

B2B Events 0617

RIF PROPOSAL NUMBER	TITLE	COORDINATOR	HOST ORGANISATION (HO)	PROGECT BUDGET	RIF FUNDING	PUBLISHABLE SUMMARY
CONCEPT/0618/0003	Listeria Biosensor	CONSTANTINOS LOIZOU	Sk EMBIO Diagnostics Ltd	33.400,00 €	23.380,00 €	<p>Food safety control constitutes a major societal challenge with global health implications, engaging an impressive economic activity which is expected to reach 4,3 billion euros in 2018, compared with a volume of three billion euros in 2013. The vegetable and fruit sectors are key sectors in EU agriculture (EU is the second largest producer of fruits and vegetables in the world, but also the second largest importer with 10 million tons), weighting 6.8 % and 13.7%, respectively of the EU agricultural output (EUROSTAT 2017) . The presents of bacteria is not exempt of negative impacts on the environment and human health and it represents a significant economic expense for the completely agricultural chain. Recently, the increasing awareness of consumers about the food quality. Despite though the huge amount of vegetables and fruits that sell daily, only a small fraction of them is tested. Specifically, only 77,000 samples/year are tested in Europe with a considerable variability in the number of samples tested on a population basis, ranging from 84 (Cyprus) to 6 (UK) per 100,000 people. The offer to demand ratio is extremely low since standard analysis methods for bacteria are usually very slow, delivering a test result within days or even weeks with an additionally high test cost (exceeding 150 Euros or more per test).</p> <p>To address this demand, we have developed a small, portable and easy to use, inexpensive device for detecting pesticides residues in food in less than 3 minutes and with low running costs, called B.EL.D. This device addresses this niche, yet extremely important requirement for a high capacity screening system, able to inform the end-user (primary, and analytical lab) on the presence or not of target residues in a sample, prior to its further processing by means of conventional methods (such as gas/liquid chromatography and mass spectrometry). With this project, we will test and develop the first Listeria biosensor in order to allow immediate detection of samples before they hit the market.</p>
CONCEPT/0618/0004	Tomography Electromagnetic Analysis Methods for Quantitative Evaluation and Demonstration of 2nd Order Changes in Brain Activity	Andreas Ioannides	AAI Scientific Cultural Services Ltd	35.640,00 €	24.948,00 €	<p>Research centers and large organizations are feverishly searching for biomarkers of human mental faculties in health and disease. This search utilizes high performance computing and the finest data mining techniques: all available information, e.g. behavioral, biochemical, genetic and neuroimaging data are analyzed exhaustively by complex algorithms. After long computations, this data driven approach reveals patterns, trends and associations in the data and links them to human behavior, capabilities and propensity to specific pathologies. The diversity of the input makes it difficult for each specialist to understand the results and to interpret them in the best way for the needs of each specific individual. Team-QED2 project offers a smart alternative that produces complementary meaningful results targeting individual needs. The approach is based on a novel framework for learning (NF4L) recently published in a series of papers. This framework is used to define intelligent biomarkers from differentials of estimates of brain activity computed from resting state electrophysiological data. These biomarkers can be understood by all specialists involved and specifically by clinicians, neuroscientists, psychologists and educationalists. The Team-QED2 project is a proof of concept attempt to produce these accurate and meaningful personalized biomarkers for specific applications. The input for the computations are the NF4L and tomographic estimates of brain activity extracted from MEG and EEG data, all related to areas of excellence of the Host organization (HO). The output has numerous and important industrial applications that include longitudinal follow up of children's progress, evaluation of changes following interventions, e.g. neurofeedback and assigning groups and individuals in distinct categories according to innate abilities of the neural networks of their brains and/or relevant training they have received, all areas of strong research and commercial activity of the HO.</p>
CONCEPT/0618/0006	Self-healing of Concrete using high absorptive normal weight aggregates	Konstantinos Aivaliotis Apostolopoulos	P.S.Seamless Gutters Ltd	35.699,00 €	24.989,30 €	<p>The Cypriot space offers unique potential for the development of Self-Healing Concrete (SHC), using High-Absorptive Normal Weight Aggregates (HANWA), that could allow for a wider implementation of SHC for designing piles, raft foundations etc. presenting a product of superior quality for a lower overall cost. In this study, specific mixtures will be carried out and tested to determine if such a design is feasible overall. The project itself will span over a 6-month period in which a Broad Implementation Plan and exploitation/ dissemination activities will be carried out in order to promote a basis for a future large-scale research project. A mix design will be determined and cast from the results of aggregate evaluation, and testing with the express purpose of tabulating, analyzing and evaluating the results to determine if a broad-scale implementation can be achieved concludes the scope of the proposal.</p>
CONCEPT/0618/0007	Increasing conspicuousness by assigning optimal safety colors	Achilleas Mina	S-Innovations Ltd	40.046,40 €	25.000,00 €	<p>At many workplaces, employees and visitors are requested to wear high-visibility vests in order to be conspicuous. Increasing conspicuousness by selecting the optimal safety colour for a specific environment can reduced the probability of an accident. Current practice is to use either orange or lime-yellow as the standard safety colours. The proposed project attempts to formulate a generally applicable methodology for determining the optimal safety colour for a specific environment. We proposed to develop an image-processing software that will analyse pictures and determined the optimal colour for increased contrast and conspicuity. The effectiveness of the proposed concept will be validated experimentally.</p>

