Regarding IPR status

International patent application

Profile Origin

Private (in-house) research

Keywords

Technology

03010	Household Goods & Appliances
10002013	Clean Production / Green Technologies
10003004	Recycling, Recovery
11001	Socio-economic models, economic aspects
11008	Creative services

Market

07002005	Other retailing
07004008	Other consumer products
07005001	Fast food restaurants
07005003	Hotels and resorts
08004004	Other pollution and recycling related

NACE

C.24.1.0	Manufacture of basic iron and steel and of ferro-alloys
C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
E.38.1.1	Collection of non-hazardous waste

E.38.3.2	Recovery of sorted materials
E.39.0.0	Remediation activities and other waste management services

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:
Companies

- Specific area of activity of the partner:
Manufacturers and any companies active in home appliances, horeca, vending machines, naval, caravan, recycling, waste valorization

- Task to be performed by the partner sought:
Companies operating in the above mentioned sectors might be interested in adapting the technology to their needs or might be interested in further development through technical cooperation. The company is also interested in license agreements for their patented technology.

Type of Partnership Considered

License agreement
Technical cooperation agreement

Technology Offer

Technology for production of 3D fibre formed parts without PUR (polyurethane) for acoustic and thermal insulation

Summary

A German SME has developed a new technology for production of 3D fibre formed parts for acoustic and thermal insulation. Nearly every kind of staple fibres can be used (e.g. polyether sulphone, cotton, hemp, flax) and the new technology can replace the common PUR production technology. Applications are e.g. sound insulation parts in cars or insulations in the construction sector. The SME searches commercial agreements with technical assistance or license agreements with partners from industry.

Creation Date	25 January 2016
Expiration Date	26 January 2017
Reference	TODE20160122001

Details

Description

Due to their advantages (good shaping properties, good combination of density, rigidity, elasticity) PUR foam based parts are widely used in many industrial sectors. However, there exist significant business opportunities for new materials that approach the advantages of PUR foam as it also has some significant disadvantages: poor recyclability, poor consumer acceptance of PUR due to perceived dangers from precursor monomers or additives.

Therefore a German SME has developed and patented an innovative technology for the production of 3D fibre formed thermal and acoustic parts for isolation and insulation from various materials. The innovation consists of a new system for blowing in fibres and flakes into the production mould without using a semi product like sheets. Thus varying densities and internal structures can be manufactured in one single production step. Moreover, the system allows production from a larger range of different materials than is possible with conventional technologies: The materials could be fibres or a mixture of fibres with foam flakes, thermoplastic fixed with a binder. Nearly each kind of fibres may be taken: Cotton, hemp, flax basalt, glass and PES (polyether sulfone), etc. The technology thus allows the production of isolation and insulation 3D parts for various applications. It has been successfully used in automotive, construction, medical or rehabilitation applications.

Examples for potential applications:
Automotive:
Inner /Engine side dashboard, floor insulation, hood liner, bonnet liner, luggage compartment insulation, fender, underbody panelling, door panel, instrument panel, etc.

Nonautomotive:
Upholstery of furniture, 3D wooden parts, pipe isolation, etc.
3D carbon fibre parts for different usage
Thermal insulation of 3D parts

On the one hand the German SME offers development of 3D fibre formed parts together with companies that produce insulation parts for thermal or acoustical isolation. They also design prototype parts for market evaluation and build moulds and machines for serial production of 3D fibre blown parts. The SME would also transfer the new manufacturing technology to the partner under a commercial agreement with technical assistance.

On the other hand the German SME offers to share the technology with machine manufacturers that are interested in new markets by replacing PUR technology with new fibre technology (e.g. textile machinery manufacturer).This can also be done under a commercial agreement with technical assistance. With respect to the individual application, the company offers customised solutions including machines for fibre preparation with blow-in machines, tools and machines for subsequent processes.
They also offer a transfer of the technology to interested machine manufacturers so that they can produce the machines themselves and possibly sell them under a licence agreement.

Advantages and Innovations

- By building 3D parts directly from fibres with the new technology, no semi products like sheets are necessary. Therefore the costs for one production step are eliminated.
- Also the offcut from the final part could be reduced by using a moulding edge according to the outside shape of the part.
- The densities inside the part are optimized according to the mechanical load and could be combined with endless fibres, placed in defined directions.
- Homogeneous or non-homogeneous density and equal or non-equal thickness are possible.
- Material and weight saving up to 50% is possible.
- Usage of recycling material reduces material costs in addition.
- Better consumer acceptance as natural fibres can be used instead of PUR.

