



EINS

Germany, www.eins-gmbh.de

A small internet service company becomes involved in joint research projects, is oriented to a new market niche - digital security - and launches a joint venture with two other SMEs. EU funding from the SME Instrument and Fast Track to Innovation programmes co-funds their development work

Executive Summary

EINS GmbH was operating for several years in the robotics sector, but was not able to find a good customer base. The rise of the internet led them into internet programming. Following a lead from a local university to participate in an R&D project, they raised their company profile and became partners in other nationally-funded collaborative projects. The OI collaborations allowed them to gain know-how and expertise in the area of digital security.

CASE N°: FG43

SECTOR: INFORMATION TECHNOLOGY

TECH INTENSITY: HIGH-TECH

LIFE CYCLE STAGE: ESTABLISHED

INNOVATION VECTORS: SERVICE

OI PARTNERS: PSR, OTHER SME

KEYWORDS: Security, anti-fraud, internet programming, algorithms

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- INNOVATION CHALLENGE & MARKET OPPORTUNITIES
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BACKGROUND

The company EINS was founded in 1995 by Prof. Dr. Martin Damm and Dr. Jan Schloen, two former employees of the faculty of computer science of the Karlsruhe Institute of Technology. The initial business of the company focused on robotics, including medical robotics, but although the founding partners had contacts in the field they struggled to find customers. When internet programming took off this offered a more solid opportunity for the company and it was a lot easier to find customers. They started to work in the design and implementation of innovative and customized solutions in the field of internet-based and Windows-based desktop database applications.

In 2006-7, EINS signed a new contact through Mannheim University to participate in a collaborative research project whose coordinator was looking for a partner in web security for a BMF project (federal government grant). This was their first step into research projects, and from this point they began to get more contacts in the area of digital security.

In 2010 they were approached by the Dutch SME Viaderna to explore if it might be possible to automate the process of authenticating printing techniques, printer and paper sources of documents such as banknotes, ID cards, stamps, tickets, contracts, bills, financial documents, threatening letters, etc. – something which is currently done manually by law enforcement, anti-fraud and immigration agencies, banks, etc.

Together with the German technology-based SME, EPYXS, the three companies began working on the “ANDRUPOS” OI project, receiving financial backing from the EU and private investors to develop and begin to test their ideas and technology for this service innovation. They have already created a joint company to manage IP, financing and future sales and marketing; however the joint venture is still completing the development stage and does not yet have a commercially available service on the market.

INNOVATION CHALLENGE & MARKET OPPORTUNITIES

The contacts that they made through research projects provided new business opportunities and

in turn led to new research opportunities.

Based on the first project, which was about counterfeit and document copying protection, EINS was contacted by the Dutch SME, Viaderna, which provides specialized training courses in the non-destructive analysis of digitally printed products for international organizations, such as the police, immigration, banks, anti-fraud agencies, etc. The director of Viaderna believed that at least some parts of this document analysis could be automated and improved, and so contacted EINS and another German SME, EPYXS to explore a joint collaboration. This led the three SMEs (EINS, EPYXS and Viaderna) to co-develop and build upon existing know-how and apply for funding under the EU's SME Instrument Phase 1 to take their idea forward and explore the market opportunity in more detail.

OPEN INNOVATION TRAJECTORY

Concept development

The three SMEs entered into a general framework collaboration in 2010-11 and started collaborating on the “ANDRUPOS” project. The concept is a leading-edge, web-based automated document examination system capable of authenticating printing techniques, printer and paper sources. It enables for the first time an automatic reliable detection method, giving quick and confident reports on possible document fraud detection such as banknotes, ID cards, stamps, tickets, contracts, bills, financial documents, threatening letters, etc.

The development process, IPR and competition strategy

The commitment of the three SMEs to the development process so far has been largely driven by the business opportunity as well as the research challenge.

The initial idea for collaboration came from Viaderna; however, the three SMEs have driven forward the concept together. Jan Schloen, CEO of EINS, took the lead in preparing the different grant proposals – partly due to his experience with R&D projects and partly due to manpower constraints: all three SMEs are micro-small, but EINS currently

has more personnel than the other two SMEs. They applied for the SME Instrument Phase 1 funding, and on the third attempt their application was successful (2015). This allowed them to carry out an initial feasibility study into their concept. During this time, the majority of the tasks were carried out by EINS and EPYXS, the technological companies, while Viarderna provided input on the customer needs and the focus of the tool. Geographical proximity facilitated working relationships between EINS and EPYXS. Schloen set-up a shared workplace/platform for the partners to use for collaborative working, which he prefers to use instead of emails, as it is easier to manage.