CONCEPT/0618/0013	A Multi-person Motion Capture System	Haris Zacharatos	CELLOCK LTD	35.640,00 €	24.948,00 €	<p>3D Motion capture (MoCap) is the process of capturing and/or recording movements of objects or people, and then translating the recorded to actionable data. The Global MoCap market has shown positive trends over the past few years, valued at 110 Million US\$ in 2017 and is projected to reach 250 Million US\$ by 2025, at a CAGR of 10.4%. In the last decade, professional MoCap technologies have seen rapid development due to the high demand of gaming, VR/AR, filmmaking and computer graphics industries, and the strong presence of powerful game engines, where motion capture data are easily used for 3D character animation in photo-realistic environments. However, difficulties in purchasing and using such technologies still exist. In particular, purchasing a professional MoCap system is extremely expensive, while the equipment is cumbersome and sensitive. In most cases, a whole room should be equipped with many optical cameras, permanently set on walls, while time-consuming post-processing is required for data cleaning and production. In addition, MoCap systems need to pre-configure and label the markers before the use, resulting in a time-consuming, non-dynamic setup process. Consumer gaming solutions (Microsoft Kinect) are not designed to function with high accuracy and cannot scale to full 3D capture due to inherent MoCap's technical limitations.</p> <p>For decades, digital tools have been countering the way we naturally work. We're moving away from a past that constrained creativity and making a future where the tools are playful and intuitive for everyone. Our first step is to democratize the expensive and inaccessible tools of traditional motion capture with the development of a proof of concept (TRL3) optical MoCap system, that can reach into the hands of creators who never had access to motion capture before. The objective of MIMIC is to be able to capture data from multiple RGB-D sensors, resulting in real-time, multi-person motion capture, without the need of pre-configuration of markers, data cleaning and production</p>
CONCEPT/0618/0014	Application of agricultural biostimulants as a novel sustainable practice to enhance production volumes and qualitative attributes of raspberry fruit	Nicolas Valanides	MOUNTAIN BERRIES PITSILIA N.V. LTD	35.640,00 €	24.948,00 €	<p>Cultivation of soft fruits like strawberries, blackberries, blueberries and raspberries is receiving accumulating interest and an exponential worldwide demand over the last years, mainly due to their proven health-promoting properties. The latter are considered as added value products but its cultivation in Cyprus is restricted to few hectares, mainly due to lack of the necessary expertise. The aim of the current project is to test the efficacy of agricultural biostimulants (ABs) and its potential to be commercially applied in a sustainable production system, such as Integrated Crop Management (IPM) or an Organic Certified Program, for the production of added value raspberry fruits. These compounds, also mentioned as priming agents (PAs) are generally recognized as safe since they do not leave any harmful residues on fruits and are abundant in natural environments. Furthermore, they have been shown to trigger crop protection mechanisms, against biotic and abiotic stress factors in an array of agricultural commodities. However, there is a lack of scientific evidence regarding their efficacy in raspberry plants. The current project is tightly aligned the 2014-2020 Smart Specialisation Strategy for Cyprus (S3Cy) that identified the agricultural sector as a priority area with high but unexplored potentials. The expected outcomes will be for the benefit of the competitiveness of the Host Organization. The main deliverable of this project will include the development of a publicly accessible recommended management production protocol to enhance production volumes of raspberry plants. Through this approach, our ultimate goal is to disseminate the new knowledge to farmers and agronomists who wish acquire expertise in soft fruit production systems in order to develop a critical mass at National level and address the accumulating needs of the local consumers that are currently fulfilled through imports.</p>