

## ELMG News June 2010

In this issue

1. Power Electronics, Wonderful and Amazing.
2. High Value Markets? And Product Compliance? And Product Development? Oh My!
3. Dr. Hamish Laird talks about Power Conversion Intelligent Motion - PCIM 2010.

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### 1 Power Electronics, Wonderful and Amazing

So, I was considering what the world would be like without power electronics. Really I was. I have also considered other things, such as the meaning of life, however that is for another newsletter. I decided while sitting on the double decker train travelling from Freiburg (Germany) to Basel that the world would be slower without power electronics. Things would be slower, including the pace of development, the speed of trains and cars, and the rate at which renewable energy is becoming popular.

Recently I looked at some information describing wind turbines for offshore use. These turbines had tip height of up to three hundred meters. This is tall, for those of you who know the Port Hills in Christchurch three hundred meters is about as high as these hills. There will be a power converter in the turbine. Probably a large IGBT power converter or a number of them connected together. I am truly impressed at what was possible with power electronics. Some times it is important to stand back and be amazed at what is possible and what is being done.

All of this made me glad to be working in power electronics.

### 2 High Value Markets? And Product Compliance? And Product Development? Oh My!

“Toto, I've a feeling we're not in Kansas any more!”

I guess that those of you who don't know your Judy Garland and Wizard of Oz are a little confused. Dorothy tells Toto of her feelings about Kansas after seeing

the wonder and splendor of Oz and eventually ends up being sure that she isn't in Kansas anymore. ("Now I know we are not in Kansas anymore.")

High value markets often appear to be full of splendor and wonder and opportunities to do well. This is true. High value markets often have wonderful sales channels, willing partners and seemingly high margins. This is all good. The best thing about high value markets is that customers are often prepared to pay well for products. Unfortunately high value markets often have significant product compliance requirements, and entry into high value markets is limited until your company can meet these requirements.

When developing product for a market with compliance requirements like UL or CCC you might just get the feeling, much like Dorothy in Oz, that you are not in Kansas anymore. The wonder and splendor of it all may be apparent to you like it was to Dorothy; There are barriers to entry. There are also opportunities in high compliance markets due to the fact that moving your development group and your company management to a point where your team can make compliant product gives your company a significant advantage. As an example selling technology into the EU typically requires a CE mark and the process behind the CE mark has impact on your development, design implementation and design process.

"We must be over the Rainbow!" (More Wizard of Oz)

So what are the opportunities presented by compliant markets?

Well, if you are selling industrial control gear into the USA then you will be asked. "Does it have UL?" If your product doesn't then it cannot even be considered. That means having UL gets you in the game. UL Listing involves an assessment of your product by UL and a follow up service procedure where someone comes every three months to your manufacturing site and does an inspection. The USA has over three hundred million people and these people need lots of industrial control gear to keep the water flowing, gas pumping and general fabric of society held together. Having UL gets your industrial control gear considered in the US.

In the medical product spaces each country or market has its own regulation and certification system. The US has the FDA who look closely at design, risk management and production systems, the EU has a CE Marking process where a third party audits the design and the risk management and Australia has a process audit system. Medical technology is one of the fastest growing areas of technology as our aging populations require more health care. Designing for getting FDA certification or a CE marking is the key to getting to the high value, high revenue opportunities in high value markets.

If you are in the machinery market the EU have the Machinery Safety Directive that imposes a risk management and standards based approach to assessing

the safety of a machine. Some types of machines have specific requirements to be assessed by a third party. Some examples of such machines include press brakes, hydraulic powered roof supports for use in mines and chainsaws. So in order to sell your machinery into Europe it needs a CE mark to the Machinery Safety Directive.

The expanding EU now has around to four hundred and twenty million citizens who need machines to mow grass, cut down trees, aerate golf courses, compost waste paper and do all the other things that machines do. The EU also has an aging population who will need more and more medical technology. Getting in the product game in the EU means designing the necessary compliance into your product.

ELMG product compliance help, will get your product into the high value market that you want.

### 3 Dr. Hamish Laird at PCIM – Power Conversion Intelligent Motion

Dr. Hamish Laird attended PCIM this year. He reports that it was great to meet up with customers and partners at the PCIM show. “Things in the power electronics space are going well. Renewable energy is a large driver as is traction and power quality.” Highlights of the show were visiting with Semikron and seeing the extremely large IGBTs. Dr. Laird reports “It is always impressive to see really big switching devices”

Contact ELMG Electronics Design and Development now for power electronics.

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