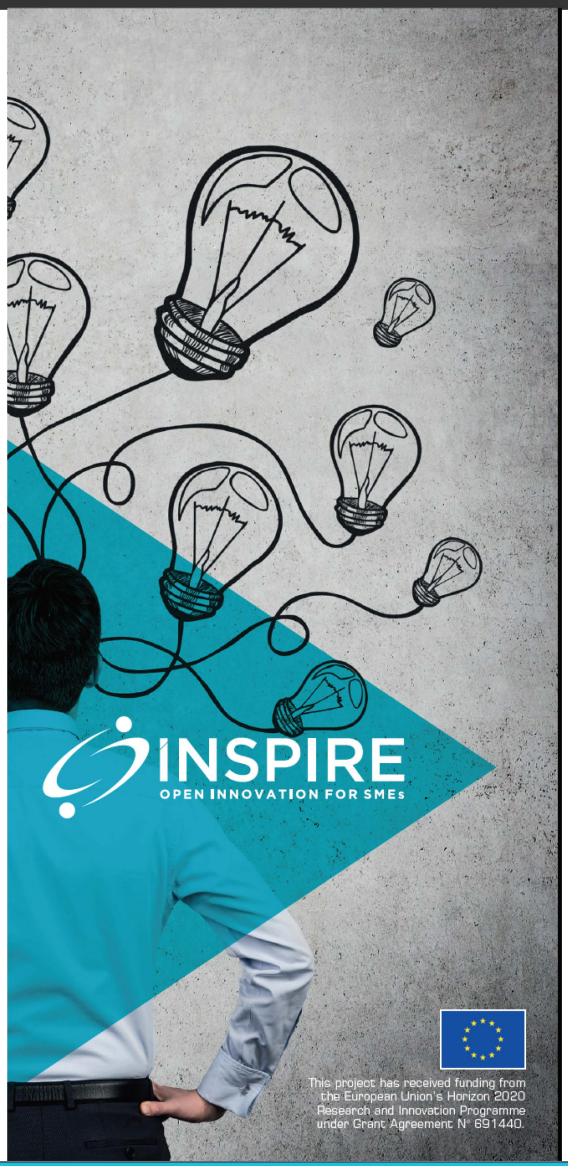

VERHAERT

Belgium, www.verhaert.com

Space company turns into a consulting business: open innovation gives it a head start

Executive Summary

Verhaert new Products and Services, an integrated product innovation group, helps companies and entrepreneurs to innovate and create new products, businesses and services. It started its activity almost 50 years ago in the space industry, and was sold in 1995 resulting in its downsizing from 150 to 15 employees. The company had to reinvent itself and find new growth opportunities. They decided to use IP rights on a technology that they had developed during their space activities to build a fall detection meter "Zenia" targeted at the elderly population. They worked with two external partners: (1) a knowledge centre at a university to access complementary technologies and (2) a health platform to commercialize and bring the new product to market. However, in 2004 the market for fall detection products and services was still too immature. The product failed, but their experience in product development and business planning created the basis for developing a consulting office division to support others in efforts to design, develop and bring new products and services to market.

CASE N°: SD47

SECTOR:SPACE,SERVICES

TECH INTENSITY: HIGH-TECH

LIFE CYCLE STAGE: RENEWAL

INNOVATION VECTORS: PRODUCT, PROCESS, SERVICE

01 PARTNERS: PSR, OTHER SME

KEYWORDS: Fall detection, space positioning algorithm and sensors, partnership agreement with university, commercial partnership, product failure, go to market

- BACKGROUND FRAMEWORK
- INNOVATION CHALLENGE & MARKET OPPORTUNITIES
- OI TRAJECTORY
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VERHAERT
MASTERS IN INNOVATION

BACKGROUND

The company was founded by Paul Verhaert in 1969 and provided mainly engineering services (system-mechanical engineering and embedded systems). In 1984 the company diversified into aerospace activities which enabled it to develop multidisciplinary products combining different engineering sciences in one product. This rapidly became the largest product segment due to the fast growth and considerable size of international contracts.

