

Schwank Case Study: Substantial Energy Savings: 52% & Carbon Footprint Reduction



“Ever since using Schwank, it meets our expectations. We are delighted with its high quality and the energy savings achieved.”

Ing. Andrzej Trzcina,
Maintenance Manager,
ArcelorMittal



The Facility

Poland's biggest steel production plant is located in Silesia near Katowice employing about 4 000 people at a capacity of 5 million tons of steel per year. It features three blast furnaces, two rolling mills, three lines of continuous steel casting as well as its own power plant. Main applications for its steel are for the manufacturing of railway and tram cars, structural steel used in construction, appliances and the automotive industry.

In terms of technical solutions and process control systems, this iron works is recognised to be among the most modern facilities of its type in the world.

Due to the size of the buildings, ArcelorMittal requires a heating system that is able to cover such large heights in an economical way providing a quick reaction time to changes in the outside temperature.

The Issue

ArcelorMittal strives to increase production while consuming ever fewer resources in the production process. A key criterion in the analysis is the energy sustainability index. It is used to consider all energy consuming appliances including the heating system being substantial contributors to the overall efficiency and carbon footprint.

A few years ago management commenced a search for a highly efficient heating system to replace its outdated central steam and hot water plant. While efficiencies and social responsibility were in the forefront of criteria, the controllability of the system within different buildings was likewise important.

With different working areas requiring different working temperatures, and operating times, flexibility was paramount.



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Implementation

After an extensive search for the best system, the decision was made to choose a Schwank heating system due to its outstanding radiant factor and low carbon footprint.

Another purpose of the heating system is to maintain constant level temperatures in all the different processing areas whereas each processing area has a different target temperature. Ever since the heating system has been implemented in 2006, during all times the heating met both the target temperatures including its low tolerances in spite of a few harsh winters.

Schwank supplied over 72 individual luminous type radiant heaters including the controller ThermoControl Plus to manage the heating zones individually.

Results

The heating system is now completely flexible as it incorporates all the individual heating zones all independently controlled. The design of the system has enabled comfort levels within the site's many different buildings to be easily maintained.

Energy savings on average amounted to 52%, meaning the ROI was reached earlier than forecasted - in almost 2 years.

Ing. Andrzej Trzcina, Maintenance Manager, stated he is very delighted with the high energy savings, the quality and the service that Schwank provides.



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