
ABB MOTION SERVICES

Case SSAB Hämeenlinna galvanizing line

Progressive modernization of 151 drives for up-to-date technology



Progressive modernization of 151 drives to the latest ACS880 drive technology

Steel maker SSAB has started a major retrofit project to systematically upgrade all of the drives on its number 3 galvanizing line at its Hämeenlinna, Finland, plant over a five-year period. This means that the aging ACS600 drives on the line are being modernized to the latest ACS880 drive technology.

Benefits for the customer	
Up-to-date drive technology	The drives are updated to a newer technology and full support is ensured.
No production losses	The Retrofit service is carried out in line with SSAB's own yearly maintenance shutdowns.
Step-by-step installation	The project is planned so that the work can be done efficiently and already retrofitted drives can be used as spare parts for the remaining drives until the project is finished. Also the cost burden can be distributed over time.

High-value specialized products

Galvanizing line 3 makes zinc-coated steel plate, which is an important raw material for the construction and car industries. It is a highly-specialized, high-value operation, which runs without interruption.

"Galvanizing line 3 makes products which can't be made elsewhere at SSAB," explains Tero Saarenmaa, Electrical Maintenance Section Manager, at the Hämeenlinna plant. If a problem occurs anywhere in the production line, whether it be the motors or drives, the whole process is halted and any products currently in the making are destroyed. All these products are made to order, so keeping the production running without downtime is absolutely essential."

Concern about spare parts and support

To help ensure smooth production, Saarenmaa is in regular contact with ABB to discuss issues like drive maintenance, spare parts, efficiencies and life cycles. A while back, SSAB was informed by ABB that their old ACS600 drives were nearing the end of their life cycle and because of that, access to spare parts and technical support would become more difficult. Something, eventually, needed to be done to address these issues.

After considering various options, SSAB chose ABB's Retrofit service solution in which all the ACS600 drives will be modernized in stages to ACS880 technology and thus restored to the Active life cycle phase. The Retrofit service is a fast, flexible and efficient way to modernize installed drives, bringing immediate performance improvements to the plant or process.

In a typical retrofit project, the existing cabling, motors and cabinets remain in use, while the drive within or the drive system is replaced.



Tero Saarenmaa,
Electrical Maintenance
Section Manager at
SSAB's Hämeenlinna

"Since the processes on galvanizing line 3 are significant, it is crucial that the drives involved are up-to-date and have full support. The overall cost-effectiveness and reduced shutdown time were the key elements we saw in choosing this Retrofit service."

SSAB's decision to do this extensive retrofit follows a pilot project in which four drives were successfully upgraded.

The retrofit of 151 drives is being done in a step-by-step manner during planned maintenance shutdowns, thus avoiding lengthy downtime and production disturbances. In addition, by doing the work in phases, the cost of the investment is spread over several years.



01 SSAB is a global steel manufacturer which is focused on highly-specialized steel products. The company is a leading producer of advanced high-strength steels, as well as quenched and tempered steels. SSAB's Hämeenlinna plant's galvanizing line 3 produces raw material for the construction and car industries. This line makes products which can't be made elsewhere at SSAB.

02 Aging ACS600 drives at galvanizing line 3 will be modernized within five years to ensure their maintainability and reliability.

03 As the standard retrofit package didn't fully fit customer's requirements, the solution has been tailored according to specific needs.

04 The drives will be progressively updated to the newest ACS880 technology, ensuring full support.

Tailored solution to fit the needs

The ability to tailor the solution specifically to SSAB's needs was important, says Matti Aaltonen, ABB drives and controls service sales manager. "Following the successful pilot project in which we demonstrated that the phased retrofit was a good solution, SSAB was ready to order the modernization of the rest of the line. Since a standard retrofit solution didn't fully fit their requirements, the chosen solution has been tailored according to SSAB's specific needs. So all the components inside the old cabinets are being removed and ACS880 tailored retrofit kits for the wider ACS600MD cabinets are being installed. Control of the drives will still be implemented with the existing AC80 control system, with some modifications to the AC80 software. The scope of the project includes tailored commissioning, and the minor program changes for the new ACS880 drives will be carried out during each maintenance shutdown."

Progressive retrofit in logical manner

"The step-by-step retrofit was a good solution for us," concludes Tero Saarenmaa. "It gives us the possibility to do effective preventive maintenance with the original spare parts, while getting full support and service on these crucial drives. In addition, the project allows us to utilize the old products as spare parts for the older ACS600 drives until the retrofit is completed. The overall cost effectiveness and reduced shutdown time were the key elements we saw in choosing the Retrofit service."



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