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1. Agricultura y Ganadería & Acuicultura y Pesca

Technology Offer: Bacillus probiotic as an alternative to antibiotics in animal production

Summary

A Ukrainian scientific institute offers probiotic, also effective as a feed additive. The basis of the preparation - two spore strains of bacteria of the genus Bacillus. The biopreparation exhibits antibacterial, antifungal, antioxidant and immunomodulatory activity, improves the digestibility of feed. The institute is interested in cooperation with enterprises that specialize in the production of microbial biopreparations. The partnership is possible on the basis of license agreement.

Expiration Date 25 June 2020
Reference TOUA20190619001

Details

Description

Since of the 50s the institute is the leading scientific center in Ukraine in the field of the development and introduction of microbial preparations.

The spread of antibiotic resistance strains of microorganisms have created a growing global threat. Therefore the use of probiotics as feed supplements in animal production has increased considerably over the last decade, particularly since the ban on antibiotic growth promoters in the livestock sector.

Most probiotics are based on lactic acid bacteria. However, spore probiotics have several advantages. They are resistant to aggressive environmental influences and have a high metabolic activity.

The biopreparation based on two bacilli strains and has the following characteristics:

- Antibacterial, antifungal action is due to the synthesis of strains of antibiotic substances and bacteriolytic and yeast enzymes.
- The immunomodulatory action occurs by induction of synthesis of endogenous interferon and activation of phagocytic activity of leukocytes and macrophages.
- The antioxidant effect of the biopreparation is due to the synthesis of compounds of phenolic nature.
- The weight gain of the livestock is due to the synthesis of strains of enzymes, vitamins, amino acids, and others.

The probiotic can be used for birds, pigs, and cattle for the purpose of treating and preventing

dysbiosis, intestinal and purulent infections, improving the digestibility of feed, and stimulating animal growth.

It provides:

- increase in bird survival up to 3%
- reduction or elimination of pathogenic microflora
- an increase in egg production by 3.5%.

The institute interested in international cooperation under the conditions of a non-exclusive license.

The institute has the experience in such cooperation with domestic and foreign enterprises.

Under the license agreement strains of bacteria, scientific and technical documentation, technology of obtaining a biopreparation will be transferred, scientific consultations will be provided. The license purpose is to introduce the solution into production.

Advantages and Innovations

The two strains of bacteria *Bacillus amyloliquefaciens*, which complement each other by biological activity, provides a complex action of the biopreparation:

- due to the ability of probiotic strains of bacilli to form spores of the biopreparation resistant to the adverse effects of the environment;
- strains keep their biological activity for a long time;
- a high antagonistic activity in relation to a wide range of pathogenic microflora;
- a high antimicrobial, enzymatic and antioxidant activity;
- manifest immunomodulatory and antitumor activity;
- stable during production and storage.

Stage of Development

Available for demonstration

IPR Status

Patents granted

Network Contact

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Partner Sought

Type and Role of Partner Sought

Enterprises specializing in the production of microbial preparations, biofactories, are able to introduce licensed biotechnology into production, are sought.

According to the license agreement, the institute transfers strains of bacteria, scientific and technical documentation and discloses the process of biopreparation obtaining. If necessary, counseling on the terms of additional agreements is possible.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement

Technology Offer: Patented soil mulching technology with environmental advantages

Summary

An Italian start-up company in the agricultural sector has patented a new soil-mulching system, without the disadvantages of traditional system in terms of disposal and environmental impact. Company is looking for partners to sign a license agreement or a commercial agreement with technical assistance.

Expiration Date 10 June 2020
Reference TOIT20190531001

Details

Description

An Italian start-up company, working in the agricultural field, has developed and patented a solution for soil mulching, that improves the traditional systems both in terms of disposal and environmental impact.

In the agricultural sector soil mulching is widely applied. Mulching can be simply obtained by laying cheap plastic foils on the ground, with holes evenly placed where the needed vegetables should grow springing off the soil.

The positive effects of the traditional plastic mulching are:

- reduction of water consumption for irrigation, since the waterproof foil acts as a barrier to evaporation
- confinement of weeds under the foil, so their growth is hampered
- separation of cultivars from the ground, with simpler and cleaner harvesting and tidier edible products
- mitigation of pests, snails and pathogens that can attack the plants

Besides these favourable results, there are also notable drawbacks, here summarised:

- the plastic foils must be laid down and removed at the end of the season, with extra work needed
- common products are plastics made from petrochemical synthesis, raising environmental concerns in the production phase
- the foils are also non-biodegradable and not easily reusable, so once a year they need to be compacted and disposed
- plastic foil can occasionally tear off in small pieces, causing local and (by wind) dispersion of waste

- used foils are a "hard to process" material, since they are a mix of plastic, soil residues, pesticides and chemicals
- the overall amount of waste is around 2 million tons per year in the world a remarkable figure
- nowadays plastic foils are used not only by large farms, but also by small agricultural holdings, nursery owners, flower growers and home gardening, that can pay a lower attention to environmental issues and to proper disposal.

