



Quamtra 
SMART WASTE MANAGEMENT

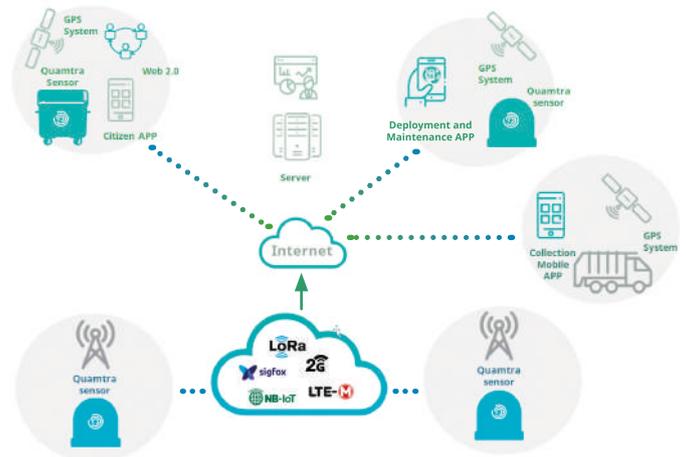
What is Quamtra?

➤ Monitor, analyze and make the most informed decisions based on real data

A city's waste management is ultimately tied to its level of development. A city that is capable of being environmentally sustainable will, in turn, increase growth and wellbeing for its residents.

What's more, in a globalized world where people are increasingly mobile and a community's demographics can vary significantly throughout the year, public agencies and municipalities must incorporate the necessary tools to adapt.

These technologies increase efficiency, improve public services and adapt to residents, providing a clean, comfortable and attractive living environment.



Containers become intelligent assets in the collection works

➤ Benefits for



Administrators

Cities administrators can achieve a double challenge: having a clean and environmentally responsible city at the same time that save money and achieve sustainability goals.



Citizens

Citizens enjoy a more environmentally responsible and clean city while sustainability goals are reached.



Collection operators

Maintenance works become easy as you have real time information related to all your collection assets. You can plan and optimize routes and reduce acting times.



Providers & service companies

You can help your customer giving the best service level, minimizing incidences, contributing to energy optimization and giving detailed information.

➤ An integrated, open & flexible system

Quamtra Smart Waste Management is the ideal solution for cities looking to adapt the collection of solid urban waste to meet residents' needs.

The solution moves municipalities away from a reactive, static collection model based on historical values towards a more proactive and innovative method.

Quamtra measures and transmits the status or fill level of each garbage bin, allowing for more efficient planning by only collecting full or nearly full bins.

The IoT solution proposed by Quamtra Smart Waste Management is based on smart devices (the Q sensor and MiniQ) installed in the upper interior of garbage containers. These sensors constantly measure the fill level using a measurement module based on ultrasound. In the same way, the sensors collect parameters such as the bins' interior temperature, inclination, movement, and location.

The information collected by these sensors is sent to a software platform that compiles, conveniently displays, and analyzes the data. The platform creates multiple reports and alerts that allow for agile analysis and decision making by responsible parties.

Quamtra sensors are compatible with all currently available container models.

