

Schwank Case Study: An intelligent concept for logistics - Energy savings as a key foundation



“Maximum employee comfort and minor operating cost is for us the most important issue.”

Dirk Wolf,
Industrial Engineer,
Amazon



The Facility

Amazon.com, founded in 1994 in the US, is one of the largest Internet retailers worldwide. Originally billing itself as the world's largest bookstore, today, Amazon delivers almost anything, and everything.

In previous years, the demand for Amazon products increased so dramatically in Europe, that it became necessary to open a new distribution centre. Because of its central location and easy accessibility, Leipzig was selected as the location for the new logistics centre. The new centre stores and handles bulky and heavy items such as electronics, home appliances & furnishings, hardware, and sports & outdoors equipment.

The Leipzig location has 400 workers and two shifts, but before Christmas shifts are increased to three. With an area of 70 000 m², the new Amazon logistics centre is as large as eleven football fields combined.

The Issue

Although the majority of products stored required only frost protection, the inbound and outbound loading areas, and the assembly area required comfort heating. Heating was essential at the 48 loading docks. A comfort temperature of 20°C was desired in the stock room and picking areas. Spot heating was needed for selected work stations.

Because of Amazon's specific requirements, the company needed a custom made heating solution, one that provides constant comfort to the different areas. Furthermore, the focus was also in finding a cost-efficient solution, one that contributes to keep operations costs under control.



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The Implementation

The heating system was developed in cooperation with Schwank who developed a tailored solution based on its proprietary logistics heating concept. In the loading/unloading areas, infrared heating acts as a protective shield, sheltering workers from the cold and providing a comfortable environment and a steady temperature, so that even when loading dock doors remain open in the winter, the area stays warm. In addition, the heating system is monitored through Schwank's ThermoControl Plus. These controllers allow for the flexible setup of 15 independent heat zones.

Due to its optimised, environmentally friendly combustion, the heating system ensures a very high radiant factor, high energy yield, and durability.

Results

Schwank's unique logistics heating concept is based on the latest scientific research and the experience that comes from heating well over 8 mio. m² logistics facilities every year. In collaboration with a German university, Schwank researched and optimised heat distribution in logistics facilities.

The result for Amazon, was an efficient system, that ensured uniform heat distribution, and was economical to install, maintain, and operate. Intelligent controls allow the system to provide complete heat coverage to the warehouse area, and flexible heating to the picking area when required.

Amazon is so convinced of the effectiveness and efficiency of this heating system, that the company has granted Schwank two additional heating projects for Amazon's newest warehouses in Great Britain and Bad Hersfeld (Germany).



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