WERMA® Success Story

Cable manufacturer Auto-Kabel controls stock replenishment with the help of StockSAVER from WERMA

The global automotive supplier Auto-Kabel manufactures cable and lead sets for power supply applications. The friction welding machines deployed in the process must always have an adequate supply of material without excessive safety stocks. In order to ensure that material does not run out and lead to machine idle time Auto-Kabel needed a system giving total transparency of the stock levels in the FIFO racks as well as an effective and reliable replenishment system. Auto-Kabel found the answers to its search with the easy to retrofit system from WERMA; Stock*SAVER*. This process optimisation system ensures that material held on FIFO racks does not run out, will reduce the amount of safety stock traditionally held line-side and solves many other problems often associated with Kanban systems.

Auto-Kabel has more than 8 locations worldwide and employs some 3,500 staff. All of the operations provide lineside material to the machines held in storage bins on flow racks. The FIFO system is used thus ensuring that bins placed first into the racks will also be used first. The flow-rack system is also deployed at the headquarter operation located in Southern Germany in Hausen im Wiesental where the racks are located next to the manufacturing machines and provide the operators with the components such as cable shoes and eyelets. The flow racks contain more than 90 stock locations which are each filled with three bins, each bin containing approximately 400 parts.

THE CHALLENGE – REDUCE DOWNTIME

The Industrial Engineering department at Auto-Kabel is responsible for the optimisation of manufacturing processes on all sites. Staff immediately recognised that there was great potential to make an improvement in the kitting of parts for the welding machines where there had always been bottlenecks. "The high throughput of components like cable shoes and eyelets often led to shortages and idle time because replenishment was inadequate. We wanted to put a stop to this but without excessive cost, nor did we want to increase the amount of safety stock being held".
Machine downtime was another problem, "until now operators often had to leave their machine to go and find assistance from logistics if they

ABOUT AUTO-KABEL

Auto-Kabel is a global operation supplying the automotive industry and was established in 1930. The family owned business has maintained a tradition over 80 years of innovative product development and advanced manufacturing processes with sustainable added value and is a market leader in its field. The company manufactures products for energy management in vehicles and is a key supplier to all of the well-known car manufacturers in Europe, USA and Asia. Of particular note is the range of innovative product solutions for battery cables and power distribution.
Auto-Kabel has a high degree of vertical manufacturing and designs and develops virtually everything in-house. More than 3,500 staff in management, production, product design and development contribute to the success of the business. Characterising all of the activities of the business is a sharp focus on an advanced environmental policy.

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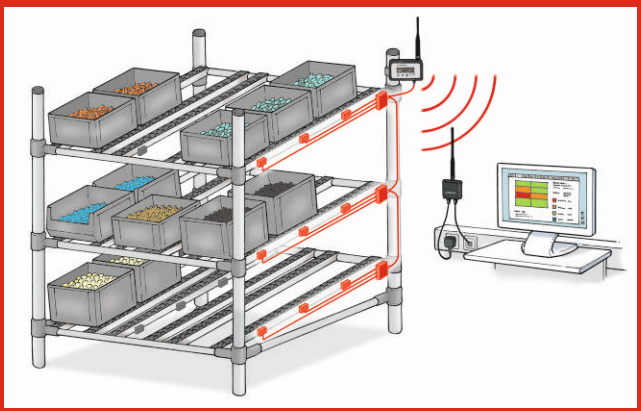
had run out of material, during which time the machine was not operational which for us is an absolute no go!" The frequent and lengthy stoppages meant that the machine working times were quite unacceptable it was clear a quick solution was urgently required.

LOOKING FOR THE RIGHT SOLUTION

First contact was made during one of WERMA's frequent road-shows showcasing its system solutions. "We were really looking for some sort of E-kanban system to control part replenishment at the friction welders which had material provided line side on flow racks " explains Industrial Engineering. "We already knew about WERMA from its machine monitoring and data collection system Smart*MONITOR* which we really like and so we had a look around to see what else WERMA could offer and found Stock*SAVER*" comments Maik Engelhardt, Pilot Project Leader Industrial Engineering.

Following an initial presentation and site visit it was decided to kit out 3 flow racks containing 90 stock locations with the system. Right from the start of the trial it was clear that if the system proved to be of real benefit to Auto-Kabel further material replenishment locations would be equipped with the kit.
"The system seemed to offer a lot and we were sure that we could optimise material replenishment with Stock*SAVER* and minimise the idle time on the friction welding machines.

