Labor Blackholm MVZ

Atellica Inventory Manager

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Case Study

SIEMENS Healthineers

Labor Blackholm Medizinische Versorgungs Zentra (MVZ)

Automated Inventory Management

"It has brought calm."

Andreas Böttinger-Weller can sum up his thoughts in exactly four words: "It has brought calm." He's talking about the Atellica® Inventory Manager. Since the automated, real-time inventory management system was introduced at Labor Blackholm, the calm he's referring to has spread throughout the ordering system. "We have no more hectic anxiety because a reagent is missing or it's unclear how much of a product needs to be reordered. Nobody's blood pressure is skyrocketing because expensive materials have passed their expiry date," said Böttinger-Weller.

Read on for a success story that begins with five fingers and ends with an important side benefit.

A hand is held up with its five fingers spread out. It belongs to Lars Schoch, technical head of the Immunoassay and Clinical Chemistry departments. He's indicating how many employees used to be involved in the ordering process for reagents and other materials. There was one representative each from the Clinical Chemistry, Immunology, Hematology, Protein Analytics, and Genetic Analytics departments.

Five people, all of whom were occupied by the warehouse and manual, paper-based ordering for several hours every week.

Labor Blackholm MVZ, a private laboratory in Heilbronn, Germany, provides a full range of analysis services for doctors and handles almost 10,000 samples per day. "Medical lab diagnostics on a scale of this size require sophisticated logistics," explains Andreas Böttinger-Weller, head of the Immunoassay and Clinical Chemistry departments. The appropriate quantities of reagents and consumables must be in stock at all times: not too many, because storage space costs money, and the sensitive substances have a short shelf life, but not too few either, or the laboratory will not be able to perform all of the required analyses in the space of a few hours.

Andreas Böttinger-Weller (left) and Lars Schoch (right).

Labor Blackholm in Heilbronn, Germany, provides a full range of analysis services for doctors and handles almost 10,000 samples per day. Approximately 80% of analyses are performed using Aptio® Automation. Analyzers include six ADVIA® Chemistry XPT Systems, nine ADVIA Centaur® XPT Immunoassay Systems, and two IMMULITE® 2000 XPi Immunoassay Systems.

Goods Receipt: “A Quick Scan and We’re Done”

Blackholm obtains most of its reagents from Siemens Healthineers European Distribution Center (EDC) in Duisburg, Germany.

Pallets containing several hundred different items are delivered once or twice a week. Their outer packaging is usually no bigger than a cookie box (approximate dimensions in centimeters: 20 L x 5 H x 15 D). Depending on the packaging size, one shipping box can contain up to 50 units. The boxes can fill one Euro pallet (800 x 1200 mm) when stacked four by four.

Blackholm stores, consumes, checks out, and reorders approximately 50,000 reagent packs per year. The five employees Lars Schoch counted on his fingers had their hands full doing so until the end of 2018.

Back then, much of the ordering work was done manually. That has changed considerably since the Atellica Inventory Manager was installed. Now, automated functions greatly simplify the supply process.

This starts with the receipt of goods. “We scan the barcodes on the shipping boxes—and then we’re done,” explains Schoch. The barcode “knows” which articles were packed into the boxes in Duisburg. A simple touch of a button on the handheld device starts the automatic check-in process, including all the data required: product name, lot number, delivery date, and expiry date. All that remains is for the goods to be moved into the cold store or placed in room-temperature storage.

Fresh goods: Labor Blackholm receives new reagents and consumables once or twice a week.

