

Ground gas gizmo boosts brownfield building

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An invention from the University of Manchester spin-out company that monitors dangerous methane gas lingering underground could lead to greater development of brownfield sites.

The Gasclam is being developed by Salamander Ltd, which was founded by lecturer Dr Stephen Boulton and spun-out of the University of Manchester in 1996.

Now the product has scooped the Innovation Technology prize in the Northwest Business Environment Awards 2007.

Measuring only 600mm long and 45mm wide, the Gasclam is designed to sit inside small boreholes on potential development sites and provide constant monitoring of harmful gases, such as methane, which can cause explosions.

The Gasclam improves upon existing assessment technology by allowing continuous collection of information about the movement and build-up of underground methane.

The system has the ability to transmit measurements using GPRS technology, allowing those doing the monitoring to collect an array of data without making repeated visits to the site.

Up until now, the available equipment has only allowed periodic measurements to be taken – and Dr Boulton says this approach could be restricting the development of brownfield sites.

For example, one-off periodic measurements may show a constant concentration of methane in a certain area, which may stop construction taking place

But through continuous monitoring the Gasclam may reveal the methane production is actually low and the gas protection measures needed are minimal – meaning the site can be considered for development.

Salamander and The University of Manchester recently won £233,000 worth of funding from the DTI's Technology Programme, which is allowing them to develop the Gasclam to meet practical, customer and legislative requirements.

Project co-ordinator Dr Peter Morris is also working to develop a sound methodology for the Gasclam's use, which will reduce uncertainty in the prediction of gas migration and lead to further optimisation of remediation strategies for brownfield sites.

The research project is being carried out in conjunction with the Greater Manchester Geological Unit (GMGU).

Dr Boulton, who lectures on hydrochemistry within The School of Earth, Atmospheric and Environmental Studies (SEAES) has helped to develop two other products; Hydraclam and Chloroclam.

The Hydraclam is designed to allow levels of discolouration in the water supply to be measured accurately throughout the distribution network. Discolouration is a big issue for water companies and has traditionally proved difficult to monitor, due to water being inaccessible in buried pipes.

In response, Salamander has developed a product that attaches to a fire hydrant point and fits in the hydrant chamber. Once it is attached, it can

be left to monitor water quality and data can be collected in real time by GPRS link or periodically by attaching a PDA device.

Chloroclam can similarly be fitted to hydrants and used to accurately monitor the level of chlorine in the water supply at specific points in the distribution network.

All major water utilities in the UK are currently using Hydraclam - and Chloroclam will be on the market in the autumn.

Source: University of Manchester

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