



EYSA Case studies. Cities.

- Madrid
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 **Case study: City of Madrid**

In the year 2002, the city of Madrid decided for the first time to allow private companies to manage the regulated Parking Service that had previously been entirely under municipal management.

During 2003 and 2004 EYSA made many technological advances, prominent among them:

- A computer application that allowed information to be sent in real time via GPRS, benefiting from the advice of the main telecommunications provider.
- A digital signature system in this type of device through digital certificates issued by the Spanish Royal Mint.
- In parallel to developing applications for PDAs and portable terminals, we developed a central web application that managed all data issuing from the controllers.

The city of Madrid, in collaboration with managing companies and the supplier of parking meters (Parkeon), introduced, again for the first time in Spain and possibly the world, forced rotation control or comprehensive parking time control by means of parking meters or electronic cancelling through the meters. These were revolutionary technologies in the management and control of on-street parking.

Collaborating with the City Hall over the years has culminated in being awarded two of the four lots in the public tender for Madrid's Comprehensive Mobility Contract in the year 2013. This contract, under which EYSA manages more than 70,000 parking places, represented a new success in terms of technological development, the result of evolution and experience gained during more than 10 years of management in the city, such as:

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- License plate detection systems, installed on board vehicles as well as in the controllers' terminals.
- Three different parking meter models that report all their information to a unique information platform developed by the managing companies, which also integrate several different mobile payment applications, among them one developed by **EYSA**.

We have a central parking management system that allows us to send information to controllers, organizing their work in real time through the sending of reportable offences according to the position of the staff working on the street.

EYSA is intrinsically a company in constant evolution, having the most advanced parking control technologies, personnel management and customer care which position it as a leading company in Spain. Furthermore, thanks to our versatility we are able to integrate with any system or systems through our own information platform developed in-house and denominated **ParkXplorer**, the result not only of the experience we have in this type of services but also of the collaboration with different suppliers of parking technology (Parkeon, Tradeseegur, etc.), which allows us to remain at the forefront in the management of services.