Stage of Development

Field tested/evaluated

IPR Status

Patents granted

Comment Regarding IPR status

The technology is patented in Europe, USA and Brazil.

Profile Origin

Private (in-house) research

Keywords

Technology

02002005	Forming (rolling, forging, pressing, drawing)
02007005	Composite materials

04007004	Thermal insulation
10002014	Noise Pollution
10003004	Recycling, Recovery

Market

06006001	Thermal insulation
08001009	Speciality/performance materials: producers and fabricators
08003005	Other industrial machinery for textile, paper & other industries
09001005	Motor vehicles, transportation equipment and parts
09007002	Manufacture of construction materials, components and systems

NACE

C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
M.74.9.0	Other professional, scientific and technical activities n.e.c.

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:
Industrial companies

- Specific area of activity of the partner:
1. The partner should be a machine manufacturer of e.g. textile machinery and be in the market already.
or
2. Manufacturer of 3D parts in automotive, furniture, textile or other industries with part production.
If he produces parts of PUR foam, he should be interested in expanding into new areas without foam.

Task to be performed:
1.The (textile) machine manufacturer should be interested in new markets by replacing PUR technology with new fiber technology. He should have already clients in automotive, furniture and textile industry.

2. A production partner should be interested in the production of fibre isolation or insulation parts. Good relations to the automotive industry, especially interior area are preferable

Nevertheless, the German SME is open to exploring new fields of application of the new production system as it is looking to opening new markets.

Type of Partnership Considered

License agreement
Commercial agreement with technical assistance

Technology Offer

Utilization of complex arch rehabilitation process in conservation of railway and road bridges

Summary

A Hungarian university developed a process combining complex technological solutions that aim to increase the lifetime and the bearing capacity of arched bridges by taking advantage of the existing bearing capacity of the constructions and construction materials and by using materials compatible with the statical system. The university seeks partners interested in handling of railway and road systems and able to utilize its capacities, within the framework of service and research agreement.

Creation Date	17 December 2015
Expiration Date	27 January 2017
Reference	TOHU20151217001

Details

Description

The Hungarian university research team has large experience in the field of diagnostics of bridge structures and its structural modelling. During their research they analyse the degradation processes of the brick and stone arched bridges happening due to the traffic load. A numerical calculation model was developed to describe the degradation processes and a new approximation process was created to determine the expected remaining lifetime. Parallel to the study of the efficiency of the available reinforcement methods, they are developing new methods as well, aiming to increase the carrying capacity and the prolongation of the lifetime of the bodywork by improving the load distribution.

The brick and stone arched bridges form a significant part of the domestic and European bridge stock. Thousands of old structures can be found in continuous use. One of the main problems is that the bearing conditions have been changed since the planning and construction of such bridges. Similar change happened in the speed of the vehicles and their dynamic effects as well. Several bridges are considered as monuments, therefore their reconstruction requires great care, since the given elements have to be reconstructed, not replaced.
The conventional reinforcement methods aim to pass the loads of the existing arch to a newly built-in structure. Since the working together of the rigid reinforced concrete shell and the softer arch surface can not be guaranteed efficiently, that's why the new shell should be sized as an individual weight bearing arch. This results a time consuming and expensive rebuilding solution, not to mention the fact that it means a drastic intervention to the existing structural system.

Technological solutions applied during the process:
Thin shotcrete shell working together with the existing structure - slight increase of rigidity, facilitation of more efficient spatial operation, bridging role
Rehabilitation of the arch with injection - with the replacement of cracks, discontinuities, parts with weakened pointers the homogeneity can be increased, water permeability can be

decreased
Bypass of the cracks in the arch with stainless spiral-steel - it helps the power transfer on the cracks, it provides a flexible reinforcement to the walling
Injection of the backfill of the arch - increasing stability, larger passive resistance
Reinforcement of the arch with load-distributing plate - increasing the extent of the load distribution, the dynamic and concentrated type effects on the structure decrease
Maintenance and reconstruction of arches - ensuring the durability of the structure, increasing the resistance against chemical and physical effects

The process includes the complex process of the evaluation and diagnostics of the status of the structures, calculation of carrying capacity, planning the intervention, the technology of implementation and the quality assurance.

