

Shifting up a gear

Penrose-based Cubed3 has swept onto the export market with a range of gears and gearboxes being used for everything from wave power generators to America's Cup yachts.

The company designs specialised and innovative gears and gearboxes for a versatile range of industry. At the forefront of product design, Cubed3 creates an assortment and combination of gearboxes including bevel, planetary, helical and worm gearboxes for the demanding and high-tech marine industry. Cubed3 designs and creates prototypes not just for marine equipment, but also for industrial gearboxes.

Company owners Stephen and Kate Horsfall are enjoying high demand for their products, due to the attention generated from the fiercely competitive world of professional yacht racing.

Along with supplying driveline systems for America's Cup teams such as BMW Oracle, Cubed3 also supply to TP52 yachts competing in the MedCup in Europe, and designed

the driveline gearbox system for last year's MedCup winning team. This success led Cubed3 from supplying the one winning team in 2007 to supplying gearboxes to a total of five teams in the current 2008 regatta.

Later this year Cubed3 products will be seen on two boats in one of the most gruelling environments of all, the 2008/09 Volvo Round the World Race. But while consolidating a position on the high end of the marine market, Cubed3 remains dedicated to designing prototypes for smaller industries as well.

Stephen has spent the past 15 years travelling the world honing his craft, working on every type of gear box, from boats to helicopters.

Now branching out with Cubed3, Stephen is proud to be at the forefront of an increasingly technical field. "Because gears and gear boxes are fairly niche, it's pretty cutting edge," he says. The cutting edge aspect of Cubed3 includes using the latest gear design software, valued at over \$100,000.

In addition Cubed3 has 3D and Finite Element Analysis (FEA) software which allows Cubed3 to work on all aspects of prototype designs, eliminating any

problems and giving a more comprehensive design process. FEA assists in producing stiffness and strength analysis, as well as minimising weight, material and costs.

Stephen and Kate say marine gears and gearboxes are their specialty, with a bigger turnover and larger export base.

Of the designs and prototypes created by the Cubed3 team, 95 percent are exported. "The marine product line is continuously growing, because our designs are leading edge the marine gearbox turnover continues to grow strongly each year," Stephen says.

"On the other hand the innovation side of the business is also going from strength to strength, this is very much project based, and a project may run for anywhere from three to six months," Kate adds.

Stephen is also employed by some of industry's most powerful companies, both nationally and abroad, to design prototypes.

"Our niche lies in the design and rapid innovation of gearbox prototypes"

Stephen Horsfall, Cubed3

Through working on the latest innovations of global brand Parker Hannifin, Cubed3 has been involved in some exciting design projects. Several are so exclusive, Stephen and Kate can't disclose any more detail, except to say that they include working with numerous American multi national brands.

"With the high calibre American clientele, it keeps the brain ticking, and by working on these projects it has strengthened my technical ability and exposed me to a diverse field of technology," Stephen says.

Cubed3 prefer to take care of the design aspect of operations, rather than producing their design further than the prototype stage.

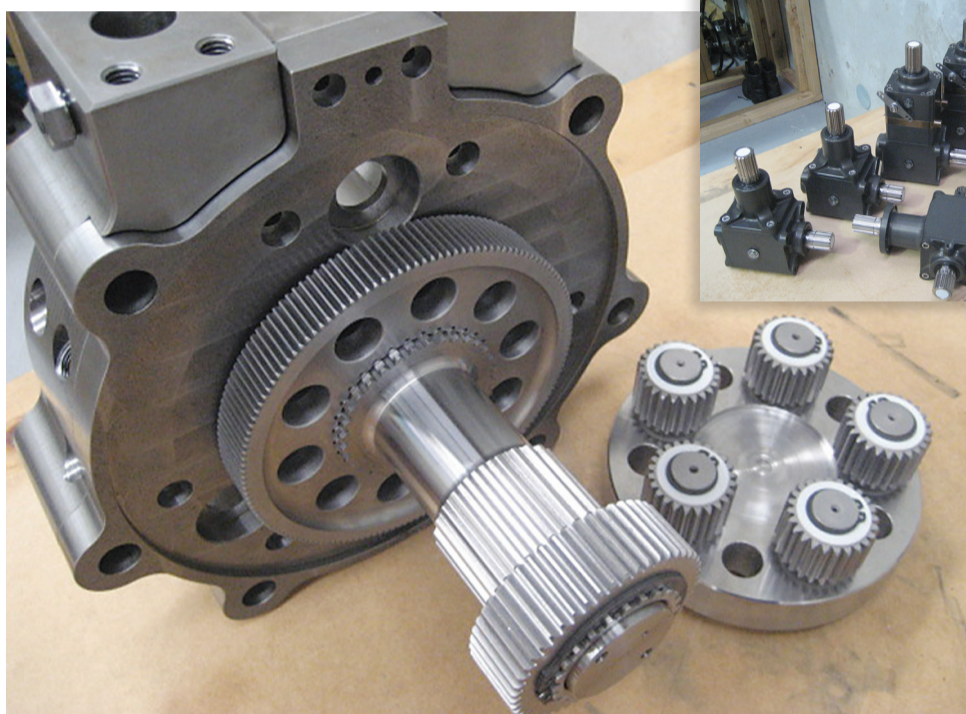
Stephen explains that while the higher cost of production in New Zealand is one factor, "we don't tend to mass produce many of the industrial gearboxes we have designed. Many clients prefer to source their own long term manufacturers or utilise their own in-house manufacturing capacity.

"Our niche lies in the design and rapid innovation of gearbox prototypes," he says.

The future for Cubed3 is looking increasingly bright, and as for the company office itself, along with an increase in staff over the next few months, the catchcry is for more innovation.

"We are dedicated to becoming a world leader in the design of gears and gearboxes, the upside to this is the strong company growth and increased brand recognition."

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