



OI INSPIRATIONAL CASES



FROM LICENSED TECHNOLOGY TO NEW PRODUCT IN CLOSE COLLABORATION WITH A CUSTOMER

If you spill a litre of oil into a river, it can potentially contaminate a million litres of water. An English husband and wife team set up an environmental services company and licensed a Canadian technology which can soak up hydrocarbons and chemicals and remove toxins from water. By listening to their customers, the SME has been able to design and develop new pollution prevention and containment products to suit the specific needs of their clients.

- Pro Earth was established by Alexandra and Nicholas Addison in 2014 and started trading the following year after the couple had licensed a technology called SaveSorb from a large American company of the same name.

- The technology offers a number of distinct competitive advantages over other anti-pollution devices on the market in that it soaks up spills on land and removes contaminants from water by filtration (as opposed to attaching itself to the contaminants like competing products do).

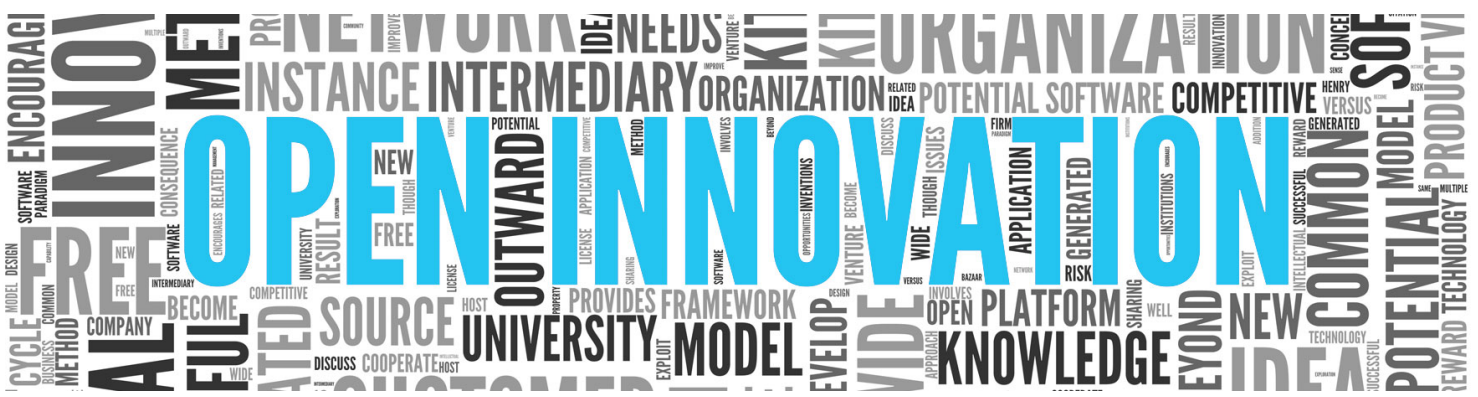
- Pro Earth obtained the rights to distribute SaveSorb in the EU and the UAE, and have since developed various other products based on this technology.

The Origin of the Open Innovation

Pro Earth set about developing and commercializing multiple products using the SaveSorb material, including loose product in a variety of size bags, spill kits, drain mats, Spill Catchers – an effective alternative to Plant Nappy® - land booms, floating booms for still/slow flowing water and continuous berms filled with SaveSorb which can edge drainage lagoons, ponds, etc. covering hundreds of meters. Compared with the competition, Pro Earth's products are cheaper to deploy and more cost-effective to maintain. There are two main reasons for this.

First, SaveSorb is much more effective as an absorbent than its competitors. Second, the competing products are adsorbents, which means that they do not absorb the spill, but instead they attach themselves to the contaminants. This has an effect in terms of maintenance, as the absorption of hydrocarbons and chemicals allows for a more cost-effective disposal of contaminants. Once the contaminants have been captured, the contaminated SaveSorb can be disposed of easily and replaced quickly. The contaminated SaveSorb does not absorb water (only the contaminants) and therefore does not add any unnecessary weight when being transported to a waste disposal facility.





The opportunity to develop a new product arose during feedback from one of Pro Earth’s clients, which the company’s management recognized as having potential for some of its other clients. The initial idea concerned the design of a floating device that would remove hydrocarbons and chemicals from water using the SaveSorb technology.

It originated from a company called Team Van Oord (TVO) which is a joint venture between the Dutch mother company Van Oord and a group of three British companies. Van Oord provides a wide range of marine services such as dredging, building off-shore wind farms and offshore oil and gas platforms, and in 1996, together with its newly created group, it began working with the UK Environmental Agency to deliver flood and coastal defence projects across the UK. It was through the work with TVO in the UK that Van Oord began to use SaveSorb and became acquainted with Pro Earth.