Cooperation partners awaited for:
Determination of reliability and lifetime of bridges and other engineering facilities with probabilistic methods supported with diagnostics
Development of calculation methods and diagnostic processes for the determination of carrying capacity of arched bridge structures made of brick and stone and for checking their usability requirements.
Application of high strength and high performance concretes in the building industry
Rehabilitation of structures with advanced materials

The university awaits inquiries from building industry companies competent in the handling of railway and road networks for signing a service agreement and research groups and universities interested in further development for concluding research cooperation agreement(s).

Advantages and Innovations

- Connects the calculation and diagnostic methods in a complex system
- The bearing limit and the lifetime can be increased
- Achieving appropriate distribution of load
- Possibility of conservation of historical heritage
- Restriction of harmful structural movements
- Setting back the local type of devastation processes
- Creation of prevailing devastation mechanisms
- Preventing the harmful deformation of the arch
- Avoiding non-expected power shifts
- Possibility of adjustment to existing chemical-physical properties
- Keeping the stiffness ratio between the interior of the construction and its environment
- Avoiding permanent traffic detour and road closures
- Application of materials easily accessible on the market
- High level quality assurance

Stage of Development

Available for demonstration

IPR Status

Secret Know-how

Profile Origin

Private (in-house) research

Keywords

Technology

02006002	Construction methods and equipment
09001008	Other Non Destructive Testing
10003004	Recycling, Recovery

Market

09007004	Engineering and consulting services related to construction

NACE

F.42.1.3	Construction of bridges and tunnels
M.71.1.1	Architectural activities
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

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

The building industrial professional institute seeks partner to use its existing process. For signing a service agreement, it seeks international partners which are interested in the handing of railway and road networks from the field of public and economic sector, who are abe to utilize its capacities. Additionally, inquiries from universities, research groups and building industry companies are awaited within the frameworks of research agreement.

Type of Partnership Considered

Services agreement
Research cooperation agreement

Technology Request

Request for biodiesel production technology using high FFA(free fatty acid) especially on pre-treatment and post-treatment process

Summary

A Korean SME is looking for a biodiesel production technology using high FFA(free fatty acid) UCO(used cooking oil) especially pretreatment (transesterification) and post-treatment (separation, washing, refining, etc). The sought partner should have references in manufacturing and installing a corrosion resistance module. They have only completed reaction process using catalyst. They are looking for a partner available for licensing agreement and research cooperation agreement.

Creation Date	12 January 2016
Expiration Date	18 January 2017
Reference	TRKR20160112001

Details

Description

A Korean company, a manufacturer of car parts through a factory automation system, has already developed biodiesel production equipment which uses low FFA(free fatty acid) feedstock. It can produce around 3 tons biodiesel per hours.

But In order to convert high FFA into biodiesel, they need technologies for pre-treatment(transesterification) and post-treatment(separation, washing, refining, etc.)

And in all these processes, sulfuric acid and alkali are used as major reaction substances. So proper corrosion-resistant technology is highly needed to ensure its durability. The company is aiming to produce 70 tons in 24 hours a day combining batch and continuous process.

They’re looking for a partner who provides an advanced technology mentioned above and does the research and development together to create a completed module with packaging technology.

A company or a research institute which has references in manufacturing and installation of corrosion resistance packaged pretreatment and post-treatment module is sought. Preferred partner countries are Austria and Italy.

*Until August 2016, this TR only opens to Russian partners.

Technical Specification or Expertise Sought

1. Producing biodiesel of 70 tons in 24 hours
2. Corrosion resistance
3. Reliable, economic, and innovative pretreatment and post-treatment technology

Stage of Development

Already on the market

IPR Status

Secret Know-how

Keywords

Technology

04005	Renewable Sources of Energy
04005003	Liquid biofuels
04005012	Waste to energy - other
10002007	Environmental Engineering / Technology
10003004	Recycling, Recovery

Market

06003	Alternative Energy
06003009	Biomass and Biofuels
08004	Pollution and Recycling Related

NACE

E.38.3.2	Recovery of sorted materials

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: Company, Research institute
- Specific area of activity of the partner: Biodiesel production
- Task to be performed: Transfer the partner's technology to the Korean company and collaborate with each other by researching and developing a completed module

*Until August 2016, this TR only opens to Russian partners.

