



Boletín nº 173 de Oportunidades de Cooperación:

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

(Febrero 2019)

## NANOTECNOLOGÍAS

### Technology Offers

- Low cost delamination process to isolate high quality graphene
- Production machine for semiconductor and nanotechnologies production offered for commercial agreement with technical assistance or research...

### Research and Development Requests

- A Chinese company seeks high-end fine chemicals, new materials technology from European market under a technical cooperation agreement.

## TECNOLOGÍAS DE PRODUCCIÓN

### Technology Offers

- London-based robotic company is looking for partners who can benefit from their advanced robotic hand technology
- Greek SME offers modular lighting device adapted for retrofitting existing lighting units
- An established Slovak research institute has developed new polymer composites for 3D printing and is looking for licensees or investors
- Innovative anodised aluminium coating technology on offer to significantly improve resistance to wear
- Development of custom remote industrial monitoring and control solutions for infrastructure, factories, plants and industrial sites offered for...
- Production machine for semiconductor and nanotechnologies production offered for commercial agreement with technical assistance or research...
- Environmentally friendly foaming technology for refillable packaging and industrial applications

### Technology Requests

- A Dutch multinational is looking for technologies for advanced functionalities and innovative features to their coatings and paints

## CONSTRUCCIÓN

### Technology Offers

- Non-combustible plastic door with excellent heat resistance and insulation
- Transparent Building Integrated Photovoltaic Glazing (BIPV)
- Greek SME offers modular lighting device adapted for retrofitting existing lighting units

- Development of custom remote industrial monitoring and control solutions for infrastructure, factories, plants and industrial sites offered for...

#### **Research and Development Requests**

- H2020 LC-RUR-11-2019-2020: sustainable wood value chains: seeking cluster, industrial and R&D partners

## **MATERIALES**

#### **Technology Offers**

- Spanish company offers mobile survey technologies applied to roads for assessment of transport infrastructures.
- New flexible smart window with better optical and reliability performance at a lower cost
- Low cost delamination process to isolate high quality graphene
- Innovative anodised aluminium coating technology on offer to significantly improve resistance to wear
- First 100 % plastic based solar thermal system
- Non-combustible plastic door with excellent heat resistance and insulation
- Thermal insulation materials developed with cross-linked foaming technology
- Transparent Building Integrated Photovoltaic Glazing (BIPV)
- Environmentally friendly aerosols for new and improved food, FMCG (fast-moving consumer goods) and other products
- Spanish research foundation offers its technology in the field of Composite Technologies
- Environmentally friendly foaming technology for refillable packaging and industrial applications

#### **Technology Requests**

- Novel solutions sought for an unsinkable ship

## **TRANSPORTE**

#### **Research and Development Requests**

- Spanish company offers mobile survey technologies applied to roads for assessment of transport infrastructures.



# ***1. NANOTECNOLOGÍA***

## Technology Offer

# Low cost delamination process to isolate high quality graphene

### Summary

*Spanish researchers have developed a novel, simple procedure to isolate highly crystalline graphene so that it can be transferred from its growth silicon carbide (SiC) substrate to arbitrarily another one, such as a dielectric for electronic device applications. This novel transfer method has been experimentally proven, showing good performance and reproducibility. Graphene or SiC producers and device makers are being sought to exploit the know-how through a patent license agreement.*

<b>Creation Date</b>	10 January 2019
<b>Last Update</b>	01 February 2019
<b>Expiration Date</b>	02 February 2020
<b>Reference</b>	TOES20190110002
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/4af43e14-7dc1-4f56-bdd8-b3a116201f81">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/4af43e14-7dc1-4f56-bdd8-b3a116201f81</a>

### Details

#### Description

Chemical Vapor deposition (CVD) graphene and Epitaxial Graphene on Silicon Carbide (EG-SiC) are the two preferred synthesis processes for the preparation of highly crystalline graphene.

Applications of CVD graphene often require sacrificial metal catalyst, e.g. by using a FeCl<sub>3</sub> based solution, which is a very corrosive and environmental unfriendly chemical. Differently, EG-SiC presents a immediately readiness for electronic devices fabrication, although the use of SiC wafers as substrates makes it in principle expensive as compared to metal foils combined with silicon substrates.

In any case, the exfoliation and transfer of graphene from one substrate to another is a critical processing step. Its elusiveness as a robust process impedes that the graphene can be widely used in e.g. electronic devices, in different fields of application and, importantly, for industrialization or commercialization.

The developed delamination and transfer method relies on using doped SiC wafers, which are cheaper than often required semi-insulating SiC wafers, and does not employ acute toxic chemicals.

#### Advantages and Innovations

Most relevant features are:

- Versatile and simple transfer. One-step procedure to isolate graphene.

Ref: TOES20190110002

- Easily scalable, fast and modular method. Potentially suitable for mass production.
- Preserving integrity of high quality graphene or its crystal domain/sheet size. No adhesives or mechanical traction by metal thin films are needed.
- Affordable and scalable synthesis. Use of EG grown on doped-SiC substrates.
- Environmentally friendly. Delamination in non-hazardous chemicals, reduction of sacrificial materials and possibility of SiC template recycling.
- SiC reusable after graphene exfoliation e.g. for regrowth.

## Stage of Development

Under development/lab tested

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

PCT patent application filed

## Profile Origin

Private (in-house) research

## Keywords

### Technology

02007012	Optical Materials
02007022	Conductive materials
02007023	Hybrid materials
02007024	Nanomaterials

### Market

03001001	Semiconductors
03001004	Other semiconductors
03001009	Other electronics related (including keyboards)
03004001	Semiconductor fabrication equipment and wafer products
03005	Laser Related

### NACE

M.72.1.1	Research and experimental development on biotechnology
M.72.1.9	Other research and experimental development on natural sciences and engineering
M.72.2.0	Research and experimental development on social sciences and humanities

## Network Contact

## Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

## Contact Person

Maria Dolores Guillén Ruiz

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**Open for EOI :**    **Yes**

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## Dissemination

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### Relevant Sector Groups

Aeronautics, Space and Dual-Use Technologies  
Healthcare  
Materials  
Nano- and Microtechnologies

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

1936

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
German

### Client Country

Spain

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## Partner Sought

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

Graphene or Silicon carbide (SiC) producers and device makers are being sought to work in collaboration for further developments, e.g. scalability, or to exploit the existing know-how through a patent license agreement.

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

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

## **Type of Partnership Considered**

License agreement  
Technical cooperation agreement  
Research cooperation agreement



## Technology Offer

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# Production machine for semiconductor and nanotechnologies production offered for commercial agreement with technical assistance or research cooperation agreement.

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### Summary

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*A Czech company offers an equipment for a Chemical Vapour Deposition (CVD) for both mass production and/or for demanding R&D. The tools can be used for process development and materials growth in many areas of research including semiconductor, photovoltaic (PV), and other nanotechnological applications. The company is looking for a cooperation based on a commercial agreement with technical assistance or a research cooperation agreement.*

<b>Creation Date</b>	21 January 2019
<b>Last Update</b>	01 February 2019
<b>Expiration Date</b>	02 February 2020
<b>Reference</b>	TOCZ20190121002
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/a6b9b25a-6ea2-4570-95d0-dd91305276e7">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/a6b9b25a-6ea2-4570-95d0-dd91305276e7</a>

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### Details

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#### Description

A small Czech company started a production in 2000 by experts who came from previous advanced factory producing PV cells.

The machines can be used for process development and materials growth in many areas of research including semiconductor, photovoltaics and other nanotechnological applications. The supporting equipment starts from Ultra-High Purity (UHP) gas cabinets, gas panels, followed by liquid precursor delivery systems.

The main product of the company is a horizontal diffusion furnace, which is a type of a chemical reactor that can produce at high and defined temperatures integrated circuits or solar cells. The furnace is able to add ultra pure gas or liquid mediums. For certain processes a reactor with vacuum or plasma generator is used.

The company is looking for a cooperation based on a commercial agreement with technical assistance (for partners who would like to be producers of semiconductors) or for clients (universities or research organisations) who can cooperate on a considered partnership research agreement.

The partner sought is either a bigger production company (for commercial agreement) or a research institution with an interest in a joint research activities (for research agreement).

## Advantages and Innovations

Very precious and fully automatic production of various types of semiconductors used in PV cells, bateries and other advanced components. The company offers equipment engineering and process support for variable usage of the machine and technical assistance of the company to possible partners.

## Stage of Development

Already on the market

## IPR Status

Trade Marks

## Profile Origin

National or Regional R&D programme

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## Keywords

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### Technology

02002016	Microengineering and nanoengineering
03004004	Electrical Engineering/ Electrical Equipment
04005004	Photovoltaics

### Market

06003002	Photovoltaics
08003001	Machine tools, other metal working equipment (excl. numeric control)
08003007	Other industrial equipment and machinery

### NACE

C.27.9.0	Manufacture of other electrical equipment
C.28.9.9	Manufacture of other special-purpose machinery n.e.c.

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## Network Contact

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**Open for EOI :**    **Yes**

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## Dissemination

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### Relevant Sector Groups

Intelligent Energy

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

2000

### Turnover

>500M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Russian

### Client Country

Czechia

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## Partner Sought

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### Type and Role of Partner Sought

The company is looking for a co-operation based on a commercial agreement with a technical assistance ( ideally a bigger production company) or a research cooperation agreement (research institution interested in a common research) because only advanced partner could produce semiconductors with this production machine.

### Type and Size of Partner Sought

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

## Type of Partnership Considered

Commercial agreement with technical assistance  
Research cooperation agreement



**2.**

***PRODUCCIÓN  
INDUSTRIAL***

## Technology Offer

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# Greek SME offers modular lighting device adapted for retrofitting existing lighting units

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### Summary

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*A Greek company specialized in the development of innovative relamping products (lamps and modules) is offering a modular lighting device that can retrofit any existing lighting fixture that utilizes high intensity discharge (HID) or incandescent lamp and upgrade them to LED technology. Industrial partners active in lighting sector are sought with an interest in establishing a commercial agreement with technical assistance.*

<b>Creation Date</b>	22 January 2019
<b>Last Update</b>	01 February 2019
<b>Expiration Date</b>	02 February 2020
<b>Reference</b>	TOGR20190122001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6bae3f88-3110-440f-a0b0-8494d3e76bc7">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6bae3f88-3110-440f-a0b0-8494d3e76bc7</a>

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### Details

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#### Description

Light emitting diode (LED) lighting devices have been introduced in the lighting market in replacement of incandescent, fluorescent or other prior art lighting devices as they offer an enhanced luminosity and yet a much lower consumption of electric energy. At the same time research continues and further lighting technologies, e.g. organic led or laser and other lighting technologies are being explored and/or developed. Despite the advantageous characteristics of these new led or other lighting devices, their broad adoption in the lighting market remains low. One main reason for the above is the high cost which it associated with the substitution of existing lighting devices with the new technologically advanced ones. A LED lighting device configuration and requirements differ substantially from the prior art lighting devices and therefore it is required to replace all the entire existing lighting unit.

It is evident that a great market demand exists for the evolution of a retrofitting process in a variety of circumstances. A Greek SME company identified that and started to deal with the research and development of adequate high power led retrofit solutions. After long lasting research and utilizing innovative and patented approaches, they developed a modular lighting device adapted for retrofitting existing lighting fixtures.

The heart of the proposed modular lighting device is the patented technology as it comprises various elements in combination. A lighting module with at least one array of led assembled in either a COB (Chip-On-Board) or in a longitudinal strip configuration provided with appropriate lenses that focus and direct light emission. A heat sink and fan cooling unit assembly with an

appropriate configuration to match retrofitting existing lighting units. The led bulb and the fan cooling unit are provided with power through an automatically power supply control circuit that receives a DC (Direct Current) power input from an external source. That control circuit includes two temperature sensors arranged to monitor the temperature of the led chip assembly. The first sensor activates the operation of the fan cooling unit at a first predetermined value of temperature of the led chip assembly. The second sensor is being adapted to cut power supply and shut off the led chip assembly at a second predetermined value of temperature. All the assembly can be connected to a standardised sockets (of E27 or E40 types) of any existing lighting unit via an appropriate connector made from a non-conductive material.

The offered modular lighting unit can be adapted for retrofitting a plethora of existing lighting units that operate with technologically advanced lighting modules, such as led, o-led, laser or other and provide an optimally enhanced luminosity.

The Greek company is looking for commercial agreements with technical assistance with companies from the lighting sector and specialised lighting devices sector for joint activities. The Greek company offers know-how and expertise so as to cover special needs of lightning.

## Advantages and Innovations

The offered lighting device constitutes actually a compact self-sustained unit that can fully match a variety of retrofitting requirements in a plurality of existing lighting units. It has a series of innovative aspects as detailed below.

It can replace the prior art lighting modules, which are consumables, without requiring any change in the overall supporting structure of the lighting unit. Also it does not require any re-certification as it is per se tested and compliant with all European and international standards and norms.

Further, it is serviceable, repairable and upgradable while during its operating life, it can be adapted to a broad range of applications and usages.

Additionally, it is compatible with all smart lighting systems, both residential and commercial providing enhanced capacity of remote control of lighting devices.

Due to its innovative structure and architecture, it is protected from being exposed at overheating, thereby enhancing the service life thereof and preventing a fire hazard.

