

Catalogue of Innovative Projects from Croatia





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Opening Words of the Executive Director of the Business Innovation Croatian Agency, Hrvoje Meštrić, PhD

Dear All,

Croatia, as the newest member of the European Union, has vision to support policy development in technology and innovation for the obvious reason of achieving social and economic benefits.

Its aim being to build a global image as a "small country for great innovations", Croatia is continuously working on improving innovation processes, supporting excellence in research and technology transfer at universities and facilitating access to public funding for research and development. One great potential are undoubtedly the country's highly-skilled engineers and scientists; their expertise, of course, must be used even more, not to mention that they must be trained in even larger numbers and then recruited by high-tech industries. Croatia must also develop new sophisticated research and technological infrastructure if it is to reach the desired - and perhaps deserved - levels of economic growth.

The Business Innovation Croatian Agency, established as a synergistic merger of the former Croatian Institute of Technology and Business Innovation Centre, is the key governmental organisation responsible for developing and coordinating national policy measures and financial instruments of the national innovation system, with the ultimate goal of motivating the private sector to engage in R&D investment. However, BICRO is also responsible for fostering and strengthening R&D and technological activities in the public research sector and its communication with the entrepreneurial community. In June 2013, BICRO became the 26th Member of the European Society of the Leading National Innovation Agencies – TAFTIE. TAFTIE members contribute to the strengthening of Europe's economy by supporting innovative products, processes and services - by implementing, naturally, the results of national and international research and hence innovations. Of course, efficiency and



effectiveness of innovation is the key objective not only of innovation agencies, but of whole countries as well.

That said, the role of the Business Innovation Croatian Agency (BICRO), in the process of implementing and supporting innovation, is crucial, primarily when it comes to strengthening R&D institutions and small and medium size enterprises.

I hope you will see this Catalogue of Innovative Projects as a useful tool. Its main purpose, naturally, is to disseminate project information among Croatian companies, organizations and their foreign partners. Need I even say that I am of the opinion that these 77 projects, mostly still in the development or pre-commercialization phase, should prove to be a major stimulus for new partnership agreements and a veritable gold-mine for investors.

Sincerely yours,

Hrvoje Meštrić

About EEN

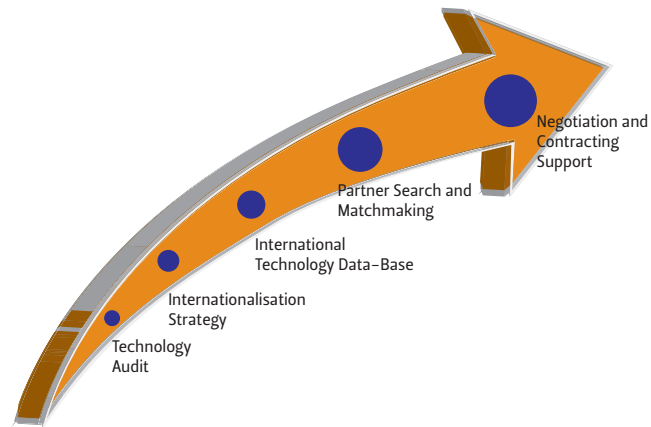
Enterprise Europe Network is the largest support organization for small and medium-size enterprises in Europe. It is based on the “no-wrong-door” concept. All its services are free of charge for all beneficiaries - entrepreneurs, innovators and researchers.

Since 2008 the **Croatian Business Innovation Agency – BICRO** as part of the Croatian EEN consortium is responsible for coordinating activities related to innovations and technology transfer. The Croatian EEN consortium consists of six organizations - spread throughout the whole country - which support companies, innovators and researchers in their efforts to make their innovations and technologies accessible both in Europe and globally. In the period 2008-2014 EEN was partly funded through the EU Competitiveness and Innovation Programme (CIP), while from 2015 onwards EEN will be financed from the COSME Programme. COSME is an EU programme with the aim to support and enhance Competitiveness of Enterprises and Small and Medium-

sized Enterprises (SMEs). **COSME will support SME's** in the four following areas: Better Access to Finance for Small and Medium-sized Enterprises (SME's), Access to Markets, Supporting Entrepreneurs, and More Favourable Conditions for Business Creation and Growth.

Horizon 2020 is a new financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. Running from 2014 to 2020 with a budget of just over €70 billion, the EU's new programme for research and innovation is part of the drive to create new growth and jobs in Europe.

Horizon 2020 provides major simplification through a single set of rules. It will combine all research and innovation funding currently provided through the Framework Programmes for Research and Technical Development, the innovation related activities of the Competitiveness and Innovation Framework Programme (CIP) and the European Institute of Innovation and Technology (EIT).



EEN SERVICES (Innovations and Technology Transfer)

Years of experience in the implementation of EEN projects have enabled BICRO to create an extensive database of clients, for whose benefit we provide a wide scope of services: support in the process of commercializing their innovations, and also advice on how to protect their intellectual property, how to internationalize their business, how to access finance, etc.

One of the Network's tools for fostering international cooperation is the technology and innovation database. The technology database contains thousands of technological profiles from more than 50 countries, presenting innovative companies and academic institutions and their technology offers and requests. This database gives Enterprise Europe Network a unique tool to search for international partners, all with the goal of finding international partners for research projects, technology transfer or joint ventures.

In order to strengthen the link between technology supply and demand BICRO regularly organizes, through EEN, multilateral meetings/brokerage events (where participants have a chance to meet potential foreign partners), as well as workshops on intellectual property management, innovations in entrepreneurship, R&D topics and technological start-up development.





About BICRO

The Business Innovation Center of Croatia – BICRO was established by the Croatian Government in 1998 as a public limited liability company with the aim of developing a system of financial incentives that would support innovation and technology-based businesses in Croatia. The programmes administered by BICRO have been developed on the basis of the best international practices, and with the support of international experts and the World Bank.

BICRO is engaged in fostering and strengthening R&D- and technology-related activities of the public research sector with those of the entrepreneurial community. In the immediate future, BICRO will additionally facilitate the absorption of EU Structural Funds by the R&D&I sector

BICRO's vision is to be positioned as a national coordinating body which supports policy development in technology and innovation and which acts as the key link of the national innovation system, facilitating the creation of social and economic benefits by developing Croatian technology.

BICRO's mission is to support technological innovation in both the real economy and scientific institutions, the principal aim being to foster economic growth through technological development and strengthen Croatia's global competitiveness and overall social values.

Apart from the primary 7 Programmes (RAZUM, TEHCRO, IRCRO, TEST, PoC, EUREKA and EUROSTARS), each of which supports innovative projects in its own way, BICRO also provides support for partner institutions in Croatia that implement programmes related to innovation by providing opinions and deciding on innovative projects (CBRD / www.hbor.hr and the Croatian Agency for SMEs / www.hamagininvest.hr), and also by participating in the evaluation of projects (Business Impulse, the Ministry of Entrepreneurship and Crafts / www.minpo.hr).



Proof of Concept

This programme is designed for the purpose of helping SMEs and scientists

to bridge the gap between their initial ideas on the one hand, and concrete scientific results with commercial potential on the other. Thus, a Proof of Concept is needed to demonstrate that a new process or technique is feasible and can potentially have a commercial application. For a new business seeking investment a successful PoC will give potential investors the assurance of technical viability, or a visualisation of a prototype or scale-up process that will help a company attract both customers and investors. PoC enables the beneficiaries to undergo a comprehensive screening process, mainly so as to help them reduce technical and commercial risks, identify the most appropriate commercialisation strategy, and protect their patent/technology in the ongoing commercialisation process.

The Proof of Concept Grant Fund is carried out within the framework of the Croatian Science and Technology Project (STP), in cooperation with the Ministry of Science, Education and Sport and the World Bank.

BICRO provides grant support to Private and Public Sector R&D through the PoC Programme for Entrepreneurs (PoC Private) and PoC for Researchers (PoC Public) in order to verify whether their current research results, newly devised processes or technology are feasible and whether they have the potential for commercial use.

Entrepreneurs, scientists and researchers have continuously shown great interest in the PoC Programme, which means that BICRO has achieved significant results in terms of the number of applications and quality of applied projects since the first public call, published in 2010.

A total of 4 public calls have been published so far.

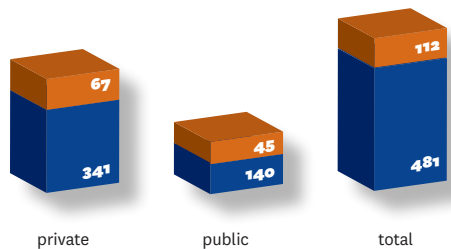


Number of preliminary applications	554
Number of project applications	481
The amount of funds requested from Programme PoC	13,808,948.13 €
Number of contracted projects	112
Total value of contracted projects	4,981,411.06 €
BICRO contracted funds from PoC	3,022,990 €
Coefficient of attracting funds from other sources (1 € from the Programme attracts 68 cents from other sources)	0.65
Number of contracted projects with entrepreneurs (PoC Private)	67
Number of contracted projects with Scientists and Researchers (PoC Public)	45

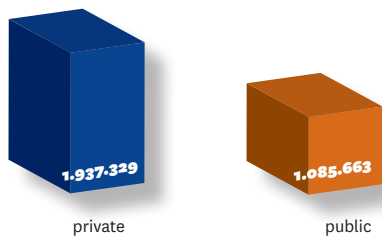
Applicants:	<ul style="list-style-type: none"> • Very small (micro-scale); small companies and medium-sized enterprises. • Scientists and researchers from public higher education institutions and public research institutes.
Conditions for receiving funds	<ul style="list-style-type: none"> • Maximum amount of financing is 50,000 EUR • Very small (micro) companies and small companies → The programme finances up to 70% of total costs • Medium-sized companies → The program finances up to 50% of total costs • Public higher education institution and Public research institutes → The program finances up to 90% of total costs
Eligible Activities	<ul style="list-style-type: none"> • Basic prototyping • Technical feasibility demonstration • IPR protection of innovative ideas

PoC 2010 - 2012

■ Number of project applications ■ Number of contracted projects



BICRO contracted funds from PoC (total 3,022,990 EUR)





BICRO partners in the implementation of the Proof of Concept Grant Fund:

- (1) Technology Transfer Office of the University of Zagreb, Centre for Research, Development and Transfer of Technology
- (2) Science and Technology Park of the University of Rijeka Ltd.
- (3) Technology Park Varaždin Ltd.
- (4) Technology Innovation Centre Međimurje
- (5) TERA Tehnopolis Ltd. Osijek
- (6) Technology Transfer Office of the University of Split
- (7) Istrian Development Agency (IDA) Ltd
- (8) Development Agency Zagreb – TPZ Ltd
- (9) Entrepreneurial Centre Pakrac Ltd.
- (10) Zadar County Development Agency (ZADRA)
- (11) Ruđer Bošković Institute
- (12) Business Incubator BIOS Ltd, Osijek

The Recognized Centres have an important role in the implementation of the PoC Programme as they are the ones who make first contact with potential applicants and assist them both in the preparation of their projects and in the application procedure.

Picture 1. An overview of Recognized Centers for implementing PoC according to NUTS II regions in the Republic of Croatia



The Results

In the 72 innovative and R&D projects (1st, 2nd and 3rd call) a total of € 20.2 million was invested; BICRO participated with € 12.2 million, whilst users invested € 7.5 million of their own funds, during a 6-month implementation period.

The contracted projects in the first three PoC rounds were allocated to 26 scientific organisations and 45 small enterprises; 12 months after the completion of financing of those projects these are the results:

- 42 technical feasibility demonstrations
- 47 functional prototypes developed
- 23 applications filed for IP validation (patent status, etc.)

