

# High Rise Building Vertical Alignment Survey Technology - from BIM to Field

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## SUMMARY

Since the construction of the Burj Khalifa in Dubai, other towers have sprung up and the program of such iconic building also extends for next decades. That one wonders about the economic value of such works and wherever you do not share this vision of urban construction of vertical cities, the entire civil engineering techniques, equipment and surveying associated with construction of these towers are found largely beneficial.

The objective of this paper is to present briefly the contribution of surveying and geodetic engineering not only during construction phases but also for the monitoring of these buildings.

If today the combination of GNSS technologies and total stations are accepted, data processing, the addition of other sensors and data interpretation are still a challenge for survey engineers. The reason is mainly due to the fact that no tower is the same than the other one and for each new tower it's simply a new challenge.

CGEOS is acting as a consultant for the new Karla Tower in Gothenburg, Sweden - that will be the tallest building for Scandinavian region. Teodoliten, the survey engineering company involved in all the control surveys, is intensively using BIM system to interact from design to field. After construction, a 10 years monitoring program will be implemented.

The authors are also involved in various other high rise projects worldwide and will share their experience and expertise in that field of Engineering Geodesy with the participants.