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Truck washing station by Ness-Schneider: Only when there is a successful notification via RFID chip the door lock of the hose box (in the back of the picture) opens and the cleaning process can begin

User www.ness-schneider.at

A Clean Thing

The Austrian wastewater treatment plant designer Ness-Schneider automates washing stations for animal transporters with the RFID system BL ident from Turck

Whether ski lift tickets, hotel room keycards or admission cards in a thermal bath – RFID is very prevalent in everyday life. The convenient identification technology is also used in more and more applications in the industrial area. For this reason, Turck developed a modular system that can be linked to almost all control systems, independent from the PLC manufacturer. In one such system, the Austrian wastewater treatment plant designer Ness-Schneider uses the new flexible design.

To complete its portfolio of wastewater treatment solutions for the food industry, the company also offers washing stations for the cleaning of animal transport vehicles. The identification of the transporters and the registration of the exact duration of the cleaning process takes place automatically via RFID-Key. Only when the chip is recognized as "legitimate" the system enables control of the water pump.

The company Ness-Schneider, located in Vienna and Grünau/Austria, has been founded 1994. Originally it was a trading company for wastewater treatment components but over the years it developed into a producer as well. In 2004 the company was taken over by NTA, New Technology Anlagenbau, a plant manufacturer that specializes in the food industry. Since then the business is privately owned by the Steinmaurer family.

Today Ness-Schneider is a research orientated company and offers plants for drinking water supply, environmental compact systems and components for the cleaning of industrial wastewater.

The customers are mainly from the food industry. "We offer the whole range of wastewater treatment plant design – from biological process technology to project management, development and construction, the actual machine- and plant design up to the installation and start-up onsite. During the process we act as general contractors. Only for building processes, like concrete work, do we hire a partner, but everything else comes from us," managing partner Walter Steinmaurer explains, and emphasizes, "we rarely build wastewater treatment plants for communities – we are more specialized on industrial wastewater."

Robust ID system wanted

It is our daily business to fulfill individual customer requests. This often results into solutions that are later

▶ Quick read

To run his washing stations for animal transporters fully automated, the Austrian plant designer Ness-Schneider uses Turcks RFID system BL ident. After the authorization with a RFID tag, the robust ID solution allows the driver to use the high pressure washing station and reliably registers water consumption, use of cleaning agents and duration.

included into our standard portfolio. "We often face applications where it would make sense to take over identification tasks as well," Steinmaurer says. "That is why we were looking for a suitable identification system, that is already offered as a matured solution and that is being expanded as well. After all we strive for good and long lasting partnerships with our suppliers."

The company finally found Turck. For many years the plant designer had purchased various components for measuring and control technology from the automation specialist located in Mülheim. After an intense

testing phase, Turcks modular RFID system BL ident proved to be perfect and met all of the requested requirements. The first project that was installed with the Turck system was an important upgrade of the functionality of the animal transporter washing stations for slaughterhouses, developed by Ness-Schneider. According to the EU hygiene directive the transport vehicles have to be cleaned immediately after the discharge of the animals and the accruing wastewater has to go into the wastewater treatment plant directly.

A cleaning facility has to be provided by the operators of the slaughterhouses, although they are not provided free of charge. To be able to operate the washing station onsite without staff, the engineers of Ness-Schneider developed an elaborate self-service concept of their high pressure cleaning unit using RFID technology from Turck. The solution uses a RFID tag, which is as small as a coin. Each driver loads a time credit onto the data carrier. If the RFID tag is placed in front of the combined read/write head of the control station, the identification starts.

"All the data from the tag is read automatically, for example the name of the driver and the transport company, the number plate and any additional data. The system software checks if the owner is authorized to use the washing station and if there is still enough credit available," Steinmaurer describes. If everything fits, the lock on the door of the hose box opens; the driver can take the cleaning gun and start the cleaning process. Water consumption, use of cleaning agents and duration are registered. Afterwards, the hose has to be rolled up again and the door needs to be locked. Only then the driver can place the tag in front of the read/write head again to end the process, reverse any remaining credits and sign off.

Industry compatible outdoor solution

It was more than one benefit of the RFID system from Turck that made the decision for Walter Steinmaurer.

The driver places the RFID tag in front of the read/write head, which reads all the relevant data and forwards it to the control systems

With its robust design, Turck's BL ident system is very suitable for outdoor use

The robust design of the components, the fact they are available in IP20 and IP67, as well as the temperature range of -25 to +85 °C, guarantee outdoor use and is industry compatible. In addition, the diverse FRAM data carriers (tags) are available in different sizes and designs, the elaborate modular system offers fully encapsulated heads, that are available in protection category IP69K, RFID I/O modules and gateways as well as the fitting connection technology.

"For us the openness with all kinds of controls was especially important. We deliver our plants worldwide and therefore have to be very flexible regarding the control hardware. At the moment we are using four different SPS systems," Steinmaurer explains. "The Turck system can be connected to all four controls without problems, either over a standard fieldbus or via Ethernet. It can be upgraded anytime." The gateways are programmable with CoDeSys and turn into decentralized controls.

The software integration into the system of Ness-Schneider was no problem because of the open interfaces. "I am highly satisfied," Steinmaurer praises. "The solution from Turck works perfectly. We have also had very good support from Alfred Fröstl, sales manager of Turck in Upper Austria. We have found the reliable partner that we have been looking for. The implementation into our system was done in only a few days and we invested less than 100 working hours."

Not only because of his positive experiences with Turck, the company director is already thinking about other applications for the Turck RFID system. "For example, the milk delivery to dairies, where documented and traceable proof of the tank truck cleaning is needed," Walter Steinmaurer finally admits. ■