

# Braingaze – Measuring cognitive processing using eye-tracker technology

## From scientific research to a startup

### UNIVERSITY KNOWLEDGE TRANSFER



### Contact

#### Braingaze

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### Main actors

- University and the Office of Technology Transfer
- Entrepreneurs
- External experts
- Children suffering from ADHD and their parents
- Investors
- People concerned who participated in crowd-funding

The Braingaze case exemplifies a very effective way to get innovation (new technologies) to the market by creating a science-based market oriented startup. In his research, a neurobiologist discovered a technique that could potentially enable the diagnosis of ADHD using existing eye-tracking devices. He tested this new technology, named mind-tracking, and validated its effectiveness with psychiatrists (who are the potential end-users of the solution). The scientist contacted a business expert, and together they co-founded the spin-off company. The approach followed to get this new technology to the market was to create a startup. Several parties were involved in this process, including researchers, psychiatrists, investors, patent attorneys and the Office of Technology Transfer.

After 1,5 years of business feasibility analysis and tech transfer negotiations, Braingaze was formed with the aim of commercialize eye-tracking technology to health care professionals. The first commercial application of the Braingaze technology is a solution to diagnose ADHD in children.

### Process Main Stages

#### STAGE 1 – RESEARCH

In the research stage, scientists discovered and developed a new technology with potential for commercialization.

#### STAGE 2 – VALIDATION

In the validation stage, scientists validated the feasibility of the commercialization of the new technology with end users (psychiatrists).

#### STAGE 3 – KNOWLEDGE TRANSFER AND PATENT

In the knowledge transfer stage, scientists contacted with Bosch i Gimpera Foundation to get the technology generated at the University of Barcelona to the market. Also, patent for the mind tracking technology was filed.

#### STAGE 4 – CREATION OF THE STARTUP AND DEVELOPMENT OF MINIMAL VIABLE PRODUCT (MVP)

In the creation of the startup stage, both partners registered the company and proceeded to attract investors to raise funds. Braingaze went through two crowd-funding campaigns using an online platform and personal network.

### Touchpoints & Bottlenecks

#### TOUCHPOINT 1 – CREATION OF THE COMPANY AND INITIAL FUNDING

This touchpoint involved mainly scientists and investors. The interactions included face-to-face meetings, entrepreneur presentations (competitions), and an online platform for crowd-funding.

It is critical to have a well-elaborate plan to attract investors. Also, this process would be more efficient if investors were more clear and transparent about their interests, investment timing preferences and revenue expectations.

## **TOUCHPOINT 2 – TECH TRANSFER NEGOTIATION**

This touchpoint involved scientists, the Office of Technology Transfer, lawyers and investors. This is a critical touchpoint because there are a lot of parties involved and no standard procedures exist which tends to drag out proposal - response cycles especially involving also lawyers on both sides.

## **TOUCHPOINT 3 – BUSINESS-RELATED DOCUMENTS**

These documents (the typical pitch deck presented to potential investors) hardly ever convey all the information that the entrepreneurs would like to transmit, nor does it contain all the information that an investor needs to digest in order to shape a good opinion on the fit of the proposed investment in the strategic investment scope of the fund (or the investor itself). Possible a multi-layered and structured approach of slide decks covering various aspects of an investment opportunity could reduce the mismatch between information offered and information sought.

## **TOUCHPOINT 4 – INTERACTION WITH POTENTIAL USERS**

This touchpoint involved scientists, investors and psychiatrists (potential users). This interaction was very difficult due to the limited availability of medical doctors who need to carve out time of their very busy schedules to discuss innovations. This is something that could be improved by building a network including healthcare professionals, investors, scientists and universities.

## **Success Factors / Barriers**

### **SUCCESS FACTORS**

A main milestone for Braingaze is the development and market-launch of its first new product: the ADHD diagnosis test for children. The success factor behind this key milestone was a clear and stringent focus on getting the first feasible application of the technology really market ready, rather than exploring a lot of different potential applications but not pushing any single one of them actually into a marketplace. Another success factor was the collaboration between the scientist and the entrepreneur due to their complementary knowledge and experience in their respective fields.

### **BARRIERS**

The main barrier in the very initial stages was the lengthy negotiation process with the Office of Technology Transfer. The negotiations to commercially exploit scientific research are not yet fully standardized, and thus, they take a long time. This was an important issue because the negotiations needed to be done before the patent could be expanded to the quite costly phase where it goes from a single (PCT or national) application to a world patent applied for in a large amount of countries (which must be initiated and paid for within 30 months after regional patent application).

At a later stage, another barrier is the tight agenda of potential customers, in this case medical doctors; since they have very little time to participate in the development and testing of new technologies, actual deep dialogue with future clients is not easy to accomplish, something that add risk to the product development process.

Regarding funding, it is worth mentioning that raising money from private investors (business angels, formal VC's or crowd-funding platforms) takes a lot of hard work. The quite innovative approach taken by Braingaze in successfully completing two crowd-funding rounds has definitely helped them to cross the typical valley of death that occurs between the lab-scale “proof of principle” and getting into the actual market.

## **Conclusion**

Creating a science-oriented startup can be a very effective method to get science and technology innovation to the market. In this process, it is important to study business feasibility and market to make sure that the new technology can be successfully commercialized. It is recommended to remain in the research stage as long as possible and create the startup once there is a well-developed plan. To create the startup it is worthwhile to consider crowd-funding besides other types of funding. Crowd-funding allows potential users to invest in getting innovation to the market. To some extent, crowd-funding platforms are a tool to allow society to get involved in this process, and decide which technology/science innovations they want to see in their lives.

### **DO**

- Keep research (academia) profile as long as possible.
- Standardize template for technology transfer deals.
- Have conversations with end users early on in the process and find out whether they would be willing to pay for the technology-derived product.
- Explore different business scenarios thoroughly.

### **DON'T**

- Create a startup too soon. Wait until having created a product with what you can have leverage and get a good deal with investors.
- Assume that only because a new technology is adding value and/or interesting, it is going to be commercially viable and successful.
- Engage investors too soon.