Stock*SAVER* gives complete transparency of stock levels held in FIFO flow racks at Auto-Kabel ensuring that stock does not runout whilst traditional levels of safety stock are reduced.



The sensors used in Stock*SAVER* can be used on virtually any FIFO flow-rack and container system. This will ensure a transparency of stock levels held on the flow racks with no need for excessive safety stock levels.

EASY TO INSTALL, SIMPLE TO OPERATE

Stock*SAVER* is a maintenance-free system which is easy to retrofit to any FIFO flow rack. Sensors fitted to the flow racks ensure complete transparency of stock levels and safeguard against material running out or misplaced stock.

The system works very simply: sensors monitor the number if bins held on the FIFO flow racks. The number of and movement of bins is then sent to the "Smart*BOX*" and from there on wirelessly to the Stock*SAVER* software and displayed as a digital copy of the actual stock held on the flow racks. The system solves many traditional Kanban problems such as lost or damaged kanban cards or human error in replacing bins on the racks and frees up space on the factory floor for other activities and, last but not least, improves cash-flow. The automatic stock replenishment system reduces the margin for human-error and can reduce the levels of safety stock held considerably.

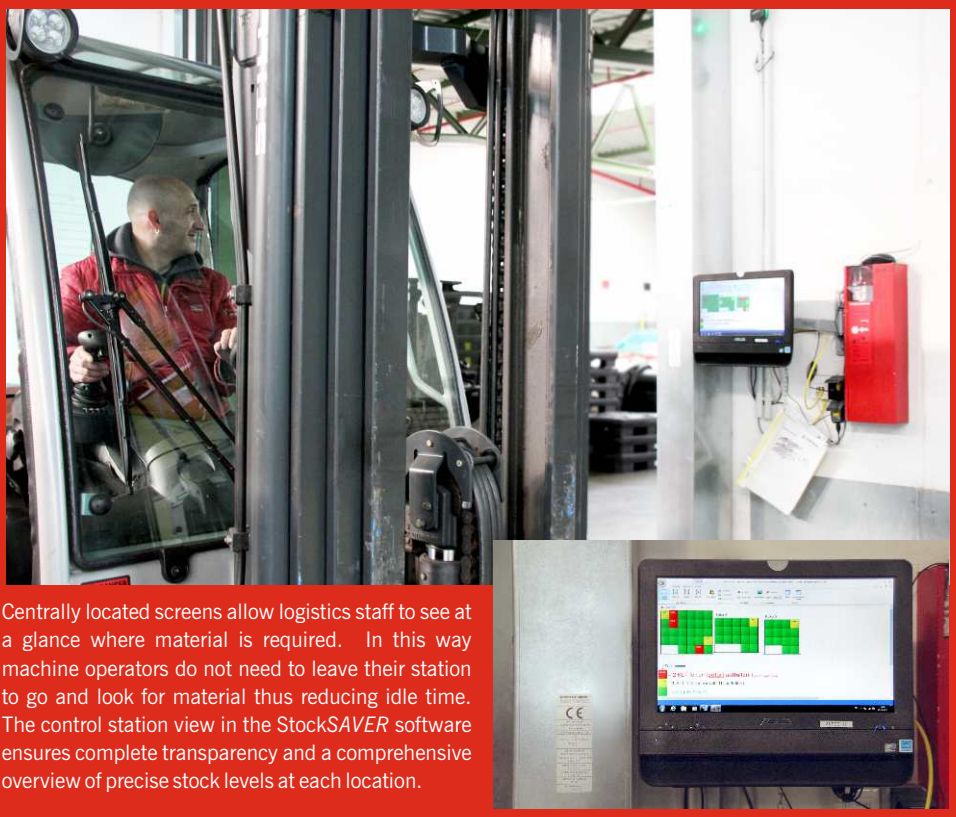
WHAT CAN STOCK*SAVER* DO FOR YOU?

"One of the big advantages of Stock*SAVER* is that the sensors can be fitted to virtually any flow rack system" explains Manual Schutzbach from Tech sales at WERMA. "The removal of a bin from a rack will automatically signal to logistics the new stock level status thus ensuring priority driven replenishment". In addition, manual errors such as forgotten, mislaid or damaged Kanban cards become a thing of the past. There is no need to scan removal of bins form a location and thus the danger of "double bookings" or arithmetically incorrect stock levels can be avoided.