Type of Partnership Considered

License agreement
Research cooperation agreement

Technology Request

A UK manufacturing control systems specialist seeks experts in in the field of anaerobic digestion to understand and optimize these biochemical reactions.

Summary

A UK company expert in systems engineering and control systems for manufacturing processes is requesting technical expertise in anaerobic digestion. Experts could be universities, R&D institutions or anaerobic digestion companies interested in JV or research / technical cooperation directed at leading edge process design and management in order to increase yields. Target countries are Germany, France or Sweden, but the company will consider potential partners from other countries.

Creation Date	26 January 2016
Expiration Date	01 February 2017
Reference	TRUK20160126001

Details

Description

Company:
This UK company is a specialist in systems engineering and electronic control systems with applications expertise in a number of manufacturing processes and already has commercial products available on the market.

The company's senior managers have been active in the control systems field fulfilling a diverse array of projects for more than 27 years and the company leads the industry in the UK for control systems in anaerobic digestion processes.

This expertise has enabled the company has developed long-term relations with a large number of global partners and the company is also involved in global collaborative projects such as the EU Flexinet programme.

Through involvement in these projects the company now has a large network of global associations and has a track record of successfully developing products through collaboration with academic institutions.

Expertise Requested:
To date the company has already created efficient control systems for anaerobic digestion processes on a large scale. However, specialist expertise in the field of anaerobic digestion is now requested in order to understand the factors involved in increasing the efficiency of the biochemical process.
This understanding will help the company to further enhance its process control capabilities and therefore work toward increasing the overall yield of the process.

The company is expert in control systems and requests experts in the anaerobic process itself. Target countries are Germany, France or Sweden, but the company will consider potential partners from other countries.

The company is open-minded about the nature of the partnership. A research cooperation agreement or technical cooperation agreement would be acceptable if the partner prefers an approach with minimal organizational integration. Alternatively, a joint venture will be possible for a partner preferring to invest the application of their IP and expertise within a jointly-owned new business.

Technical Specification or Expertise Sought

The company is investigating the very leading edge of the anaerobic digestion process, its control and optimisation of yield.

The potential partner must have expertise in anaerobic digestion processes - either in theory or practical production - with particular knowledge of the factors involved in increasing the efficiency of the biochemical process.

This is an interesting opportunity for specialists in the field of anaerobic digestion to be involved in the practical shaping of the future of this industry.

Stage of Development

Proposal under development

Comments Regarding Stage of Development

TRL 1-3

This development project is in the gathering of information and understanding stage. To be greatly accelerated by specialists in the field of anaerobic digestion.

Keywords

Technology

06006012	Bioprocesses
10003001	Biotreatment / Compost / Bioconversion
10003007	Waste to Energy /Resource
10004001	Industrial Water Treatment
10004006	Sludge Treatment / Disposal

Market

06002001	Oil, gas and coal
06003009	Biomass and Biofuels
06007001	Other energy production
08006001	Process control and logistics

NACE

D.35.2.1	Manufacture of gas

E.38.2.1	Treatment and disposal of non-hazardous waste
E.39.0	Remediation activities and other waste management services

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

The potential partner must have the technical expertise described above and may be a:
• university department
• R&D facility
• an individual specialist in anaerobic digestion
• an anaerobic digestion company seeking to collaborate to increase efficiency by sharing knowledge in order to develop new systems jointly.

Type and Size of Partner Sought

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

Type of Partnership Considered

Technical cooperation agreement
Joint venture agreement
Research cooperation agreement

Technology Request

Look for sustainable food packaging made up of 100% recycled materials

Summary

A Brussels-based (Belgian) start-up operating in the catering services looks for food packaging solutions that are entirely made up of recycled materials and that are fully recyclable. The company already uses compostable and environmental friendly packaging but would like a solution avoiding any extraction of new raw materials at the source.The company looks for commercial agreement with technical assistance with producers or suppliers of food sustainable packaging.

Creation Date	18 January 2016
Expiration Date	26 January 2017
Reference	TRBE20160118001

Details

Description

Two entrepreneurs have launched in Brussels, Belgium, a new concept of sustainable catering (restaurant service).

The company is looking for food packaging solutions of different formats which must be fully aligned with the philosophy of the start-up. It means a packaging which is made up of 100% recycled material and which can be 100% recycled after use.

The company wants to broaden and green even more the type of food packaging it currently uses.