Following the SMEi Phase 1 project, they decided to try for the Phase 2 SME Instrument and also the Fast-Track to Innovation (FTI) call. Given the low success rate of EU funding programmes, the companies also agreed to contact a Dutch investment company in the summer of 2016 which had a Proof of Concept fund. They obtained a one-year loan from the investors. Furthermore, in spite of only a 5% success rate of the FTI call, their proposal was selected and their grant agreement was being negotiated in February 2017. The loan will help to offset the SME's own contribution (the part not funded by the EU grant). Schloen remarks that it is essential for small companies to be able to find this additional funding to cover their fixed costs while undertaking development and exploitation work, as it is a challenge for SMEs to demonstrate their own contribution.

With external funding secured, they will now carry out the integration of the algorithms (EPYXS) and the web interface (EINS). The geographical proximity of the two SMEs is a major advantage, according to Schloen. They will then proceed with a proof of concept study and development phase, involving key end-users from the UK Home Office and the Bank of England, involving them in the design and specifications - which will involve more open innovation.

When EINS started collaborating in 2010 with EPYXS and Viarderna they signed a general agreement to work together. At that moment they did not make any provisions for managing IPR or licenses for use. The question emerged when writing the proposals for funding and Jan Schloen believes it was a very useful exercise. According to the requirements of the EU call and proposal preparations, the partners had to agree on freedom to operate between the companies and also to carry out a patent search. As a result, the IP for the algorithms for image analysis is held by EPYXS; EINS does not have any specific IP, and neither does Viarderna.

At the end of the SME Instrument Phase 1 project,

the partners were advised that it would be a good idea to create a single company together in order to manage effectively the IP and joint development as well as any future commercialization. This was re-affirmed when they were awarded the loan from the Dutch investors, who insisted that they have this single entity to pursue the proof of concept. As a result, they created a new joint company, which is based in the Netherlands; the new company then received the loan. The IP has been brought into the new joint structure and the three partners are able to use it for free and develop new cases from it.

The innovation lies in the business case and the application made of the technical know-how. During the SME Instrument Phase 1 project they completed a feasibility study and business plan.

Commercialization and follow-up

EINS, EPYXS and Viarderna are now embarking on the proof of concept phase. They will be undertaking more OI as they will be involving end-users directly to develop applications and to decide how they would like to use the system. The potential market is a specific group of end-users who all know each other. However, the data they hold and need to analyze is very secure and cannot be exchanged with other users; you cannot easily transfer information on passports or bank notes to another country. This means that the SME group will have to work very closely with their customers.

Jan Schloen considers it very likely that the SME group through its joint venture will need to make different agreements with each of its stakeholders/ end-users. The basic idea originally was that all users would check his/her documents against a central system. But increasingly it looks like that every customer will need their own system in order to protect their private or confidential data. EINS recognizes that this will have to be negotiated with each customer, and it is still a learning process for all involved.

The IPR and any licenses for commercialization will be managed through the new joint venture company. All partners can all use it for free and build new cases on top of it.

BUSINESS IMPACT

Their OI collaboration has already taught EINS a number of lessons, namely

- Joint collaborations and projects provide new contacts, knowledge and some financial security for small companies. In the case of EINS, the open innovation partnership has focused their attention on a particular area.
- Understanding the importance of IP and agreements between partners from the outset.
- Creating a new joint venture company.
- Considering contingencies in the event that one or more partners drop out of project.

The pursuit of the joint project and collaboration among the SMEs is driven by the business opportunity. They have successfully obtained different external financial contributions to push forward their business idea, which has culminated in the creation of a joint company. This facilitates the IP, and it is agreed that sales will go to the new company.

Main lessons learned:

This is a case where the sum of the whole is greater than the individual parts. The SMEs involved are driven by the business opportunity and research interest in the project. They are pushed to make strategic decisions based on the success of obtaining external funding and on what the funders require them to do in terms of managing the funding and the IPR. As they move beyond the development phase, basing strategic decisions on the pursuit of external funding or “easy money” needs to be considered as a potential pitfall. It will be interesting to see how the companies manage the commercialization process.

LESSONS LEARNED

After a bumpy start, which is typical of many SMEs starting out, EINS has focused its attention on the area of web security. We can see a gradual process of learning and gaining experience through the OI collaborations in different nationally funded projects, which raised their profile and attracted attention of the NL-based SME, Viaderna, as well as helping to initiate a joint collaboration with EPYXS, another German SME.

Although they are still in the development phase, the case is valuable in terms of how they have gone about working together: applying for external funding together and discovering the importance of IP agreements and creating a joint company together.

One of the critical success factors identified is that OI collaborations among micro and small companies can offer better chances of finding strong business opportunities; having clearly identified the different skills and roles among the partners in the project is another important factor. In this case, a willingness to adjust strategic planning among the partners according to the needs of the joint action has guaranteed that the project continues to progress and capture external funding. Evidence of this is to be found in the creation of the joint venture ahead of the SMEs’ initial planning in order to secure external funding and regularize IPR issues.