The alternative approach to soil mulching developed by the Italian company maintains the advantages of the traditional plastic foils while eliminating their drawbacks.

The proposed system, entirely made on-site, consists in spraying directly on the ground an aqueous emulsion based on polysaccharides and vegetable fibres. The spraying process builds on the soil a protective geo-membrane (biodegradable film) which accomplishes its mulching function as well as a traditional foil.

After having performed its function, the layer can be milled locally and buried under the soil to be easily metabolized by the bacterial flora therein present.

Company is seeking for partners interested in

- license agreement, in order to authorize the use of the patented product;
- commercial agreement with technical assistance, in order to arrange the acquisition of the technology, paired with the technological transfer service.

Advantages and Innovations

Advantages

The new system shows clear advantages in terms of environmental impact.

The use of polymers of natural origin and the application in crop mulching through the spray methodology, represents a valid alternative to the use of non-biodegradable petroleum origin plastics. Phyto-toxicological studies performed on soils treated with mulches do not show any pathologies; and together with biodegradability they further support the environmental sustainability of the selected polymers and the formulations used. The environmental impact is therefore null.

Small field tests have been conducted since year 2001, with progressive improvements witnessed by several papers published on international reviews in 2004-2018.

Innovative aspects

The approach used for mulching - based on spraying an aqueous emulsion containing polysaccharides and vegetable fibres - is quite innovative. In fact, the market lacks competitors with this mulching approach. There are indeed producers of biodegradable mulching foils with higher costs than low-density plastic foils, but with unclear analysis / evaluation of their post-use phase. Putting such a new product on the market, with potential customers lacking any previous knowledge of it, constitutes a risk factor. But it should be reconsidered in view of the many successful innovative breakthroughs still occurred in the agro-food industry in the last decades.

Stage of Development

Available for demonstration

IPR Status

Patents granted

Network Contact

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Partner Sought

Type and Role of Partner Sought

Type: company or enterprise who manufacture disposables for agriculture.

Activity: agricultural sector.

Role: the partner must be interested to this new system, in order to sign a license agreement or a commercial agreement with technical assistance

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

Technology Offer: Grapevine genome of cultivars sequencing system for wine production concerning quality and safety

Summary

Italian bio-informatics SME offers a system for RiboNucleicAcid RNA-seq analysis of different grapevine genome cultivars. It's a knowledge base implementing a set of bioinformatics tools for the analysis of grapevine genomes, focused to improve knowledge of its varieties on adaptability to different climatic conditions, phenological phases, diseases, geographic locations. Wine producers, agriculture farm, agro-industry firm partners are sought for technical cooperation and/or license agreement.

Expiration Date 03 June 2020
Reference TOIT20190513001

Details

Description

Grapevine (*Vitis vinifera*) is the most important fruit species in the modern world. Wine and table grapes sales contribute significantly to the economy of major wine producing countries. The most relevant goals in wine production concern quality and safety. In order to significantly improve the achievement of these objectives and to gain biological knowledge about cultivars, a genomic approach is the most reliable strategy. The recent grapevine genome sequencing offers the opportunity to study the potential roles of genes and microRNAs (RiboNucleicAcid) in fruit maturation and other physiological and pathological processes. Although several systems allowing the analysis of plant genomes have been reported, none of them has been designed specifically for the functional analysis of grapevine genomes of cultivars under environmental stress in connection with microRNA data.

The technology offered by an Italian bio-informatics SME is designed for the functional analysis of grapevine genomes of cultivars present in Italy (Sicily). The system allows the analysis of RNA-seq experiments of two different cultivars, namely Nero d' Avola and Nerello Mascalese. Samples were taken under different climatic conditions of phenological phases, diseases, and geographic locations. The system web interface is equipped with data analysis modules for grapevine genomes. In particular users may analyze the current genome assembly together with the RNA-seq data through

a customized version of GBrowse (Genome Brows).

In addition the new techniques provided by modern genetics enable real-time monitoring of the health status of crops, leading to a preventive assessment of plant health, and the impact that pathologies may have on production, and therefore on the Human health.

The company is looking for license agreement to utilize the bioinformatics tools and/or technical cooperation agreement for further possible development of this technology.

Typical partners could be grapes and/or wine producers, agriculture farm, agro-industry firm.

Advantages and Innovations

The main advantages are for the human health which will be indirectly obtained from the development of software tools that will enable the cultivation of products that contain large amounts of beneficial substances, such as antioxidants, with a lesser need for plant protection. This will be accompanied by additional software tools to assess the impact on human health of plant protection products, and the selection of those products that have a lesser negative impact on the most common human pathologies in areas where agricultural products are sold.

The need to produce crops, and organic products, promoting a better lifestyle has emerged in recent years. Various agricultural products have shown important properties in the prevention of pathologies through the presence of substances, such as antioxidants, that have a protective effect on human health.

