Parking Lot Organizer

Frozen food specialist Ardo optimizes loading traffic and safety on the company premises with Turck's multiprotocol I/O module and programmable LED lights

Ardo Foods NV, headquartered in Ardooie, Belgium, produces frozen vegetables, herbs and fruit. With 17 sites in eight countries, the family-run company supplies its customers in the retail, food service and industrial sectors with high-quality frozen food via a global distribution network. At the site in Koolskamp, Belgium, peas, beans, root vegetables, spinach and other vegetables are washed, blanched, frozen, packaged and stored. A newly designed truck and employee parking lot between the access road to

the company premises and the loading ramps presented the company with major challenges, as transport vehicles were continually driving in and out. This situation in a limited maneuvering area presents several risks such as collisions, obstructed access and delays, which could endanger not only smooth operations but also the safety of people.

There was therefore a need for arriving truck drivers to know in good time whether the site is already full and how long they will have to wait before they can

The WLS27 LED strip is waterproof and clearly visible even in daylight, making it perfect for outdoor use

The limited maneuvering space in the Ardo truck parking area requires smart access control

enter. With drivers coming from different countries and often unable to communicate with each other or with the staff on site, the system had to be language-neutral. "We realized that there might be problems with the traffic between the loading ramp and the truck parking area," says Bart Nollet from Ardo's engineering department, describing the initial situation. "That's why it was important to ensure that long-distance drivers are warned of any bottlenecks and know that they have to wait at the barrier, regardless of their spoken language." A system to regulate the number of trucks in the loading area, including a waiting time display, was required to solve these problems.

Control, visualization and programming from a single source
"The Turck Multiprox team suggested using an LED strip light that counts down the time while the driver waits," says Nollet. "Besides the hardware, the team also took care of the programming, which helped us a lot." At the heart of the traffic control system is the compact TBEN-S2-4IOL multiprotocol I/O module for Ethernet with four IO-Link master channels. One of its key strengths is its flexibility with regard to the wide range of communication protocols such as Profinet, EtherNet/IP and Modbus-TCP, which enables easy

QUICK READ

As one of the leading frozen food manufacturers, Ardo operates 17 production sites in eight countries across Europe and supplies its markets with frozen vegetables, herbs and fruit. The company designed a new loading area in Koolskamp, Belgium, in order to prevent dangerous situations despite the constant arrival and departure of transport vehicles. Turck Multiprox developed a system for efficient truck navigation and access control in the limited maneuvering area.
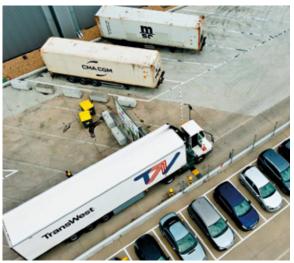
»We are very pleased with the solution. Barely two months after we had discussed the problem, the solution was ready for use thanks to the system engineers from Turck Multiprox. The fact that not a single dangerous situation has arisen proves that the system works perfectly.«

Bart Nollet | Ardo

integration into the existing infrastructure and ensures communication with IO-Link system components. The module enables fast processing of data streams and thus precise and in-time control of the traffic flow. The control functions of the TBEN-S2-4IOL are programmed via the browser-based ARGEE logic software, which enables easy adaptation and expansion of the system and rapid implementation of the Turck solution.

Improved driver guidance thanks to programmable WLS27 LED lights
The programmable WLS27 LED light from Turck's optical sensor partner Banner Engineering displays the estimated waiting time. The LED strip shines very brightly and is clearly visible even in daylight. The numerous colors and light modes can be parameterized via IO-Link. This allows the WLS27 to display a wide range of information clearly and intuitively.

Since the system was installed, there have been no more problems with international drivers or dangerous situations

The light points on the WLS27 LED strip visualize a timer that counts down the driver's waiting time

The TBEN-S2-4IOL multiprotocol I/O module is the heart of the traffic control system

Thanks to its unbreakable, waterproof and UV-resistant copolyester casing with IP69K protection, it is perfect for outdoor use. At the barrier, it uses different colors and flashing patterns to show truck drivers when they can enter, regardless of their spoken language. The clear visual signal prevents collisions and ensures a smooth flow of traffic while improving safety for people, vehicles and infrastructure.

Flexibility and control intelligence through ARGEE programming environment
The web-based ARGEE programming environment is important for straightforward programming of the TBEN-S2-4IOL module. It adds logic functions to the multiprotocol I/O module to create a field logic controller that can be configured without complicated software installations and programming languages. This makes it possible to adapt the LED display to the requirements of the traffic control system. One example of this is the programming of a dynamic timer that adjusts itself to the remaining waiting time. The timer regulates the speed at which the red LEDs are dimmed depending on the remaining waiting time.

Connection with the local parking guidance system
By communicating with the local Ardo parking guidance system, the TBEN-S2-4IOL receives real-time information about the occupancy of the loading ramps and the status of the barrier. This data on parking space occupancy enables the traffic control system to precisely control the WLS27 LED lights. Today, Turck's

TBEN I/O module continuously records data on parking space availability and barrier status in order to indicate to the drivers of arriving trucks via light signals when they may enter or how long they have to wait. The opening of the barrier is also coordinated according to the availability of parking spaces. The simple integration of the local parking guidance system was a decisive factor in the overall efficiency of the new solution, which now makes delivery traffic at Ardo in Koolskamp much safer and more efficient.

"We are very satisfied with the Turck Multiprox solution," Bart Nollet sums up. "Barely two months after we discussed the problem, the solution was ready for use thanks to the system engineers from Turck Multiprox. The fact that we have not heard a single comment from a foreign driver since then and not a single dangerous situation has arisen proves that the system works perfectly."

Author | Bart Baert is sales manager at Turck Multiprox in Belgium
Customer | ardo.com
Webcode | more12451e