Profile Status: Published

Technology Offer

Fully automated monitoring and leak detection system for flat-roofed buildings with just-in-time notification

Summary

An Austrian start-up developed a novel surveillance- and early-warning-system to detect water leakages in flat-roofed buildings to avoid damages caused by water intrusion. Advantages are (among others): - Easy planning & installation - Low installation costs - No maintenance costs - Fully automated, uninterrupted monitoring -Just-in-time notification -Extending the lifespan of the flat-roof The company is seeking for license agreements and commercial agreements with technical assistan

Creation Date	06 August 2018
Last Update	09 August 2018
Expiration Date	10 August 2019
Reference	TOAT20180806001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/74435004-1de8-46bf-917f-d5e4525f755f

Details

Description

1) Statement of the problem:
Water intrusion in flat roofed buildings is causing in Austria alone annualy about 110 Mio € damages (1,500 € / 100 m² flat-roof per year). Properly built flat roofs are waterproof for about 20-40 years, but even those can become water-permeable due to UV-radiation, mechanical injuries, shearing forces, roof planting, birds and further reasons.

Once the sealing is broken at one position the water is intruding into the thermal insulation and builds a pool on top of the water proof vapour barrier -> the thermal isolation is getting wet (sometimes over years), thereby losing its isolating function -> which leads to the replacement of the whole thermal isolation & the whole sealing (~25.000 € / 100 m²).
In those cases where the water penetration remains unknown, the water level can rise up to a height at which the water is entering the building via chimneys, curbs, vertical connections, or laterally at the roofs edges leading to water in walls, electrical control boxes, floors, fitted wardrobes -> restoration of substantial parts of the building necessary.

2) Description of the innovative solution
The described financial costs and adverse effects caused by restoration measures can be easily avoided with monitoring systems.

Currently two alternative systems are available on the market. One of these systems is causing similiar installation costs without measuring water intrusion directly but combining parameters

such as humidity, °C, shade, season of the year. Consequently maintenance contracts have to be signed with specialists to ensure proper monitoring. The other system also works fully automated but causes higher costs by the factor six, excluding monthly fees for GSM.

The novel technology developed by the Austrian company consists of a cable (40, 60 or 100 m) with integrated sensors. This cable is flexible and is simply laid on top of the vapour barrier according to a pre- defined plan. The thermal isolation, the sealing and the gravel/plantings are put on top of the sensor cable. The sensor cable is connected to a communication unit in the electronic control box via a 50 m cable. Each communication unit can be connected with up to 4 sensor cables (450 m²). The monitoring system runs plug&play, since the communication unit only has to be connected to a lan cabel and an energy supply. In case of a water leakage, an e-mail is sent out containing information about the wet section in a groundplan. Subsequently the thermal isolation can be opened locally (4-5m²), the water can be removed with a towel and the old thermal isolation can be put again on top of the sensor cable. Sealing of the 4-5 m² is the last step of the process.

3) Awards:
2017 Upper Austrian Award for technology-orientated ideas
2018 International SmartHome Award Germany

4) Partner sought:
- Wholesalers with an exisiting network in the construction business. With these partners a license agreement is sought.
- Any kind of company with skilled workers willing to implement the proposed surveillance system (tinsmith, flat roof construction company, prefabricated house manufacturer, electrician, building enterprise, general contractor). With these partners a commercial agreement with technical assistance is sought.

Advantages and Innovations

1) Advantages for a potential cooperation partner:
- Additional revenues: Gross margin 360 € / 100 m² 100 min working time
- Minimizing risks: Minimizing financial consequences (indemnity claims) in case of construction defects
- Documentary evidence: Documentation in case of subsequent damaging of the sealing by other companies (e.g. during construction works on the facade).
- Easy planning & installation (plug&play)

2) Advantages for the owner of a flat-roof:
- Easy planning & installation (plug&play)
- Low installation costs: 2,500 € / 100 m²
- No maintenance costs
- Minimizing medium-term costs: Restoration costs of 500 € instead of > 25,000 € / 100m²
- Minimizing adverse effects caused by restoration measures
- Fully automated, uninterrupted monitoring
- Just-in-time notification in case of a leakage
- Precise localisation of a leakage (4-5 m²)
- Universally applicable: Independent of physical roof structure, sealing type and shape of the building
- Easy combinability with smart home applications

3) Environmentally friendly:
- Resource-saving: Near to zero resources needed for restoration measures

Stage of Development

Already on the market

Comments Regarding Stage of Development

Prototypes (close-to-production) were already successfully installed on flat roofs.

