



## SPAIN IS TRIALLING CITY MONITORING USING SOUND



TELECOMMUNICATIONS

**The EAR-IT project in Santander, Spain, is using acoustic sensors to measure the sounds of city streets and determine real time activity on the ground.**

There's more traffic on today's city streets than there ever has been, and managing it all can prove a headache for local authorities and transport bodies. In the past, we've seen the [City of Calgary](#) in Canada detect drivers' Bluetooth signals to develop a map of traffic congestion. Now the [EAR-IT](#) project in Santander, Spain, is using acoustic sensors to measure the sounds of city streets and determine real time activity on the ground.

Launched as part of the autonomous community's [SmartSantander](#) initiative, the experimental scheme placed hundreds of acoustic processing units around the region. These pick up the sounds being made in any given area and, when processed through an audio recognition engine, can provide data about what's going on on the street. Smaller 'motes' were also developed to provide more accurate location information about each sound.

Created by members of Portugal's [UNINOVA](#) institute and IT consultants [EGlobalMark](#), the system was able to use city noises to detect things such as traffic congestion, parking availability and the location of emergency vehicles based on their sirens. It could then automatically trigger smart signs to display up-to-date information, for example.

The team particularly focused on a junction near the city hospital that's a hotspot for motor accidents. Rather than force ambulance drivers to risk passing through a red light and into lateral traffic, the sensors were able to detect when and where an emergency vehicle was coming through and automatically change the lights in their favor.

The system could also be used to pick up 'sonic events' such as gunshots or explosions and detect their location. The researchers have also trialled an indoor version that can sense if an elderly resident has fallen over or to turn lights off when the room becomes silent.

EAR-IT is exploring sound data to make spaces smarter, a field that's been relatively untouched before now. Are there other ways to extract information from the environment aside from the usual methods?

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Website: [www.ear-it.eu](http://www.ear-it.eu)

Contact: [www.ear-it.eu/contact-us](http://www.ear-it.eu/contact-us)