

BUSINESS ENTERPRISE

PROFILE

Harnessing current power

Generating electricity from the sea is now possible, but e3k had to sell its technology to expand, writes **Jason Clout**.

The founder of engineering consultancy e3k, Duncan Gilmore, knew that generating power from ocean or river currents was not going to be an easy assignment.

But he says the fact that a version of the technology it developed is now operating in the wild seas off Scotland shows its ability and perseverance paid off.

"A client came to me in around 2001 and asked did we think it was possible. So we started thinking about what could be done."

The technology a decade ago did not look promising, but Gilmore says he knew there were powerful currents in many parts of the world, so it was an idea worth exploring.

"There is a current that runs from Brisbane to Sydney, about 30 kilometres off the coast.

"Sailors can use it for a nice ride heading south, and if they're smart they know to avoid it if they want to head north."

The consultancy worked on using natural power.

That involved ocean and river testing sites, including one in the Clarence River near Yamba in northern NSW.

But Scotland's Firth of Forth was a different proposition.

"That current which runs off the Australian east coast is 1.5 to 2 knots. In Scotland near the Orkneys, it can be 8 knots."

So the establishment of a 1 megawatt facility in September this year is very satisfying to e3k, which stands for Engineering in the Year 3000.

"The marine technology has to be adapted to the specific area. But if this works then you could put 100 or 200 of that size of facility on the seabed and generate significant power.

"It's a more expensive way to produce electricity than nuclear and certainly much more than coal.



But as technology improves and other conditions possibly change, things may be different."

While there is pride in e3k's achievement, there is also some wistfulness too.

Gilmore says the technology is fully owned by Atlantis Resources Corporation.

"It owns the technology outright, it's totally theirs," he says.

The lack of commercialisation

But to take the plunge and try to develop the technology requires an overseas partner with big pockets.

"We need a big brother if we are going to take that on," he says.

However, an earlier foray into the US has soured Gilmore. While he admires the drive of the US and the funding it can furnish, he finds the attitude there too hard and self-centred.

Riding the wave ... e3k's Duncan Gilmore.
Photo Glenn Hunt

we are very focused on what we do."

The Brisbane Technology Park was started in 1986. In 2002, the Queensland government brought in Zernike Australia to expand the park, which now has 90 tenants.

BTP manager Gill Laird-Portch says companies like e3k were well suited to the precinct because it was an innovator in its own right as well as working closely with other park tenants.

"Gilmore Engineers, which includes e3k, is one of BTP's longest-standing tenants and makes the most of being located here by getting involved in park activities, and interacting with other companies to share knowledge and, of course, win business," Laird-Portch says.

"Because the company offers engineering services to other R&D-based businesses, as well as coming up with their own inventions, they really thrive in this collaborative environment."

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possibilities in Australia disturbs Gilmore. Even the fact that legislation on reforming research and development has taken years to get through federal Parliament casts doubt over the country's commitment to grow its technological base.

In pure research, Australia holds many advantages: Gilmore says there are a lot of skilled people, the costs are reasonable and there is plenty of room to conduct experiments.

"It's not as bad in Europe, so that is probably where we would head next."

The company was set up as the new product division of Gilmore Engineers. It has applied its talents to a number of sectors for clients including heavy industry and biotechnology.

"We have another renewal energy project on the go as well. We're a small team, there are only six of us, but there are three PhDs and two with master's degrees, so