

NIVELCO CASE STUDIES

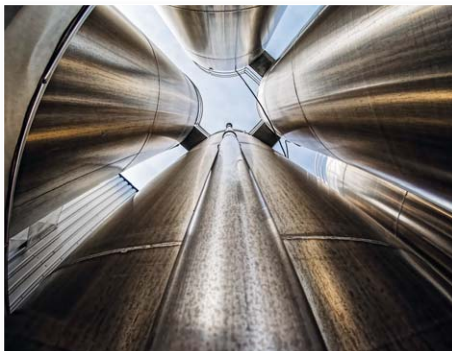
EasyTREK SCD ultrasonic transmitter in plastics processing



Level measurement in the plastic granules silo – Hungary

We encounter a variety of plastics in our day to day lives. Household items and many automotive parts are made of plastic, but other industries including chemical, pharmaceutical, and agriculture are also large plastic consumers. Hungary is home to both manufacturers of raw materials and those who are creating everyday objects from the raw materials. This second category includes our partner **WOLF PLASTIC**, a plastics-processing company in Fertőszentmiklós. The western Hungarian company manufactures its products with the well-known injection molding and blow molding processes. Their products include storage containers, watering cans, other household items, and a wide variety of different garden tools.

The prepared plastic materials arrive to the processing plant in the form of granules and are stored in different sized outside silos. Filling and emptying of the storage silos is done by pneumatic system. The silos are divided into two groups according to size: there are 6× 8 m (26.25 ft) high and 6× 15 m (50 ft) high silos. The material level in the silos is constantly changing according to the processing.



Recently it has become a requirement for the company management that the quantitative data of raw materials have to be continuously up-to-date, due to the diversity of production processes and the big production numbers. This has contributed to obtaining better predictability and more economic procurement which shortened the required production time to fulfil orders. So it was time to replace the 6-year old still operating mechanical (yoyo) level measurement system with a more modern and more accurate version. Finally, after long deliberation the solution offered by **NIVELCO** has been chosen.

The offered and equipped instruments for the level measurement of the silo system:

- **EasyTREK SCD-33J-4** ultrasonic transmitters – 12 units
- **NIVOSONAR SFA-355-0** separate plastic flanges – 12 units
- **NIPOWER PPK-331-1** power supply – 4 units
- **MultiCONT PRC-2MA-1** universal process controller – 1 unit
- **NIVISION** process visualization software



The equipped level transmitters are continuously measuring the level in the silos and transmit the measured values via HART protocol to the **MultiCONT** multichannel controller which transmits the data via RS485 communication line to a PC.

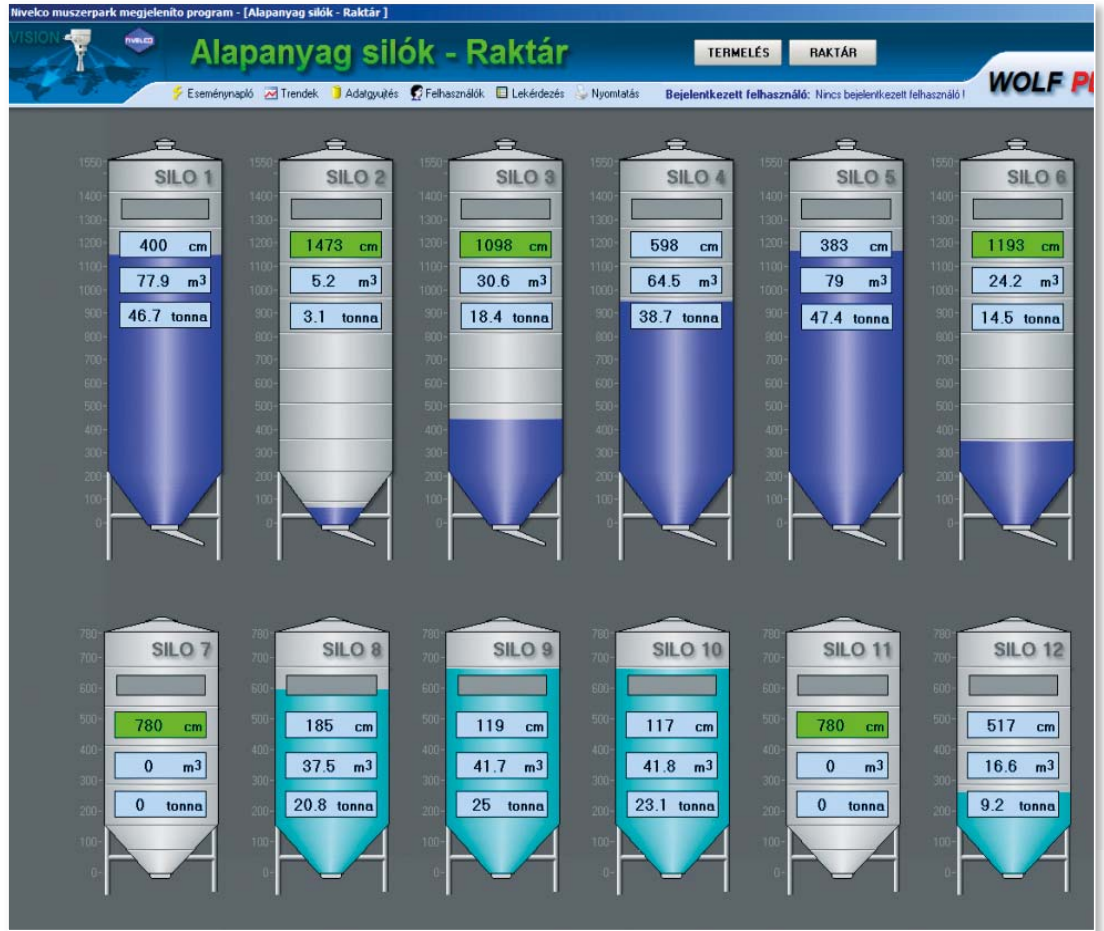


NIVELCO CASE STUDIES

EasyTREK SCD ultrasonic transmitter in plastics processing

The **MultiCONT** unit allows the display of the measured values and the remote programming of the level transmitters, so it's not necessary to climb to the top of the silo to change the settings. **NIVISION** process visualization software (made by **NIVELCO**) is installed to the central PC that offers a wide range of visualization elements of the measured and limit values, time based trends, databases and logs for the factory management and to employees. By **NIVISION** exporting and importing different database types and database searches is also possible.

The effectiveness of the investment: The measurement accuracy improved remarkably compared to the previous system. The inventory process reduced to only a couple of minutes from the occasionally up to 1 hour. In addition the maintenance time and costs dropped dramatically.



The **NIVISION** visualization software has been jointly designed by **NIVELCO's** technicians and the factory's specialists.

The program is very easy to use, full of built in functions even for the smallest processes including batch tracking, or

level indication aided with colour-codes for better visibility which is very important information about the distribution of the stored quantities.



The raw materials are mostly arriving by tank trucks. So a "switch" has been built into the **NIVISION** system which changes the silos colour signal to green if a whole truck of material can be loaded into it securely.

Therefore the management personnel only need to take a look over the material type to saw which silo should they guide the tank truck. Our partner is really satisfied with the system operating safely for several months.

Ákos Noll
Sales Engineer
NIVELCO Co.
anoll@nivelco.com