Technology today
In applications such as gantry cranes that are used to hoist, lower and move material horizontally, wired automation solutions have a number of disadvantages. Trailing cables and contact conductors are susceptible to wear and tear. Cable breaks or short circuits due to leaky connections lead to unplanned and costly system breakdowns. The systems must therefore be regularly inspected and maintained.

Wireless communications eliminate these issues and unnecessary down time. Wireless control of cranes provide users more flexibility, lower installation costs, simplified expansion options, and reduced maintenance costs.

Wirelessly controlled cranes
Wireless cranes offer the freedom and cost-savings associated with trailing cables, while still providing the critical safety support needed utilizing a PROFIsafe network. Operators can manage crane functionality from a centralized control station, or from any point on the plant floor using a mobile HMI. Both options offer increased flexibility and efficiency.

Properly positioned access points define the accessible work area which can be as small as one access point or as large as a network of access points with proper planning.

usa.siemens.com/gantrycranes
Data is transferred between the control system and cranes via Industrial Point Coordination Function (IPCF) or Industrial Point Coordination Function – Management Channel (IPCF MC). Standard data such as transport orders, status messages and failsafe communication can run in parallel on the same connection. For this purpose, each crane is equipped with an Industrial Ethernet client module that is connected to the crane controller.

Because there is no wired connection, communication between the control system and the cranes, and between the cranes themselves and their environment, must run on a reliable and robust wireless network.

**IPCF**
Siemens proprietary IPCF is made for Industrial Wireless real-time applications. So what is the difference between a standard wireless system and IPCF? IPCF is an enhancement to the 802.11 standard that Siemens developed to improve the usability of 802.11 Wireless LAN systems for real-time communications.

Using IPCF, the Access Point works as a traffic coordinator and polls the clients for their IO data in short cycles. This allows PROFINET cycle times as low as 16ms over Wireless, and roaming times below 50ms. No other wireless system on the market is capable of this.

**Applications**
- Steel-works
- Warehouses
- Large Body Assembly facilities
- Material Handling and Logistics

**Features and benefits**
- Clear cost savings, both in installation and in operation
- Wireless interface allows for easy access and control
- Increased productivity and efficiency due to the absence of trailing cables
- Integration with Ethernet: easy connection to the control and company management levels

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

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