Profile Status: Published

Technology Offer

German start-up company is looking for investment and technical cooperation for further developing and marketing its innovative infrared-laser scanner.

Summary

A German start-up company intends to further develop a patented high speed scanning process based on an infrared laser for the detection of near surface substances. Even very small amounts of the target-substance can be visualized and quantified. There are many areas of application, e.g. visualisation of fingerprints in forensics, substances detection for quality control in industrial processes or cleaning check in a medical environment. Financial and technical cooperation agreements are sought.

Creation Date	25 October 2018
Last Update	08 November 2018
Expiration Date	09 November 2019
Reference	TODE20181024001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/b03f0a20-34c6-4b03-958c-c07bc4561ce6

Details

Description

The German start-up company was founded in 2015 and is led by a specialist in optical measurements and system integration, who has more than 15 years of industrial management experience and good knowledge of the forensic technology market. The team members are active in research, business development and marketing.
The innovative high-speed scanning process is based on an infrared laser for the qualitative detection of near-surface substances. The applied procedure is nearly independent of the analysed substance. This non-destructive and non-contact test equipment can be used in various industrial areas. By adapting the optics and the laser, the system can be adjusted to different substrates and materials. The optical system is connected to a digital unit and applies a software for real-time processing and displaying measurement data.

Potential areas of application:

1) Visualisation of Fingerprints
When examining a crime scene today, forensic experts first have to find fingerprints, before making them visible with chemicals and digitally preserving and processing them. The company will combine all these steps in one rapid and quality proof step. Instead of up to 36 hours, fingerprints can be visualized in less than 60 seconds. Traces that go unnoticed today, can be

found.

2) Substances detection
The process can be used in various industrial areas. By adapting the optics and the laser, the system can be adjusted to different substrates and materials. Both a laboratory and an in-line version are possible to carry out quality controls and to incorporate the facts gained in the ongoing production.

3) Cleaning check
Currently there are no procedures or devices available that can provide real-time information about the cleaning quality of critical areas, like operation rooms or intensive care units. Existing direct contact tests have incubation times over 24h before a disinfection statement can be made, but they are not usable for a daily 100% inspection. The system enables a comprehensive inspection of contaminated surfaces with immediate results.

The company is looking for partners interested in using or marketing the technology and ready for investment provision within financial agreements. Technical cooperation agreement would be also possible in order to jointly develop the technology to a marketable product with private financing, corporate or public funding.

Advantages and Innovations

- Invisible substances or materials for humans can be made visible.
- By using a laser system, the process works independently of the existing surface and substrate.
- No danger to the eyes or skin of the user.
- Real-time recording in three dimensions with scanning frequency up to 1 MHz.
- No use of health-threatening chemicals or powders.
- Entire measurement is non-contact and non-destructive

Stage of Development

Prototype available for demonstration

Comments Regarding Stage of Development

A functional prototype is available for demonstrating the measurement process. It is ready for use in laboratory or pilot plant. The technology shall be further developed and adapted to individual customer requirements, e.g. further improved to a more manageable size for a field or outdoor application.

IPR Status

Patents granted

Comment Regarding IPR status

First patent: granted in DE, US; applied in CN, EA, EP, IL, IN, KR, WO
Second patent: applied in DE

Profile Origin

Private (in-house) research

Keywords

Technology

06001013	Medical Technology / Biomedical Engineering
09001006	Optical material testing
09001007	Optical Technology related to measurements
09001008	Other Non Destructive Testing
10001004	Hazardous Materials

Market

02004004	Other scanning related (incl. image processing, ...)
05007004	Monitoring equipment
05007007	Other medical/health related (not elsewhere classified)
08003007	Other industrial equipment and machinery
08006001	Process control and logistics

Network Contact

Issuing Partner

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Contact Person

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Open for EOI : Yes

Dissemination

Relevant Sector Groups

Aeronautics, Space and Dual-Use Technologies
Agrofood
Automotive, Transport and Logistics
Bio Chem Tech