Moreover, it provides enhanced luminosity, whilst consuming an optimally minimal amount of energy, thereby providing a combination of environmentally friendly characteristics and low cost in both infrastructure and in operation.

Lastly, it has the capacity to change and manage the direction of the luminance. Thus, there is no need of additional light-directional features, such as a reflector. It employs compact lighting modules and appropriate lens assemblies that offer enhanced efficiency in light directing.

## Stage of Development

Already on the market

## IPR Status

Design Rights, Granted patent or patent application essential

## Profile Origin

COSME

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## Keywords

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### Technology

01002003	Electronic engineering
02006004	Installations related to construction (energy, lighting, ...)
02009020	Lighting and signalling system
03003	Apparatus Engineering
04007002	Lighting, illumination

### Market

03001009	Other electronics related (including keyboards)
08005	Other Industrial Products (not elsewhere classified)
09008001	Electric companies

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## Network Contact

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established



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## Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

Greek

### Client Country

Greece

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## Partner Sought

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### Type and Role of Partner Sought

The Greek SME is looking for industrial partners to conclude commercial agreement with technical assistance.

- Specific area of activity of the partner: companies active in lighting industry and particularly in electrical equipment technology, smart lighting, led lighting and lighting retrofits sectors;

- Task to be performed by the partner sought: to implement the proposed technology, to provide expertise or completely customised lighting solutions covering special requirements and specifications.

### Type and Size of Partner Sought

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

### Type of Partnership Considered

Commercial agreement with technical assistance

## Technology Offer

### An established Slovak research institute has developed new polymer composites for 3D printing and is looking for licensees or investors

#### Summary

*Established Slovak scientific and research institute in cooperation with a private company has successfully managed to prepare unique polymer composites for 3D printing consisting of a polymer matrix and a filler, whereby as the polymer matrix recycled polyethylene terephthalate glycol (rPETG) is used and the filler is a mixture of expanded graphite and carbon fibers in a suitable ratio. The preferred cooperation types are license agreement, financial agreement or commercial agreement.*

<b>Creation Date</b>	18 January 2019
<b>Last Update</b>	21 January 2019
<b>Expiration Date</b>	22 January 2020
<b>Reference</b>	TOSK20181112001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/bc383f0e-151e-4c93-b605-87a35a6fa394">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/bc383f0e-151e-4c93-b605-87a35a6fa394</a>

#### Details

##### Description

Currently, several principles of 3D printing are known and have been gradually developed and improved. The most commonly used is the FFF (Fused Filament Fabrication) or FDM (Fused Deposition Modeling) method. The principle of this method is that the filament is fed into the nozzle and the resulting melt is applied on the pad in repeated thin layers until a three-dimensional object of desired shapes and dimensions is created.

The materials used for filaments are predominantly polymeric materials differing in their mechanical and thermal properties (e.g. acrylonitrile butadiene styrene, polylactic acid, polyethylene terephthalate and others). In addition to polymeric materials, the filaments can also contain various additives (wood flour, ceramic particles, graphene, etc.) which serve to improve the mechanical properties or the appearance of the material. Their disadvantage is that they significantly affect the rheological properties of the melt or have abrasive properties on the nozzles which can lead to their wear and more frequent replacement.

Recently, a team of inventors from the Polymer research institute and established Slovak company active in 3D printing managed to use recycled polyethylene terephthalate glycol as the polymer matrix of the material for 3D printing, which has in comparison with polyethylene terephthalate a higher impact resistance and clarity. The institute was established in 1953 in order to carry out fundamental and applied research and new developments in the field of civil

engineering and architecture.

Due to the fact that it is a recycled material, its price is several times lower than the price of non-recycled polyethylene terephthalate. Furthermore, this fact did not reflect in the properties of the resulting 3D object. For the purposes of improving the mechanical properties (static and dynamic) and reducing the weight of the final product, carbon fibers in a suitable ratio with expanded graphite have been mixed into this polymer matrix. Expanded graphite, that has lubricating effects, also reduces the abrasive properties of carbon fibers, improves the rheological properties of the polymer melt with carbon fibers and adds fine roughness to filaments, resulting in an easier feed into the nozzle. Thanks to the high thermal conductivity of the expanded graphite it is not necessary to change the temperature parameters of the processing

The institute is looking for partners to cooperate with via financial agreement, license agreement or via commercial agreement with technical assistance.

## Advantages and Innovations

Competitive advantage:

- Several times lower price of the used polymer matrix (rPETG) in comparison with the price of non-recycled polyethylene terephthalate (PET); this fact did not reflect in the properties of the resulting 3D object,
- Higher impact resistance and clarity of rPETG in comparison with PET,
- Weight reduction of the final product (saving about 15 - 20% of the final product weight), and at the same time achievement of higher strength and better surface appearance.

## Stage of Development

Prototype available for demonstration

## IPR Status

Other

## Comment Regarding IPR status

Registered Slovak utility model

## Profile Origin

Other

## Keywords

### Technology

02001001	3D printing
02009012	Automotive engineering

### Market

09003001	Engineering services
09003007	Other services (not elsewhere classified)

### NACE

C.18.1.2	Other printing
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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

1967

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
German  
Slovak

### Client Country

Slovakia

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## Partner Sought

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### Type and Role of Partner Sought

Type: The institute is seeking an industrial partner for licensing or financing the technology, as well as commercial agreement with technical assistance.

Field of activity: especially the production of high performance materials for automotive industry.

Role of partner:

- financial agreement - the financing for the further development of this technology is sought,
- license agreement - the licensing for the further development of this technology is sought,
- commercial agreement with technical assistance is sought.

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

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

### **Type of Partnership Considered**

License agreement  
Financial agreement  
Commercial agreement with technical assistance

## Technology Offer

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# Production machine for semiconductor and nanotechnologies production offered for commercial agreement with technical assistance or research cooperation agreement.

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### Summary

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*A Czech company offers an equipment for a Chemical Vapour Deposition (CVD) for both mass production and/or for demanding R&D. The tools can be used for process development and materials growth in many areas of research including semiconductor, photovoltaic (PV), and other nanotechnological applications. The company is looking for a cooperation based on a commercial agreement with technical assistance or a research cooperation agreement.*

<b>Creation Date</b>	21 January 2019
<b>Last Update</b>	01 February 2019
<b>Expiration Date</b>	02 February 2020
<b>Reference</b>	TOCZ20190121002
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/a6b9b25a-6ea2-4570-95d0-dd91305276e7">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/a6b9b25a-6ea2-4570-95d0-dd91305276e7</a>

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### Details

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#### Description

A small Czech company started a production in 2000 by experts who came from previous advanced factory producing PV cells.

The machines can be used for process development and materials growth in many areas of research including semiconductor, photovoltaics and other nanotechnological applications. The supporting equipment starts from Ultra-High Purity (UHP) gas cabinets, gas panels, followed by liquid precursor delivery systems.

The main product of the company is a horizontal diffusion furnace, which is a type of a chemical reactor that can produce at high and defined temperatures integrated circuits or solar cells. The furnace is able to add ultra pure gas or liquid mediums. For certain processes a reactor with vacuum or plasma generator is used.

The company is looking for a cooperation based on a commercial agreement with technical assistance (for partners who would like to be producers of semiconductors) or for clients (universities or research organisations) who can cooperate on a considered partnership research agreement.

The partner sought is either a bigger production company (for commercial agreement) or a research institution with an interest in a joint research activities (for research agreement).

## Advantages and Innovations

Very precious and fully automatic production of various types of semiconductors used in PV cells, bateries and other advanced components. The company offers equipment engineering and process support for variable usage of the machine and technical assistance of the company to possible partners.

## Stage of Development

Already on the market

## IPR Status

Trade Marks

## Profile Origin

National or Regional R&D programme

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## Keywords

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### Technology

02002016	Microengineering and nanoengineering
03004004	Electrical Engineering/ Electrical Equipment
04005004	Photovoltaics

### Market

06003002	Photovoltaics
08003001	Machine tools, other metal working equipment (excl. numeric control)
08003007	Other industrial equipment and machinery

### NACE

C.27.9.0	Manufacture of other electrical equipment
C.28.9.9	Manufacture of other special-purpose machinery n.e.c.

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## Network Contact

---

### Issuing Partner

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**Open for EOI :**    **Yes**

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## Dissemination

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### Relevant Sector Groups

Intelligent Energy

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

2000

### Turnover

>500M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Russian

### Client Country

Czechia

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## Partner Sought

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### Type and Role of Partner Sought

The company is looking for a co-operation based on a commercial agreement with a technical assistance ( ideally a bigger production company) or a research cooperation agreement (research institution interested in a common research) because only advanced partner could produce semiconductors with this production machine.

### Type and Size of Partner Sought

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



## Type of Partnership Considered

Commercial agreement with technical assistance  
Research cooperation agreement

## Technology Offer

# Innovative anodised aluminium coating technology on offer to significantly improve resistance to wear

### Summary

*Lithuania based lab offers anodized aluminum (AA) coating with our in-house developed biobased filler improving surface hardness, corrosion resistance, paintability and other important properties. This coating is not polytetrafluoroethylene-based, does not require complicated coating facility and with additional development can be customised for other metal types. Technology developer is seeking for partner to work under the joint venture or commercial agreement with technical assistance.*

<b>Creation Date</b>	11 November 2018
<b>Last Update</b>	28 January 2019
<b>Expiration Date</b>	29 January 2020
<b>Reference</b>	TOLT20181109001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/a76a3d5f-efb1-4c6a-bc9c-a0c1d6e15743">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/a76a3d5f-efb1-4c6a-bc9c-a0c1d6e15743</a>

### Details

#### Description

The science laboratory based in Lithuania is specialising in experimental coating development. The science laboratory has a long history of successful development of innovative solutions in their working field.

The main emphasis and characteristic of their product is that geometrically not limited parts or even sheets of metal made from anodized aluminum can be locally, in their facilities, coated with the developed bio-based coating. This coating is proven to improve surface hardness, corrosion resistance, paintability. Wear resistance can be improved at least 6-8 times. The coating is non-toxic and can be used for human contact. The coating procedure is also non-toxic and dangerous waste-free. Later the coated parts are tribologically tested for their hardness and damages to the surface. Additionally the corrosion testing is also carried out in the local facility, where all necessary testing for the certifications can be carried out.

Company is looking for an active partner to work under the commercial agreement, where partner would act as a distributor. Offer for a joint venture agreement would also be considered, however it would be expected that the partner would make a significant contribution to the product development.

#### Advantages and Innovations

Technology presents several advantages:

- Vast improvement in wear resistance
- Geometrically unrestricted

- Tested in real life conditions (engine pistons)
- Thin coat layer (micro meters thick)
- Easy technology transfer and scale-up
- Pollution-free coating procedure

## Stage of Development

Already on the market

## IPR Status

Other

## Profile Origin

Private (in-house) research

## Keywords

### Technology

02002002	Coatings
02002006	Hardening, heat treatment
02002015	Surface treatment (painting, galvano, polishing, CVD, ..)
02007010	Metals and Alloys
02007015	Properties of Materials, Corrosion/Degradation

### Market

08001007	Coatings and adhesives manufactures
08001012	Speciality metals (including processes for working with metals)
08003001	Machine tools, other metal working equipment (excl. numeric control)
08003003	Mining machinery
08003007	Other industrial equipment and machinery

### NACE

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

### Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

### Contact Person

Maria Dolores Guillén Ruiz

### Phone Number

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Ref: TOLT20181109001

## Email

mariad.guillen.ruiz@juntadeandalucia.es

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English  
Russian  
Lithuanian  
Polish

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## Partner Sought

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### Type and Role of Partner Sought

We are looking for partners with interest in coating metal parts for whom we could provide service or transfer technology to their manufacturing line. Also for distributions partners for coating service.

### Type of Partnership Considered

Commercial agreement with technical assistance  
Joint venture agreement

## Technology Offer

# Environmentally friendly foaming technology for refillable packaging and industrial applications

## Summary

*A UK company has prototyped a new foaming technology. Environmentally friendly gases such as air or nitrogen are used to produce very consistent microfoams. Manufacturers and users of foams are sought to jointly develop appliances, devices and processes, incl. refillable aerosol dispensers, fire suppression systems, systems to dispense environmentally friendly insulating material under technical cooperation and license agreements.*

<b>Creation Date</b>	31 January 2019
<b>Last Update</b>	04 February 2019
<b>Expiration Date</b>	05 February 2020
<b>Reference</b>	TOUK20190131001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6215ca21-b2ef-4131-800b-ea79759075eb">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6215ca21-b2ef-4131-800b-ea79759075eb</a>

## Details

### Description

Many chemicals are used as foams, either as end products or ingredients in construction, manufacturing etc. The foams can be made in situ using pressurised gas cylinders, or bought ready packaged in cylinders or cans. Different chemistries condition different gases (propellants) and developing the right formulations is not an easy task. The propellants are usually flammable or toxic or both.

A UK company has prototyped new hardware for very consistent microbubbles at ca 30-40 um with all gases tried so far, and air. The gas phase volume is tightly controlled from a few percent to as high as 98%. The consistency and smoothness of the closed cell foam is important from the point of end product quality. It also opens up possibilities in circular economy: many containers and vessels can be refilled/pressurised at the site of production. One possibility is to develop new home appliances. The hardware is easy to make and easy to take apart and wash. What is needed is expertise in incorporating manual or electric pumps into various appliances. Foaming milk is just one idea out of many possibilities. The technology is capable of producing foam flow rates as low as a few millimetres per minute up to industrial scale of hundreds of litres per minute.

