



Amadeus Optimizes Cooling in the Data Center with KoldLok Solutions

Amadeus Data Processing GmbH is responsible for the travel booking experience of customers from more than 90,000 travel agencies and online portals. They rely on the technical infrastructure of Amadeus to support them in booking their unique travel itineraries with the choice of approximately 500 airlines, more than 75,000 hotels, 22 rental car companies, and more than 200 tour operators. The Amadeus data center in Erding is fully owned by Amadeus IT Group S.A., the world's leading supplier of IT solutions for the travel and tourism industry. It is one of the largest data centers in the world. Inconceivable volumes of data are managed here, with more than 8,700 end-user requests running through the system per second. The data center manages more than 480 million transactions a day and more than 3 million net bookings per day.

"In view of these facts, it is quite easy to imagine what high availability means for us, and especially for our customers," says Matthias Koll, Infrastructure Manager at Amadeus. "Our systems have to be up and running—without ifs or buts, and at all times."

And Amadeus has been up and running for more than 17 years. Mr. Koll and his team ensure that the IT and building infrastructure are always state-of-the-art. For example, they continually evaluate solutions that contribute to an increase in their systems availability, security, and efficiency. Koll keeps a close eye on optimizing factors, such as cooling, which are considered critical to the data center operation.

"To achieve optimal temperatures of between 18° and 22° C (64-71° F), the cold air produced is blown through the data center's raised floor at high pressure and flows to the sensitive IT equipment that needs cooling," explains Koll, and in the same breath, admits: "In the past, the conditioned air came out in places we did not intend, including cable openings in the raised floor. We had tried as much as possible to cover these with lead mats, but the low level of effectiveness made considerable optimizations an urgent necessity."

To tackle the obvious cooling problem, Mr. Koll and his team launched a search for a relevant sealing solution, and were rather surprised that there was only one supplier of engineered sealing systems that fulfilled his requirements.



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“Ongoing optimization of our IT infrastructure is the be-all and end-all for us. Thanks to KoldLok we saved more than 46,000 euro in electricity costs a year—and this is with an amortization period of only three months.”

—Matthias Koll, Infrastructure Manager at Amadeus Data Processing GmbH



KoldLok is simply ingenious— and ingeniously simple

During a sales call to Amadeus, Daxten, the European VAD distributor located in Berlin, identified what Koll already knew: his data center had hotspots. The bypass airflow problem often occurs and causes hotspots. The US-based Uptime Institute has studied the issue and determined that up to 63 percent of conditioned air in computer rooms escapes through inadequately sealed cable openings and raised-floor inlets, and does not reach the places it is urgently needed, namely server racks. In the worst case, hotspots can overheat servers, making them prone to malfunctions and downtime. While some might try to prevent such a high cooling loss by increasing the output of the air conditioning machines, this consumes a considerable amount of energy. If the cooling capacities cannot be optimized, this can also mean a costly investment in additional cooling systems, which take up valuable space in the data center.

However, there is also a more efficient way: KoldLok solutions effectively seal cable openings for cost-effective airflow and thermal management. They optimize existing cooling infrastructure to eliminate hotspots, mitigate equipment heat loads, and increase overall data center reliability.

During the hands-on sales call, the KoldLok solution was fitted into the openings in the raised floor and then installed within minutes. The solution—a product consisting of a two-part plastic frame with filaments arranged in two layers—sealed the cable opening in the floor seamlessly.

KoldLok optimizes cooling and saves Amadeus more than 46,000 euro in energy costs

Today, there are approximately 130 KoldLok products in use at Amadeus. Within a year of the initial KoldLok installation, Koll was able to achieve energy savings in data center cooling of more than 46,000 euro (certified by an external report from an independent advisory engineer). The amortization period for the investment was just three months.

“In addition, we were able to record a pressure increase from 3 to 4 hectopascals due to the purely mechanical KoldLok sealing of the raised floor openings—of course, with constant cooling output,” says Koll. Koll sees the greatest benefit, though, in the fact that he does not need to purchase any additional cooling systems. “Since Amadeus, as a service provider, also offers hosting for the outsourced IT of its commercial customers, each square meter of saved space means more room for computer capacity, and therefore an increase in our own economic efficiency.”

Finally, the KoldLok installation means that all data traffic can be processed in a well-cooled environment. This is especially advantageous to travelers, who can continue to relax, take it easy, and book their trip online without interruptions.

Amadeus IT Group S.A.

Amadeus IT Group, S.A. is the world’s leading supplier of IT solutions for the travel industry. The company offers its customers solutions for the areas of IT, sales, and Point of Sale, and supports them in participating successfully in the growth of the rapidly changing travel and tourism industry. The portfolio of Amadeus is divided up into four sections: Distribution & Content, Sales & eCommerce, Business Management and Services & Consulting. Amadeus has several head offices in Europe: Madrid (Headquarter & Marketing), Nice (R&D), and Erding (Operations, Data Center). Further facilities and regional offices are based in Miami, Buenos Aires, and Bangkok. The 217 global market places are supported from 76 regional sales and marketing offices. The company is owned by WAM Acquisition; shareholders are BC Partners, Cinven, Air France, Iberia, and Lufthansa. Amadeus has 7,600 employees from 95 different nations. The total revenue in 2006 was Euro 2.4 billion. Find more information about Amadeus at amadeus.com.

Daxten

Daxten was founded in London in 1994, under the name of Dakota Computer Solutions. Today’s Daxten GmbH, headquartered in Berlin, is a distributor of IT management solutions. Daxten also manufactures its own product line. Daxten has made it their mission to facilitate the work of IT administrators throughout the world, and save companies critical downtime. Find more information about Daxten at daxten.de or daxten.com.

