



Australian Institute
for Commercialisation



Case Study: Fiomarine Industries Pty Ltd



Fast Facts

- Helped Fiomarine develop its idea into a marketable product
- Connected Fiomarine to expertise to fill in their capability gaps
- New technology now being incorporated into their existing products.

The Company

Hobart-based Fiomarine Industries Pty Ltd (Fiomarine) joined the AIC's TechFast® program in 2006. Fiomarine manufacture the Fiobuoy®, a submersible marine marker buoy and retrieval system which is designed to remain submerged until the owner / operator wants to retrieve the object it is attached to. This allows the product to work in military and commercial applications and in waterways where surface buoys are unacceptable from an environmental or marine safety perspective. The Fiobuoy comprises a robust submersible marine marker buoy and retrieval system specifically designed for military and research applications where sensitive or valuable equipment needs to be deployed underwater, without a tell-tale surface marker.

Fiobuoys are security coded, computer programmable and deployable to depths of up to 200 metres. Once triggered, either

by a pre-set time and date or via acoustic command, the Fiobuoy

self-releases from its underwater mooring and floats to the surface to fulfill its marking and retrieval function. The Fiobuoy has been used by the Australian Defence Force since 1997 and has a reputation as a reliable and cost-effective way of retrieving valuable equipment. Fiobuoys have been sold to several other defence forces and are also being introduced to specialised local and overseas markets.

Fiomarine has also partnered with the Defence Science & Technology Organisation (DSTO), the Royal Australian Navy (RAN) and Liferaft Systems Australia in the development and production of the Cormorant Lift Bag (CLB), capable of controlled lifting of objects weighing up to one tonne at depths of up to 90 metres. The CLB is used by the RAN for the recovery of underwater ordnance (for example explosive mine removal from shipping channels and ports).



The Australian Institute for Commercialisation (AIC) is a leading service organisation helping innovators achieve commercial success. Around Australia, the AIC helps business, research organisations and governments convert their ideas into successful outcomes.

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“Before entering the TechFast program, development of the Fiobuoy relied on the internal knowledge and capabilities of the Fiomarine employees and Directors. Joining TechFast was the first time we had accessed a program that actively worked with us to identify other organisations that could enhance our product development capability. Not only did TechFast help us identify such organisations, but they also helped by facilitating our initial interactions and managing the collaborative relationship.” Mike Shegog, Technical Director, Fiomarine Industries

The Opportunity

The Fiobuoy was first developed in response to the marine hazard resulting from the plethora of surface buoys in coastal and inland waterways. The current product has been developed with a focus on the military and scientific research markets and is not yet optimised for widespread commercial and recreational marine applications.

TechFast has worked with Fiomarine in a design engineering project to optimise the manufacturing and in-use performance of the Fiobuoy. TechFast helped Fiomarine identify and access design specialists at the Victorian Partnership for Advanced Computing (VPAC) to assist Fiomarine undertake design and optimisation studies to improve the efficiency of its manufacturing and assembly operations.

The Outcome

Fiomarine’s previous design activities for the Fiobuoy were based on ‘traditional’ manufactured prototype trial and improvement processes using working models. Through the TechFast program, Fiomarine identified ways of improving their design process using computer generated

modelling through access to expertise which existed within the Victorian Partnership for Advanced Computing (VPAC).

“The work we undertook with VPAC showed us the potential for computer modelling to complement physical prototypes in the design process to explore new ideas (some of which were radically different to our existing product) and quickly refine promising concepts.”

“During the course of the project, we learned that the exchange of information between ourselves and VPAC in this design engineering project was completely different from what we’d been used to with suppliers and customers, and realised too that while VPAC had to absorb a lot of information from us, especially in the initial stages, we also needed to learn some of their very technical language to interpret the results and data they were coming up with. We were pleased with the interactions and co-operative working relationships that were formed and which have re pleased with the interactions and co-operative working relationships that were formed and which have continued beyond the end of the project.”

“The TechFast program helped us to realise

realise that the key to such projects is in clearly defining the goals and objectives from the beginning, and to be honest I’m not sure we did that well enough, so for any future projects we’ll know to put far more time and energy into that stage.”

“We realised that being exposed to the systems that VPAC could offer, such as visualisation and simulation software, enabled us to understand the capabilities and limitations of our current designs, as well as leap on to the next development steps more easily. We were able to develop some new design ideas we might not otherwise have come up with.”

A new and improved design concept developed through this project is now being further developed by Fiomarine for inclusion in future releases of the Fiobuoy. The new concepts will be used to keep Fiomarine at the forefront of submersible buoy technology and as a springboard for future product development.

www.fiomarine.com



Brisbane | Sydney | Melbourne | Adelaide

Head Office

1 Clunies Ross Court, Eight Mile Plains, QLD 4113

PO Box 4425, Eight Mile Plains, QLD 4113

t: 1300 364 739 | f: +61 7 3853 5226

e: info@ausicom.com | w: www.ausicom.com