Leveraging Next-Gen IoT for Automation of Silo Monitoring and Management

About LvLogics.com (Ireland)

LvLogics provides accurate and reliable silo levels as-a-service to end users, distributors and manufacturers of animal feeds, wood pellets or any solids or semi-solids. The patented solution enables low-cost sensors to be used in dusty environments and solves the issue of constant maintenance, manual workflows and unreliability due to dust in an aggressive environment.

Taoglas Next Gen IoT has worked with LvLogics to provide the critical infrastructure and technologies to realize the solution. Based on the Taoglas EDGE IoT hardware and software platform, LvLogics and Taoglas worked together to develop a custom solution that automatically monitors and manages silo levels. Each silo monitoring customer has secure access to a unique platform that presents the data in an easy-to-understand format. Using the Taoglas EDGE IoT hardware enables a cost-effective short and long range wireless platform for IoT. Combined with **Taoglas® EDGE Insights™**, this provides a scalable end-to-end solution for easy control, maintenance and secure management of many different connected devices, systems, instruments and appliances.

The Challenge:

Traditionally, farmers, wood pellet users and biomass users have manually inspected the level of feed or pellets in silos to avoid running out. Suppliers have historically accepted feed orders manually with the need for orders to be delivered within 24 hours of the phone call, in most cases. This inefficient, emergency delivery process has a negative logistics cost of over €2 billion globally, on average, per year.

The Solution:

The innovative solution provided by LvLogics utilizes a smart sensor in the silo that continually measures the amount of stock remaining in the bin. Users can view the measurement from any device or receive an email alert when the level reaches a set threshold. Additionally, sensors typically become blocked with dust, rendering them unusable. To address this, LvLogics developed a self-cleaning mechanism with no moving parts. Combined with the Taoglas EDGE IoT platform, this allows for years of maintenance-free service and provides real-time automation and insights. This industry-first solution is available to farmers, suppliers and biomass users globally. Currently, LvLogics' solutions are deployed in six countries and are used by the world's largest equipment and automation suppliers for agriculture markets worldwide.

The Outcome:

Traditional methods of monitoring feed usually cost 6-8 times more than the LvLogics solution and are difficult to install. LvLogics' solution enables flexible, low-maintenance measurement capabilities for end users at an affordable price.