In addition other advantages are connected to the realization of smart cultivations whose use promotes a better lifestyle. This will be achieved by:

--characterizing those plants that reduce the need of plant protection products;

-- timely identifying diseased plants;

--identifying Phytopharmaceuticals which do not affect organoleptic properties of cultivar which therefore have positive effect on human health features such as: aging, compatibility with heart, respiratory or metabolic diseases.

The innovations are connected mainly with the use of computer predictive and simulation tools to speed up the identification and the development of new plant protection products, with respect to the past, enabling a priori assessment of the impact on human health.

Stage of Development

Available for demonstration

IPR Status

Secret Know-how

Network Contact

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Partner Sought

Type and Role of Partner Sought

- Type of partner sought: companies - SMEs and large companies, as well.
- Specific area of activity of the partner: especially the wine producers, partners from the wine industry, agriculture farm, agro-industry firm.
- Type of agreements: license agreement to utilize the bioinformatics tools and/or technical cooperation agreement for further possible development of this technology

Type and Size of Partner Sought

SME <10

Type of Partnership Considered

License agreement
Technical cooperation agreement

Technology Offer: Smart monitoring solutions for health and agriculture offered to partners for technical, research and services agreements.

Summary

A Spanish company offers a complete set of services for IoT implementation in companies and entities. The IoT solutions, fully integrated, collect and analyse data, finding tendencies and providing valuable information for decision making. Its experts (specialised on big data and software development) will develop the MVP (Minimum Viable Product) test it and bring it to the market. Partnership sought is a service, technical, research or commercial agreement with technical assistance.

Expiration Date 06 June 2020
Reference TOES20190516001

Details

Description

The company is a young SME incorporated in Spain and based in Madrid. It has experience in the full development of solutions, from the early stage of research to the final stage, introducing the product to the market. Its main expertise includes data analysis and the creation of predictive models based on these data, building useful tools adapted to each client. It has successfully developed apps for decision making that are currently on the market.

The company is expert on technologies such as augmented, mixed and virtual reality, 3D image, IoT, biotechnology, big data and machine learning. As a result, it has been awarded with different grants for projects within the Horizon 2020 Programme:

- INNOLABS Open Call: a project based on the worries expressed by surgeons and anaesthesiologists about the fact that patients do not understand their instructions and do not assume their responsibility. It achieved to create a set of tools to involve and engage patients with their scheduled surgical procedures.
- DIATOMIC Open Call: jointly with a Slovenian partner, a project focused on the improvement of crops' integral management by means of the use of sensors and IoT technology, helping on the decision making.

The company offers its products and know-how to companies and other organizations interested in

solving situations such as:

- Reducing time to analyse information
- Optimising their activities
- Improve their existing technological tools or create new ones adapted to their needs

Desired cooperation:

Services agreement: any company (mainly SMEs) involved with technology, and particularly from health and agricultural sectors.

Research Cooperation Agreement: companies, universities or research and technology centre interested in developing an international research and development project.

Technical cooperation agreement: any company, university or research and technology centre that needs to develop or implement a software to create a predictive model for the analysis of data.

Advantages and Innovations

The company develops software solutions adapted to the client requirements and needs. It offers its clients an innovative solution based on new technologies that are able not only to modernize their infrastructure and processes, but also to reduce costs. The tools developed are fully oriented to control the production from any kind of electronic device, which gives a complete view and effective management of the business, providing optimum control of the processes and activities.

Stage of Development

Already on the market

IPR Status

Other

Network Contact

Contact Person

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Partner Sought

Type and Role of Partner Sought

- Companies (mainly SMEs, but open to any other one) on health or agricultural sector in need of technical assistance for their development.
- Companies, universities or research and technology centres interested in research cooperation agreements to integrate the technology and know-how offered to develop new projects.

Type and Size of Partner Sought

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

Type of Partnership Considered

Commercial agreement with technical assistance
Technical cooperation agreement
Research cooperation agreement

Technology Offer: Crisis management software solutions for forest fire

Summary

Spanish SME geoinformatics consultancy offers services and expertise in geographical information systems (GIS) tools for emergency incident management, this includes dispatching and tracking, real-time operational simulation of the progression and behaviour of forest fires, assessment of fire risk, creation of vegetation fuel maps through novel remote sensing techniques. Partners interested in cooperation in future R&D proposals are sought under research cooperation agreement.

Expiration Date 04 June 2020
Reference TOES20190403001

Details

Description

Spanish company has over 20 years of experience in the forestry engineering field, providing innovative civil protection solutions for the forest fire response and prevention sectors. They collaborate actively with fire agencies and environmental agencies worldwide, providing them with innovative tools and knowledge for the reduction of forest fire risk, and for the real-time operational simulation of forest fire progression and behaviour.

They are experts in the development of GIS software for operational forest fire behaviour simulation, the establishment of fire prevention measures, vegetation fuel mapping, forest fire risk assessment, response actions and training of end-users. They have experience in international R&D projects since 2005.