Commercialization

- 21 placed on the market (commercialization of products / services / processes)
- 701.790,13 EUR in revenues as a direct result of commercialization

Other effects of PoC funded project

- 43 cooperation agreements between scientific (17) and private sector entities (11)
- 356 persons employed; 35 new employees, of which 23 in R&D
- 4 additionally implemented projects (PoC application results on FP7, IPA)

In 2012, the fourth public call was published...

- 41 contracted projects (22 Entrepreneurs and 19 Scientific and Research Institutions)
- The projects are still in the implementation phase; the results are expected to be visible in 2014.

In this catalogue BICRO is presenting 77 innovative projects that were financed through four Proof of Concept calls. Project managers here present the results of developing innovative ideas into new technologies. Some projects in this catalogue still need capital for further development and commercialization, so the next pages can be a veritable gold mine both for interested investors and those seeking to enter into new partnership agreements.



**Show
appetite**

Sector Profiles and Company Directories

Electronics and Electrical Engineering

- ALTPRO Ltd.
- AZONPRINTER Ltd.
- Banko Ltd.
- Elpos Ltd.
- Faculty of Electrical Engineering,
University of Osijek, Matić T.
- Faculty of Electrical Engineering,
University of Osijek, Miličević K.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Babić D.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Cifrek M.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Mišković N.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Sersić D.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Suligoj T.
- Faculty of Electrical Engineering, Mechanical Engineering
and Naval Architecture - FESB Split, Šarolić A.
- HSTEC Jsc
- Institute of Physics, Prester M.
- Intesis Ltd.
- RAST I RAZVOJ Ltd.
- Studio Elektronike Rijeka Ltd.
- Telecor-Zagreb Ltd.
- Videa Ltd.
- Xylon Ltd.

Energy, Environment and Materials

- EkoESCO Ltd.
- Faculty of Agriculture, University of Zagreb, Mesić M.
- Faculty of Food Technology and Biotechnology,
University of Zagreb, Šantek B.
- Faculty of Science, Department of Physics,
University of Zagreb, Dulčić A.

- Fotosoft Ltd.
- MKP Ltd.
- Ruđer Bošković institute, Dutour Sikirić M.
- Salona Var Ltd.
- SAN-2000 Ltd.
- Veski Ltd.

ICT

- Acceleratio Ltd.
- Capabilis Ltd.
- CITUS Ltd.
- Diversitas IT Sustavi, Ltd. (divIT)
- EDC Ltd.
- Ekobit Ltd.
- ELUXIO Ltd.
- Evolva Ltd.
- Mala radionica interneta Ltd.
- MEDIA-TREND Ltd.
- Myrio Ltd.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Babić D.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Lončarević S.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Popović S.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Subašić M.
- GDİ GISDATA Ltd
- Interaktivni studio Ltd.
- Pametni upiti Ltd.
- SABA ART STUDIO Ltd.

Medicine, Biomedical Engineering and Pharmaceutics

- Bagheera Ltd.
- Faculty of Electrical Engineering and Computing,
University of Zagreb, Pribanić T.
- Faculty of Medicine, University of Rijeka, Manestar D.

- Faculty of Medicine - Centre for Proteomics,
University of Rijeka, Jonjić S.
- Genos Ltd.
- Institute of Physics, Rakić M.
- Ruđer Bošković Institute, Cindrić M.
- Skills lab - Simulation Centre, Dpt. of Anaesthesiology,
Reanimatology and ICU, Medical school,
University of Rijeka, Protić A.

Food Technology

- CEBB Ltd.
- Faculty of Food Technology and Biotechnology,
University of Zagreb, Levaj B.
- Faculty of Pharmacy and Biochemistry,
University of Zagreb, Zovko Končić M.
- Institute of Oceanography and Fisheries,
Šegvić Bubić T.
- Josip Juraj Strossmayer, University of Osijek, Kralik G.
- TOP ELEMENT Ltd.

Mechanical Engineering and Naval Architecture

- Energy institute Hrvoje Požar, Krstulović V.
- Titan Sisak Ltd.
- Veski Ltd.

Traffic Technology

- TEMA Ltd.
- VIKING Ltd.

Other

- BDF servis Ltd.
- Faculty of Civil Engineering, University of Zagreb, Marčić D.
- Faculty of Engineering, University of Rijeka, Zelenika S.
- Gotal IFN Ltd.
- Institute of Oceanography & Fisheries, Mladineo I.

ALTPRO Ltd.

Title of new technology

Rail wheel detector for pneumatic (rubber) trains in metros

New technology

The special version of the wheel detector from the family ZK24 is the pneumatic metro wheel detector type ZK24-M, a product designed specifically for the so called dynamic detection conditions. That means that the position of the wheel detector on the rail is not fixed (the whole train is running on rubber wheels in certain parts of the line), i.e., the wheel detector has to be able to detect the rail wheel safely even from a distance and limit the fluctuating magnetic fields. ALTPRO is, at the moment, the only company in the world that possesses this kind of solution.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.097

Company website

www.altpro.com

Company profile

ALTPRO Ltd. is a company which concentrates its activities on the design, research, development and production of safe signalling systems for railway infrastructure and rolling stock. The company's basic products are: Automatic Train Protection System based on the INDUSI principle, type RAS 8385; Train detection systems (UTR/ ITR and TDR14...); Multisection Digital Axle Counter System BO23; and Level Crossing Protection System RLC23. ALTPRO Ltd. is already present in about 40 countries worldwide, and the company is just one of just four global suppliers of wheel detection technology for railways.

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Title of new technology

Detector of train presence on track type TDR14

New technology

Train detector TDR14 is currently the newest rail wheel (train) detection technology. By using the ALTPRO standard wheel sensor ZK24-2, an upgrade of the basic train detection functionality is achieved by means of a special intelligent algorithm; the technology comes as a result of significant practical experience, especially in the sense of avoiding numerous possible hazards, particularly on Level Crossing applications. The train detector TDR14 has a special diagnostic purpose, including the capability to analyze detection signals received to the Indoor unit in the relay room. The system is fully compatible with the relay and modern electronic interlocking and signalling railway systems.

Project stage

Last phase of development / Looking for investor for further development,

Total capital raised (millions of €)

0.066

Main contact

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AZONPRINTER Ltd.

Title of new technology

Proof of concept of the machine for digital printing on all industrial materials

New technology

This new technology enables printing with different types of inks on objects of various sizes and functionalities, and also on different kinds of surfaces such as heating cells or photocells. The project aims to develop a prototype of a machine for digital printing which, by using environmentally friendly inks, enables printing on all materials, without any preparatory procedures and coatings. The aim of the Proof of Concept of this project was to verify the consistency of prints in practice, nominally their resistance to UV radiation; the aim was also to examine, test, analyze, and modify the properties of the ink (especially the pigments that maintain colour stability). The result, even after mechanical removal, is that we have created a type of ink which adheres better to the surface of any material, whether smooth, rough, rounded, flat, or in any way irregular, and which it stays on it permanently. The above technologies will have a major application in the glass industry, aluminium, and other designs.

Project stage

Commercialization / Interested in new markets

Total capital raised (millions of €)

0.051

Company website

www.azonprinter.com

Company profile

The company AZONPRINTER Ltd. is a Croatian manufacturer of Direct to Garment and Direct to Substrate printers. The company was founded in Q1 2006, in Zagreb. Azonprinter Ltd. is an export-oriented company. From 2006. until today the company has worked with more than 64 distributors world-wide. Mainly owing to their investments in the development of new technologies they have managed to create a recognizable brand (AZON) on the global level. As a confirmation of the high quality and innovative concept of their digital printers for direct printing on various materials (wood, metal, glass, stone ...) and digital printers for direct printing on textiles, in 2011 they received an award at an exhibition in Los Angeles (ISS Long Beach show). They were also winners of gold medals at the fair Euro-Reklama in Poland, in 2012.

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Title of new technology

Industrial Digital Printer with the resolution of 5760 dpi

New technology

The project defines the innovative concept of industrial digital printers supporting the revolutionary resolution of 5760 dpi, 4 times bigger than the capability of currently the best devices in the world. It would enable printing on all manner of materials - plastic, metal, wood, glass, ceramics, rubber, leather, textiles, paper and stone. The printing can also be done on flat, embossed, or curved surfaces such as sandpaper, bottles, cans etc.

The goal of the project is to demonstrate the feasibility of the concept by using multiple types of industrial inks in the printer with the highest resolution. These results will verify the concept, ultimately leading to the development of industrial digital printers with a maximum resolution of 5760 dpi. As such, the product is intended for export.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.078

Company website

www.azonprinter.com

Main contact

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Banko Ltd.

Title of new technology

Control of the grinding wheel surface used on the pneumatic grinder

New technology

The project objective is the creation of an electronic speed controller and prototype devices for the measurement of the surface grinding disc that is used in pneumatic grinders. The advantages of the electronic speed regulator are fine speed control and a greater resistance to external influences, features which typical mechanical speed regulators do not possess. Also, a device for measuring the surface of the grinding disk can increase the level of safety for those working with a pneumatic sander. In short, connectivity devices and the electronic speed controller would, combined, create a system both more efficient and safer. The expected increase in efficiency is anywhere between 10% and 90%, when compared to existing methods.

Project stage

Last phase of development.

Total capital raised (millions of €)

2.4

Total capital required (millions of €)

3

Company website

www.banko.hr

Company profile

In collaboration with the Department of Turbomachinery of the Faculty of Mechanical Engineering and Naval Architecture in Zagreb, BANKO Ltd. have designed, constructed and registered a patent for a vane pneumatic machine of a technical quality superior to any of the existing machines in the market. The pneumatic grinder is the first product to be launched and its development has been financed by BICRO.

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Elpos Ltd.

Title of new technology

Smart sensor for the detection of snow fall and ice formation

New technology

The goal of our project is to create a reliable electronic sensor that can detect snow fall and the formation of ice in winter conditions.

The sensor is installed in the pavement and can be used to engage a snow removal system based on subterranean heating cables or heating pipes.

The main advantages of this type of sensor are energy savings in the heating system and overall increased availability (and safety) of the property in question (building, house, car park) in winter conditions.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.026

Total capital required (millions of €)

0.041

Company website

www.elpos.hr

Company profile

Elpos Ltd. was founded in 1990. The company specializes in low temperature electric heating applications. With more than 20 years of experience Elpos Ltd. is a leader in the electric heating business in Croatia. They provide complete solutions to customers - from planning, design, production, installation and maintenance of electrical heating systems.

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Faculty of Electrical Engineering, University of Osijek

Title of new technology

Energy efficient system for wireless measurement of biological signals

New technology

The aim of the project is to implement an energy efficient system for the wireless measurement of biological signals. The major innovation of the proposed system lies in its direct application of the asynchronous sigma-delta modulator for the digitalization and UWB modulation technique for the transmission of the measured signal within the single wireless sensor node. After system prototype implementation, the plan is to protect the patent of the implemented system and ultimately sell the intellectual property.

Project stage

Development phase / Searching for partner for further development

Total capital raised (millions of €)

0.016

Total capital required (millions of €)

0.100

Institution website

www.etfos.unios.hr

Institution profile

The Faculty of Electrical Engineering Osijek educates the students through the First Cycle Degree Programmes (Bachelor level) and Second Cycle Degree Programmes (Master level) both in electrical engineering and computer engineering, as well as in Application-oriented Programmes. Scientific research at the Faculty of Electrical Engineering in Osijek first began 30 years ago, while the institution was still a polytechnic. The main research areas are: power engineering, electromechanical engineering, automation, computer engineering, communications, mechanical engineering, production organization, mathematics and physics.

