

Akara Tower, Baden

Automatic monitoring measurements and as-built documentation with CraneCam



- 📍 Baden, Switzerland
- 👤 HRS Real Estate AG
- 🕒 2021-2022

Services

- ◆ Planning, installation and operation of a track monitoring system
- ◆ Planning, installation and operation of vibration measurements in the surrounding area
- ◆ Installation and operation of automated construction site documentation with the TEDAMOS CraneCam solution on 2 cranes

The 21-storey tower block in a prime location at Baden railway station was built in just one year. The daily construction site documentation using orthophotos with 5 mm pixel resolution and the associated 3D model enabled the construction management of HRS Real Estate AG to produce very prompt and professional construction documentation.

During the most productive construction phases, 1 floor was constructed per week, so that the site management used the CraneCam up to 3 times a day to document the georeferenced status. At this speed of construction, all the planners and contractors involved were also dependent on prompt documentation. Using plan overlays, deviations in the installation or planning errors could either be corrected directly before concreting or adjusted in the execution plans on the floor above at the latest.

This improvement process during the construction of the CHF 70 million building was challenging, but not only saved the client costs, but also saved all the planners and contractors involved construction damage, correction work and the time-consuming and costly updating of plans.

The 65 metre high building was fully documented from the floor slab to the top floor. Are the column foundations correctly positioned and are the column zones free of cables and other inserts? Are the tension cables in the correct position? Are all plumbing connections correctly positioned? Have the electrical sockets been moved correctly before the concrete is poured? Is the formwork aligned with the execution plans? All these questions could be answered with our CraneCam solution - on a daily basis.

Youtube-Link of 3D animation of the construction of the building based on 3D models.

Technologies

- ◆ 1 automatic precision total station for track monitoring
- ◆ 5 geophones/vibration sensors
- ◆ CraneCam solution with 4 cameras
- ◆ Web-based, password-protected customer portal with 24/7 access