Pro Earth had been selling SaveSorb to TVO for some time, when the latter identified an issue with protecting fast-moving water in their projects from hydrocarbon and chemical spills. On the positive side, the hydrocarbons float on the surface of the water, so cleaning the contamination can be done by cleaning the surface of the flowing water. This is made possible by placing a flotation device containing absorbents on the river, which will collect the contamination as the water flows. On the negative side, the river water may flow too quickly and the contaminants may go underneath the flotation device. This led Pro Earth to develop a curtain which hangs down from the flotation device, thus making it possible to trap and absorb the escaping contaminants.

Open Innovation Journey

Once the specifications were formulated with TVO, Pro Earth undertook all the R&D for the new product and had it manufactured and tested in several iterations before it was ready to be

commercialized.

Manufactured from UV protected, salt-resistant geotextile, the SaveSorb Marine Boom is designed for long-term marine deployment of up to 12 months in rivers and open water, depending on conditions and usage. Booms have a weighted waterproof curtain attached that drops below the waterline to contain contamination, while the booms themselves absorb contaminants, providing complete protection. Booms and curtains may be joined by eyelets at each end allowing for quick connection by carabiner to cover varying distances. The Marine Boom also includes a SaveSorb protective skirt attached at the front and rear of the boom on the inside and outside of the containment area to assist control of pollution in inclement weather.



Pro Earth retains all IPR to the design of the Marine Boom which was developed specifically for their client TVO, but which in the meantime has become a standard item in their product list. The innovative value of Pro Earth’s Marine Boom earned the company a place in the final of the MRW National Recycling Awards in the UK in 2016.



KEY LESSONS

Impact of the OI Collaboration

Pro Earth targeted sales of their Marine Boom innovation at companies which work within the WEM6* and were familiar with the added-value of the SaveSorb technology. Other potential clients are to be found in the petrochemical, marine and textile industries, while Pro Earth's exclusive license on SaveSorb in the European Union and the United Arab Emirates opens up a whole host of new market opportunities. Since 2016 the company has been working with a distributor in UAE, but the EU is still virgin territory.

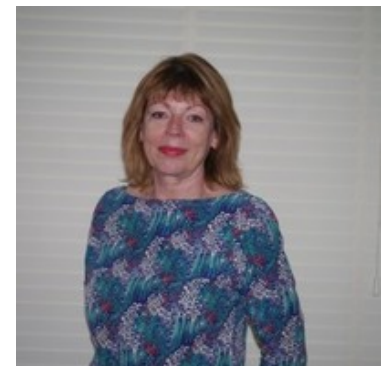
A number of new innovations have followed based on a similar open innovation model as the TVO project, which have utilized the same technology or principle of the boom and incorporated SaveSorb as its core material. For the most part, new product development is triggered by the specific needs of Pro Earth's clients. One new project in the pipeline involves distributing to consumers filters for their kitchen sink; the company believes that they could be distributed free of charge to the public through commercial sponsorship by supermarkets and other companies.

Although Pro Earth has yet to make a profit on its innovation – the product tends to be so resistant that it does not need to be replaced often – the company has drawn a number of benefits from its open innovation experience. First, they have improved their communication skills, in particular on a technical level. This is because they regularly engage with engineers and process scientists and has led them to develop new ways in which to put their message across. One of them is by showing and marketing their solutions so that a wide range of people can understand the product at both the scientific and non-scientific level. In addition, communication is also important when working with partners in new product development.

Second, the Pro Earth management has become better at listening in a lot more detail to their partners and their customers. This includes asking the right questions and trying to understand the specific needs that clients may have and also assessing different ways in which to respond to these needs, rather than just focusing on one solution that may not pay off in the long-term.

** The Water and Environment Management Framework was introduced by the UK Environment Agency in 2013 through which it awards contracts to the best suppliers in flood and coastal risk management.*

ALEXANDRA ADDISION
CO-FOUNDER & DIRECTOR



ADVANTAGES OF A GOOD LICENSING AGREEMENT

Pro Earth based their business on a license which gave them the freedom to integrate the SaveSorb material in new products, therefore allowing the SME to diversify its product line.

CUSTOMERS AND NEW PRODUCT DEVELOPMENT

An opportunity to develop a new product for one customer opened up new sales to other clients.

AN ATTENTIVE EAR

Listening to customers' needs is an excellent source of market-led innovation.

DEVELOPING COMMUNICATION SKILLS

Learning to ask the right questions is fundamental in the innovation process. Developing the right communication skills both with scientists and engineers on the one hand and with customers and the public on the other is vital for driving success in new product development.

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