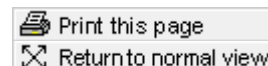




Interview

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Instruments for explosive atmospheres – UK manufacturer BEKA relies on IECEx

Chris Burkitt, co-founder of [BEKA associates](#), a UK company that designs and manufactures intrinsically safe process control display instrumentation, talks of the importance of international standards in making hazardous process areas safer while providing greater access to international markets.



Loop powered indicator

Going back to the roots, please tell us a little about how your company began.

In 1983 my wife, Jenny, and I set up the company running it from our own house in Hertfordshire. We slightly underestimated the amount of space we would need for all the components and product cartons and once we'd filled up the landing, we found ourselves taking over our daughters' bedrooms. It was quite an experience for all of us, but, despite the ordeal and the stress of it, our marriage survived and our children don't appear to show signs of having been through too much of a traumatic experience in their youth!

What about today – Who are your customers?

Today, we have offices in Hitchin, Hertfordshire, 45 km north of London, and a staff of over 30. Our customers are mainly in the petrochemical and pharmaceutical industries, companies who work with gases, vapours, combustible dusts and flammable liquids where, if some of the product were accidentally released into the atmosphere, it could be ignited by an electrical spark. BEKA display instrumentation has been designed to operate safely in these potentially flammable areas without generating sparks or hot surfaces even under fault conditions, using a technique known as intrinsic safety. In most countries intrinsically safe equipment has to be assessed and certified by a third-party test house, usually government appointed, before it can be installed in a potentially hazardous area. Within Europe the [ATEX Directive](#) now allows equipment assessed to an agreed standard in any member country to be installed in any of the other member countries. But North America, China and most

other major markets still retain their own standards, which all differ from the European ones.

Most process instrumentation is still analog, but there is an ever increasing use of digital fieldbus systems. Initially our displays operated from a 4/20mA analog process signal but we are now one of the few companies manufacturing fieldbus displays for FOUNDATION Fieldbus™ and Profibus PA digital systems. BEKA displays can be calibrated to show any process variable such as temperature, pressure or flow and because they are very robust and waterproof they can be installed in the process area providing an operator with up-to-date process information.

There's another example of a green environment in which BEKA displays have been installed and that's in Britain's first hydrogen filling station in Hornchurch near Romford which was opened in 2005. It's being used by the three first generation Daimler Chrysler fuel cell powered buses that are being operated by London Buses as part of the pioneering [CUTE](#) (Clean Urban Transport Europe) product that is part of an EU-funded, GBP 35m, two-year trial backed by BP and Shell. Buses that run on hydrogen are quiet and clean since the only fumes they emit are of water vapour.

This project began in May 2003 when Madrid became the first city in the world to run a regular hydrogen bus service. Today, hydrogen buses run in other European cities such as Hamburg, Barcelona and Reykjavik. Perth, in Western Australia, has also taken delivery of small fleets of hydrogen buses, and similar schemes have been set up in Japan,

Singapore and California.

Refuelling a bus, which is totally automated, entails filling it with liquid hydrogen that is stored at a bone-freezing -250° C. The filling station has installed BEKA intrinsically safe loop powered indicators to display level and pressure on the Liquid Hydrogen Delivery Panel which also contains LED indicator lamps and a BEKA alarm sounder.



Fieldbus indicators

So what about design and standardization? Where does the IEC come into it and, more particularly, the IECEx Scheme?

More than half our business actually takes place outside Britain. We have clients all over the world, from Australia and New Zealand through Japan and Europe across to the United States. For example, the large [SI Group](#), formerly Schenectady International Inc., uses our systems. [Yokogawa](#) – a world leader in industrial automation and control, test and measurement, information systems, and industry support – is also one of our customers. They have their head office in Japan, with regional headquarters in Singapore, China, the Netherlands and the USA. We use IEC standards that specify how our instruments need to be constructed and manufactured so that they don't cause an explosion because these standards are already accepted by many international authorities.

Then, for certification of our products, **IECEx** provides us with the necessary framework for having them independently assessed by third parties. Under the IECEx Scheme, certain IECEx [member countries](#), such as Australia, New Zealand and Singapore, automatically accept our devices, based on an IECEx certificate without any further approval or certification being necessary. This is also possible for many countries that are not member countries of the IECEx but are still able to make use of the IECEx system. Other IECEx member countries apply the “fast track” process using IEC standards as a basis to produce their own local approvals where their regulations still require national Ex certification. This saves enormous time and costs and what's more important for us, gives us faster access to markets.

IECEx certification of our new products has enabled BEKA to increase our Australian market significantly. In the first year of having these approvals we have more than recouped the initial certification fees. In future all our new products will be launched with IECEx certification and we are confident that as the IECEx scheme gains worldwide acceptance it will give us ever increasing access to major overseas markets .



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