The UK company seeks manufacturers of foamed products, devices and appliances, for technical co-operation and license agreements. The novel hardware is compatible with pressurised vessels and it can be licensed without much technical consultancy. Technical co-operation is sought with developers and manufacturers of appliances who have an interest in greener or circular economy. The hardware is easily adapted but the pressurising i.e. the pumps need adapting to new appliances.

## Advantages and Innovations

The patented hardware works with a multitude of gases so that harmful, toxic, and hazardous gases can be substituted.

Another advantage is the possibility of making various foams in custom or mass produced appliances, and saving on purchase of gases. Also, new formulations are possible that are eco-friendly at no extra cost.

## Stage of Development

Available for demonstration

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

Applications filed with a view to extend to most developed countries.

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

02005004	Packaging for materials
02007009	Materials Handling Technology (solids, fluids, gases)
08002003	Safe production methods
10002013	Clean Production / Green Technologies

### Market

07004004	Housewares
08001007	Coatings and adhesives manufactures
08001016	Commodity chemicals and polymers
09004006	Packing products and systems
09007002	Manufacture of construction materials, components and systems

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## Network Contact

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### Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

### Contact Person

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Ref: TOUK20190131001

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mariad.guillen.ruiz@juntadeandalucia.es

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2016

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English

### Client Country

United Kingdom

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## Partner Sought

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### Type and Role of Partner Sought

Type of partner sought: industry.

Specific activity of partner: manufacturers and users of various foamed chemicals.

Role of partner sought: to start manufacturing existing pressurised vessels with different i.e. eco-friendly gases, incorporating the novel hardware. Manufacturers of foam making appliances and kit are sought to jointly develop new devices around the hardware.

### Type and Size of Partner Sought

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

### Type of Partnership Considered

License agreement

Technical cooperation agreement

## Technology Offer

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# Development of custom remote industrial monitoring and control solutions for infrastructure, factories, plants and industrial sites offered for commercial partnerships

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### Summary

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*A Czech company offers custom remote monitoring and control solutions based on its proprietary hardware and software framework. The company is looking for design, architecture, engineering, project management consultancy agencies, and system integrators dealing with facility management interested in including the offered system in their product and services portfolios. The primary focus of the company is building long-term partnerships based on commercial or technical cooperation agreements.*

<b>Creation Date</b>	21 January 2019
<b>Last Update</b>	28 January 2019
<b>Expiration Date</b>	29 January 2020
<b>Reference</b>	TOCZ20190121001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/2a84e5fe-32cc-4804-81aa-afe9e5e99c98">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/2a84e5fe-32cc-4804-81aa-afe9e5e99c98</a>

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### Details

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#### Description

The Czech company designs and builds custom monitoring and control solutions. The use cases are as follows:

- Incorporating "Industry 4.0" principles in their operations
- Monitoring whether a facility is operating within the design parameters and analytics
- Environmental monitoring and control
- Power supply monitoring and control
- Access-control, remote CCTV (Closed-circuit TV)
- Reducing staff costs for the routine operations, such as taking data readings, testing sensors, travel time to location
- Upgrade of an existing obsolete monitoring or data logging setup

The key principles offered by the custom monitoring and control solutions:

#### 1. Efficiency

The SME employs flexible system architecture where leverages the synergy of low-cost reliable sensors, modern industrial computers and system integration with complementary solutions.



## 2. Reliability

Using own approach the SME designs systems with proven reliability, surpassing that of Industrial Internet of Things (IoT), stemming from its long-term air navigation and airport industry pedigree.

## 3. Security

The SME implements next-generation security control for Internet protocol (IP) - based traffic and leverage analogue data interfaces.

Specific features:

### 1. Real time remote monitoring, data acquisition & data logging:

- Voltage, current, frequency
- Active, reactive, full electrical power
- Active, reactive, full consumed energy of asymmetric loads
- Status of switches, cut-outs, safety devices
- Positions of flaps
- Analogue and digital electric signals
- Air temperature, relative humidity, dew-point, wind speed / direction
- Vessel temperature, pressure, liquid level
- CO2 concentration
- Vibration/noise levels

### 2. Remote control:

- Complex automated control actions based on monitored parameters, such as, enabling a secondary power supply, alarm activation, motor start-up control, etc.
- Sub-second response times (for local devices)
- Operators can manually override or activate controls on demand, for example, in the case of planned maintenance

### 3. User interface & user management:

- Graphical user interface representing the controlled equipment functionality: electrical schemes or process flow
- Data reports, graphs and summaries
- Access control lists and privilege management for granular control

The company in the case of commercial agreement with technical assistance - in cooperation with the local partner - will deliver the solution, install the system and train staff.

In the case of technical cooperation agreement, the company together with the client develop turnkey solutions according to their client's needs.

## Advantages and Innovations

The key benefits of the monitoring & control system are:

- Bespoke design for each individual use case
- The system can be retrofitted on top of the existing equipment. Individual modules can be interfaced with existing sensors reducing the costs of installation
- Independent & autonomous monitoring of existing process control systems
- Suitable for spatially distributed sites or sites with remote locations thanks to the modular architecture
- Advanced capabilities with minimal costs of sensors and control hardware due to the use of industrial computers.
- Detection of equipment faults at early stages
- Power consumption optimisation
- Advanced secure communication
- Active network monitoring, data delivery verification, data-bottleneck redundancy – no data is

lost.

Industrial computers with BSD (Berkeley Software Distribution) - based operating systems, which are at the core of the each module, provide the next generation capabilities while reducing the amount of hardware required to perform a given task, since PLCs (PLC – Programmable Logic Controllers) could be eliminated from the setup. Hence, reducing the footprint and cost of installation the system can be integrated into larger enterprise management software through the available interfaces.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

01001001	Automation, Robotics Control Systems
01003003	Artificial Intelligence (AI)
01003021	Remote Control
02003001	Process automation
02006005	Construction maintenance and monitoring methods & equipment

### Market

01004007	Network test, monitoring and support equipment
02007016	Artificial intelligence related software
05007004	Monitoring equipment
06006002	Metering and monitoring
08002003	Process control equipment and systems

### NACE

C.26.3.0	Manufacture of communication equipment
J.62.0.1	Computer programming activities
J.62.0.9	Other information technology and computer service activities
M.71.1.2	Engineering activities and related technical consultancy
N.81.1.0	Combined facilities support activities

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## Network Contact

## Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

## Contact Person

Maria Dolores Guillén Ruiz

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2006

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Czech

### Client Country

Czechia

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## Partner Sought

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### Type and Role of Partner Sought

Type of partner sought: The SME is looking for design, architecture, engineering or project management consultancy companies, and system integrators focused on facility management interested in including the offered system in their product and services portfolios.

Cooperation expected:

In the case of commercial agreement with technical assistance: The SME in cooperation with the local partner, will deliver the solution, install the system and train staff.

In the case of technical cooperation agreement: The SME together with the client develop turnkey solutions according to their client's needs.

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

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

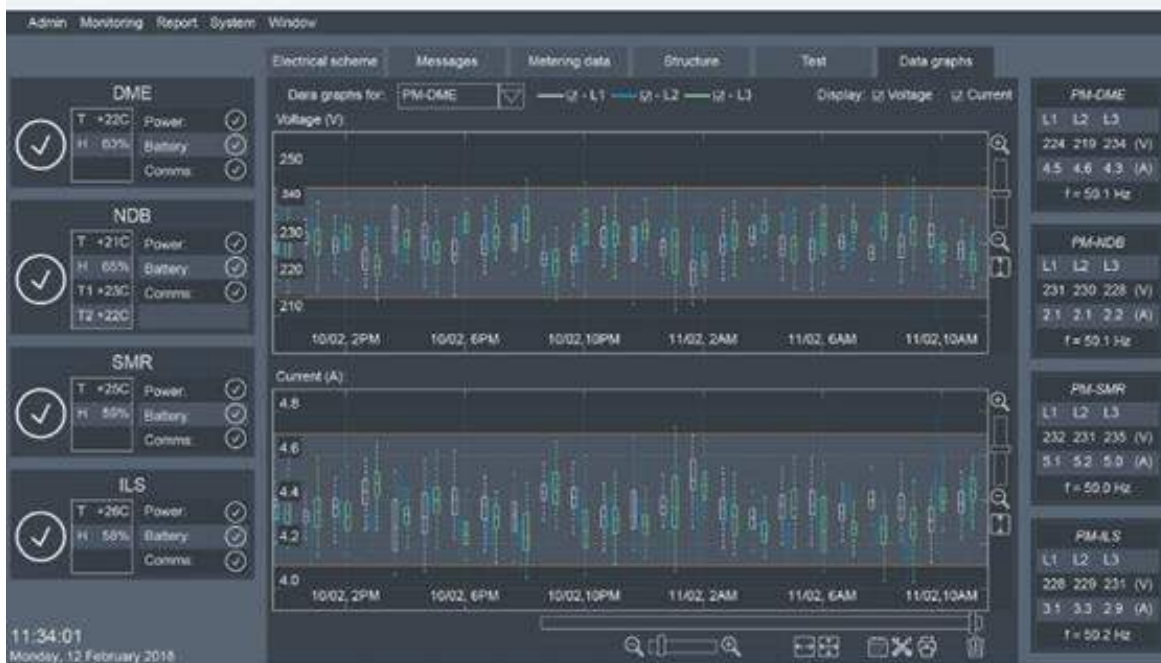
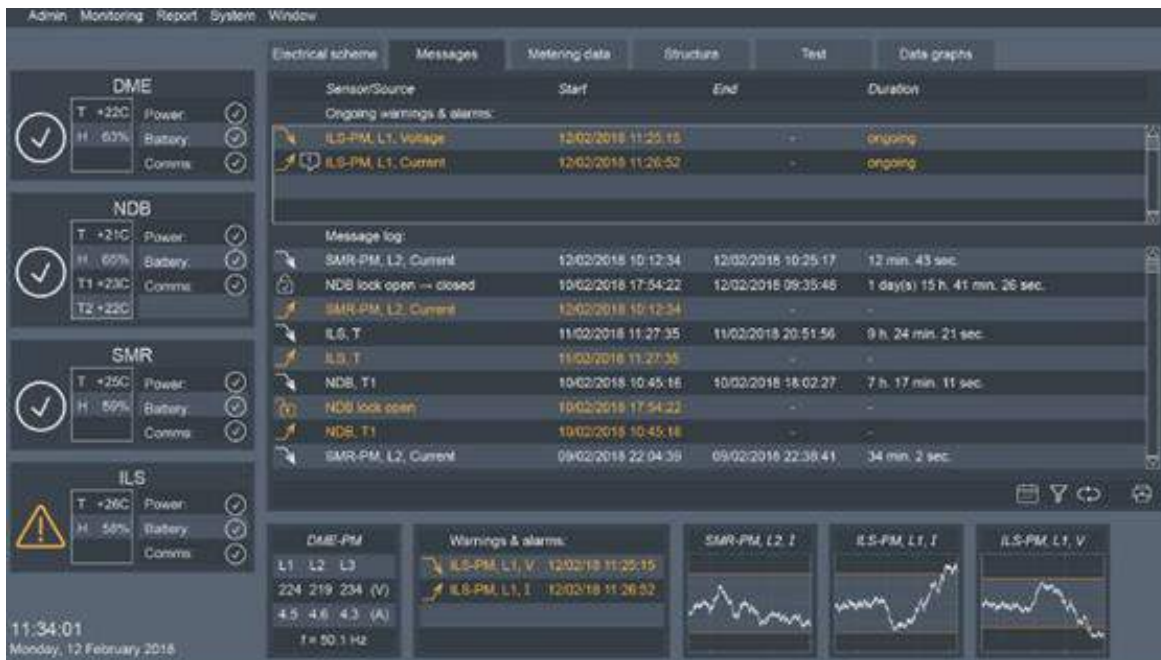
## **Type of Partnership Considered**

Commercial agreement with technical assistance  
Technical cooperation agreement

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## **Attachments**

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Software looks



Hardware looks

## Technology Offer

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# London-based robotic company is looking for partners who can benefit from their advanced robotic hand technology

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### Summary

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*A London-based robotic company specialising in the design and manufacturing of the robotic hands that can carry out a range of tasks is looking for commercial partners and/or technical cooperation partners who can benefit from their advanced technology.*

<b>Creation Date</b>	09 January 2019
<b>Last Update</b>	04 February 2019
<b>Expiration Date</b>	05 February 2020
<b>Reference</b>	TOUK20190109001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/e6941d48-d3f6-4a2a-9084-43e8a00c4b62">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/e6941d48-d3f6-4a2a-9084-43e8a00c4b62</a>

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### Details

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#### Description

The company is a leading robotic SME head-quartered in London, UK specialising in the development of advanced robotic hand technology with smart grasping and manipulation capabilities.

There is a wide range of sectors which can adopt their technology including but not limited to advanced manufacturing; pharmaceutical (e.g. drug packaging); logistics (e.g. handling of goods etc.)