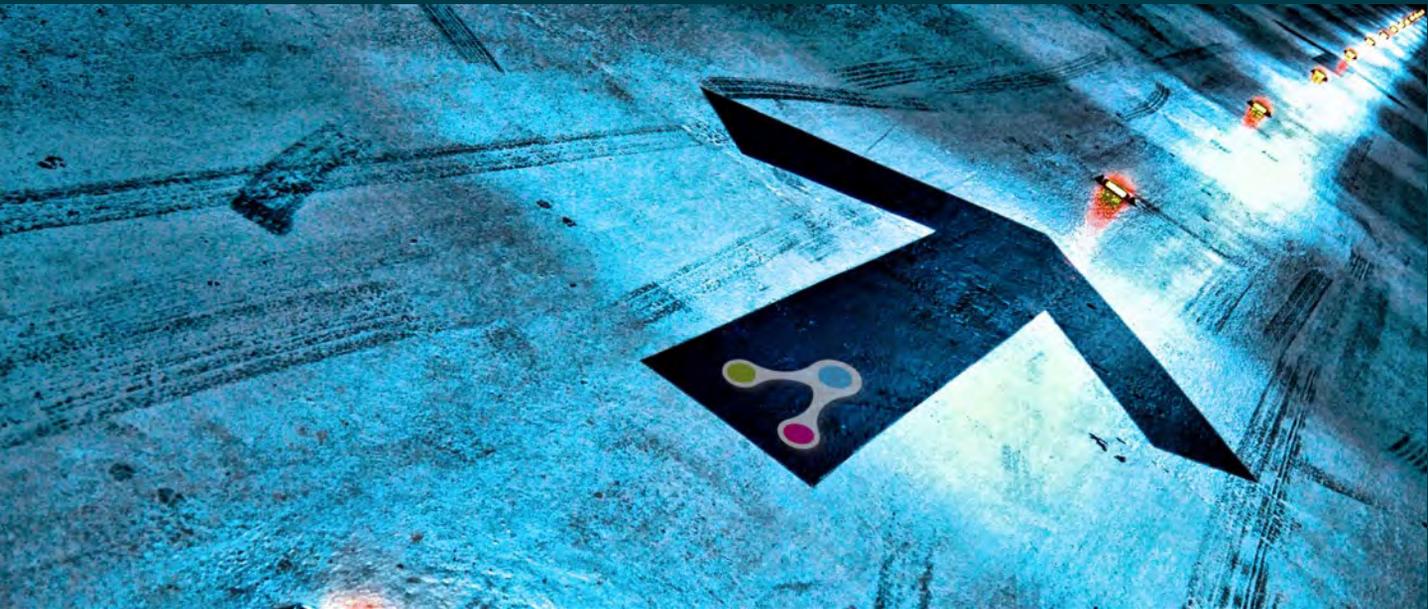
 **Case study: City of Bilbao**

The management of Bilbao's Traffic and Parking Ordinance (OTA) was one of the major contracts managed by EYSA in the 1990s and now in the year 2016 we have won the competition again.

Bilbao has 18,000 on-street parking spaces, more than 500 parking meters and a staff of 180 people.

This contract represents a veritable technological challenge for **EYSA**, both for the works required and the term for implementing it. Among the most important developments are the following:

- Creating a new Control Center to manage the centralization of more than 500 parking meters with widely varying manufacturers and characteristics.
- Creating our own hardware for parking meter communication via open communication protocols that enable integration into any control center.
- Integration with restricted-access zones giving priority to residents.
- Provision of 20 license-plate-reading vehicles providing online data on occupation, payment compliance rates, etc.
- Creating a free mobile payment app for Bilbao's OTA users.
- Integration with the City Hall's systems through GIS software to keep all the material elements pertaining to the contract updated and to allow us to provide information for the users of the systems.
- Development of a centralized service parametrization management platform to allow direct supervision by the municipal authorities of the main service data (KPIs, inspection frequency, revenue collection data).



Case study: City of San Sebastián

The city of San Sebastián is managed by EYSA since the year 1995 and is distinctive in the number of rates it applies. Currently, we manage around 12,500 places.

The management model implemented in this city has evolved according to the requirements of citizens and users of the service and combines types of vehicles, the city's areas, store owners and purely rotational zones to obtain a total of 97 rate combinations.

At the last tender called in the year 2010 when we renewed/extended the concession, EYSA's offer, relative to the status of technology at the time, was the most innovative one thanks to the following solutions:

- It is true that before 2010 there were already systems in place for reading license plate numbers in camera-equipped vehicles, but the services provided by these systems were simply the detection of offences such as double parking.
- We included a solution that issued a rebate for "multiusers" of vehicles, that is, for people who drive a vehicle with more than three occupants, high-occupation vehicles, etc.
- We created a city with multi-brand parking meters, which are perfectly integrated.
- A tool was implemented that allowed the local police force engaged in traffic management to post fine reports online. The application was highly flexible and easy to adapt to police requirements.
- We proposed that the university card could be read by a reader installed in the parking meter and issue a parking slip with a special university rate.
- In this same offer, we implemented mobile payment for differentiated users. At the time the city's traders had a portable device that performed the functions of a personal parking meter. When it became obsolete we replaced it with an application that allowed them to park in places allocated to traders.

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- EYSA's expertise in software development provided a sanctions management tool for the municipal police with 20 licenses of use, which made them easy to process and minimized human error.
- We implemented a telematic removal order that did not require the presence of the municipal police for removing a vehicle by the towing service.
- In this offer we renewed the entirety of the city's parking meters and developed our own real-time centralization, making it independent of parking meter manufacturers and connecting each device directly.
- The City Hall has recently decided to implement the control of certain areas of the city by the local police. It is noteworthy that EYSA's total integration of the control system (private) with that of the local police allowed the services and systems to be fully organized and integrated.



Case study: City of Burgos

EYSA is present in the city of Burgos since the year 1986, providing municipal towing services, and since the year 1996, providing a regulated parking service when the city hall issued a call for tender and we were awarded the contract. It was renewed in the subsequent 2004 and 2014 tenders and we have adapted and updated our services in accordance with these latest competitions called by the city hall. We currently manage approximately 4,500 parking spaces.

