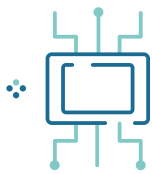


# FOR CIRCULAR CITY SERVICES: THE INNOVATIVE (IOT) SOLUTION YOU'VE BEEN LOOKING FOR

Ready-to-use cloud service for the remote management and control of complex city infrastructure and services. Sensoworks collects data, monitors the infrastructures and assets in real-time, interprets the data to anticipate potential issues, and allows for maintenance interventions.



## BIM & GIS

- Building Information Modeling (BIM) in 3D
- Georeferenced layer of monitoring sensors
- Sensors status
- Monitoring process



## Algorithmi AI

- Anomaly detection
- Tiny ML and DL
- Time series prediction and classification



## Edge computing

- Edge and Fog (intelligent) computing
- Real-time analysis
- Distributed computing (nano-micro-edge)



## Connectivity exploit

- Wired/wireless connectivity
- Low latency transmission
- Secure and reliable connection

## Technology and features

- Monitoring and control of critical infrastructure
- Prediction of maintenance interventions
- Two-way interaction with existing equipment
- Collect and view all data from devices and assets
- API-first
- Data-agnostic
- Quick to comply
- Ready-to-use

## Functionalities



Monitoraggio dei sensori



Automatic actions



Customizable reports



Predictive maintenance



Blockchain certified

## ADVANTAGES

Data driven decision

Predictive maintenance

Data certification

## A CONNECTED CITY: The applications of sensoworks

### BUILDINGS

- Inclinations, bending, lengthening/shortening
- Acceleration
- Importance of structural damage

Structural monitoring includes the measurement of static strain (inclinations, bending, elongation, shortening) and dynamic stress (acceleration) on new or existing buildings.

### WASTE

- Volume of contained waste
- GPS position
- Potential overturning
- Shock, fire and damages of different nature
- Smart picking

Waste Management solution employs a series of sensors that allows the waste management company to monitor in real-time the status of the bin and its content. Garantisce la raccolta smart dei rifiuti, ottimizzando l'utilizzo delle risorse, evidenzia poi eventuali anomalie relative allo stato dei cassonetti monitorati (ad es. sfondamento, incendio, ecc).

### SMART PARKING & MOBILITY:

- Identify the available seats
- Measure air quality
- Analyzing the vehicle flow
- Proximity Info Parking e Proximity Marketing (Gamification Marketing)

Sensoworks allows smart parking solutions, thanks to the connected devices installed inside and outside the parking lots, it allows the traffic to be flowing easily. More parkings and more efficient mobility.

### WATER MANAGEMENT

- Water losses
- Pumping optimization
- Predictive maintenance
- Smart alarms
- Digitization of asset management

Identification of network sections most likely to break; water piping analysis with priority management of the most critical assets resulting in decreased water losses and increased management efficiency; development of a network model with AI algorithms, powered by real time data from the field.

### GREEN AREAS

- Identification and digitization of vegetative geometry
- Identification of vegetation indicators using satellite data
- Detecting recurring changes through automated analysis of changes in vegetation indexes
- Changes in tree top size (growing)

The monitoring is generally implemented through the use of IoT sensors of different types, useful for the evaluation of parameters such as soil humidity, air quality, temperature and vegetation status, etc. This information, integrated with data acquired by satellite, allows the data to be extended on time in order to plan the necessary interventions.

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