Schutzbach goes on; "Stock*SAVER* can also permit a substantial reduction in the number of flow racks required line-side because the amount of stock required can be lowered thus improving cash-flow and areas of floor space can be made free for other value adding activities."

COMPREHENSIVE AND INTUITIVE – THE STOCK*SAVER* SOFTWARE

Data is transmitted wirelessly to the Stock*SAVER* software delivered with the system and then shown in various display views. Auto-Kabel was extremely impressed with the displays: "installing and setting up both the hard- and software really was really intuitive and there wasn't the need for a large project team to oversee the task" says Alisa Schwald, joint project leader Industrial Engineering. The software displays the stock levels of all flow racks connected to the network on PC displays and gives complete transparency of all available material.



Centrally located screens allow logistics staff to see at a glance where material is required. In this way machine operators do not need to leave their station to go and look for material thus reducing idle time. The control station view in the Stock*SAVER* software ensures complete transparency and a comprehensive overview of precise stock levels at each location.

The control station view gives a complete overview of the exact stock levels at the workstation. A requirements list shows the priority list for replenishment and creates a "to-do" list for logistics to work with. In this way errors are avoided and the replenishment process optimised whilst reducing the levels of safety stock previously held.

The software can provide analysis of usage so that processes can be improved. The user can also export the data on material movement. "We have now installed Stock*SAVER* in production control, logistics and manufacturing and make most use of the control station and requirements lists" comments Engelhardt.

GREAT BENEFITS IMMEDIATELY AFTER THE TRIAL

After the trial during which 3 flow racks with 90 stock locations were fitted with the system significant improvements were seen. The target of reducing machine idle time was easily met. "Straight after setting the system up we were able to reduce idle time and safety stocks. The project paid for itself within 6 weeks!" explains Schwald enthusiastically.

Furthermore, operators no longer had to leave their workstations to seek help from logistics as Stock*SAVER* reports automatically a requirement for stock replenishment. The control station displays the flow racks at Auto-Kabel including the part number and stock location, the priority for replenishment and the correct number of bins per part number. By exporting the data further analysis can be carried out to optimise the process.

AN ADDITIONAL CUSTOMER REQUEST – PLACE BY LIGHT

"We had another request after we completed the first trial" carries on project leader Engelhardt who explains: "in order to achieve an even higher degree of safety and avoid any danger of misplacement of bins we wanted to introduce a "place by light" system on the flow racks. This should make it even more obvious to the logistics operator precisely where to replace the replenishment bin. The extension of the system with lights was very important for us and we were of course very pleased when WERMA was able to meet our request which they can now offer as standard to all WERMA customers."

With the provision of additional "place by light" LEDs the logistics operator is able to see a green LED at the head of the correct stock location after scanning the bar code on the bin to be replenished, and should the bin be replaced into the wrong location a red LED is lit. "Now all of our demands have been met and mix ups in replenishing stock locations have been eliminated" concludes Engelmann.

ADDITIONAL FEATURE: A "STOP" MECHANISM ON THE FLOW RACKS

At Auto-Kabel flow racks with stops are used so that a bin can be removed and replaced in its original position preventing the next bin sliding down and signalling a stock movement through Stock*SAVER*. This is an important feature for the process at Auto-Kabel and means that the call for replenishment will only be activated when the next bin has been pulled through the "stop".

FURTHER APPLICATIONS IN PROSPECT

"We were especially impressed that WERMA was also using the system in their operation" says Schwald. "The personal contact and advice we received was fantastic, we were so well looked after by WERMA," To the question as to how Stock*SAVER* had been accepted by other members of staff replied Engelhardt: "all staff from team leaders to operators have been won over by the simple functionality of the system and are really happy that replenishment is now carried out automatically and error-free."

Thanks to the extremely short pay-back time Industrial Engineering can envisage future applications for the system. "We will be presenting Stock*SAVER* at our next Lean Workshop for our other locations. During the workshops we often present ideas from different locations and we will definitely be recommending rolling out Stock*SAVER* to our other subsidiaries,"

Maik Engelhardt (Pilot Project Leader at Auto-Kabel) and Alisa Schwald (Co-Project Leader at Auto-Kabel)

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