The management model implemented in this city has gradually evolved to keep up with the demands of the citizens and users of the service. Currently, the following types of places and/or rates are available:

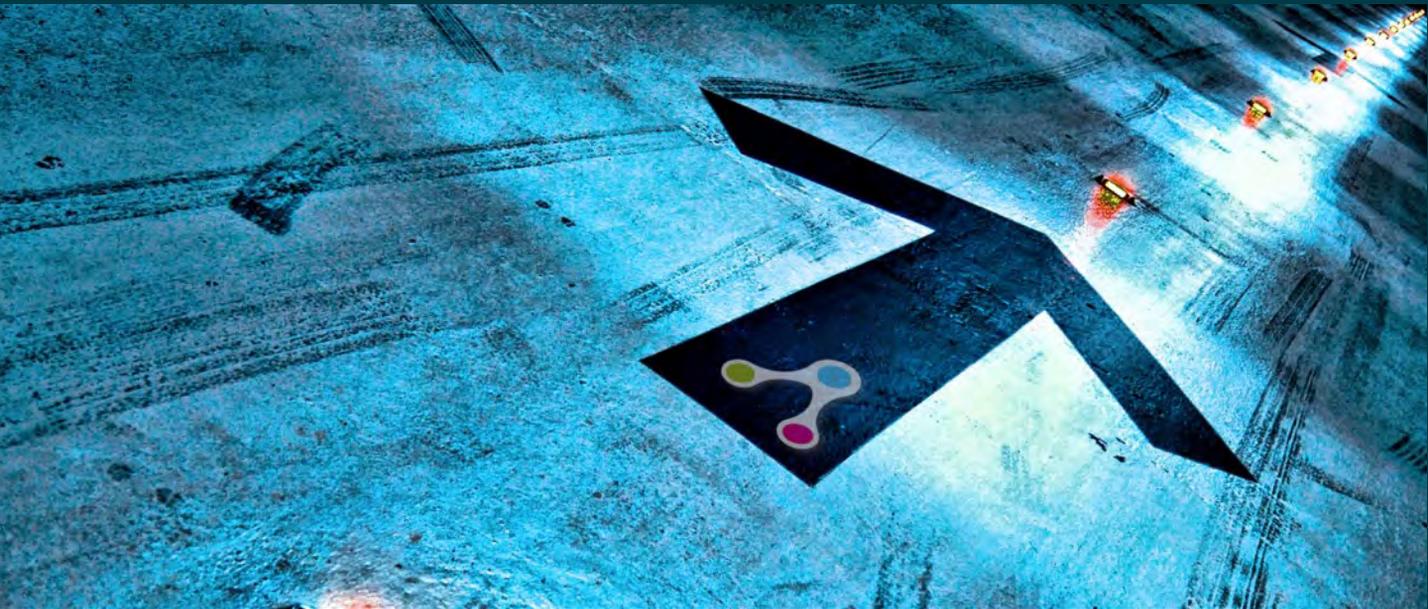
- Places/Blue Rate: Intended for improving on-street parking, which compels the users of the service to move the vehicle every 2 hours to achieve rotation.
- Places/Resident Rate: Intended for residents who, through a card obtained annually, can park anywhere in the city at zero cost.

Furthermore, the city, in order to facilitate quick errands, offers a free 15-minute courtesy ticket that can be obtained once a day per vehicle. Keeping track of these tickets involves the requirement of entering the vehicle's license plate number to prevent abuse of the service.

We are also developing the option of cancelling parking fees through the parking meter itself, not only through the mobile payment app or the discount application offered by retailers to their customers via QR codes.

In addition to mobile payment, this city has "cloud-based credit" consisting of charging up credit against the license plate number. The amount not consumed is saved as credit that can be used on subsequent occasions without having to use coins.

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Case study: City of Cartagena

The city of Cartagena is managed by EYSA since the year 1988. We currently manage approximately 3,800 parking places.

Over the more than 28 years of managing the service we have had the opportunity of closely collaborating with municipal initiatives, most of them based on our mobility studies and proposals transmitted as an exchange of our experience in cities that are very similar to Cartagena. The current management model has gradually adapted to the growth and changes that have occurred in the city as well as the demands made by the citizens and users of the service. At present, we offer the following types of places and/or rates:

- Places/Blue Rate: intended for improving on-street parking, compelling users to move their vehicle every 2 hours to achieve rotation.
- Places/Orange Rate: intended mainly for residents living in the area. They get a special permit for parking their vehicle in their area without having to obtain a parking slip. A vehicle from outside the area may also park but will have to pay a higher price per parking hour.
- Places/Green Rate: these places are intended for workers, allowing them to park their vehicle over 3 periods: morning, afternoon or full day. This facilitates parking in the city's busiest business areas.

