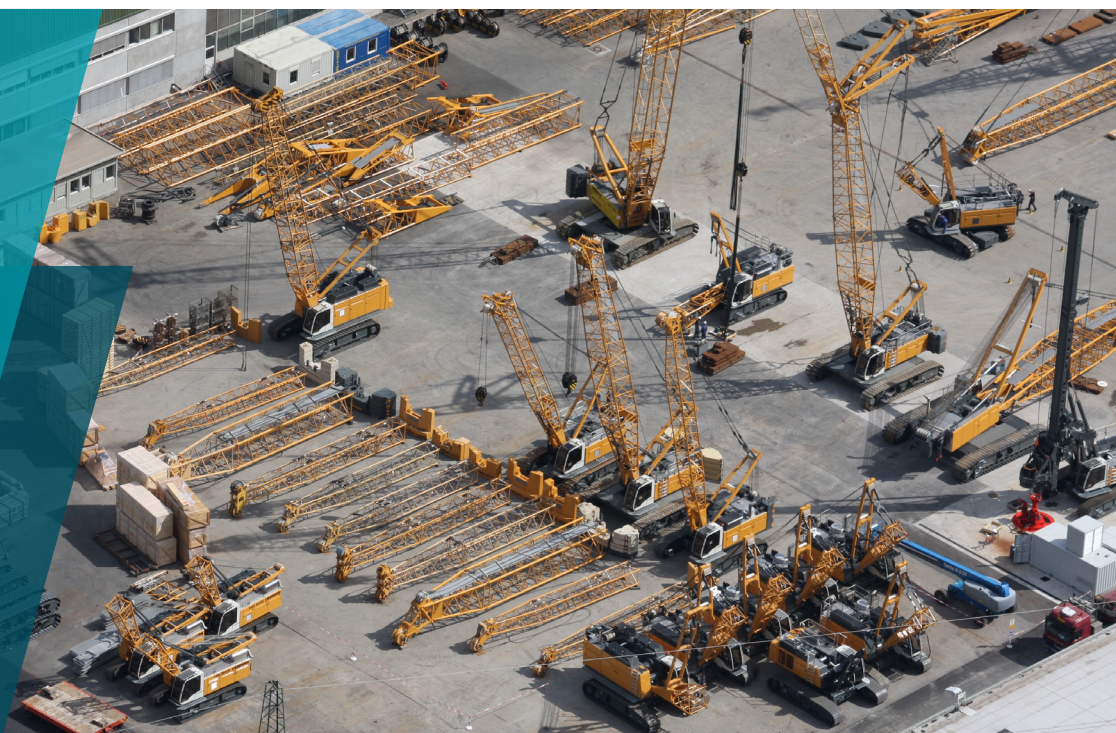


SUCCESS STORY

**LIEBHERR**

Inventory optimization & inventory sampling

Heavy parts, easy planning

The manufacturer of maritime cranes and handling equipment, cable dredgers, crawler cranes and special civil engineering equipment Liebherr-MCCtec GmbH optimises stock levels and availability of spare parts with the add-on system ADD*ONE from INFORM.

When spare parts weigh several tons and must be available as quickly as possible then this is an enormous challenge, even for Liebherr, one of the world's largest manufacturers of construction machinery. In Liebherr's maritime division, more than 4,000 employees at 40 sales and service branches ensure that all products reach the end customer at the right time and in the right place - whether it's a new order or a spare part. Due to the special size and weight of the components, for example for container cranes, the approximately 45,000 different stock items cannot be stored in regular shelf space. In addition, the parts are too expensive for a mass stockpiling. The result: stock that is difficult to plan manually. An intolerable situation for the globally operating company, for whose improvement an intelligent IT system was sought. Today Liebherr-MCCtec GmbH optimizes the stock levels and availability of spare parts with ADD*ONE.

Especially the management of spare parts has long been a real logistical challenge: few but large machines that are in use worldwide and for a long time require relevant spare parts at short notice. An intelligent software was sought that would increase the availability of both purchased parts and spare parts and at the same time reduce inventories.

Liebherr MCCtec GmbH is part of the family-run business group Liebherr and develops and manufactures ship, mobile harbor and offshore cranes. The maritime product portfolio also includes reachstackers, straddle carriers and RTGs. In addition, construction machinery such as hydraulic rope excavators, crawler cranes and special civil engineering equipment. International divisions are coordinated via the warehouse in Nenzing (Vorarlberg) ensuring a turnover of approximately 1 billion euros from crane deliveries plus customer service.

ABC distribution at Liebherr: not just a curve from a textbook

The biggest challenge for inventory planning at Liebherr MCCtec is the extreme ABC variation: There are many C-class items in relation to very few and large A-class items. "This is considered a special case by our planning department and unfortunately no conventional curve from the textbook. The reason behind it is that our product range includes both small items, such as plates, and heavy products such as bottom blocks, weighing up to 200 tons", reports Norbert Bitschi, warehouse manager at Liebherr in Nenzing. For the logistics in the background, this means on the one hand a typical C-parts logistics with shelf space reserved for fastening parts and electronic connections, holders, sheet metal, access steps and much more. At the same time, large A-parts such as winches, diesel engines, gearboxes and hook blocks that cannot be stored on the shelves must also be stored. A safety stock is not an option here. Foresighted inventory planning is indispensable for the success of the company.

