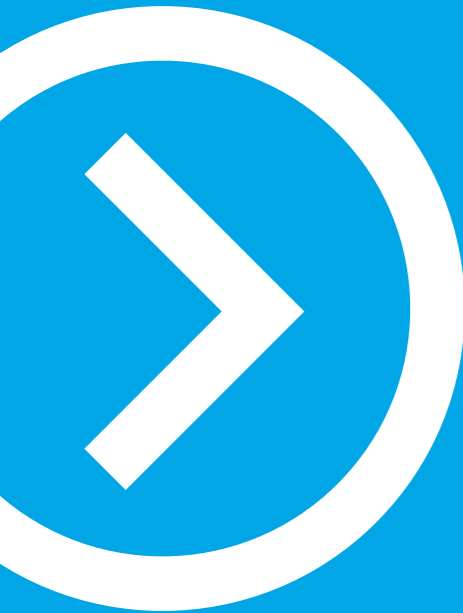Standard Development GmbH

2019

Smart City

Software and IOT Solutions

NEED A SOLUTION?
IT´S A MATTER OF CHOISE

STANDARD DEVELOPMENT
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🕐 **About Us**

About Us

STANDARD DEVELOPMENT SRL

Standard Development is a custom software development and I.O.T services provider.

We are based in Stuttgart Germany and the development team is located in Bucharest Romania. We know that with every assignment, a particular client trusts us with his business.

That is why, our goal is to deliver the people and results that they expect, and more. Our company chooses to work with the best people in the field and we are constantly pushing our own boundaries forward to achieve unique, high quality products for all of our clients. Our team of competent developers rely on software development practices and rigorously test the applications to ensure perfect deliveries every time.

We are committed to understand client needs and provide solutions that are always in sync with the latest technologies. Our list of clients include organizations and companies from various sectors like retail, energy, media, gouvernamental,etc. We deliver custom IOT solutions, web solutions and mobile applications that enable companies to have the exact business solutions and results they need.

About
Standard Development
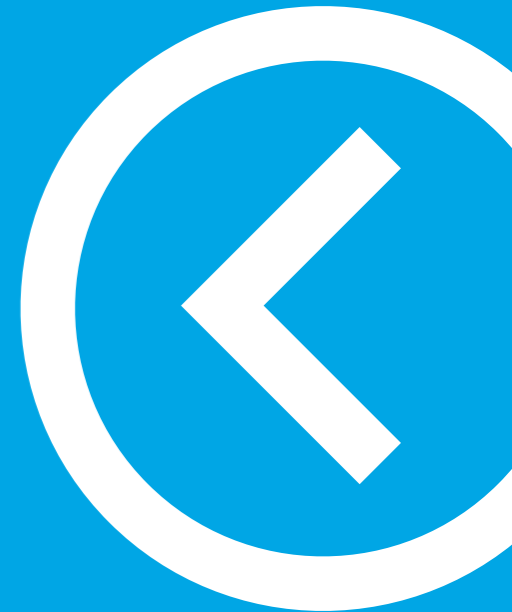
What we do:
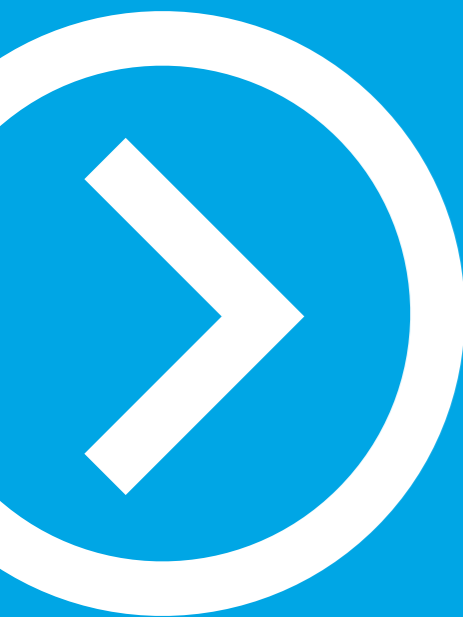
WHAT WE DO	TECHNOLOGIES
Custom Software Development	PHP
Web Design & Development	C | C++ | C#
Outsourcing	Python | Micro Python
E-Commerce Development	Java | Android
Mobile Applications Development	.NET | ASP.NET
Software QA & Testing	HTML | CSS
CRM	REACT JS | Angular | JavaScript
ERP	mySQL | SQL | MariaDB | Redis | Oracle
Business Intelligence	

Waste Management SOLUTION

PROBLEMS

- insufficient garbage containers
- Spillage of garbage polluters the environment
- When collecting, the garbage cans can have a low or too high filling level (pouring)
- Unoptimized waste collection
- High operational costs

SOLUTION

Placing sensors that will automatically provide data about filling level of trash containers and send alerts. The sensors transmit data to a cloud platform with the following informations: filling level, temperature and GPS coordinates of the containers

Analyzing the data from the sensors and depending on the collection points, traffic, road conditions and availability of the auto fleet, the cloud platform will send optimized routes to collection trucks, increasing collection efficiency.