It aims for commercial agreement with technical assistance with producers or suppliers of food sustainable packaging that will help the company monitor and reduce the environmental impact of its packaging.

**** BACKGROUND

The company is a take-away counter / shop of daily specials made of qualitative products compliant with the slow food concept and the short food supply chain, then in line with bio, local, ethics, greedy approaches to food. Special attention is paid to product's origin, the production condition and processing method.

The objective of this Brussels-based start-up is to provide their clients with a qualitative, varied, tasteful, fast, easy and affordable meal for dinner made of good and fair food. A way to fight against the homogenisation of taste in food industry and its distribution chains, against meals made of ingredients with pesticides, chemical fertilisers and genetically modified organism (GMO).

The whole customer experience has to be aligned with this philosophy and its overall concept behind the sustainable project, including the food packaging chosen for food sales. This latter must be environmental-friendly throughout its entire life cycle.

Technical Specification or Expertise Sought

The start-up already uses compostable and environmental friendly packaging but would like to go one step further by finding packaging solutions made up entirely of recycled materials avoiding any extraction of new raw materials. The packaging should be 100% recyclable.

Moreover, the catering packaging materials must offer safe and stable packaging that guarantees safety and food quality along the entire product self-life and compliant with the following technical requirements:

• Suitable to food contact
• Compliant with oven use (at least for 15 minutes at 180° (Celsius degrees)
• Compliant with microwave use
• Affordable Price : max € 0.5 / piece
- Transparent closure to let the clients see the content (meal)

FORMAT : the company is interested in packaging solutions for the following types of take-away packaging:
- soup bowls
- sauce jars
- take-away meals (size : 18 cm x 12 cm x 5 cm / capacity: 1 L)

In a full life cycle approach, transport distance between the potential supplier and the Brussels-based company will also play an important role in the selection criteria and this includes as well the material on which the solution is based (eg sugar cane is recyclable but the countries of origin are far from Belgium).

Stage of Development

Already on the market

Comments Regarding Stage of Development

The proposed packaging solution must already be fully developed and available on the market, with no further development needed.

Keywords

Technology

08001003	Food Packaging / Handling
10002013	Clean Production / Green Technologies
10002015	Life Cycle Assessment
10003001	Biotreatment / Compost / Bioconversion
10003004	Recycling, Recovery

Market

07003002	Health food
07005001	Fast food restaurants

07005002	Other restaurants
09004006	Packing products and systems

NACE

I.56.1.0	Restaurants and mobile food service activities
I.56.2.1	Event catering activities

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

Type of partner sought: Industry (small or large industry)
Specific area of activity of the partner: producers or suppliers of food sustainable packaging

Task to be performed by the partner sought: provide the Belgian start-up with a turn-key sustainable packaging solution made up of recycled materials and 100% recyclable.

The cooperation envisaged is a commercial agreement with technical assistance so as to help the company monitor the environmental impact of its packaging.

Type and Size of Partner Sought

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

Type of Partnership Considered

Commercial agreement with technical assistance

Technology Request

Development of fiber samples with specific thermal properties for application in 3D-fibre formed parts for acoustic and thermal insulation

Summary

A German SME has developed a new technology for production of 3D-fibre formed parts for acoustic and thermal insulation that can be applied e.g. in the automotive, construction or medical sector. The technology allows production from a large range of different materials and the SME is looking for new fibres for their products/applications that have suitable thermal properties. The SME searches companies for a technical or research co-operation and in a second step for a manufacturing agreement.

Creation Date	25 January 2016
Expiration Date	26 January 2017
Reference	TRDE20160120001

Details

Description

A German SME has invented and patented an innovative technology for the production of 3D fibre formed thermal and acoustic parts for isolation and insulation from various materials. The innovation consists of a new system for blowing in fibres and flakes into the production mould. Thus varying densities and internal structures can be manufactured in one single production step. Moreover, the system allows production from a larger range of different materials than is possible with conventional technologies: The materials could be fibres or a mixture of fibres with foam flakes, thermoplastic fixed with a binder. Nearly each kind of fibres may be taken: Cotton, hemp, flax basalt, glass and PES (polyether sulfone), etc. The technology thus allows the production of isolation and insulation 3D parts for various applications. It has been successfully used in automotive, construction, medical or rehabilitation applications.
A big market are PUR (polyrutheane) foam based parts, which could be replaced with the new technology, if the right fibres are available.