Healthcare
Materials
Nano- and Microtechnologies

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2015

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
German

Client Country

Germany

Partner Sought

Type and Role of Partner Sought

The ideal partners are specialists in the areas of forensics, industrial manufacturing / surface inspection, medical -, pharmaceutical-, food technology etc.. They should have an interest to apply the high-speed laser scanner for analytics, trace inspection, security technologies (chemical, biological), quality control in industrial manufacturing etc. The partner is ready to invest in the technology in order to enable development to a marketable product. Additional financing shall be mobilised by use of public funding within joint research and innovation projects.

Type and Size of Partner Sought

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

Type of Partnership Considered

Financial agreement
Technical cooperation agreement

Profile Status: Published

Technology Offer

Patented cell-free technology for production of active membrane proteins

Summary

A French Company in the field of production, purification, formulation and characterization of proteins has developed a patented process to produce functional membrane proteins stabilized in artificial liposomes forming proteoliposomes. This technology helps academics and pharmas in all their projects.The main advantage is speed and It can also produce a wide of proteins. Partnership can be considered via research or technical agreement or commercial agreement with technical assistance.

Creation Date	15 October 2018
Last Update	13 November 2018
Expiration Date	14 November 2019
Reference	TOFR20180822001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/692b6069-9906-4946-acca-f2d4227c235f

Details

Description

Founded in 2011, the French Company is a French service provider or CRO (Contract Research Organisation), in the field of production, purification, formulation, and characterization of proteins.
The cell-free "technology" makes it possible to provide solutions to the main problems encountered with cellular expression: inclusion bodies, truncated proteins, unstable and cytotoxic proteins for example. From this technology, It is possible to express quickly and in quantity SIMPLE as DIFFICULT proteins. It can be membrane proteins in different formats: proteoliposomes, nanodiscs or solubilized.
With the help of academic or private teams, this technology allows for example to provide membrane receptors which are then used to select biologic candidates by phage display.
Partnership can be considered via research or technical agreement or commercial agreement with technical assistance. For example :

Via research or technical agreement :
- Any partner able to bring a technology or know-how to serve the scaling-up of a cell-free system;

Via commercial agreement with technical assistance :
- Industrial partner interested in cell-free expression technology: developing combined offers to increase cell-free system expertise, working as subcontractors or industrial partners working

through cell systems and want to expand their offer with the cell-free expression system.

Dependent on the results, the French company and the partner will develop together a proof of concept.

There are many applications such as vaccine development, antibody development, screening&diplay, in vitro diagnotics, structural biology and protein vectorization.
The French company is an expert for all these applications and allows you to focus on what matters for your projects development.

Advantages and Innovations

The first advantage is speed. Indeed, this technology allows a protein production in 1 or 2 days when an in vivo system will take weeks or even months for some proteins.
It can also produce a wide variety of proteins, from the simplest to the most complex.
Moreover, compared to a traditional cellular expression system, the cell-free one is an open system offering the advantage of being able to incorporate additives that influence transcription, translation and folding and thus finely modulate the synthesis of the protein of interest. This system thus makes it possible to produce proteins that it would not be possible to synthesize via cellular systems. (cytotoxic proteins, complex ones...).
The cell-free system developed by the company is based on E.coli bacterial extracts. It is the most widely used and has established itself for several reasons including large-scale fermentation at low costs and high production yields.

Stage of Development

Already on the market

Comments Regarding Stage of Development

scaling-up of the technology under development

IPR Status

Patents granted,Exclusive Rights

Comment Regarding IPR status

The company is the exclusive licensee of a patented techology based on a cell-free system to express membrane proteins in the presence of liposomes.

