Lisbon City Council

Improved mobility, public safety and operational efficiency

The Customer

Lisbon, the stunning capital city of Portugal, is a modern and cosmopolitan city that has retained its traditional heritage even as it steps up as one of Europe's leading smart cities. This is due to an intelligent city infrastructure platform that has allowed the city to integrate a range of data sources, which is used together with artificial intelligence (AI) and Internet of Things (IoT) technologies to collect, store and analyse data from across the city.

The Challenges

The Lisbon City Council faced the formidable task of improving the quality of life for its 500,000 citizens, while accommodating the influx of one million people who travel into the city each day. It realised that quality data is the key to good city management, but the information required was dispersed throughout a complex and inflexible network of disparate sectoral applications.

"City managers of today have challenges that did not exist in the past. Citizens expect much faster response and many problems faced by modern cities can only be solved by intelligent platforms that integrate data to allow the government to be proactive and for different agencies to collaborate and act as one," said Joao Tremoceiro, Lisbon City Council's Chief Data Officer.

Overview

Industry
- Transportation

Challenges
- 500K citizens and 1M visitors each day
- Complex web of data spread across disparate applications and locations
- Improving service quality for the community
- Enhancing connectivity and utilising data
- Providing safer transport and more efficient resource management

Solution
- Intelligent Management Platform that aggregates, manages and displays relevant data

Results
- Vastly improved service efficiency – faster response times to citizens
- Inter-agency collaboration between Police, Fire Brigade and Civil Protection
- Monitored and managed traffic, transportation, and waste management systems
- Reduced traffic congestion problems resulting in improved air quality, health and well-being
- Increased use of alternative modes of transport such conventional and electric bikes
- Improved public safety and security through use of video analytics
- A more welcoming, liveable & sustainable city

The council decided to embark on an innovative project to make its capital a future-ready 'smart city' by enhancing connectivity and utilising data to improve the services it provides for its citizens. Fundamental to this was to seek a partner who could help Lisbon build a smart city infrastructure platform that integrates a range of data sources.

The Solution

In collaboration with Lisbon City Council, NEC implemented the Lisbon Intelligent Management Platform, a smart platform that aggregates, manages and displays relevant data gleaned from the municipality's information systems and from over 30 public and private institutions.

"The Lisbon Intelligent Management Platform allows us to gather this information and learn from the past so that we can see the future," said Mr. Tremoceiro. In addition, the platform has helped the council to monitor and manage traffic and transportation systems, waste management systems, and public safety service providers like the police, the fire brigade and civil protection.

Based on Fiware, an open source middleware platform, the Lisbon Intelligent Management Platform leverages the power of IoT technology and open APIs to collect, store and analyse data. A key advantage is the open, vendor-agnostic nature of Fiware, ensuring that the Lisbon City Council is not tied down to any specific technology supplier.

The data captured by the variety of installed sensors and surveillance cameras is now used to effectively improve public safety and operational efficiencies. For example, sensors in the city's police vehicles track their precise location in real-time, and this information is used to dispatch the most suitable vehicle to respond to incidents immediately.

In the area of waste management, approximately 2,000 smart garbage bins in the city are outfitted with sensors that tell when they are full. This has improved the efficiency of waste collection and resource management in Lisbon, as waste service employees are now able to clear the waste only when the bin is full.

The Lisbon Intelligent Management Platform has also helped Lisbon to alleviate traffic congestion problems, and reap benefits in air quality, health and well-being. Lisbon's e-mobility initiatives include leveraging a public e-bike sharing scheme to encourage

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the switch from cars and other mobility modes to e-bikes, comprising conventional and electric bicycles.

Another area of improvement is in Lisbon's public safety and security. Video analytics can quickly analyse and report any suspicious behaviour, providing the emergency service providers with real-time actionable insights.

The Results

The NEC platform has enabled the Lisbon City Council to significantly improve mobility, public safety and security, efficiency in the management of the city operations, social cohesion and the quality of life of citizens. According to Deputy Mayor Miguel Gaspar, "The biggest benefit of this project is to establish a better connection between the city and the citizens, allowing the creation of a smart city where all the information is integrated and everyone can have access to it. It has made the city more sustainable and resilient."

Lisbon has become a more welcoming and friendly city to all. And the Lisbon Intelligent Management Platform by NEC has been a vital part of that innovation journey.

Watch on YouTube

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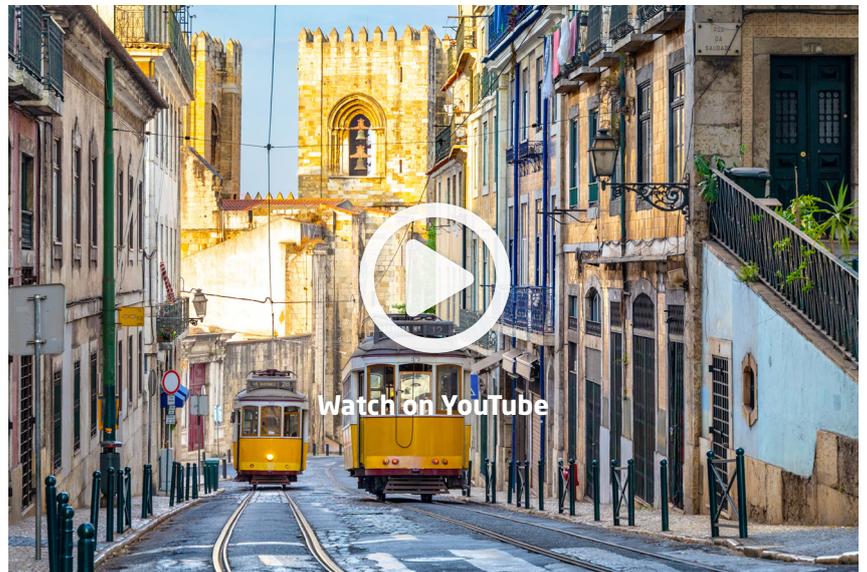
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