PROJECT AD-WISE: ON-LINE SYSTEM FOR BIOGAS PLANTS

Biogas generated from organic waste is a valuable renewable energy source. It is generated by a biological process where the organic matter is degraded to form biogas and a digestate by means of anaerobic digestion. One of the main research topics within this matter is the development of advanced methods for optimization and control of biogas plants. Typically, the only parameters controlled on-line are temperature, methane concentration in biogas and sometimes the pH value. But this information is not enough to control the process, since these parameters do not predict a process malfunction. Among all proposed parameters, the most reliable one is the volatile fatty acids profile (VFAP), because it allows checking not only the state of the process but also predicting and avoiding an acidification.

Within the project "AD-WISE" researchers worked on the development of an on-line system for biogas plants to optimise the anaerobic digestion process to maximise biogas production while maintaining process stability. Fraunhofer IPMS therefore developed an optical demonstrator system to measure the concentration of VFAP directly in the fermenting substrate. With this information of VFAP, plants operators could now optimise the plant, increase biogas production and avoid process stops.

BIOGAS PLANT WITH DEMONSTRATOR SYSTEM

The AD-WISE project consortium consists of 5 partners – next to Fraunhofer IPMS, the technological center AINIA (Spain), the milking cow farm San Ramón (Spain), the National Microelectronics Centre (Ireland) and the company INTERSPECTRUM (Estonia) are involved.

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UPCOMING EVENTS

ECOC
Cannes, France — Sept 22 - 24, 2014
Palais des Festivals et des Congrès de Cannes, Booth 332

Semicon Europe
Grenoble, France — Oct 7 - 9, 2014
Exhibition Center ALPEXPO

Vision
Stuttgart, Germany — Nov 4 - 6, 2014
Exhibition Center Stuttgart, Hall 1-H 73

Electronica
Munich, Germany — Nov 11 - 14, 2014
Exhibition Center Munich

Medica
Düsseldorf, Germany — Nov 12 - 15, 2014
Exhibition Center Düsseldorf

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