Robotics

RobotStudio™
Case Study: Orkel AS

Orkel snow blowers from Trondheim are exported all over the world.

RobotStudio helped the Norwegian farm machinery manufacturer to cut production downtime on their welding robot from three weeks to three days.

From sleds to snow blowers

Orkel AS is situated in the middle of Norway, in the municipality of Orkdal, about 45 kilometers southwest from the city of Trondheim. 50 years ago, Orkel AS was a very modest countryside workshop producing sleds for children. Today Orkel is one of the biggest Norwegian manufacturers of farm machinery with a considerable export network. The company is leading in the development of new products such as trailers, snow blowers and round balers.

Costly production stoppage

Orkel produces about 150 snow blowers a year. The welding procedure is a mayor part of the production as every snow blower needs more than 300 welds. The programming of the welding robots used to cause Orkel 3 weeks of production stoppage while programming the robot, which meant loss of production for about 40 snow blowers.

“We needed to cut down on lead-time especially on the welding process which had a very time consuming robot programming”, says Ola Slupphaug, Production Manager. Orkel evaluated the different software products for offline programming on the market and finally chose ABB’s own software, RobotStudio.

From three weeks to three days

“Our goal was to achieve a faster procedure for production series changes. ABB had the complete solution. We got an all-in package; robots and software dedicated to welding applications. That was the best for us – we could relate to a single supplier”, says Ola Slupphaug and continues: “With RobotStudio we can start programming the welds as soon as the product has been constructed.”

Orkel AS

“RobotStudio helps us cut downtime of the robot, from three weeks stoppage to three days with a touch-up. At the same time, we can simulate welding in RobotStudio before production begins”, explains Ola Slupphaug.

Every snow blower needs over 300 welds.

ArcWeld Power

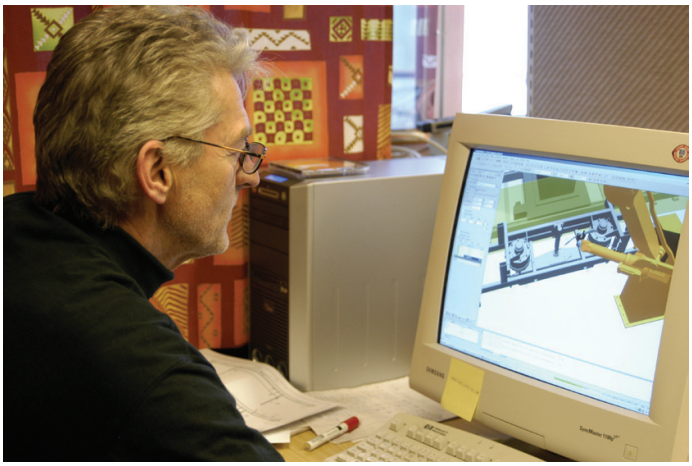
Anders Småøien works with construction and programming of robots in RobotStudio: “The robots for welding of tractor trailers and snow blowers are now programmed offline in RobotStudio ArcWeld PowerPac”. RobotStudio ArcWeld PowerPac is a tailor made application for the arc welding process. It’s developed by ABB’s process experts and ensures a useful and powerful end product. You don’t need to be a process- or a robot expert to be able to simulate and create robot programs. Anders Småøien had no previous experience of welding robots or robots in general: “Robots are quite new to me, but today I have both robot programming and construction knowledge. My experience of RobotStudio has simplified my day-to-day work in construction.”

Construction and programming

“The advantage of using RobotStudio is that we have moved programming into the development section, and have linked construction and programming of robots more closely. With RobotStudio we solve problems with welding jigs since we know that the jig is correct on the first attempt. As we run a simulation first we reduce a lot of risks during the implementing phase on the real robot system”, explains Anders Småøien.

Great production flow

With RobotStudio Orkel achieves continuous production on the welding robots and get better product flow through the total production process. “We see that productivity is improving gradually as we introduce RobotStudio into the production process. The latest product we are running is now showing a great improvement. We reduce downtime at the robot station and today we run the robot almost continuously without getting almost any stoppages. The fact that RobotStudio reduces the percentage of faults in our production has led to reduced costs that was before caused by expensive production stoppage in the robot”, declares Ola Slupphaug.



Programming of the latest snow blower in RobotStudio.

Bright future

“RobotStudio has great potential. You’ve got the opportunity of putting as much as possible of the production support in the development section. You can run simulations on products and discover faults on your production line at an earlier stage, finalizes Ola Slupphaug. Anders Småøien agrees: “In the future we will programme more products in RobotStudio, mainly partial production of our trailers, snow blowers and round balers.”

ABB Robotics
www.abb.com/roboticssoftware