

An Eye on Tomorrow's Needs

Contact Details

Paul Addison, Siemens plc

Tel: 07808 823011

Email: paul.addison@siemens.com

Developing the next generation of manufacturing and engineering technology is a core part of ensuring the UK's sustainable future. The Centre for Process Innovation at the Wilton Centre, Redcar, sits at the heart of this objective and, with the help of technology from Siemens, it is working with a range of businesses on the creation of products and processes for tomorrow.

The Centre for Process Innovation (CPI) is a UK-based technology innovation centre and part of the High Value Manufacturing Catapult. Using applied knowledge in science and engineering, combined with the latest technology, the centre enables clients to develop, prove and prototype the next generation of products and processes. An important part of the work that takes place at the centre is to help reduce and reuse waste, utilise natural materials and decrease reliance on fossil fuels.

The Anaerobic Digestion (AD) Centre is a core part of this sustainability drive and is designed to evaluate and develop AD processes for conventional and novel waste streams. The work undertaken at the centre enables businesses to develop effective and profitable AD processes. When setting up the facility, the centre wanted to ensure the crucial gas analysis function provided accurate data to enable clients to effectively measure outputs, so it turned to Siemens Industry for its novel portfolio

of gas analysis solutions.

Bob Lane from Siemens Industry explains: "The Centre for Process Innovation is a truly pioneering concept and the work done onsite is contributing to ensuring the UK continues to develop sustainable practices. The centre is able to help businesses develop solutions to enable them to tackle the legislative and cost pressures they face with regards to waste disposal. Siemens has a proven range of gas analysis equipment that is used to monitor biogas quality and safety and we were able to present CPI with a solution that met its exact needs."

The solution comprised of three online extractive process analysers to measure critical gas compositions in the centre's anaerobic digester facility. The three analysers work to provide a full analysis of gases, both pre and post digestion. The first is the ULTRAMAT 23 which uses infra red absorption to measure carbon dioxide (CO₂) and methane (CH₄), with electrochemical cells for hydrogen sulphide (H₂S) as well as oxygen (O₂). Accompanying this is an ULTRAMAT 6E which again uses infra red technology and measures ammonia (NH₃). The third analyser is a CALOMAT 6E which uses thermal conductivity to measure hydrogen (H₂).

Most operational anaerobic digesters only monitor methane (the product) and hydrogen sulphide (the main contaminant). By also measuring carbon dioxide, ammonia and hydrogen, the CPI digester gives designers much more information on the performance of the process. This information can then be used

to optimise the design of the final digester.

Bob Lane continues: "Importantly, we were able to recommend these analysers because they also deliver reliability of performance and require minimum maintenance. The analysers' measuring cells are robust and resistant to interference and a check with calibration gases is only necessary for most of the measurements once a year."

Steven Broome from The Centre for Process Innovation comments: "Our work at CPI is important in helping the UK maintain a sustainable future. The anaerobic digestion sector is continuing to expand rapidly and our facility is helping businesses develop products and prove processes with minimal risk to ensure they can demonstrate its success before investing capital in equipment and training. The gas analysis solution provided by Siemens is central to delivering solutions for our clients and it will continue to be as the Government further encourages business to take up AD to increase the generation of energy from waste."

Sustainable technology solutions will be vital to support the growth of using waste to generate energy and contribute to the nation's overall energy requirements. Companies looking to innovate in this area require support and the certainty that technology, such as the Siemens gas analysis solution, will provide greater confidence and reduce the risks associated with pushing the boundaries of discovery.

For More Info, email: 26272pr@reply-direct.com