Schwank Case Study:
Substantial Energy Savings & Carbon Footprint Reduction

"The new heating system has done everything and more that Schwank promised"

B. Yazdi,
Energy Manager

The Facility

A steel pressing operation has been present on this site in Swindon since the early 1950's. During the latter part of the 20th century it was Swindon Pressings Limited. In 2000 it became a wholly owned subsidiary of the BMW Group.

With fully automated press lines, including coil blanking lines, and sub-assembly facilities covering more than 100,000 m², Swindon produces high-quality steel pressings and complex sub-assemblies. Around 1,000 employees produce most of the body components for the MINI, including all the skin panels and closure assemblies.

Swindon also manages the logistics of 'Direct Delivery' to the MINI plant at Oxford. Parts are despatched from Swindon against call-offs from the customer and are delivered to unloading decks line-side in Oxford.

The Issue

The BMW Group strives to increase production on a continuous basis while consuming ever fewer resources in the production process. The energy sustainability index considers the heating system to be a substantial contributor to the overall efficiency and carbon footprint balance sheet.

A few years ago BMW Group commenced a search for a highly efficient heating system to replace its outdated central boiler plant. While efficiencies and social responsibility were in the forefront of criteria, the controllability of the system within different buildings also became a key criteria.

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

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The Implementation

After an extensive search in order to understand what system would best suit BMW's needs, the decision was made to choose a Schwank heating system comprising high efficiency radiant heaters.

Schwank supplied over 400 individual radiant heaters that included calorSchwank tube heaters, supraSchwank luminous heaters and warm air units for certain areas. Heaters with the highest radiant factors were selected to optimise the energy savings and carbon reduction. All heaters were chosen with 2-stage control that further enhanced the energy reduction, prolongs the heater lifecycle and increase the comfort level. The ability to be able to match an individual building's physical and operating characteristics with the correct heater type was viewed as particularly important.

Conclusion

The heating system is now completely flexible as it incorporates over 50 individual heating zones all controlled and monitored via the site's central Building Management System by Johnson Controls. The design of the system has enabled comfort levels within the site's many different buildings to be easily maintained.

Energy savings amounted to 47%, meaning the ROI was reached earlier than forecast - between 2 and 3 years.

Philip Plowman, Energy & Contracts Manager, BMW UK, stated that a reduction of more than 5,500 tonnes of CO_2 was achieved in the first year. This equates to a little over 2,000 Olympic size swimming pools.

ENERGY EFFICIENCY made in Germany

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