

FC CAMPUS

Corporate Architecture

LOCATION
Karlsruhe, Germany
PROGRAMM
Corporate Architecture



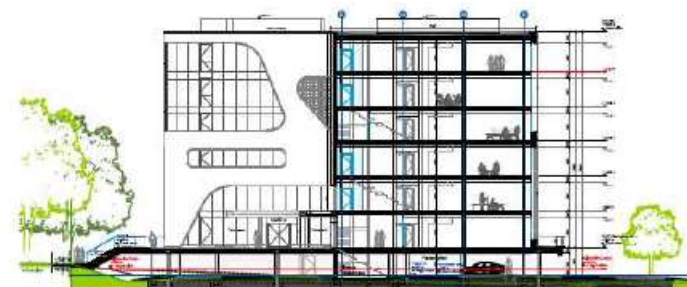
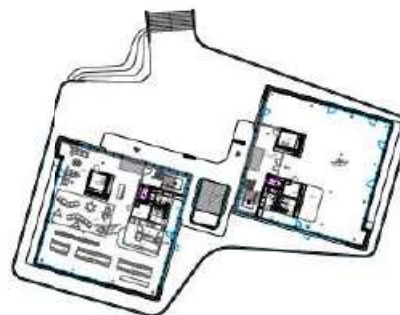
WHAT WILL SMART CITIES LOOK LIKE IN THE FUTURE?
GAME-CHANGING, INTELLIGENT FAÇADE FOR 3DELUXE'S NEW BUILDING

In recent years much has been said about smart cities and smart buildings but people rarely understand what the label can actually mean in real terms. Together with the client FC Ingenieure in Karlsruhe and the technology company Merck, the architects at 3deluxe have succeeded in coming up with an attractive building ensemble with an interesting, innovative glass façade which adds a fascinating new facet to intelligent architecture.

The FC Campus "Smartphone Façade" is Globally Unique

A building is intelligent if it does not just stand there but can respond not only to the requirements of its users but also to external factors. At best, it can make people more comfortable while simultaneously optimizing energy efficiency. The FC Campus building's intelligent architectural element is a sheet of foil, something normally used in Apple smartphones, integrated into its glass structure. In the context of a building façade, this is a global first. Interactive liquid crystals integrated into the foil allows for a sensor-controlled reduction in light and heat transfer to the building without any negative impact on transparency. The building requires hardly any cooling, even at the height of summer despite the fact that it features large-scale glazing and does not possess any structural shading elements.

The trend in recent years towards cutting the expanses of windows in new buildings in order to save energy conflicts with people's desire for bright, cheerful rooms flooded with light – and does not, therefore, represent real progress. Extensive glazing and the corresponding effect this has on the way people relate to their environment is an emotionally important aspect of well-being and thus always a significant factor in 3deluxe's building concepts. Accordingly, intelligent glass is not only durable and efficient but also helpful in the innovative design of people-friendly architecture and one of the many technological innovations that will be necessary for planning smart cities in the future.



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Consistent Corporate Design for Future-Oriented Engineering Company

The developer and user of this building ensemble, which is very prominently situated in close proximity to one of Germany's busiest autobahns, is the Karlsruhe-based FC Gruppe. This engineering company, which has a payroll of more than 300, works both for Porsche and on innovative, future-oriented hospital concepts. In light of this, the intention in 3deluxe's building design was to combine innovation, sustainability, efficiency and a meaningful arrangement, so as to create a distinctive composition. A cube offered the most economical ratio between outside surface and volume, thus representing the most efficient building shape from a sustainability viewpoint. The FC Group's two identical cubes are twisted in opposite directions and stand on a large floating podium under which an open underground parking lot is located. Because of the striking, organically-shaped, story-spanning windows, the two individual cubes merge, depending on perspective, to produce a sculptural overall effect with a varying, charming appearance. The generous glazing means that these modern, open-plan office premises are well lit from all sides and offer pleasant views from all their workstations. Along with the well thought-through approach to the diagonals and radii in the façade, it is the building's pared-back details that make it so compelling and unique.



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The Building's Inner Workings: Smart, Digital, Convenient

The office stories have a generous, open feel to them, the concept used largely rejects the idea of internal walls. The structure of the building invites a cooperative, non-hierarchical approach to work. Communicative shared spaces and areas for focused work unobtrusively alternate with one another and the offices are fitted out with furniture that is appropriate to its urban context. The concept of a paperless office allows for light, transparent furnishings and views of what is happening outside that are largely unimpeded. Thanks to an app specially designed by the developers, staff can control pretty well everything in the building. They can select their lunches from the in-house food bar or allow themselves to be guided through the surrounding park areas in their breaks. To avoid plastic, water is provided from the well on the grounds, while the carpet is made of recycled fishing nets and plastic bottles. Modern heated and chilled ceilings ensure a pleasant ambient temperature in the offices. Cooling and heating is provided from a geothermal source that uses 24 probes that run to a depth of 130 meters and electricity is generated by a PV system on the roof, meaning that the building requires zero outside energy.



Nature and the Protection of Endangered Species between a Commercial Park and the Autobahn

The FC Campus building is situated in a semi-natural environment, between an industrial park, the autobahn feeder road and a small tree and meadow biotope with a little stream, an environment very much deserving of protection. The architecture has adopted a circumspect approach to this residual natural environment. In order to avoid birds crashing into the generous glazing which stretches around corners the architect in cooperation with the Swiss ornithological station Sempach came up with the kind of delicate, semitransparent pattern printed onto the glazing of which birds would be aware but which would not, at the same time, spoil the view. The outside lighting was designed to take the form of insect-friendly LED lights with a low beam height and focused lighting on the surfaces, without light emission into the surroundings. The decision was taken not to install scenic lighting on the vegetation or the building shell. Throughout the entire site and in the open underground parking lot underneath the building's floating base plate sealed areas have been reduced to a minimum, which means the roadways and the footpaths.