Installations of sensors from mass-production will begin in the month of October 2018.

IPR Status

Patents granted

Comment Regarding IPR status

National Patent granted
PCT declared

Encapsulation of the sensors for extending the lifespan of electric parts is patented.

Profile Origin

National or Regional R&D programme

Keywords

Technology

02006004	Installations related to construction (energy, lighting, …)
02006005	Construction maintenance and monitoring methods & equipment
09003	Electronic measurement systems
10004012	Water in Buildings

Market

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

NACE

F.41.1.0	Development of building projects
F.41.2.0	Construction of residential and non-residential buildings

Network Contact

Issuing Partner

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Open for EOI : Yes

Dissemination

Send to Sector Group

Sustainable Construction

Restrict Dissemination to Specific Countries

Canada, Croatia, CzechRepublic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Latvia, Luxembourg, Netherlands, Norway, Poland, Slovakia, Slovenia, Sweden, Switzerland, UnitedKingdom, USA,

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
German

Client Country

Austria

Partner Sought

Type and Role of Partner Sought

The Austrian company is looking for:
1) Any kind of company with skilled workers willing to implement the proposed surveillance system (tinsmith, flat roof construction company, prefabricated house manufacturer, electrician, building enterprise, general contractor). With these partners a commercial agreement with technical assistance is sought.

2) Wholesalers with an exisiting network in the construction business. With these partners a license agreement is sought.

The Austrian company provides initial trainings (on-site, (online)tutorials, product description).

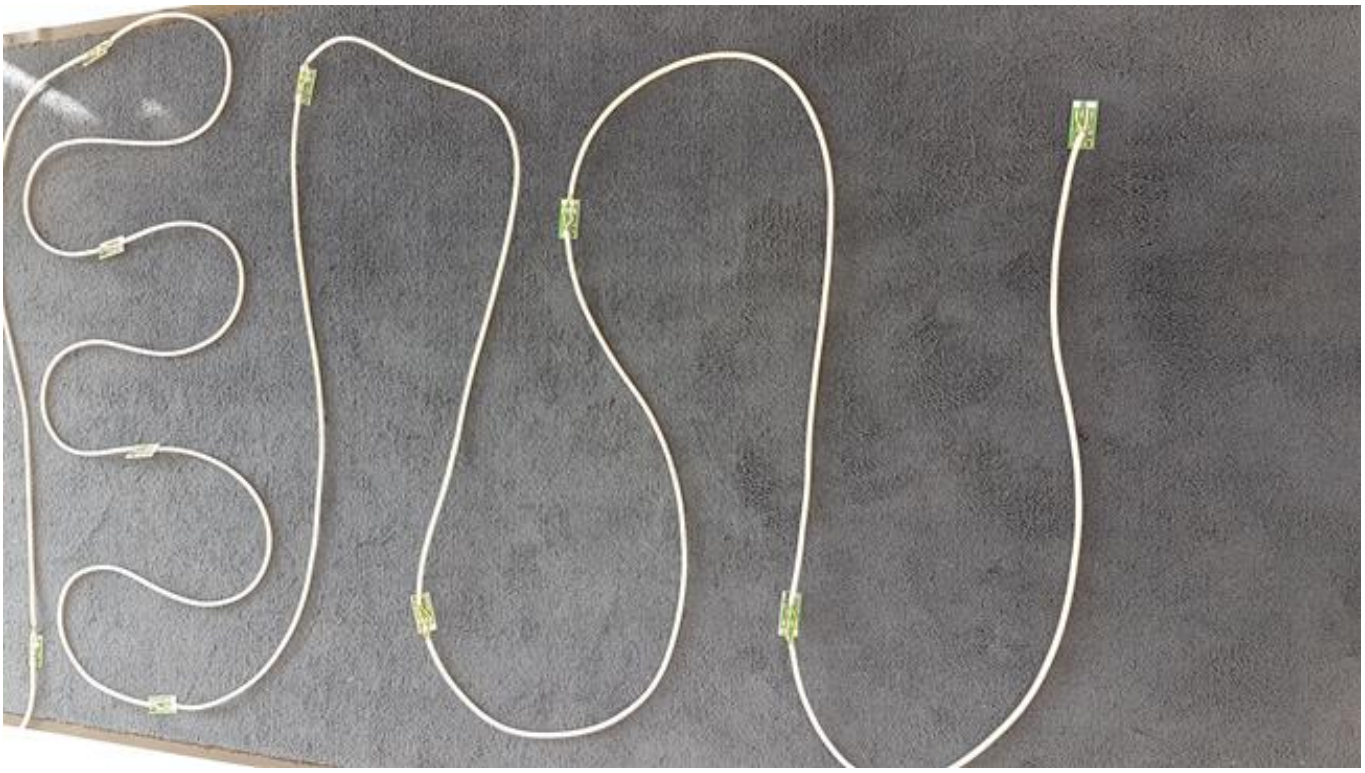
The Austrian company aims to get in contact with cooperation partners in Europe. Nevertheless partners are welcome from all over the world.
In Austria exclusive licences are already granted with two companies.