One of the most relevant changes we have introduced jointly with the city hall is downtown pedestrianization or the inclusion of bicycle lanes in large swathes of the city to prevent the pollution produced by the many trips made in private vehicles.

In regards to personnel, we would like to take this opportunity to highlight the importance of this human collective we have built up from scratch in Spain. We have seen the gradual emergence in many cities of a figure that comprises not only agents who control parking but also provide added value in all cities through the presence of 1 controller for more or less every 150 places and who also perform information functions for both the city hall and the citizens and visitors.

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>> We have not only evolved in terms of personnel in the above aspects; we have also seen a major evolution in quality and ORP, which has led EYSA to currently hold ISO 9901, ISO 12001 and OSHAS certifications.

The quality of this human team; our material means, which are always at the cutting edge; and the technological advances all mean that illegalities and the service in general have led to a change in citizenship culture and to obtaining the expected results in each and every one of the aspects we analyze, study and submit to the city hall in the Mobility Studies which we draft on a quarterly and annual basis.

As part of the service's improvement and adjustment tasks, **EYSA** adapts to the needs of the different town halls. We have connected our services with different municipal platforms through services that provide the required two-way information that is so important for controlling information by all the municipal agents involved in the service provided by each town hall, such as police, tax collection, legal services, environment, etc.



Case study: City of Irún

The city of Irún is operated by Eysa since the year 2005, managing approximately 3,100 parking places. It is worthy of note that this is a city with one of the highest rotation rates in Spain and an example of the service's coexistence with the city's residents in terms of parking management, since there are more resident cards than places to be managed.

The management model implemented in this city has evolved according to the demands of the citizens and users of the service. We currently offer the following types of places and/or rates:

- Places/Blue Rate: intended for improving on-street parking, compelling the users of the service to move their vehicle every 2 hours to achieve rotation.
- Places/Green Rate: intended mainly for residents living in the area, for which they get a special permit for parking their vehicle in their area without having to obtain a parking slip. A vehicle from outside the area may also park but will have to pay a higher price per hour of parking.

EYSA's technical offer, which won the contract in the last tender in 2015, features provisions higher than the minimum ones stipulated in the competition conditions. This means that from the viewpoint of parking control, the operational implementation included dynamic control routes rather than static routes. This implies that the service controllers no longer control one fixed route but respond to report alerts provided by our Park Explorer system. This achieves greater efficiency in the collection of fines and a higher number of available places, which led to an increase in the ratio of reports during a period of time.

We also took the needs of the transportation collective into account as well as the use of loading and unloading places, making it possible to have knowledge of the availability of free places intended for this purpose, preventing the double parking that is usually caused by the incorrect use of these places.

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>> To encourage local trade, we took into account the requests that retailers submitted to us as the managers of the service, such as rebates for parking places in rotation for retail customers. To do this we implemented a QR discount code that enables these rebates, satisfying both the user of the stores and the retailers themselves.

We should emphasize that this contract, since it was the first city in Spain where resident users did not have to identify themselves with a card. We developed digital accreditation which only requires the license plate number for the controller of the service to make an OCR check to confirm whether it is registered in the residents' database. This made easier administrative procedures for the municipal services, which every year consisted of checking the documentation provided by residents to obtain annual accreditation. The other goal we set ourselves and which we achieved was to prevent badge falsification fraud given that accreditation is now through a digital badge.



Case study: City of Lérida/Lleida

Lleida, together with Alicante, was a pioneering city in regulating on-street parking in Spain as far back as the year 1984. Shortly before, in the year 1975, EYSA had been founded with the construction and operation of an underground parking lot situated on calle Marqués de Urquijo, in Madrid, but it was here in Lérida, and in Alicante, where EYSA began working in on-street parking.

This city was and is a benchmark in understanding what we used to describe as traffic and now call mobility, an issue that had started to concern many cities given the exponential growth of the vehicle fleet in the downtown areas of these cities, forcing them to take measures to address the situation. The downtown areas of cities, in addition to the people living there (residents), were receiving thousands of car “visits” of people headed for administrative centers, health centers, offices or stores, hotels and others. On-street parking places are limited, and this led to a regulatory formula in an attempt to make the most of their use in the most efficient and satisfactory way for all stakeholders.

