MANHOLE MONITORING SYSTEM

WINEXT
innovation company

Partner
Winext

Country
Kazakhstan

"Smart Manhole project enables real-time control of the utility infrastructure proper maintenance and getting notifications on unauthorised hatch openings to take timely measures.

This secures citizens against falling into sewer manholes".

Alexander Koretsky
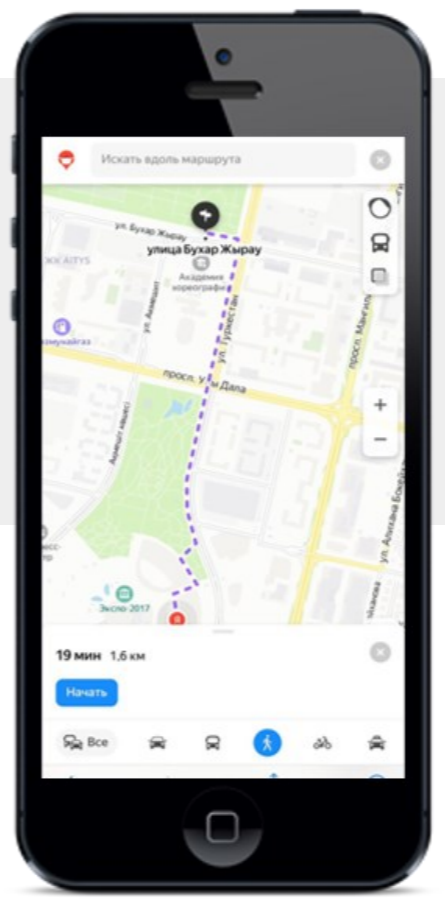
CEO, Winext

PROJECT DESCRIPTION

The Nur-Sultan city utilities needed an automated manhole covers monitoring system to help manage manhole maintenance, prevent unauthorized openings, and ensure the safety of the city dwellers.

The Winext solution, built on top of the AggreGate IoT platform, provides real-time equipment monitoring, as well as the prevention of unauthorized access and cover theft. Sensors together with a cloud-based monitoring platform enable the supervision, accurate planning, and management of manhole maintenance.

The control system detects unauthorized openings automatically, sending alerts of incidents to an operator who dispatches an emergency response team to the location.

HARDWARE / ENVIRONMENT

The data is sent from the sensor to the cloud platform using the NB-Fi, NB-IoT, and LoRaWAN technologies. The cover sensor offers the ability to connect external devices, such as a water level sensor, CO detector, and others.

BENEFITS

The cover opening detector and energy efficient data transfer technologies helped ensure 24/7 real-time cover state monitoring, enabling to:

- Curb the theft of manhole covers
- Shorten incident response time from days down to 40 minutes
- Monitor covers for unauthorized opening to ensure proper operation of the city's ecosystem
- Create a digital map of manhole locations
- Lessen the amount of complaints from citizens
- Plan more precisely and supervise manhole maintenance

SOLUTION — IoT Platform

Tibbo SYSTEMS