



FRANKFURT 3 DATA CENTER

UNDER DIFFICULT CONDITIONS

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Everything has to be perfect. For complex construction projects, precise planning is vital. The demands on labour, systems installation and logistics increase especially when time is an issue. A perfect example of a special property built in only 12 months is the Frankfurt 3 Data Center.

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Professional scheduling is crucial

Up to 150 workers are on-site at a time. The site manager has to work meticulously to plan and coordinate the contracted companies. One important aspect is security: access is granted only to those who are registered and can present a badge at the turnstile. Employees of e-shelter security supervise the strict access control and implement the security concept that e-shelter security GmbH has developed for the large construction site. It took months just to prepare for setting up the construction site in the industrial zone Blauer See in Rüsselsheim. The larger the construction scale, the more complex the site logistics become. This in turn determines whether deadlines and costs can be maintained and whether the building can be ultimately completed at the desired quality.

And of no less importance, organized logistics at the construction site result in major savings and optimization potentials for the owners and executing companies. Similarly, the situation outside the limits of the construction site also has to be considered. This involves not only organizing material supplies, but also planning the power cables from the nearest substation in advance and ensuring they are laid on time. The future data center, promising highest standards of fail safety, had to be connected via two independent 110 kV lines.

Learning from experience

»For many matters, we collaborate with companies that have worked for us previously on other construction sites. Especially when implementing the electrical systems, which are highly complex in a data center, there is no room for error. That would have dire consequences in its future operation,« attests Klaus Rudolph, who has already constructed several data centers as lead designer. Employing adept craftsmen who contribute their personal experience is essential for successful progress of work, the construction expert asserts.