Fiber based parts are lighter than PUR foam parts. Together with the new technology it is possible to implement different densities for better performance than with PUR.
It exist significant business opportunities for new materials that approach the advantages of PUR foam (good shaping properties, good combination of density, rigidity, elasticity) while at the same time eliminating its disadvantages (poor recyclability, poor consumer acceptance of PUR due to perceived dangers from precursor monomers or additives).

Up to now, however, no fibre on the market has the same resiliency like foam under higher temperature conditions.
Therefore, the SME is looking for a technological or research co-operation with a laboratory or

institute which can develop fibres with thermal properties that come up to the SME's requirements for their applications. Once a suitable fibre has been found the SME will also look for a manufacturing agreement for these fibres.

Technical Specification or Expertise Sought

The requested partner should be experienced in fibre development and provide/develop fibres applicable for products with stable resilience of up to 80C.
For trials some kg of material are needed, for start of serial production later several 1.000t per year.

Keywords

Technology

02007005	Composite materials
02007015	Properties of Materials, Corrosion/Degradation
04007004	Thermal insulation
10002014	Noise Pollution
10003004	Recycling, Recovery

Market

06006001	Thermal insulation
08001009	Speciality/performance materials: producers and fabricators
08003005	Other industrial machinery for textile, paper & other industries
09001005	Motor vehicles, transportation equipment and parts
09007002	Manufacture of construction materials, components and systems

NACE

C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
M.74.9.0	Other professional, scientific and technical activities n.e.c.

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: Laboratory, institute

- Specific area of activity of the partner:
Laboratories with good experience in fiber development.

- Task to be performed:
Development and possibly in a second step production of fibre samples that will be tested and evaluated by the SME.

Type of Partnership Considered

Manufacturing agreement
Technical cooperation agreement
Research cooperation agreement

enterprise europe network

Medio Ambiente:

Ciencias Marinas

Research & Development Request

Interreg Adrion Programme: Sustainable and innovative reuse of dredged sediments from ports

Summary

Slovenian research institute intends to submit a transdisciplinary project proposal to 1st call of INTERREG ADRION programme to find a permanent and efficient solution for the sediment that is being dredged in ports in order to construct and maintain navigation paths. The institute is looking for research organisations specialized in agricultural experiments, SMEs with experience in commercialization (market research) and creative studio specialized in public relations for communication purpose.

Creation Date	02 February 2016
Expiration Date	09 February 2017
Reference	RDSI20160202001

Details

Description

Slovenian research institute intends to submit a transdisciplinary project proposal to the 1st call of INTERREG ADRION programme to find a permanent and efficient solution for the sediment that is being dredged in ports in order to construct and maintain navigation paths.

State of the art and challenge addressed:
Dredging is a procedure where sediments are excavated from shallow waters in order to construct and maintain a safe navigation for vessels. Most major ports in the world require dredging at some time to enlarge access channels and turning basins, and to provide appropriate water depths along waterside facilities. Furthermore, these channels often require frequent and regular maintenance dredging. Taking into consideration the fact that about a half of the world's population lives within 200 km of the coastline with a need of transporting people, equipment and materials it is clear that there is a ever-growing demand of maintaining and enlarging the coastal areas (including harbours, beaches and water pathways). Dredging, albeit being a necessary activity, could potentially have a range of environmental effects. Therefore, as a society, we are urged to explore this issue on two levels:
1. assess the potential effects of dredging spatially and in time
2. taking into consideration the necessity of dredging exploring the alternative, sustainable reuse of the dredged materials.

The latter has been a topic of active research in the past as traditionally the dredged material is filled into special lagoons. However, there are some sustainable possibilities of reusing this material. The dredged material can be reallocated and re-used for road construction, for beach renourishment, for creating construction materials and in agriculture.

Project Objective:

Within this project we will exploit the possibilities of using the dredged sediment for creating soil to be used in agricultural purposes.

Work packages:
1. analysis of dredged sediment in order to define its structure, environmental safety and possibilities of reuse
2. agricultural experiments in order to determine its best mode of employ
3. plan for commercialization
4. communication and dissemination (very important WP)

Outcomes:
The solutions of usage of this material in construction materials have already been explored worldwide and on a European level. The focus of this project is to explore and bring solutions, for the possible use of this material in agriculture, which is also promising and deserves special attention.

