



2023 Retrospective TECNIOSPRING





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Year-end Review

Being open to criticism or feedback can sometimes be a challenge. However, as much as we might like to think or hope that we are the exception to the rule, as the old saying goes, no one is perfect. So, for us, annual reviews are a key part of our work.

2023 has had no shortage of successes: projects ending with great results, personal achievements, etc., but above all, we are still motivated to keep improving and making project management easier.

The Tecniospring team is as committed as always to innovation and market transfer. We want to help organizations on this journey, which is not easy but very rewarding, by providing high quality training.

Without taking the focus away from the researcher and his/ her wellbeing, it is very gratifying for us to see positions being consolidated, great professionals being promoted and senior researchers receiving awards for the work they've done throughout their careers.

We hope you will enjoy reading it as much as we enjoyed drawn it up!

The Tecniospring team



Our impact during 2023

Summary of the results achieved during the year 2023 by the Tecniospring INDUSTRY researchers and their companies:

Prizes awarded:

- Antonio Andriella won the award for the best PhD thesis in robotics in Europe.
- Dana Bernhardt: Pack2Earth won the first prize in the Startup SantanderX award, the first prize in Ayming's Innovative4Tomorrow and the CEO was selected as one of the top ten entrepreneurs by the EAE Business School.
- Karen Strehlow: Mitiga Solutions won the 2023 Exponential leader; the Best Startup of the Year at the D+I Innovation Awards 2023; and was selected as one of the top 100 companies committed to making a positive impact in the prestigious Impact/100 annual list by Norrskén.
- Brian Jiménez and Nicholus Battacharjee: ZYMVOL BIOMODELING was the overall “Grand Prix” winner of the Innovation Radar Prize awarded by the European Commission.

Funding and other projects obtained:

- Montserrat Marquès: started a Marie Curie Global Fellowship at the University of Columbia (New York) and won a Ramon y Cajal grant.
- José María Pozo: ELEM Biotech won an EIC Accelerator grant.
- Neffer Arvey Gómez: Cooling Photonics closed its first investment round of €630,000 (Esade Alumni's business angel network, Esade BAN, and WA4STEAM women's business angel association).
- Dana Bernhardt: Pack2Earth won a Startup capital grant and closed its first investment round of €1M.
- Karen Strehlow: Mitiga Solutions raised €13M to Predict and Prevent Natural Hazards from Becoming Disasters (series A round was led by Kibo Ventures alongside Microsoft Climate Innovation Fund, Nationwide Ventures, Faber Ventures, and CREAS Impacto).
- Brian Jiménez/Nicholus Battacharjee: Zymvol landed €1.3M in its first seed funding to catalyse the widespread use of industrial enzymes with the support of leading tech and deep tech VC firm Elaia Partners.



Tecniospring training: Commercialising Technology – 3rd Edition

The ultimate goal of the Tecniospring Industry Programme is to put the technologies that emerged from the research projects on the market. No one is better placed to do this than the researchers themselves but, along the way, a number of questions arise. How to commercialise a science-underpinned technology you have developed? Which vehicle to choose for this commercialisation? A spin-out company? A licensing? Or a 'joint venture' outcome? And, regardless of the actual vehicle chosen, what about the universal need of obtaining external investment?

This training was intended to address these kinds of issues.

What did we offer the researchers?

We wanted to give all active researchers the necessary skills to successfully put the results and technologies of their Tecniospring projects onto the market, providing them with the skills and the motivation to take a leading role on this journey.

How was it organised?

This course was split in three modules:

- **Module 1:** Initial interactive training, an intensive three-day period of training in which the technology marketing process was covered and a roadmap for commercialising was set out.
- **Module 2:** Six months of fieldwork and online and continuous mentoring support, including online workshops and online mentoring, both individually and in study-group discussions.
- **Module 3:** Final presentations to a panel of four technology-based experts.



PHOTO 1: WELCOME BY CARLES MIRANDA, MANAGER OF INDUSTRY 4.0 AND SUSTAINABILITY AT ACCIÓ.

