

Technology Request

Looking for new needs and new technologies in relation with infrared technology, to develop new products

Summary

A French SME specialized in infrareds (IR) looks for innovative technologies - early stage or off the shelf - which may apply to: surveillance and security market, thermography equipment, laboratory and test equipment for the characterization of IR systems. The identification of new needs is also thought, which could lead to the development of products and solutions based on the use of IR technology. Research and technical cooperation and licensing and subcontracting agreements are sought.

Creation Date	06 January 2015
Last Update	16 January 2015
Expiration Date	23 September 2015
Reference	TRFR20131217001

Details

Description

For more than 30 years this French SME has been developing a strong experience in the application of infrared technologies.

Relying on its in-house skills in optics, mechanics, electronics and software, and on industrial and academic partners, it designs, develops, manufactures and sells infrared equipment and systems for industrial thermography, security, test and metrology applications.

This SME is looking for new technologies to develop new products or new applications, always in the field of infrared technologies.

This may include partnering with integrators to extend the field of application of its existing products; transfering novel applications and applicative software for its existing products, from academic or corporate research labs; transfering new technologies from the same type of partners, to improve the performance of its existing products or to develop new ones; partnering with labs or companies for the joint development...

Research and technical cooperation and licensing and subcontracting agreements are sought.

Technical Specification or Expertise Sought

- Early stage or off-the-shelf technologies ; TRL4 (Technology Readiness Level) and above prefered

- Solutions in electro-optics, infrareds, thermics, software, preventive maintenance, characterization, sensors, industrial process...

- Fields of application can be varied : scientific, industrial, medical, environment, security or military...





Stage of Development

Prototype available for demonstration IPR Status Other Comment Regarding IPR status No specific request nor expectations concerning the IPR level. Profile Origin

Private (in-house) research

Keywords

Technology	
001001011	Optical Networks and Systems
001002012	Imaging, Image Processing, Pattern Recognition
001005009	Signal Processing
002003	Process control and logistics
Market	
003007002	Other measuring devices (including ifrared gas analysers, moisture analysers)
003008001	Military electronics (excluding communications)
003008004	Other electronics related (including alarm systems)
008005	Other Industrial Products (not elsewhere classified)
NACE	
C.26.7.0	Manufacture of optical instruments and photographic equipment

Client

Type and Size of Organisation Behind the Profile Industry SME 11-49 Year Established 0 Already Engaged in Trans-National Cooperation Yes Languages Spoken English





French Client Country France

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: academic or corporate research lab, SME.

- Specific area of activity of the partner: infrared technology, applications of infrared technology, potential user of infrared technology - for commercial, industrial, scientific or military applications. TRL level of the technology may be from research to off-the-shelf.

- Task to be performed by the partner sought: technology transfer and/or joint development of new products and applications.

Type of Partnership Considered

License agreement Technical cooperation agreement Research cooperation agreement





Technology Offer

High resolution Ion Mobility Spectrometer (IMS)

Summary

A Spanish company has developed a new concept of Ion Mobility Spectrometry (IMS), an emerging technique in the field of analysis. This technology is based on space classification of ions (DMS - Differential Mobility Analysis) with a high flow sheath gas that allows for higher sensitivity and resolving power than traditional IMS (drift time). The company is looking for commercial agreement with technical assistance and/or technical cooperation.

Creation Date	24 October 2013
Last Update	16 January 2015
Expiration Date	16 January 2016
Reference	12 ES 28F9 3QTW

Details

Description

The high resolution Ion Mobility Spectrometer (IMS) is a new instrument for chemical sensing based on ionizing the species to be detected, separating them at ambient pressure and detecting them through the current that they release. This active separation of ions with a high flow of air and a perpendicular electric field allows for higher resolving power than traditional (drift time) IMS. The spectral signal is obtained by scanning the electric field and forcing all ions to be detected sequentially. Measurement of ion mobility spectrum, gives a fingerprint of the chemical nature of a mixture of vapors existing in the sample, which can be ambient air, liquids, foodstuff, or biological material. Moreover, this technology includes multivariate analysis software that allows for specific training and the generation of custom-made libraries for signal recognition and quantification. Default library includes substance standards. In addition, several non-radioactive ionization methods can be used depending on the chemical family of the analysis and matrix: Photoionization (included), corona discharge, electrospray and also radioactive ion sources (63Ni, 241Am).

Current and Potential Domain of Application: •Security: detection of dangerous substances (toxic industrial compounds, aggressives, chemical agents)

•Environment: detection of volatile organic compounds, aerosol nucleation

•Food industry: quality control, anti-counterfeit

Advantages and Innovations

Main advantages and innovations related to this new concept of Ion Mobility Spectrometer are the following:





•Increases resolving power and sensitivity, which allow for a better substance speciation and quantification.

•It is the only IMS instrument ready to be marketed based on space separation of ions.