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Faculty of Electrical Engineering, University of Osijek

Title of new technology

Application of chaos theory in encryption - Cryptochaos

New technology

Cryptography is a scientific discipline that studies the techniques and methods for ensuring secure messaging in a non-secure environment. In recent years, research in the field of controlled chaos has given rise to new ideas about possible applications of chaos in cryptosystems. This innovative concept will be verified in our project through the following activities:

1. The study of the market potential
2. Analysis of the properties of different chaotic systems
3. Purchase and installation of laboratory equipment
4. Development and testing of various prototypes
5. Evaluation of the results with respect to the specified requirements
6. Development of a plan for commercialization

The expected result is an encryption device that comprises software and hardware encryption systems with possible applications for all types of analogue and digital wired communications. Secure communication services are interesting to business users primarily, but further expansion is expected towards small (private) users as well.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (€)

0.048

Total capital required (€)

0.100

Institution website

www.etfos.unios.hr

Main contact

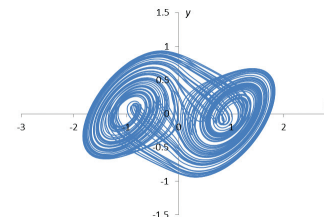
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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

Ultra-stable light source for sensors and actuators

New technology

We have developed a control-feedback architecture that enables the stabilization of incoherent or coherent semiconductor optical sources to the level of less than 50 ppm/°C, which is better than anything else on the market. The target market are handheld instruments that are based on optical measurements and various light-based actuators, in the medical, environmental, or chemical industries. The inventions encompass the stabilization method, which uses light polarization, and circuit implementation of the polarization measurement suitable for manufacturing as the calibration and programming of the temperature dependence of the light output can be done at manufacturing time or during operation via digital interface, such as USB. The key attributes of our future product are small size and low power consumption,

Project stage

Development phase: We demonstrated that the method works and we're now working on adapting it to commercially available components.

Total capital raised (millions of €)

0.040

Total capital required (millions of €)

0.100

Institution website

www.fer.unizg.hr/en

Institution profile

The Faculty of Electrical Engineering and Computing (Croatian acronym: FER) of the University of Zagreb is a leading research and higher education institution in the Republic of Croatia in the area of electrical engineering, computing, and information and communication technology. It has 12 departments, 500 employees, 350 PhD and 3000 BS and MS students, as well as respectable levels of international cooperation. FER conducts numerous R&D projects for the industry and accounts for 1/5 of the contracted EU FP7 projects.

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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

System for measurement of oxygen and hydrogen produced by metabolism of single-cell photosynthetic organisms

New technology

Biological systems for hydrogen production are based on hydrogenase-containing photosynthetic microorganisms. However, besides hydrogen production, these organisms carry out oxygenic photosynthesis, releasing molecular oxygen. In these conditions, the rate of hydrogen production is decreased. Enhancement of hydrogen evolution is possible by modifying the cultivation conditions and/or through genetic engineering. The system for a simultaneous measurement of oxygen and hydrogen production will enable accurate evaluation of the photosynthetic rate, hydrogen production, and interactions of these two processes. So far, commercially available measurement systems are based on the Clark-type electrode and ensure the evaluation of only one gas. Construction of the proposed system - mechanical, electronic, and software wise, will enable a simultaneous measurement of both gases - oxygen and hydrogen.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.028

Total capital required (millions of €)

0.100

Institution website

www.fer.unizg.hr

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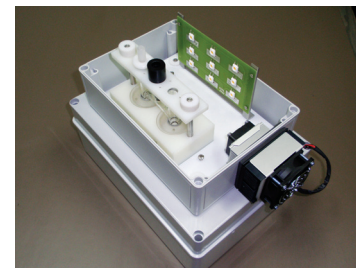
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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

Self-stabilizing personal vehicle with one wheel

New technology

Our invention refers to self-stabilizing personal vehicles with one wheel (unicycle), and the associated control algorithm that enables automatic stabilization of the vehicle while driving on challenging terrains. Controlling vehicle is done solely by leaning the body in a desired direction. The vehicle is small sized and lightweight. All-directions stability offers superior driving performance and widens the area of potential use. A PCT international patent has been filed for and a positive written opinion has been received.

Project stage

Last phase of development / Looking for investor for further development,

Total capital raised (millions of €)

0.050

Total capital required (millions of €)

0.250

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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

Semiconductor technology with newly-developed Horizontal Current Bipolar Transistor (HCBT) for wireless communication chips and other applications

New technology

The Horizontal Current Bipolar Transistor (HCBT) is the fastest lateral bipolar transistor integrated with CMOS technology, resulting in a very low-cost, high-performance BiCMOS technology platform. HCBT could be implemented in other CMOS fabrication lines and used for the design of RF communication circuits and other analog applications.

Project stage

Development phase / Searching for partner and/or investor for further development

Total capital raised (millions of €)

0.035

Total capital required (millions of €)

0.300

Institution website

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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

Autonomous surface platform for diver tracking and navigation

New technology

The project proposes the testing of an autonomous surface marine platform for diver tracking and underwater navigation, which significantly increases safety during underwater activities. The link between the diver and the platform is established through an acoustic channel used to transmit GPS coordinates of the diver (usually unavailable underwater) to the underwater interface. Enabling absolute navigation in an underwater environment is the main innovative aspect of the project.

Project stage

Last phase of development / Looking for investor for further development,

Total capital raised (millions of €)

0.026

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Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture - FESB Split

Title of new technology

Integral system for radiocommunications and vessel surveillance in marinas

New technology

The project develops an integral system for radiocommunications and vessel surveillance in marinas, based on the uniform coverage of the marina area with radiocommunication signals. A single system can be used for several different radiocommunication and surveillance subsystems, enabling their integration into a single infrastructure. The project results can be presented to the interested marinas and associated ICT companies.

Project stage

Development phase, looking for interested users and new markets

Total capital raised (millions of €)

0.054

Institution website

www.fesb.hr

Institution profile

The fundamental activities of FESB Split are higher education, scientific research, R&D and professional work in the fields of Electrical Engineering, Mechanical Engineering, Naval Architecture, Computing and Basic Technical Sciences. With approximately 240 employees and 2700 students, FESB is the leading technical faculty in its region.

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HSTEC Jsc.

Title of new technology

The tool holder prototype with an integrated force measuring system

New technology

The tool holder with an integrated force measuring system is an innovative product developed through integration of the measurement system inside of a rotating tool holder. This product represents a unique measuring system that is widely used in machine tool laboratories, in factories for the analysis and measurement of machining parameters, and for tool control during machine operation. Contactless transmission of the machining parameters from the rotating tool holder provides precise monitoring and processing control even at remote locations.

Project stage

Final product / Looking for strategic distribution or sales partner

Total capital raised (millions of €)

0.032

Total capital required (millions of €)

0.030

Company website

www.hstec.hr

Company profile

The company HSTEC specializes in development, design and production of high speed motorized spindles, direct drives and other high speed technology, as well as in engineering, design and automation of special machine tools and systems. The company was founded in 1997 in cooperation with the company SAS Zadar, well-known in the field of production of special machine tools, and the German company Bosch-Rexroth (formerly INDRAMAT), a world famous company in the field of production of electric drives and control systems.

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Intesis Ltd.

Title of new technology

Innovative enhancement of the 3D (three-dimensional) image and video projection system

New technology

The novelty in our solution is the principle in which the 3D information is prepared and displayed. The display of 3D images is based on an innovative approach in which the 2D projection system optics are modified, according to the patent application, in combination with the necessary processing and adaptation of the video signal required to achieve the 3D projection. The required image and video processing is performed in real time by a prototype of a specialized electronic device.

Project stage

Last phase of development / Searching for partner for further development

Total capital raised (millions of €)

0.045

Total capital required (millions of €)

0.152

Company website

www.intesis.hr

Company profile

Intesis' primary orientation is the development of real time embedded systems and supporting visual tools. The skills and knowledge of Intesis are proven through the company's development of real time kernels, drivers, graphic engines, networks and file systems, up to complete real time operating systems and integrated development environments.

Main contact

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Institute of Physics, Zagreb

Title of new technology

New generation of cryostats for measuring ac susceptibility

New technology

The goal of this project is to prove the technical correctness and feasibility of our concept of a new cryostat design, intended for the measurement of physical properties, particularly of magnetic susceptibility, down to liquid helium temperatures (4.2 K). The said cryostat does not need liquid helium for cooling as it is based on cryogen-free, closed cycle/pulse tube refrigeration. Compared with related devices available currently in the world market, our cryostat enables measurements of specific physical properties, like ac susceptibility, to be performed with higher quality/levels of sensitivity. The WIPO/PCT patent application with a search report is currently being processed by the US Patent Office.

Project stage

Looking for investors for further development

Total capital raised (millions of €)

0.014

Total capital required (millions of €)

0.040

Institution website

www.ifs.hr

Institution profile

The Institute of Physics is a public institute whose main activities are scientific research in theoretical and experimental physics. Today's activities encompass various branches of physics, such as solid state physics, surface physics, statistical physics, biological physics, atomic and molecular physics, optical physics and plasma physics.

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RAST I RAZVOJ Ltd.

Title of new technology

Portable software control for real-time signal rendering

New technology

Software control for real-time signal rendering on personal computers (Linux, Microsoft Windows, Apple OS-X) and mobile (Android, iOS) platform is currently being developed. This type of control is fully platform independent, as well as easily customizable and portable. It is written in C, C# and Objective-C with portable libraries - OpenGL/ES (used for fast graphic rendering) and OpenCL (used for fast signal processing). Benchmarking has already shown that the developed control performance surpasses that of other similar controls available in the market.

Project stage

Completed initial control release and integrated within some OEM software products. Looking for strategic/interested partners and potential customers.

Total capital raised (millions of €)

0.022

Company website

www.rastirazvoj.hr

Company profile

Software/hardware development, ICT system design and integration, business consulting, human resources development and education, human resource consulting and competence assessment are the main activities of Rast i razvoj Ltd.

Main contact

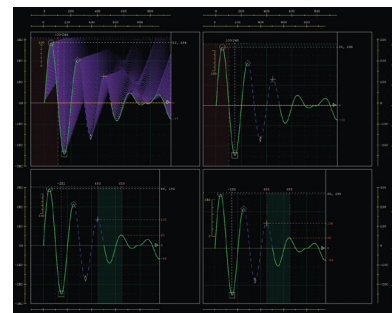
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Studio Elektronike Rijeka Ltd.

Title of new technology

WAMSTER: Ad-hoc wide area monitoring based on synchrophasor measurement technology

New technology

Synchrophasors or PMUs (phasor measurement units) provide precise insight into the state of the power system. They are “MR for power systems” and the most promising tool for mitigating the effects of system-wide events such as national blackouts. WAMSTER solves three key issues in an efficient and cost effective way: (1) easy to deploy units, (2) communication over the GSM network and (3) web access for clients. It cuts installation costs by as much as 90% and is the only PMU system applicable where most needed - in developing countries.

Project stage

Final product / Looking for strategic distribution or sales partner
In commercialization / Interested in new markets

Company website

www.wamster.net

Company profile

The company specializes in developing complete technical solutions, combining software, firmware and hardware development. The Wamster team has years of experience in all phases of microcontroller development, programming client, server and mobile applications for data gathering and analysis, as well as design and commissioning of industrial automation systems.

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Telecor-Zagreb Ltd.

Title of new technology

HAIR REMOVAL DEVICE RS 1

New technology

RS 1 is a device for manual shaving with one or more blades, which performs a vibrating motion perpendicular to the direction of the cut and parallel to the cutting edge of the blade. Thanks to this, the cutting of hair actually becomes sawing. As sawing requires less energy than cutting, the act of shaving becomes easier and more enjoyable.