This programmatic approach was replicated in other markets (e.g. a new partnership with the largest global beer manufacturer AB Inbev in the early 2000). Following that, in the years 2003-2004, the company found a new foothold for growth in industrial markets. Another milestone was the foundation of Masters in Innovation in 2008, which accelerated activities in design and innovation consultancy. In 2014 Verhaert began its internationalization strategy and opened an office in the Netherlands and became the international ESA (European Space Agency) broker. The company grew from 15 people in 2004 to 165 people in 2016 with facilities in Belgium, the Netherlands and Portugal.

Verhaert intends to invest further in the internationalization of its company's services.

INNOVATION CHALLENGE & MARKET OPPORTUNITIES

In 2004 the space activities of the company were sold to the UK company QinetiQ. Verhaert down-scaled its staff from 150 to 15 people. The company had to reinvent itself and find new growth opportunities in other markets.

After the acquisition deal Verhaert kept the ownership of the IP rights derived from its space activities, hoping to commercialize them in non-space sectors. One of the most promising technologies was an algorithm developed to orient a satellite during flight so that it could observe the earth. These algorithms were built into different types of sensors, for example in gyroscopes. The company made it its ambition to find an attractive market application for this technology, proceed with product development and launch it on the market.

OPEN INNOVATION TRAJECTORY

Concept development

The company management organized several brainstorming sessions to identify a range of industrial applications for this technology. One of the ideas was a fall detection system for humans. Back in those days there were no solutions to this problem available on the market. Detecting a falling person is based on acceleration and deceleration (the actual fall); algorithms can measure this with sensors such as accelerometers, gyroscopes, etc.

The project was given the name ZENIO (from the word ZEN, implying peace of mind for the elderly and their carers). The company started by undertaking research into the market and trends in this area. There were no or very few references for this type of product on the market. Many studies were related to two subjects:

1. How to enable elderly people to live in their home for a longer time;
2. How to keep social security affordable for everyone.

Management saw that there was a problem and explicit need, but no solution available. They therefore decided to proceed with developing a concept!

Planned concept: A system that enables the detection of an elderly person falling, including connectivity to software that raises the alarm over a mobile phone.

Technical challenges: The few systems that existed at that time often gave false positive results. Accuracy was therefore crucial to success. Verhaert needed to develop a dedicated algorithm to solve it. The technical complexity was multi-layered. Accelerometers alone could not solve the problem since they could not differentiate accurately a real fall from somebody sitting down. At that point Verhaert had a technology and could envisage a business opportunity and a concept. The need to work together with partners to solve technical and market challenges was unquestionable. It was a clear path forward.

The development process, IPR and competition strategy

TECHNICAL TRACK: Partnering with the university helped to get access to the latest technological

developments in this specialized area.

During the project they found some academic research studies on fall detection. At the University of Antwerp there was a department which focused on developing multi-stepped algorithms which could recognize false positive alarms. Verhaert partnered with them to gain a deeper understanding of the subject and later on took a licence on their technology.

The product concept changed somewhat during the development phase. Initially they envisaged the fall detector as a box (worn by users on their hip, attached to a belt). Later on it changed to a necklace as it was found to be less stigmatizing. Moreover, many of the falls happen in the morning, when people get out of bed and are not wearing a belt. At the beginning of their project, Verhaert applied for funding to IWT (the Institute for Science and Innovation in Flanders) to develop a prototype.

BUSINESS TRACK: seeking a partnership to access the target group

While the technical research continued, the head of marketing at Verhaert started with market research working on multiple questions: what could be the route-to-market? How could this product be positioned? What were the USPs? How big would this market be? Should Verhaert continue development alone or partner up to speed up the commercialization? ...

It became clear that the go-to-market would be a big challenge due to the immature, almost non-existent market. A partner could facilitate the roll-out of the product. They therefore partnered with Vitalsys for the commercialization of the product. Vitalsys already had an internet-based health platform on the market. It was a cloud-based solution with a vision to link doctors, carers and patients. Obviously, ZENIO had a good fit with their offering.

Acquiring a technology licence from the university

The partnership with the University of Antwerp led to a win-win agreement. Verhaert had a good understanding of what the terms and conditions were, but obviously the owner of the technology overestimated the value of the licence. It addressed a huge problem of people falling down and offered a technical solution in the form of a detection technology, but the market did not exist yet (nobody used or had a fall detector).

Licensing the solution to a commercial partner

Verhaert licensed out ZENIO to Vitalsys so that they could bring it to market. Verhaert decided to focus on its core skill: developing the product.

