



Power conversion products for harsh conditions

An Australian electronics firm, which supplies voltage converters to the mining, trucking, military, marine and leisure markets, is finding a ready export market for its products.

The voltage and power conversion products manufactured by Redarc Electronics may seem obscure, but they are essential for everything from jump starting a truck in 50 degree Celsius desert heat to running a fridge in a four-wheel drive.

Anthony Kittel, Chief Executive Officer of Redarc Electronics, says that almost half the voltage converters and other modules produced by his company are supplied direct to truck manufacturers including Volvo, DAF, Mercedes-Benz, Mack, Isuzu, MAN, Mitsubishi Fuso and Iveco. He explains: "In European and Japanese trucks the electrical system is 24 volts, while in all other trucks and the majority of passenger vehicles it is 12 volts. So if you need to put a computer, radio or other equipment into a 24 volt truck you need to reduce the voltage to 12 volts. Our product does that."

The products are tested and evaluated by the parent truck companies in Europe and Japan before being certified for use and supplied to the Australian subsidiaries. Some of the products are also sold to the trucking industry in Canada, the Middle East, New Zealand and the United States.

"One of our advantages is that we are very flexible. In Australia we don't have massive production runs so we can change the manufacturing process very quickly. We are adaptable and flexible, so we meet customer demand on time."

ANTHONY KITTEL, CHIEF EXECUTIVE OFFICER, REDARC ELECTRONICS

The other half of Redarc's business consists of supplying the auto-electrical trade, mainly in Australia but also overseas. Redarc's power conversion products are installed in a wide range of vehicles, including cars, trucks, electric forklifts, boats, motor homes and four-wheel drives. The end users are either having parts of their vehicles replaced or are customising their vehicles by adding extra features. "It's a low-volume, niche market," explains Mr Kittel.

His company has a research and development section and designs products from concept, through to producing prototype circuit boards, testing and final production. "We take an idea through from concept to final manufacture," says Mr Kittel. "Not only do we manufacture and sell products, but we offer our expertise on a consulting basis as well."

Extreme conditions

While there are competing products from overseas, Mr Kittel says: "One of our key advantages is that our products are designed to suit harsh conditions, particularly roads in the Northern Territory or far north-west and west of Australia where there are high temperatures.

Another key advantage is innovation. We can't compete head-to-head on price, so we differentiate our products for these markets by designing innovative features."

Not only does Redarc reduce the size and weight of products, it also supplies additional features on the user interface like fault diagnostics. "We add extra features into the product that don't greatly increase the price through smart design by our engineers."

South Australian advantage

A mechanical engineer, Mr Kittel and his wife Michele Kittel bought the private company Redarc Electronics in 1997. Recently it appointed an advisory board which consists of key industry experts and has a "good corporate governance" structure.

With the assistance of a \$1.6 million grant from the Structural Adjustment Fund for South Australia (SAFSA), the company is completing a \$4 million factory in Adelaide and installing state-of-the-art equipment.

SAFSA was a joint funding venture of Invest Australia and the South Australian Government and one of its aims is to produce more sustainable jobs in Adelaide. Redarc Electronics has already increased its staff to 40 people and aims to employ another 28 people by 2012.

Mr Kittel says, "Certainly one of our advantages is the advanced engineering skills and the quality of our engineering staff." The company has an excellent working relationship with its staff, many of whom have worked there for more than 10 years, and this is one reason it can guarantee on-time delivery.

"We have excellent skills to provide on-time delivery. We are nimble and can react quickly to our customers needs. Whether they need customisation of products or have an urgent order that they need shipped quickly we can react by changing the manufacturing process and produce the goods in a short lead time," he says.

For example, a large iron-ore mining company in Western Australia had an occupational health and safety issue with jump starting vehicles. The company wanted a foolproof system that would enable people to jump start vehicles safely and without risk of personal injury. "We were able to design the safety features they needed, meet the very high ambient temperatures in the north-west [of Western Australia] and push the product out really quickly," Mr Kittel says.

Specialist opportunities

Many of Redarc's products are equally specialised. For example, to meet occupational health and safety regulations, several of the major iron ore mining companies located in the Pilbara region of Western Australia insist that all vehicles have headlights on while driving in the mine sites. Redarc's Key-On Lights-On (KOLO) system automatically switches on a vehicle's lights 10 seconds after the key is turned in the ignition. It also switches the lights off when the vehicle stops. The KOLO is being used by many mining companies and has also been fitted to vehicles in the Snowy Mountains Hydro Scheme.

Among other niche products, Redarc produces battery charging devices for the rapid response vehicles of the Australian Defence Force.

There is a booming market for Redarc's dual battery charging systems in Australia, Canada, the Middle East and the United States. The devices made by Redarc enable a second battery to be fully charged off the main electrical system of a vehicle. This second battery is used to power appliances like fridges or for devices like laptops. "The recreational market is definitely growing with people wanting the flexibility of having this equipment in their vehicles," says Mr Kittel.

Lean manufacturing techniques aimed at reducing waste and increasing productivity are integral to Redarc's new factory. "If you have one unit ordered in the morning, that product can be shipped out that evening. We aim to be competitive against any country in the world," Mr Kittel says.

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