

Modern logistics solutions with PROFINET

The logistics sector moves large quantities of products on a daily basis. Indeed, the global movement of goods never sleeps. This calls for efficient systems in which system availability is top priority. Time is money! The key to a real competitive advantage lies in innovative and efficient processes. The perfect marriage of innovation, productivity and safety in automation not only has a positive effect on quality but also on the cost structure.



Automation with PROFINET is your solution!

Whether used for partial or full automation of existing systems and equipment or in a new logistics center, PROFINET offers you tailor-made automation solutions for high-bay warehouses, conveyor systems, stacker cranes and sorters, as well as for other drive and conveyor technologies.

PROFINET – the worldwide standard

Trends in logistics

Globalization of markets and constant cost pressure

Need for continuous increases in productivity

Growing numbers of variants and increasing product customization

Reduction of in-house manufacturing depth and thus also rapidly changing production and distribution processes

Product diversity PROFINET has prevailed as the leading Industrial Ethernet Standard in the market. This globally-established and future-oriented technology is supported by numerous companies with a wide variety of products, thus ensuring long-term availability and investment protection.

Certification PROFINET is backed by a large number of manufacturers making products whose level of quality is assured by the PI certification program. In addition to this integrated quality assurance, PI offers you additional multifaceted support on all aspects of PROFINET.

Workshops Workshops for specific target audiences provide you the opportunity of becoming familiar with PROFINET from two perspectives. The goal of the PROFINET Developer Workshops is to inform companies about the various means of developing PROFINET products. The PROFINET User Workshops use specific case examples to provide you with a good overview of the use of PROFINET. PI Training Centers offer hands-on „Certified Engineer“ and „Certified Installer“ courses for installation of PROFINET systems. Information and additional offers, as well as current schedules, can be found at www.profibus.com/training.

Support Our accredited PI Competence Centers around the world are available to help you in case of technical questions and support requests. Our trained experts are your initial contact in this case. For interested parties, we offer additional documents, such as system descriptions or manuals, for a more in-depth introduction to PROFINET. For additional information, go to www.profinet.com.

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Innovation - Productivity - Safety PROFINET in logistics

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PROFINET in use in logistics



In order to shift from a manual driven sorter system to a very fast future-proof automatic one we introduced PROFINET for the first time. This new PN-based automation concept allowed us to increase productivity double digit wise. The new sorter has doubled the logistical capacity of the warehouse, with all new systems implemented in the existing building. The new process is also much more reliable: the error rate has dropped by factor of 10, to almost 0.

Samsonite was able to immediately reap the positive sorter experience into a green field warehouse project for slow movers. By integrating automation and safety tasks into one uniform architecture based on PROFINET and incorporating both wired and wireless communication, Samsonite can now operate this new warehouse with increased capacity without having to allocate permanent staff. Samsonite can now react quickly and flexibly to changing business demands. „We recently turned our slow movers warehouse into one for fast movers warehouse in record time.“

Samsonite Europe NV

„Safe, reliable - and wireless. Automation with PROFINET and conversion to wireless technology makes our shipping warehouse one of the most modern of its kind in the world.“

The brand new concept was introduced because of our stringent requirements for availability. We can't afford any equipment downtime. There are many improvements compared to the old system. For example, availability was lacking in the past. With PROFINET, we acquired some very good instruments for monitoring the status of individual machines and components and performing detailed hardware diagnostics. This enabled us to switch our maintenance strategy from a failure-based strategy to a scheduled maintenance strategy. The fact that the entire system uses one uniform and integrated safety solution based on PROFIsafe for all aspects of production is a great advantage for our technicians.

We are more than satisfied with PROFINET.“

Grundfos Management A/S



PROFINET at a glance



Communication

In many logistics centers today, you will find a large number of cables for various tasks. For example, process data are transferred over a field bus, plant data are exchanged via Ethernet, and separate cabling is also used in some cases for safety-related circuits. With PROFINET all of the machines and systems in your logistics chain can communicate over the same cable. Thus, PROFINET offers you unrivaled continuity and generous features, while reducing complexity as well as cabling and training expenses.

Cabling

For logistics systems that are spread over large areas, cabling often represents a significant cost factor. PROFINET enables you to use other structures beyond the line structure used commonly with established fieldbuses, namely, star, tree, and ring structures – the network topology follows the plant configuration. This reduces the cabling expense and simplifies the commissioning process. The result is a high degree of flexibility when planning your material flow.

WLAN and Bluetooth

PROFINET via wireless technologies allows you to develop new concepts for reliable, high-performance, and safe logistics systems that feature mobile machine elements, such as driverless transport systems and mobile HMI devices.

Drives

Drive technology is a fundamental requirement for all automation tasks. The requirements in the logistics sector vary significantly from one application to the next – ranging from drives with fixed and variable speed for transport tasks and single-axis positioning controllers for applications involving moving, adjusting, and positioning, to applications with multi-axis interpolation for packaging and other similar operations. With PROFINET you can implement a flexible, high-performance and efficient drive concept of any type.

Safety

By integrating the automation and safety technology into one integrated PROFINET-based system with wired and wireless communication, it is possible, for example, to safely operate a warehouse without specially assigned personnel. During peak times, when driverless transport systems and employees are working in parallel in the warehouse, the integrated PROFIsafe safety technology ensures reliable protection of both humans and equipment.

Diagnostics

PROFINET offers you powerful diagnostics as well as easy and efficient access to relevant device and network information. This enables fast and easy troubleshooting during commissioning and maintenance activities. The reliability of the network operation and the high system availability are top priority. Only a standard browser is needed for troubleshooting in the event that problems occur. Thus, service and maintenance can be performed regardless of the location and without the need for connection to the engineering system.