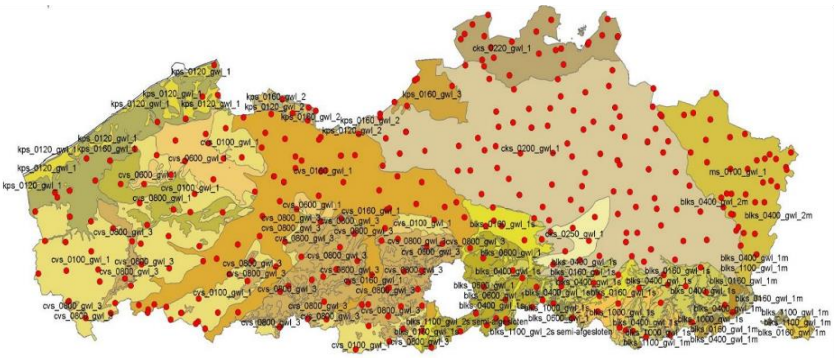
Automation of groundwater level measurements - Supply and installation of IoT level measurement equipment for wells of the VMM groundwater monitoring networks with above-ground completion



Country: Belgium
Year: 2022 - 2026
Client: Flemish Environment Agency (VMM)

Context

The Flemish Environment Agency (VMM) manages a groundwater monitoring network across Flanders. This network is currently largely measured manually, and there is a desire to automate it over a period of three years as part of the Blue Deal.

Project description

IMDC, in collaboration with Io-Things, established the automation of the Flemish groundwater monitoring network. This involved installing almost 700 water level sensors throughout Flanders.
The automation of the monitoring network took place in several phases:

1. Design of PCB layout and construction of IoT water level installations;
2. Delivery, installation and commissioning of water level measuring equipment in the field;
3. Maintenance of the equipment and validation of the data;
4. Training and reporting.

Io-Things was responsible for design and supply of the PCBs, while IMDC provided project coordination and monitoring aspects. The IMDC Synapps data platform was used to unlock and (semi)automatically validate all this data. Subsequently Synapps sent the validated data to the Flemish Government's web portal (DOV).

Services provided

1. Monitoring network

- Assembly of the level sensors;
- Installation and maintenance of the level sensors in the field;
- Commissioning of the monitoring network.

2. Synapps data platform

- Establishing data communication between the level sensors, Synapps and DOV database;
- Developing and establishing automatic data validation protocols for groundwater;
- Setting up instrument management;
- Using MeetApp in the field for manual calibration measurements.

3. Training and reporting

- Reporting on developments, measurement design and action plan;
- Training for field staff of the Flemish Government.