T-SYSTEMS

A Vertiv™ Case Study

ABOUT THE COMPANY

A global IT services and consulting company founded in 2000 as a subsidiary of Deutsche Telekom, T-Systems is one of the largest European IT service companies with global delivery capabilities. With headquarters in Frankfurt, T-Systems provides integrated solutions for multinational corporations and public sector institutions. With end-to-end IT and telecommunications solutions and its dedicated innovation management team, T-Systems positions itself as an innovative leader in the IT field.

www.t-systems.com

Background

Following its strategic vision to provide cloud services, T-Systems' need for data center expansion became paramount. To fulfil the company's expectations and meet their clients' business cases, a combination of requirements needed to be achieved for availability, reliability, security, scalability, transparency, efficiency and sustainability - plus a rapid deployment.

Expanding or building a traditional data center in a short timeframe can be a great challenge which requires significant resources. After a thorough analysis, a modular, containerized construction proved to be the ideal option to successfully achieve rapid availability and high scalability; easily allowing for future phases of expansion as well as a staged investment.

The Cornerstone of T-Systems' Data Center Consolidation Program

"The construction of the Cerdanyola del Vallès data center in Barcelona is the cornerstone of T-Systems' consolidation and transformation program, and allows us to provide cloud services across Europe," stated Raúl Saura, Head of Dynamic Platform Services at T-Systems Iberia. "To timely achieve strategic goals, it was critical to quickly deploy a state-of-the-art, Tier III, twincore data center."

Traditional or Modular?

"We were evaluating several options like collocation, brick and mortar construction and modular containerized construction. After crunching facts and figures, we valued the modular construction to be the most efficient solution for Barcelona under all aspects, from overall lead time and costs to specific infrastructure parameters." explained Sven Meyer, Group Procurement for Deutsche Telekom.

Traditional data center constructions can take years to design, build and kick off. Speed is definitely one of the key advantages of a modular build, as time savings of up to 50 percent can be achieved. And the quicker a new infrastructure is ready for operation, the sooner the return on investment.

"The average lead time for a Tier III data center like the Cerdanyola one is 24-30 months and we managed to build this facility with the identical requirements in just 9 months," said Raúl. "This translates directly to cost savings and also to a higher profit."

Another key word is flexibility. The purpose-engineered modules can be tailored to the most stringent requirements, and easily added to an existing infrastructure as well as dismantled and reassembled at a different location to address changing business needs. Moreover, capital and operational expenditures can be sized to actual business needs.

"The modular design gives us increased flexibility and scalability for future investment, while immediately offering an array of benefits for our customers," said Núria Berché, Program Manager at T-Systems Iberia. "Vertiv worked with us to deliver true expertise and industry knowledge, positioning us to provide a strong cloud platform that serves both domestic and regional customers in Europe."

Not Just a Building-Block Game

Specially designed and built in the Vertiv dedicated Integrated Modular Solutions facility in Croatia, and later transferred to its location in Barcelona, Spain, the T-Systems data center consists of 38 integrated modules hosting nearly 300 Vertiv Knürr® racks, more than 60 Liebert® thermal management units and a number of AC power systems. The modular infrastructure includes insulation, fire protection, monitoring, and secure access control.

While building the containers in the factory, civil works started preparing the ground for the final installation on site. The integrated modules were then delivered according to a precise timeline, assembled, and connected to all electrical, mechanical, and plumbing systems. Once finalized, the facility appeared a traditional building from the outside in, comprising, for instance, meeting rooms, galleries and walkways to access all areas of the infrastructure.

"Vertiv did a really good job, not only in providing and delivering the data center modules but also in the integration and on site assembly," explained Raúl Saura. "It is not just putting the modules one next to the other. You have to build the cooling infrastructure, you have to set up the power network, you have to do a lot of things. It is not just a LEGO game where you put the bricks in place and that's it. That complexity was performed by Vertiv and they did very well. Also, we are very pleased about the excellent teamwork throughout the assembly, installation, and final commissioning of the data center, which has been a great success."

"Throughout the tender, Vertiv proved the most efficient and reliable supplier," added Sven Meyer. "The greatest advantage was the complete portfolio and unique point of reference: the high vertical integration turned to be decisive in delivering a fit-for-purpose solution in optimal lead times."

A Step into the Future

The Cerdanyola data center is currently one of the largest modular data centers for T-Systems in Spain, with a modular IT load capacity of 1.1 MW, scalable up to 5 MW in future phases. As a result, T-Systems benefits from minimized operating costs. The facility also received the Data Centre Market award for most innovative project in Spain, and has been recognized by the Uptime Institute for providing 99.98 percent availability. The high efficiency design of the new facility delivers a Power Usage Effectiveness (PUE) of 1.3 and enables T-Systems to reduce its overall electrical consumption by 30 percent.

"If you consider that 30 to 40 percent of a data center's operational costs are those for energy, you can perceive the impact on our production costs," added Raúl. "We are now in the process of migrating data from the existing infrastructures to this new data center with the aim of consolidating by 2018. It was absolutely strategic to quickly and successfully deploy this data center to fulfil T-Systems' vision for the following years."

Watch the time-lapse video of the data center construction on the Vertiv YouTube channel.

Facts & Figures on T-Systems' Strategic Modular Data Center for Southern Europe

- 1.1 MW IT load; scalable to 5 MW
- 2N electrical topology
- PUE 1.3
- 9 months deployment
- Uptime Institute Tier III certification for design and construction