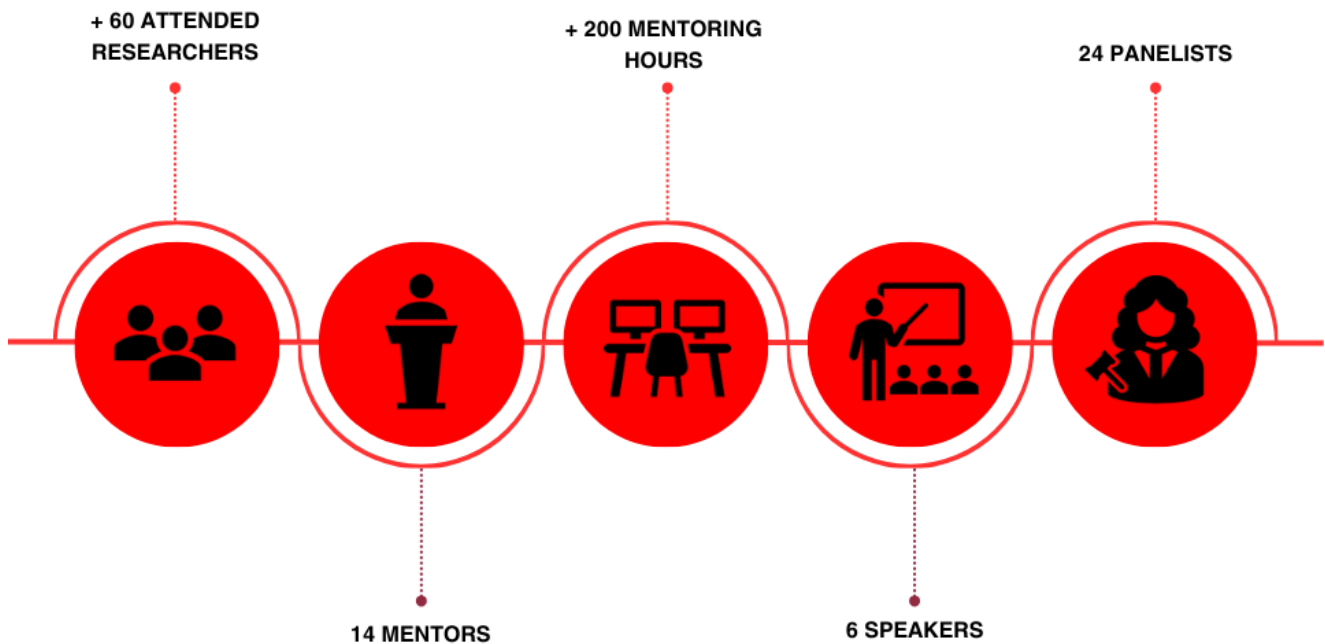


How do researchers rate the training?

“The most valuable of the sessions was the different perspectives to criticize and analyse our projects, which made it easier to distinguish the strengths and weaknesses of our research that could be relevant for commercialization.”

“Dr. Jeff Skinner's enthusiasm to explain such a tough topic made the sessions easier to follow and encouraged us to participate.”

Commercialising Technology in numbers:





Making a difference: Tecniospring projects that are changing the world

Here are some of the finished Tecniospring projects that have been turning a point.



EU-produced, eco-friendly, and highly efficient solar filters

By Joan Atcher at ROKA FURADADA

Two sun blockers that have achieved the target of being efficient, cost-effective, and green. Their benefits include skin cancer prevention thanks to long-lasting and high UV protection as well as reducing the environmental impact for better water quality while preserving biodiversity, to name but a few.



A new natural, sustainable, and eco-friendly fungicide

By Rosa Vilaplana at Centre Tecnològic BETA (UVic – UCC)

The project resulted in the development of a biofungicide that prevents the development of *Monilinia* sp., a fungus that mainly attacks stone fruits, helping preserve the physical and chemical characteristics of the fruit.



A virtual heart to improve diagnosis, prognosis and treatment

By José María Pozo at ELEM BIOTECH

ELEM BIOTECH is a spin-off from the Barcelona Supercomputing Centre (BSC) and a world reference in supercomputing application. They have developed a tool that offers anatomical information to simulate, explore, analyze, test, and improve any diagnosis, process, design, procedure, and therapy.



Smart microdevice development for high-throughput screening embryo implantation

By Maria Demestre at IBEC

The creation of a device that can identify embryos that are more likely to be developed using IVF, overcoming some of the doubts about this type of treatment. The device screens the embryo before implantation and selects the most competent embryo.



A software to make detergent more efficient and sustainable

By Brian Jiménez at ZYMVOL BIOMODELING

This software runs simulations to design more efficient enzymes and to discover better natural inhibitors. The result is improved detergent formulations by reducing the number of enzymes needed and making them more sustainable, cutting down on the use of resources such as energy and water.



Purpose-driven: fostering science and research to the public

This year, Tecniospring fellows have also been present at different activities focused on bringing science closer to citizens. Here there are some of the experiences of Tecniospring researchers.

Science is Wonderful!

Organised by the European Commission, Science is Wonderful! is an event that celebrates the value and impact of EU-funded research by fostering matchmaking between teachers of primary and secondary school students and researchers and innovators organising a science fair. In the 2023 edition of the event, three Tecniospring researchers participated. Andrés García and María Isabel Díez both attended to the Science Fair in Brussels, where they shared a stand to present hydrogen fuel to secondary school students from Belgium. And Antonio Andriella, who did not go to the Science Fair, but together with a secondary school teacher from Cádiz, Mercedes González Portilla, they presented the "Virtual tour along the coast of Cádiz".



PHOTO 2: ANDRÉS SHOWING A GROUP OF CHILDREN HOW HYDROGEN WORKS.