The management model implemented in this city has gradually evolved in response to the demands of citizens and users of the service. Today we offer the following types of places and/or rates: Places/Blue Rate, Places/Green Rate, Places/Red Rate and Places/Resident Rate.

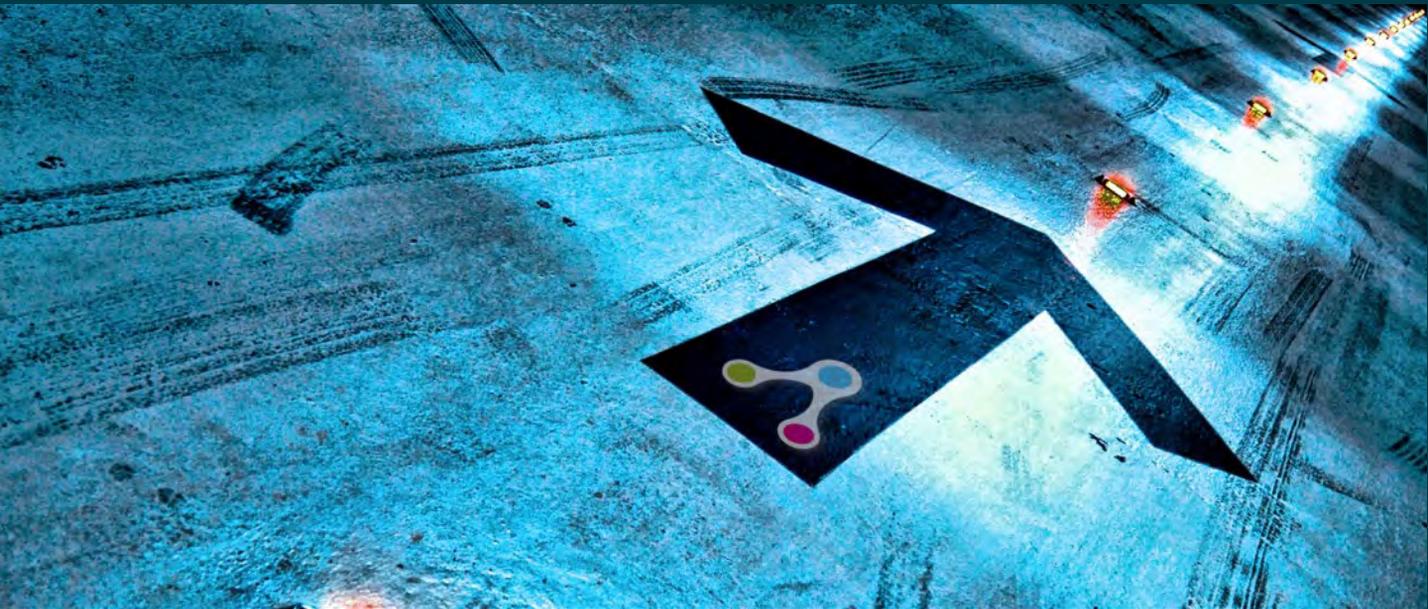
In the early days of the service, parking meters were standalone devices that simply issued parking slips when coins were fed into them. They accepted no other means of payment, such as the chip cards or credit cards that eventually appeared, and it was unthinkable to obtain a parking slip through a mobile device. This is now available, with the EYSA app being widely introduced and recognized among users, a growing number of whom are regularly choosing this option as a form of payment.

At the start, regulations and sanctions were enforced by hand and needed the signature of the police to be valid. This was followed by the introduction of PDAs and printers and the digital signature. The figure of voluntary disclosure was also legislated, which has led to a more effective and efficient sanctioning procedure that does not require the collaboration of the Municipal Police to issue a report.

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>> Currently Lérida/Lleida is centralized, with a back office containing all the information on the service in regards to tickets, reports, cancellations, etc. This also allows the Police and the City Hall to have knowledge of any incidents on the road, which our agents report like any other task in their working day through an app fully developed by **EYSA** and which allows them to enter data on dumpster locations, roadworks, relocations, the state of urban furniture, etc.