A moderate-sized stock of A-items is, however, not only important for financial and logistical reasons. Since many products, such as diesel engines, must be stored in climate controlled warehouses, a regular stacking in pallet racks is impossible. Another difficulty is that the orders for different diesel engine generations are

limited by EU regulations. The same applies for many other A-part components: 30 percent of these products have a delivery time of 12 months or longer. The construction industry, however, represents a very reactive market where parts must be provided within weeks. There are similar problems with winches and hydraulic cylinders, which require maintenance after being in storage for a year, resulting in additional costs. The size of hydraulic cylinders, which are six to seven meters long and weigh 20 tons, makes storing them even more difficult. But how can Liebherr ensure regular on-time deliveries, if some products are hard to store and cannot simply be reordered on short notice?

Making project business plannable

Liebherr MCCtec's customers do not order from a catalog. A high safety stock level would not just be extremely expensive and complicated to realize but also ultimately useless. "The sales department used to put a lot of effort into planning, trying to glance into the crystal ball and make the most accurate predictions. The result was that safety stock levels were planned based on a gut feeling, and we often had too many items in stock", says Bitschi. "In theory, due to the long order and delivery times, newly ordered spare parts would have to be produced before the order itself was even placed." This approach quickly reached its limits. Hence, Liebherr started to search for an intelligent planning tool, which could extend the existing ERP system by adding precise forecasting functions, cost-optimized order proposals, as well as effective controlling functions. ADD*ONE from INFORM fulfilled exactly those requirements.

ADD*ONE in cross-division usage

Norbert Bitschi first heard about INFORM from his colleagues at Liebherr's refrigerator department. "The results of the proof-of-concept phase, in which we tested ADD*ONE for one and a half years in the warehouse in Nenzing, convinced me. When using ERP systems as a planner, you only see grey dialog windows most of the time. We really like the ADD*ONE approach: being able to see everything at one glance." ADD*ONE now supports planners in their work, prioritizing daily operations. In total, there are now 75 employees who use ADD*ONE and its controlling function, which provides evaluations with just one click. The work of planners is also simplified by a planning matrix which sorts orders by priority. Before the implementation of ADD*ONE, Liebherr used to work with a long list of about 20 pages which indicated order times, but did not provide any information about the urgency of the orders. ADD*ONE now makes automated, intelligent decisions and its user interface constitutes a major advantage for the logistics manager. "Thanks to ADD*ONE we could unlink item planning from the receiving devices. We used to plan at the device level only. Demand was hardly predictable. Thanks to INFORM's reliable forecasting tool, we are now able to plan at the item level. Stock planning, now independent from sales planning, became much easier. We can reduce our stocks, while at the same time better handle demand peaks", reports Bitschi. Inventory turnover takes place six times a year. Also, the working time in planning of standard items has been cut by more than 50% since January 2013. In addition, optimized inventory planning has had an impact on customer service and sales. It plays a particularly important role for large orders, as from the sales point of view, a fast delivery time is an important sales argument. ADD*ONE forecasts also make a valuable contribution to this.



Norbert Bitschi
Warehouse manager at Liebherr-Werk
Nenzing GmbH

The materials planning effort has been reduced by 50 percent since January 2013, and inventory was cut by about 10 percent. The service level for production and spare parts, as well as liquidity could be significantly increased. Norbert Bitschi says: "I would chose ADD*ONE over and over again. Also because of the local support with fixed contact persons, which simplifies the ongoing cooperation." With ADD*ONE, the availability of individual parts can be compared automatically in all locations at once. Thanks to this optimized planning network, purchase orders are redirected internally instead of being sent to external suppliers. Based on successes like these, Liebherr-MCCtec GmbH also plans to implement planning of raw materials via ADD*ONE next year - this will automate the inventory management of 50,000 tons of sheet metal and pipes in a multi-stage process via ADD*ONE.



Inventory sampling with INVENT Xpert improves service and financial benefits

Liebherr also uses the inventory sampling software INVENT XPERT from INFORM. This replaces the classic full inventory in the warehouse with the collection of random samples. This significantly reduces the counting effort while simultaneously reducing inventory costs. Inventory sampling has been a legal requirement in Germany since 1977 according to HGB § 241.

Without INVENT Xpert, Liebherr MCCtec would have to interrupt materials planning over a period of three weeks once a year and close all corresponding warehouses. The staff would have to count about 30,000 items by hand. Today, the add-on system automatically calculates a valid inventory result on the basis of an average of 300 articles. "The implementation and conversion of the stock-taking method were not a problem. And the program works equally problem-free: just alongside everything else. Our inventory count in the component warehouse now takes us only 5 hours per year and runs parallel to our day-to-day business, so we do not have to close. This not only means a huge financial advantage for us, but it also enhances our service", explains Bitschi. The availability of spare parts is thereby significantly improved.

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