Type of Partnership Considered

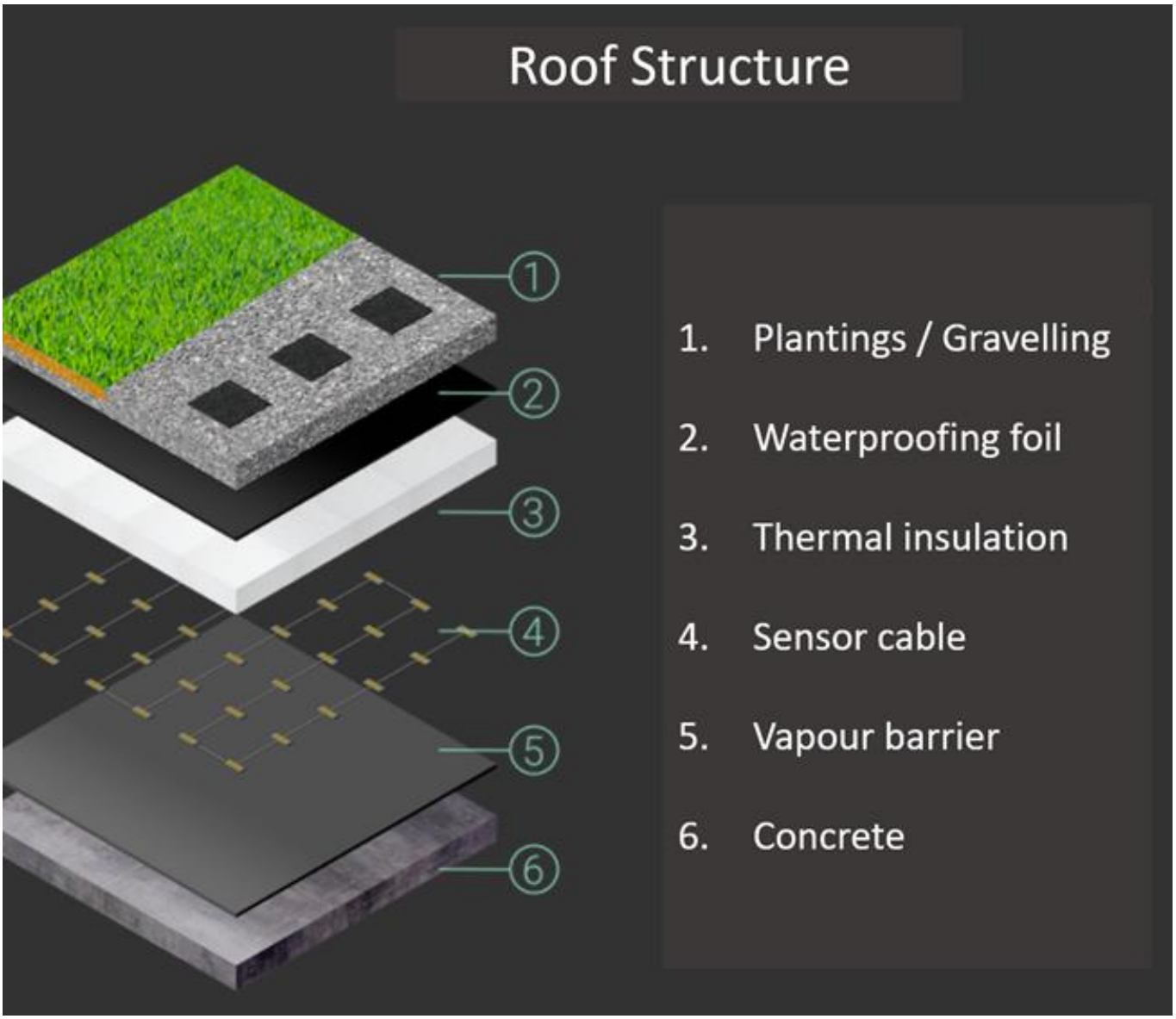
License agreement
Commercial agreement with technical assistance