The company is interested in finding commercial partners who can benefit from their advanced technology for a mutually beneficial collaboration where they can resolve challenges and provide added innovative solutions for the partner, while further enhancing their capabilities.

The company is looking for commercial partners and/or technical cooperation partners.

#### Advantages and Innovations

The company specialises in robotic hands and systems that exhibit human characteristics, the robotic hands can provide the following technological advantages:

- finger pivoting
- sliding

- finger gaiting

In addition, the company has been awarded many European Horizon 2020 projects; They had a successful collaboration with a leading UK university and was a grant winner to attend a major international conference.

## Stage of Development

Already on the market

## IPR Status

Patents granted, Trade Marks, Copyright

## Profile Origin

COSME

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## Keywords

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### Technology

01002003	Electronic engineering
02002007	Joining techniques (riveting, screw driving, gluing)
02003001	Process automation
02005004	Packaging for materials

### Market

03004003	Other electronics related equipment
08002004	Robotics
08002005	Machine vision software and systems
08002006	Numeric and computerised control of machine tools
08002007	Other industrial automation

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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Dissemination

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### Relevant Sector Groups

ICT Industry and Services

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English

### Client Country

United Kingdom

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## Partner Sought

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### Type and Role of Partner Sought

The company is looking for partners to sign commercial agreement, and/or technical cooperation agreement. Specifically,

- commercial agreement: the fields of teleoperation, handling & logistics, manufacturing, hardware for AI, and other application technologies needed to solve challenging use cases will likely to benefit from their technology.

- technical cooperation agreement: the company would like to work with vision system providers, AI/ML experts, tactile and/or haptic sensing.

### Type of Partnership Considered

Commercial agreement with technical assistance

Technical cooperation agreement

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## Technology Request

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# A Dutch multinational is looking for technologies for advanced functionalities and innovative features to their coatings and paints.

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### Summary

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*A Dutch company is a major producer of paints and coatings. They deliver a world class portfolio of brands and want to explore new fields of innovation and expand their products' abilities with new and vastly improved functionalities. They are looking for technologies and solutions which significantly impact performance of their paints and coatings. They are seeking companies (e.g. university start-ups) to foster and co-develop new technologies via a research or technical cooperation agreement.*

<b>Creation Date</b>	04 February 2019
<b>Last Update</b>	04 February 2019
<b>Expiration Date</b>	05 February 2020
<b>Reference</b>	TRNL20190204001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/a45b413a-2498-48bf-a9d3-f75953106c98">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/a45b413a-2498-48bf-a9d3-f75953106c98</a>

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### Details

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#### Description

A Dutch multinational is an expert in the craft of making paints and coatings, setting the standard in colour and protection since centuries. Their world class portfolio of brands is trusted by customers around the globe.

The company's paints and coatings can be regarded as the highest quality since they are based on centuries of research and experience, largely in traditional chemistry. Their paints and coatings keep materials colourful and protected, whether it's the walls inside homes, the outside of airplanes or the hull of a ship

Coatings can also add functionalities to help materials do their jobs better. Examples are the ability to resist heat and radiation, to reduce heat absorption and energy consumption in buildings by reflective coatings or to repel bacteria by anti-microbial coatings.

Now, the company is looking around for inspiration in the world and wants to explore new fields of innovation and is looking for collaboration with partners to build out from the traditional space. Hence, the company is looking to expand their products' abilities with new and vastly improved functionalities that solve specific customer problems or respond to needs they're not even aware of yet.

The company hopes to inspire their partners to think way "outside the can" on this specific subject. They are eager to find truly innovative coating solutions that enable materials to extend

their use and act in new and unique ways.

In particular, the company is looking for enhanced functionalities in two specific areas:

i. Cleaner surfaces – think about properties like stain repellent, self-cleaning, non-stick, anti-fingerprint, anti-microbial, etc..

ii. Smart coatings that interact with their environment, respond to external stimuli and adapt their properties to provide a performance benefit – think about areas like sensing, detection, self-healing, etc..

The company is looking for cooperation with partners that can supply and help develop solutions and clear proof of concept and which help bring better performance or innovative features to their coatings. Cooperation with partners such as institutes, university start-ups and companies would be in the frame of a research or a technical cooperation agreement. For the company it is a new territory but they are eager to explore the unknown together with their foreseen partners.

**IMPORTANT NOTE:** This technology request is an innovation challenge and is published on an open innovation platform until the 1th of March 2019. If an organization does express interest in cooperation with this firm before closing date, it will be guided towards this open innovation platform on which one can get in touch with the company experts. Mind that posts on this platform are not confidential.

Beside open discussions on the platform, sharing of confidential information will be made possible on demand. After that, the firm will select the SME's with whom they would like to cooperate in the development of a solution. Once the challenge is closed, EOI's for this technology request will be treated in the traditional way.

## Technical Specification or Expertise Sought

The company is looking for technologies and solutions which significantly impact performance of their paints and coatings through partnership.

Ultimately, their aim is to deliver desired functionalities with new and vastly improved functionalities that solve specific customer problems or respond to needs they're not even aware of yet.

- The company is especially looking for global innovators, start-ups, scale-ups, early stage tech companies and institutes that want to grow by jointly developing their products into our markets
- The solution is not just an idea. There is a clear proof of concept which is ready to be further developed for this purpose.
- Scalability and affordability: it is preferred to launch a product within 2-4 years
- Quality and experience of the partner in the field of interest here described. And with the ambition to change the world of paints and coatings and elevating this to a next level.

## Stage of Development

Available for demonstration

## Comments Regarding Stage of Development

Since this request is subject of an open innovation challenge various stages of development are possible. However, the solution is not just an idea. There should a clear proof of concept which is ready to be further developed for this purpose.

## IPR Status

Other

## Comment Regarding IPR status

Since this request is subject of an open innovation challenge the IPR status will be taken into account and be discussed.

The technology could be patented in a wide range of possible countries/regions, with their eligibility for this call available for discussion

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## Keywords

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### Technology

02007004	Colours and varnish
02007006	Fine Chemicals, Dyes and Inks
03001001	Cleaning Technology
03004003	Colours, dyes related to Chemical Technology
03004010	Special chemicals, intermediates

### Market

08001007	Coatings and adhesives manufactures
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### NACE

C.20.3.0	Manufacture of paints, varnishes and similar coatings, printing ink and mastics
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## Network Contact

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### Issuing Partner

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

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## Dissemination

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## Relevant Sector Groups

Bio Chem Tech  
Materials  
Nano- and Microtechnologies

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## Client

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### Type and Size of Organisation Behind the Profile

Industry >500

### Year Established

0

### Turnover

>500M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Dutch  
German

### Client Country

Netherlands

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## Partner Sought

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### Type and Role of Partner Sought

Type of partners:

The company is especially looking for global innovators, start-ups, scale-ups, early stage tech companies and institutes:

- i. that want to grow by jointly developing their products into the companies markets
- ii. with a focus on the research & development of technologies enabling i. cleaner surfaces or ii. smart coatings.

Type of partner collaboration:

The Dutch multinational wants to work together as equal partners, under shared-IP conditions, this could be in the form of i. a technical cooperation agreement or ii. research agreement, iii. or any other kind of agreement that suits the purpose.

### Type and Size of Partner Sought

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

### Type of Partnership Considered

Technical cooperation agreement

## Research cooperation agreement



**3.**

***TECNOLOGÍAS DE LA  
CONSTRUCCIÓN***

## Technology Offer

# Greek SME offers modular lighting device adapted for retrofitting existing lighting units

## Summary

*A Greek company specialized in the development of innovative relamping products (lamps and modules) is offering a modular lighting device that can retrofit any existing lighting fixture that utilizes high intensity discharge (HID) or incandescent lamp and upgrade them to LED technology. Industrial partners active in lighting sector are sought with an interest in establishing a commercial agreement with technical assistance.*

<b>Creation Date</b>	22 January 2019
<b>Last Update</b>	01 February 2019
<b>Expiration Date</b>	02 February 2020
<b>Reference</b>	TOGR20190122001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6bae3f88-3110-440f-a0b0-8494d3e76bc7">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6bae3f88-3110-440f-a0b0-8494d3e76bc7</a>

## Details

### Description

Light emitting diode (LED) lighting devices have been introduced in the lighting market in replacement of incandescent, fluorescent or other prior art lighting devices as they offer an enhanced luminosity and yet a much lower consumption of electric energy. At the same time research continues and further lighting technologies, e.g. organic led or laser and other lighting technologies are being explored and/or developed. Despite the advantageous characteristics of these new led or other lighting devices, their broad adoption in the lighting market remains low. One main reason for the above is the high cost which it associated with the substitution of existing lighting devices with the new technologically advanced ones. A LED lighting device configuration and requirements differ substantially from the prior art lighting devices and therefore it is required to replace all the entire existing lighting unit.

It is evident that a great market demand exists for the evolution of a retrofitting process in a variety of circumstances. A Greek SME company identified that and started to deal with the research and development of adequate high power led retrofit solutions. After long lasting research and utilizing innovative and patented approaches, they developed a modular lighting device adapted for retrofitting existing lighting fixtures.

The heart of the proposed modular lighting device is the patented technology as it comprises various elements in combination. A lighting module with at least one array of led assembled in either a COB (Chip-On-Board) or in a longitudinal strip configuration provided with appropriate lenses that focus and direct light emission. A heat sink and fan cooling unit assembly with an



appropriate configuration to match retrofitting existing lighting units. The led bulb and the fan cooling unit are provided with power through an automatically power supply control circuit that receives a DC (Direct Current) power input from an external source. That control circuit includes two temperature sensors arranged to monitor the temperature of the led chip assembly. The first sensor activates the operation of the fan cooling unit at a first predetermined value of temperature of the led chip assembly. The second sensor is being adapted to cut power supply and shut off the led chip assembly at a second predetermined value of temperature. All the assembly can be connected to a standardised sockets (of E27 or E40 types) of any existing lighting unit via an appropriate connector made from a non-conductive material.

The offered modular lighting unit can be adapted for retrofitting a plethora of existing lighting units that operate with technologically advanced lighting modules, such as led, o-led, laser or other and provide an optimally enhanced luminosity.

The Greek company is looking for commercial agreements with technical assistance with companies from the lighting sector and specialised lighting devices sector for joint activities. The Greek company offers know-how and expertise so as to cover special needs of lightning.

## Advantages and Innovations

The offered lighting device constitutes actually a compact self-sustained unit that can fully match a variety of retrofitting requirements in a plurality of existing lighting units. It has a series of innovative aspects as detailed below.

It can replace the prior art lighting modules, which are consumables, without requiring any change in the overall supporting structure of the lighting unit. Also it does not require any re-certification as it is per se tested and compliant with all European and international standards and norms.

Further, it is serviceable, repairable and upgradable while during its operating life, it can be adapted to a broad range of applications and usages.

Additionally, it is compatible with all smart lighting systems, both residential and commercial providing enhanced capacity of remote control of lighting devices.

Due to its innovative structure and architecture, it is protected from being exposed at overheating, thereby enhancing the service life thereof and preventing a fire hazard.

Moreover, it provides enhanced luminosity, whilst consuming an optimally minimal amount of energy, thereby providing a combination of environmentally friendly characteristics and low cost in both infrastructure and in operation.

Lastly, it has the capacity to change and manage the direction of the luminance. Thus, there is no need of additional light-directional features, such as a reflector. It employs compact lighting modules and appropriate lens assemblies that offer enhanced efficiency in light directing.

## Stage of Development

Already on the market

## IPR Status

Design Rights, Granted patent or patent application essential

## Profile Origin

COSME

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## Keywords

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### Technology

01002003	Electronic engineering
02006004	Installations related to construction (energy, lighting, ...)
02009020	Lighting and signalling system
03003	Apparatus Engineering
04007002	Lighting, illumination

### Market

03001009	Other electronics related (including keyboards)
08005	Other Industrial Products (not elsewhere classified)
09008001	Electric companies

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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

0

## Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

Greek

### Client Country

Greece

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## Partner Sought

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### Type and Role of Partner Sought

The Greek SME is looking for industrial partners to conclude commercial agreement with technical assistance.

- Specific area of activity of the partner: companies active in lighting industry and particularly in electrical equipment technology, smart lighting, led lighting and lighting retrofits sectors;

- Task to be performed by the partner sought: to implement the proposed technology, to provide expertise or completely customised lighting solutions covering special requirements and specifications.

### Type and Size of Partner Sought

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

### Type of Partnership Considered

Commercial agreement with technical assistance

## Technology Offer

# Transparent Building Integrated Photovoltaic Glazing (BIPV)

### Summary

*An award-winning Cambridge (UK) based company develops and produces transparent photovoltaic glass and glazing solutions for applications in building curtain wall facades, skylights, balustrades, canopies and structures. Developers and users of thin film photovoltaics and construction methods are sought for technical co-operation, manufacturing or commercial agreements with technical assistance.*

<b>Creation Date</b>	18 January 2019
<b>Last Update</b>	21 January 2019
<b>Expiration Date</b>	22 January 2020
<b>Reference</b>	TOUK20190118001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/f5d9cb0b-aaf9-4b83-bf1a-6a5dc35dcbb0">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/f5d9cb0b-aaf9-4b83-bf1a-6a5dc35dcbb0</a>

### Details

#### Description

The company is a developer and producer of thin-film transparent architectural photovoltaic glazing. The technology is specifically designed for building integrated applications, delivering high energy yields in low and ambient light, in shaded conditions and at high temperatures. The company's high performance see-through glass units can be tailored to let through variable levels of natural light, offer different colours and flexible dimensions. The company is also a leader in the development of next generation printed organic photovoltaics (OPV) glazing and engineering solutions for deploying BIPV in buildings. The company is looking for both users, partners and suppliers across its activities. The technology transfer may go both ways so that the UK company assumes either a buyer or seller role under a commercial agreement with technical assistance. Similarly, a technical co-operation or manufacturing agreement may entail transfer of manufacturing know-how and supply chains in either direction.