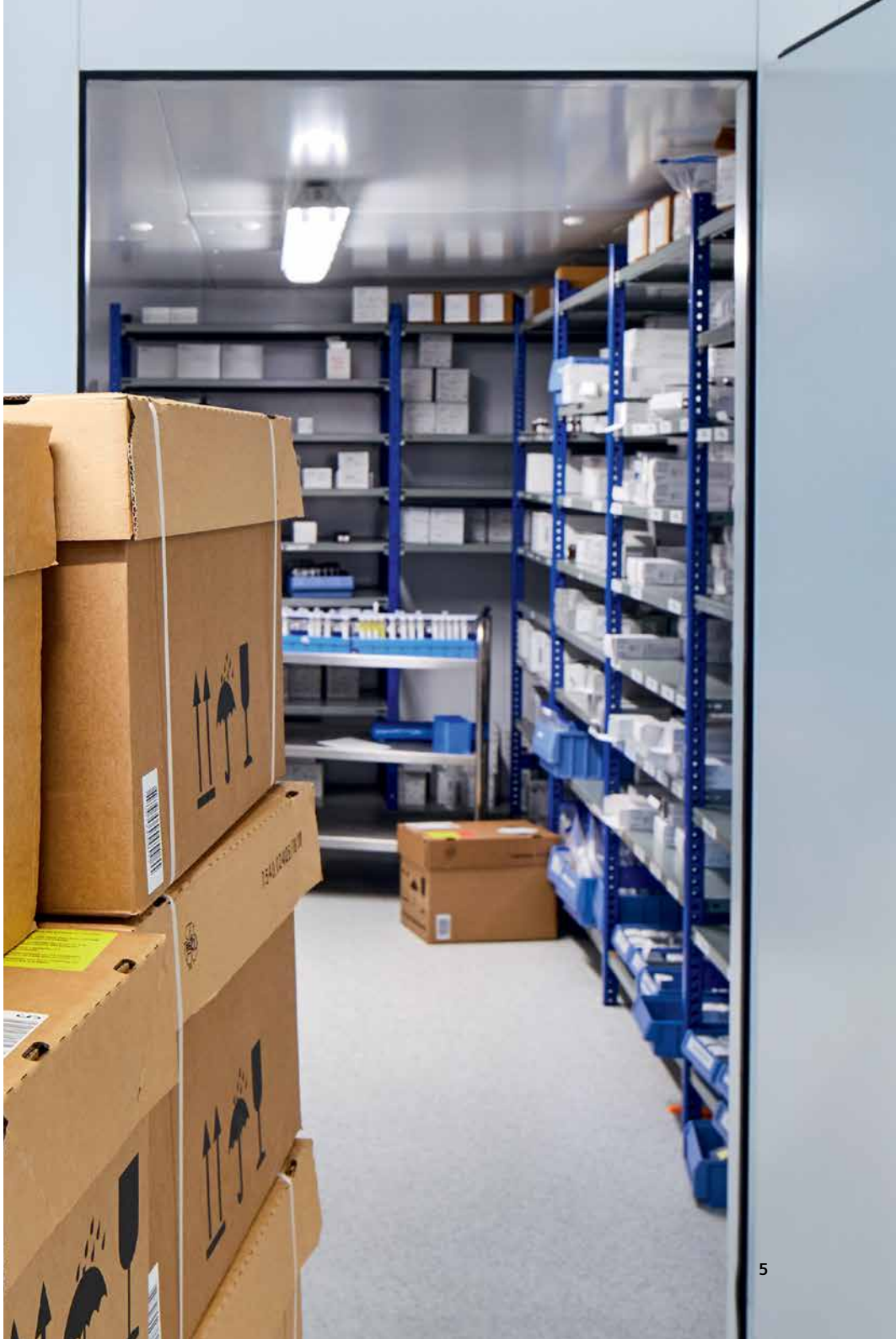
Scanning the barcode and entering all the data for the box’s contents into the inventory management system: product name, lot number, delivery date, and expiry date.

Now for the Clever Bit

How are the items checked out of inventory for use? This brings us to what Böttinger-Weller calls the "clever bit": automatic check-out.

"Employees pick the items they need from the warehouse in the same way we take a jar of honey from the cupboard at home," explained Böttinger-Weller. "There are no formalities and none of the scanning that's required in barcode systems. While most people at home have to keep a close eye on their food stock levels to update their shopping list, our employees can relax, because the stocks seem to replenish themselves."

Automatic inventory control for the entire laboratory is considered by Labor Blackholm to be a major advantage of Atellica Inventory Manager because items are checked out and replenished seemingly all by themselves.



The empty outer packaging is collected in a container. The key piece of technology here is the radio-frequency identification (RFID) tag.