They followed a niche market strategy due to lack of market maturity. The only competitors were large corporates like BOSCH, who positioned fall detection in a PASS system (a system that the elderly wear in a care/elderly people's home, a kind of emergency button to call a nurse). The strategy with ZENIO was to go to market with an affordable consumer product. The idea was that it could be a gift. Vitalsys made it part of a connected smart home care system.

Commercialization and follow-up

A few hundred ZENIO pieces were produced. For mass production the cost would have to decrease significantly, but economies of scale were not possible at the time. Verhaert did not want to take the risk of scaling up too fast without any proof of market traction.

The product had some technical problems. ZENIO needed to communicate with mobile phones through Bluetooth, but not all phones had the same Bluetooth protocol. Setting up a different connection was not easy or cost efficient at the time. Verhaert had discussions with electronics manufacturers on how to reduce the cost, but in the end there were only two options: increase the volumes or increase R&D to find a solution. Investments (€500 000) were too risky with such an unsure market plan.

In the end, Verhaert did not find investors to support the project further. They had two potential investors who considered an investment and two alternative go-to-market strategies. However, there was no consensus on the market approach. They also contacted large telecom operators and multinationals working on similar products, but they were reluctant to cooperate with external parties at that time (In these days corporates were not eager to engage in open innovation.)

Vitalsys (the commercial partner) explored the go-to-market approach as well, but the company stopped their activities due to the complexities they faced in their reimbursement model. When Vitalsys stopped their activities, it took Verhaert a year to get their IP back. In 2008 Verhaert started a joint venture together with the University of Antwerp (converting the licence deal into one of co-founder). However, this initiative did not bring success either.

BUSINESS IMPACT

A major part of the consulting services which Verhaert offers today are based on the experience

and learnings from the ZENIO project. The methodology of their consulting activities has been considerably inspired and driven by their early venturing initiatives. The entire consulting office division (25 employees) today is an indirect result of the experience with ZENIO. Today the company has close to 200 employees again.

Verhaert gives advice to large companies and also start-ups. The company can share its accumulated experience in putting radically new products on the market. Today the company has consultants that have hands-on experience with successes and failures in new product development and commercialization.

In the course of looking for new growth opportunities, the company's strategy changed. They decided no longer to invest in venturing projects and focus on providing business consultancy and product development services. Their key learning revolved round the success factors for new product development. Next to a technology and user-centric approach there is also market feasibility. All of them are equally important to be successful. In the case of ZENIO, user needs and the technology clearly existed, but the market was too immature to succeed.

The open innovation collaboration had both direct and indirect impacts on the business.

Direct impact:

- The initial objectives of turnover and growth for ZENIO were not achieved.
- A deal was made with Vitalsys, but there was no return. At a later point Vitalsys ceased their activities.
- The joint venture with UA led to a win-win agreement, but these activities were stopped as well.

Indirect impact:

- The project created the basis for Verhaert's consulting office (25 people).
- The methodology behind its consulting services -from idea to business opportunity -is based on this case.

LESSONS LEARNED

This case demonstrates the importance of having preconditions in place for holistic innovation (user needs - market access/feasibility - technology) which any company needs in order to succeed with innovation. This is not always available within one company. Open innovation helped the company to gain knowledge and outsource what was not part of its core business.

However, the wrong choice of partner may have contributed to the product's failure. (The partner ceased its activities and it took Verhaert a long time to get their IP rights back.) However, the experience that the company gained during the project served to create the basis for starting consultancy services, which have proved to be very successful in the market.

Main lessons learned:

1. Partners give an enormous boost to increase speed and ability to complete the innovation process.
2. Partnering requires adapting one's approach and being aligned with the other partners at all times. Not being aligned with one of the partners might contribute to the failure of the whole project.
3. If IP and partnership conditions are organized wrongly, partners can cause delays to bring the product to market. (The partnership with Vitalsys took 6 months of negotiation, 6 months of having it in place and 12 months to get the IP back.)
4. Funding and support programmes for open innovation are often fragmented and complex to grasp in a rapid and simple way. There is already a huge support framework in place in Flanders (KMO portefeuille, funding schemes for R&D, Baekeland to get a PhD, accelerator programmes, business angels, incubators, mix-and-match events…), but it is hard to find one's way among them.
5. Time to market for the product needs to be right. Not too early (no market) and not too late (saturated).