Young, innovative green tech start-up from Germany offering a new patented sensor technology for the automatic and autonomous optimisation of biogas/bio-methane plant operations is seeking biogas/bio-methane plant operators or plant manufacturers.

Summary

Profile type
Technology offer

Company's country
Germany

POD reference
TODE20250708002

Profile status
PUBLISHED

Type of partnership
Research and development cooperation agreement

Commercial agreement with technical assistance

Targeted countries
- **Denmark**
- **Poland**
- **France**
- **Austria**
- **Netherlands**

Contact Person
Enrico FRANZIN

Term of validity
8 Jul 2025
8 Jul 2026

Last update
8 Jul 2025

General Information

Short summary

Young, innovative green tech start-up from Germany with a focus on biomass projects is offering a new patented sensor technology for the automatic and autonomous optimisation of biogas/bio-methane plant operations. They are seeking partners in the following areas: service, sales and distribution.

Full description

The German client, a young, innovative green tech start-up active in the biogas sector, is offering a new patented sensor technology for the automatic and autonomous optimisation of biogas/bio-methane plant operations.

Currently measurements at biogas plants (VFA/TIC-measurements) are taken manually once per week (or less). This leads to time lags between sampling and results, resulting in interpretation errors and higher labor costs. Accurate process mapping and real-time control of microbiological biogas processes is therefore not possible in day-to-day operations.

The client is entering the biogas market in the summer of 2025 with a new type of acid sensor unit (Organic Acid Sensoring Unit – OASU). With their patented measuring method, the company is able to permanently measure the gas proportions of acetic and propionic acid in the biogas fermenter using gas chromatography and draw conclusions about the reaction state of the fermenter. The variable relationship between the organic acids (oA) and the respective development processes provides for the first time an immediate possibility of presenting and interpreting the biogas formation process in a new way. The OASU can be connected to both existing and new systems.

Advantages:
- Always connected: The OASU immediately sends all measured data online to the server, where the data is analysed with the use of AI. The results of the evaluation are then immediately sent to the provided app. In the app the data is visualised using a programmed traffic light system. In this way, the operator can anticipate problems long before they occur.
- Measurements: Taking small gas samples multiple times a day makes the 'breathing' of the biogas/bio-methane plant visible. The current fermenter status can be read. Thanks to the high frequency of measurements, developing trends and the speed of change within the fermenter can be easily read from the data.
- Live recommendations: The operator can see how their system is doing via the programmed traffic light system in the monitoring app. If the light is green, everything is okay. If the traffic light is yellow, measures must be taken. With such preventive activities, smooth operation can be maintained and biogas/bio-methane is produced with the best possible yield.

Using this data in combination with the standard parameters with statistical process control (SPC), the company derives clear operational recommendations for operating biogas fermenters at the optimal operating point for the first time. Process developments and the operational control of even large and complex plants can therefore be tracked quickly, completely and reliably. SPC is now possible and will enable the further development of the understanding of the fermentation process.

The client is seeking partners in the following areas:
service, sales and distribution.

The companies overarching goal is to economically implement innovative process engineering solutions to improve the use of organic raw materials. With this solution for biogas/bio-methane plants, the client aims to make a contribution to produce renewable energies in this sector significantly more efficient and effective.

Advantages and innovations

Automated and autonomous measurement of processes in biogas fermenters to raise them to a new level of efficiency.

- Automation capability for faster, more precise monitoring
- Smoother regulation possible without time delay
- Cost savings due to less need for (skilled) workers (also avoiding problems arising from shortage of skilled staff)
- Higher frequency of measurements with no adulteration allowing for high reproducibility and more precise long-term process mapping.

With statistical process control (SPC) now made possible, the use of the OASU will enable the further development and understanding of the fermentation process. For the operators of biogas plants, the yields are increased through gas quantity and quality. The client works with operators to reproducibly optimise the efficiency and availability of their systems and thus increase the return on investment.

Technical specification or expertise sought

Stage of development

Available for demonstration

Sustainable Development goals

- **Goal 7: Affordable and Clean Energy**
- **Goal 17: Partnerships to achieve the Goal**
- **Goal 11: Sustainable Cities and Communities**
- **Goal 9: Industry, Innovation and Infrastructure**

IPR Status

IPR granted

IPR Notes

Partner Sought

Expected role of the partner

The client is seeking partners in the following areas:
service, sales and distribution.

The ideal service partner is a company that is familiar with appliance technology. Examples would be companies in the field of refrigeration technology, plant construction, equipment construction, biogas plant manufacturers, automation, compressed air technology, etc. The partner receives extensive instruction in the technical aspects of the OASU. In the event of a service call, the client sends a replacement unit by express delivery. The existing device is simply replaced with the new device and put into operation in cooperation with the clients support team. The old device is returned to the client.

The ideal sales partner should be familiar with the agricultural sector.

Type of partnership

Research and development cooperation agreement

Commercial agreement with technical assistance

Type and size of the partner

- **SME 50 - 249**
- **SME 11-49**
- **SME <=10**
- **Big company**

Dissemination

Technology keywords

- **03002 - Process Plant Engineering**
- **04005012 - Waste to energy - other**
- **04005011 - Bio-refineries for energy**
- **04006 - Biogas and anaerobic digestion (AD)**
- **10003007 - Waste to Energy /Resource**

Market keywords

- **08002003 - Process control equipment and systems**
- **09008002 - Water, sewerage, chemical and solid waste treatment plants**
- **06003009 - Biomass and Biofuels**
- **08002002 - Industrial measurement and sensing equipment**
- **06006002 - Metering and monitoring**

Targeted countries

- **Denmark**
- **Poland**
- **France**
- **Austria**
- **Netherlands**

Sector groups involved

- **Renewable Energy**

Media

Images

20250402_MatSchlMesshausJh1.jpg