PROCESSMONITOR
Remote Location Surveillance

Count on us.

Cost savings and increased efficiency with remote monitoring from ProcessMonitor

Problem case

REMAS AG in Switzerland is specialized in recycling machines which reduce the volume of paper, trash etc. and in machines which process leftovers from the food industry. Their new system BIOSPÜLER hacks up and mixes food leftovers with water to become biomass. Local biogas stations ferment the biomass into biogas for power and heat for households.

Food processing companies (restaurants, hotels, institutions etc.) daily store their food left-overs in the BIOSPÜLER, plastic tanks with capacities up to several thousand liters and with a simple conductive level switch to detect if the tank is full. Users had to call REMAS every 1-3 months to empty the tanks. Waiting for the biomass pick up, problems arose as the food left overs had to be stored somewhere in the meantime. Starting fermentation processes cause a lot of unpleasant vapors. Additionally came the hassle to organize the special pumping trucks for emptying the biomass tanks under time pressure.

Which level measurement system could reliably cover the biomass inside the tank? The fermentation processes create heavy vapor densities, which exclude ultrasonic sensors as a reliable measurement method. Non-contact radar devices are much too costly for this a non-industrial application. Cost attractive capacitance probes cannot be used, because of the heavy conductive buildup of the biomass onto the rod.

Food waste

ProcessMonitor solution

A guided radar level device in combination with the ProcessMonitor M422 Data Acquisition & Communication (DAC)Module solved the high demanding application requirements for a reasonable price, including full local installation support and with the same reliability as more expensive systems. The simple SMS communication enables highly reliable data communication, even behind thick concrete walls and within the Swiss mountains.

Most companies are either specialized in data communication or in level measurement. The 30 years of process experience and knowhow about complete remote monitoring solutions at ProcessMonitor is quite unique. The M422 with its rugged IP67 field enclosure doesn't require extra protective cabinets, which reduces initial cost tremendously. The M422 powers the level sensor with a 24VDC voltage, and the analog input is used for the level information. Only 230VAC power supply to the M422 and therefrom a cable to the level sensor is needed to offer a complete solution. The complete installation of the level probe into the tank, wiring the unit to the M422 and powering it up with 230 VAC, took less than 30 minutes!

Biospüler food recycle process

Results

☑ Users don't have to bother anymore to take the initiative to call REMAS for emptying the biomass tanks;
☑ Faster emptying reduces unpleasant vapors to arise and bother visitors of the restaurants or hotels;
☑ Now that the level increase has been made visible (as opposed to the high level point by the simple switch) REMAS can pro-actively organize the route planning of the pumping trucks with more efficiency and without time constraints (saving roughly e2.- per kilometer!);
☑ REMAS unburdens their customers and can even expand services, for instance to the biomass plants who are asking for biomass deliveries.

REMAS currently contacts more big potential customers, like McDonalds and IKEA in Switzerland to offer them this new concept: Great future potential for them!
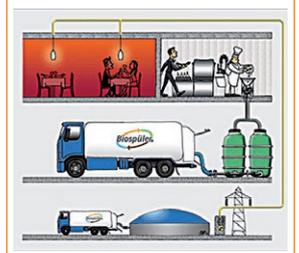

Biospüler storage tank with M422

More advantages

The M422 operates at a temperature range of -30°C to +75°C with a quad-band modem for worldwide GSM/GPRS coverage, plug and play configuration and flexible mounting possibilities (wall/panel/pipe). Galvanically isolated analogue inputs eliminate the risk of electrical interference with existing (field) instruments. It monitors (inventory) levels of raw bulk materials (liquids or solids) but also weight, pH, (belt) scales, CO_2, pressure, temperature, etc. Save staff time, travelling and costs to remote sites!

M422 Data Acquisition and Communication Module