RFID Technology for Inventory Control

The outer packaging of individual products is crucial for automatic reordering and hence a reliable, continuous supply. An RFID tag attached to every item of outer packaging uniquely identifies each unit. These special labels are also known as transponder tags.

Andreas Böttinger-Weller explains the check-out process: "Employees empty the packaging and throw it in a waste-paper container. To dispose of the packaging, the container is taken to the ground floor in one of two goods elevators. When it leaves the elevator, it goes past four RFID readers. The readers' 25 x 25 cm antennas are installed at a height of 2.5 meters so they can capture the entire contents of the container." This is the crucial moment of check-out: All RFID tags in the container are read in seconds. Experts in the field call this "bulk reading."

"It works perfectly," confirms Böttinger-Weller. "Even if there are 50 or more empty boxes strewn over each other in the container, the RFID antennas read every single one."

The inventory list is updated in real time, as the antennas are connected to Atellica Inventory Manager via the facility's local area network (LAN).

Empty Packaging as a Data Source

For this system to work, the RFID tags must come into the antennas' coverage area. That's why employees are instructed to throw empty packaging into the containers provided for that purpose. However, even if someones takes an item of packaging home with them, it doesn't matter, as long as they use the elevator or staircase. The antennas are aligned so that they can read the tags.

The ordering cycle ends when the goods are checked out of inventory. Atellica Inventory Manager monitors consumption and creates order suggestions if stocks fall below the predefined minimum level. Generally, Lars Schoch submits this list with two or three mouse clicks. The next day, the new stock arrives and is entered into the inventory.

The container of empty packaging is taken from the goods elevator. RFID antennas read the entire contents of the container.

Siemens Healthineers goods are prelabeled with RFID labels before delivery. Lab employees print RFID tags for shipments from third-party suppliers. This allows third-party products to be included in inventory management using Atellica Inventory Manager.

Third-party Goods Are Covered Too

The goods ordered from Siemens Healthineers are prelabeled with RFID labels when they are received, but the lab can also handle items from other suppliers using Atellica Inventory Manager. To do so, Lars Schoch attaches RFID tags to them.

"We print them out when checking goods in and stick them onto the outer packaging."

The rest is taken care of by the waste-paper containers, in the same way as for the Siemens Healthineers products.

One Thumb Instead of Five Fingers

"Previously, all departments submitted their own orders," explains Schoch. "Every time, the colleague in question had to do a laborious manual stock-take beforehand to avoid ordering too many or too few items. This took up a lot of time. Then Atellica Inventory Manager came on the scene. The entire onboarding process from hardware installation to live operation took just 4 weeks." Since then, Schoch no longer needs all five fingers on his hand to count the members of the ordering team. He just needs his thumb, which is pointing at himself: "I do the whole process on my own."

Printing a label.

All storage areas are monitored.

Attractive Workplace Provides a Competitive Edge

Andreas Böttinger-Weller sees an additional benefit of Atellica Inventory Manager: "The other colleagues involved—all highly qualified medical technicians—have little to do with the logistics procedure. Instead, they concentrate on what they do best and what they are trained for. That is definitely not ordering clinical calibrators or cholinesterase reagents. Rather, it's all about handling samples and analyzing them."

"Laboratory work is currently experiencing significant skills shortages," says Andreas Böttinger-Weller. "Because of this, we need to ensure that staff do not get frustrated with tedious routines that distract them from their proper work."

Ordering supplies is no fun and can be annoying. That's why Böttinger-Weller is convinced automation using Atellica Inventory Manager "is appreciated by colleagues, because it shows we value their qualifications." This makes the lab an attractive place to work— an important benefit that is valued at Blackholm and deemed a competitive edge in view of the current skills shortage.

Labs use Atellica Inventory Manager solely for inventory management. It is not a merchandise management system, so prices are not entered or stored in it.


offene Troponin
TROP 0
offene HCG
HCG 0
offene D-Dimere
DDIM 1
Decapper Abfall
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Published by
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Published by Siemens Healthcare Diagnostics Inc. · Order No. 30-22-DX-1444-76 · 07-2022 · ©Siemens Healthcare Diagnostics Inc., 2022