The company would like to contribute with their expertise in the development of cutting-edge GIS solutions for forest fire risk assessment and operational estimation of fire behaviour in European and international R&D calls.

The enterprise is looking for a research cooperation agreement. Partners should be focused on:

- development of IT (information technology) solutions and services for applying to fire management
- earth observation technologies
- in situ sensors and other technologies related with firefighting

Advantages and Innovations

The company provides cutting-edge technologies for the operational assessment of forest fire behaviour and risk with only a few seconds of processing time, which allows the user to have quick and reliable information for responding to the forest fire incident and answers to questions such as: what areas and infrastructures will be affected at what time?; what will be the estimated behaviour and extent of the fire?; what is the forest fire risk for a given area?

Stage of Development

Already on the market

IPR Status

Trade Marks, Copyright

Network Contact

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Partner Sought

Type and Role of Partner Sought

Partners sought are academia, research organisations or companies interested in building a strong R&D consortium under research cooperation agreement.

Partners should carry out activities/research related with the crisis management and/or public safety

sector or at least their activities/research should be related with these topics.

Specifically, the partners should be focused in at least in these areas:

- Development of IT (information technology) solutions and services to allow the management of the several phases of the emergency cycle, from prevention, preparedness to response and recovery.
- Technology aspects such as earth observation and/or in situ sensors for the automatic detection and gathering and assimilation of real-time or near real-time field information (weather sensors, forest fire behavior sensors, vegetation fuels information, forest fire detection sensors, emergency warning systems, etc.)"

Type and Size of Partner Sought

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

Type of Partnership Considered

Research cooperation agreement

Technology Offer: Meteorological radar products for agriculture

Summary

An Italian research team has developed a C-band dual-polarization Doppler weather radar. The radar is capable of providing seamless monitoring of precipitation within a distance of 150 km from the radar from which products for a variety of applications can be obtained (eg. upcoming of dangerous weather conditions). The researchers are interested in technical cooperation agreements.

Expiration Date 19 June 2020
Reference TOIT20190614001

Details

Description

The Italian research team has conducted important theoretical and experimental studies about Radar meteorology, all of them published in prestigious international scientific journals. The studies have led to the affirmation of the dual-polarization technology as a reference standard for weather radar and the related methods for quantitative estimation of precipitation and cloud properties as well.

The technology developed and offered is based on the dual polarization C-band weather radar measurements collected by this radar in spherical coordinates, namely reflectivity factor, differential reflectivity, differential phase shift and mean Doppler velocity. Specific retrieval techniques are applied to obtain routinely geophysical products based on georeferenced grids. Products can be accessed by the authorized users through a web interface. Main products are:

- a) Precipitation intensity (mm/h) at ground estimated according to a grid of 1x1 km resolution every 5-15 minutes. Higher spatial resolutions are possible for distance closer to the radar.
- b) Precipitation accumulation computed with different accumulation time (15 minutes to 1 day or more)
- c) Identification of hail bearing cells, and related hail probability
- d) Very short term forecasting (nowcasting) through tracking of intense precipitation and hail bearing cores.

In agriculture, like in many other applications, the main source of data are the sparse raingauge networks: rainfall measurements from a single instrument of the network are collected at a network

hub where, through interpolation techniques, precipitation data are provided onto the points of a given grid. Although reliable in the vicinity of a raingauge, uncertainty of rainfall estimates decreases as the distance from a raingauge increases. Instead, weather radar provides seamless products with a space resolution better than that achievable by standard dense raingauge networks, thus providing a more accurate spatial distribution of precipitation, allowing a precise estimation of places where precipitation is occurring. Accurate identification and localization of hail are possible with dual polarization radar but not with raingauge.

The cooperation type desired is a technical cooperation agreement. The researchers are searching new partners to involve in designing, customizing and testing of products through cost sharing.

Advantages and Innovations

The radar developed is a microwave C-band dual polarization weather system. Such are large instrumentation, featuring steerable antennas with diameters larger than 4 meters, is capable of providing high resolution measurements related to cloud and precipitation properties. With respect to the standard single polarization technology, the dual-polarization technology allows for a more accurate estimation of precipitation and a more reliable classification of the type of precipitation, especially as far as identification hail bearing precipitation cells is concerned. The Doppler capability of radar allows to infer advection of precipitation from the measurement of the component of advection velocity towards the radar for a short term forecasting of precipitation.

Techniques to obtain, from weather radar measurements, weather products useful for agriculture and transport safety (trains, airports, ports), are based on well consolidated and validated methods. Such products can be customized according to user needs.

Stage of Development

Available for demonstration

IPR Status

Secret Know-how, Exclusive Rights

Network Contact

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Partner Sought

Type and Role of Partner Sought

The type of partnership considered is technical cooperation agreement. The partner sought could be any kind of company or entity that is interested in weather radar products to be used in sectors such as agriculture, transports, insurance, renewable energy. The purpose is to share resources and skills to further the development of the technical aspects of the technology.