Collection trucks will receive live data with lifting points and optimal routes.

BENEFITS

INCREASED COLLECTION RATE

PREDICATABILITY OF RECYCLABLE WASTE

SAVING FUEL, TIME AND EFFORT

REDUCTION OF CO_2 EMISSIONS
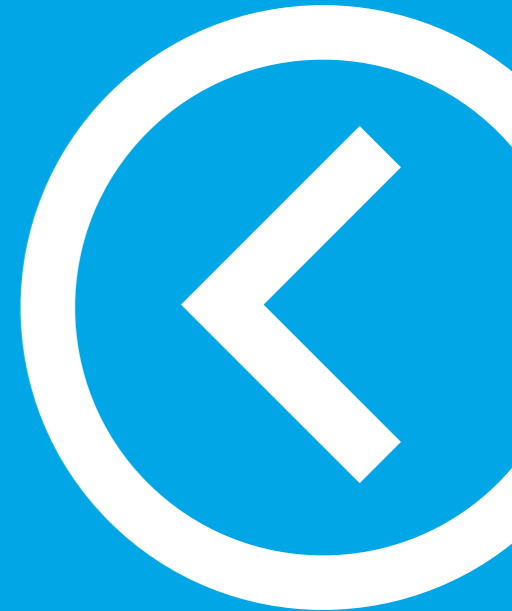
COST SAVINGS

ELIMINATION OF FULL AND UNCOLLECTED CONTAINERS

IMPROVED EFFICIENCY THROUGH REAL-TIME MONITORING

SEND OPTIMIZED ROUTES DIRECTLY TO MOBILE DEVICES INSTALLED ON COLLECTION TRUCKS

- Relevant information about waste container fill level with dynamic updating
- Information on existing alerts
- Custom widgets can be implemented to provide real-time information according to customes specifications

SENSOR MAP
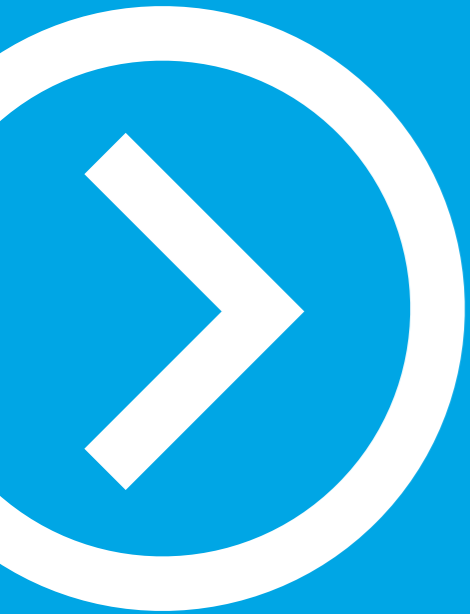
- Displaying sensors on a GIS solution. The sensors can be equipped with the GPS module, in which case the positioning is done automatically, also the location can be positioned manually when installed on the container (when the container is moved to another position, the sensor must be reconfigured).
- The colors for each sensor located on the map indicate the fill level of each container on which it is mounted, according to the pre-settings.
- It is also possible to correlate the position of the vehicles, used for collection, to monitor them in real time. This provides an integrated solution for managing all resources. The position can be obtained from the car's own GPS through an API connector with the application that gestures the car fleet or can be obtained from the mobile device of the car that receives the automated collection routes.