#### Advantages and Innovations

The company produces transparent photovoltaic glazing that turns buildings into power stations. Its thin-film technology offer high performance transparent PV glass to generate clean renewable energy, combined with high thermal performance glass that significantly reduces heat gain and losses from buildings, delivering energy saving as well as energy generation. The business is also leading developers of polymer based liquid printed OPV materials that are directly printed and encapsulated in glass, delivering aesthetic glass solutions at lower cost and with improved manufacturability.

## Stage of Development

Already on the market

## Comments Regarding Stage of Development

The company is selling its products worldwide and has a range of established installed solutions from bus shelters to roof canopies to building facades.

## IPR Status

Secret Know-how

## Comment Regarding IPR status

Range of in-house IP across core technologies and application systems.

## Profile Origin

National or Regional R&D programme

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## Keywords

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### Technology

02006001	Materials, components and systems for construction
02007007	Glass
04005004	Photovoltaics

### Market

06003002	Photovoltaics
06006001	Thermal insulation
09007002	Manufacture of construction materials, components and systems

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## Network Contact

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### Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

### Contact Person

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

0

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

### Client Country

United Kingdom

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## Partner Sought

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### Type and Role of Partner Sought

Looking for academic and industrial partners in OPV development and manufacture. Dependent on the territory and market segment, the manufacturing may be organised by the UK company or the partner. Technical co-operation is sought with developers of OPV, to adapt novel materials and methods. The technology transfer may occur in both directions.

Looking for partners in materials and component supply. The UK company will consider new suppliers for commercial agreements with technical assistance, being the buyer.

Looking for end users and/or partners in design, construction and installation. The UK company is seeking commercial agreements with technical assistance assuming a seller's role. The technical assistance will be needed for developing custom solutions, but also when setting up new manufacturing lines.

### Type and Size of Partner Sought

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

### Type of Partnership Considered

Commercial agreement with technical assistance

Technical cooperation agreement

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## Attachments

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Canopy



Facade

## Technology Offer

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# Development of custom remote industrial monitoring and control solutions for infrastructure, factories, plants and industrial sites offered for commercial partnerships

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### Summary

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*A Czech company offers custom remote monitoring and control solutions based on its proprietary hardware and software framework. The company is looking for design, architecture, engineering, project management consultancy agencies, and system integrators dealing with facility management interested in including the offered system in their product and services portfolios. The primary focus of the company is building long-term partnerships based on commercial or technical cooperation agreements.*

<b>Creation Date</b>	21 January 2019
<b>Last Update</b>	28 January 2019
<b>Expiration Date</b>	29 January 2020
<b>Reference</b>	TOCZ20190121001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/2a84e5fe-32cc-4804-81aa-afe9e5e99c98">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/2a84e5fe-32cc-4804-81aa-afe9e5e99c98</a>

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### Details

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#### Description

The Czech company designs and builds custom monitoring and control solutions. The use cases are as follows:

- Incorporating "Industry 4.0" principles in their operations
- Monitoring whether a facility is operating within the design parameters and analytics
- Environmental monitoring and control
- Power supply monitoring and control
- Access-control, remote CCTV (Closed-circuit TV)
- Reducing staff costs for the routine operations, such as taking data readings, testing sensors, travel time to location
- Upgrade of an existing obsolete monitoring or data logging setup

The key principles offered by the custom monitoring and control solutions:

#### 1. Efficiency

The SME employs flexible system architecture where leverages the synergy of low-cost reliable sensors, modern industrial computers and system integration with complementary solutions.



## 2. Reliability

Using own approach the SME designs systems with proven reliability, surpassing that of Industrial Internet of Things (IoT), stemming from its long-term air navigation and airport industry pedigree.

## 3. Security

The SME implements next-generation security control for Internet protocol (IP) - based traffic and leverage analogue data interfaces.

Specific features:

### 1. Real time remote monitoring, data acquisition & data logging:

- Voltage, current, frequency
- Active, reactive, full electrical power
- Active, reactive, full consumed energy of asymmetric loads
- Status of switches, cut-outs, safety devices
- Positions of flaps
- Analogue and digital electric signals
- Air temperature, relative humidity, dew-point, wind speed / direction
- Vessel temperature, pressure, liquid level
- CO2 concentration
- Vibration/noise levels

### 2. Remote control:

- Complex automated control actions based on monitored parameters, such as, enabling a secondary power supply, alarm activation, motor start-up control, etc.
- Sub-second response times (for local devices)
- Operators can manually override or activate controls on demand, for example, in the case of planned maintenance

### 3. User interface & user management:

- Graphical user interface representing the controlled equipment functionality: electrical schemes or process flow
- Data reports, graphs and summaries
- Access control lists and privilege management for granular control

The company in the case of commercial agreement with technical assistance - in cooperation with the local partner - will deliver the solution, install the system and train staff.

In the case of technical cooperation agreement, the company together with the client develop turnkey solutions according to their client's needs.

## Advantages and Innovations

The key benefits of the monitoring & control system are:

- Bespoke design for each individual use case
- The system can be retrofitted on top of the existing equipment. Individual modules can be interfaced with existing sensors reducing the costs of installation
- Independent & autonomous monitoring of existing process control systems
- Suitable for spatially distributed sites or sites with remote locations thanks to the modular architecture
- Advanced capabilities with minimal costs of sensors and control hardware due to the use of industrial computers.
- Detection of equipment faults at early stages
- Power consumption optimisation
- Advanced secure communication
- Active network monitoring, data delivery verification, data-bottleneck redundancy – no data is

lost.

Industrial computers with BSD (Berkeley Software Distribution) - based operating systems, which are at the core of the each module, provide the next generation capabilities while reducing the amount of hardware required to perform a given task, since PLCs (PLC – Programmable Logic Controllers) could be eliminated from the setup. Hence, reducing the footprint and cost of installation the system can be integrated into larger enterprise management software through the available interfaces.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

01001001	Automation, Robotics Control Systems
01003003	Artificial Intelligence (AI)
01003021	Remote Control
02003001	Process automation
02006005	Construction maintenance and monitoring methods & equipment

### Market

01004007	Network test, monitoring and support equipment
02007016	Artificial intelligence related software
05007004	Monitoring equipment
06006002	Metering and monitoring
08002003	Process control equipment and systems

### NACE

C.26.3.0	Manufacture of communication equipment
J.62.0.1	Computer programming activities
J.62.0.9	Other information technology and computer service activities
M.71.1.2	Engineering activities and related technical consultancy
N.81.1.0	Combined facilities support activities

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## Network Contact

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

2006

### Turnover

<1M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Czech

### Client Country

Czechia

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## Partner Sought

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### Type and Role of Partner Sought

Type of partner sought: The SME is looking for design, architecture, engineering or project management consultancy companies, and system integrators focused on facility management interested in including the offered system in their product and services portfolios.

Cooperation expected:

In the case of commercial agreement with technical assistance: The SME in cooperation with the local partner, will deliver the solution, install the system and train staff.

In the case of technical cooperation agreement: The SME together with the client develop turnkey solutions according to their client's needs.

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

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

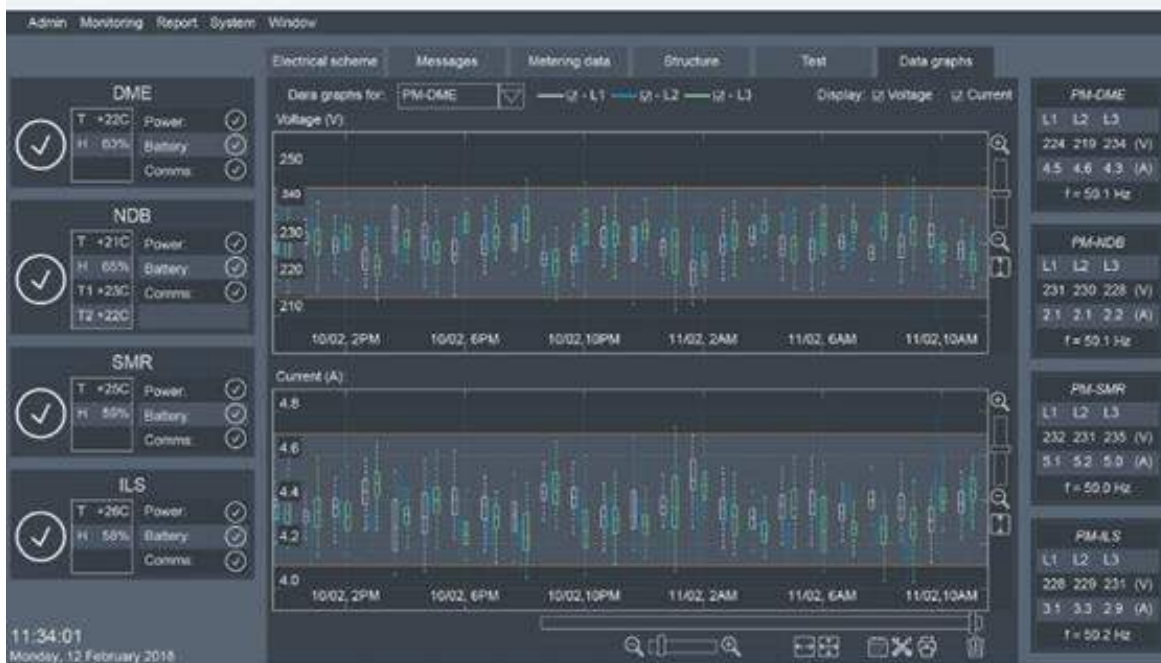
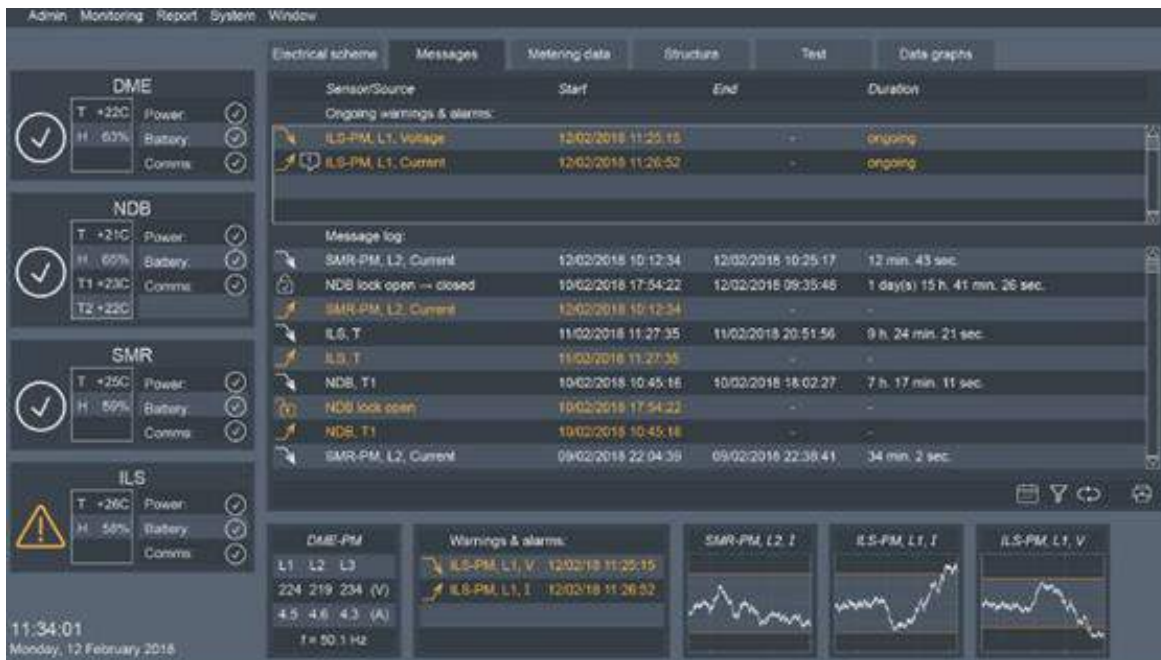
### **Type of Partnership Considered**

Commercial agreement with technical assistance  
Technical cooperation agreement

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## **Attachments**

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Software looks



Hardware looks

## Technology Offer

# Non-combustible plastic door with excellent heat resistance and insulation

### Summary

*A Korean company developed a non-combustible plastic door which has superior heat resistance and insulation to minimize the loss of human life and to secure evacuation space due to fire. The company wishes to expand its overseas markets through license agreement and commercial agreement with technical assistance, so the partnership would enable for their technology to be manufactured at lower cost than existing fire doors even they save lives by staying in the room closing the doors.*

<b>Creation Date</b>	17 January 2019
<b>Last Update</b>	01 February 2019
<b>Expiration Date</b>	02 February 2020
<b>Reference</b>	TOKR20190115002
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/e3bd4c4c-390f-4131-85b6-0ac41bdb32f8">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/e3bd4c4c-390f-4131-85b6-0ac41bdb32f8</a>

### Details

#### Description

A Korean company established in 2016 has specialized in construction of complex buildings, such as an apartment. It has been increasing recently, fire doors are becoming more important to reduce the casualties and prevent property loss.

