

ENTREPRENEURS



INNOVATORS WHO ARE CHANGING INDUSTRIES

NEW GROUND RULES

A Melbourne company is putting the heat on toxic soil in a \$60 million project.

Report: Mercedes Ruehl

In an inner-city suburb of Melbourne back in 2005 property developer Marinos Angelodemou found himself digging up a problem, literally.

His small family business had just come across a large amount of contaminated soil and groundwater on the land where apartments were meant to go up.

Contaminated land can be a real headache for property developers. Even for already established commercial buildings or residential housing, hazardous soil can, in some cases, reduce the property value to zero.

Angelodemou knew almost straight away the contaminated soil they had stumbled across would prove to be one of those headaches.

He was right. But the encounter would later lead him to Germany, and Australia to its first permanent contaminated soil treatment facility.

The contaminated land industry in Australia is a billion-dollar business. As the manager of one Sydney-based consultancy firm remarked to *BRW*: "We just made a bigger mess than we thought."

Hazardous land can include asbestos, chemical waste or contaminated water. CRC Care (Cooperative Research Centre for Contamination Assessment and Remediation of

the Environment), a government-funded research and development organisation specialising in contaminated soil, water and air, estimates there are 160,000 contaminated sites in Australia. That's up from about 60,000 in the late 1990s.

The catch is that companies, industries and people are not actually making much more mess: they just keep discovering more hazardous sites. More than 90 per cent of new contaminated land is discovered when a site is redeveloped.

For decades, a lot of this hazardous waste has gone to landfill. But with these landfills filling up and state governments increasing levies on what goes in, remediation has become an attractive alternative for companies. Remediation is the process of removing toxins from soil and water. But it's historically been a tricky – and often expensive – task.

Angelodemou's situation was one of the more difficult ones. It caused his company a lot of problems in terms of timing and costs because there were very limited remediation options.

"Because it was in inner-city Melbourne, certain technologies such as mobile facilities that were available to do the job could not be established on site because of the buffer zone laws in residential areas," Angelodemou says.

"We just had limited options and eventually that soil had to go to landfill." But, as with most light-bulb moments, he suspected there had to be a better way.

Renex is born

Angelodemou searched for a more long-term and sustainable solution to clearing contaminated land.

After some years, he finally stumbled across a soil treatment facility in Germany that had been running since
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1992 and treating contaminated soil using a heat process. The technology it used met all environmental regulations and was claimed to be the safest, most reliable and proven way he had come across. Angelodemou and his company formed a relationship with Techtrade International, which supplied the technology to the German facility. Although the decision to make a replica factory in Australia was made in 2007, the project didn't gain traction until 2008-09.

Renex Holdings was born as the company to build the facility out in the Melbourne suburb of Dandenong. It was to be the country's first permanent contaminated soil treatment building.

The project was not cheap, and the total cost eventually reached \$50 million to \$60 million. But Renex – which counts Angelodemou as an executive director – managed to gain some strong backers. Macquarie Bank, Cleantech Ventures (a capital fund with money from the federal and Victorian governments) and a Canadian pension fund manager called OPTrust all contributed capital.

It came at a time when the money the government charged for taking soil – hazardous or clean fill – to landfill was going up. “The simplest answer to that is that regulations have not mandated treatment [of contaminated land] and landfills have been prevalent,” says Renex's CEO Peter Mirkov. “Most states have been blasé about forcing industries to clean up, because landfilling was readily available.”

But Mirkov claims Victoria now has just one hazardous waste landfill. Based on current data, this has less than 10 years left before it is filled. Opposition by the community means it's unlikely more will be made, he says.

“The other states are all in a similar situation although they have a bit more capacity. Nobody wants a hazardous waste landfill next door and building new contaminated waste landfills is not a good idea – either politically or environmentally.”

Shift to recycling

There has now been a significant shift in most states in terms of preferring



Peter Mirkov, of Renex, says states have been blasé about industrial waste; the company's soil cleaning factory, below.



recycling and reuse of materials as well as land remediation, Mirkov says. Where it was once cheaper to take waste to landfill, now higher levies are being used to encourage recycling and to stimulate alternative technologies.

NSW also has only one restricted solid waste landfill. The state government has committed to achieving the 2014 recycling targets in the NSW Waste Avoidance and Resource Recovery Strategy. In February this year, the Minister for the Environment Robyn Parker announced the Waste Less, Recycle More initiative.

As part of this, the state will provide \$15 million to industry and the local councils to develop projects that provide innovative solutions for

problem wastes. There are outliers, however. Queensland, for example, has reduced its levy to zero in an effort, partly, to stimulate land development.