Profile Origin

National or Regional R&D programme

Keywords

Technology

06002001	Biochemistry / Biophysics
06002004	Protein Engineering
06002006	Synthetic Biology
06003002	Gene Expression, Proteome Research
06006012	Bioprocesses

Market

04005	Biochemistry / Biophysics
04007	Enzymology/Protein Engineering/Fermentation
04014	Bioinformatics
04015	Gene Expression, Proteome Research

NACE

M.72.1.1	Research and experimental development on biotechnology

Network Contact

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Open for EOI : Yes

Dissemination

Relevant Sector Groups

Bio Chem Tech

Restrict Dissemination to Specific Countries

Belgium, Brazil, Canada, Finland, France, Germany, India, Israel, Italy, Japan, Norway, Poland, Singapore, SouthKorea, Spain, Sweden, Switzerland, UnitedKingdom, USA, Vietnam,

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
French

Client Country

France

Partner Sought

Type and Role of Partner Sought

Any partner able to bring a technology or know-how to serve the scaling-up of a cell-free system
Industrial partner interested in cell-free expression technology
Partner to apply at EU grant application
The French company will commission a commercial agreement with technical assistance or services agreement to express, purify, characterize the proteins. Dependent on the results, the French company and the partner will develop together a proof of concept.

Type of Partnership Considered

Commercial agreement with technical assistance
Technical cooperation agreement
Research cooperation agreement

Profile Status: Published

Technology Offer

Antimicrobial surface coating for prostheses.

Summary

A German university has discovered a cartilage-specific antimicrobial protein, which shows activity against most common nosocomial bacteria that might occur after a joint replacement surgery. The university offers a licensing and technical cooperation agreement.

Creation Date	12 July 2018
Last Update	16 July 2018
Expiration Date	17 July 2019
Reference	TODE20180712001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/d18094c3-0533-4a4d-bf8e-57de0c665ca6

Details

Description

Bacterial infection is one of the most frequent complications in joint replacement surgery. The incidence of septic arthritis following total joint arthroplasty is approximately 2%, leading to massive health problems and considerable cost to the national economy. A new approach to reduce such infections is made by coating prostheses and implants with bioactive, anti-infectious substances. In this context, coating with antimicrobial peptides has already been tested, but a major drawback is the fact that such peptides from exogenous sources may cause an immune response.

Researchers at a German university have now demonstrated that peptides of the cartilage-specific CLEC3A (C-type lectin domain family 3 member A) have antimicrobial activity against some of the most common nosocomial bacteria. Most strikingly, both Gram-negative and Gram-positive bacteria were killed by such fragments (please see figure). The clear advantage of these cartilage-specific CLEC3A-derived peptides is the lack of immunogenicity.

The university offers a licensing agreement. In order to further develop the coating performance a technical cooperation agreement is also possible. This offer addresses companies producing prostheses.

Advantages and Innovations

Unlike existing antimicrobial surface coatings for prostheses this invention uses a body’s own protein and thus is far more compatible. Furthermore it shows antibiotic activity against both Gram-positive and Gram-negative nosocomial bacteria.

Stage of Development

Under development/lab tested

Comments Regarding Stage of Development

Several CLEC3A-derived peptides have been investigated to show antimicrobial activity. In addition, coating titanium substrates with CLEC3A-derived peptides significantly reduces bacterial adhesion on the titanium substrates. Furthermore, it has been proven by the researchers that these peptides have no cytotoxicity against primary human chondrocytes.

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

A German patent application was filed.

Profile Origin

Private (in-house) research

Keywords

Technology

06001018	Virus, Virology/Antibiotics/Bacteriology
06001020	Physiotherapy, Orthopaedic Technology
06002004	Protein Engineering

