# Klinikum Nürnberg

As one of the largest municipal hospitals in Europe, Nuremberg Hospital is a hospital providing maximum care. With its approximately 7,000 employees, it treats just over 100,000 inpatients and approximately 170,000 outpatients each year. The Nuremberg Hospital has a total of 42 institutions – including the locations Nuremberg North and Nuremberg South as well as various interdisciplinary centers. It relies on PSIwms to supply all departments and locations with all non-pharmaceutical consumables.

## The challenge

On the wards of the hospitals and in the medical centers, many different materials of daily use are constantly needed. They are all supplied from the central warehouse at Nuremberg Hospital North. It is important that logistic processes

## Information

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**Industry:** Health care
**Warehouse location:** Nuremberg, Germany
**Employees:** 7.000
**Turnover:** €540 million

**Deployed software:** PSIwms
**Realized interfaces:**
+   ERP system (SAP)
+   Kanban system (in-house development)
+   Online catalog (in-house development)

> The flexibility of the WMS and the integrated Kanban system enable the hospital to proactively take precautions, e.g. for the care of many injured persons. For example, in the system, it is possible to switch virtually at the push of a button by switching from normal care to prioritized (primary) care of internal customers with material for the treatment of injured people.
>
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are optimized in a way that the ward supply is guaranteed at all times to ensure a fast and essential supply of the patients. The Nuremberg Hospital also expressed the wish to integrate a plausibility check in PSIwms which ensures that no unusually high quantities of consumables can be retrieved by a ward within a defined period of time.

## The solution

To meet the demand for quantity monitoring, a so-called system of requirements was created, which corresponds to a set of rules whose extensive master data is stored in PSIwms. This system precisely describes everything: from the property, to the buildings, the floors, the existing rooms with their material cabinets and integrated material compartments, including the number of items. In addition, different persons of the individual wards are created as users, so that a total of several hundred persons can initiate an order process.

There are two ways to place an order. The replenishment of material cabinet items, for example, is carried out via a Kanban system. This means that when replenishment is required, the Kanban card of the respective material compartment is scanned. PSIwms then receives a request to restock the compartment. The second source used by the wards to procure supplies is a web store. Staff can select and order items using an online catalog. In this case, a corresponding request is also made to PSIwms.

All incoming requests in PSIwms are now checked using the set of rules. If it is determined that an item exceeds a certain quantity in a defined period, PSIwms rejects the request and a manual correction may be made. For all requirements passing the plausibility check, PSIwms generates a stock removal order. This is transferred to the SAP system via a web service interface, which has been implemented with an IDoc data structure based on XML with style sheets (xslt), and the correct booking is made.

Each ward has fixed delivery days. On the day of delivery, all orders collected by the ward up to that point are manually picked and packed into ward-specific material transport trolleys. Delivery notes generated from PSIwms are attached to the route trains. The so-called supply runs are partly carried out via underground supply tunnels beneath the hospitals. The cross-docking procedure is used for processing order-related or out-of-stock items. This means that the items do not remain in the warehouse but are directly passed on to the wards by the goods receiving department.

## Fact sheet

**Users:**
+ approx. 25

**Language:**
+ German

**Warehouse characteristics:**
+ Approx. 800 sqm of warehouse area
+ Approx. 8,500 warehouse spaces to be managed
+ 4-row narrow aisle warehouse: 2 pallet lanes + 2 container lanes
+ Paternoster for small parts
+ Tray warehouse: 37 trays with 24 warehose locations per tray
+ 2 rooms with block warehouse for hazardous materials
+ 1 special warehouse with shelf
+ Material transport trolleys for supplying the wards (route trains)
+ On average approximately 10,500 picks per day

**PSIwms functions in use:**
+ Automated testing
+ Cross-docking
+ Master data management
+ Handling units management
+ Empties and loading aids
+ Stacker control system

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