In this situation, the company developed a non-combustible door which has superior fire resistance and fireproof property. Developers thought of new concept evacuation solution of staying indoors with the door closed and waiting for rescue, not evacuating through places which are on fire. This solution makes every room indoors become evacuation room to protect people and property.

Product specifications are as follows:

#### 1) Feature

In order to minimize the loss of human life and to secure evacuation space due to fire, the non-combustible fire door has 30-minute of heat insulation and more than 1 hour of fireproof performance. It is lightened with weight of 15~30kg so it can even be installed in normal house as bedroom door.

#### 2) Main Material

The non-combustible fire door uses newly developed expanded plastics as main material.

- It is light, so it has lower production cost and installation fee.

- When it meets 180□ fire, it is expanded, and it performs with high heat insulation.

- It completely block the spread of fire and combustion gas.
- It does not create fine dust like cotton or wool.
- It does not generate harmful pollutant.
- When the fire is getting close, it does not emit toxic gas.
- Manufacturing lead time is far shorter.

### 3) Size

2100W\*1000H / 2100W\*900H / 2100W\*800H / 2000W\*900H / 2000W\*800H / 1800W\*900H / 1800W\*800H / 1800W\*700H / Make-to-order is possible

### 4) Applications

Various product forming and design expression are possible regarding customers' demands. According to the design, it can be applied to different places such as at ship, warehouse, hotel, and etc. It can also be applied when making non-combustible panel, board, and foam.

Under commercial agreement with technical assistant and license agreement, the company wishes to take partnerships for their products to be commercialized in international markets.

## Advantages and Innovations

The company's non-combustible fire door has following advantages compared to existing fire doors:

- It has superior fire and heat insulation functionality of minimum 30-minute of fire insulation and more than 1 hour of fireproof, so it can save more human lives for a longer time.
- It is made of new technology material of non-burning plastic. With this material, it has no corrosion and resists to moisture. In addition, it has excellent condensation prevention and high airtightness.
- It is light (less than 15~30kg), meaning that it has less limitation on where it can be installed.

## Stage of Development

Available for demonstration

## IPR Status

Patents granted

## Profile Origin

Private (in-house) research

## Keywords

### Technology

02006003	Fire Resistance/Safety
02007014	Plastics, Polymers

### Market

08001006	Processes for working with plastics
08001018	Polymer (plastics) materials
09007002	Manufacture of construction materials, components and systems



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## Network Contact

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### Issuing Partner

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English

### Client Country

South Korea

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought:

Companies, public institutions, private institutions which deals with heat insulation, fire resistance, and fire door

- Specific area of activity of the partner:

Any companies and institutions related to heat insulation, fire resistance, plastic processing, and construction

- Task to be performed:

Partners should be interested in fire resistance under license agreement and commercial agreement with technical assistance.

## **Type of Partnership Considered**

License agreement

Commercial agreement with technical assistance



**4.**

***MATERIALES***

## Technology Request

### Novel solutions sought for an unsinkable ship

#### Summary

*A multinational shipping enterprise with a registered base in Scotland (UK) is seeking novel approaches to outfit their freight and passenger ships with permanent, lightweight buoyancy features that will limit the amount of sea water that can ingress into the ship when there is a hull breach, rendering the ship essentially unsinkable. The Scottish company is looking for partnerships via a joint venture or commercial agreement with technical assistance to pilot technology on a ship.*

<b>Creation Date</b>	14 January 2019
<b>Last Update</b>	21 January 2019
<b>Expiration Date</b>	22 January 2020
<b>Reference</b>	TRUK20190114001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/5dd7ef46-1fe1-4b09-ab24-ea9ee95b1608">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/5dd7ef46-1fe1-4b09-ab24-ea9ee95b1608</a>

#### Details

##### Description

A leading multinational shipping enterprise with a registered base in Scotland (UK) is looking for technology solutions that can be applied to their cargo and passenger ships that travel in all of the world's oceans. The company is actively involved with open innovation and is currently involved with several international projects.

Ships today are designed with watertight subdivided compartments in order to remain stable and buoyant in case of a multi compartment hull breach. These designs restrict the use of larger cargo spaces. If water ingress could be avoided or at least limited in these compartments, ships would be able to carry more cargo. These compartments typically range in volume from 200-1000 m<sup>3</sup>, and are often dry and empty compartments. The company's objective is to limit water ingress into individual compartments in case of hull breach by reducing permeability using permanent buoyancy elements.

The company would like to partner via joint venture or commercial agreement with technical assistance. Any development would likely include a demonstration project where piloting on a ship could be carried out as needed.

##### Technical Specification or Expertise Sought

The company is interested in solutions that go beyond conventional methods used in the marine industry today to provide permanent or temporary buoyancy in the event of a hull breach. For example, the company would consider the use of rigid foams, either to fill an entire compartment, or in blocks, or using other design features that do not restrict valuable cargo space. Another approach considered is the use of multiple large air bladders that could be

permanently or temporarily inflated, and that would resist puncture from the hull breach itself.

Some practical considerations for retrofitting existing vessels include:

- Durable material with long lifetime (typically 20-40 years), preferably non-combustible
- Foam or other structures must be able to withstand high water pressures (typically 10m water pillar)

If permanent foams are proposed, they would ideally be made of a low density (less than 0.1 g/cm<sup>3</sup>), completely closed cell, and non-water-absorbing material

Evaluation Criteria:

- Technical Viability: solutions proposed must be based on sound scientific principles and have laboratory or pilot scale data that demonstrate efficacy. The proposed solution should be able to provide sufficient buoyancy in the case of the breach of multiple compartments simultaneously.
- Scale up Potential: solutions proposed must have a clear pathway to be applied on commercial ships. Solutions already practiced in marine markets have higher value. The ideal partner would be able to lead the design of full-scale systems, with expertise in foam chemistry, structural mechanics, and installation techniques.
- Costs: lower installation and maintenance costs have higher value.
- Ownership: solutions covered by patents have higher value. At a minimum, proposed solutions must not be prohibited by other patents in the field.

Killer Issues:

Solutions will not be considered if, in the companies opinion:

- Installation and maintenance costs are prohibitive for broad application (target for installation cost is below 100,000 Euros per ship)
- Proposals lack sufficient supporting laboratory or pilot scale data
- Solutions don't adhere to global maritime environmental or safety regulations

## Keywords

### Technology

02005003	Packaging for machines
02006001	Materials, components and systems for construction
02006003	Fire Resistance/Safety
02007014	Plastics, Polymers
02007019	Lightweight materials

### Market

08001008	Membranes and membrane-based products
08001009	Speciality/performance materials: producers and fabricators
08001015	Other speciality materials
08001018	Polymer (plastics) materials
09001007	Other transportation

### NACE

H.50.1.0                      Sea and coastal passenger water transport  
H.50.2.0                      Sea and coastal freight water transport

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## Network Contact

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**Open for EOI :**    **Yes**

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## Dissemination

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### Relevant Sector Groups

Automotive, Transport and Logistics  
Maritime Industry and Services

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## Client

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### Type and Size of Organisation Behind the Profile

Industry >500 MNE

### Year Established

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### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

### Client Country

Ref: TRUK20190114001

United Kingdom

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## Partner Sought

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### Type and Role of Partner Sought

A joint venture or commercial agreement with technical assistance are preferred. It is expected these would lead to a development phase which would likely include a demonstration project where piloting on a ship could be carried out as needed. If the proposed solution is commercially available, technical support can be offered defining the appropriate application and maintenance on ships.

The company is looking for concise, non-confidential proposals. The proposal should describe the technical approach and should ideally include information on the technological readiness of the proposal, any proof of concept data, reference to any peer reviewed publications, and potential route to commercialization.

### 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  
Joint venture agreement



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



## Technology Offer

# Digital real-time management and optimisation solutions for public transport networks

## Summary

*A French company specialised in digital and fare management solutions offers comprehensive, digital mobile solutions for fixed-route, intercity and demand-response transportation. The company is looking for technical partnerships (commercial agreement with technical assistance, technical cooperation) with private or public transportation companies, local authorities. Participation in collaborative projects could be also studied.*

<b>Creation Date</b>	16 January 2019
<b>Last Update</b>	29 January 2019
<b>Expiration Date</b>	30 January 2020
<b>Reference</b>	TOFR20181217001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/97dd28fa-2215-49a6-b11a-2a46a8b06370">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/97dd28fa-2215-49a6-b11a-2a46a8b06370</a>

## Details

### Description

The French SME is a developer-integrator of intelligent systems for fixed-route, demand-response, commuter bus and school transportation. Its mission is to provide transit agencies of any size with best-in-class CAD/AVL (computer aided dispatch/automatic vehicle location), fare collection, passenger information and real-time information solutions to make the overall public transportation sector safer, better and easier for passengers.

For that purpose, the company has developed a new generation of digital ITS (intelligent transport systems) that is 100% smartphone and cloud-based. By harvesting the power and agility of smartphone and digital technology, the company offers a unique value proposition to small and mid-sized networks that could not afford the cost and complexity of traditional systems with bold-in onboard equipment and in-house servers.

Thanks to its disruptive approach, the company has established itself as a European pioneer and leader in the digital transformation of rural territories as well as a key actor of sustainable, safe and comfortable mobility. After only 6 years in operation, the French company has already convinced over 100 transportation networks on 3 different continents with the highest satisfaction rate.

Its intelligent transportation systems cover wireless and cloud-based transportation management solutions : digital and accessible small and mid-sized networks (CAD/AVL, geolocation, monitoring, fare management, student tracking, real time passenger information services). These solutions can be combined or used separately depending of the needs of the final users.

The French company is looking for technical cooperation with :

- private or public transport companies : bus companies, public transit agencies operating fixed-route, intercity and demand-response transportation networks,
- with local authorities or transportation actors to shape the best solutions favoring smart mobility, smart cities and their connections to local territories.

The French company is also seeking cooperation with other organisations having to manage transportation of passengers as for instance schools, private companies or local authorities willing to integrate the intelligent solutions for improving their services.

External growth opportunities and European collaborative projects could be also studied with companies having a complementary offer or with public organisations.

## Advantages and Innovations

Traditional CAD/AVL and fare collection systems are complicated, costly and inaccessible to many areas. The French company has invented a generation of intelligent digital systems which are light, powerful and accessible to sizes of transportation networks.

The solutions are all-in-one, modular, wireless, off-the-shelf hardware, Cloud and Saas, turnkey.

Key benefits :

- real time data exchange,
- light yet powerful MDT (mobile data terminal) that can be easily installed in vehicles of any size,
- web-based intuitive CAD/AVL,
- account-based smart card,
- dedicated cloud for secure data, storage and exchange,
- real-time passenger information.

Advantages :

- 3 to 4 times faster implementation,
- total cost of ownership is 6 to 8 times cheaper,
- new real-time services to all stakeholders,
- budget certainty : system updates and upgrades at no additional cost,
- significant cost savings thanks to easy access to a breadth of reliable operating data.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how, Trade Marks

## Profile Origin

Private (in-house) research

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## Keywords

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### Technology

01004003	Applications for Transport and Logistics
01004007	GIS Geographical Information Systems
01004012	Operation Planning and Scheduler System

02008002 Intermodal Transport  
02008005 Road Transport

## Market

09001007 Other transportation

## NACE

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

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## Network Contact

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### Issuing Partner

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

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## Dissemination

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### Relevant Sector Groups

Automotive, Transport and Logistics  
ICT Industry and Services

### Restrict Dissemination to Specific Countries

Belgium, Cyprus, Ireland, Luxembourg, Malta, Switzerland,  
UnitedKingdom, USA,

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## Client

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## Type and Size of Organisation Behind the Profile

Industry SME 11-49

## Year Established

2012

## Turnover

1 - 10M

## Already Engaged in Trans-National Cooperation

Yes

## Languages Spoken

English

French

## Client Country

France

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## Partner Sought

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### Type and Role of Partner Sought

The French company is looking for technical cooperation with :

- private or public transport companies : bus companies, public transit agencies operating fixed-route, intercity and demand-response transportation networks,
- with local authorities or transportation actors to shape the best solutions favoring smart mobility, smart cities and their connections to local territories.

The French company is also seeking cooperation with other organisations having to manage transportation of passengers as for instance schools (transportation of students), private companies (employees) or local authorities willing to integrate the intelligent solutions for improving their services.

The technical assistance provided consists in adapting the solutions to specific needs and in training.

External growth opportunities and collaborative projects will be also studied with SMEs having a complementary offer.

