netTAP 151

Integration of pharmaceutical Process Skids into a Distributed Control System

netTAP 151 provides a flexible and scalable solution for an easy integration of independent processing systems into one industrial communication network.

netTAP 151 - at a glance

netTAP 151 is Hilscher's flexible solution for an easy integration of processing systems from different manufacturers into one industrial communication network.

➔ Provides fast and simple conversion of numerous different Real-Time Ethernet protocols: Conversion rate in typical use cases under 5ms
➔ Reduced commissioning time due to generic process data mapping
➔ Less engineering costs

netTAP 151 is facilitating the integration of various independent process skids into a distributed control system (DCS) by seamlessly converting different industrial communication protocols, for example in the biopharmaceutical sector.

> *"netTAP 151 solves the challenge of integrating automation components and systems with heterogeneous communication standards into industrial networks in a unique and flexible way. The product's capability of converting all relevant Real-Time Ethernet protocols into another solves various integration challenges and results in a significant decrease of efforts and a fast time to market for our customer's solutions."*
>
> Tim Pauls
> Group Leader Communication Products
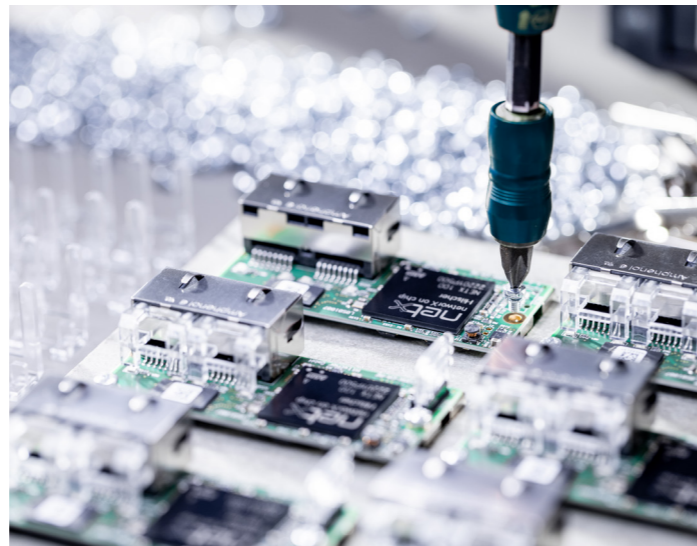> Hilscher Gesellschaft für Systemautomation mbH

One hardware, all protocols: Hilscher's multi-protocol technology offers users unmatched flexibility

The challenge: Access to historian data
The core business of one of Hilscher's customers encompasses products and engineering services for a wide range of industrial, commercial and customer markets, one of which is the pharmaceutical and chemical industry. With its in-house developed Distributed Control System (DCS), the system integrator offers one of the most important parts of a pharmaceutical or chemical production plant. Such DCS systems consist out of two major components:

➔ Software to visualize, monitor and operate chemical processes
➔ The controller, which directly influences the Process Skids and provides access to the internal data of the process

One major feature of the DCS is the accessibility of historian data of the processes, which enables operators of chemical plants to automatically generate signed batch reports, which are crucial for quality assurance in order to meet the high demands set in the pharmaceutical sector. Since this feature requires access to the process data such as temperature or pressure during specific stages of the manufacturing process, the extend and complexity of the DCS' integration highly depends on the customer needs.

netX communication controller: Every protocol at your hands within one hardware

Translation between DCS and process skids
In a specific use case, a biopharmaceutical company from India wanted such a DCS to control various independent process skids from different manufacturers. However, the process skids were using PROFINET IO as communication protocol, while the DCS of Hilscher's customer was relying on Ethernet/IP, setting the task of combining these two types of devices.

Reduction of cost and complexity
Typically, the biopharmaceutical company would have to integrate the process skids via separate IO cards for the DCS, causing high engineering costs and posing the risk of long commissioning times. At this point, the netTAP 151 comes into play as it offers one of the easiest, fastest and most flexible solutions to convert various Real-Time Ethernet protocols. Providing a generic conversion from any common industrial communication protocol to Ethernet/IP, the DCS can be easily integrated in different process skid, facilitating the setup of complex chemical production processes.