Type and Size of Partner Sought

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

Type of Partnership Considered

Technical cooperation agreement

Technology Offer: Catch tracking system to manage fishing fleets or fish markets

Summary

An Italian ICT company has developed a catch tracking system using APP, QR Code and batch management and supervision software able to manage fleets of fishing boats or fish markets. The SME is looking for partners interested both to test and to further develop and to optimize the system. The types of agreements sought are technical cooperation and financial agreement.

Expiration Date 17 June 2020
Reference TOIT20190610001

Details

Description

This Italian ICT company, based in Latium Region and specialised in software technologies for data acquisition and transmission, has developed a catch tracking system using APP, QR Code and batch management and supervision software able to manage fleets of fishing boats.

The entire process of monitoring and management of the chain uses an integrated web platform with external control devices, which allows to collect data, monitor practices, process results on a web interface, disseminate laboratory analysis information, and make purchases more and more transparent.

The system data are drawn in different ways:

1. The process starts from a video surveillance system on board fishing vessels in order to film all the fishing processes carried out so as to prove the actual origin of the fishing, fisheries management and organization, sustainability and environmental compatibility.
2. A GPS system is installed on boats, so GPS coordinates will be recorded over time on each boat, from start up to return. These coordinates will also be sent in real-time "on-line" to a remote system, and this enables to monitor the location of the entire fleet (therefore the source of the catch), and associate with each fishing moment its position (GPS coordinates).
3. The first phase of data storage, carried on board by fishermen: definition and identification of batches through a dedicated APP on the net. This information will concern: who has caught it (the name of the fishing vessel), the location of the catch (geographic fishing fleet location, including

coordinates to support), date and time of fishing, fishing mode, merchandise category, the number, the weight. All of the above information will be translated into a QRCode that will be printed on-board. This label will then be affixed to the relevant box of the specific lot concerned.

4. Recording processed data when the catch is brought to the dock. These operations will provide additional information to customers about inherent health, organoleptic, nutritional and safety aspects. The information will be attested by the analysis laboratories that perform the analyzes for the candidates. Laboratory labs will be able to update the batch data associated with their QRCode by accrediting system.

5.Prepared for sale via web interface. The buyer will have all the information available to market the product "Fished". Price definition and management will be made directly via the APP or via a web link to the system. Customers, having consulted the batch information sheets in real time, have to book / buy the lot directly through the system by identifying a "shopping cart" / shopping list.

6.Last phase: the delivery and delivery of lots to the buyer. Once the destination of purchased lots has been associated, the system will also associate the means of transport between those identified by the buyer and communicated to the system. Each means of transport will be equipped with temperature sensors on the inner wall of the hatchers that will communicate in real time to the system the temperature at which the lots are subjected for each instant from purchase until delivery. The customer will have continuous access to this warranty information through his dedicated web page.

7. Delivery of the goods: when delivering, the customer, through the same APP will be able to read the QRcodes on each batch he has delivered, access to all the relevant information, and compare it to his time selected by the web platform during the purchase and how much it actually delivered it: correspondence of the lots purchased with the batches delivered.

The company is looking for technical cooperation agreement with partners interested both to test and to further develop and optimize the system.

Financial partners are also welcome to provide financial resources to boost the development of this technology.

Advantages and Innovations

Traceability is an irreplaceable tool to consolidate trust between producer and consumer. The developed traceability system allows to trace and demonstrate: location and geographical typing, techniques and practice of fishing, source of origin, salubility and organoleptic characteristics, proper handling and storage of the product, environmental sustainability of the entire supply chain. Benefits are multiple and involve the whole fish chain: real sellers, large-small scale retail distribution,, fish shop retail, sector of the restoration and similar, final consumers. Customers of the business idea are: fish markets, fishing fleets or the commercial fishing fleet regularly registered in the fishing licenses archives, the subjects of aquaculture activities.

Stage of Development

Available for demonstration

IPR Status

Secret Know-how

Network Contact

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Partner Sought

Type and Role of Partner Sought

The company is looking for collaborations with institutes and organizations connected to fishing, private or public bodies that manage fleets of fishing boats and / or fish markets, in order to demonstrate the system.

Moreover the company is looking for partners to further develop and optimize the system.

Type and Size of Partner Sought

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

Type of Partnership Considered

Financial agreement

Technical cooperation agreement



Business Support on Your Desktop

Partnering Opportunity

2. Alimentación



Technology Offer: Bioinformatics based platform enabling precision medicine, nutrition and cosmetics through the discovery of biomarkers

Summary

A Greek SME has developed a platform enabling precision medicine, nutrition and cosmetics through the discovery of biomarkers, which focuses on analysis of complex life-science and biological data. This solution expedites prognosis and diagnosis process for certain diseases through the isolation of biomarkers, which are confidently related to the cause of the disease. The Greek SME is looking for partners to cooperate with under commercial, financial or research cooperation agreement.

