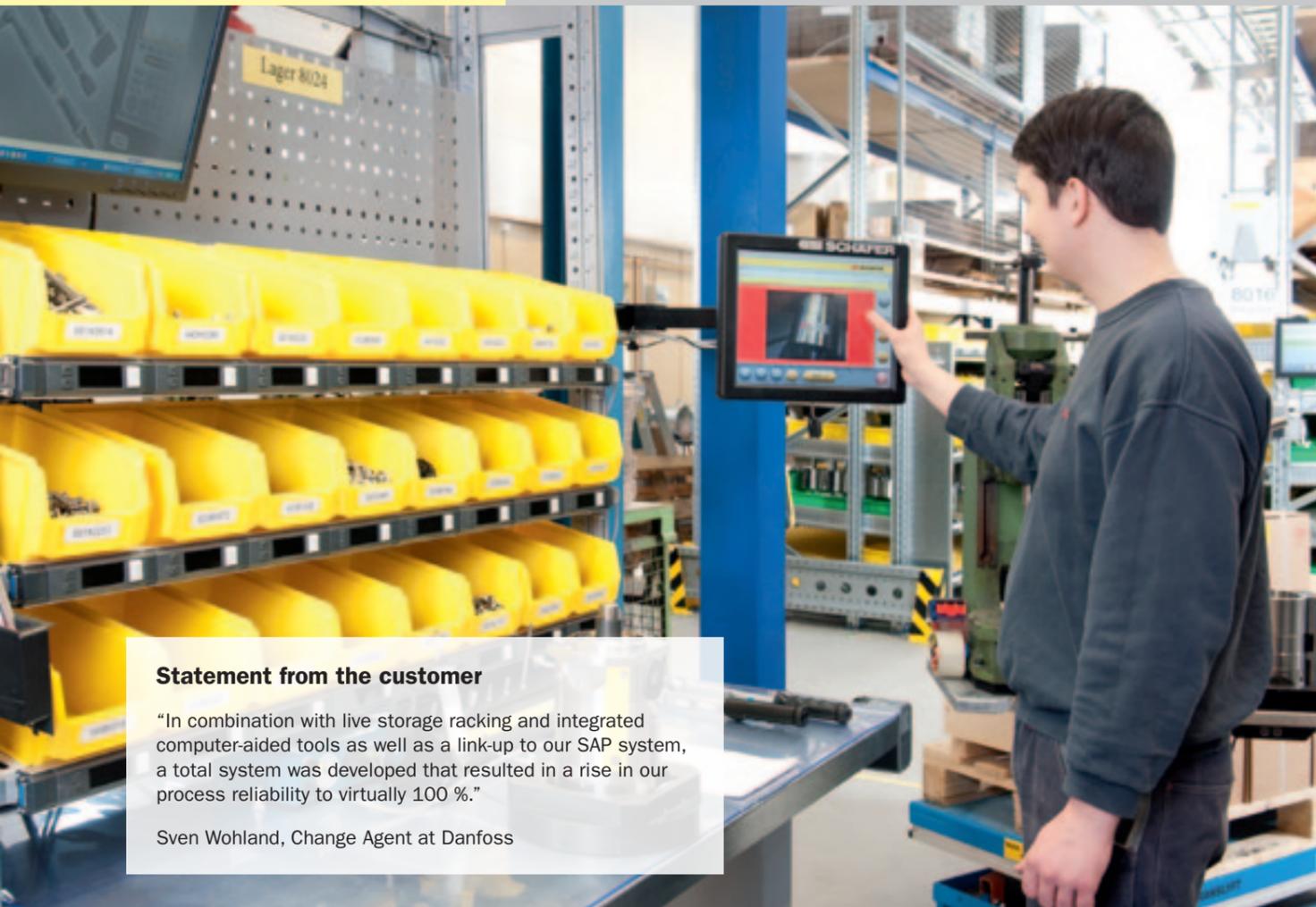




Case Study, Danfoss A/S, Nordborg (DK)

PROCESS AND ASSEMBLY QUALITY OF THE HIGHEST LEVEL



Statement from the customer

"In combination with live storage racking and integrated computer-aided tools as well as a link-up to our SAP system, a total system was developed that resulted in a rise in our process reliability to virtually 100 %."