Project stage

Last phase of development / Looking for investor for further development,

Total capital raised (millions of €)

0.050

Total capital required (millions of €)

0.250

Company website

www.telecor.eu

Company profile

Telecor Zagreb was founded in 1998, initially for the purpose of importing telecommunications equipment into Croatia. Over time it expanded its activities to the commercialization of patents.

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Videa Ltd.

Title of new technology

Intelligent Space Interface – iPROSU

New technology

Videa is developing a very pragmatic new generation table-oriented imaging system. An Intelligent space interface (iPROSU) is being developed as an improved interface that creates interactive pictures on the table and provides an intelligent multimedia information system. It uses 3D spatial sensors and unlocks hands locomotion features for users, also recording and processing data (position in space, speed of reaction and movement) in an interactive way. The range of different types of information allows it to create a 3D sensing database that stores information and continuously analyzes it, achieving a higher degree of distinctiveness on the basis of advanced intelligent algorithms. This enables continuous adaptability, based on recorded gestures and the range of hands' kinetic parameters. Finally, Videa offers the interactive table-oriented display system that is faster, more efficient, and adaptable for the user.

Project stage

Higher phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.500

Total capital required (millions of €)

0.200

Company website

www.videa.hr

Company profile

Videa Ltd. is a company which focuses on the development and implementation of new and innovative technologies that are based on modern distributed computing, multimedia communications, and sophisticated software solutions as well as advanced visualization. Our business philosophy is based on achieving a successful symbiosis of knowledge, experience and a professional team that is ready to work, learn and grow.

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Xylon Ltd.

Title of new technology

Surround view – a system to assist the driver in maneuvering vehicles

New technology

Four-Camera Surround View (SV) parking assistance is an emerging automotive Driver Assistance (DA) application which enables the driver to see 360-degrees around the vehicle on the LCD instrument cluster or the Central Information Display. The surroundings can be seen from different perspectives, including the top-down bird's eye view perspective and different 3D visualized views. Such views eliminate all blind spots during critical and precise maneuvers in different traffic situations. Xylon is offering automotive designers IP cores, software support and the complete hardware development platform for Xilinx FPGA based Surround View DA systems. Our Surround View DA is one of the market's best solutions and fully exploits all the benefits of FPGA technology: computing performances, flexibility, scalability, reconfigurability, low system costs and risks. The flexibility of FPGA silicon products allow us to continuously upgrade our solution and adapt it to the requirements of new application.

Project stage

In commercialization / Interested in new markets

Company website

www.logicbricks.com

Company profile

Xylon is an electronics company focused on FPGA designs. The company was founded in 1995, and since then it has grown into a prominent provider of intellectual property in the fields of embedded graphics, video and networking. The company's mission is to produce optimized IP cores for Xilinx® FPGAs, interfaces and services which can improve designers' effectiveness, assure high performance Systems on Chip (SoC) designs and lower production costs. Xylon products are built into electronic devices which have been in use worldwide for years. They have gone through rigorous tests in the industrial production of electronic equipment, in addition to the usual IP verification methods. Today we serve several markets, such as the automotive, industrial, medical and defence.

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EkoESCO Ltd.

Title of new technology

Aabo Energy Management System

New technology

Aabo EMS is a system that allows remote automatic metre reading (AMR) in public, commercial, and residential buildings. It connects to a variety of existing metres (or our own Aabo metering devices), stores the readings to our cloud server, and delivers the data to a variety of platforms (web, smartphone, tablet, ERP, etc.) via flexible API infrastructure. We can provide a flexible integrated AMR and smart metering solutions to small home owners, businesses of all sizes, as well as entire governments.

Project stage

Last phase development/in commercialisation

Total capital raised (millions of €)

0.010

Total capital required (millions of €)

0.050

Company website

www.aabo.es

Company profile

EkoESCO is an energy services company which has invested in the development of the Aabo Energy Management System. Currently the company's activities are focused on R&D work on Aabo.

Main contact

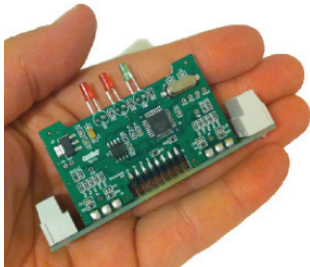
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Faculty of Science, Department of Physics, University of Zagreb

Title of new technology

Contactless luminescent thermometer for potential use in electrical transformers and generators

New technology

The Proof of Concept project has shown that it is possible to use a blue LED light source to excite the YAG:Cr compound and detect temperature-dependent luminescence.

Project stage

Development phase/searching for partner for further development

Total capital raised (millions of €)

0.050

Total capital required (millions of €)

0.300

Institution website

www.pmf.unizg.hr/phy

Institution profile

Institution for higher education and research in various branches of physics.

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Fotosoft Ltd.

Title of new technology

IRD DESIGN – Project

New technology

The project embeds an invisible security design inside a visible design by using conventional and digital printing. The security image or pattern is not visible in the visual spectrum, but only in the NIR range. The results are different types of applications on various materials and dyes, which are verified via a detection method employing a dual apparatus, with both the RGB and IR response. The target markets are the pharmaceutical industry, food industry, printing houses, the textile industry and financial institutions.

Project stage

In commercialization / Interested in new markets

Final product / Looking for strategic distribution or sales partner

Total capital raised (millions of €)

0.053

Total capital required (millions of €)

0.100

Company website

www.fotosoft.hr, www.infraredesign.net

Company profile

Fotosoft Ltd. was founded in 1990 in Zagreb. The company deals with designing documents in the area of security printing. Over the years, Fotosoft has developed many projects and implemented various types of securities. In recent years Fotosoft has been implementing unique protection in the Near Infrared range of light called INFRADESIGN.

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MKP Ltd.

Title of new technology

Thermoelectric generator

New technology

The idea behind the project to develop a thermoelectric generator (TEG) was to power measurement and control stations along a gas/oil pipeline for those locations where the main power is not available and renewable energy sources do not guarantee a constant power supply due to weather conditions. Based on the Seebeck-Peltier principle, a TEG converts heat directly into electrical energy. The advantages of TEGs are: 100% reliable power supply throughout the whole year; TEG requires no maintenance and comes with a 20 year guarantee; the modular design enables the stacking of units so as to accommodate all of users' power needs.

Project stage

Final product / Looking for strategic distribution or sales partner

0 In commercialization / Interested in new markets

Total capital raised (millions of €)

0.150

Company profile

MKP Ltd. makes professional electrical devices for industrial use. The company specializes in custom-made electrical devices which meet the highest quality standards; for instance, their devices have a MTBF of 20 years. They offer precise measurements of electrical values and consulting services for industrial electrical engineering. MKP's business combines over 40 years of engineering practice with cutting-edge technology to satisfy and meet customers' every need. Clients also benefit from their guiding principle, i.e., that all company employees must be inspired by TQM to be life-long learners.

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Faculty of Agriculture, University of Zagreb

Title of new technology

Circular probe apparatus for soil sampling

New technology

New soil sampling probe can be used for precision farming purposes where the central point of the probe ring is positioned with precision of ± 1 cm and represented with 4, 8 or 16 samples taken in a 50 cm radius from the centre. The soil sample is representative as an average sample for an exact location, thus providing the possibility of continuous monitoring of soil changes within a given time frame.

Project stage

Last phase of development / Looking for investor for further development,

Total capital raised (millions of €)

0.100

Total capital required (millions of €)

2

Institution website

www.agr.hr

Institution profile

The Faculty of Agriculture is dedicated to its fundamental mission: enabling students' to achieve the highest academic standards and transferring competences based on the newest scientific discoveries and knowledge. To fulfill its own mission, the Faculty strives to improve the quality of scientific-research work and education and become an ever more important factor in the European higher education arena.

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Faculty of Food Technology and Biotechnology, University of Zagreb

Title of new technology

A new type of horizontal rotating tubular bioreactor for bioprocess conduction on the semi-solid and solid substrates

New technology

For sustainable production of bio-fuels and bio-chemicals (e.g. ethanol and lactic acid) renewable raw materials and by-products from different industrial bioprocesses can be used. These semi-solid and solid substrates are characterized by relatively low water content and heterogeneity. The new type of horizontal rotating tubular bioreactor (HRTB) was built specifically for these bioprocesses, in order to improve their efficiency and sustainability. This is achieved by determining optimal HRTB operational conditions.

Project stage

Development phase / Searching for partner for further development

Total capital raised (millions of €)

0.010

Total capital required (millions of €)

0.750

Institution website

www.pbf.unizg.hr

Institution profile

The Faculty of Food Technology and Biotechnology of the University of Zagreb is a research and teaching institution operating in the field of Food Technology, Biotechnology and Nutrition. Along with all the compulsory study courses and other accompanying curricular activities, the Faculty is also engaged in related research and development activities.

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Ruđer Bošković Institute

Title of new technology

Multifunctional composite coatings for bone implants

New technology

Composite organic-inorganic coatings for bioinert hard tissue implants with an incorporated drug have been developed. These novel, multifunctional coatings poses good properties in terms of both organic and inorganic components, i.e., good drug release control and calcium phosphate bioactivity.

Project stage

Development phase / Searching for partner for further biological tests

Total capital raised (millions of €)

0.050

Total capital required (millions of €)

0.150

Institution website

www.irb.hr/eng

Institution profile

The Ruđer Bošković Institute is regarded as Croatia's leading scientific institute in the natural and biomedical sciences as well as marine and environmental research, owing to its size, scientific productivity, international reputation in research, and the quality of its scientific personnel and research facilities. From its establishment in 1950, RBI has been implementing numerous research programmes, of interest both to the private and public sectors.

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Salona Var Ltd.

Title of new technology

Manufacturing prototype machine for the production of screw conveyors made of welded overlay plates

New technology

This project intends to prove the innovative concept of possibly producing screw conveyors out of a welded overlay plate with a thickness up to 40 mm, diameter of up to 1.250 mm, and toughness of up to 65 HRC. Upon successful completion the product would enable processing industries to have profitable & ecologically acceptable products with less maintenance cost, a more reliable and longer-term solution which ultimately increases overall competitiveness. The intellectual property would be protected.

Project stage

Basic data, basic engineering and detail engineering have been defined. Hydraulic controlling parametres has been defined. If the innovative project proves to be feasible, it would provide a more reliable and longer-term solution.

Total capital raised (millions of €)

0.045

Total capital required (millions of €)

0.065

Company website

www.salonavar.hr

Company profile

Salona Var Ltd. is a family-owned company founded in 1994, and located in Solin, near Split, Croatia. It specializes in reparative welding, hard-facing, automatic welding, thermal spraying, machining, and water jet and plasma cutting. The company's core business is the maintenance of big industrial plants in the region such as power plants, cement plants, marine facilities, harbour facilities, shipyards etc.

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SAN-2000 Ltd.

Title of new technology

Prototype of system for advanced management of electric energy

New technology

The aim of the project is advanced power management that controls all parameters of the system and efficiently uses and stores energy from battery units. The innovation of the project lies in its integration of the entire process within a single system, which includes the management and monitoring of the parameters of battery units. The system is still in the development phase, and the plan is to launch pre-assembled modules of a desired capacity which can, with minimal complexity of the installation, be used by end users.

Project stage

Development phase

Total capital raised (millions of €)

0.030

Total capital required (millions of €)

0.100

Company profile

SAN-2000 Ltd. is a company which focuses on developing innovative solutions in the field of embedded systems. They have participated in over one hundred different projects, working both independently and as contractors. Also, having worked on a large number of multidisciplinary projects they have gained valuable experience, enabling them to specialize in rapid development of customized hardware and software solutions.

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Veski Ltd.

