

2014 IDEA² Madrid Awardees announced

The program supported 10 teams and 26 people with international experts and mentors

- Elite international mentorship for Madrid's biomedical technology innovators with new ideas
- Experts from Massachusetts Institute of Technology, Harvard Medical School, Medtronic, and many Madrid-based institutions advised teams of researchers and entrepreneurs
- Diverse projects range from nanomaterials for safe medical implants to smart socks for diabetes management
- Experience increases healthcare impact of new ideas

The Madrid-MIT M+Visión Consortium, a partnership of the regional government of Madrid and the Massachusetts Institute of Technology (MIT), announced the 2014 Awardees of its innovation mentorship program IDEA² Madrid. The program helps emerging biomedical innovators living and working in Madrid to refine their biomedical technology ideas and turn them into projects with high potential for healthcare impact. Along the way, the team members develop their leadership skills and international networks. As Awardees, the teams win enhanced opportunities to work with international experts and collaborators.

IDEA² Madrid responds to an urgent need in the region, where there are many highly trained and creative innovators facing uncertain professional futures and high unemployment rates. Javier Colás, Vice President of Medtronic Spain & Portugal and IDEA² Madrid Executive Committee member, noted that success of the Finalists and Awardees exemplifies the value of fostering an innovation culture in Spain. "Initiatives like IDEA² Madrid help develop and promote entrepreneurship, connect ideas and industry, and generate value and jobs," he said.

IDEA² Madrid 2014 Awardees



Nanoimplant: Nanostructured coatings for orthopedic implants

José Miguel García-Martín, Rafael Álvarez, Alberto Palmero, Isabel Izquierdo-Barba, Daniel Arcos, María Vallet-Regí

Developing a biocompatible and bacteria-inhibiting orthopedic implant using nanostructured coatings.

José Miguel García Martín of the Nanoimplant team said, "This award is extra motivation to produce implants that improve patients' quality of life, and we look forward to M+Visión's continued support."



RAD-AR Setup: Radiotherapy augmented reality aided setup

Arturo Pérez Mulas, Ángela Martín Ruiz

Proposing to use augmented reality technologies to improve the daily positioning of radiotherapy patients and to reduce the possibility of dose errors.

Ignacio Navarro Arrate of Siemens Healthcare, a 2012 awardee (with partner Isaac Castro García) and now IDEA² Madrid Executive Committee member, said that RAD-AR Setup demonstrates the real spirit of biomedical entrepreneurship emerging in Madrid. "The RAD-AR team will offer tremendous advantages for healthcare in supporting medical practices. They have absorbed all our comments and advice with immense hunger, and taken advantage of the international connections provided by IDEA² Madrid."



NICO: Smartphone-based corneal topographer

Pablo Pérez Merino

A low-cost, portable, easy to use, and high quality smartphone-based corneal topographer.

"The NICO project has greatly matured and advanced over the four month period of the IDEA² Madrid program," said Norberto Malpica of Universidad Rey Juan Carlos, and Co-Chair of the IDEA² Madrid Executive Committee. "Pablo worked diligently to develop a project for a viable low cost, easy to use, and high quality technology for ocular specialists world-wide."

Moving closer to the dream of launch

In January 2014, the M+Visión Consortium invited early stage biomedical technology innovators and

entrepreneurs to submit pre-proposals for projects that could improve healthcare. The IDEA² Madrid Review Panel evaluated the pre-proposals and chose 10 Finalists to advance to the project acceleration phase of the program.

The Finalists were assigned "Proposal Catalysts" (engineering, science, medicine, and business mentors) who, over the subsequent four-month period, provided advice towards the development of a mature project proposal. 28 catalysts were involved this year, representing leading institutions and companies such as MIT, Harvard Medical School, Medtronic, Hospital Clínico San Carlos, Universidad Carlos III de Madrid, and Fundación madri+d, among many others. Finalists are given access to specific catalysts for their technical expertise and extensive networks. In addition, the Finalists were given multiple training opportunities to refine and enhance their proposal in preparation for their final presentations on October 29.

