

R&D tracks road to success

FOR Melbourne-based Tyre Crumb, continual technology development is the key to converting the steel, rubber and fibre in tyres into components for roads, synthetic turf and adhesives. GM Steve Matousi says he sets aside 10–15% of his revenue each year for R&D.

The company is registered for the Australian Government's R&D Tax Concession – delivered by AusIndustry – which means it can claim back 125% of its research expenses when it lodges its tax return each year.

"Our company is five years old, and we've changed our work practices because we're committed to ongoing research," says Matousi. "The most important thing for companies taking on a research program is planning.

"Thorough planning is very important for keeping costs down. We write a detailed budget, timeline and task list.

"Planning works in several ways. It means you have a strong research plan, but it also means you have a robust

document for reporting purposes."

Matousi says the company approaches its research projects scientifically.

"We write the hypothesis, design the experiment and then execute the experiment and observe the results," he says. "If it doesn't work the first time, we learn from our mistakes and we may start the experiment again.

"You have to be prepared for something not to work, but you'll still get some valuable data.

"You also need to be conscious that you will only recover part of your expenditure through the concession."

Experiments with purpose

One of the company's current experiments is investigating ways to clean the polyester fibres in tyres. At the moment, Tyre Crumb is looking at cleaning techniques from the wool and grain industries.

Matousi says he decided to hire a book keeper to help keep track of the company's spending on research. The

From concessions to credits

From July 1, 2010, the Federal Government will replace the R&D Tax Concession scheme with a new R&D Tax Credit, with two core components:

- A 45% refundable tax offset (equivalent to a 150% deduction) for companies with an aggregated turnover of less than \$20 million; and
- A 40% non-refundable tax offset (equivalent to a 133% deduction) for larger companies.

AusIndustry is the Australian Government's principal business program delivery division in the Department of Innovation, Industry, Science and Research. It delivers more than 35 products, worth nearly \$2 billion, to more than 12,000 businesses and 85,000 individuals a year.

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company also started using a new accounting software package to help separate research costs.

Listening to Matousi, it soon becomes apparent he has worked out a way of prioritising his research projects – a formula to follow. First and foremost, he makes sure research has purpose.

"It's a commercial operation, and we need to know that there is a real market for our products," he points out.

Another part of the formula is driven by his customers; governed by his customers' needs.

"We're in constant dialogue with our customers, and we're also researching potential customers – so that's how we decide on some of our activities."

Understanding the market is another part of the equation. Matousi makes sure he can tell which sectors are ready for innovation: "Naturally, there are

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some markets that are more ready than others for development.”

A final, very important part of the formula, is instinct. Matousi says Tyre Crumb divides its research projects into 10 to 12 categories. It conducts several research projects at once, across the various categories.

“We’re investigating so many components – the steel, the rubber and the fibre from the full range of tyres from wheelie bins to earthmovers. And we’re also investigating many ways to use these components.

“We are constantly looking for new uses and ways to modify our machinery. We want to be sure we can extract as many elements from rubber as possible and make them into re-usable by-products,” he says.

R&D fuels expansion

The company undertakes all of its own research, even travelling to Europe and the US to learn about the machinery and processes used by the international leaders in rubber recycling.

“We’re getting good feedback from some other countries. A German company has contracted us to fly over and help them with their work.

“If we weren’t doing this R&D, we wouldn’t be expanding. We want to be number one in the country.

“The added cash flow from the tax concession means we can undertake continual research projects.”

Matousi says his is the only company in Australia able to recycle the full range of tyres – from wheelie bins to earthmovers – and save them from going to landfill, or being shipped overseas. Tyre Crumb uses a mechanical process to grind the rubber from tyres down into tiny granules.

“We pride ourselves on producing a powder form of granulated rubber that end users prefer because it’s so versatile,” he says.

Tyre Crumb recycles up to 5,000 tyres per day, which produces 40-50 tonnes of rubber granules.

Recently, the company was asked if it could crumb innersoles from sports shoes, and another request has come to investigate escalator handrails.

One of the key uses of Tyre Crumb’s ground tyres is in constructing roads. Bitumen companies spray the finely-crumbed tyres on roads.

“It not only saves money, it allows the road to expand and contract better.



R&D tax concessions help keep Tyre Crumb top of the pile.

It gives the road a longer shelf life,” Matousi explains.

The synthetic turf industry is another market, with Matousi seeing “a growing market because of the drought and water restrictions”.

“Using rubber granules under the synthetic turf allows for better drainage and gives a nice cushioning feeling.”

Yet another market is adhesive companies, with fine tyre granules

added to glue, which Matousi says helps deaden the sound, for example, if the adhesive is used when laying tiles.

Given the ever-growing list of potential uses, it’s little wonder the company works hard to stay on top of the game. When it comes to R&D, having the right plans in place – and making the government’s tax system work for you – is a sure-fire way to keep ahead of the pack. **iw**

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