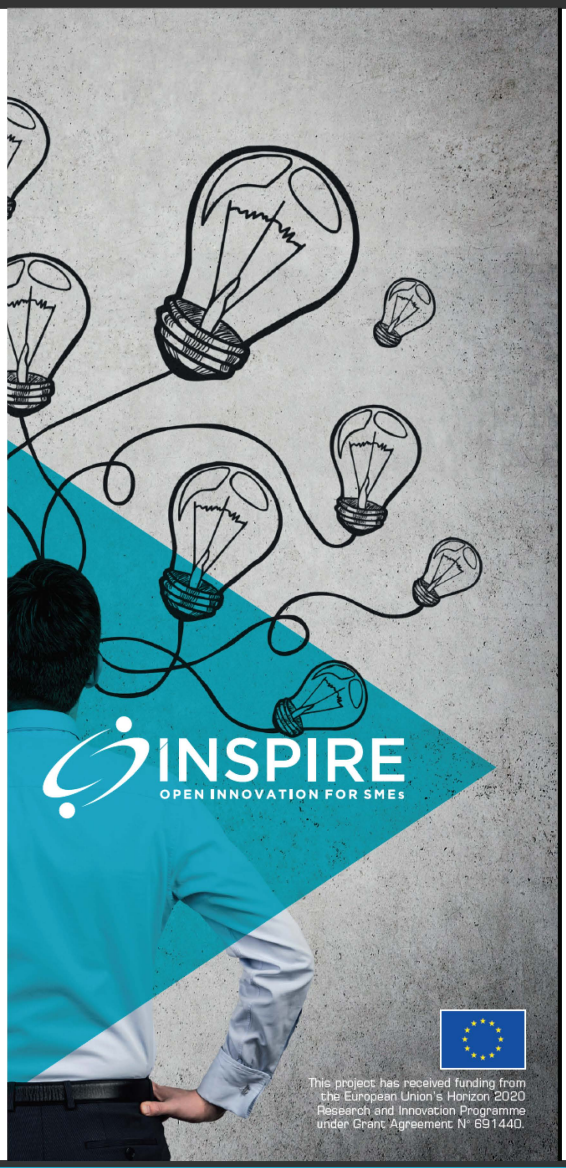

NAWA TECHNOLOGIES

France, www.nawatechnologies.com

From the lab to battery manufacturer, an early-stage company joins forces with potential lead users to customize their new product

Executive Summary

A researcher at the Atomic Energy Commission discovered a new material with properties for storing electricity. He undertook the first technology development with grants from the French government. In 2013 a company was set up with EUR 2.5 million from VCs. After exploring different market applications they decided to focus on 3 applications: 1. Electronic work tools, 2. Forklifts and 3. Electric bicycles. The company aspires to become a battery manufacturer but this is an ambition for which credibility among industry players (a B2B market) and different skills are needed. They developed new capabilities by attracting the right people, collaborating with different types of partners (equipment suppliers, lead users and academic/ technology partners).

CASE N°: FG40

SECTOR: BATTERIES

TECH INTENSITY: HIGH-TECH

LIFE CYCLE STAGE: START-UP

INNOVATION VECTORS: PRODUCT, PROCESS, CUSTOMERS & MARKETING

01 PARTNERS: PSR, LARGE CORPORATION, OTHER SME, LEAD CUSTOMERS OR USERS

KEYWORDS: New battery technology, funding stages, management of partnerships, licensing schemes, skills development, credibility building

- BACKGROUND FRAMEWORK
- INNOVATION CHALLENGE & MARKET OPPORTUNITIES
- OI TRAJECTORY
- BUSINESS IMPACT
- LESSONS LEARNED

NAWA TECHNOLOGIES

BACKGROUND

Pascal Boulanger, CEO of NAWA Technologies (NT) worked for more than 25 years in the field of atomic energy – nuclear, solar and nanotechnologies. After working in solar energy he was aware that the missing link for all renewable energies is electricity storage. So with this in mind, after having done a few years' research in nanotech, he discovered a new material with properties for storing electricity. He studied the scientific, industrial and marketing implications of this material and on the strength of his results he decided to create the nano-technology with a friend, Ludovic Eveillard.

As long as NAWA Technologies is not a full-scale battery manufacturer it tries to sell the concept with a demo-kit to customers who are willing to apply it to their products (e.g. electric bicycles). It is interesting to note that the company has already fairly complex and interesting IP arrangements with its partners. The basic idea is that in a project NAWA Technologies is the central partner in the technology development and that the partners (selected from different application areas) can have exclusive/ non-exclusive licensing rights for their specific area of application.