Smart Spaces



Clean & Efficient City



Safe City



Smart Destinations



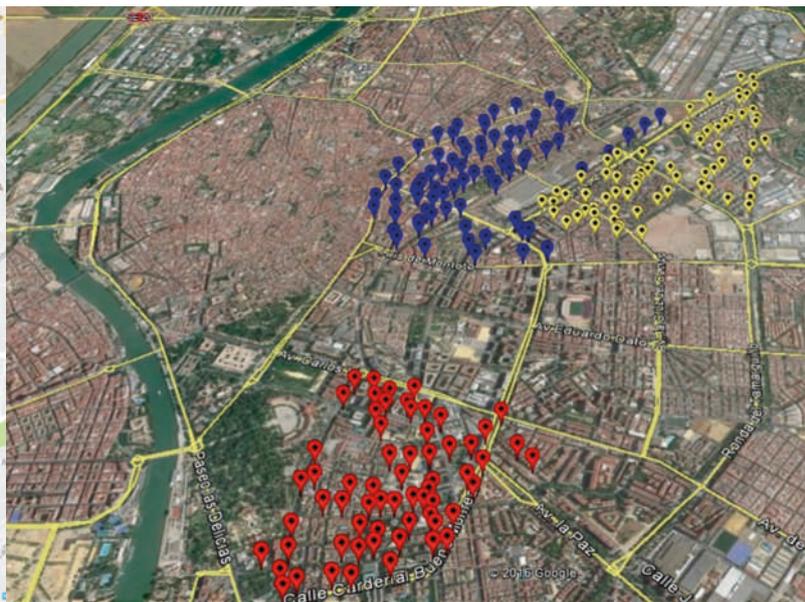
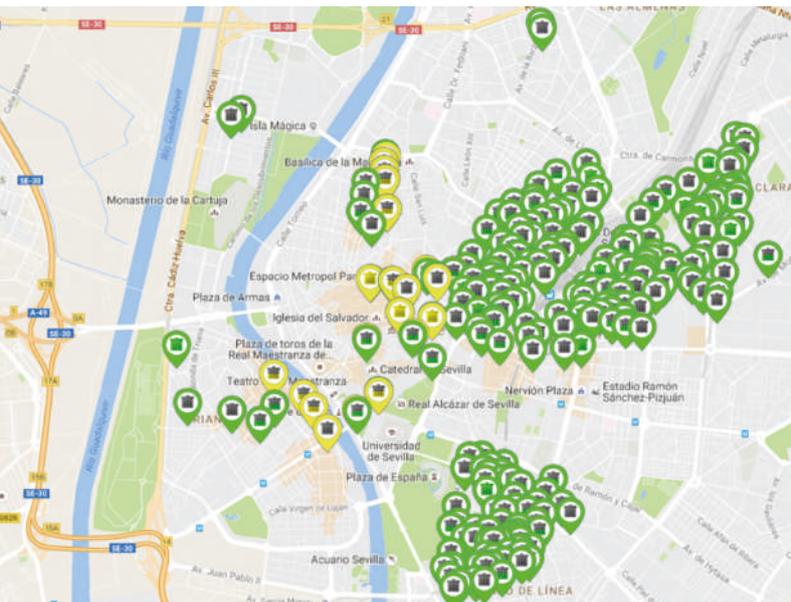
Smart Campus

Use Cases

- Collection planning
- Fire detection
- Tipping detection
- Identifying displaced containers
- Analysis to optimize the placement, quantity and use of containers throughout the city
- Service audits



Technology Overview



Wellness TechGroup offers an end-to-end solution for optimal service, made up of IoT devices such as Q Sensor or Mini Q, as well as the complete Quamtra Manager, the software platform.

Functionalities

- ✓ Filling, temperature and movement, coverage signal and low battery alarms
- ✓ Map view with map information about filling level and other information of interest
- ✓ Performance KPIs by containers or routes
- ✓ Reports of Containers to Collect, and of average filling of routes (different types of views available both by volume -kg- and by proximity)
- ✓ Accurate detection and historical storage of container filling data.
- ✓ Correction of measures
- ✓ Administration tools for maintenance and troubleshooting.

Quamtra Manager



Quamtra Sensors

Q sensor



MiniQ



- Filling level device
- Fire and vandalism detection
- Up to 10 years battery life
- GPS location



- ✓ Software as a service (SaaS)
- ✓ Cloud data repository
- ✓ Dashboard and remote configuration of devices
- ✓ Web application developed with latest technologies
- ✓ Monitoring information
- ✓ Alerts
- ✓ Reports



➤ A fully integrated end-to-end solution

Manage your city's waste based on your true needs.



➤ Modules

- Visual location of containers and bins on a map.
- Identify fractions.
- Histograma de llenado de contenedores.
- Geopositioning of containers.
- Alerts set up: displacements, shaking, dumps, fires or overflows.
- Information on one specific container.
- Reports and statistics.
- Aggregated information of containers in collection routes.
- Geolocation of containers (GPS optional).

➤ Qamtra in 5 steps

01

Know all the data of your service instantly
Equipment monitoring and control. The frequency of information collection is every five seconds.

02

Agile decision making
Data collection of each container through the installation of fully autonomous sensors.