Finalists received training over the summer in M+Visión's IDEA³ innovation methodology. They learned techniques to refine and target their projects at demonstrated medical needs, and to communicate their ideas effectively to potential collaborators and investors. "IDEA³ gave me the ability to focus my idea on a clear healthcare need, which was really amazing," said Pablo Pérez-Merino of NICO.

Ángela Martín Ruíz of RAD-AR Setup said that her team was impressed by the level of access they received to even the most elite of catalysts. "The amazing part for us is that [our catalyst] is doing the latest research and innovation in his field and he was so accessible and willing to give us information. We thought, wow, we are in touch with the MIT Media Lab and these people are paying attention to us!" Access to experts and collaborators in Madrid also made a crucial difference to RAD-AR Setup. "The Radiotherapy Service of Hospital de Fuenlabrada is like a part of our team," said Arturo Pérez Mulas. "They were very helpful in discussing our project, and giving us access to their facilities and equipment to perform our tests."

Catalyst Collin Stultz, a cardiologist working in MIT's Computer Science and Artificial Intelligence Laboratory, said working with the IDEA² Madrid Finalists was "very rewarding. The Finalists are exceptionally creative, the projects are lofty, and the proposed solutions are bold."

Finalist teams continuing their innovative projects

Although the program named three Awardees this week, all Finalist teams benefitted from the resources and connections of the intense IDEA² Madrid curriculum and plan to continue their work. The relationships and networks they have cultivated as Finalists, and their projects, stand to enrich the healthcare innovation ecosystem in Madrid. In the months ahead these teams, like the Awardees, will seek collaborators and funding sources to move their projects closer to healthcare reality.

Eduardo Jimenez-Carlés says his team, though not named an Awardee, will continue with their project. "This is not only a project for M+Visión. This is my life. I would like to finalize the project, to build up and launch the probes. IDEA² Madrid has supported our dream."

The other finalist projects were:



Experimental validation of a three-dimensional computer model of the human foot for clinical application in foot surgery

Ricardo Larraínzar-Garijo

Developing a 3D model of the foot to improve the surgeon's ability to predict the response of multiple physical problems, and to design and prove new surgical devices and implants.



Studying the urban environment with wearable devices to promote population cardiovascular health

Manuel Franco, Usama Bilal, Julia Díez, Pedro Gullón, Silvia Alfayate, Francisco Escobar, María Sandín

Offering a complete portrait of the cardiovascular health of a sample of approximately 3.5 million Europeans and comparing it with United States data. More information at <http://hhhproject.eu/> (<http://hhhproject.eu/>)

"IDEA² Madrid has helped us to communicate our ideas, and to move our ideas from brainstorming to writing and submitting a concept proposal. We've made incredible connections with international experts."

– Manuel Franco



Multichannel Human Stimulation Interface

David Pérez

Creating an innovative biofeedback and multichannel brain stimulation platform that would support healthy mental states, cognitive capacities, and environments.



OxyControl

Dario Salvi

A closed-loop automatic titration device for patients suffering from chronic obstructive pulmonary disease that enables higher quality of life and more effective and safer use of oxygen therapy.



WIONM: A new paradigm & new technology for improvement and optimization of clinical practice and surgery

Eduardo Jimenez-Carlés Gil-Delgado

Connecting patients to wireless electrodes to facilitate safer, faster, and more comfortable surgeries.



Smart Socks: Monitoring and preventing health risks and complications in diabetes mellitus

Giuseppe Fico

Monitoring and controlling the vital parameters and functions that contribute to prevent complications among people suffering diabetes mellitus.

“After going through this process and talking with the experts, my preliminary concept, which was very light and fragile, has been transformed from a 5 minute idea that came from a simple talk with friends, to a project that is more solid, and there is a path forward.” – Giuseppe Fico



Stretching Cytometer: For automatic measurement of mechanical properties of cells

Gustavo R Plaza

Developing a device that measures living cells' mechanical parameters in a simple way, for use in medical diagnosis.

“The main contribution [of IDEA² Madrid] has been to help me describe my idea so that I can make it more compelling. If I submit this idea for a grant, or if I explain it to possible companies interested in participating in development, it helps to make the presentation more attractive.” – Gustavo R Plaza