

Technology transfer

Despite the popular perception, most breakthrough innovation is not the result of college dropouts brainstorming in their garages, but comes from years of research, often carried out in partnership with universities and R&D labs. How to ensure those great ideas move beyond the walls of academia and make it to market – in other words, how to achieve successful technology transfer? Here, three people tell their stories, below which we highlight some best practices.

Universities
R&D Labs
Entrepreneurs

Business Vision



Antonio González Prada
Director of Technology Transfer,
University of Navarra's research
center CEIT

One of the most common mistakes when setting up a tech company is focusing so much on the technology that you forget the business vision. Experience shows it's better to conceive of a product supported by technology rather than the other way around. Without any clear idea of the potential application of the technology you hope to sell, it makes little sense to conduct a market study, much less start a company. For this reason, sometimes the fact of having a registered patent can be overrated.

Many entrepreneurs make overly optimistic forecasts regarding sales and development times. Setting up an in-

dustrial production unit invariably entails delays, both in the reception of the equipment and in its subsequent deployment. Inexperienced entrepreneurs may also set unrealistic expectations, demanding either unreasonably large or exceedingly small stakes in the venture. Care must be taken not to increase expenses and investments too soon, before there is a solid base of sales to support the business in the medium term.

Assembling the right profiles will go a long way toward making sure everyone is speaking the same language, translating research discoveries into a viable business.

EXPAND YOUR BUSINESS VISION

Identify which knowledge, skills and profiles you might be missing, and then complement whatever is lacking by connecting individuals from R&D labs, universities and companies.

STRIKE THE RIGHT BALANCE

Economic sustainability and academic quality need not be opposing forces but should be aligned in an integrated vision that also includes social impact.

ENSURE DIVERSE TEAMS

Having a mix of profiles – executives with MBAs and academics with PhDs, as well as gender, ethnic and geographic diversity – enhances rigor, relevance and performance. Offer coaching and mentoring through entrepreneurs-in-residence, investors-in-residence, legal partners, visiting practitioners and outside experts to educate and align all participants.



Giuseppe Scionti
CEO & Founder, NovaMeat

As a professor of bioengineering at the Polytechnic University of Catalonia (UPC) working in tissue engineering, I was interested in how I could impact the planet, not just the biomedical field. And who better than a tissue engineer to create an alternative to meat?

We came up with a unique technology to produce a plant-based meat substitute using a 3D printer. Although we started with the technology, we detected a growing trend in alternative proteins and a gap in the market, and we were able to get the timing right for our product.

One early misstep was that I created a prototype of a human ear and took that around to Michelin-starred chefs, who were surprised, to say the least.

But some of the chefs who were doing things in molecular gastronomy saw the potential. The next time, I created a steak and took that around instead. It was small and basic and didn't look much like a steak, but it was an important step. It pushed us to work on things like appearance, texture and other sensorial properties, like taste.

As important as it is to really know your technology, you also have to be creative, flexible and adaptable with it. As soon as we saw there was interest, we pivoted in that direction and have attracted lots of media attention as a result. You have to test the technology many times to make sure it works, but you also have to take risks when the timing is right.

IS THE BUSINESS APPLICATION CLEAR?

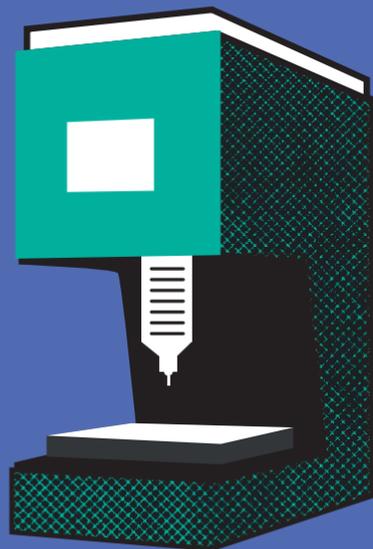
It's important to keep the research aligned with what's relevant for a client.

MAP MARKET NEEDS, USING THE PRINCIPLES OF DESIGN THINKING

- Identify customers who may use the invention.
- Understand and translate market needs into actionable insights.
- Prototyping allows researchers to make rapid iterations and subsequently adapt and learn from what does and doesn't work.

FOLLOW LEAN RESEARCH PRINCIPLES

Great work is frequently achieved via quick iteration and short feedback loops, so you understand the problem and pivot toward improvements quickly.



Charlie Pearmund
Managing Director,
Virtual Bodyworks
(MBA '18)

We work in the advanced area of medical virtual reality (VR). This is not about playing games; it's about using VR to change behavior, from managing chronic pain to recovering after a stroke. We started with two pioneers in the field – Mel Slater and Mavi Sanchez of the University of Barcelona (UB) – whose research showed that you could trick the brain into thinking the virtual body was real, and once you did that, you could manipulate the body to react in different ways.

Our experiments are done in labs with very powerful hardware. The results are impressive but the hardware is expensive. We prioritized the science in the belief that the VR hardware would eventually become more accessible. That meant sacrificing commercial interests

in the short-term, so we had to rely on grants and other sources of funding. We focused on a smaller number of customers to make sure that they could use this complex technology.

Our wait paid off. In 2019, VR headsets came to market that cost around \$400 and require no laptops, cables or sensors. That drastically reduces our hardware needs. Suddenly, we're much more scalable. We're now in a position to migrate to these headsets and seek more funding.

For us, the secret has been the caliber of our founders and sticking to the science. We've built a client base slowly and added functionalities very carefully. We were also able to read the market correctly for where VR investment was taking place.

PARTNER WITH RECOGNIZED PROFESSORS

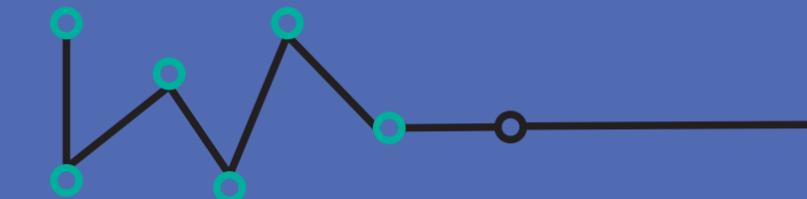
Improve your capabilities by partnering with renowned researchers. Collaboration is maximized when the team size is around two or three researchers.

BUILD A UNIT FOR RAISING PUBLIC FUNDS

Hire a specialist or partner with external consultancies who can help you prepare proposals, etc., leveraging their knowledge and resources of tapping public funds and lowering the costs of you having to do it.

IDENTIFY THE BENEFITS FOR A POTENTIAL CLIENT

Spend time raising awareness and visibility through industry networking events and conferences, laying the groundwork for the market to understand the implications, applications and value propositions of your research.



MORE INFO: IESE's Entrepreneurship and Innovation Center (EIC) produces reports and resources with more tips like those contained in "Technology Transfer: Commercializing Discoveries at Research Centers Through Linked Innovation" by Josemaria Siota, Tony Davila et al. Also, the Barcelona Technology Transfer Group (www.barcelonatechtransfer.com), created by IESE with support from the regional government agency ACCIÓ, brings MBA students together with scientists to come up with commercially viable inventions. BTG has been recognized by the AACSB, the world's largest business education alliance, for its efforts in encouraging entrepreneurial thinking and new business creation.