Expiration Date 04 June 2020
Reference TOGR20190517001

Details

Description

A Greek SME is a bioinformatics pioneer company in precision medicine, nutrition and cosmetics, which focuses on providing computational frameworks and tools for the analysis of complex life-science and biological data.

The most significant bottleneck of research in biotechnology, personalized medicine, pharma & personalized nutrition is the identification of accurate prognostic, diagnostic and therapeutic biomarkers which will enable the physicians to diagnose a forthcoming disease and treat it appropriately in a personalized manner before the disease affects the patient's life or otherwise predict the impact of drugs and nutritional products at molecular level.

The company's approach is unique and it is able to expedite prognosis and diagnosis process for certain diseases through the isolation of fewer, more relevant and prioritized integrated biomarkers, which are confidently related to the cause of the disease; contrary to current methods which only relate to its symptoms. The company proved able to reduce time and costs of extracting predictive biomarkers to 1/6 and 1/8 respectively.

The company's suite of products consists of cloud-driven bioinformatics tools, able to integrate biological data from various sources and provide comprehensive results and meaningful knowledge (early stage biomarkers of high quality & biological systemic interpretation) using advanced big-data-oriented artificial intelligence methods and tools. The suite is tested by more than 400 users. Research and industry collaborative projects are also part of the process of getting the suite known.

Targeted end users in the health, nutrition and cosmetic industries are the R&D departments of biopharma, nutrition, cosmetics & applied research companies who need bioinformatics tools & services but also molecular biology and bioinformatics academics. In more detail, end users target groups are universities, biology labs, medical/biological devices companies, while pharmaceuticals, contract research organizations, medical practitioners, hospital labs, IT companies and bio-statisticians can either be end users target groups or strategic partners.

Partners sought are basically from the industry of pharmaceuticals, nutrition and cosmetics that conduct molecular biology research for their product's design and pre-clinical and clinical trials. The company is looking for partners to cooperate with under commercial, financial or research cooperation agreement.

Advantages and Innovations

The company's patented technology offers unique inside path to an integrated end-to-end accurate biomarker discovery process, simultaneous integration of data from different sources and has demonstrated ability to locate significantly more common proteins in large scale proteomics datasets. The company's solutions are based on biological networks modeling to integrate complex biological information in many layers (mutations, proteins, clinical variables, etc.) and advanced big data-oriented artificial intelligence methods.

The company owns the following computational frameworks:

Patented method for assigning functional annotation to all molecules and predicting physical protein-protein interactions.

Ribonucleic acid sequencing (RNA-seq) analysis pipeline that maximizes non-coding RNA discovery (patent pending).

Network based biomarker discovery pipeline able to locate the cause of diseases instead of their results (patent pending).

Deoxyribonucleic acid sequencing (DNA-seq) analysis pipeline that locates only disease related mutations and ranks them with severity score (patent pending).

Current bioinformatics products are either embedded to experimental instruments or standalone tools and platforms. Both categories of competitors provide limited functionalities for an overwhelming cost and require hardware equipment and expertise for installation and usage. Bioinformatics companies offering software applications rely mainly on statistical analysis.

The suite is able to expedite prognosis and diagnosis process for diseases as well as the prediction of the impact of certain drugs and nutrition products in health at the molecular level through the isolation of much fewer, more relevant integrative biomarkers related to the cause of the disease and

not its symptoms-as current methods do. Using the suite, biology researchers can save time and money while reassuring high performance and robustness in their data analysis.

Stage of Development

Already on the market

IPR Status

Patent(s) applied for but not yet granted

Network Contact

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Partner Sought

Type and Role of Partner Sought

Commercial agreement with technical assistance: The company provides a cloud-driven suite of bioinformatics tools, able to integrate biological data from various sources and provide comprehensive results and meaningful knowledge to biology researchers. Potential partners are organisations conducting molecular biology related research such as pharmaceuticals companies.

Financial Agreement: The company has initiated, this year, a Seed funding round for the further development of the provision platform and the commercialization of its own experimental verified biomarkers. Company is looking for funds in the area of health and personalised medicine with connections to pharmaceuticals companies and clinical research organisations specialised in pre-clinical and clinical trials.

Research cooperation agreement: The company offers biological data analytics (bioinformatics) services towards the discovery of biomarkers. This R&D services can be utilised by R&D departments, research laboratories and applied research companies activated in the industry of pharmaceuticals, nutrition and cosmetics.

Type of Partnership Considered

Financial agreement

Commercial agreement with technical assistance

Research cooperation agreement

Technology Offer: Grapevine genome of cultivars sequencing system for wine production concerning quality and safety

Summary

Italian bio-informatics SME offers a system for RiboNucleicAcid RNA-seq analysis of different grapevine genome cultivars. It's a knowledge base implementing a set of bioinformatics tools for the analysis of grapevine genomes, focused to improve knowledge of its varieties on adaptability to different climatic conditions, phenological phases, diseases, geographic locations. Wine producers, agriculture farm, agro-industry firm partners are sought for technical cooperation and/or license agreement.