Partners requested:
The institute is looking for research organisations specialized in agricultural experiments, SMEs with experience in commercialization (market research) and creative studio specialized in public relations for communication purposes. The partners should come from Croatia, Italy or Greece.

The deadline for project submission is 25th March 2016. Interested partners should respond to this posting by February 25th, 2016. The planned duration of the project is 24 months.

Advantages and Innovations

The innovation lies in the sustainability of the whole project. If successful, the solution could be used permanently, thus opening new jobs and resolving the possible environmental adverse effects of the dredged sediments that can be disposed on the surface.

Stage of Development

Proposal under development

IPR Status

Secret Know-how

Keywords

Technology

07003003	Marine Science
10003001	Biotreatment / Compost / Bioconversion
10003003	Land and Sea Disposal
10004006	Sludge Treatment / Disposal
10004009	Marine Environment

Market

08004004	Other pollution and recycling related

NACE

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

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

The Slovenian research institute is looking for partners among research organisations and SMEs specializing and having expertise in:
- agricultural experiments: company or research organization sought for experiment of optimal mixture of soil and tests of yield on selected plants
- assistance with commercialization (market research): company sought for market research and future commercialization plan of the soil obtained from sediments
- creative studios with expertise and experience in public relations, (for communication purposes in collaboration with the coordinator)

The partners sought should come from Croatia, Italy or Greece.

Type and Size of Partner Sought

SME 11-50,R&D Institution

Type of Partnership Considered

Research cooperation agreement

Technology Offer

Coconut fiber mats for coastal and seashore protection

Summary

Researchers from a German university institute have developed a method of seashore protection using coconut fiber. The method is an initial protection for seeding or planting of shore protection structures such as dykes or dunes. The team is looking for research partners from industry and academia interested in further projects on the use of this material for coastal and seashore protection.

Creation Date	14 January 2016
Expiration Date	15 January 2017
Reference	TODE20160114001

Details

Description

Extreme events such as storm surges result in a number of problems for coast lines - beach erosion being one of them, especially on sandy beaches. Shore protection on the other hand is an expensive procedure and a major factor in the budget of coastal communities. Especially developing countries with long coastlines seek for a economical and ideally locally produced alternative.

In the case of Bali, Indonesia the team found a prototype application of coir fibre geotextiles, serving as initial dune protection. The geotextile was rolled out on the dune head and vetiver seedlings were planted into cutouts. Coir geotextiles will protect the dune in the initial stage, while vetiver grass builds a sturdy root system. In the end, biological degradable geotextiles will decay, avoiding manual deinstallation and serving as nourishment for the plants.
In the case of South East Asia, coir geotextiles are a sustainable, ecosystem-based protection measure, since the material is gained and processed nearby, serving as a local re-investment and thus improving the livelyhood regionally.

The institute focuses on sustainable,ecosystem-based protection measure, since the material is gained and processed nearby, serving as a local re-investment and thus improving the livelyhood regionally.

The institute focuses on sustainable, ecosystembased "soft" coastal protection measures and were able to expand our knowledge and expertise regarding coir and natural fibre geotextiles. The researchers have performed initial material specifications and set up a physical model in which they found a positive influence on sedimentation (erosion). Currently they are investigating further material specifications, which are required for very sophisticated design approaches, including numerical modelling.

For this, the institute offers access to world renowned expertise in physical modelling and access to its hydraulic testing facilities. Partners are offered cooperation on future joint projects

related to the topic under technical or research cooperation agreements.

Advantages and Innovations

- Potection potential for erosion
- Sustainable
- Strong regional and local link (at present: South East Asia)
- Bio-degradable
- Innovation potential in production and application

Stage of Development

Already on the market

IPR Status

Other

Comment Regarding IPR status

The researchers have been supporting prototype facilities / structures with scientific advise.

Keywords

Technology

02007002	Building materials
07003003	Marine Science
10002004	Climate Change mitigation
10002007	Environmental Engineering / Technology
10002009	Natural Disasters

Market

09003001	Engineering services
09003005	Consulting services
09007002	Manufacture of construction materials, components and systems
09007004	Engineering and consulting services related to construction

NACE

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

Open for EOI : Yes

Partner Sought

Type and Role of Partner Sought

Research partners from industry and academia or local authorities related to costal protection etc. interested in existing know-how and in conducting further projects on the use of this material for coastal and seashore protection.

Type of Partnership Considered

Technical cooperation agreement
Research cooperation agreement