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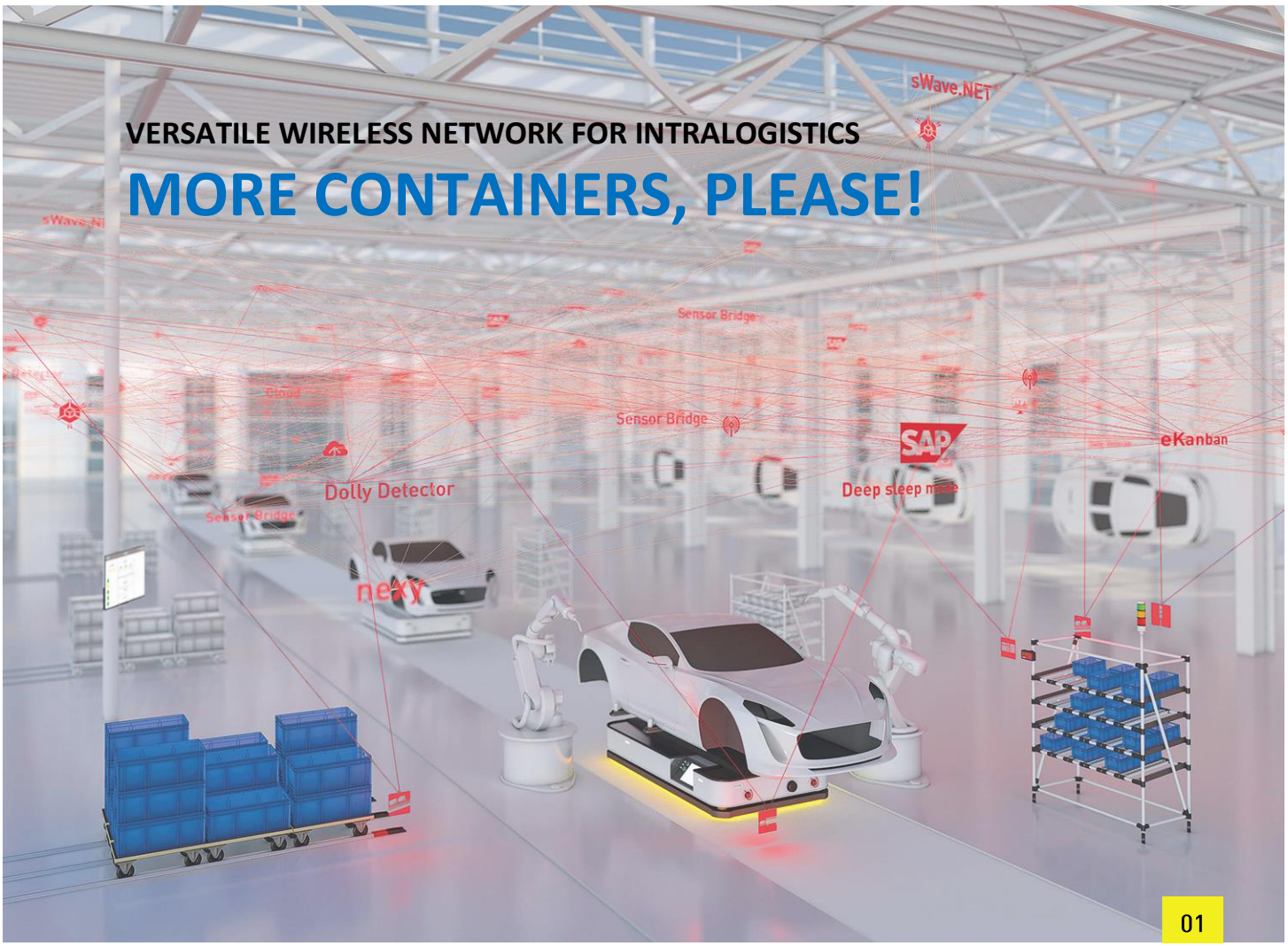

VERSATILE WIRELESS NETWORK FOR INTRALOGISTICS

MORE CONTAINERS, PLEASE!

The best solution for precise management of material requisition in assembly and production halls is a wireless network which keeps its eyes and ears open – so to speak – and knows where replenishments are located at all times. This guarantees that all assembly points are kept supplied – without shortfalls, across the entire process.