Expiration Date 03 June 2020
Reference TOIT20190513001

Details

Description

Grapevine (*Vitis vinifera*) is the most important fruit species in the modern world. Wine and table grapes sales contribute significantly to the economy of major wine producing countries. The most relevant goals in wine production concern quality and safety. In order to significantly improve the achievement of these objectives and to gain biological knowledge about cultivars, a genomic approach is the most reliable strategy. The recent grapevine genome sequencing offers the opportunity to study the potential roles of genes and microRNAs (RiboNucleicAcid) in fruit maturation and other physiological and pathological processes. Although several systems allowing the analysis of plant genomes have been reported, none of them has been designed specifically for the functional analysis of grapevine genomes of cultivars under environmental stress in connection with microRNA data.

The technology offered by an Italian bio-informatics SME is designed for the functional analysis of grapevine genomes of cultivars present in Italy (Sicily). The system allows the analysis of RNA-seq experiments of two different cultivars, namely Nero d' Avola and Nerello Mascalese. Samples were taken under different climatic conditions of phenological phases, diseases, and geographic locations. The system web interface is equipped with data analysis modules for grapevine genomes. In particular users may analyze the current genome assembly together with the RNA-seq data through

a customized version of GBrowse (Genome Brows).

In addition the new techniques provided by modern genetics enable real-time monitoring of the health status of crops, leading to a preventive assessment of plant health, and the impact that pathologies may have on production, and therefore on the Human health.

The company is looking for license agreement to utilize the bioinformatics tools and/or technical cooperation agreement for further possible development of this technology.

Typical partners could be grapes and/or wine producers, agriculture farm, agro-industry firm.

Advantages and Innovations

The main advantages are for the human health which will be indirectly obtained from the development of software tools that will enable the cultivation of products that contain large amounts of beneficial substances, such as antioxidants, with a lesser need for plant protection. This will be accompanied by additional software tools to assess the impact on human health of plant protection products, and the selection of those products that have a lesser negative impact on the most common human pathologies in areas where agricultural products are sold.

The need to produce crops, and organic products, promoting a better lifestyle has emerged in recent years. Various agricultural products have shown important properties in the prevention of pathologies through the presence of substances, such as antioxidants, that have a protective effect on human health.

In addition other advantages are connected to the realization of smart cultivations whose use promotes a better lifestyle. This will be achieved by:

--characterizing those plants that reduce the need of plant protection products;

-- timely identifying diseased plants;

--identifying Phytopharmaceuticals which do not affect organoleptic properties of cultivar which therefore have positive effect on human health features such as: aging, compatibility with heart, respiratory or metabolic diseases.

The innovations are connected mainly with the use of computer predictive and simulation tools to speed up the identification and the development of new plant protection products, with respect to the past, enabling a priori assessment of the impact on human health.

Stage of Development

Available for demonstration

IPR Status

Secret Know-how

Network Contact

Contact Person

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Partner Sought

Type and Role of Partner Sought

- Type of partner sought: companies - SMEs and large companies, as well.
- Specific area of activity of the partner: especially the wine producers, partners from the wine industry, agriculture farm, agro-industry firm.
- Type of agreements: license agreement to utilize the bioinformatics tools and/or technical cooperation agreement for further possible development of this technology

Type and Size of Partner Sought

SME <10

Type of Partnership Considered

License agreement
Technical cooperation agreement

Technology Offer: Catch tracking system to manage fishing fleets or fish markets

Summary

An Italian ICT company has developed a catch tracking system using APP, QR Code and batch management and supervision software able to manage fleets of fishing boats or fish markets. The SME is looking for partners interested both to test and to further develop and to optimize the system. The types of agreements sought are technical cooperation and financial agreement.

Expiration Date 17 June 2020
Reference TOIT20190610001

Details

Description

This Italian ICT company, based in Latium Region and specialised in software technologies for data acquisition and transmission, has developed a catch tracking system using APP, QR Code and batch management and supervision software able to manage fleets of fishing boats.

The entire process of monitoring and management of the chain uses an integrated web platform with external control devices, which allows to collect data, monitor practices, process results on a web interface, disseminate laboratory analysis information, and make purchases more and more transparent.

The system data are drawn in different ways:

1. The process starts from a video surveillance system on board fishing vessels in order to film all the fishing processes carried out so as to prove the actual origin of the fishing, fisheries management and organization, sustainability and environmental compatibility.
2. A GPS system is installed on boats, so GPS coordinates will be recorded over time on each boat, from start up to return. These coordinates will also be sent in real-time "on-line" to a remote system, and this enables to monitor the location of the entire fleet (therefore the source of the catch), and associate with each fishing moment its position (GPS coordinates).
3. The first phase of data storage, carried on board by fishermen: definition and identification of batches through a dedicated APP on the net. This information will concern: who has caught it (the

name of the fishing vessel), the location of the catch (geographic fishing fleet location, including coordinates to support), date and time of fishing, fishing mode, merchandise category, the number, the weight. All of the above information will be translated into a QRCode that will be printed on-board. This label will then be affixed to the relevant box of the specific lot concerned.