REPORTS

Using real-time data collected from sensors mounted on each waste container correlated with the position and status of each vehicle and other specific data, the provided reports are:

- The quantity of waste in containers at individual level, by container group, or total.
- Estimated collection times depending on the available machines, or the number of machines to be allocated in order to be able to execute the operations in a given time
- The amount of waste per category according to the classifications (domestic, recyclable, construction, special, etc.)
- It can also fix KPI performance incidents that can be tracked through reports or reports can generate these indicators.
- Other types of reports according to customer specifications.
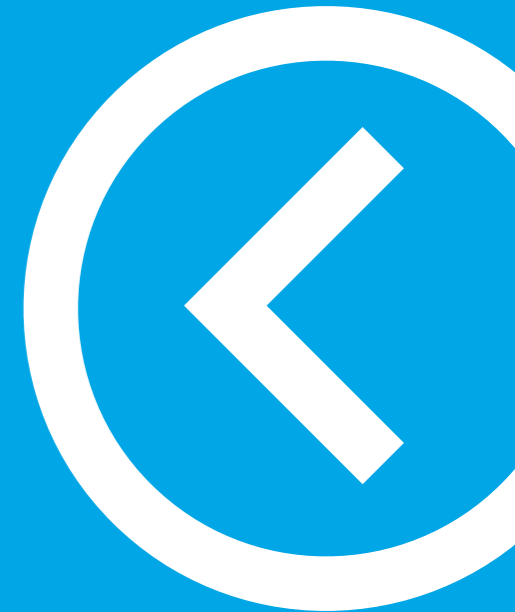
SENSORS
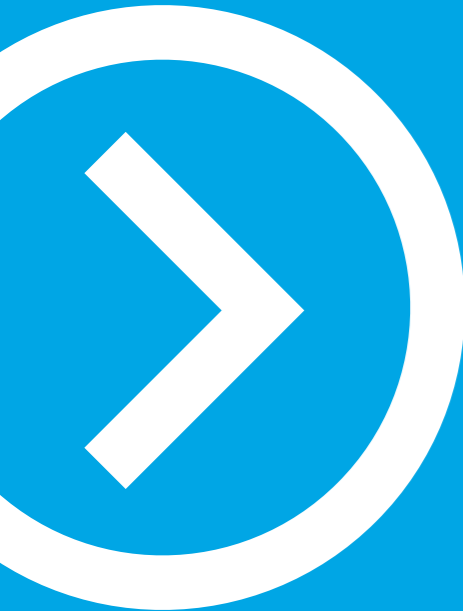
Measured sizes

- Waste level in containers
- Battery level
- Temperature and humidity in the container

OPTIONAL measured sizes

- GPS mode for automatic positioning and asset management
- 3D-Axiss accelerator for anti-vandalism and access to unauthorized or anti-theft container
- CO_2, Methane or H2S detector for toxic or anti-explosion detection for buried containers


15%   50%   95%

Connectivity

- LoraWan - 2 km urban | 15 km open field
- GPRS | LTE M-Cat1
- WiFi , BLE

Lorawan module for urban areas or areas where lorawan infrastructure exists. The Lorawan communication solution allows data collection from sensors within 2km radius around each access point in the urban area, and up to 17 km radius in the open area.

GSM for isolated containers or in areas where container distribution does not justify the existence of a lorawan communication infrastructure. Assume SIM card from mobile operators and M2M subscription for each module, or if grouped, gateway-type equipment can be used to allow data collection on the lorawan, wi-fi or BLE system and their transport over GSM to the Business Analytics platform.

