

Kaercher Reduces Inventory by 15% while Enhancing Customer Service



Overstocks cost retailers billions of dollars tied up in holding and storing goods. A study by Tyco Retail Solutions put the figure at **\$362.1 billion** every year.

Kärcher – a global manufacturer of cleaning technology such as pressure washers, vacuums, floor scrubbers, and more – supplies over 3,000 products to customers worldwide and is committed to offering them exactly what they need. It’s critical that their supply chain is both efficient and effective, which means striking the balance between eliminating costly inventories while still providing excellent customer service.

The Global Supply Chain Division at Kärcher is responsible for stocks worldwide. From receiving raw materials in the plants to delivering the final product to the customer, every single movement of materials, spares, and accessories falls under their remit.

The Analytics and Performance Management Team, headed by Antonina Polkovnikova, helps optimize supply chain performance using the best tool at their disposal: data.

Polkovnikova and her team recently identified an opportunity to improve supply chain performance with a data-driven solution to reduce overstock without disrupting their excellent customer service while enabling savings of tens of millions of euros worth of inventory across the organization.

Company

Kärcher

Alfred Kärcher SE & Co. KG, a family-run company employs over 12,300 staff in more than 110 companies in 67 countries. Innovation is the most important growth factor. Over 1000 employees work in R&D at the cleaning machine manufacturer.

Manufacturing

Retail

Inventory Distortion

Stock Recommendation System

The Goal: Reduce Overstock Sustainably

Overstock occurs when a part or product is kept in storage in quantities much larger than is needed. Kärcher measures the average time goods are in the warehouse until used or sold in “stock days” and KPIs are set to avoid excess inventories.

Each Kärcher location worldwide was responsible for monitoring their own overstock, each with their own approach to meet the KPI targets. At over 80 locations, that’s over 80 different approaches. Some monitored every product manually, some analyzed in Excel, some focused on low stocks of fast-moving products, while others simply stopped ordering and restarted only after meeting their targets.

Different approaches meant higher risk of stock outages for fast-moving products, leaving the company unable to meet customer expectations (while carrying stock overages, and thereby higher inventory costs for slow-moving “B” and “C” articles). Each subsidiary was spending too much time on their own analysis, and coming to the Analytics and Performance Management team with questions.

To achieve their KPI target, teams were treating the symptoms rather than finding the cause for the overstock. They needed to dig deeper to reveal information that KPIs don’t cover to find the root cause for overstocks.

Kärcher needed a proactive and sustainable solution to reduce overstock and maintain an efficient and responsive supply chain.



From Lagging Indicators to Leading Indicators

Antonina Polkovnikova's team began by centralizing how overstock was measured. They developed a solution in KNIME to gather and analyze data from all Kärcher subsidiaries and forecast stock issues across the entire Kärcher organization.

As the team built the new KNIME solution, they integrated expertise from logistics experts at Kärcher, which helped them identify and merge considerably more data to gain the full picture of how stocks are handled.