•The core of the instrument is in fact a high flow DMA (Differential Mobility Analyzer) running at very high Reynolds number allowing capacity to classify ions. This delivers a higher resolving power (50 versus 25 of drift time IMS).

•The continuous ion beam allows for a higher sensitivity (around 10ppbv, depending on the analysis), and the use of complex multivariate analysis algorithms instead of simple peak position for enhanced substance identification and quantification.

Stage of Development

Available for demonstration

IPR Status

Patent(s) applied for but not yet granted

Profile Origin

National R&D programme

Keywords

Technology	
005006	Physics
008002001	Detection and Analysis methods
009001	Measurement Tools
009001009	Sensor Technology related to measurements
010002	Environment
Market	
003007	Analytical and Scientific Instrumentation
NACE	
M.72.1.9	Other research and experimental development on natural sciences and engineering
M.74.9.0	Other professional, scientific and technical activities n.e.c.

Client

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 Spanish Client Country Spain

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:

The company is looking for a company with scientific instrumentation experience, research centre or scientific government organization.

- Specific area of activity of the partner: Preferably sectors related to research, environment, security and agro-food.

- Task to be performed:

Development of applications and technical assistance in order to integrate this technology in specific local markets.

Type of Partnership Considered

Commercial agreement with technical assistance Technical cooperation agreement





Technology Offer

Radar systems for real-time monitoring, recognition and logging of bird movements near airports and potential wind-farm locations

Summary

A Dutch company is specialized in radar systems for monitoring, recognition and logging of bird movements near airports and to study potential wind-farm locations. The technology was originally developed in the eighties in cooperation with the Royal Netherlands Air Force. The Dutch partner is interested in commercial agreements with technical assistance with airport authorities and specialized consultancy companies active in prevention of bird strikes, also related to wind farm development.

Creation Date	15 January 2015
Last Update	21 January 2015
Expiration Date	21 January 2016
Reference	TONL20141208001

Details

Description

Using radar to detect and monitor bird movements started in the Netherlands in the early eighties. A leading Dutch research institute in cooperation with the European Space Agency started a project applying radar technology to help the Royal Netherlands Air Force to prevent collisions between birds and fighter jets. This resulted in the development of radar systems that were specifically designed to track small objects like birds and bats. In 2010 a company was founded to commercialize the developed technology. Today the proposed systems are used by military and civil airports. Ecologists and wind energy companies use the radar systems to assess and mitigate the environmental impact of wind farms on birds.

Bird monitoring is traditionally done by human observation. Radar is not a substitute but offers unique complementary capabilities. Instead of looking in one direction, estimating a birds location and height at a range of 1 kilometre at day time, radar detects birds up to 10 kilometres, all around, day and night. It automatically detects and logs birds including their size, speed, direction, exact location and height. Interpretation of this data enables identifying patterns;

- migration routes
- seasonal occurrence
- key areas (breeding, feeding, wintering, night roosts etc.)
- macro & micro avoidance behaviour
- barrier effects
- the impact of specific weather conditions







· the results from adaptive measurements

Long term radar data can serve as input for modelling (simulation & prediction) in case of wind farm development. Use of the systems in real-time, can lead to decide to close down runways and can be linked to remote control of turbines to shut them down in case of massive migration for example.

Advantages and Innovations

Clutter filtering

Radar was originally developed to spot large objects like ships or planes. To see small targets like birds, requires dealing with unwanted reflections from e.g. the ground, the sea or rain. Filtering out this so called clutter is essential. The Dutch company developed advanced filtering techniques, resulting in unprecedented range and accuracy. This done in seconds, providing real-time information.

Measuring wing beats

The proposed systems can pinpoint a target, follow it and measure its wing beat frequency. This can be used as one important variable to distinguish various bird species.

User-friendly interfaces

The company developed several visualizers to display the results from the different filter techniques to operators.

Stage of Development

Already on the market

IPR Status

Secret Know-how

Profile Origin

National R&D programme

Keywords	
Technology	
002010006	Guidance and control
Market	
003004003	Other electronics related equipment
NACE	
C.26.5.1	Manufacture of instruments and appliances for measuring, testing and navigation

Dissemination

Send to Sector Group Aeronautics & Space





Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

2010

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English Dutch German

Client Country

Netherlands

Partner Sought

Type and Role of Partner Sought

• The type of Partner Sought:

The Dutch company is interested in contacts with research institutes and airport authorities and specialized engineering companies active in airport security and consultancy and ecological consultants that do bird monitoring studies, for example as part of an environmental impact assessment.

• The tasks to be performed by the partner sought:

Implementation of the proposed systems in the frame of commercial agreements with technical assistance. The Dutch partner will provide training and specialized consultancy during the implementation process.

Type and Size of Partner Sought

>500 MNE,251-500,>500

Type of Partnership Considered

Commercial agreement with technical assistance

