CROWD•SCAN
THE FUTURE OF CROWD ANALYTICS

Crowd Analytics for Smart Cities

Managing and measuring crowds in your city is never easy. But thanks to CrowdScan you'll become more efficient at it. Our real-time, privacy-by-design, and unique sensor technology provides you with all the data, analytics, and insights you need.

Get the crowd, get CrowdScan.

Why CrowdScan?

Thanks to CrowdScan you know exactly how many people are present in a certain area within specific time frames.

Whether you're looking to boost retail in your shopping streets, improve safety measures at local events, or optimize urban mobility, our data is a valuable resource for smart cities and their different departments.

CrowdScan clearly indicates in real-time when the crowd density reaches a certain threshold, prompting necessary interventions. Our data can be linked to various other applications, such as dynamic signage for citizens or visitors to your city.

Furthermore, the privacy-conscious nature of our data allows for long-term data retention and effortless integration with other data sources.

Thanks to the highly accurate and real-time data dashboards, you can make smarter decisions and fine-tune your policies where needed.

Cost-effective

Compared to other technologies CrowdScan's solution is very cost-effective enabling you to extend your coverage to a greater number of zones while optimizing your budget.

Flexible & Easy-to-install

Using battery-powered sensors eliminates the need for cabling and other expensive infrastructure. This technology can be applied to both permanent and temporary setups.

Privacy-friendly

As the technology only works with signal strength differences, no personal data is gathered and GDPR regulations are not violated.

Real-time

With information updated every 10 seconds, you can quickly access and respond to changes in crowd levels throughout your city.

Easy data integration

CrowdScan works with the latest open data standards making data integration easier than ever.

Large zones

From narrow streets to huge squares, CrowdScan can effectively cover very large areas, with the ability to easily create smaller subzones.

How does it work?

CrowdScan's technology is a unique and patented method to measure crowd density.

We don't need cameras, Wi-Fi, Bluetooth or mobile devices to gather accurate, real-time, and reliable data on crowds.

CrowdScan's innovative solution only uses sensors or nodes, a central gateway to configure the wireless sensor network, low-energy radio waves, and cloud servers where all the data is processed and visualized.

For instance: if you want to measure a crowd in a shopping street, we will strategically position multiple battery-powered sensors throughout the designated area. We put the central gateway within reach of the sensors, in a radius of about 200 meters.

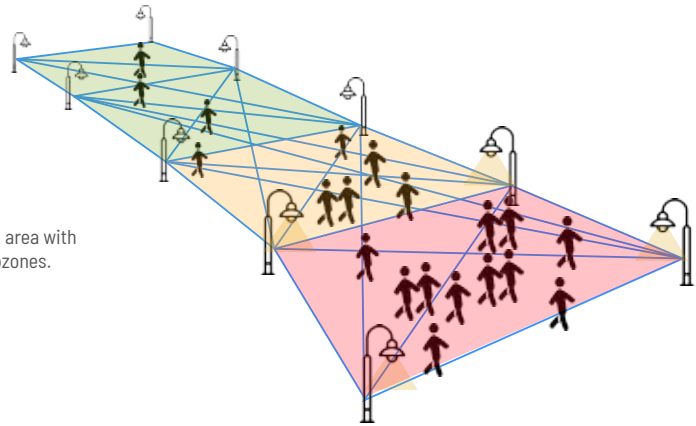
This gateway not only configures the wireless sensor network, but also sends results to the servers. Each sensor emits a low power electro-magnetic signal. If shoppers are present in the street, all the other sensors receive this signal in a weakened form.

Research has shown that this reduced signal due to the presence of people is proportional to the number of people there

CrowdScan offers two types of battery-powered sensor nodes with a battery duration of respectively 1 and 3 years.

The central gateway that configures the wireless sensor network.

Example of a sensor easily attached with double-sided tape.



RF transmission area with sensors and subzones.

Radio frequency transmission through people. If more people are present, the sensor receives the transmitted signal in a weakened form.

Scan for real-time data

References

The sensors are easy to install and can be attached to existing street infrastructure and buildings. The city of Bruges requested that the sensors be incorporated into a discreet device.

Bruges

In smart cities, data is a valuable resource. Bruges, a world-renowned UNESCO World Heritage city, is no exception. Following a successful pilot project, the city is now turning to CrowdScan's technology to measure crowd density in various areas.

Main shopping streets and busy squares will be closely monitored for three consecutive years.

One of the primary objectives is to provide local businesses with insights into the current crowd situation in their respective zones and to make forecasts for the (near) future. By granting law enforcement and policymakers valuable insights into the flow of people throughout the city, our data also contributes to maintaining the city's manageability.

"CrowdScan is best equipped to measure crowd density in specific zones. Each zone can be divided further into subzones, enabling us to perform even more detailed crowd analyses. Various departments, including Tourism, Economy, and Mobility, will utilize this data to support their policy making."
Lode Nulens, ICT Manager Bruges

Antwerp

Two digital info kiosks are placed near and on Meir which is the busiest shopping street in Antwerp. When it is too busy for cycling or driving on a scooter, they automatically turn on and drivers are asked to proceed on foot.

Thanks to the privacy-friendly CrowdScan sensors, busier moments are detected. When a specific threshold is reached, a clear message appears on the digital panels of four square meters each.

This way, the city authorities are able to improve safety in Antwerp's busiest shopping street and guarantee a pleasant shopping experience.

Barcelona

TRAM Barcelona has chosen CrowdScan for a project on the real-time measurement of platform occupancy. CrowdScan equipped two passenger platforms within the Barcelona tram network. This makes TRAM the first railway operator to try out CrowdScan's privacy-friendly measurement method in such an environment.

"This innovative solution provided by CrowdScan gives us a unique method to measure crowd density using wireless sensor technology that utilizes low-energy radio waves. This method can be applied to any type of area without the need for cameras, Bluetooth, Wi-Fi, or mobile devices."
Enzo Castiglio Moreno, Head of Research at TRAM

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