**Neighbourly help for smart production**

WAGO and BERNSTEIN combine competencies

**Porta Westfalica/Minden, June 2021 - Green and red, WAGO and BERNSTEIN. When two companies headquartered in the innovation location of East Westphalia combine their expertise, this can only be beneficial for their customers, companies in the industry. As in this case, where the SMART Safety System from BERNSTEIN communicates with** **controllers from WAGO and thus provides the customer with all data and information about their production process digitally, quickly and clearly, for example on an HMI or a web browser.**

The cooperation between the two companies came about in 2019 during the "Production and IT" trade fair in Nordhorn. As a provider of system solutions for process and industrial automation, WAGO is always looking for suggestions and innovations for its customers. In this context, the approach of reading out and processing data and information about the safety technology components via IO-Link was also interesting - a possibility that the WAGO controllers already offer. And BERNSTEIN has also been following this path of data processing via IO-Link with its SMART Safety System for safeguarding machines and systems for some time. The interface for cooperation between the two companies was created.

"BERNSTEIN supplies the safety technology to protect machines and systems, as well as the associated data. WAGO brings in the control components to digitalise and automate processes. Together, we offer customers the all-round carefree package from the combined knowledge of both companies, bundled into one complete system," says Philip Aumann, Head of Product Management at BERNSTEIN.

**Safety technology from BERNSTEIN**

BERNSTEIN presented the first component of a SMART Safety System back in 2017 with the contactless safety sensor SRF (Safety RFID). The SRF monitors movable guards, such as flaps, doors or protective grids. This particularly small sensor protects employees from injury by switching off machines and systems or not even putting them into operation until the guard is properly closed.

With the Safety Emergency Unit, SEU for short, an electronic solution followed to integrate an emergency stop switch into the series connection of the SRF sensors.

Together with the SCR DI safety relay, these three components form the complete package of smart protection for machines and systems. During development, BERNSTEIN placed particular emphasis on the patented DCD diagnostic system, which provides comprehensive data on each connected device. The daisy chain diagnostic system provides a wealth of information that can be used to make machines and systems more efficient by avoiding downtime. The data of each component of the safety chain is read out and made available via IO-Link.

IO-Link is the first globally standardised IO technology (IEC 61131-9) for communicating with sensors and actuators. The powerful point-to-point communication is based on the 3-wire sensor and actuator connection that has been known for a long time without any additional requirements for the cable material. IO-Link is therefore not a fieldbus, but the evolutionary further development of the previous, tried and tested connection technology for sensors and actuators\*. These properties make the technology ideal for transmitting diagnostic information from the BERNSTEIN SMART Safety System to the WAGO controller.

**Control components from WAGO**

The WAGO controllers on the modular WAGO I/O SYSTEM further process the safety technology data and deliver it to the customer's screen in a scalable and user-friendly manner. In addition to the network and fieldbus interfaces, they support digital and analogue modules as well as special modules of the 750/753 series. The ETHERNET interfaces and the integrated switch enable wiring in line and star topologies. An integrated web server provides the user with configuration options and status information of the controller and the application. Typical applications are found in the process industry and in building automation in the field of mechanical and plant engineering.

**The cooperation**

BERNSTEIN provides the DCD diagnostic data via IO Link, which is then made available to the user in the WAGO controller in a user-friendly manner with the help of an e!COCKPIT library developed for the BERNSTEIN system. The two companies have set themselves the task of developing such a library for the WAGO controller family:

"This supports the user in quickly commissioning the BERNSTEIN system with the WAGO controller," says Philip Aumann, Head of Product Management at BERNSTEIN.

In addition to the function block required for communication, the library also contains a ready-made visualisation that the customer can use. It is also possible to use the diagnostic information in your own visualisations.

The added value for customers lies in the close cooperation between the two companies. WAGO customers who already use the machine controller can now use diagnostic data with the help of BERNSTEIN. Conversely, BERNSTEIN customers can integrate the WAGO controller into the Smart Safety System to safeguard their machines. Contact persons are available from both companies. The communication paths between them are already short due to their neighbouring locations in Porta Westfalica (BERNSTEIN) and Minden (WAGO). "The result is an all-round worry-free solution that incorporates the combined knowledge of the companies involved," Philip Aumann summarises.

\*Source: <https://io-link.com/de/>