

# CASE STUDY: ADVETEC - BIODIGESTION

**Client:** The Automation Clinic / Advetec / Gas Detection International Automation software supplied by The Automation Clinic  
**Industry:** Environment / Biotechnology

**Location:** Global deployment including Bahamas, Texas, Hawaii  
**Product:** GDS Technologies Ltd GasVac® Solo

'I have worked alongside GDS for many years and we have a great working relationship. Having access to the in-house design team, I can always rely on their willingness to find a solution to my customers' needs, produce innovative solutions in a timely manner, whilst working to the highest quality standards.'

- Chris Gartside - Owner of Gas Detection International, distributor for GDS Technologies



## THE CLIENT

Our distribution partner Gas Detection International was initially approached by The Automation Clinic on behalf of Advetec, an environmental and biotech company specialising in the reduction of waste created in the food, retail, entertainment, and leisure industries. Advetec has developed an incredibly effective method of digesting matter using a unique blend of bacteria inside their large scale biodigester machines. Their unique technology uses bacteria that need oxygen to respire – creating an aerobic system; consequently, no harmful gases or bi-products are created in the process, just carbon dioxide and water. The specially developed reactors ensure the necessary balance of heat, air, movement, and nutrients to speed up the reaction, so that material is processed, end-to-end, within 72 hours.

## THE REQUIREMENT

Advetec faced a number of challenges with the existing gas sample measurement systems on their waste recycling units. Without a purge facility available on the system, the existing sensors were unstable and were becoming increasingly unreliable. Furthermore, with 95% humidity in the reaction chamber, there was also a requirement for condensate extraction, therefore adding to maintenance overheads, with the daily manual evacuation of the water trap.

## THE SOLUTION

Working together with Gas Detection International, GDS designed and launched the GasVac® Solo, delivering a solution to the Automation Clinic and Advetec, meeting the gas detection requirement as well as addressing the ongoing humidity issues.

The GasVac® Solo has the capability to monitor up to five gases and in this case the client required measurements for Methane (CH<sub>4</sub>), Carbon Dioxide (CO<sub>2</sub>), Hydrogen Sulphide (H<sub>2</sub>S) and VOC (broad spectrum). The GasVac® Solo has a unique controller enabling three main functions to be client selected according to site conditions and sampling requirements: sampling time, clean air purge time and condensate drain cycle time. All sensor 4~20mA signalling is maintained during purge periods, therefore enabling continuous gas readouts regardless of the selected function time periods.

With technology moving at an ever increasing rate, the advancements of industrial automation has also followed suit. The Automation Clinic were on hand to meet user requirements by integrating the gas detection system into their control panel to provide cloud based data capture and analysis. All parties recognise the demands on industrial automation platforms with regards to speed, processing power and security which have now become paramount.

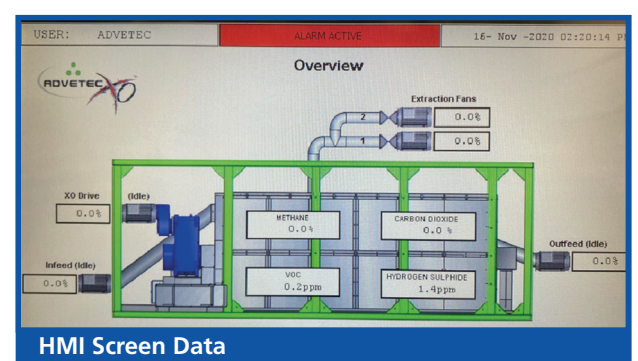
## THE OUTCOME

Having designed and manufactured the gas sampling units specifically for this project, GDS Technologies has included the GasVac® Solo as a permanent fixture in their dynamic product portfolio. Gas Detection International has delivered four units to Advetec so far, reaching destinations as far as the Bahamas and Hawaii. Advetec has reported vast operational improvements due to the humidity and water issues having been addressed. Following the implementation of the system and its purge facility, improvements in sensor lifespan have also been seen, which in time will see support and maintenance costs reduced. The vision system, supplied by The Automation Clinic, has also proved efficient in service areas such as quality assurance, as well as providing consolidated data for ongoing analysis.

Through our ongoing partnership, Gas Detection International will continue to provide service and maintenance support to the client, with GDS on hand to offer additional technical support as required. Both parties will continue to follow and support Advetec in their innovative journey in waste reduction and environmental impact.



GasVac Solo Internal



HMI Screen Data

We have provided Advetec with a number of single line gas sampling units (GasVac® Solo) for the monitoring of gases produced within their large scale biodigester machines. With 95% humidity the system is designed to auto drain and purge whilst maintaining a 4-20mA output.

Chris Gartside - Owner of Gas Detection International, distributor for GDS Technologies