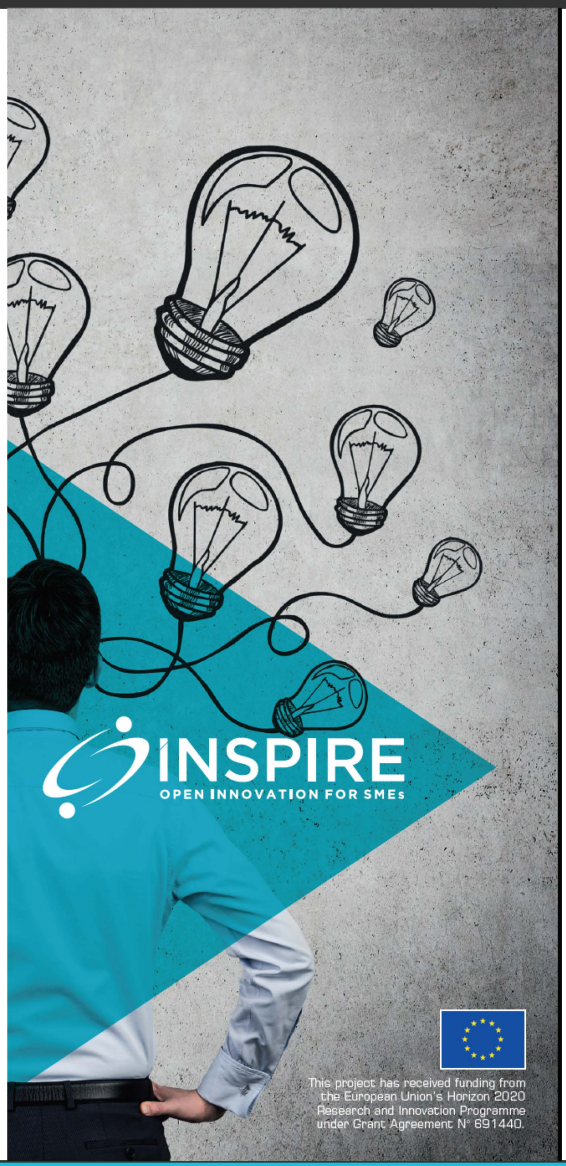

HOLLAND WATER

The Netherlands, www.hollandwater.com

A mature SME participates in a European open innovation project to kick-start new product development and gain access to international markets

Executive Summary

Holland Water supplies sustainable solutions for safe water. They are a leading supplier of copper silver ionization systems for both drinking water and cooling towers in the Netherlands and provide a solution for biofilm and, as a consequence, legionella issues.

The company engaged in a European CRAFT project with several European partners to develop a new sensor that could measure online copper and silver ions in water. At a later stage, the company partnered with another local SME to facilitate the development work and increase speed to market.

CASE N° : SD13

SECTOR: WATER TREATMENT

TECH INTENSITY: LOW-MEDIUM TECH

LIFE CYCLE STAGE: RENEWAL

INNOVATION VECTORS: PRODUCT

01 PARTNERS: PSR, OTHER SMEs

KEYWORDS: Water treatment, bacteria treatment, legionella, sensor development, prototype, European project, research Institutes, International cooperation versus local cooperation

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

HollandWater
SAFE WATER

BACKGROUND

The company was established in 2003, although the management team has changed in the meanwhile. The new investor, Leo de Zeeuw, invested in the firm's existing technology and filed patents to initiate new opportunities.

As a leader in the Dutch copper silver ionization market, the company is seeking to serve overseas markets. Following a number of successful installations in Belgium and Italy, Holland Water is seeking for wider expansion in Europe and the Middle East. It is also interested in further product system innovation.

INNOVATION CHALLENGE & MARKET OPPORTUNITIES

The firm's strategic challenge was to spot new product opportunities in the market, based on its own in-house technology developments.

One such market opportunity entailed the provision of additional solutions for water treatment to address legionella risks. At first there was some resistance from drinking water companies and governmental organizations to treat water with silver and copper ions: "Why bother?" "Surely our Dutch drinking water is safe?" But the reality is that a large legionella problem does exist. To raise awareness of the problem, the company started four years ago with the idea of a sensor that could measure the silver and copper levels in water and demonstrate the effect of the water treatment in a visible and measurable way.

