Smart City
IoT

T Business

REMOTE MEASUREMENT OF WATER QUALITY

ANALITYCAL BUOY

- Water quality parameters are continuously monitored.
- Measurements from the sensors are transmitted in real time to the IoT platform (installed in the T-Mobile Data Centre).
- The algorithms implemented on the platform generate alarms in accordance with the configuration.
- A user-friendly interface provides access to current and historical information.
- The users of the system not only receive notifications about the generated alarms to the mobile devices, but also have access to a tool for generating reports.

Remote monitoring of the purity of rivers influences the full detectability of incidents related to the risk of water pollution.
A dedicated app contains information on the required maintenance activities and offers a calendar to which such activities can be added.

Automation of the water sampling process.

Full detection of incidents related to the risk of water pollution.

SMS alerts.

Remote access to reports (via the app).

FUNCTIONALITY

Continuous monitoring of defined water quality parameters:

- suspended solids concentration (turbidity))
- dissolved oxygen
- temperature
- conductivity
- pH
- N-N03, N-NH4

For use in various types of bodies of water:

- rivers
- lakes
- seas and oceans
- breeding ponds
- industrial wastewater

The solution is very energy-efficient –

the energy required to charge the batteries is obtained from a solar panel, which is completely sufficient even on cloudy days. There is no need for additional maintenance associated with battery replacement.

The system is implemented based on a high availability microservice architecture. The entire solution is highly stable – in terms of both the sensors and the system.

TECHNOLOGY

- **Sensor layer** – communication module, sensors, automation ensuring the accuracy of measurements.
- **System layer** – modern IoT platform capable of receiving and processing data in real time and from numerous sensors simultaneously.
- **Communication layer** – implemented within the T-Mobile network, with satellite transmission available as a backup solution.

THE APP

- Information about the alarm thresholds being exceeded.
- Sending of SMS alerts to defined phone numbers.
- Visualisation of current and historical data (reports).
- The possibility to set alarm thresholds and the frequency of measurements and data transmission.
- Calendar for scheduling the implementation of the required maintenance activities.