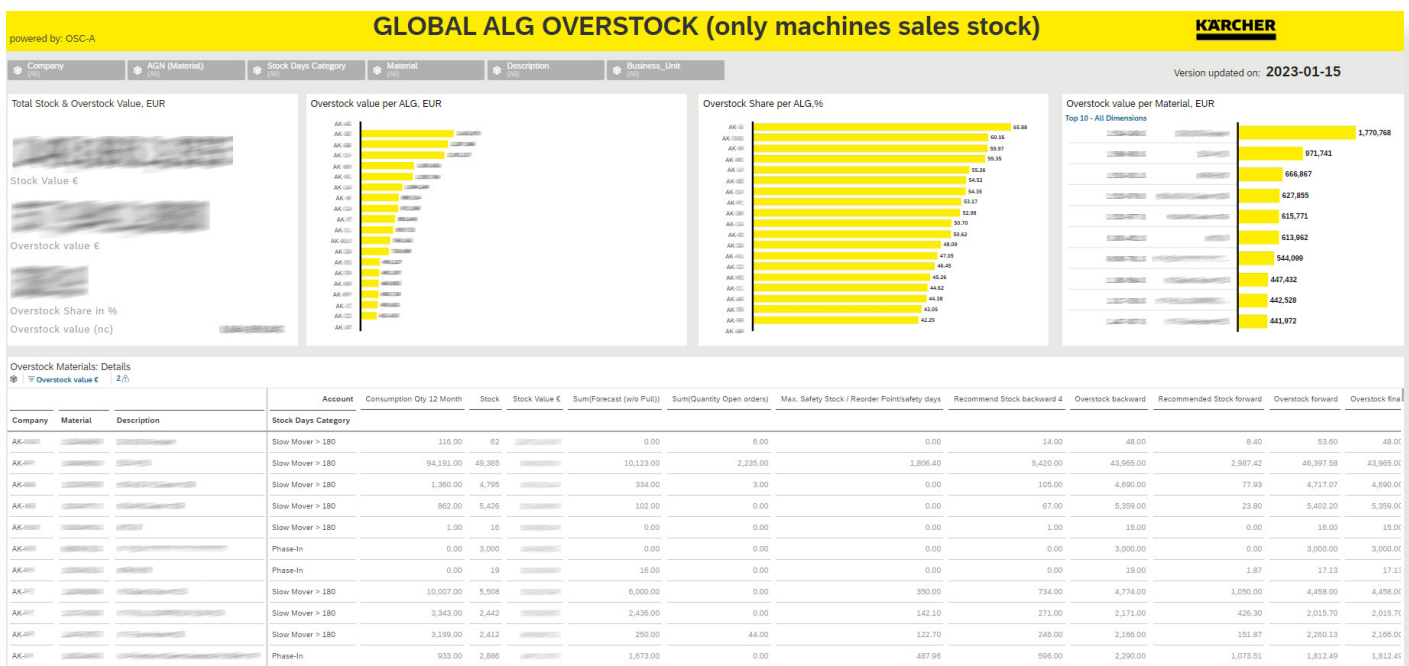
“We now make extremely precise stock-level recommendations by computing huge quantities of data – from current stocks, to open orders, to delivered orders, to planned promotions, to master data and more. Our computed solution is able to take much more data into consideration than is humanly possible and produce extremely accurate forecasts,” said Antonina.



Fully Operative Analytics for All Levels

The solution presents the data in a dashboard, which is updated once a fortnight. It focuses on the top ten materials for each location, representing approx. 60% of overstock, while still providing the full picture on the other 40%.

Stakeholders can review the information, filter, and dive into the analysis to derive alert-based action. There is no longer any need for each Kärcher location to come up with their own analyses.



Inventory Value Reduced by 15% at Continued High Service Level

The dashboard provides details about stocks at all operative levels, with detailed information about the smallest product group right up to insight for top management. This makes the solution insightful for all levels with direct calls for action at each stage.

“With the new solution, we’ve reduced inventory value by 15% while maintaining our customer service level,” says Antonina Polknikova.

And with stock information now centralized, Kärcher can set internal benchmarks for the most efficient and responsive supply chain.

Why KNIME?

A Reusable and Sustainable Solution

The person with the best skills to optimize supply chain performance is the supply chain specialist. But these people aren't usually programmers; neither do they want to become one.

In KNIME's no-code/low-code environment the team can build and implement complex approaches themselves as well as share and reuse workflows. For example, the task of merging data of different types from multiple in-house systems and databases for their solution was challenging, but they only had to do it once.

Onboarding of New Specialists is Fast

Collaboration is also easier. If a team member is out of office and a subsidiary calls needing an update or a change in the logic, other colleagues can jump in and adjust and run the workflow for the subsidiary because of the immediate clarity of the low-code platform. And when a new specialist joins the team, they only need a couple of weeks to be onboarded in KNIME.

Performance Specialists Focus on More Value-Adding Activities

With the single overstock solution covering Kärcher's entire supply chain, the supply chain performance specialists no longer have to perform individual analysis for each subsidiary. Instead they are freed up to work on further value-adding activities.

They are now also using KNIME to analyze ordering behavior and reconcile demand and financial forecasts. When subsidiaries have a high financial forecast but a low demand forecast, they can reduce procurement to achieve the financial and sales targets. Vice versa, they might run into a risk of ordering too much, thus causing overstock.

Using KNIME they have found a way to reconcile these forecasts, ensuring the supply will be replenished just in time to meet customer demand.

“With the new data-driven solutions we have set a precedent. We're now able to improve efficiency and customer service in parallel,” said Polkovnikova.