OPEN INNOVATION TRAJECTORY

Concept development

To prove the concept a number of tests were undertaken at the prison in Haarlem (amongst others). The aim was to demonstrate the presence of legionella and the effectiveness of the use of Bifipro in drinking water and cooling water. The results were convincing.

Furthermore, Holland Water applied to an EU funding programme to obtain support for the development of a new sensor to measure copper and silver ions in Holland Water plants. One of the programme's requirements was to involve other European partners. Industrial and institutional partners from Greece, Romania, Germany (University of Cologne) and Italy (University of Florence) became involved in the project.

Two products were defined as the aim of the project; however the initial concept changed slightly over time. Reproducibility and ease of use were chosen as parameters for one of the developments.

The development process, IPR and competition strategy

The project ended in 2012 with a working prototype. A prototype of the Sileo Sensor for online detection of copper and silver levels in water was developed. It has gone on to prove its worth in complex cooling towers and drinking water systems.

Two types of challenge were met during the development process: an organizational and a technical one.

1. Due to the involvement of several parties and the spread of the partners over Europe the collaboration was slow and difficult.
2. For an SME like Holland Water it was hard to participate in such an international project because of the extra time and money that needed to be invested due to the distance between the partners.

On the other hand, the co-development of the product was valuable. It entailed a complex technique that needed to be developed, and offered the opportunity to reach an international market thanks to the participation of partners from various countries.

It was agreed at the start of the open innovation project that all IP covering the sensor is owned by Holland Water.

The USP of the new solution offered a feedback loop on results. The strength of the concept is in the combination of both the cleansing agent and the residual detection device. The new sensor device was able to show the remaining presence of these copper-silver ions after treatment to prove the effectiveness of the treatment and ensure the quality of the drinking water.

Commercialization and follow-up

Originally, the government did not support the addition of copper and silver ions to water, but tests and changes in legislation made the introduction of the product possible. Holland Water filed and received certifications for their product to be able to enter the market of water treatment. There was no external partner involved at this stage.

The prototype has been ready since 2012. Its roll-out is currently in progress together with a local partner that has knowledge and experience in sensor development. As a developer of sensor technology from Leeuwarden (the same region as Holland Water), the company was interested in co-investing and taking a lead in the project. They got to know each other through the water alliance network in which they are both active.

A separate "BV" (limited private company) was set up to bring the product to market with the new partner taking responsibility for marketing and commercializing the products. Follow-up plans and ideas for extending or upgrading the product line are in progress. The current application is a copper and silver ion sensor. The new generation could also measure other pollutants in water, such as nitrate, phosphate, etc. In addition, they will continue to invest time in lobbying for more flexible regulation in water treatment on a European level.

BUSINESS IMPACT

As a result of the project, the company acquired new technical skills in the area of sensor development. It also learned how to collaborate on an international level with remotely located partners. As far as the project's impact on the business is concerned

- A new technology was created (a cleansing agent with copper silver ions that effectively neutralize contaminants like the microbial legionella) which will be brought to an international market. (The product is not yet on the market so no numbers are available.)
- Brand awareness was created thanks to the awards and prizes and PR that the project generated on an international scale (much media attention was raised thanks to the open innovation with the different companies around Europe). This was a welcome side effect for a company that strives for international growth.

LESSONS LEARNED

This case demonstrates how an SME extracts and drives a market need. It involves OI partnerships both for the product development as well as in the commercialization stage.

Main lessons learned:

1. Keep the project small and manageable. The involvement of too many partners, who are too remote from each other, makes the cooperation slow and expensive.
2. Good agreements about task division (who is leading the project) are important. When working with partners it is important to appoint a project leader who steers the meetings and imposes deadlines.
3. Finding and selecting a partner takes time. Luck and good contacts (the same association in this case) are needed.
4. The need for confidentiality around the new project is a barrier to talking openly to different partners. Extra support for the selection of the right partner would be helpful.
5. Open innovation takes away risk by bringing in specific expertise.
6. A partner network gives access to an international market.