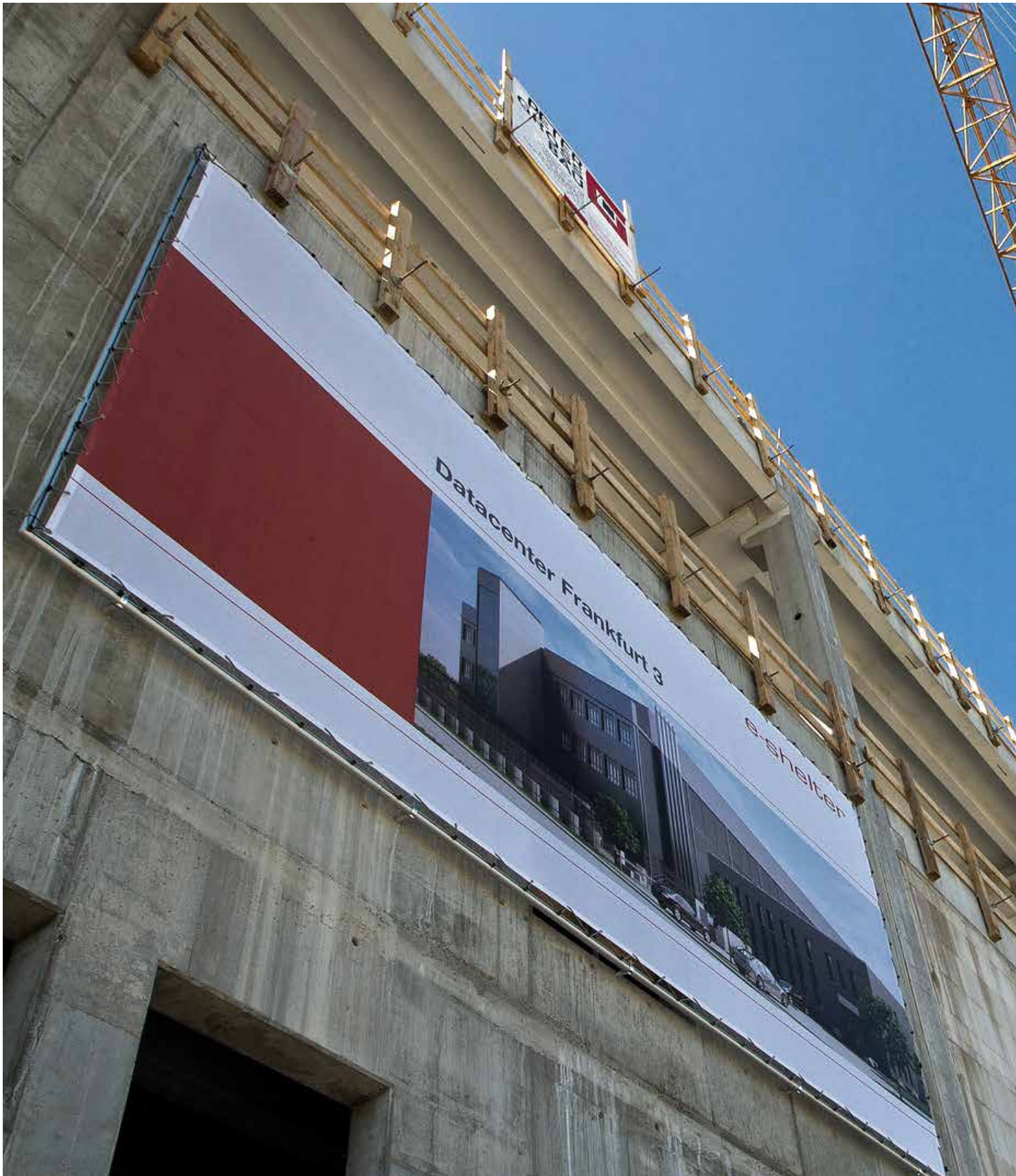




After 12 months on grid

The new data center, which offers around 4,500 sqm of high-availability data center space in its first construction phase, was officially opened in November 2012. Like already in Zurich (2011) the building has been completed accident-free. This is cooled with outdoor air by a newly developed interactive hybrid freshair cooling system that saves around 30 percent of energy costs compared to conventional cooling. All raised floors are laid, technical corridors equipped, and the 7-level security concept for data center operation is active. For months now, Klaus Rudolph has already been planning the next construction of a data center.







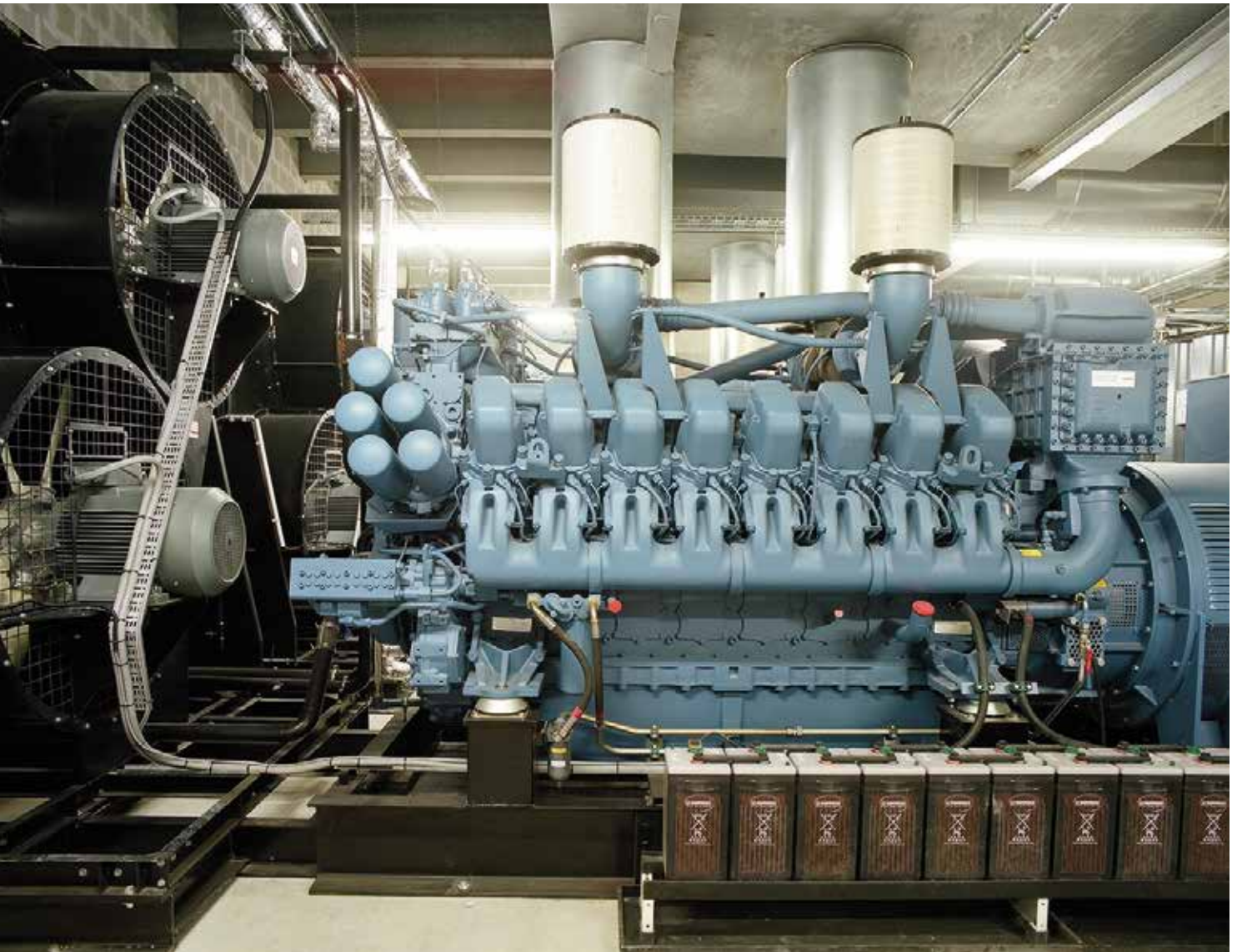




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**Its took only 12 months
to complete the building.**

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Page 1: Klaus Rudolph, Lead designer
Page 2 – 3: Crane work
Page 4 – 5: Roof topping ceremony on May 4th, 2012
Page 6: Technique floor development
Page 7: Electrical engineer at connection work on an UPS- power distribution unit
 This page (pictures from top left to bottom right): Final shell construction phase, opening event, finished facade, Diesel generator, server room with raisedfloor, shell construction phase, Reiner de Maddalena (project manager), finished building.