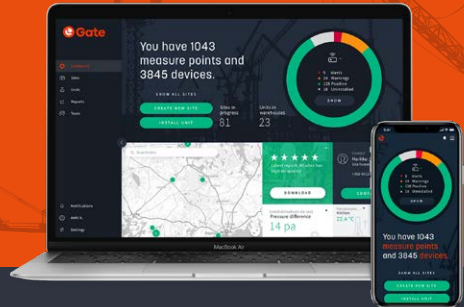


# eGATE SMART BUILDING INNOVATION

**eGate**  
Smart Building Innovation



eGate's real-time IoT sensor data enables maximizing the project profitability through better scheduling and helps monitoring job site environment for health and safety.

## eGate Overview

**eGate** is a cloud-connected IoT solution for remote monitoring of construction job sites. It has the widest range of high-precision IoT sensors on the market. All sensors are connected directly to the eGate cloud data platform with visual floor plans and mobile access.

### What eGate does at the job site:

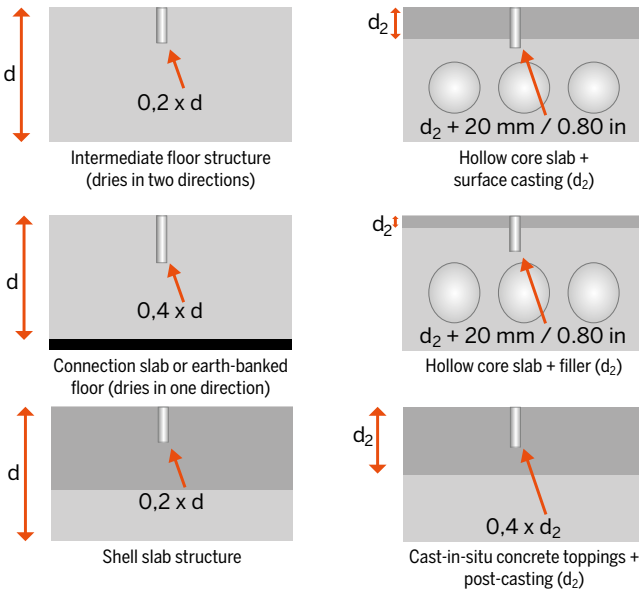
- Concrete RH+ Temp measurement for flooring projects with industry leading 1% accuracy
- ASTM 2170 and RT 103333 (etc.) compliant concrete sensors for RH + Temp + Strength
- Concrete temperature measurement for calculating concrete strength using ASTM or Sadgrove conversion curves
- ePredict prediction algorithms for forecasting the drying time for concrete floor slab
- ePredict algorithms to monitor the concrete strength development
- Silica dust monitoring at the job site, with 8h average reporting vs. OSHA limits
- Air particle monitoring for both hazardous dust and normal construction dust for cleanliness, for managing the cleaning processes
- Monitoring ambient air for optimal conditions for RH+Temp, Differential Pressure, CO<sub>2</sub>, TVOC,...
- Project reports in PDF and excel format, with time stamps and location data with visual floor plans
- Real-time cloud data, with online dashboard and access with all devices, mobile and desktop
- Live mobile alerts for values that exceed the set min/max thresholds



nSens humidity sensor is based on a unique electrolytic sensing structure that doesn't suffer from exposure to continuous high humidity levels. Compared to traditional capacitive humidity sensors the nSens is a resistive sensor and it's much more accurate in high humidity levels. Furthermore, the nSens doesn't exhibit saturation and hysteresis effects typical of capacitive sensors. This makes the nSens humidity sensor ideally suited for continuous concrete humidity measurement where endurance and high accuracy in near-100-percent humidity levels is important.

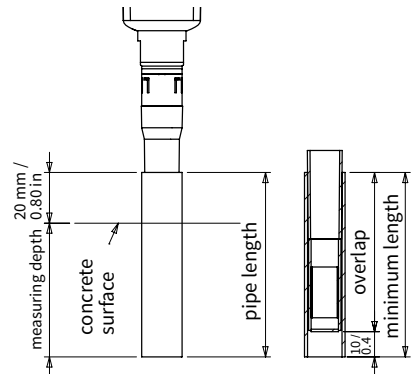
## Installation of eGate nSens concrete RH & T sensor

1. Drill a hole ( $\varnothing$  16 mm) in the depth presented in the chart below using dry method. Maximum measuring depth 70 mm.
2. The bore holes are carefully cleaned of drilling dust using a vacuum cleaner or compressed air.



3. A plastic hole liner is placed in the bore hole all the way to the bottom. The length of the conduit is measuring depth (max 70 mm) + 20 mm. The minimum length of the conduit can be determined by measuring how much the conduit and the sensor overlap and by adding 10 mm to this measurement. The conduit is cut to the larger measurement.

The sensor may not touch the bottom of the bore hole, but must remain at least 10 mm away from the bottom.



4. The seams of the conduit and the casting, as well as the sensor and the conduit are carefully sealed by a layer of Blu-Tack.

5. Installation guide Base Station.

<https://www.e-gate.io/en/solutions/sensors-eu/#base-station>

6. Make sure in the eGate online service that the measurement data of the transmitters is transmitted. Sign up to the online service at [app.e-gate.io](https://www.e-gate.io) and make sure that new measurement data is transmitted to the measuring channels corresponding with the transmitters. Please note that the transmitters send data every 15 minutes.



## eGate nSens

Compliant with "ASTM 2170 and RT 103333

The **eGate nSens** is a specialized modular wireless LoRaWAN transmitter for accurately measuring the relative humidity and temperature from inside concrete structures. This transmitter uses a special Novasina **nSens-HT-ENS** humidity-temperature sensor probe which is based on unique conductive humidity measurement principle which employs an electrolytic sensor element. This offers an unprecedented measuring accuracy and properties that withstand constant exposure to very high humidity levels, as encountered inside freshly poured concrete structures.



### NSENS-HT-ENS

#### Humidity:

Range	0...100 %RH
Accuracy	Typically $\pm 0.5$ % RH (5...100 % RH and +15...+30°C) Typically $\pm 0.8$ % RH (15...100 % RH and 0...+50°C) Typically $\pm 2.5$ % RH (50...98 % RH and -20...+80°C)

#### Temperature:

Range	-20...+80 °C
Accuracy	Typically $\pm 0.1$ °C over 0...+70 °C Typically $\pm 0.2$ °C over -20...+80 °C

Operating temperature -20...+60 °C

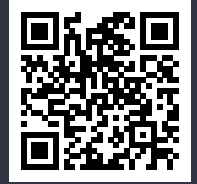
Protection class IP65

## Easy Installation:

1. Log in at: [app.e-gate.io](https://app.e-gate.io)
2. Make sure the job site floor plan drawings have been uploaded to the eGate cloud.
3. Plan the location of measurement points.
4. Install the Sensors.
5. Start monitoring data & alerts.

Ask your dealer for training on using the eGate system.

Contact information: [www.e-gate.io/yhteys](https://www.e-gate.io/yhteys) or [www.e-gate.io/en/contact](https://www.e-gate.io/en/contact)



Watch video