CASE STUDY

AUG. PRIEN BAUUNTERNEHMUNG, HAMBURG:

15 TONNE DATA CENTRE ON THE ROOF

What do you do when you need more computing capacity but have no space for expansion? Aug. Prien Bauunternehmung in Hamburg has found a "cool" solution provided entirely by Datwyler.

Aug. Prien Bauunternehmung (GmbH & Co. KG), based in Hamburg, is an innovative family-owned business with a rich tradition which operates in northern Germany as well as North Rhine-Westphalia. The portfolio covers almost the entire spectrum of construction: from engineering and bridge building through harbour and marine work, urban civil engineering, commercial and residential property construction and remediation through to design services and project development.

Two years ago Aug. Prien Bauunternehmung decided to create a new backup site for the existing data centre – in fact in the form of a container on the roof of company headquarters in Hamburg.

There were several reasons for this decision: the necessary modernisation of the existing backup data centre, which was located in an adjacent building, would have needed more space than was available. The space was also urgently needed for other purposes.

Forward planning

Because the idea of the container on the roof had been on the cards for years, IT Head Marcus Thiel had already had the requisite cables for the power supply and the fibre optic connections installed. As well as this, the load capacity of the roof had been commensurately upgraded. In other words, the ideal basis for finally implementing such a solution.

Once planning was concluded the project was put out to tender in autumn 2022. Completion was scheduled for summer 2023, in time for the 150th anniversary celebrations.

But it did not work out that way. Originally the construction company had attached great importance to installing the same products in the container as in the existing data centre. Datwyler, however, entered the race with an offer having a different concept and more innovative technology, among other things featuring more

effective cooling and a more modern infrastructure management system – and after seeing the samples at Datwyler in Hattersheim the customer was convinced.

Accumulated problem-solving expertise

Before the container could be set up there were also a few challenges to overcome due to static and technical conditions on site. E.g., in order to further reduce the weight and to avoid overloading the power supply, the cooling had to be revised yet again, the raised floor removed and the height of the container reduced.

In close consultation with the Head of IT, the departmental managers responsible for building renovation/existing buildings and structural steelwork, and the procurement manager at Aug. Prien Bauunternehmung, Datwyler managed to find a suitable solution for every challenge.

The container, which finally weighed about 15 tonnes, was then delivered shortly before Christmas 2023. Thanks to perfect on-site preparation by the "Prien Team" both the unloading, the crane lift onto the roof and the positioning on the supporting structure went off smoothly. Following installation the acceptance took place in early February 2024.

Weight and cost savings

The container (of F90 quality) installed on top of the main building houses an efficient cutting-edge data centre. The IT infrastructure comprises server and network racks with in-row coolers, hot aisle containment and external cooling units. In addition there is power distribution and a modular UPS system, an early fire detection and fire extinguishing system, and an air-conditioned plant room. The whole electrical and IT infrastructure, including the temperature and leak sensors, is monitored by a DIMS 300 with LTE modem.

The IT team has now put the data centre container into operation. "We are completely satisfied," said Marcus Thiel, Head of IT department at Aug. Prien Bauunternehmung. "With Datwyler's solution we have been able to save five tonnes in weight and cut costs by ten percent. The data centre is modern, provides us with sufficient capacity, and is even more scalable. So we can expand if need be."

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