

Maintenance and Operation Services for the City of Madrid

Madrid's road network experiences constant high demand, with limited or no space to add lanes and increase the capacity. The result is significant traffic congestion and related impacts such as air pollution and increased risk of accidents.

Real-Time Traffic Management is the key to improve Mobility in Madrid

Kapsch has been carrying out the maintenance and operation of Madrid's traffic for a period of more than 30 years without interruption and henceforth, the state-of-the-art traffic control equipment and strategies which were developed by the company, have been successfully implemented. In April 2014, Kapsch has been selected to perform the current contract.

Currently, more than half of the traffic controllers installed are the latest EcoTrafIX™ models. Besides The Real Time Adaptive Traffic Control System, ITACA, is used as the traffic management system which provides advanced performance control strategies for an efficient mobility

Moreover, with the help of the Madrid City Council, Proofs of Concept have been developed to verify the development of new products and solutions which have subsequently been exported to other projects.



Project Scope:

- Service Contract for the Management and Control of the Traffic Systems from the Mobility Control Centre in Madrid City Hall which includes: the Urban Traffic Control Systems, the Urban Traffic Red Light Enforcement and the Renewal and periodic adjustment of the current facilities.
- The maintenance of about 800 IP controllers, more than 40,000 traffic Light, 1,000 detectors, 200 Cameras, 50 Red Light Enforcement and all the communication network.
- The engineering, operation and management of the Mobility Management Center.

The Challenges:

- Technological renovation of traffic equipment, with the implementation of state-of-the-art equipment to increase the number of traffic lights operating under an Adaptive Traffic Control System as a key element that allows traffic light timing to be adjusted based on current traffic flows and queues. It will allow to reduce congestion and reduce the levels of pollution.
- Implementing an Integral Traffic Mobility Platform which results in a significant improvement not only in the mobility of vehicles but the mobility of any means of transport, including pedestrians. This Platform will integrate all the existing Traffic System and will enable the Municipal Traffic Managers to make the right decisions.

The Solution:

- ITACA as the real-time Adaptive Traffic Signals System which provides advanced performance control strategies for an efficient mobility. The System proposes effective solutions to mitigate the congestions as it analyzes and identifies the causes in advance.
- The automatic validation process of data coming from different sources through the corresponding programs which allows the Mobility Department Managers to come to better decisions.
- The System provides a global and accurate view of all the traffic data in each junction in order to implement the adequate actions in real time.
- Additionally to ITACA, the Expert Module uses a rules-based project-specific configuration to implement global congestion strategies by considering the available data in the Algorithmic system.
- A team of highly qualified experts. Most of the people working in the Service are Senior with more than 20 years of experience, from the field maintenance technicians to the Traffic Engineers.



The Added Value

- *Improving the quality of life for local citizens, both in terms of reduced congestion and pollution, as well as increased road safety*