Title of new technology

Proof of concept for an intelligent “self learning” device used to detect and prevent the faults on hydro generators

New technology

The innovative concept of this product is to build the platform for an expert system which would be used to predict the faults on hydro generators in real time, by using different measurements performed by the sensors installed on the generator. The system will acquire the data, perform real time analysis of all signals, and compare the results by using the fault matrix developed based on experience and knowledge of the existing operational power plant systems. The platform applied is based on the existing architecture for machine condition monitoring and should in parallel be connected to the existing monitoring grid, thereby communicating with different devices in the plant environment through standard communication protocols.

Project stage

Last phase of development - trying to optimize the performance and integrate the PoC components into a single prototype device

Total capital raised (millions of €)

0.055

Total capital required (millions of €)

0.100

Company website

www.veski.hr

Company profile

Veski Ltd. was established in 1990 in Zagreb. Their main area of expertise is vibration diagnostics and analysis, and consulting services regarding dynamics and stress calculations (FEM) and measurements. Veski is one of the leading companies in the field of diagnostics and vibration measurement, signal analysis, design, creation and installation of in-house solutions for monitoring systems as well as vibration protection systems.

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Acceleratio Ltd.

Title of new technology

ISIC - Intelligent server infrastructure control

New technology

The number of servers in the various cloud data-centres worldwide is constantly rising. While end users are enjoying all the benefits of cloud technologies, system administrators are under constant pressure to keep these servers running 24/7. Project ISIC is a concept that includes application of the latest machine learning innovation and technologies that could be used in early detection, diagnostics and alerting systems for administrators in an event of cloud service failure or service interruption. The idea is to produce a software that would monitor entire infrastructure, gather data and classify all gathered events. Based on gathered data the system could then make decisions when to alter system administrators. The application would create a shield from event log flood and allow them to react to real problems that could cause critical problems in the data-centre.

Project stage

Development phase

Company website

www.acceleratio.net

Company profile

Founded in 2009, Acceleratio Ltd. is a software development company based in Zagreb. The company specializes in developing high-quality enterprise applications and provides consulting for Microsoft Terminal Services and Citrix technology.

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Capabilis Ltd.

Title of new technology

e-Consultation system

New technology

e-Consultation is a support system for a collaboration of individuals in creating documents of common interest, automation of the complete process of document creation (such as laws, statutes, reports, plans, strategy documents, etc). e-Consultation allows users, citizens and employees, to cooperate in the creation and improvement of documents during the process of public or private electronic consultation. e-Consultation covers the entire consultation life-cycle through three operating modes (public-internal, limited-unlimited, etc.) and it also, by means of neural networks, supports automatic linkage of suggestions and different sections of documents.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.040

Total capital required (millions of €)

0.150

Company website

www.capabilis.hr/en/

Company profile

Capabilis Ltd. was established in 2011 as spin-off company after a successful completion of a technology project financed by the Croatian Institute of Technology. The company is registered as a provider of services in information and communication technologies. The company's core business is the development of innovative services, applications and systems - the main areas of interest being value-added services and information society services.

Main contact

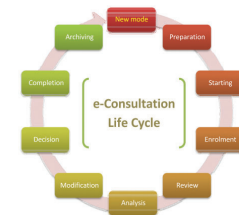
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CITUS Ltd.

Title of new technology

C@N Motion module for managing content of conferences

New technology

C@N Motion module is the concept behind innovative technology solutions that will enable users to use the movement of hands/body to "command" computers. It allows multiple users to interact with one device/display by using special algorithms that remove „noise“ in the sensors of the matrix signal, provided by people in front of the Microsoft Kinect camera device. The Microsoft Kinect device is used in an innovative manner, meaning that the device is connected to a PC/laptop and to large screens (Smart TVs, projectors). In this way the module allows users to browse through conference agendas, select options, view details of lectures and lecturers, vote/do the surveys, view the content, assess courses and participate in discussions on social networks.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.070

Total capital required (millions of €)

0.120

Company website

www.citus.hr

Company profile

Founded in March 1999, Citus currently employs eight highly educated professionals with major experience in the development of complex information systems and IT consulting, which can be confirmed by the company's numerous references. The quality management system ISO 9001:2008: (SI-Q-486) has been implemented in all of the company's activities since 2002; as a result of the high level of expertise and certification of their employees, CITUS has received a number of prestigious certificates: Microsoft Silver Partner, HP Alliance One Member, and T-Mobile Solution Partner.

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Diversitas IT Sustavi, Ltd. (divIT)

Title of new technology

Interactive holographic shop window

New technology

The interactive holographic shop window is a solution that places the customer, who is in front of the shop window, into the virtual environment inside the store. As a customer passes by the store, a holographic picture of the customer appears inside the shop window. Depending on the shop's inventory, virtual items appear attached to the customer's image, as if he or she was wearing or using them. For example, in the case of a clothing store, the customer would see his holographic image wearing the clothes from the store.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.030

Company website

www.divit.hr

Company profile

DivIT has many years of scientific and practical experience in developing natural user interfaces. They produce innovative interactive projects in marketing and TV. DivIT has augmented the reality presentation system Apollon, used on the national TV channel RTL in their coverage of the last two national elections. Their products "Interactive floor" and "Interactive wall" have been used for promoting such brands as Coca Cola, Ozujsko pivo, Pliva etc. More at <http://www.youtube.com/divitsystems>.

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EDC Ltd.

New technology

IMAGIS is a geographic information system available everywhere 24/7. It is the comprehensive GIS application used by many utility companies in their daily work. IMAGIS is more than yet another zooming and panning application (YAZAPA) of spatial data, its possibilities are far more serious. EDC is the author and owner of the IMAGIS system, which is primarily intended for geographic information systems, utility companies and local authorities. Thanks to its structure and mode, IMAGIS is an ideal solution for any geographic information system. EDC can arrange IMAGIS hosting, data maintenance and storage, GIS project development, specific modules and all other services related to IMAGIS.

Project stage

The software has been commercialized in the local market; it is constantly being developed and upgraded. Looking for investor/distributor.

Total capital raised (millions of €)

0.1

Total capital required (millions of €)

0.5

Company website

www.edc.hr

Company profile

EDC is a company founded by a group of experienced engineers with a mission to successfully promote and enable the application of information technology in engineering practice.

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Title of new technology

IMAGIS -Infrastructure Management And Geographical Information System

Ekobit Ltd.

Title of new technology

BizDataX - an innovative data masking platform designed to enable safe secondary usage of data collected by various production systems

New technology

Protecting sensitive data and protecting privacy is becoming a more and more significant topic in everyday business. In response to this problem, all over the world regulations concerned with data privacy are being introduced. One of the methods is anonymization or data masking. Ekobit has developed the BizDataX solution - an innovative data masking platform designed to enable a safe secondary usage of data collected by various production systems.

Project stage

Interested in new markets and strategic distribution or sales partners

Total capital raised (millions of €)

0.400

Company website

www.ekobit.com

Company profile

Ekobit offers products and services in Custom Development, Application Lifecycle Management, Collaboration and Content and Enterprise Application Integration areas to clients worldwide. 20 years of experience on projects have led to the development of products such as TeamCompanion and BizDataX. Ekobit is a Visual Studio Industry Partner and a Microsoft Gold Certified Partner with four gold competencies.

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ELUXIO Ltd.

Title of new technology

Vending Tycoon

New technology

In Program PoC3 ELUXIO has created a system which enables the tracking and analysis of the traffic of vending machines in real time named "Vending Tycoon". The system consists of small size programmable communication modules which can be installed in a vending machine, whose traffic is being monitored with the software based on web technologies that enable the collection and storage of data sent from the communication modules. There is also a graphic interface meant for the user, which allows the tracking and analysis of the traffic of vending machines with a minimum of intervention via PC, smartphone, tablet..

Project stage

Final product / Looking for strategic distribution or sales partner

Total capital raised (millions of €)

0.100

Total capital required (millions of €)

0.600

Company website

www.eluxio.hr

Company profile

Eluxio Ltd is company specializing in corporate marketing and sales. The core business of the company is the distribution of vending machines and other devices, as well as event management for and promotion of large businesses. Innovation and creativity are at the core of their mission, which is to provide services in a completely new and original way.

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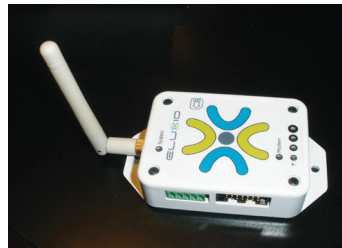
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Evolva Ltd.

Title of new technology

GUI editor - Visual editor for enterprise web application forms

New technology

GUI editor is a web-based tool for a rapid prototyping of business Java web applications. It allows a non-programmer to create a user interface by the drag-and-drop of many ready-controls, such as block controls, containers, charts and others, and thus to build a demo application that is 100% reusable when the programming starts. GUI editor shortens the cycle of pilot projects and is a very important part of Evolution Framework.

Project stage

In commercialization / Interested in new markets

Total capital raised (millions of €)

0.040

Company website

www.evolva.hr/en

Company profile

Evolva is an IT company which specializes in the development of enterprise web applications. By using their innovative and award-winning technology they have created a number of web-based systems that save their customers both time and money. Their solutions improve the process of monitoring business processes, document management...

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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

Software for Vegetation Detection and Recognition

New technology

A software prototype for the detection and recognition of vegetation alongside railroad tracks has been developed. The software is one part of a system consisting of an industrial camera and a powerful PC. The purpose of the system is to drive herbicide spraying from a chemical (weed killer) train. Herbicide spraying is the most common way to eliminate all vegetation in the immediate vicinity of railroad tracks, which is a strict security requirement for all railroad companies in the world.

Detection and recognition algorithms of the software prototype are based on advanced digital image processing and analysis, and this can enable intelligent and selective herbicide application along railroad tracks, significantly reducing the volume of herbicide used and thus ensuring substantial savings and prevention of unnecessary pollution of the environment. The next stage of development requires thorough testing in real world operating conditions.

Project stage

Development phase / Searching for partner for further development

Institution website

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Main contact

Doc.dr.sc. Marko Subašić

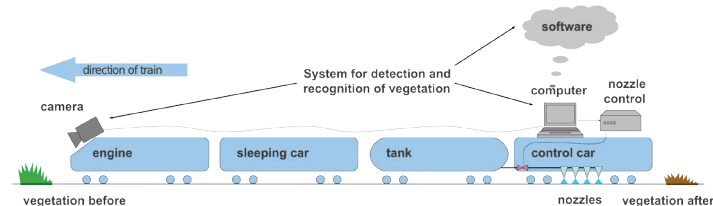
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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

Software for early detection of diabetic retinopathy

New technology

The main project goal is to design a functional prototype and test the software for early detection of diabetic retinopathy from retinal fundus images. The software is innovative because it relies on a knowledge-based approach to retinal image analysis, where knowledge of anatomy and pathology of the retina is used to increase the accuracy of detection. The market for the software are health institutions and in particular general practitioners and ophthalmologists.

Project stage

The product is in the development phase; interested in finding a partner/investor to help bring the product to the market.

Total capital raised (millions of €)

0.040

Total capital required (millions of €)

0.500

Institution website

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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

System for estimation of pilots' cognitive-emotional capabilities

New technology

The developed system evaluates pilots' cognitive-emotional states in initial and advanced training stages, via the monitoring of physiological, vocal and facial information, especially during high-stress, high-workload situations. The system collects, computes and displays aggregate measurements of the pilot's state in real-time and enables subsequent review of the in-flight recorded data. The primary purpose of the system includes improving the pilot training and selection process by enabling comprehensive insight into the pilot's cognitive-emotional state during the flight.