Attachments

20171002_151453-1.jpg



Roof Structure.png



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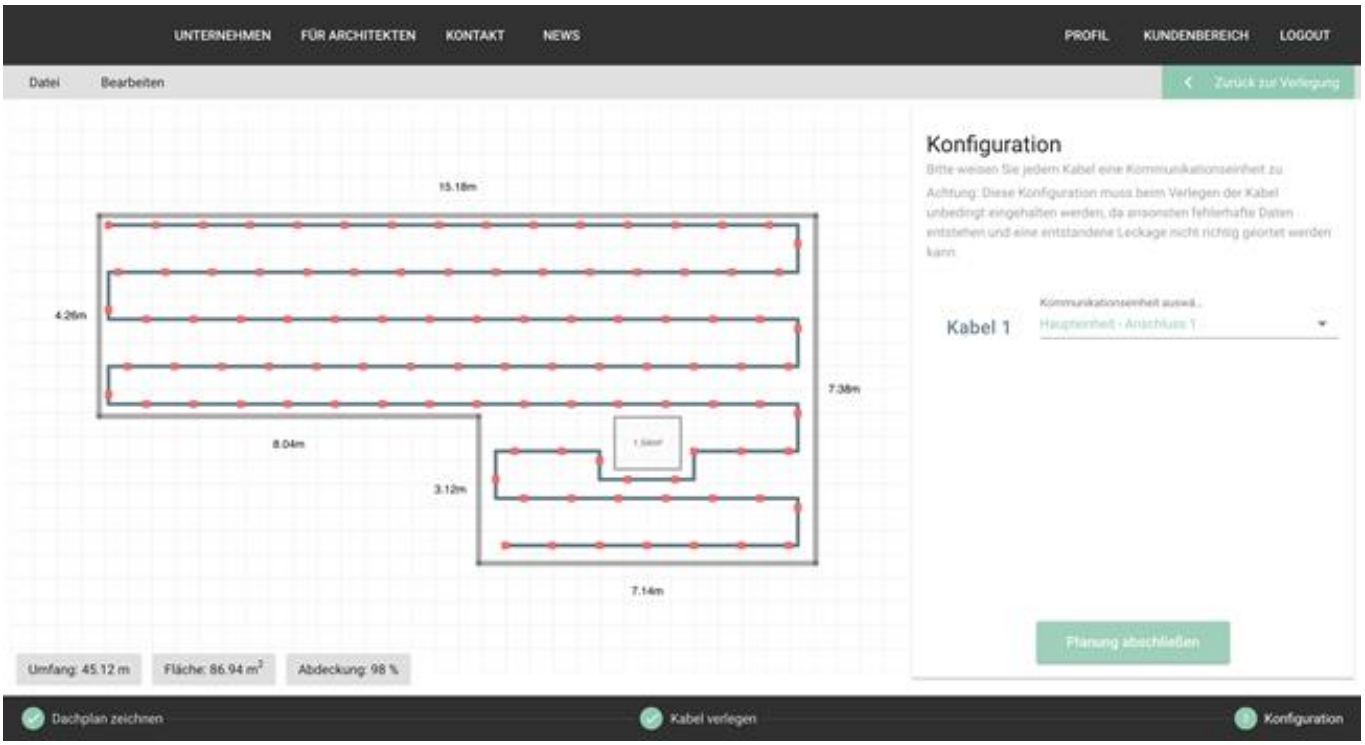