It is arguably most dramatic in Victoria, says Renex. The landfill levy for category B waste – the highest level of contamination allowed in landfill – has risen from about \$30 a tonne in 2007 to current levels of about \$250.

The government realised “there was

Nobody wants a hazardous waste landfill next door and building new contaminated waste landfills is not a good idea.

Peter Mirkov, Renex

a dead end coming, so they had to do something”, Mirkov says.

“Consequently, total current charges for category B disposal, which is soil with lower levels of contamination, are somewhere in the vicinity of \$800.”

Urban renewal is one way that contaminated soil is discovered. Melbourne has a 2030 strategy that entails building houses on former industrial land. It also involves a lot of greenfield expansion.

How it works

The 11,000-square-metre facility at Dandenong South, which opened and started accepting soil in September, has the advantage of being a permanent building. There are existing mobile facilities that use similar technology, but the limitations are having to reset them up every week and seek new approvals each time.

The facility will be able to receive between 70,000 and 100,000 tonnes each year. Soil containing hydrocarbons, pesticides or herbicides for example, will be excavated and classified on site and then transported to Dandenong in EPA-licensed vehicles.

Renex's people will test the soil again and confirm the pollutants before

“mechanically pre-treating” it – crushing up all the metals and other rubble. Next is a drying step, whereby all the water and moisture in the soil is removed. Then the soil is indirectly heated using hot combustion gases, and the organics are removed. Those organics are then taken through to a combustion chamber, heated at 1101 degrees and pyrolysed (in the absence of oxygen).

The final stage is to clean the gas, a process that scrubs out any remnants of metals or chemicals to create what Mirkov describes as “fairly innocuous water vapour and associated gases”. The soil can then be recompact and reused, for instance, to build up road ways.

Mirkov says that the energy being emitted from the plant falls “well within EPA guidelines”.

Reservations

CRC Care is more circumspect on the technology, saying it is a step in the right direction and better than putting hazardous waste into landfill. But it argues that the facility's energy use means it is not a green solution.

Ravi Naidu, managing director for CRC, says the facility is a move towards better practice. But he adds that other countries also see the technology as too energy intensive.

“On one hand, you want to clean soil; on the other hand, you are using a lot of energy to do that when the modern trend is to go to green technology,” he says.

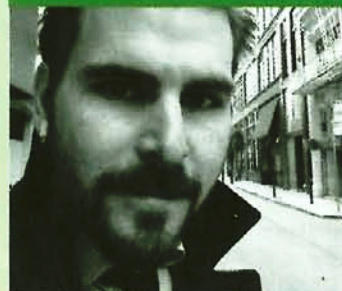
“Most technologies require people to invest money. We do not have sufficient funds for engineers and scientists to come up with alternative technologies that are green.”

Even so, Naidu says any option other than taking hazardous waste to landfill is worth considering.

It's much the same dilemma as for the National Broadband Network. Does Australia opt for the slightly cheaper, quicker fix and wait for better technology to emerge for a lower price – as per the Coalition's case for fibre to the node? Or does it spend more cash up front for a better solution, as per the Labor party's fibre to the home case?

There is an argument for both. **BRW**

NOTES FROM THE VALLEY



James Windon
Entrepreneur

Developer platforms such as Facebook Connect, Apple's App Store and Google Play allow start-ups to quickly reach a scale and velocity usually reserved for well-funded, established companies. But many entrepreneurs learn the hard way that building a tech product on a developer platform can be like building a city on a fault line. In the same way that Silicon Valley's cities can be decimated by sudden movements in the San Andreas fault, Silicon Valley's online developer ecosystem can be (and has been) decimated by sudden movements in major platforms.

I experienced this first hand in my time at one of the fastest-growing internet properties in history, Causes.com. Facebook Causes, as it used to be known, went from being a top-50 web property with more than 35 million monthly visitors to losing 90 per cent of its traffic in three years. Our growth and decline were both largely caused by changes made to Facebook Platform.

So what to do? The time and cost of going it alone is untenable for first-time entrepreneurs and start-ups, so they must find a way to use these platforms.

Assuming you need to be a “platform company” to be competitive, you need to proceed strategically and efficiently. First, be a parasite: the most leveraged use of any developer platform is to help you acquire users. Both Instagram and Pinterest did this incredibly well through Facebook Connect. Second, platform change usually hurts developers, so identify and leverage those components of the platform/developer partnership that are mutually beneficial. Third, the “Pareto principle” usually applies with any developer platform, so focus on finding and exploiting the single channel or feature that is king-making. Ignore everything else.

James Windon is a Silicon Valley investor and entrepreneur, currently leading revenue operations and business development at Causes.com. Founded by Sean Parker in 2007, Causes has more than 185 million members and has raised almost \$50 million for charities.