Market

04007	Enzymology/Protein Engineering/Fermentation
04010	Microbiology
05003003	Surgical implants
05005015	Orthopaedics

NACE

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

Network Contact

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Open for EOI : Yes

Dissemination

Relevant Sector Groups

Bio Chem Tech

Client

Type and Size of Organisation Behind the Profile

University

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
German

Client Country

Germany

Partner Sought

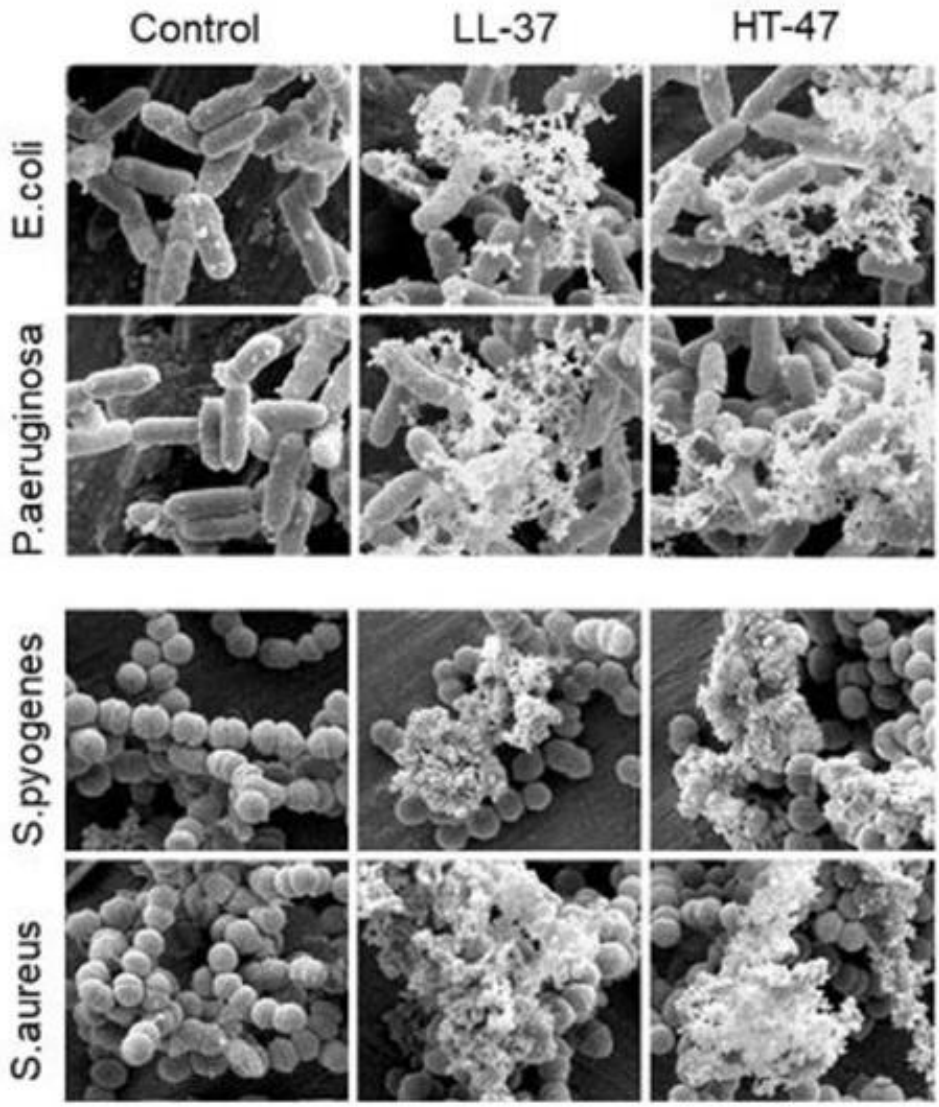
Type and Role of Partner Sought

The university offers a licensing and technical cooperation agreement to companies producing prostheses. A technical cooperation is directed towards testing how the protein CLEC3A can be added to the surface and will keep sticking.

Type of Partnership Considered

License agreement
Technical cooperation agreement

Attachments



Killing of various Gram-negative and Gram-positive nosocomial bacteria by the CLEC3A peptide HT-47 as compared to control (buffer only) and the antimicrobial reference peptide LL-37.