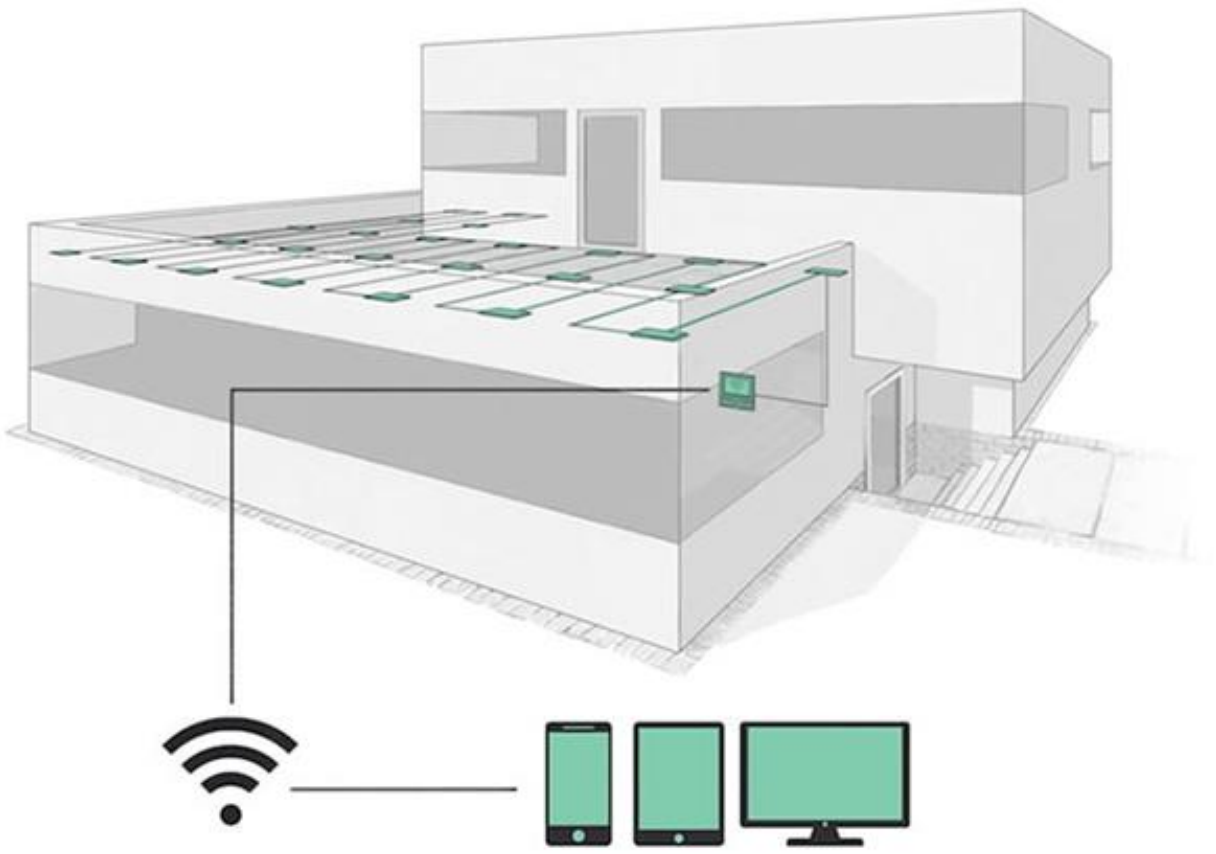
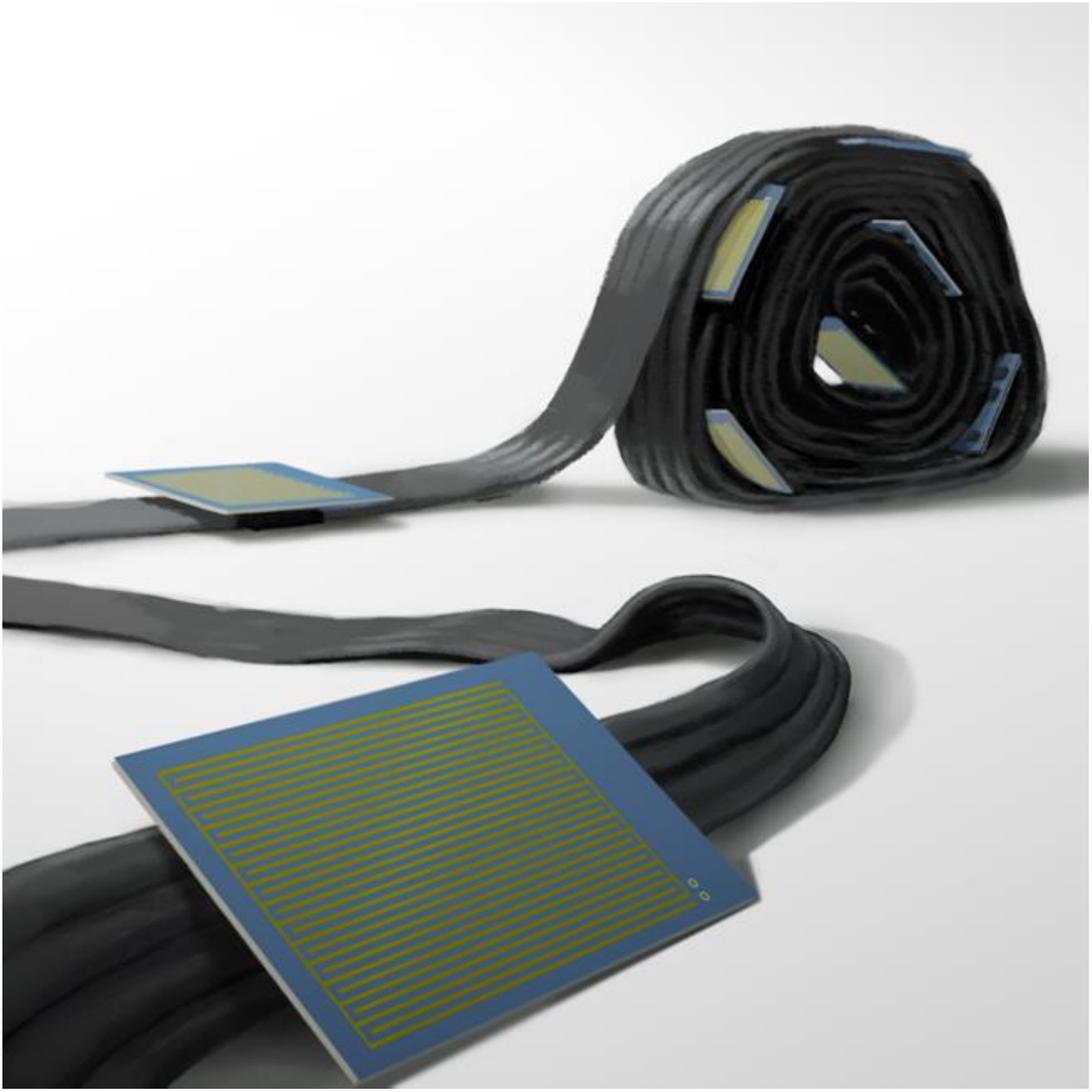


