When Sandvik Materials Technology needed to upgrade a critical furnace that was purchased half a century ago, it turned to ABB for a modern solution.

Text & images by ABB

The RULLUGN 125 furnace is the nerve centre of Sandvik’s business and is responsible for churning out tons of high-alloy stainless steel round the clock. Products from this steel include razors, knives and other steel products. At nearly 50 years old, the relay-controlled furnace needed upgrading. To modernise the furnace, ABB’s solution was to include ten highly efficient DCT880 drives, combined with a PLC AC500 control system, and all backed by the ABB Ability™ Operations Data Management - zenon software solution.

The secure Operations Data Management platform is efficient at connecting machines, infrastructure and production assets. It works by collecting and analysing data to provide valuable process insights on production processes via its more than 300 communication protocols and drivers, enterprise resource planning capability, and cloud interfaces. This enables better quality assurance, energy management and online reporting, all while saving energy.

Data on-hand

Screens near the furnace and at the plant’s main office display critical parameters such as temperature, gas and water flow. This provides the data for the platform and offers operators a clear picture of the furnace’s atmosphere so they can adjust and improve flow.

Torbjörn Pettersson, a Sandvik automation engineer said, “We also find collecting all of the data, including energy consumption, very useful… and, in the event of a malfunction, we have the data to help us make the right decisions. Digitalization is one of Sandvik’s focus areas and ABB Ability™ zenon is a vital solution to ensure we remain competitive.”

ABB’s experience with energy-efficient modernisation solutions in DC drive systems was significant in implementing the project. The drives, PLC and ABB Ability™ zenon combined to give Sandvik stable control of the critical production furnace.

Christopher Hausmanns from ABB said: “I’m pleased to know that our solution is helping the plant boost production and optimizing the furnace’s energy consumption.”