



essential help
Turning ideas
into reality
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Banger's a smash
A sizzling
success
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University of
Strathclyde
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enterprisematters

New safety system sparks power firms' interest

Radio detector
protects
sub-stations

elimpus

A new company is to be formed to promote a pioneering new technology – developed by the Department of Electronic and Electrical Engineering at the University of Strathclyde – for use in the electricity utilities sector.

The team behind the technology is proposing to create a spin-out company, Elimpus, to commercialise research on the monitoring of electricity sub-stations using radio frequency measurements.

These monitoring techniques have been developed by Strathclyde's Professor Phil Moore and Dr Iliana Portugues over the last 20 years. The academic team have been supported by Alan Gooding, Commercialisation Manager and CEO Designate, George McBride, in developing a robust business plan, early sales leads and securing the funding package.

CEO Designate, George McBride, said: "This is an exciting spin-out with all the right ingredients to succeed – leading-edge technology, an excellent team and a clear route to market for products and services that have already attracted significant interest from major players within the electricity sector".

Elimpus will market its radio frequency partial discharge monitoring products and services to electricity utility companies.



On guard: A new system developed at the University of Strathclyde 'listens' for tell-tale radio signals which give advance warning of potentially dangerous electricity sub-station faults.

Proper design, installation and monitoring of high voltage electrical plant are crucial to safe, cost-effective electricity supply. Failure to do so can be catastrophic.

Elimpus aims to enable fast, efficient and highly accurate site monitoring for partial discharge – a condition exhibited prior to failure.

The technology itself consists of a wideband receiver system which 'listens' for radio waves. Deviations from external background noise – commercial radio etc. – are analysed to generate a bearing and the time lag from the source. The data is captured, processed and transmitted back to central servers. Elimpus can then analyse the data and convert it into

valuable asset information for the client.

The academic team initially deployed the technology on a commercial vehicle which could be driven around an electrical substation to rapidly survey the entire site. The technology is now being packaged into alternative formats, including a trailer device that can be left on site and ultimately a permanently installed system. The experience gained over the years by the team has resulted in a substantial bank of test results and allowed the processing techniques and algorithms to be refined.

The technology will lead to significant cost savings for customers by tackling issues such as extending asset life, investigating suspect plant, checking components that have catastrophically failed in other utilities, or monitoring background partial discharge for health and safety while engineers are on site.

There are a number of competing technologies already in the marketplace but many of these are invasive techniques, are inaccurate or are specific to a single item of plant. Elimpus utilises a technique that is non-invasive and can survey all of the plant on a site at the same time, identifying and cost-effectively pinpointing any suspect items for closer inspection.

'This is an exciting spin-out with all the right ingredients to succeed'

George McBride

 **CASCADE**
TECHNOLOGIES

Leading lights

Laser scientists are positively beaming after taking a top industry award.


Cascade Technologies have just been named Science and Technology Entrepreneurs of the Year.

And the three leaders of Cascade – a spin-out company from the University of Strathclyde – say they are honoured to receive the accolade, awarded as part of the Ernst & Young Scotland Entrepreneur of the Year Awards 2007.

Turn to page 6 for full details of this superb success story.

 SCOTTISH EXECUTIVE

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