Sven Wohland, Change Agent at Danfoss

Danfoss

Danfoss A/S, established in 1933, is now among the world's leading manufacturers of control technology in the heating sector. As those familiar with this industry will already know, Danfoss A/S is also one of the market's key players in the field of low-maintenance, high-pressure pumps.

Project

Assembling these high-pressure pumps is such a complex process that it still needs to be carried out manually for quality and safety reasons. While planning the warehouse reorganisation, Danfoss therefore particularly focussed on increasing process reliability. Depending on the size, between 20 and 40 high-pressure pumps are manufactured each day in Nordborg, Denmark. Stocks of around 400 different individual parts are maintained at the production site. These include variants with differences so small they are barely noticeable by sight alone.

The new assembly area includes a light-controlled pick@work assembly system and an integrated E-Pick order picking system. The redundant integrated control mechanisms at the pick@work workstation improve the quality considerably. Torque screws and dial gauges are required for the pump production processes and they are operated by the pick@work software. Only after these tools have been used properly, further steps in the assembly process become available. That's the way to make sure bolts and nuts are tightened with the optimal torque.

Because of the connection to the Warehouse Management System (WMS), the stock inside the live storage shelves is monitored at all times and resupplies are ordered if required. The subsequent order picking is done with the E-Pick system.

Project objectives

- ▶ Process optimization: Increasing the reliability and accuracy of the processes
- ▶ Introducing light-controlled pick techniques in order picking and assembly
- ▶ SAP software integration
- ▶ Automating the inventory
- ▶ Transition to flexible assembly processes

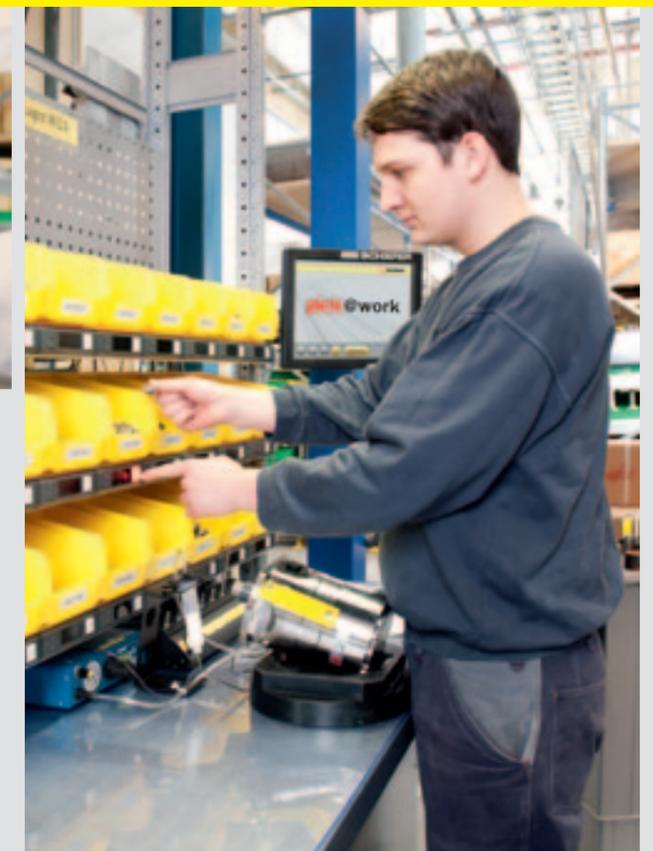
Scope of supply and services

- ▶ light-controlled pick@work assembly system
- ▶ light-controlled E-Pick order picking
- ▶ 3 live storage shelves 8 m long and 3 m high, with a load capacity of 1,000 kg per level each
- ▶ 400 storage boxes
- ▶ Quick MOVE heavy load lifting table handling up to 700 kg of dynamic load



How to work with pick@work?

- ▶ Select the right assembly order on the screen
- ▶ Order-pick the required parts
 - ▶ directly at your workstation
 - ▶ in the correct order for assembly
- ▶ Images of each step guide you through the assembly process
- ▶ Digital tools are integrated in the program
- ▶ Confirm each pick at the light strip and on screen
- ▶ You will achieve high process reliability and accuracy





In a nutshell

With the introduction of light-controlled pick techniques in order picking and assembly, Danish company Danfoss has considerably increased process and quality assurance in the field of high-pressure systems. Ergonomic assembly workstations combined with an innovative order picking system and a direct SAP link-up mean that the SSI Schaefer solution offers high-end equipment for order picking and assembly operations.

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