Project stage

Development phase / Searching for partner for further development

Total capital raised (millions of e)

0.065

Total capital required (millions of e)

0.180

Institution website

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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

Access network architecture based on self-seeding and modulation averaging

New technology

We developed and demonstrated a novel spectrum-sliced WDM-PON system based on self-seeding and modulation averaging for the Long-Term Evolution Next Generation Passive Optical Networks (NG-PON2). The new architecture uses no tunable lasers, no broadband light sources (BLS), exhibits significantly lower Rayleigh backscatter and lower dispersion penalty relative to BLS-based WDM-PON, all at half the cost of a BLS-based WDM-PON system. We have built prototypes and patented (i) optimal modulation averaging reflectors, (ii) optical sources, and (iii) passive optical networks that use modulation averaging as a means of lowering the cost and optimizing performance.

Project stage

Prototypes built, currently characterizing the system and components for commercial viability, filed four patents - one granted; working with several interested customers and partners in the US and Europe; looking for seed investment to build the product for field trials.

Total capital raised (millions of e)

0.050

Total capital required (millions of e)

0.300

Institution website

www.fer.unizg.hr/en

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GDi GISDATA Ltd.

Title of new technology

GDi Localis - Geocalculator of Solar Potential

New technology

Geocalculator of Solar Potential is an application which allows the user to obtain the value of the SP (from yearly to daily value) at any location and at any time from the office or field. It is available as a standard web app accessible via desktop or mobile client and as a hybrid app for mobile platforms (Android, iOS, Win8). Target users: citizens, the local government and commercial companies. The main advantage of this app is the accurate and up-to-date information about the solar potential in the selected area to the roof level.

Project stage

Last phase of development /Preparing for commercialization and strategic distribution

Total capital raised (millions of €)

0.050

Company website

www.gdi.net

Company profile

GDi GISDATA (further GDi) is a technical and business information systems/software company with almost 150 employees. GDi, although founded in Croatia, is today doing 70% of its business abroad, and more than 50% of its employees work outside of Croatia. GDi prides itself on its internationally competitive GDi applications software products such as GDi VIZION, GDi LOCALIS, GDi ENSEMBLE, as well as its professional services related to their globally leading partners' platforms and tools.

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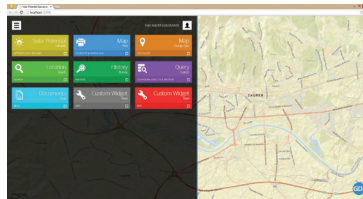
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Mala radionica interneta Ltd.

Title of new technology

Placeberry.com - travel search engine

New technology

Placeberry.com is a search engine, just like Google.com, with a difference that it only searches through accommodations, travel arrangements, extracurricular activities etc. Hotels, lodges, private accommodation, yacht charters and much more all in one place...

Project stage

Final product / Looking for strategic distribution or sales partner

Total capital raised (millions of €)

0.030

Total capital required (millions of €)

0.200

Company website

www.mri.hr

Company profile

A little internet workshop was founded in 2009 in Zagreb, with the mission to develop advanced web and e-commerce solutions. TECHNOLOGIES: "If it's web - we've got it covered!" Databases - Oracle, SQL Server, MySQL, HTML5, JavaScript, jQuery, .NET and many more. THEIR OWN PROJECTS: In 2010 the Croatian government recognized the potential behind their project "Placeberry.com - travel planner and search" and invested in it through BICRO. Also, they have built and operate an online platform for cargo sharing called "Gorillatrans.com" in the (large) Brazilian market.

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Interaktivni studio Ltd.

Title of new technology

Mediatoolkit - content discovery tool for media professionals using predictive analytics

New technology

Mediatoolkit is a content discovery tool that serves up the web's most popular content selected by over one billion people. Instantly discover breaking news, viral content and trending articles across the web are accessible even before they become popular, all based on Mediatoolkit's prediction algorithm. Popularity of content is calculated based on a number of social interactions, giving users real time statistics and the content that people are talking about with their friends at the moment.

Project stage

Final product / Looking for strategic distribution or sales partner

Company website

www.istudio.hr

Company profile

Interaktivni Studio (iSTUDIO) is a digital performance marketing agency from SE Europe with four offices serving over 100 clients. They are Facebook Preferred Marketing Developers, Google AdWords Certified Partners and much more. iSTUDIO has developed Socialpuzzle (do-it-yourself Facebook apps), Socialnumbers (global Facebook statistics) and Mediatoolkit (content discovery tool for media professionals).

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Title of new technology

Prototype of a system for automatic optimization of digital advertising

New technology

Our solution analyzes performance of digital advertising campaigns and automatically makes informed decisions on bids needed to reach sales or other measurable goals. The tool bases its conclusions and decisions not only on clicks but on conversions or measurable goals set up in the analytics, thus saving the time needed to manually optimize digital advertising campaigns. The system analyzes the invested resources and the conversion rate and optimizes the whole campaign to get the best results for the user.

Project stage

Last phase of development



MEDIA-TREND Ltd.

Title of new technology

Web2Mobile - system for converting common websites into mobile adopted

New technology

During the last few years there has been a significant increase in mobile web Internet traffic. Recent world and domestic analysis predicts an even faster shift from desktop to mobile devices. If you want the common/normal website to be mobile-friendly we have developed a simple and affordable solution.

Project stage

In commercialization

Total capital raised (millions of €)

0.019

Company website

www.media-trend.hr

Company profile

MEDIA-TREND is an innovative company providing smart solution for web and mobile development by using the latest technologies.

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Myrio Ltd.

Title of new technology

Recommendation engine based on different data sources for the interactive shopping assistant

New technology

Myrio is an interactive shopping assistant, maximizing in-store sales and creating a new shopping experience, specifically creating a smart fitting room experience. The product portfolio consists of:

- the In-store application for tablets/touch screens
- the mobile application for shoppers in-store and anytime/anywhere
- the Interactive shopping window providing 24/7 sales and increasing footfall and conversion rates. Within the scope of the PoC4 programme we have developed recommendation engine providing personalized suggestions based on customers' preferences.

Project stage

The project is in the advanced development stage. Looking for partners/strategic investors who already have a retail customer base and complementary product portfolio to speed up the commercialization process and international expansion.

Total capital raised (millions of €)

0.150

Company website

www.myriosolution.com

Company profile

Myrio is an innovative company which focuses on interactive retail solutions, creating new customer experiences and enhancing "customer-brand" engagement. The company's products were presented at the NRF Big Show 2013, NYC - the most important retail conference in the world. RSR (Retail Systems Research) featured the Myrio-Zensar application as one of the four most visual and clever at the NRF Big Show.

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SABA ART STUDIO Ltd.

Title of new technology

Personalized 3D Biometry Photogrammetry Visualization "Per 3D Scann"

New technology

Innovation System "Per 3D Scann" is based on anthropometric and biometric computer analysis of electronic systems personalized 3D biometric photogrammetric visualization of three-dimensional virtual character model.

The project goal is design technological solutions display a significant improvement in terms of new photo-realistic 3D representation of spatial objects.

Project stage

Final product / Looking for strategic distribution or sales partner

In commercialization / Interested in new markets

Total capital raised (millions of €)

0.030

Total capital required (millions of €)

0.500

Company profile

Technical testing and analysis within the research and experimental development in the respective computer science and related technologies, Saba Art Studio Ltd. will with the spatial visualization of environmental systems, virtualization and commercial simulations to consolidate and develop the production of new electronic and optical products with a computer and related activities in the domain activities of information society.

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Pametni upiti Ltd. (WhoAPI Inc.)

Title of new technology

Ultimate Domain Notifier, whois API, domain availability API, screenshot API, email blacklist API, domain availability API

New technology

We are building (among other things) a unified (whole) service that can be accessed with an API. Our other new technology is a monitoring service which alerts the user when something bad happens to their website, domain name or email (Ultimate Domain Notifier).

Project stage

Final product / Looking for strategic distribution or sales partner

Total capital raised (millions of €)

0.250

Company website

www.whoapi.com

Company profile

WhoAPI, with it's service Ultimate Domain Notifier and powerfull API, provides various types of information about domains, websites and emails. Information such as web-site downtime, email blacklists, domain availability, whois, nameserver, mx records, DNS zone file, PageRank, Alexa rank, domain expiry, etc...

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Bagheera Ltd.

Title of new technology

LEGUAR Suprakinetic knee device - diagnostics, professional training and rehabilitation; for pro sport and medical market.

New technology

SUPRAKINETIC MOTION CONTROL - SMC is the new paradigm in the robotic testing and training of muscle-joint apparatus. It enables real time control of all exercise parameters, such as torque, speed, range of motion, type of desired muscle contraction, etc. Instantaneous system response lets users fine tune their performance and offers countless possibilities in top level sports training, rehabilitation and injury prevention. On-board muscle output recording, intuitive data analysis and a built-in "action replay" feature are the tools that let the pros do their thing.

Project stage

Final product / Looking for strategic distribution or sales partner; production and sales support set up.

Total capital raised (millions of €)

0.730

Total capital required (millions of €)

2

Company website

www.bagheera.hr

Company profile

High-tech R&D in physical medicine and pro sport

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Faculty of Electrical Engineering and Computing, University of Zagreb

Title of new technology

System for 3D reconstruction of the foot-making insoles

New technology

In order to facilitate the production of shoe insoles the project has proposed a 3D scanner based on the principle of structured light, using relatively inexpensive hardware components (off-the-shelf projector and camera). Additionally, the 3D system is completely non-invasive with respect to the subject of the scan and many times faster than the commonly used 3D laser scanners, and hence does not require the subject of the scan (patient) to be still for an extended period of time, which is especially important for children and injured patients. These are the group examples which, in an orthostatic position, potentially highly oscillate. The built prototype scanner can be used for the reconstruction of other objects, not just a foot shape; for example, further system development can lead to the reconstruction of a full body.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (€)

0.035

Total capital required (€)

0.075

Institution website

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Faculty of Medicine - Centre for Proteomics, University of Rijeka

Title of new technology

New strong CMV-promoter for protein and RNA production

New technology

We have identified a new region containing a very strong promoter originating from the mouse cytomegalovirus which has potential to provide stronger and more diverse features than the currently used promoter which originates from human CMV. Promoters are regions in DNA that regulate gene expression – therefore their strength impacts the amount of transcripts (RNA) and consequently the amount of proteins that are produced. The goal of this project is to characterize the new promoter and investigate its suitability for eukaryotic protein expression systems.

Project stage

Development phase / Searching for partner for further development

Total capital raised (millions of €)

0.050

Institution website

www.capri.com.hr

Institution profile

The Centre for Proteomics was established at the University of Rijeka, Faculty of Medicine, in 2006, with the focus on high-throughput monoclonal antibodies (mAb) development for cutting-edge applications.

Although part of the University of Rijeka Faculty of Medicine, a non-profit public higher education institution, the Centre is currently funded exclusively from competitive international grants and commercial activities, which makes it a unique research department in the Croatian academe.

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Faculty of Medicine, University of Rijeka

Title of new technology

FESS Slices

New technology

A training model for functional endoscopic sinus surgery has been developed. It contains 15 coronary slices with several anatomic regions included (i.e. maxillary sinus, ethmoidal sinus, sphenoid sinuses etc.). The precise design allows detailed surgical procedure on models which can significantly improve surgeons' practical capabilities. In addition to its scientific purpose, the developed model has strong educational potential, especially in elementary schools, high schools and biomedical universities where a precise anatomy of the human head is needed. Currently, the FESS SLICES model is in the functional prototype phase, where our model has all the anatomic regions defined, high-precision details included.

Project stage

Final product / Looking for strategic distribution or sales partner

Total capital raised (millions of €)

0.032

Total capital required (millions of €)

0.500

Institution website

www.medri.uniri.hr

Institution profile

The School of Medicine is a public higher education institution which, as an integral part of Rijeka University, organises university and professional courses and develops educational and scientific activities in the biomedical and health-care areas. Moreover, the school prepares students for their future profession on the basis of the latest scientific insights and methods. The School of Medicine is also engaged in fulfilling the social interests of its students and promotes international, especially European, cooperation in higher education and scientific activities.

