Mobile data acquisition at Heidelberg Cement AG
Replacing the SAP web console with MembrainPAS

HEIDELBERGCEMENT

Heidelberg Cement AG is a global additives market leader in the concrete and cement industries and other downstream activities and is one of the largest construction materials manufacturers in the world. The performance and high quality of the HeidelbergCement products is based on the use of cutting-edge technology and production processes. It employs around 55,000 people at more than 2,500 locations in more than 40 countries. Materials management takes place in its German purchasing department at its Ennigerloh site, one of nine German cement works. This is where the central logistics processes are optimised, barcode application is managed and sample stock-taking carried out. The aim of this project was to find the optimal software for mobile data acquisition for materials management in the German purchasing department.

Initial situation with the SAP web console

HeidelbergCement AG uses mobile data acquisition with barcodes for its material management and control in its materials management department. The warehouse stores spare parts for cement works, auxiliary and operating materials, personal protective equipment, explosives and administrative materials. The SAP R/3-based material management system and barcode server introduced in 1996 were stable and enjoyed high user acceptance. The infrastructure was

updated in 2005, which involved redesigning all of the business processes and introducing a new software platform. Within the purchasing department, this redesign allowed the expansion of strategic purchasing activities. The SAP web console was introduced as part of this redesign. The browser-based application was instable, too slow to respond and only functioned in online mode. This caused significant performance issues and program terminations. To resolve this problem, they started looking for a stable application that would do away with the SAP web console. The new solution had to be wireless and operate uninterrupted and direct using just-in-time information. It also had to process booking records quickly, carry out inventories in a user-friendly manner and save working hours.

Mobile data acquisition with MembrainPAS

Once various alternative solutions had been evaluated, HeidelbergCement decided to use the MembrainPAS package software, and this was implemented in 2010. Membrain not only develops standard software for SAP systems, it is also a market leader of mobile data acquisition and production data acquisition solutions. In 2007, the Membrain software was awarded the Innovationspreis Mittelstand for innovative SMEs and in 2008 it achieved the Industriepreis for outstanding industrial solutions.

Replacing the SAP web console with MembrainPAS

The standard application was developed for use both on mobile data acquisition devices (MDA) and fixed terminals. Standard modules could be integrated by plug-and-play into the existing SAP environment. The HeidelbergCement employees defined the corresponding modules in a working group. These include goods receipts and goods issues, inventory requests, material text, changes in bin location and stock-takes. It is also possible to work in offline mode, i.e. there does not have to be an online connection. To this end, when there is a SAP connection, all of the data required for a process is downloaded in the background from the SAP/R3 material master and stored locally on the client. The data is then stored there until the online connection to SAP has been re-established.
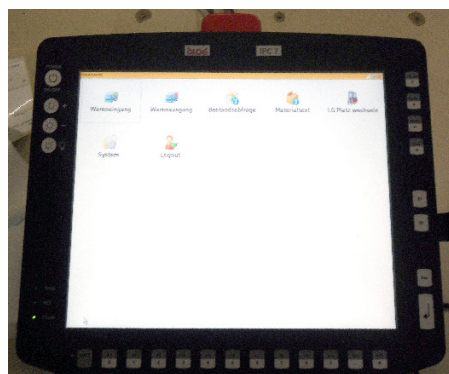
In areas without any wireless coverage, goods receipts are temporarily buffered by MembrainPAS with the MDA device in offline mode without difficulty. The entry is placed in the background until all of the items have been edited. The booking is only generated by the employee's confirmation once the MDA device is back within an online area. It was particularly important for the employees that messages, e.g. on the status of a goods issues booking, could be displayed. An appropriate function was configured that made it possible to re-open delayed entries for editing. It is also possible to use MembrainPAS to easily carry out stock-takes, which are of particular importance to HeidelbergCement employees. The employee downloads the inventory document from SAP in online mode before performing the stock-take in offline mode. The inventory document contains all articles to be counted. If the employee enters a number outside of the tolerance range, a message appears, although this does not contain the actual value. Inventory requests, changes in bin location and material text information are also carried out easily and conveniently.

The same application on a terminal

One big advantage of MembrainPAS is that it is stable and reliable, and data can be buffered when possible. The online/offline mode of MembrainPAS allows high-speed, rapid, uninterrupted operation. When using the SAP web console, it is only possible to work in online mode. In the past, connection breakdowns sometimes caused substantial data losses. For example if 20 different articles were scanned during a goods issue process, and one of the quantities was entered incorrectly, all of the data was lost and had to be entered again. The new application makes it possible to work in online/offline mode, i.e. once the booking has taken place, the incorrect item is displayed with a red background, and can be opened and corrected. This easy-to-understand and user-friendly interface requires no additional employee training. A short briefing is all that is required to be able to operate the system. The application can also be used on fixed terminals. The display is better and more readable, and is easier to operate that the conventional "SAP GUI" interface.

Replacing the SAP web console with MembrainPAS has significantly simplified the working practices of the warehouse employees. The stable application has eliminated performance issues and program terminations, and increased user acceptance. Following the successful implementation of MembrainPAS, Membrain GmbH and HeidelbergCement AG organised a joint seminar and practical day for interested individuals. The participants were particularly impressed by the employees highly motivated by and visibly enthusiastic about the benefits of MembrainPAS, which was evident from the animated discussions. Mr Brandherm, Materials Manager in the German purchasing department at HeidelbergCement reported that, "the wireless operation, the clear, user-friendly interface and the simple performance of stock-takes has considerably simplified our processes."

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