

# Case study

## *Monitoring solution for parking garages (New buildings)*

August 2014



## Project: New Parking garage

**Customer:**  
Public construction authority

### Initial situation:

As a result of high repair costs at existing car parks, the city administration had decided to install sensors for humidity and corrosion in the new construction. The background for this is not only the early detection of damage, but also the monitoring of the building to the VOB acceptance and beyond. Because of the special design (covered roof of the parking garage), special emphasis was placed on the humidity monitoring, since the sealing of the roof area is not accessible. Humidity sensors should, among others, be installed at the low mark of the drainage and the ceiling of the parking garage, as well as in the area of drainage joints of the entrance ramps.



### Solution:

Installation of corrosion sensors (standard version) at the pillars of the parking deck and the most frequented parking positions.



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Installation of humidity sensors (special design) in the area of drainage of the four ceiling panels (40m x 20m x 0.5m) – reading the values from the lower side of the concrete slabs.



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The readout of the data was done manually by a hand held reader. Alternatively, a fully automatic remote reading is available.

**Additional value:**

- ✓ Easy visualization of the condition of the building
- ✓ Significant cost reduction in the later concrete repair through early detection of damages
- ✓ Sustainable securing of investments
- ✓ Evidence of construction quality
- ✓ Differentiated repair in case of failure of the OS system
- ✓ Targeted control of the inspection interval by querying the humidity values
- ✓ Reduced idle periods with later repairs