GRAIN MONITORING SYSTEM
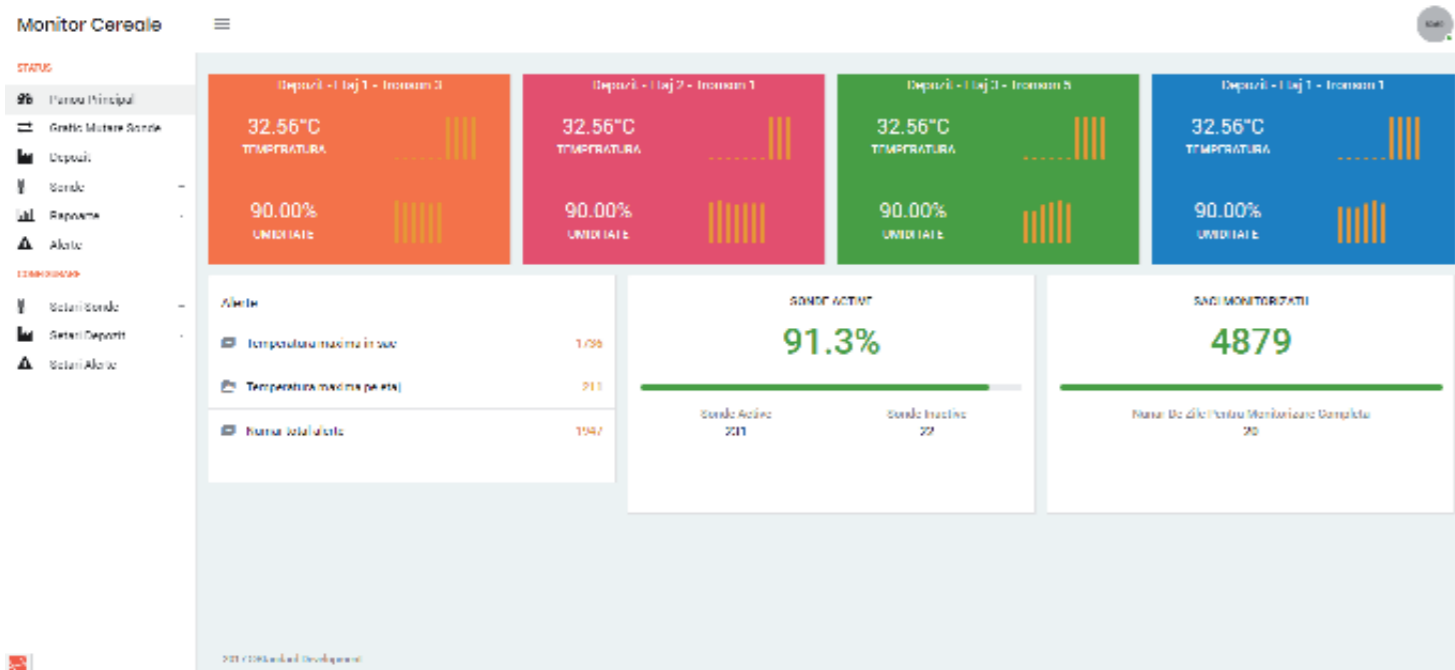
This solution is monitoring the existing temperatures in the containers where the cereals are stored.

Our sensors send temperature and/or humidity information in real time, or at a predefined time in the data analytics platform.

Using the data provided by the sensors, the platform generates reports and shifting graphs, if they need to be moved.

Dashboard - general storage display of humidity and temperatures
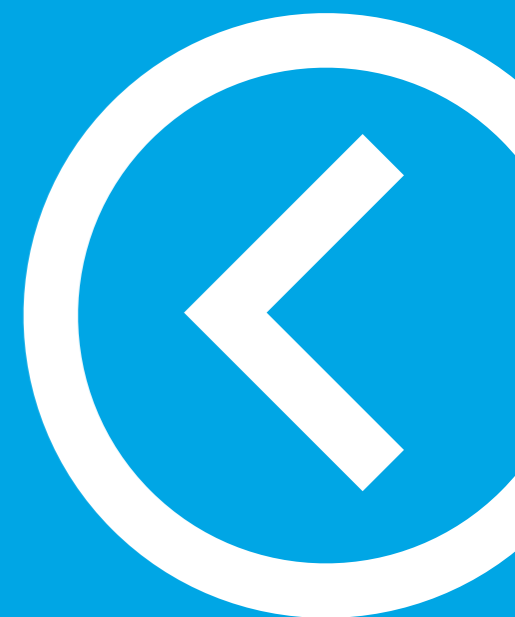Move Graphic - automatically generate the chart for moving the probes
Warehouse - status overview of the monitored products
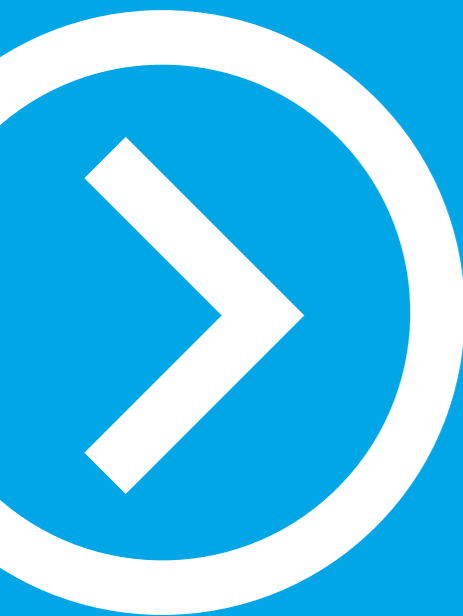Sensors - lists of all sensors - status and transmissions
Report - custom reports (requested by Client)
Alerts - Cutom alerts
Settings - app setings and warehouse setup

