E3k helps turn tables stable

On balance, the ABC TV New Inventors Award-winning creation, Flat, is a great idea backed up by keen engineering.

An ingenious Australian device that stabilises and levels tables automatically seems destined for global greatness after taking out top honours in the ABC Television series *The New Inventors* this year.

While it has global appeal and came out of the ingenuity of Sydney-based company Flat Pty Ltd, much of the engineering 'smarts' behind the invention came out of Brisbane Technology Park-based group Engineering 3000 – known as e3k.

Flat commissioned the e3k division of Gilmore Engineers to carry out further research and development (R&D) on its patented stabilising and levelling technology.

This consisted of further developing a simple, cost effective automatic system to self stabilise four-legged tables, which inevitably wobble on non-flat surfaces. Flat director Tony Pike had observed the phenomenon worldwide and identified that it was a problem waiting to be solved.

E3k was chosen following an Australia-wide search for an appropriate development consultancy and e3k consulting engineers started with some basic automatic locking mechanisms provided by Flat.

The aim was to convert this into an automatic system in which the table legs would automatically extend or retract to match the ground level below, just by momentarily lifting one side of the table. Such an action would make levelling a table (or other device to which the system was fitted) a straightforward and automatic procedure, able to be completed very quickly and without effort.

Later e3k developed many new and more advanced systems which were later integrated into further intellectual property lodged by Flat.

INNOVATION, AS USUAL

Duncan Gilmore, president of e3k, said the development procedure was one which e3k engineers were very familiar in applying.

"They began by defining the requirements of the system and relevant international standards to which the system should comply," Dr Gilmore said. "E3k engineers performed extensive lateral thinking techniques, commonly referred to as brainstorming, to identify possible systems that could fulfill the requirements."

Following a challenging period of concept development, the best system was chosen in conjunction with Mr Pike to enter a full engineering prototype design stage.

Ben McGarry of e3k said aesthetics, likely production cost, materials, strength, mechanics and function of the system were all considered in depth.

A three-dimensional computer aided design (CAD) model of the proposed device was constructed. The drawings and electronic files enabled prototype components to be manufactured by a number of companies.

The final assembly of components for the very first device and basic trials were undertaken by e3k before being handed over to Mr Pike.

Tony Pike won first prize in the ABC's *The New Inventors*, screened on April 19 this year. Since then, Mr Pike has exhibited at the 22nd Invention and New Products Exposition in the US, where the technology gained a silver and five gold medals along with a Best In Show prize.

The Flat concept is also a finalist in the 2006 Australian Engineering Excellence Awards, in Sydney. In fact, Sydney-based Flat Pty Ltd is currently negotiating potential partnership and licence deals for the patented technology with several US based companies.

E3k is the New Product Development Division of Gilmore Engineers Pty Ltd, an entrepreneurial and innovative company of professional consulting engineers which has been developing new products and intellectual property for clients since 1986. The company is based in the Technology and Conference Centre at Brisbane Technology Park.

www.e3k.com ■