03

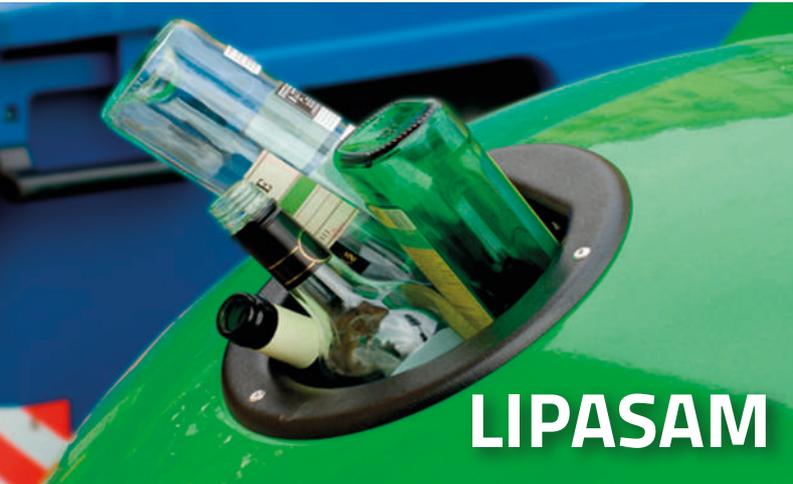
Manage and adapt the information
to each asset. Remote management of each device to adapt it to the environment it monitors.

04

Structure and manage information
The platform collects and stores the information to convert it into exploitable data for the end user through a simple and intuitive interface.

05

Analyze the information
Information analysis to know historical, identify risks, extract trends and know the quality of the collection.



LIPASAM



ICT waste management solution that would optimize three existing glass collection routes in the city of Seville, Spain.

City, Waste

Previous planning for urban solid waste collection was done using predefined routes based on the company's experience. Unfortunately, this method generated unnecessary costs and wasted resources. Often, a large number of empty containers were collected while others were overflowing. Wellness Tech-Group deployed Q sensors to measure their fill levels, compiles and analyzes collected data.



Sensorization and monitoring in recycled textile and footwear containers for the optimization of Humana's collection routes.

Waste

The NGO Humana pays special attention to its collection service, always seeking to improve it in order to avoid overflows, theft and deterioration of the textile. This NGO was looking for a solution that could optimize its operational handling and reduce costs, while decreasing its environmental footprint. To answer to these needs, Humana and Wellness TechGroup launched a container sensing initiative.



HUMANA



Project for the deployment of MiniQ sensors for volumetric measurement of waste container filling levels in Växjö, Sweden.

City, Waste

Växjö, through SSAM, the municipal waste management company, will install up to 400 MiniQ sensors in organic and burnable waste containers. The sensors allow to make adjustments to the collection routes based on the volume level of these containers. In addition, thanks to the accelerometer and integrated temperature sensors, they are able to detect undue displacements and alert fires.



SSAM, VÄXJÖ



Smart solutions for efficient waste management, optimized collection routes, and service audits for KSRR in the city of Kalmar, Sweden.

City, Waste

An innovative project was carried out to optimize residential waste collection. Using connectivity and MiniQ sensors, individual waste bins were converted into smart containers, improving the quality of collection services and raising citizen awareness of emissions reductions.



KSRR, KALMAR

> Enabling Smart Cities development



Our software platforms bring valuable and actionable city insights to our customers to improve operations and reduce costs. They comply with all Smart City and IoT standards as well as security protocols and APIs, making them open, scalable, secure and interoperable tools capable of integrating with other city systems and technologies.

The platforms utilize a layered architecture and databases that are specifically designed for the IoT paradigm.



400

12

60

Our vision for Smart Cities

Smart City projects require a 360° approach that focuses on all city services and infrastructures, going beyond individual verticals and systems for maximized interaction and benefits across city areas.

> Quamtra brings



Efficient city

- The allocation of resources to meet the evolving needs of citizens.
- Optimal collection routes planned in advance.
- Improved responsiveness to unexpected seasonal variations.



Economic savings

- A reduction in the operating costs associated with collection.
- Lowered costs of preventative and corrective maintenance on collection trucks.
- A decrease in costs from civil liability.



Sustainability

- A reduction in gas emissions into the atmosphere
- Traffic decongestion
- Cleaner cities
- Cleaner streets and sidewalks
- Less need for street cleaning services.



An involved and committed city

- Happier citizens more satisfied with city management.
- The empowerment of collection workers through more efficient work.
- Increased involvement of citizens in the maintenance of a clean city.

> Already trust Quamtra





Wellness TechGroup designs and delivers smart technology solutions that make cities, territories, and companies safer and more efficient.

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 **Wellness TechGroup**
Touch the future