The production of cars and their supplier parts, or of electrical and household devices, demands a continuous supply of core components, as well as B and C parts such as mounting and fixing elements. This process is hardly manageable without a high-performance ERP system. Nevertheless, there are still some tasks which state-of-the-art ERP systems are incapable of, or barely capable of mastering. One example: in practice, replenishment times for supplies are fairly long, leading to a circulation of high quantities at any one time, as well as to a considerable space requirement for SLC containers at material collection points and storage locations. Automatic triggering of SLC replenishments is therefore desirable – with the aim of reducing the elapse of time between complete emptying

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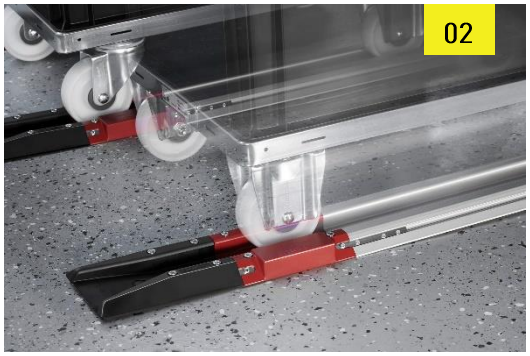

01 In many areas of industry, wireless-based real-time stock management of containers can be very beneficial

02 Robust wireless sensors provide material stock transparency in dolly stations

03 Detection from above: laser sensors can detect quantities of palletised goods or palletised containers, but also the fill levels of large load carriers

04 Via the nexy app, users can teach in and manage the nexy components – out of the office, on site

of a container and the arrival of its replenishment. Several years ago, this desired specification was the starting point for development of a wireless network facilitating the management and tracking of (SLC, LLC…) containers – and not just by scanning them at certain points, but across the entire material flow. Thanks to the lack of cables, this also includes containers located in e.g. eKanban racks or currently being transported to their destination via AGV or tugger train.

WIRELESS-BASED STOCK MONITORING

The nexy system developed by steute functions as follows: the communication medium is a wireless protocol featuring high transmission reliability, even in industrial conditions (other wireless networks, radiation…). At the shop floor level, wireless sensors transmit and receive signals, which are in turn received by Access Points, which then pass them on to a Sensor Bridge. This Sensor Bridge assumes the function of an interface to a superordinate ERP, WMS or PPS system. This guarantees that nexy is fully integrated in the material flow at the IT level and is able to fully fulfil the function of an automated material requisition system.

COMPREHENSIVE RANGE OF SENSORS

There are multiple factors which make nexy extraordinarily versatile in practice. One factor is a comprehensive and continually expanding range of wireless sensors and actors. Some series have been especially developed for the requirements of automated material requisition systems – for example, tilting sensors which detect the presence of containers in mobile eKanban racks, or sensors for the detection of dollies on monorails in material stations and supermarkets. New additions to the range include long-distance laser sensors which can detect not only the existence of pallets and (large) load containers, but also the fill levels of containers.

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PRECONFIGURED APPLICATIONS, TEACHING IN ON SITE

The second factor promoting the versatility of nexy is the preconfigured software solutions available from steute for the most common applications (eKanban, AGV, dolly monitoring…). This enables the system to be quickly and easily implemented and adapted to individual requirements. This has now become even faster and simpler with the help of an app. It facilitates, amongst other things, the teaching in and management of all field components on site, considerably easing initial operation, especially with larger nexy installations involving several hundred field devices. Operators only have to scan in the ID codes of nexy sensors and actors, and then they can parameterise them from wherever they happen to be – during the initial operation, but also during maintenance or when modifying or expanding the wireless system.

ONE WIRELESS NETWORK – MULTIPLE APPLICATIONS

Another very practical advantage of nexy is that multiple applications can be operated using one and the same wireless and hardware infrastructure. Users can – to name just a few examples – control and monitor material flow in eKanban racks, in dolly stations or in material supermarkets; but they can also – in parallel – integrate AGV fleets or Andon systems in the nexy system for wireless-based goods consignment – or signalling columns and indicator lamps for visualisation of the status of various operations.

MATERIAL FLOW TRANSPARENCY

The continual further development of nexy also encompasses the human-machine interface and simplifying the configuration or modification of the system – not only via app. At the Motek 2023 (Hall 5, Booth 5230), steute will be showing current examples on a demonstrator. Here a configurable dashboard visualises the current status of all sensors in real time. Via a standard browser, users can display their own choice of overviews on any number of monitors. In addition, logical functions such as "traffic light controls" (red/yellow/green) can be customised and also displayed. This creates transparency in the material flow, controlled and monitored via the wireless network seamlessly and at all times.

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