Building with monitoring system.png



Datenblatt-Sensorkabel.jpg



Profile Status: Published

Technology Offer

Monitoring system for structural health of bridges and buildings in urban and remote locations

Summary

A German engineering company, specialised in sensor and automotive technologies, has developed a fully functional system solution for monitoring the structural health of bridges and buildings in urban and also remote locations. The products are very versatile long range sensor transmitters and may be used beyond structural health monitoring in diverse IoT surveillance and data collection services. The company is looking for license and commercial agreements with technical assistance.

Creation Date	28 August 2018
Last Update	10 September 2018
Expiration Date	11 September 2019
Reference	TODE20180828002
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/63eb88b4-c145-40f5-b1fd-3175ec3bdd00

Details

Description

The German company is an engineering company with a focus on high-tech developments in automotive and sensor technologies.

It has a history of more than 17 years in international business relations in general industry and automotive industry. It has expertise in thin film sensor technology and electronics. The company has initiated more than 20 utility models and patents and is a frontrunner in the development of niche automation technology.

The company offers a fully functional systems solution for monitoring the structural health of bridges and buildings in urban and remote locations. The system is a combination of various sensors, data-collection and transmission units, enabling the user to send information with radio frequency LoRa (long range) protocols to internet gateways for cloud or proprietary server data storage. The system features ease to use self-assembled dashboards for visualisation and monitoring of key-parameters and permits automated transmission of electronic information by initiating SMS, e-mail or voicemail etc. and can link with various industry controls, as for instance traffic lights.

The system consists of:
- Thinfilm Piezoresistive Force- and Pressure Sensors which are so rugged, that they may be introduced directly into the load-path of an applied force in a man-made structure.
- LoRa-Transmitters for collecting sensor signals and transmitting these via gateways to servers

or cloud-based data centers for storage, analysis and retrieval.
- Via a matching software, the transmitted and collected data may be visualized, processed and and used for notifications (SMS, e-mail, voicemail etc.) and signalling as for instance in preventing people or vehicles by red light signals activation to further access buildings or bridges where the sensors have detected structural weaknesses and such help to guard people and assets against damage or casualty.

These products are so versatile that they can be combined with a multitude of sensors and can function as building blocks for various monitoring and surveillance tasks in different industries and applications which go well beyond structural health monitoring tasks. So also the surveillance of water levels of wells or watering places on farms in remote locations with transmission of water-level status to the cell phones of the farmer and the farm hands is possible.

The company aims to distribute the system and is therefore interested in commercial agreements with technical assistance as well as in license agreements with companies, institutions and administrations in Europe, USA and Canada wanting to monitor the structural health of bridges and buldings and seek advance notification before severe damage or collapse of the structures takes place.

Advantages and Innovations

Rugged sensors, remote surveillance and data acquisition for structural health monitoring of bridges and buildings, optimized low energy data transmission, battery and photovoltaic powered

Stage of Development

Prototype available for demonstration

Comments Regarding Stage of Development

LoRa WAN sensor technology is at TRL 6 plus - series production will beginn in fall 2018

IPR Status

Secret Know-how,Granted patent or patent application essential,Trade Marks

Profile Origin

COSME

Keywords

Technology

01003025	Internet of Things
01005006	Visualisation, Virtual Reality
02006005	Construction maintenance and monitoring methods & equipment
02006006	Construction engineering (design, simulation)

Market

01004002	Data communication components
08002002	Industrial measurement and sensing equipment
09003001	Engineering services

09004008	Other manufacturing (not elsewhere classified)

NACE

G.46.6.2	Wholesale of machine tools
M.70.2.2	Business and other management consultancy activities
M.71.1.2	Engineering activities and related technical consultancy

Network Contact

Issuing Partner

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Open for EOI : Yes

Dissemination

Send to Sector Group

Sustainable Construction

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2001

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

ISO 9000 in preparation

Certification Standards

ISO 9000

Languages Spoken

English
German
French

Client Country

Germany

Partner Sought

Type and Role of Partner Sought

Type: Companies/institutions/administrations which are responsible for the safety and functionality of man-made structures such as bridges or buildings – where technical parameters may be monitored in order to assure that the extent of damage (wear) can be contained (predictive maintenance) or in case of catastrophic events (total collapse) casualties can be avoided or minimized by control and notification of traffic flow.