SMART PARKING SOLUTION

Problems

1. Lack of parking places
2. Inefficient taxation for existing spaces
3. Wastage of time/ most of the time blockage of a driving direction
4. Pollution by addition fuel consumption

Benefits

1. Saves time and fuel
2. Easy payment method
3. Streamline the traffic
4. Predictive reports over the occupancy of overcrowded areas, or different periods of time, contributing to the development strategy of the city (or city management)
5. Obtained data is very important for the traffic management solution, helping to ease traffic and lower CO_2 emissions

Solution

- Installing smart sensors that will send to the cloud platform the occupancy of a parking place /parking areas
- Same sensors can be installed to detect and send alerts for parking in restricted areas
- Ensure parking management by increasing efficiency and income taxation (more money will be collected for the local budget)
- Auto taxation (automatic payment, SMS, subscription)
- Ensure fines management for the people who park on public spaces and dont pay
- Mobile app for free parking spaces identification, by integrating Google Maps API or Waze for the parking spaces
- The solution is scalable, using also provisioned costs.

Problems

1. High level of pollution, by burning fuels;
2. Pollution in the industrial areas of cities;
3. Lack of a real time preventive alert system to monitor accidental or intentional discharges of pollutants.
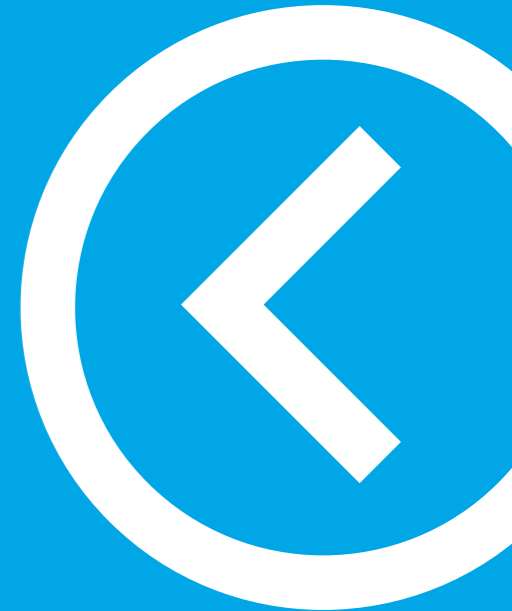
Benefits

1. Increased air quality and raised health of citizens;
2. Real time identification of the pollution sources to establish necessary measures;
3. Integration with the management traffic solution;
4. Keeping people healthy;
5. Lowering the medical costs.

Solution

- Installing sensors in key points of cities (crowded intersections, industrial areas, farms near cities);
- Data transmission from sensors to cloud platform. The platform stores and analyzes data providing reports and alerts;
- Development of a prevention alert system when the default pollution levels are exceeded;
- Real time reporting towards competent control authorities in environmental monitoring;
- Sensors installing near waste treatment dumps.

AIR QUALITY MANAGEMENT

NOISE LEVEL MANAGEMENT
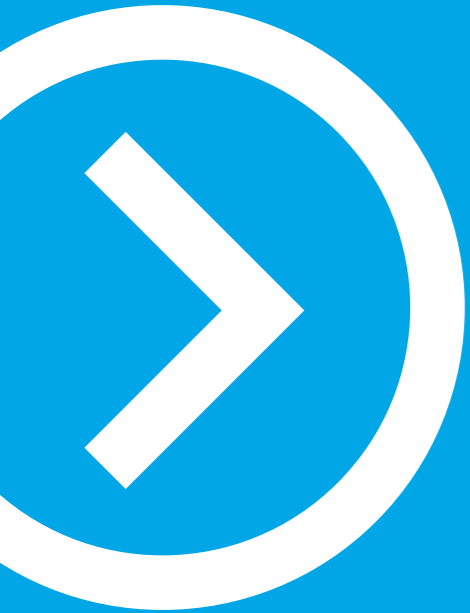
Problems

1. The main stress factor for the citizens is represented by the noise pollution;
2. Lack of a real time measurement system for the noise polluters during the night (clubs, restaurants, terraces);
3. Lack of an efficient system for noise monitoring near interest points (schools, hospitals, universities, public institutions).

Benefits

1. Increase life quality for citizens;
2. Real time identification of the pollution sources to establish necessary measures;
3. Decreasing the rate of noise pollution.

Solution

- Installation of sensors for measuring noise level in key points of cities;
- Reporting in the cloud platform;
- Develop a real time reporting alert system and generate a noise map of the city;
- Real time reporting towards competent control authorities in environmental monitoring.

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