The management aspires to develop the company into a battery manufacturing company, but in the meantime they are continuously innovating to stay at the top of this industry.

INNOVATION CHALLENGE & MARKET OPPORTUNITIES

There exists a number of strategic challenges for NAWA:

1. The company already has a strong technical reputation because the management originates from the Atomic Energy Commission. Their current challenge is to gain credibility as a reliable manufacturer of a new type of battery.
2. The development of new skills as they wish to manufacture batteries in-house.
3. Different speeds of partners in their collaboration with large companies.
4. Academic partners are good in inventing but poor in completing their deliverables.
5. There is a dynamic competitive advantage – you have to stay ahead of the pack in this highly competitive environment. There is therefore a need to continuously develop new products together with strategic partners.
6. The exit strategy of the VCs that are backing NAWA Technologies and its impact on the future of the company.

The market opportunity lies in their performance vis-a-vis classic batteries, i.e. they are faster – you can recharge in a few seconds instead of hours – they are safer because they do not contain lithium, they are greener because NAWA Technologies only use carbon and aluminium, you can recharge the batteries many times (long life) and the production process is non-pollutant compared to the production of classic batteries.

The market applications are (1) electronic work tools (Bosch, IT, etc.), (2) forklifts and AGVs (logistics warehouse) and (3) electric bicycles. This third category gives NAWA Technologies more visibility and it has a shorter sales cycle in comparison to tools, where every two years Bosch launches more than 100 new products onto the market. There is no need to manufacture large batteries as all the above applications require small batteries.

OPEN INNOVATION TRAJECTORY

Concept development

The concept involves the development of a new type of battery in selected applications based on a radical technology developed in a public research institute.

The development process, IPR and competition strategy

The interesting aspect of this case is illustrated by a gradual process from the proof of concept of the technology to the development of applications and demo-kits. The journey is characterized by the need to develop new skills along the way, which is in part done together with several external partners.

The IP and the licensing schemes are crucial to understand how a small company is able to seduce larger partners to take the risk and to co-invest in and co-develop the technology applications.

The company's competition strategy revolves around their ambition to become a manufacturer of batteries and not just a technology company. This makes the journey more complex, but the fact that NAWA Technologies makes batteries also

differentiates them from their competitors.

Commercialization and follow-up

The firm started as an R&D company but aspires to add manufacturing capabilities. They are gradually working on the implementation of the production facilities. They want to move slowly from R&D to a company producing batteries. They are searching for funding to build their first production line and build demonstrators which can be transformed into products.

NAWA Technologies needs (to develop) relationships with three types of partners: (1) academic partners – they want to have more of these because they intend to pursue technological improvements; (2) lead users since they work in a B2B context and users switching to this type of battery have to take considerable risks in co-developing the applications; (3) equipment suppliers.

Each of these three types of partner is completely different and has specific objectives and ways of deciding on collaboration. Managing the relationships requires skills in aligning the objectives of the partners with those of the company. It requires specific IP deals and agreements about reaching milestones at specific points in time.

BUSINESS IMPACT

This case involves a start-up, so all the outcomes and skills are new. The real question is how well they have been doing. This is a VC-backed start-up in the process of developing and selling it first batteries. The special feature of this case is the gradual progress they are making as a company, going from pure research to the development of different applications.

The company started with a research idea and developed skills in application technologies, customer development, marketing and industrialization. They did it internally by employing key people, and also externally through collaboration with key players. In terms of business impact, NAWA Technologies has managed to increase credibility among its clients and industry partners and are starting to offer a unique value proposition not only in the shape of the new technology but also by the fact that they can develop and produce a battery solution with / for their clients.

The study illustrates the gradual development of a new battery business based on a breakthrough technology. The sales potential looks very promising, as three customer groups are ready to implement the technology.

LESSONS LEARNED

NAWA Technologies' open innovation journey takes place in a typical high-tech manufacturing setting. It is interesting to follow the growth and the related development of the company's skills together with its partners. The positioning of the company (as a producer) and its IP arrangements with partners offer some valuable lessons.

Main lessons learned:

1. Need for the development of non-research skills to get to market.
2. Gradual process to work towards more collaboration with different partners.
3. Different dimensions (type of partners) in building the required external collaborations.
4. Role of the entrepreneur and his personal values.
5. Role of IP agreements in shaping the deals with external partners.