Main contact

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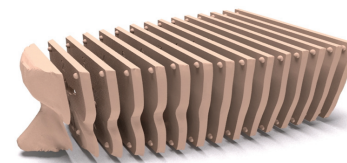
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Genos Ltd.

Title of new technology

Analysis of antennary fucose as biomarker for HNF1A-MODY

New technology

HNF1A - MODY is one of diabetes subtypes caused by a mutation in the HNF1A gene. Diagnosis of this subtype of diabetes is not easy and patients are very often misdiagnosed as type 1 or type 2. It is assumed that the patients diagnosed with HNF1A - MODY represent 4-5 % of the total diabetic population, or about 1 % percent of the population. In the scope of R&D activities, Genos discovered antennary fucosylation as a new glyco biomarker for HNF1A-MODY and holds one third of the patent. Our goal is to find a solution for a simple but efficient method easily applicable in diagnostic labs worldwide.

Project stage

Development phase

Total capital raised (millions of e)

4-5

Company website

www.genos.hr

Company profile

During six years of operation the young biotech company Genos has secured a leading position in DNA analysis in Croatia. Backed up by a strong R&D team, Genos has developed a series of innovative products based on human and animal genotyping. The company has expanded its R&D operations beyond DNA analysis and has successfully entered into the field of glycosylation. In the last three years they have become one of the leading providers of high-throughput glycosylation analysis in the world.

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Institute of Physics

Title of new technology

Device for vital tooth bleaching with real time measurement results

New technology

During the tooth bleaching process chemical reactions occur that bleach the tooth but also cause overheating of the tooth and surrounding structures, which leads to its hypersensitivity. The goal of our project is to demonstrate the technical feasibility of the realization of devices that monitor the bleaching process in real time. This device would promptly indicate the need for slowing down/pausing the process of bleaching, thus preventing the overheating as well as excessive uncontrollable bleaching. The patenting process has been initiated and we are looking for a buyer for all of the rights.

Project stage

Last phase of development/ Looking for investor for further development

Institution website

www.ifs.hr

Institution profile

The Institute of Physics is dedicated to performing high quality basic research in physics as a prerequisite for the process of technology and knowledge transfer. The aim of the institute is to contribute, in a sustainable and socially responsible way, to the development of Croatia, the region and the EU.

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Ruđer Bošković Institute

Title of new technology

Rapid biotypization

New technology

The basis of the rapid biotypization project is the development of a method of rapid detection of pathogens and tumour cells, for use in clinical practice. The results of this research, which the RBI conducts in collaboration with several Croatian institutions, should contribute to future rapid diagnoses by using the original method of biotypization and developing more effective diagnostics, which will also lead to a reduced and more selective use of antibiotics and timely treatment of tumours. It is an innovative method with commercial potential, which so far has not been developed anywhere in the world.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.600

Total capital required (millions of €)

0.500

Institution website

<http://www.irb.hr/>

Institution profile

The Ruđer Bošković Institute has a multidisciplinary character: it employs 550 academics and students from the fields of experimental and theoretical physics, chemistry and materials physics, organic and physical chemistry, biochemistry, molecular biology and medicine, environmental and marine research and computer science and electronics.

Within Croatia, the RBI is a national institution dedicated to research, higher education and provision of support to the academic community, to State and local governments, and to the technology-based industry. Within the European Union, the RBI forms a part of the European Research Area. Worldwide, the institute collaborates with many research institutions and universities upholding the same values and vision.

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Skills lab - Simulation Centre, Dpt. of Anaesthesiology, Reanimatology and ICU, Medical School, University of Rijeka

Title of new technology

Skills lab-Simulation centre - polygon for education in cardiopulmonary resuscitation (CPR) for medical students and other health care professionals and lay persons

New technology

Skills lab is an educational polygon for the education of students from different branches, as well as of medical staff and lay persons. One of the most important segments in this educational process is cardiopulmonary resuscitation (CPR) through basic procedures - basic life support/automatic external defibrillator (BLS/AED) and advanced life support (ALS). It also educates doctors and nurses in traumatology through the European Trauma Course (ETC). Skills lab is also used as an educational polygon for clinical anaesthesiology, intensive care and emergency medicine.

Project stage

Final product / Looking for strategic distribution or sales partner

In commercialization / Interested in new markets

Total capital raised (millions of €)

0.110

Total capital required (millions of €)

0.750

Institution website

www.kabinet-vjestina.hr

Institution profile

Skills lab is a specialized classroom organized, equipped and modelled after skill labs in most medical colleges in Western Europe and the US. In the training of doctors and other medical staff such skills cannot be learned during clinical teaching in the hospital with real patients and real life situations. Since real life exercises are ethically unacceptable, Skills lab strives to bring the realities of the resuscitation procedure through scenarios and didactic methods. All instructors follow the principles of the European Resuscitation Council (ERC).

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CEBB Ltd. for Energy, Biomass and Biotechnology

Title of new technology

Advanced green technology for the production of nutraceuticals from food processing waste

New technology

The production and processing of olive oil gives by-products that pose a serious environmental issue. Our technology is based on this type of by-product and provides and obtains chemicals with high added value from. The goal of our project is to conduct laboratory testing of the technological process for the production of high value chemicals from food industry waste and to carry out preliminary testing of the feasibility of production. The technology of producing valuable bioactive products is innovative and progressive, especially in relation to the existing commercial technologies for the conversion of biomass and separation of products, which does not include hazardous and toxic chemicals, as is the case with most of the existing, plant material-based nutraceutical technologies. The main product of our process is a widely applicable extract, which has great market potential thanks to its pronounced antioxidant properties; it can also be used in the food industry. Furthermore, the process integrates a co-production of valuable chemicals and energy, making the technology very efficient.

Project stage

Last phase of development / Looking for investor for further development

Company website

www.cebb.hr

Company profile

CEBB Ltd. for Energy, Biomass and Biotechnology is a multidisciplinary company established in Karlovac. The company is involved in design, development and implementation of advanced technologies for the production of value added chemicals, fuels and energy from biomass, both for its own purposes and to meet the needs of the company's customers. Enhancing the scope of business activities from contracted research services to own production is a way to increase competitiveness, particularly in the sector involving high-tech companies operating in the field of nutraceuticals production.

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Faculty of Food Technology and Biotechnology, University of Zagreb

Title of new technology

Vending machine for unpackaged fresh cut fruits and vegetables

New technology

The aim of the project is to produce a prototype of a new type of vending machine for freshly cut (F-C) fruits and vegetables (F&V). The innovation is (i) possibility of separate storing of several species of F&V, unpackaged F-C, in the same machine at the same time, (ii) in the modified atmosphere (iii) with the function of removing a certain amount of F-C F&V, according to consumers' choice . F-C apple will be used to test the basic functions of the prototype, which means that the processing parameters of the F-C apple will be defined as well.

Project stage

Development phase of the prototype

Total capital raised (millions of €)

0.284

Total capital required (millions of €)

4

Institution website

www.pbf.unizg.hr

Institution profile

The Faculty is a high education institution and the central place in Croatia for the education of experts in the fields of food technology, biotechnology and nutrition. Related studies have been held for over 50 years, both on undergraduate and graduate levels, as well as in terms of specialist PhD programmes. Along with all the compulsory study courses , the Faculty is also engaged in related research and development activities.

Main contact

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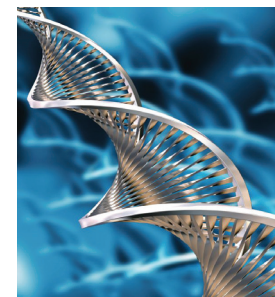
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Faculty of Pharmacy and Biochemistry, University of Zagreb

Title of new technology

Water-soluble propolis using natural polymers

New technology

Propolis, or bee-glue, is a resinous substance and is used in cosmetic and food supplements industry for its antimicrobial, antioxidant and anti-inflammatory properties. The active constituents of propolis are natural polyphenolic compounds, beneficial in the treatment and prevention of many diseases (skin, cancer, diabetes and cardiovascular). However, their poor solubility in water is the reason why mostly ethanolic propolis extracts are present in the market today, although unacceptable for use by children or people for whom consumption of alcohol represents a religious taboo. The novelty of the method is that, instead with ethanol, the constituents of propolis would be solubilized using natural polymers; naturally solubilized propolis is desirable as an ingredient in natural cosmetics and dental products.

Project stage

Late development phase

Total capital raised (millions of €)

0.500

Total capital required (millions of €)

0.400

Institution website

www.pharma.unizg.hr

Institution profile

The Faculty of Pharmacy and Biochemistry is the only faculty in Croatia dedicated entirely to the teaching of and research in pharmacy and medical biochemistry. Research carried at the Faculty of Pharmacy and Biochemistry is of a high international standard, and the institution is a global leader in several areas, such as basic, biomedical, pharmaceutical and medical biochemistry sciences (drug development, drug delivery, nanotechnology, pharmacogenomics, chronic diseases, glycobiology, pharmacobotanics, drug resistance, food and diet therapy, biomedical potential of natural resources, pharmaceutical analysis).

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Institute of Oceanography and Fisheries

Title of new technology

Acoustic Shell Guardian

New technology

The main objective of the project is to develop a device that emits a specifically designed underwater sound signals at shellfish farms in order to stop intense fish predation on young mussels. More than forty percent of the mussel (*Mytilus galloprovincialis*) production loss is a result of fish predation. Therefore, acoustic signals, which would mitigate the effect of agents which cause predation, will contribute to the economic sustainability of shellfish production. After optimization of the prototype, the process of protecting intellectual property rights will be initiated to protect the innovation, achieve a more favourable position in the Croatian and international market, and provide additional income through IP. To ensure maximum potential commercialization, a strategy will be developed in cooperation with the Technology Transfer Office (TTO), University of Split.

Project stage

Development phase/Searching for partners for further development

Total capital required (millions of €)

0.030

Institution website

www.izor.hr

Institution profile

Scientific activity conducted at the Institute encompasses virtually all aspects of sea exploration: physical, chemical, geological, biological and fisheries. In its seventy years of existence, the scientists at the Institute have published over 1700 scientific and professional papers in both domestic and foreign publications. The papers have included expedition reports, hydrographic studies, dynamic properties of the marine eco-system, description of the flora and fauna, ecological research, fisheries research, advancements in fishing and artificial breeding (in relation to the Adriatic and the Mediterranean, including coastal and open seas), as well as man's impact on the sea.

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Josip Juraj Strossmayer University of Osijek

Title of new technology

Enrichment of eggs with functional ingredients

New technology

The main goal of the project is to produce an egg simultaneously enriched with four different functional ingredients (lutein, selenium, vitamin E and omega-3 fatty acids) that are important for human health and well-being. This egg would be a new product on the Croatian market; due to its properties, it could be characterized as a functional food. Future plans include commercializing the results of the project by licensing the existing business through technology transfer.

Project stage

Last phase of development / Looking for investor for further development

Total capital raised (millions of €)

0.047

Total capital required (millions of €)

0.056

Institution website

www.unios.hr

Institution profile

University of Osijek (official abbreviation: UNIOS) acts as a regional centre of knowledge, research and excellence. It consists of 11 faculties, 5 University departments and 1 Academy of Arts. UNIOS organizes studies at undergraduate, graduate and postgraduate levels in the following fields: natural sciences, technical sciences, biomedicine and medicine, biotechnical sciences, social sciences, humanities and arts. All University studies are organized according to Bologna principles and ECTS is fully implemented at all levels.

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TOP ELEMENT Ltd.

