



Test certification and review challenges ahead.

## Testing times ahead

**T**est, certification and review procedures are an increasingly vital part of the commercial success process for a growing number of Queensland companies.

It is essential for commercial readiness and success, according to Duncan Gilmore of consulting group e3k.

Dr Gilmore said the technology behind many new products and processes is improved or developed by organisations based in Queensland each year and, because Queensland is a highly entrepreneurial state, 2007 will be no exception.

Dr Gilmore said many new products and processes developed in Queensland were designed for the global market, making this test, certification and review procedure essential.

In fact, e3k was created as the new product design and development division of Gilmore Engineers and has fine tuned its Testing, Certification (or Sign Off) and Independent Product Review procedure through extensive experience

working with many small, medium and large businesses throughout Australia.

Ray Hope, vice president of e3k said, "This system is an essential part of the development of any new product, process, or system to meet reliability and performance goals, as well as Workplace Health and Safety requirements. The keys to a successful program are effective planning including a detailed review of the test goals, certification requirements, statistical details, required accuracy, and test environment, and a scientific and systematic approach."

Typical goals of any experimental test program may include 'proofing' to test performance and fitness of purpose; 'durability' to ensure longevity of the product or process; 'safety' to test adequate safety margins built into the design; 'ergonomics' to test how humans interact with the product; and 'cleanliness' to test impact on environment and level of sustainability.

"Any testing schedule should ideally be finalised by a written report including a documented record of methodology, apparatus used, analysis assumptions and test environment," Dr Gilmore said.

Certification or 'Sign-Off' (often associated with testing) is the need for a formalised methodology to ensure conformance with Standards or other requirements. Government, the manufacturer, the designer, investors, the customer, or even society in general can impose such standards.

An Independent Product Review consists of a thorough and independent technical review or audit and is a key factor to the risk assessment of any new product or process. Typical questions that often arise include:

- Will it work?
- Can we predict its performance?
- How will we build it?
- Will it be safe?
- How much energy will it use?
- Will it be easy to use?

E3k provides an independent third-party opinion and technology review

**THIS SYSTEM IS AN ESSENTIAL PART OF THE DEVELOPMENT OF ANY NEW PRODUCT, PROCESS, OR SYSTEM TO MEET RELIABILITY AND PERFORMANCE GOALS**

of any new product, process or system including feasibility assessment, discussion of potential technical impediments, market potential from an engineering point of view, manufacturability, and safety. In undertaking such reviews engineering analysis tools such as computer simulation, 3D CAD modeling, and brainstorming, are often used.

E3k is 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.

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