



Case Study

Innovation and business excellence make a powerful combination at Redarc



Redarc: A manufacturing and innovation success story

- *Highly innovative company*
- *Integrated approach to achieving excellence*
- *Commitment to R&D with a focus on commercialisation*
- *Improved project and process management*

Automotive power management systems manufacturer Redarc is an impressive Australian success story, and AutoCRC has been privileged to play a part in the advancement of the company's ceaseless quest for excellence.

Located in the Lonsdale area of Adelaide, the company has over 30 years experience in the research, design, development and manufacture of a range of electronic voltage converters and associated products.

These include inverters, power supplies, battery chargers, CANBus modules, turbo timers, glow plug timers, trailer braking products and customised electronic modules.

In essence, Redarc's products can be found in any moving vehicle that uses battery power including cars, boats, rail, trucks, mining equipment, bus and emergency vehicles.

The company has won a number of manufacturing and innovation awards, has grown to where it now has 100 employees, and has big plans for the future.

Quality and attention to detail are hallmarks of this South Australian success story.

This commitment to excellence is evident in the quote from the founder of the Toyota Motor Company, Kiichiro Toyoda, which has pride of place on the factory wall at Redarc.

It speaks of the never ending need for quality, and that an excellent job can always be improved upon.

Redarc Managing Director Anthony Kittel says, "You need to be an innovator, a learning organisation, and you need scale. And they're the three things that we're after," he says.

AutoCRC has been involved with Redarc in two areas.

Firstly, in providing business advisory services through AutoCRC's ASEA group.

Secondly, by acting as facilitator, contributing funder and as external collaborator in the company's research and development activities.

The most logical approach to research and new product development for a company is to firstly ensure that the business and its systems are operating effectively and smoothly.

Being an enterprise run emphatically along logical lines, that's exactly what Redarc did.

Redarc Quality and Business Improvement Manager Paul Nolan is full of praise for the role played by AutoCRC's ASEA.

"ASEA did a review, an assessment of the business, in effect an audit.

"The report pin-pointed a number of areas where we could improve. And that was very useful; it worked very well for us.

"This has allowed us to continue to build a business that is innovative – that's an overused word – but, we are a very innovative business.

“ASEA helped us develop a project management system. Our goal was to develop a stage gate management system.

“They helped us set in place a dashboard that allows us to actually ‘see’ where projects are, so you can visualize, using these dashboards, where the projects are in relation to the ‘gates’ or the stages where they should be.

“This system, for example, shows how much labor we’re using, how much we need, and whether we’re behind in any facet of the process.

“These dashboards are now an ongoing part of our business. We even have them in our canteen. This very much helps to further develop cross functional team work within the business.

“With projects, you can create silos. And unfortunately, getting information from one silo to another can be very difficult. So this is helping to break this down,” Paul Nolan says.

“The stage gate system, introduced by ASEA, breaks projects down into a number of phases, with key deliverables for each department, to deliver in each phase. It also sequences the project so that everything is done in a logical order.”

Anthony Kittel says, “ASEA has been about the practical enhancement of our business.

“Our involvement with ASEA has been very positive. The system they have helped us introduce will be the platform that will allow us to look at much bigger projects.

“You need to have all your systems and processes in place from the start.

“We have been able to tailor these systems to a company that is growing. It is imperative that any new management system introduced does not strangle the business.

“And, it is essential that you keep the nimbleness and the innovation within an organisation.

“ASEA has helped us drive up our capability, by improving lean, and strategy and process management.

“They also worked with us on innovation, and enhancing the culture within the organisation. That is about continuous improvement, the systems, having a lean organisation.

“As well, having all the tools in place to ensure an efficient operation, so that we are able to maximize our commercialization opportunities,” Anthony Kittel says.

Innovative companies like Redarc are always on the lookout for the next opportunity. This means they are very active in research and development and understand the need to link with other organisations where necessary to make things happen.

AutoCRC has helped Redarc with this too, and the company is currently involved in an exciting research project with the University of Wollongong looking at improved and vastly more efficient battery management systems for electrical vehicles.

“AutoCRC assisted with the facilitation and helped with the networking and collaboration,” Anthony Kittel says.

“And, of course, they provided the subsidy which means we contribute only half the cost of the research.

“The battery management system is a critical component in electric vehicles.

“A key issue with batteries is the longevity and time between charges, and being able to assess the state of health of the battery, non-invasively.

“Getting that feedback on the battery’s condition, especially in an electric vehicle, is paramount.

“The battery management system is going to be

able to provide us with the ability to monitor the health of the battery – so it doesn't overcharge, de-charge too much, overheat, or potentially create fires." he says.

"An improved battery management system such as this is transferable to other areas, potentially ships, submarines, and elsewhere.

"So this is a very exciting new technology indeed."

In research and development Redarc's commitment is nothing short of outstanding.

"We invest roughly 15 percent of our revenue in research and development each year," Anthony Kittel says.

"This is three times higher than the average technology company.

"As our company grows we want to be doing fewer projects. Bigger projects. But with much better outcomes.

"The relationship with AutoCRC has allowed us to undertake a much larger project than what we would have been able to do on our own, and with a lot more partners."

AutoCRC's CEO Ian Christensen speaks of the CRC's over-arching role. "Our goal is to first get companies up the ladder with the advisory services, making them more competitive.

"This may see an organisation being '5Sed', the waste taken out, value stream mapping introduced, etc. And following this, management may say 'you know, we wouldn't mind having a look at a few new products. We'd like to grow. We'd like to diversify'. And that's where AutoCRC's research and development work comes into play."

And what of future opportunities for Redarc?

"The technology we are working on has the potential to be useful in defence, for example, submarines," Anthony Kittel says.

"We own some intellectual property in this space, and at the right time we'll commercialize that."

Australian manufacturing has a reputation for excellence forged over more than 150 years. Companies like Redarc are maintaining this high standing and reputation.

"We are a high quality manufacturer, and the after sales service we provide is better than anyone else in the industry," Anthony Kittel says.

"Our focus is always on the customer. We have a policy of absolutely no questions asked, in the unlikely event of an issue with one of our products.

"Making premium quality products while embracing an unequivocal commitment to customer service is how we run our business. And this must be the way forward for Australian manufacturing."

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