Festa de la ciència (Science Festival)

Organised by the Institute of Culture of Barcelona and the Municipality, the festival is an annual event during which researchers can reach out to the public

and foster the research thereof, show their prototypes, try out marketing ideas, and get some external feedback. The 2023 edition of the event saw participation from two Tecniospring researchers. Rémi Pétuya gave a micro-talk about bioplastics and Roberta Carafa participated with several members of the biological laboratory AECOM Barcelona with a special workshop for children.

Crazy about Chemistry

Dimitrios Skoulas took part in this activity supervising students who were attempting simple and safe organic chemistry reactions. He supervised the students who were synthesizing salicylic acid (aspirin). Among other things, he supervised student safety, explaining the different steps to them or how to prepare the method, and the reason behind every step. He answered questions about chemistry, the synthesis procedure and explained the different methods and techniques to analyze the synthesized compound to them.

#100tífiques

#100tífiques is an event organised by the Barcelona Institute of Science and Technology (BIST) in collaboration with the Foundation for Research and Innovation (FCRi) and the Ministry of Education of the Government of Catalunya. It gathers female scientists from both the public and private sectors to celebrate and discuss the visibility of women in science and fosters female researchers as role models to young boys and girls. Four Tecniospring researchers took part in the 2023 edition: Montse Marquès, Anna Crespo, Romina Mariel Gargarelló and Claire Braboszcz.



"It is about being a mirror for them, someone they would like to be like, to become one day."

European Researchers' Night

The European Researchers' Night is a Europe-wide public event, which displays the diversity of science and its impact on citizens' daily lives in fun, inspiring ways. Each year it attracts more than 1.5 million visitors in Europe and beyond. In the 2023 edition, five Tecniospring researchers participated. Roberta Carafa held a participative workshop called "Is this river polluted?", Ferran Pujol organised a micro-talk called "Structural colour: from chameleons to new technologies", Andrés García delivered a presentation on green hydrogen, Carolina Madeira gave a talk on how AI can help us to create a more sustainable world and María Pin took part in the Researchers' Mornings: she paid a visit to a school to carry out hands-on basic chemistry experiments with seven-year-old children. They could also submit a poster published on the European Corner's [website](#) and to be chosen by some other Tecniospring researchers.

Activities such as this are important because, in the past few years, we have seen a surge in fake news, in particular science-related ones, with people starting to question the very foundations of science and research. These events are opportunities to challenge unreliable second-hand information people get from the Internet and show them how real research is conducted. They are of utmost importance as they give them a space where they can ask questions and engage in person with experts to get answers.



PHOTO 3: ROMINA GARGARELLO AT ESCOLA FEDAC – MONISTROL DE MONTSERRAT DURING THE 100TÍFIQUES SESSION.



Tecniospring companies at the Mobile World Congress

Some of our researchers had a stand at the Mobile World Congress, the world's largest and most influential connectivity event.

- **VRain.** Using Virtual Reality and Artificial Intelligence to create the most disruptive 3D bioimaging visualization and analysis.
- **Roka Furadada.** Their mission is to reduce the incidence of skin cancer and other skin diseases caused by UV radiation through research, development, production, and sales of highly efficient active ingredients, with low toxicological and environmental impact.
- **Biel Glasses.** Their mission is to improve the quality of life of people with visual disabilities developing smart glasses.
- **Pal Robotics.** Their mission is to enhance people's quality of life through service robotics and automation technologies.
- **Cooling Photonics.** Developing materials that cool down any surface, without the need of energy.
- **Chordata.** Their goal is to take the world of motion capture to the universe of open and DIY technologies.
- **Ecomemb.** Regenerating reverse osmosis membranes to allow them to be reused in the same original process or in different processes.

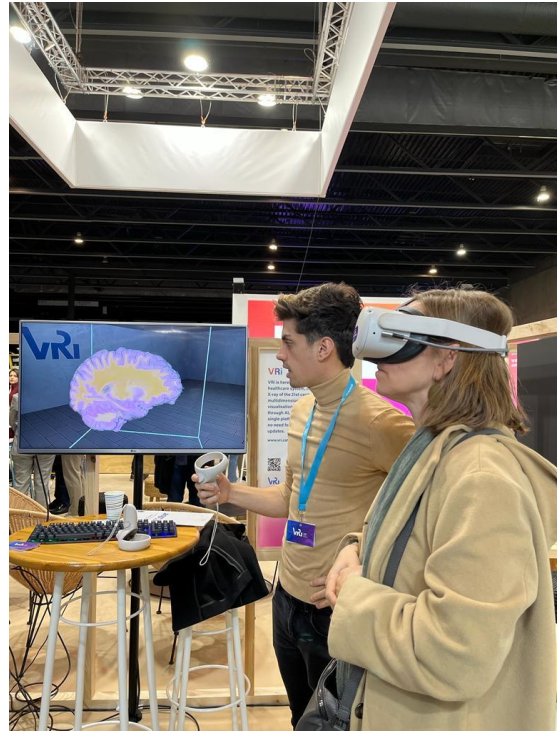


PHOTO 4: VRain's STAND AT MWC.

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