4. Recording processed data when the catch is brought to the dock. These operations will provide additional information to customers about inherent health, organoleptic, nutritional and safety aspects. The information will be attested by the analysis laboratories that perform the analyzes for the candidates. Laboratory labs will be able to update the batch data associated with their QRCode by accrediting system.

5.Prepared for sale via web interface. The buyer will have all the information available to market the product "Fished". Price definition and management will be made directly via the APP or via a web link to the system. Customers, having consulted the batch information sheets in real time, have to book / buy the lot directly through the system by identifying a "shopping cart" / shopping list.

6.Last phase: the delivery and delivery of lots to the buyer. Once the destination of purchased lots has been associated, the system will also associate the means of transport between those identified by the buyer and communicated to the system. Each means of transport will be equipped with temperature sensors on the inner wall of the hatchers that will communicate in real time to the system the temperature at which the lots are subjected for each instant from purchase until delivery. The customer will have continuous access to this warranty information through his dedicated web page.

7. Delivery of the goods: when delivering, the customer, through the same APP will be able to read the QRcodes on each batch he has delivered, access to all the relevant information, and compare it to his time selected by the web platform during the purchase and how much it actually delivered it: correspondence of the lots purchased with the batches delivered.

The company is looking for technical cooperation agreement with partners interested both to test and to further develop and optimize the system.

Financial partners are also welcome to provide financial resources to boost the development of this technology.

Advantages and Innovations

Traceability is an irreplaceable tool to consolidate trust between producer and consumer. The developed traceability system allows to trace and demonstrate: location and geographical typing, techniques and practice of fishing, source of origin, salubility and organoleptic characteristics, proper handling and storage of the product, environmental sustainability of the entire supply chain. Benefits are multiple and involve the whole fish chain: real sellers, large-small scale retail distribution,, fish shop retail, sector of the restoration and similar, final consumers. Customers of the business idea are: fish markets, fishing fleets or the commercial fishing fleet regularly registered in the fishing licenses archives, the subjects of aquaculture activities.

Stage of Development

Available for demonstration

IPR Status

Secret Know-how

Network Contact

Contact Person

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Partner Sought

Type and Role of Partner Sought

The company is looking for collaborations with institutes and organizations connected to fishing, private or public bodies that manage fleets of fishing boats and / or fish markets, in order to demonstrate the system.

Moreover the company is looking for partners to further develop and optimize the system.

Type and Size of Partner Sought

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

Type of Partnership Considered

Financial agreement

Technical cooperation agreement

Technology Request: Looking for a technology to reduce sugar and fat in bakery and pastry-making

Summary

A Spanish SME that produces cakes, biscuits, nougat, and Christmas specialties, is looking for a technology/system that allows reducing the amount of sugar and fat in the final products without reducing the organoleptic properties. The technology should be applicable at an industrial level. The company is looking for a technical cooperation agreement.

Expiration Date 25 June 2020
Reference TRES20190624001

Details

Description

A Spanish company whose activity is the production of pastry and bakery, including some typically Christmas sweets, would like to find a system/technology in order to reduce the fat and/or sugar in the final products.

The company, which has more than 25 years of activity, has a commitment with its clients to meet their demands and to continuously attempt to improve its service and quality. In this way, and following the current trends, the company is looking for new systems to reduce the sugar and fat, as well as removing (or at least reducing) the chemical/artificial additives. This reduction/removal should be done without modifying the organoleptic properties of the products.

Currently, the company uses maltitol to replace sugar in their products but its goal is not only replacing sugar but also reducing the amount of sweetener used. There is no current replacement for the fat, yet.

The company sells its products in many European countries, so the offered technology/system should be applicable at least at European level (i.e. it should follow European regulations concerning food products).

The company is open to any type of agreement but it's looking especially for a technical cooperation one, where the sought partner offers such technology and both may cooperate to test it in their

products.

Technical Specification or Expertise Sought

The sought technology/products should allow reducing the sugar and fat in the pastry products. It should be applicable at industrial level and, if possible, it should reduce/remove the addition of chemical/artificial additives.

Stage of Development

Field tested/evaluated

Network Contact

Contact Person

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Partner Sought

Type and Role of Partner Sought

- Type of partner sought:
Company/Academic researcher

- Specific area of activity of the partner:
Food

- Task to be performed:
The partner should provide with either new ingredients for pastry or with a technology/system to reduce fat and sugar without modifying the organoleptic properties. The sought partner should be

able to test the products in laboratory and offer measurable proof of the technology success.

Type and Size of Partner Sought

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

Type of Partnership Considered

Technical cooperation agreement