### 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

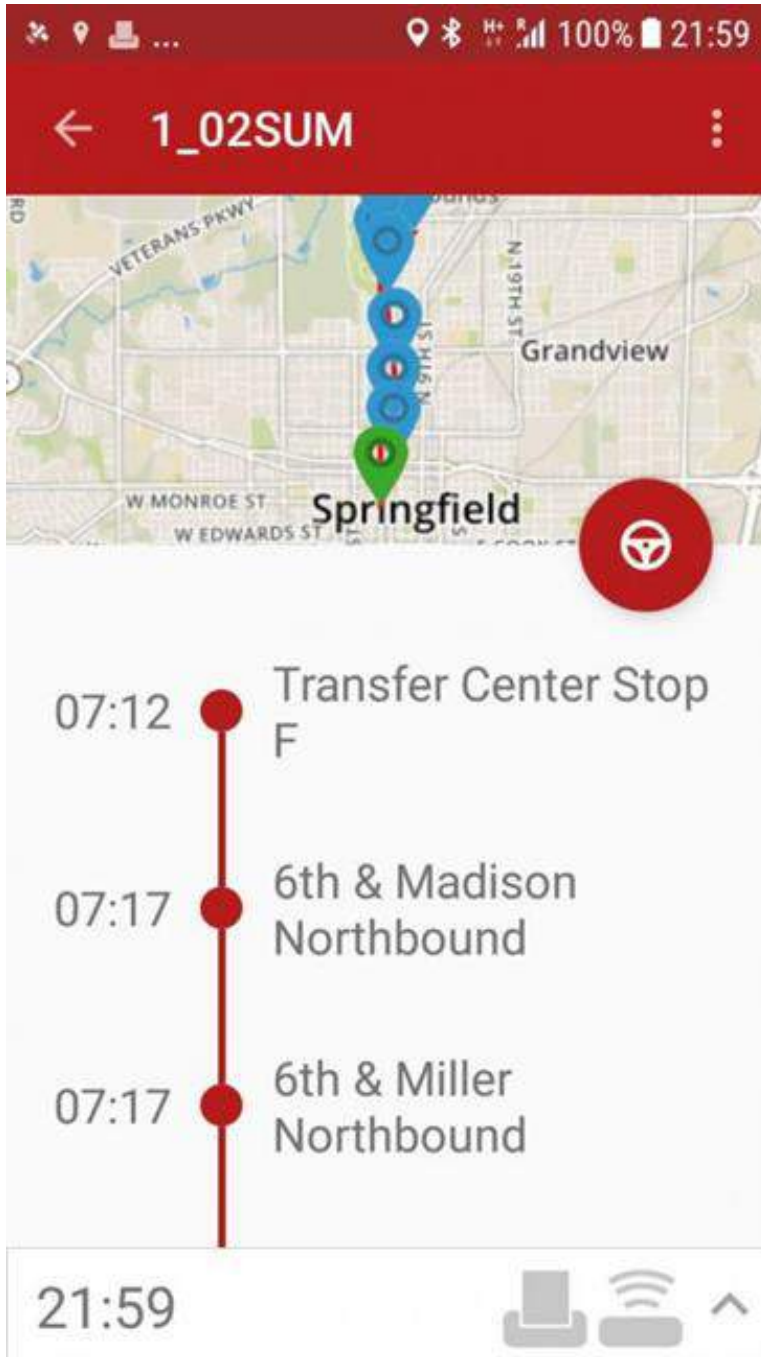
Technical cooperation agreement

Research cooperation agreement

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## Attachments

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Real-time geolocation

**Live view 4-V07**

2Place

2Place > In progress > Trip 4-V07

4 > 4-V07  
Direction inbound direction

721  
DY 440 GA

684  
Thierry FRANZO

14h22 +2min  
Trip departure time

2min  
early

30°C  
Ciel dégagé

Map

Trip adherence status

●	Dojo Départemental	14h26	14h26
		+1min	+1min
●	Stade Pareau	14h27	14h27
		+0min	+0min
●	Pagot	14h28	14h29
	- 4 boarding(s)	-1min	+1min
●	Lyautey	14h30	14h30
		+0min	+1min
●	Les Frères Marty	14h31	14h31
	- 1 boarding(s)	+0min	+1min
●	Paul Doumer	14h32	14h32
		+0min	+0min
●	Richelieu	14h32	14h32
		+0min	+1min

Live view - mapping



Ticketing

## Technology Offer

# Greek SME offers modular lighting device adapted for retrofitting existing lighting units

### Summary

*A Greek company specialized in the development of innovative relamping products (lamps and modules) is offering a modular lighting device that can retrofit any existing lighting fixture that utilizes high intensity discharge (HID) or incandescent lamp and upgrade them to LED technology. Industrial partners active in lighting sector are sought with an interest in establishing a commercial agreement with technical assistance.*

<b>Creation Date</b>	22 January 2019
<b>Last Update</b>	01 February 2019
<b>Expiration Date</b>	02 February 2020
<b>Reference</b>	TOGR20190122001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6bae3f88-3110-440f-a0b0-8494d3e76bc7">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6bae3f88-3110-440f-a0b0-8494d3e76bc7</a>

### Details

#### Description

Light emitting diode (LED) lighting devices have been introduced in the lighting market in replacement of incandescent, fluorescent or other prior art lighting devices as they offer an enhanced luminosity and yet a much lower consumption of electric energy. At the same time research continues and further lighting technologies, e.g. organic led or laser and other lighting technologies are being explored and/or developed. Despite the advantageous characteristics of these new led or other lighting devices, their broad adoption in the lighting market remains low. One main reason for the above is the high cost which it associated with the substitution of existing lighting devices with the new technologically advanced ones. A LED lighting device configuration and requirements differ substantially from the prior art lighting devices and therefore it is required to replace all the entire existing lighting unit.

It is evident that a great market demand exists for the evolution of a retrofitting process in a variety of circumstances. A Greek SME company identified that and started to deal with the research and development of adequate high power led retrofit solutions. After long lasting research and utilizing innovative and patented approaches, they developed a modular lighting device adapted for retrofitting existing lighting fixtures.

The heart of the proposed modular lighting device is the patented technology as it comprises various elements in combination. A lighting module with at least one array of led assembled in either a COB (Chip-On-Board) or in a longitudinal strip configuration provided with appropriate lenses that focus and direct light emission. A heat sink and fan cooling unit assembly with an



appropriate configuration to match retrofitting existing lighting units. The led bulb and the fan cooling unit are provided with power through an automatically power supply control circuit that receives a DC (Direct Current) power input from an external source. That control circuit includes two temperature sensors arranged to monitor the temperature of the led chip assembly. The first sensor activates the operation of the fan cooling unit at a first predetermined value of temperature of the led chip assembly. The second sensor is being adapted to cut power supply and shut off the led chip assembly at a second predetermined value of temperature. All the assembly can be connected to a standardised sockets (of E27 or E40 types) of any existing lighting unit via an appropriate connector made from a non-conductive material.

The offered modular lighting unit can be adapted for retrofitting a plethora of existing lighting units that operate with technologically advanced lighting modules, such as led, o-led, laser or other and provide an optimally enhanced luminosity.

The Greek company is looking for commercial agreements with technical assistance with companies from the lighting sector and specialised lighting devices sector for joint activities. The Greek company offers know-how and expertise so as to cover special needs of lightning.

## Advantages and Innovations

The offered lighting device constitutes actually a compact self-sustained unit that can fully match a variety of retrofitting requirements in a plurality of existing lighting units. It has a series of innovative aspects as detailed below.

It can replace the prior art lighting modules, which are consumables, without requiring any change in the overall supporting structure of the lighting unit. Also it does not require any re-certification as it is per se tested and compliant with all European and international standards and norms.

Further, it is serviceable, repairable and upgradable while during its operating life, it can be adapted to a broad range of applications and usages.

Additionally, it is compatible with all smart lighting systems, both residential and commercial providing enhanced capacity of remote control of lighting devices.

Due to its innovative structure and architecture, it is protected from being exposed at overheating, thereby enhancing the service life thereof and preventing a fire hazard.

Moreover, it provides enhanced luminosity, whilst consuming an optimally minimal amount of energy, thereby providing a combination of environmentally friendly characteristics and low cost in both infrastructure and in operation.

Lastly, it has the capacity to change and manage the direction of the luminance. Thus, there is no need of additional light-directional features, such as a reflector. It employs compact lighting modules and appropriate lens assemblies that offer enhanced efficiency in light directing.

## Stage of Development

Already on the market

## IPR Status

Design Rights, Granted patent or patent application essential

## Profile Origin

COSME

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## Keywords

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### Technology

01002003	Electronic engineering
02006004	Installations related to construction (energy, lighting, ...)
02009020	Lighting and signalling system
03003	Apparatus Engineering
04007002	Lighting, illumination

### Market

03001009	Other electronics related (including keyboards)
08005	Other Industrial Products (not elsewhere classified)
09008001	Electric companies

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## Network Contact

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### Issuing Partner

AGENCIA ANDALUZA DEL CONOCIMIENTO

### Contact Person

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME <= 10

### Year Established

0

## Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English

Greek

### Client Country

Greece

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## Partner Sought

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### Type and Role of Partner Sought

The Greek SME is looking for industrial partners to conclude commercial agreement with technical assistance.

- Specific area of activity of the partner: companies active in lighting industry and particularly in electrical equipment technology, smart lighting, led lighting and lighting retrofits sectors;

- Task to be performed by the partner sought: to implement the proposed technology, to provide expertise or completely customised lighting solutions covering special requirements and specifications.

### Type and Size of Partner Sought

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

### Type of Partnership Considered

Commercial agreement with technical assistance

## Technology Offer

### An established Slovak research institute has developed new polymer composites for 3D printing and is looking for licensees or investors

#### Summary

*Established Slovak scientific and research institute in cooperation with a private company has successfully managed to prepare unique polymer composites for 3D printing consisting of a polymer matrix and a filler, whereby as the polymer matrix recycled polyethylene terephthalate glycol (rPETG) is used and the filler is a mixture of expanded graphite and carbon fibers in a suitable ratio. The preferred cooperation types are license agreement, financial agreement or commercial agreement.*

<b>Creation Date</b>	18 January 2019
<b>Last Update</b>	21 January 2019
<b>Expiration Date</b>	22 January 2020
<b>Reference</b>	TOSK20181112001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/bc383f0e-151e-4c93-b605-87a35a6fa394">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/bc383f0e-151e-4c93-b605-87a35a6fa394</a>

#### Details

##### Description

Currently, several principles of 3D printing are known and have been gradually developed and improved. The most commonly used is the FFF (Fused Filament Fabrication) or FDM (Fused Deposition Modeling) method. The principle of this method is that the filament is fed into the nozzle and the resulting melt is applied on the pad in repeated thin layers until a three-dimensional object of desired shapes and dimensions is created.

The materials used for filaments are predominantly polymeric materials differing in their mechanical and thermal properties (e.g. acrylonitrile butadiene styrene, polylactic acid, polyethylene terephthalate and others). In addition to polymeric materials, the filaments can also contain various additives (wood flour, ceramic particles, graphene, etc.) which serve to improve the mechanical properties or the appearance of the material. Their disadvantage is that they significantly affect the rheological properties of the melt or have abrasive properties on the nozzles which can lead to their wear and more frequent replacement.

Recently, a team of inventors from the Polymer research institute and established Slovak company active in 3D printing managed to use recycled polyethylene terephthalate glycol as the polymer matrix of the material for 3D printing, which has in comparison with polyethylene terephthalate a higher impact resistance and clarity. The institute was established in 1953 in order to carry out fundamental and applied research and new developments in the field of civil

engineering and architecture.

Due to the fact that it is a recycled material, its price is several times lower than the price of non-recycled polyethylene terephthalate. Furthermore, this fact did not reflect in the properties of the resulting 3D object. For the purposes of improving the mechanical properties (static and dynamic) and reducing the weight of the final product, carbon fibers in a suitable ratio with expanded graphite have been mixed into this polymer matrix. Expanded graphite, that has lubricating effects, also reduces the abrasive properties of carbon fibers, improves the rheological properties of the polymer melt with carbon fibers and adds fine roughness to filaments, resulting in an easier feed into the nozzle. Thanks to the high thermal conductivity of the expanded graphite it is not necessary to change the temperature parameters of the processing

The institute is looking for partners to cooperate with via financial agreement, license agreement or via commercial agreement with technical assistance.

## Advantages and Innovations

Competitive advantage:

- Several times lower price of the used polymer matrix (rPETG) in comparison with the price of non-recycled polyethylene terephthalate (PET); this fact did not reflect in the properties of the resulting 3D object,
- Higher impact resistance and clarity of rPETG in comparison with PET,
- Weight reduction of the final product (saving about 15 - 20% of the final product weight), and at the same time achievement of higher strength and better surface appearance.

## Stage of Development

Prototype available for demonstration

## IPR Status

Other

## Comment Regarding IPR status

Registered Slovak utility model

## Profile Origin

Other

## Keywords

### Technology

02001001	3D printing
02009012	Automotive engineering

### Market

09003001	Engineering services
09003007	Other services (not elsewhere classified)

### NACE

C.18.1.2	Other printing
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## Network Contact

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

1967

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
German  
Slovak

### Client Country

Slovakia

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## Partner Sought

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### Type and Role of Partner Sought

Type: The institute is seeking an industrial partner for licensing or financing the technology, as well as commercial agreement with technical assistance.

Field of activity: especially the production of high performance materials for automotive industry.

Role of partner:

- financial agreement - the financing for the further development of this technology is sought,
- license agreement - the licensing for the further development of this technology is sought,
- commercial agreement with technical assistance is sought.