Title of new technology

Development a new design of beehive - new form and material

New technology

The project objective is the creation of prototype hives needed to verify the ideas in practice, testing and patent protection.

If proven, the thesis will lead to further commercialization of the project which consists of the industrialization of production of these hives as well as activities related to the marketing and sale of such hives.

Project stage

Prototypes beehives have been made. Several beekeepers got them on a trial basis and started testing them. So far the feedback confirms the assumption. We would like to create the conditions for mass production, as well as to continue to develop new parts of the beehives.

Total capital raised (millions of €)

0.011

Total capital required (millions of €)

0.070

Company website

www.top-element.hr

Company profile

TOP ELEMENT Ltd, founded in 2007, is a small innovative company whose main business are the production of plastics parts and selling the machinery and equipment for plastics production.

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Energy Institute Hrvoje Požar

Title of new technology

Electric wheel drive based on torque generated by eccentricity

New technology

The technology in question is an electric drive based on variable eccentricity in a wheel – the controlled decline of the wheel's hub/axis from the wheel's centre. Linear motors or similar devices perform the function of wheel's spokes. In a vehicle with two large wheels, an AI-based control of this eccentricity for each wheel would provide the desired torque, which would rotate the wheels in the desired direction and enable the forward and backward motion of the vehicle, its acceleration, slowing down and turning. Such a drive would have significantly reduced specific energy consumption than conventional electric drives.

Project stage

Development phase / Searching for partner for further development (building the fully-functional prototype)

Total capital required (millions of €)

0.250

Institution website

www.eihp.hr

Institution profile

The Energy Institute Hrvoje Požar is a non-profit institution for expert and scientific tasks, primarily: expert and scientific research in the field of energy; provision of expertise and analyses for State institutions; management of National Energy Programmes and pilot projects; education in the energy field; publication of related information. The Institute carries out its mission in cooperation with numerous scientists and institutions from Croatia and abroad.

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Titan Sisak Ltd.

Title of new technology

New technology solution for effective spraying of metallic coating in inside diameters or Construction of HVOF nozzle for inside diameters.

New technology

The high velocity oxy-fuel spray (HVOF) process where small powder particles are partially melted and then, together with kinetic energy of combusted gases, sprayed onto a metal surface. This technology is a new addition to the family of thermal spraying processes. As it uses a supersonic jet, setting it apart from conventional powder flame sprays, the speed of particle impact on the substrate is much higher, resulting in improved coating characteristics. The traditional problem with this technology is that it is impossible to spray inside the diameter of the coating, because the nozzle of the HVOF gun is oversized in terms of its inside diameters (diameter < 100 mm). Titan Sisak has brought new solutions to tackle this problem by creating an angle shaped gun-head and a smaller HVOF nozzle, which is capable of entering into diameters < 80mm. This solution is a first, and presents the solution for creating tribological or high-resistant coatings on the inside diameters.

Project stage

Last phase of development / Looking for investor for further development,

Total capital raised (millions of €)

0.047

Company profile

Titan Sisak Ltd. is a company established in Sisak - Croatia, its main activities being machine part repair, coating solutions and specific part production. As a regional leader in thermal spraying and plating solutions, Titan Sisak offers the latest coating technologies, like HVOF and Brush plating, standardized in military, aviation and power generation industry. Other solutions such as flame spraying, powder welding and fusing offer cost effective and reliable coatings for the general industry.

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Veski Ltd.

Title of new technology

Device for continuous monitoring of wind turbines with integrated functions for the monitoring of mechanical and electrical quantities.

New technology

The innovative concept of this product is based on the implementation of the algorithm for continuous monitoring of the condition of generators, all based on measurements of electrical parameters. In combination with conventional measurements of mechanical parameters (vibration, stress, temperatures), all are integrated in the same device, operating simultaneously. The innovative approach is based on the implementation of both algorithms into one platform which will help to identify the condition of generators under load by correlating the mechanical response with different operating conditions and electrical parameters. This will foster a better understanding of problems occurring on wind generators.

Project stage

Last phase of development/ looking for the partner who will ensure the pilot installation for field testing

Total capital raised (millions of €)

0.018

Total capital required (millions of €)

0.025

Company website

www.veski.hr

Company profile

Veski Ltd. was established in 1990, in Zagreb. The company's field of expertise is vibration diagnostics and analysis, consulting services regarding dynamics and stress calculations (FEM) and measurements. Veski is one of the leading companies in the field of diagnostics and vibration measurement, signal analysis, design, creation and installation of in-house solutions for monitoring systems as well as vibration protection systems.

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TEMA Ltd

Title of new technology

Electric Motor With Permanent Magnets in External Rotor Dedicated to Electric Vehicles Propulsion

New technology

Electric Motor With Permanent Magnets in External Rotor is meant to be fitted directly into the vehicle wheel. This motor can be applied on various electric propulsion systems. Its key feature, when compared with other “in wheel” permanent magnet motors, is high specific torque/power per cubic centimetre but, thanks to the specific stator design, also a capability to control this motor in a wide range of speeds and constant power mode. its high number of pole pears makes this motor perfect for a direct drive and high start up torque, and the specific stator design enables high speed - double or triple the motor's base speed.

Project stage

Final product / Looking for strategic distribution or sales partner; In commercialization / Interested In new markets; Expending the production resources / looking for investments

Total capital raised (millions of €)

1

Total capital required (millions of €)

1

Company website

www.tema.hr

Company profile

The company's focus is on the development and production of permanent magnet machines (motors and generators). TEMA offers various applications such as ground and water transportation, working machines and special purpose machines.

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VIKING Ltd.

Title of new technology

New technology

The project “elliptical tricycle” is an innovation that was created by combining the existing high-spread products, bike and elliptical machine. The product falls into the category of sports equipment and means of transport, and allows the user to engage in active exercise with the whole body in motion. Through the POC project we arrived at the final conceptual solution and have developed a completely unique design, now protected. We had some difficulty finding a production partner, so we have created our own workshop for development and small-batch production.

Project stage

Looking for investor for further development

Total capital raised (millions of €)

0.150

Company website

www.viking.hr

Company profile

The company is engaged in designing and manufacturing innovative products.

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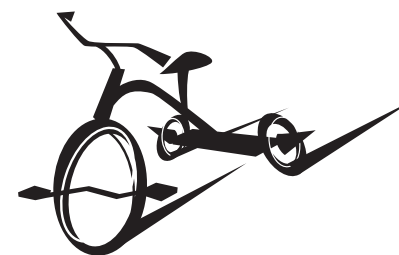
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BDF servis Ltd.

Title of new technology

Special ware transfer

New technology

Electro - mechanical equipment for a stabile and precise transfer of glass containers in the glass plants from the IS main conveyor to the cross conveyor.

Project stage

Last phase of development

Total capital raised (millions of €)

0.035

Total capital required (millions of €)

0.015

Company website

www.bdf-servis.hr

Company profile

BDF servis Ltd. is a company which specialises in the production, assembling and servicing of the equipment for packaging glass production, and is active in the fields of mechanics, electronics, automatics and electrical engineering.

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Faculty of Civil Engineering, University of Zagreb

Title of new technology

UNIS - A device for non-destructive testing of rockbolts

New technology

The project is funded for the purpose of developing a novel technique for non-destructive testing of rock bolts' (most important elements in ensuring rock stability in civil eng. and mining) grouting quality. The project's expected results include verification of functionality of the innovative methodology which connects the dynamic response of rockbolts with grouting quality, as well as testing the verification of the functionality of the device. Comparative advantages over other solutions on the market can be observed on the level of speed, ease of use, cost, and reliability of the testing procedure. After the pre-commercial development phase (device and methodology improvement) and intellectual property protection, a contact with companies interested in licensing the product will be established, as well as market analysis where a marketing campaign will be conducted (the final target market is global – civil eng. and mining companies).

Project stage

Development phase / Searching for partner for further development

Total capital raised (millions of €)

0.054

Total capital required (millions of €)

0.050

Institution website

www.grad.unizg.hr

Institution profile

The Faculty of Civil Engineering, University of Zagreb was established in 1919 and is today the largest civil engineering faculty in Croatia. The Faculty consists of nine departments (Mathematics, Engineering Mechanics, Geotechnical Engineering, Materials, Structures, Hydraulic Engineering, Transportation Engineering, Construction Management and Buildings). The departments for Materials, Engineering Mechanics, Transportation Engineering, Geotechnical Engineering and Hydraulic Engineering have their own laboratories with specialized facilities for teaching, research and consulting services.

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Faculty of Engineering, University of Rijeka

Title of new technology

Wireless autonomous tire pressure sensor (BAST)

New technology

The 'BAST' project encompasses the design, prototyping, experimental validation and analysis of a prototype of a wireless autonomous tire pressure sensor system powered by use of a vibration-to-electricity conversion mechanism. The project's initial goal was to analyze the possibility of employing the foreseen energy harvesting mechanisms (piezoelectric bimorph scavenger) for powering wireless tire pressure sensors. The prototype of the system is tested in real on-road conditions, successfully powering the pressure sensor and transmitting the data to a receiver in the cockpit.

Project stage

Development phase / Searching for partner for further development

Total capital raised (millions of €)

0.004

Total capital required (millions of €)

0.050

Institution website

www.riteh.uniri.hr/

Institution profile

The Faculty of Engineering of the University of Rijeka is a leading higher education, scientific and research institution in the field of technical sciences not only at the University of Rijeka, but also in the region. The Faculty of Engineering actively collaborates with industrial, higher education and scientific institutions in its vicinity and farther away. The Faculty of Engineering employs 64 professors, 36 lecturers and assistants and 38 junior researchers.

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Institute of Oceanography & Fisheries

Title of new technology

MikroTuna - a new diagnostic tool for monitoring disease in tuna farms

New technology

MikroTuna is a sensitive and new diagnostic tool - a DNA microarray that enables early signalisation of fish response to pathogens during its preclinical stage, which in turn enables the farmer to react promptly in order to mitigate or completely remove the cause of diseases from the system before any mortalities have occurred.

Project stage

Looking for investor for further development

Total capital raised (millions of €)

0.100

Total capital required (millions of €)

0.100

Institution website

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Gotal IFN Ltd.

Title of new technology

Remote chemical immobilization of animals, with potential application in drugs and animal tissue sampling

New technology

The main objective of the project was to develop, produce and test the prototype of the device (rifle) for remote chemical immobilization of animals. The device is innovative because it has a barrel along its whole length which enables easier handling and improved precision. The device also uses air as a propellant and heaters for the serum, which means it can be used even in cold conditions. The prototype has been developed and tested and the patent application has been submitted. Commercialization is currently underway and focuses on existing customers (veterinarians, hunters, farmers). Preparations for serial production are also underway.

Project stage

Last phase of development

Total capital raised (millions of €)

0.100

Total capital required (millions of €)

0.100

Company website

www.gotal.hr

Company profile

Gotal IFN Ltd is an SME specializing in the production, sales and distribution of animal tranquilizer equipment. The company manufactures, services and develops special purpose equipment to meet their customers' needs.

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Title of new technology

Special projectile (syringe) for a remote sampling of blood of animals

New technology (short description)

The main objective of the project is to develop a functional prototype of the special projectile (syringe) for a remote sampling of blood of domestic and wild animals for use in the public health sector, veterinary use, and other related uses. The new type of syringe enables the blood sampling of animals without the need for narcotization of the animal and without the physical contact with the animal. The feasibility of the idea will be confirmed within the scope of the project, intellectual property rights will be protected, and the preconditions for manufacturing of the syringe established. The end result of the project will significantly improve the working tasks of persons working with animals on a daily basis.

Project stage

Last phase of development / Looking for partner/investor for further development,

Total capital raised (millions of €)

0.100

Total capital required (millions of €)

0.500



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DECEMBER, 2013, ZAGREB

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