Furthermore, partners with good contacts to the target group: monitoring service providers, ministries for road and railroad surveillance, construction companies, transportation companies

Role: Acquisition of the monitoring system with sensors, LoRa transmitters, IT-based infrastructure for storage, retrieval, processing of data featuring notifications/control of traffic.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Commercial agreement with technical assistance

Attachments

Profile Status: Published

Technology Offer

Bulgarian company offers an online platform which acts as a virtual school

Summary

Bulgarian company specialized in online education offers a digital platform for teaching with live teachers. The platform acts as a virtual school. Due to a video conference connection and a virtual whiteboard, the students can write and solve problems on the board. Teachers also can create their own video lessons and give them to the students. In the Learning management system they can give homeworks and interact with the students. The company is looking for a joint venture/license agreement.

Creation Date	04 July 2018
Last Update	26 July 2018
Expiration Date	18 January 2019
Reference	TOBG20160708001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/385ea3b6-138e-47d6-8071-641bc4822943

Details

Description

Bulgarian company offering online education services has developed a digital platform for live lessons. The platform offers the opportunity to students and adults to take a private lesson or to participate in a group course from their computer. This happens through a video conference connection and a virtual white board where the students and the teacher can write and draw in real time. The students need only a computer, internet connection and a web camera. The platform doesn't require the use of a touch screen device. Besides personal tutoring the platform can be used for group classes and the quality of the sessions is excellent despite the fact that you might have 20 students in the classroom. A learning management system (LMS) is integrated, which allows the teachers to upload different materials or the students to take online tests and many other options.
Besides from students, the platform can also be used from companies for corporate training and collaboration.The platform is web based and is written on WebRT.
This online educational opportunity is very important nowadays in our ever-developing digital environment. The platform is targeting quite wide range of users since we are all involved in the life long learning process as our common value.
The Bulgarian company is interested in establishing joint venture partnerships or share its technology under license agreement.
For the joint venture agreement the company is looking for partner able to arrange the organization of the online courses at local market, to find new clients and to enter in this common initiative with relevant to educational sector expertise. Thus the companies could both

develop their common business with doubled potential.
The Bulgarian company is interested also in concluding license agreement with foreign partners in order to be able to generate incomes in the form of fees or shares of royalties transferred.
Other types of partnership agreements could also be discussed.

Advantages and Innovations

The students and the tutors are no longer obliged to travel to participate in a course. Whatever a teacher can do in the physical classroom can do it on the platform in real time.
Furthermore, people from small towns and villages will have more opportunities for training and studying.

Stage of Development

Already on the market

Comments Regarding Stage of Development

The platform is already built and functional in Bulgaria. New features and improvements are being added through the process of development.

IPR Status

Secret Know-how,Copyright

Profile Origin

Private (in-house) research

Keywords

Technology

11002	Education and Training

Market

02006003	Computer training services
02006009	Other computer services

NACE

P.85.6.0	Educational support activities

Network Contact

Issuing Partner

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Open for EOI : Yes

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2016

Turnover

<1M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Bulgarian
Russian

Client Country

Bulgaria

Partner Sought

Type and Role of Partner Sought

The partner sought should have a good knowledge of the education market in their country. They could be organizations or private companies familiar with the local markets wishing o implement and manage the platform in their countries.In this regard recruiting companies and educational centers are also considered as potential partners.
The Bulgarian company therefore is interested either in concluding joint venture agreement in order to widen its expertise and easily enter new markets by using its partner's competences and skills or in concluding license agreement which will allow it to sell its know-how and thus to generate new incomes.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Commercial agreement with technical assistance
Joint venture agreement

Attachments