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

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

### **Type of Partnership Considered**

License agreement  
Financial agreement  
Commercial agreement with technical assistance

## Technology Offer

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# Urban connected autonomous vehicle (CAV) test bed demonstrator offered by a UK council for trialling and developing new technologies

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### Summary

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*A UK local authority has developed a connected autonomous vehicle (CAV) test bed and are seeking partners to test innovations in order to accelerate deployment in the real-world. The test bed will give open access to all organisations types, targeting developers of software, sensors, roadside units, emerging wireless communications such as 5G, on-board units (OBU), smart parking, electric/hybrid vehicles and cyber security systems under technical cooperation agreements.*

<b>Creation Date</b>	15 January 2019
<b>Last Update</b>	25 January 2019
<b>Expiration Date</b>	26 January 2020
<b>Reference</b>	TOUK20190115001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/e0617a4f-ac20-4619-849b-708695d1e7cc">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/e0617a4f-ac20-4619-849b-708695d1e7cc</a>

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### Details

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#### Description

A real world connected car to infrastructure demonstrator has been developed by a UK midlands based local authority offering the following specifications and solutions to SMEs and OEMs wishing to trial, test and deploy new technologies in this market:

- Testing of technical and commercial viability
- Explore services and emerging technologies
- Testing of Vehicle to Vehicle (V2V) and Vehicle to Infrastructure (V2I) communications (=V2X)
- Testing the interoperability between vehicle manufactures and technology providers
- Trial of a connected “app”/dashboard for Virtual Road side and driver messaging
- Specific connected autonomous vehicles - CAV / V2V / V2I / V2X technologies that can be tested:
  - Vehicle self-navigation
  - Vehicle pacing behaviour
  - Vehicle stopping behaviour
  - Vehicle passing in lane behaviour
  - Mapped stop sign behaviour
  - Interfering vehicle avoidance
  - Pedestrian avoidance
  - Interactive Parking with Pods



- ISection
- Roundabouts
- Traffic lights
- Pedestrian crossings
- Valet parking
- Maximum speeds (60mph roads)
- Emergency Vehicle Warning (EVW) – Sends a signal directly from the emergency vehicle (e.g. ambulance, fire engine, police vehicle) to nearby connected cars. Driver is informed that the emergency vehicle is approaching and advised to make way for it.
- Intersection Priority Management (IPM) – Assigns priority when two or more connected vehicles come to an intersection without priority signs or traffic lights.
- Intersection Collision Warning (ICW) – Warns the driver when it is unsafe to enter an intersection, due to a high probability of collision with other vehicles.
- Electronic Emergency Brake Light (EEBL) – Alerts the driver when a vehicle in front suddenly brakes, providing advanced warning, especially when the driver is unable to see the lights of the braking vehicle due to weather conditions, road layout or other vehicles in between.
- Collaborative Parking – Provides real-time information about free parking spaces either in the vicinity or close to the driver's final destination.
- In-Vehicle Signage (IVS) – Sends information about road conditions, congestion or other incidents directly to the in-car display, rather than having to rely on expensive gantry systems.
- Green Light Optimal Speed Advisory (GLOSA) – Sends traffic light information to the connected car which is able to calculate the optimal speed for approaching the lights, potentially minimising the number of red light stops, improving traffic flow and reducing emission levels from idling vehicles.
- Light Speed Autonomous Transit Systems (LSAT-S or 'Pods')

The local authority is seeking users from global OEMs and SMEs to start-ups at all levels of autonomy and readiness, specifically targeting developers of software, sensors, roadside units, emerging wireless communications such as 5G, on-board units (OBU), smart parking, electric / hybrid vehicles and cyber security systems to utilise their test bed under technical cooperation agreements.

## Advantages and Innovations

Driven by the need to reduce traffic congestion and accidents on our roads, the development and deployment of CAVs will provide significant societal benefits and social inclusion, as well as business opportunities for the automotive, communications, infrastructure and transport sectors across the EU.

Demonstrating CAVs on road, in real-world driving situations, not only helps to establish confidence in the technology, but also provides invaluable learning that can be incorporated to achieve the ultimate aim of making them, and the additional services that they could provide, a commercially viable and desirable means of road-transport. Furthermore the testing will be supported by extensive public engagement and a database of participants who will help support the more human elements of technology and service evaluation.

To attract continued R&D investment into the region and the UK, the test infrastructure will be operational after the project conclusion and will be fully self-sustaining. Emerging contemporary issues such as last mile parcel delivery services and inductive charging can also be tested

## Stage of Development

Available for demonstration

## Comments Regarding Stage of Development

£17m funding secured to further develop build over 2 years towards total project development costs of £25m.

8 year operational period thereafter supported by UK government appointed agency.

Testing in the initial two years is available for infrastructure already developed under preceding CAV / ITS projects.

## IPR Status

Design Rights, Exclusive Rights

## Profile Origin

Other

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## Keywords

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### Technology

02008002	Intermodal Transport
02008005	Road Transport
02008006	Traffic Engineering / Control Systems
02010003	System and transportation

### Market

01006005	Other communications (not elsewhere classified)
08002002	Industrial measurement and sensing equipment

### NACE

H.52.2.1	Service activities incidental to land transportation
H.52.2.9	Other transportation support activities
M.71.2.0	Technical testing and analysis
O.84.1.1	General public administration activities

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## Network Contact

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

Other

### Year Established

0

### Already Engaged in Trans-National Cooperation

Yes

### Experience Comments

To attract continued R&D investment into the region and the UK, the test infrastructure will be operational after the project conclusion and will be fully self-sustaining. Emerging contemporary issues such as last mile parcel delivery services and inductive charging can also be tested. In addition:  Consortium of experts (academia, modelling, SME's, data and tech, cyber security, innovation and engineering)  Historic and cultural reputation in the region for transport innovation World leading on-street and private tracks for testing - Level 4 autonomous testing underway. World-leading renowned OEM and TEM suppliers, access to a network of contacts, referrals and stakeholders in the supply chain.

### Languages Spoken

English

### Client Country

United Kingdom

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## Partner Sought

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### Type and Role of Partner Sought

Types:

- Global OEMs and MNE
- Small and Micro SMEs
- Medium SMEs
- Start Ups
- R&D organisations
- Universities
- Government Authorities (Sharing best practice)

Roles and areas of expertise - targeting developers of:

- Software
- Sensors

- Roadside units
- Emerging wireless communications such as 5G
- On-board units (OBU)
- Smart parking
- Electric / hybrid vehicles
- Cyber security systems

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

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

## **Type of Partnership Considered**

Technical cooperation agreement

## Technology Offer

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# Thermal insulation materials developed with cross-linked foaming technology

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## Summary

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*A Korean company has specialized in heat insulating materials manufacturing since its establishment in 2005. The major products are thermal insulators developed with cross-linked foaming polyethylene in order to improve the products' characteristics regarding low moisture-vapor permeability, high resistance to water absorption and low density. The company, therefore, wishes to improve the technology with partners under commercial agreement with technical assistance and license agreement.*

<b>Creation Date</b>	26 February 2018
<b>Last Update</b>	21 January 2019
<b>Expiration Date</b>	22 January 2020
<b>Reference</b>	TOKR20180226002
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6601c38c-4ed6-4cfe-adbd-4e46fe169e70">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/6601c38c-4ed6-4cfe-adbd-4e46fe169e70</a>

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## Details

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### Description

A company is a Korean-based organization that has manufactured thermal insulator since founded in 2005. Heat insulating materials are commonly used in order to make the temperature steady by decreasing loss and gain of heat, especially in the walls and outdoors. Typical insulation tools are highly absorptive by water, which results in emission of heat. Since thermal insulator is supposed to prevent loss of heat to keep it warm, the company had research the technology in order to improve the functions of insulation materials. Cross-linked foaming technology is applied on manufacturing low emissive insulator that are utilized for exterior, interior, roof and ground heat insulations. It performs as chemical reactions are induced by pellet passing through the foaming furnace and producing heat. Since thermal insulation materials developed with a use of the company's technology provide benefits of lighter weight and higher constructability than general products, the company prefers their partners to take cooperation with commercial agreement with technical assistance and license agreement for their technology to be commercialized with more advanced functions in international market.

### Advantages and Innovations

- The technology based on cross-linked foaming makes innovative features, such as
- Low heat transfer that leads to decrease energy loss due to efficient thermal insulation.
  - Higher absorption of impact energy
  - No absorbance and absorption by water

- Semi-permanent because it is not varied by chemicals
- Lighter weight and higher buildability.

## Stage of Development

Already on the market

## IPR Status

Secret Know-how

## Profile Origin

Private (in-house) research

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## Keywords

### Technology

02007002	Building materials
02011008	Thermal insulation for space applications
04	ENERGY

### Market

09007	Construction and Building Products
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## Network Contact

### Issuing Partner

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

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## Dissemination

### Relevant Sector Groups

Ref: TOKR20180226002

Materials

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## Client

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### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English

### Client Country

South Korea

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## Partner Sought

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### Type and Role of Partner Sought

- Type of partner sought: SME or large companies
- Specific area of activity of the partner: Partners should be interested in research and development of thermal insulation materials or engaged in energy management
- Task to be performed: Under commercial agreement with technical assistance, the company would like for their technology to be applied on various types of thermal insulation, and also with license agreement, the partners should be able to work on development of it in international markets.

### Type of Partnership Considered

- License agreement
- Commercial agreement with technical assistance

## Research & Development Request

# H2020 DT-ART-03-2019 Partners sought for testing and validation activities of human-machine interfaces in cars

### Summary

*Spanish research organization, coordinator in a proposal H2020 DT-ART-03-2019 which objective is to understand the time drivers need to take back control of the vehicle and to gain a full awareness on the road, for autonomous driving levels (SAE level) in situations of downgrading or disengagement of the system. Partners searched are autonomous car manufacturers for testing and validating the prototype under a research cooperation agreement.*

<b>Creation Date</b>	21 January 2019
<b>Last Update</b>	23 January 2019
<b>Expiration Date</b>	14 February 2019
<b>Reference</b>	RDES20190121001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/f130d814-be11-4789-9b19-4903f0ecaf1f">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/f130d814-be11-4789-9b19-4903f0ecaf1f</a>

### Details

#### Description

The aim project is create a proper definition of different levels of “driver reaction time” that strongly depend on the driver’s conditions (fatigue, distractions..) as well as his/her capability of understanding the degree of automation enabled in each situation (driver modelling).

The proposal is composed of 7 partners, representing 4 member states (Spain, Sweden, Italy and Austria).

The coordinator is looking for a car manufacturer involved in the development of autonomous vehicles, able to define use cases for the project and that will benefit from its results by having a better overview of the challenges given by automation levels’ shifting and related human machine interaction solutions.

There are no requirements in type or size and the eastern country entities are welcome.

Funding programme: H2020-DT-ART-03-2019 Research and Innovation action. The proposed actions should include all of the following aspects:

Research to characterise driver roles in use cases of automation level 4 and for the transition between these and lower automation levels. Upgrade of comprehensive models for driver behaviour/reaction, awareness, readiness and monitoring. Driver generational effects, considering in particular variations in information technologies usage experience and age, but



also other cultural factors should be taken into account.

Effectiveness assessment methods, especially for safety aspects, based on these models. The new relationship between driver and vehicle (mutual cooperation or even handover rather than continuous control) should be reflected, also considering the variety of activities a driver may engage in while the vehicle is in charge. Use cases where an operator controls the vehicle remotely may be included.

Develop easily understood solutions making it clear to the driver what is the operational capability (authority) of the automated mode or modes currently enabled, as well as ensuring safe and reliable function (re-)allocation and corresponding driver/operator readiness. Driver control handover, driver/operator state and impairment are among the aspects that should be considered and the intended driver reaction should be secured.

Demonstration of concept functionality in real world situations with various use cases and driving environments where automated systems receive and give back control from/to the driver.

Expressions of interest deadline: 15 February 2019

Call deadline: 25 April 2019

Duration of the project: 36 months

Available budget for the Project is 8.000.000€ and the available budget for the partner is subject to the tasks and responsibilities acquired.

## Advantages and Innovations

The project will make use of several technological solutions in a creative way to defined problems related driving status in automated vehicles.

## Stage of Development

Proposal under development

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## Keywords

### Technology

02009007	Artificial intelligence applications for cars and transport
02009008	Navigation and embedded systems
02009009	Sensors for cars and transport
02009025	Braking system

### Market

02007007	Applications software
02007016	Artificial intelligence related software
09001005	Motor vehicles, transportation equipment and parts

### NACE

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

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

1989

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Spanish

### Client Country

Spain

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## Partner Sought

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### Type and Role of Partner Sought

The research centre is seeking for car manufacturers with automated driving units. The role of the partner will be to test the first results and validate of the demonstrative prototype, definition use cases and participation in solution creation.

**Type and Size of Partner Sought**

251-500,>500

**Type of Partnership Considered**

Research cooperation agreement

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## Program - Call

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**Framework Program**

H2020

**Call title and identifier**

DT-ART-03-2019 Human centred design for the new driver role in highly automated vehicles  
Research and Innovation action

**Submission and evaluation scheme**

Single-stage submission scheme

**Anticipated Project Budget**

8000000

**Coordinator Required**

No

**Deadline for EOI**

14 Feb 2019

**Deadline of the Call**

25 Apr 2019