Flexible protocol conversion with netTAP
netTAP 151 helps to remedy the complex integration of third party process skids into the manufacturing process. Although the conversion of the industrial communication protocols in this case only applies to PROFINET IO and Ethernet/IP, customer options do not end there. Profiting from Hilscher's multiprotocol approach, the automation solutions provider is able to easily integrate different devices and solutions as netTAP 151 offers connectivity from Ethernet/IP to EtherCAT, Open Modbus/TCP, PROFINET IO, POWERLINK, Sercos III and even to Ethernet/IP. In total, the device supports up to 45 conversions with a single hardware.

netTAP 151 is the ideal solution for installations with heterogeneous networks in order to exchange data across certain network boundaries. The gateway maps the process data of the process skids, regardless of the manufacturer, exactly according to the requirements of the DCS. This makes it especially easy for Hilscher's customer to scale his production systems with the DCS and netTAP 151. With this solution, the system integrator can offer his customers more flexibility and a high degree of freedom in supported automation components with minimum effort.
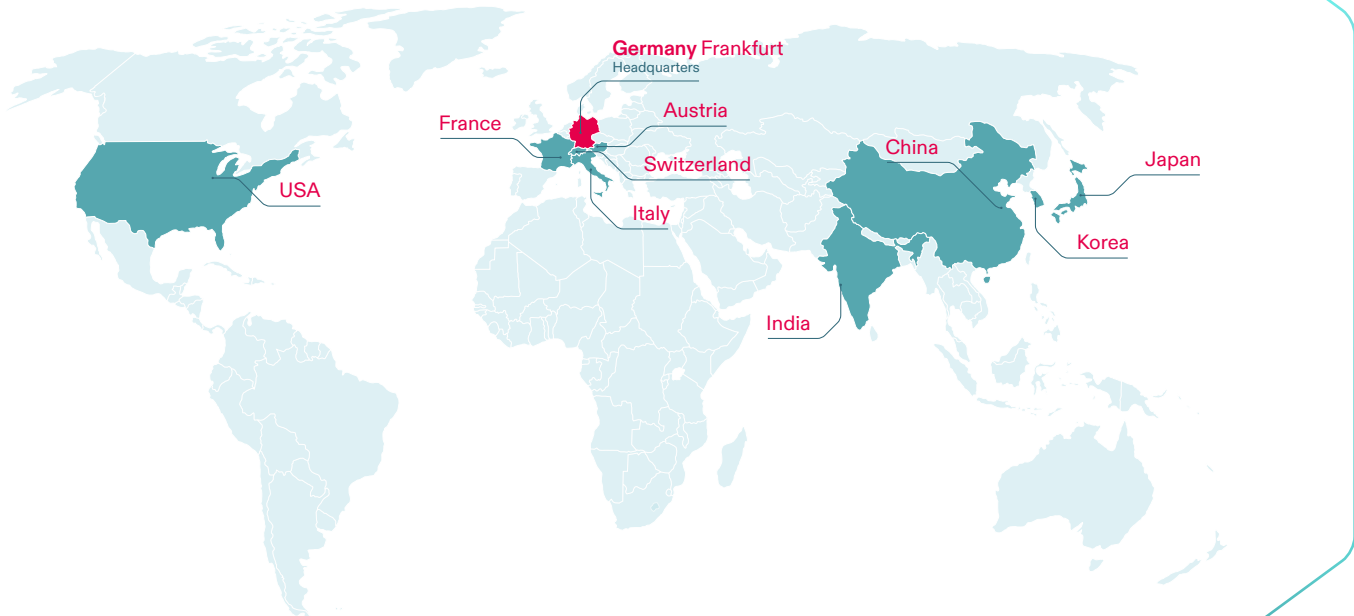
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