network 41
TECHNICAL COMMUNICATION

Excellent mobile phone reception at the FHNW campus in Muttenz

Network 41 has made it possible: right on time for the opening of the new FHNW campus in Muttenz, 3,700 students and 800 employees will enjoy excellent mobile phone reception throughout the entire newly constructed facility. This is due to the work done by a team under project manager Rafael Dos Santos to install mobile phone stations.

FHNW (University of Applied Sciences and Arts Northwestern Switzerland) is expanding its Muttenz campus. The new facility will go into operation at the start of the autumn semester, having cost CHF 300 million to build and offering a surface area of some 34,500 square metres. Network 41 was responsible for ensuring consistent mobile phone reception in every corner of the building: the team installed eleven radio units in the 16 storeys, along with more than 200 aerials.

This large-scale project involved a number of challenges, as project manager Rafael Dos Santos explains: "The sheer dimensions of the project meant we had to be very flexible." Based on their

considerable experience and existing expertise, the mobile phone specialists were able to tackle these challenges very effectively.

Consistent reception

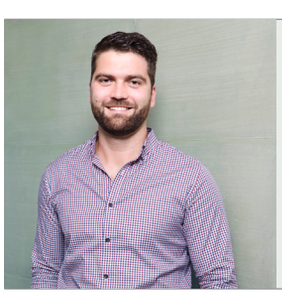
Planning of the building started in 2015. Network 41 was commissioned by Swisscom to ensure good mobile phone reception throughout the building. The project manager explains: "In buildings where a high density of people is expected and where modern building methods provide excellent insulation, the regular network from outside is insufficient." Only an internal network with in-house aerials is able to ensure consistently adequate reception.

The team faced a new situation right at the start of the project. Normally, Rafael Dos Santos' team provides network reception for existing buildings. "This means we can take measurements on site so as to determine the locations and output levels of the aerials." In Muttenz the preparations had to be carried out based on construction plans. The situation was further complicated by the fact that the project phase was very lengthy and involved ongoing adaptations. "We had to communicate closely with our direct customer, Swisscom, as well as with our end customer, the building contractor." The team always approached its partners proactively to obtain important information. Rafael Dos Santos is full of praise for his team members: "Our on-site staff are skilled at getting hold of the right people in the right phase and establishing contact."

Smooth process

Looking back over the project, Rafael Dos Santos is very satisfied – after all, Network 41 was absolutely reliable in terms of scheduling, too: planning of the mobile phone station started at the same time as construction planning in 2015. Initial contact was then made with the end customer so as to obtain the layout plans and other details. Extensive adaptations were made in 2017. After this, the network calculations were made, Swisscom carried out its review and finally the realisation phase was implemented involving procurement and installation of the hardware. The start of construction for the Network 41 technicians was in October 2017. For a period of four months they fed in the cables as required and installed the aerials and mobile phone components. The systems were then installed and commissioned in February and March 2018. After this, the final documentation was compiled, the start-up was implemented and final measurements were carried out. Rafael Dos Santos is pleased with what his team has achieved: "There were very few final adjustments to be made – which is impressive considering the scale of the project and the fact that we had to base our planning on experience rather than actual on-site measurements."

According to the Network 41 project manager, an average of five people were required on site for this project at any given time – with up to ten at peak times. This was one of the biggest projects carried out by the Mobile In-House Team, involving installation of more than 200 aerials – and everything in customary Network 41 quality, of course.



Rafael Dos Santos
Project manager, Network 41

"We implemented this project effectively based on our considerable experience and the fact that we communicated actively with our construction partners."