

IMHX 2016 Best Bits

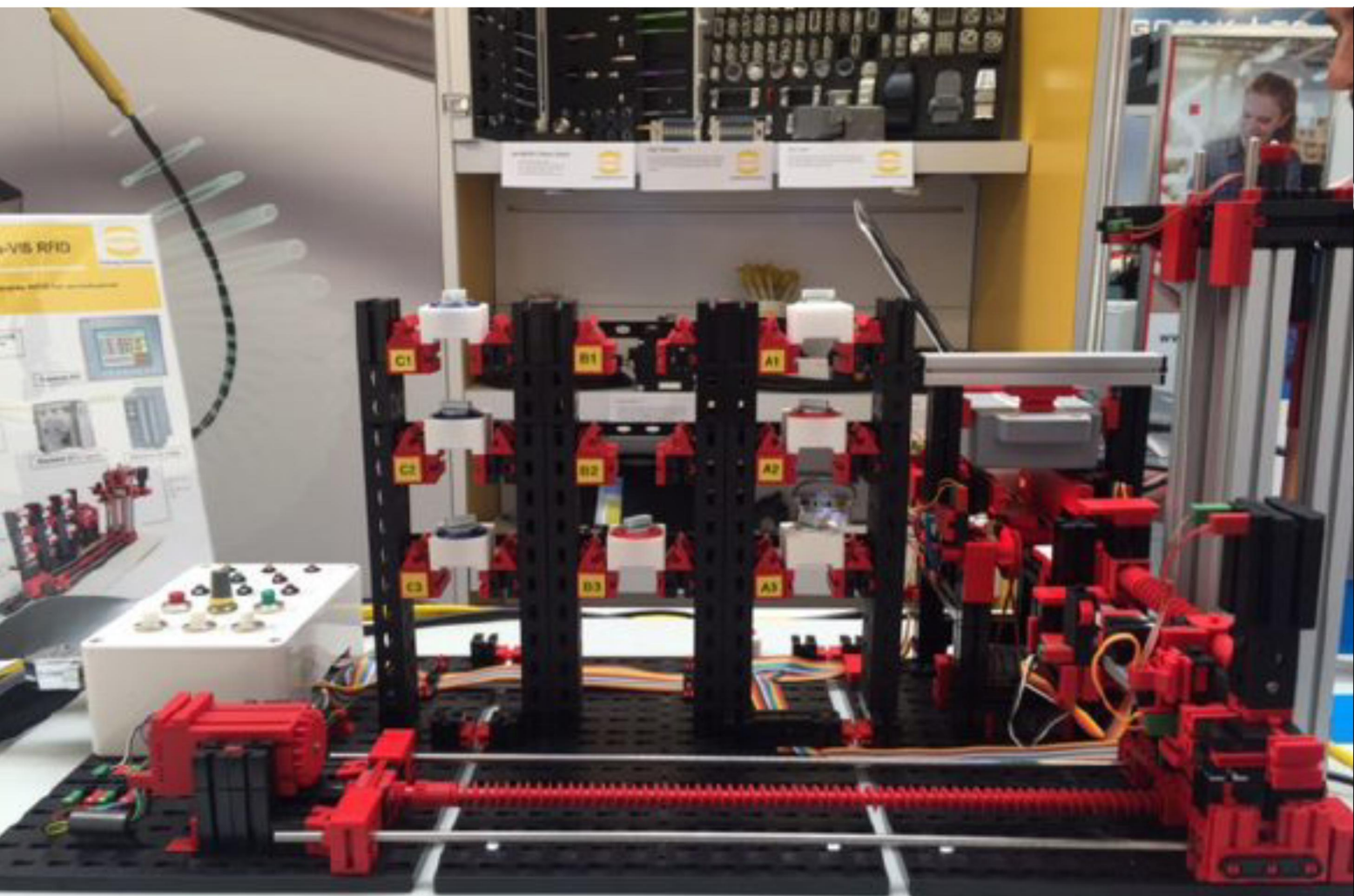
HARTING RFID system is key to Hi-Bay warehouse training model developed by INTACS Industrial Training

HARTING's Ha-VIS RFID system forms a key element in the Hi-Bay warehouse training model developed by INTACS Industrial Training and was being demonstrated on the HARTING booth (Stand UK14) at the IMHX Exhibition (NEC, Birmingham, 13-16 September 2016).

The Hi-Bay training model consists of a 9-bay warehouse system which is fed via a high-speed crane from an integral load/unload station. Product variants (red, blue or white goods) carry HARTING RFID transponder tags to identify the product ID and details, and the goods are placed on pallets for storage. The load/unload station houses a HARTING RFID antenna, and as the loaded pallet passes through the station, the RFID product information is read and transmitted to a HARTING Ha-

VIS RFID RF-R300 and sent over an Ethernet link to a Siemens S7-ET200S I/O module. The HARTING Ha-VIS RFID reader can communicate directly with the S7-1500 PLC controlling the Hi-Bay Warehouse or via the I/O module located remotely and networked wirelessly or via either PROFINET or PROFIBUS.

For the demo, the product details are transferred from the HARTING transponder attached to the product via the antenna



to the Ha-VIS RFID reader and then via PROFINET to the PLC. The PLC is programmed using the latest TIA-Portal STEP7 software, and the program allocates an appropriate empty bay to house the red, blue or white goods loaded on the pallet. The loaded pallet is picked up by the integral high-speed crane and delivered to the selected storage bay. The product ID and details stored on the RFID transponder are transferred to data blocks in the PLC's memory, which tracks and records stock in the Hi-Bay warehouse. Further loaded pallets can be placed on the load/unload station for storage in the Hi-Bay.

A Siemens KTP colour HMI touchscreen provides a graphical view of the product variants in the storage bays in the Hi-Bay warehouse. The HMI is connected by PROFINET to the PLC, and allows operators to select a product to be removed from the Hi-Bay and delivered back out to the load/unload station.

The Hi-Bay crane is sent to "pick" the pallet from the selected storage bay and transport the pallet and product to the load/unload station. As the pallet and goods move back through the load/unload station, the RFID product ID and details are re-transmitted to the HARTING Ha-VIS RFID reader, transferred over PROFINET to the S7-1500 PLC, and compared with the selected product code to ensure that the correct product has

been "picked".

The HARTING Hi-Bay demonstration at IMHX is intended to illustrate the simplicity of an application in replacing barcode information on goods (in this case for storage in a Hi-Bay Warehouse) using vastly more powerful, easily programmable and flexible RFID technology linked to industry standard PLCs with proven data networking.

INTACS Industrial Training works closely with a number of leading equipment manufacturers, including HARTING, to provide PLC/automation and electrical training to OEMs and end-users. INTACS can provide training on the use of RFID technology as well as the implementation of RFID into control systems such as the Hi-Bay application.

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