The '5G CityBrain' project revolutionizes real-time urban traffic management in Granada

- Funded by the EU and led by INNOVASUR, the project has two strategic partners such as MASORANGE and OPUS RSE for the creation of comprehensive solutions that allow the dynamic and efficient management of smart services in the field of the environment, communications, mobility and transport.
- During the event, some new features were presented, such as the real-time detection and analysis system of vehicle emissions, new security measures to anonymize the data collected by smart cameras, and a network of strategic cameras to analyze tourist flows at key points in the city.

Madrid, November 21, 2024. During the II Artificial Intelligence Congress of Andalusia, which is being held in Granada between November 19 and 21, INNOVASUR, MASORANGE and OPUS RSE have presented the latest developments of '5G CityBrain', a project that, through advanced technologies of Artifitial Intelligence, sensors and 5G connectivity, it allows to revolutionize city management in key aspects such as traffic emissions monitoring, data security and tourist flow analysis, with the aim of improving the quality of life of citizens and the management of municipal services, as well as urban sustainability.

The project has funding of more than 1.3 million euros from the Ministry for Digital Transformation and Public Function, of the UNICO SECTORIAL 2023 Program, within the framework of the Spanish Recovery, Transformation and Resilience Plan co-financed with Next Generation European funds. These funds have been used in the development of this platform capable of learning, predicting, deciding and reacting, with a particular focus on situations of high pollution, congestion and tourist flows.

In this sense, within the framework of the II AI Congress of Andalusia, some advances of the project have been presented, mainly in terms of detection and analysis of emissions in real time, security and anonymity in the collection of data and analysis of tourist flow and planning of urban services. All this, thanks to the enormous possibilities provided by the new 5G mobile technology in terms of speed, low latency and capacity of connected objects in real time.

In this way, "we can demonstrate how technology is changing the way of managing and anticipating urban needs in Granada and other cities of the future", says the CEO of INNOVASUR, Juan José Prieto.

Real-time emissions analysis, security and anonymity

The remote traffic emission measurement system has already been installed in Méndez Núñez street, one of the main access roads to Granada. This OPUS system allows the actual emissions that each vehicle releases through its tailpipe to be measured remotely, providing empirical and real-time data on the level of pollution generated.

Connected to the 'CityBrain' smart analysis platform through 5G technology, the system facilitates detailed analysis of the impact that highly polluting vehicles have on the interior of the city, offering a crucial tool to manage air quality and make informed decisions about mobility and the environment.

In this line, Opus RSE explains that *"this system is a technological milestone, as it is deployed on a road with high traffic intensity, integrating multiple sensors and subsystems into an advanced 5G network, which will provide real-time data on the emissions of CO, NOx, HC, PM and NH3 of each vehicle entering the city",* explains Javier Buhigas, COO of Opus RSE.

As José Jiménez, Public Funding Director of MasOrange, details, *"in a context in which the number of IoT devices is growing exponentially, in parallel with advances in artificial intelligence, the capabilities provided by 5G are essential to guarantee the collection and processing of data in real time, always complying with the highest security standards. In addition, close processing (EDGE) and support for new AI-based solutions make it possible to address a wide variety of new use cases."*

Therefore, an innovative solution will be implemented to convert data into metadata before transmission by leveraging processing at the EDGE. This will ensure that the video is not transmitted directly to other elements of the system, but that an additional layer of security is generated that transforms the data into metadata. In addition, the monitoring and filtering of the information will be allowed so that, in the event of detecting any potential risk, this security structure makes it possible to filter and restrict the subsequent processing of the data, thus guaranteeing the protection and safe use of the information.

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