Equally, the efficiency of the controllers is crucial for the service to be properly managed. Our wardens carry the most ergonomic, lightweight and technological equipment available on the market, such as PDAs, through which they can issue reports and consult any license plate numbers on the device, which provides information on whether that vehicle has a valid parking slip, is a persistent offender, etc. All of these technological advances, together with improvements in the way reports are managed, have led to an astonishing drop in illegal actions on public roadways.



Case study: City of Logroño

The city of Logroño has been managed by EYSA since the year 2009. Up until that date, the city's car parking management had not centralized the information in any way, either in regards to fine collection or to incidents.

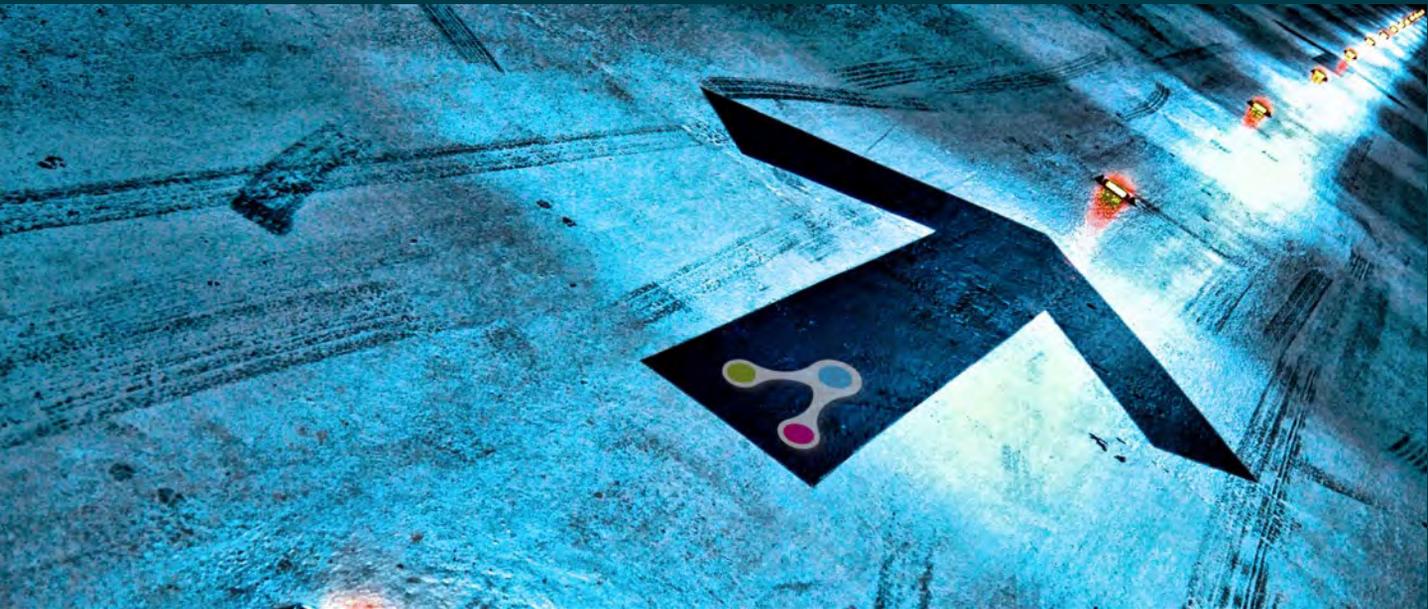
The bid we submitted to tender in the year 2009 was the most highly rated because, in line with its commitment to technological innovation, **EYSA** suggested a change in the service management hitherto in place. The service provision design demanded by the tender specifications was to facilitate parking in retail areas, to give residents parking flexibility while limiting its use, and to favor quick errands. This is why our bid offered the following solutions:

- Logroño's ordinance allows resident users to choose the time slot in which they obtain a parking rebate, that is, when residents are "semi-resident" and can choose the morning or afternoon resident model. The tender specifications demanded a solution for this feature, with EYSA's offer proposing that residents should obtain a zero-cost parking slip in the chosen time slot. To prevent any kind of fraud, they had to display a resident card with RFID, with the information accrediting their status. This RFID system for identifying residents was a pioneering one in Spain and Logroño was one of the first cities where we implemented it.
- To facilitate parking and reduce intense traffic, reduce congestion in high-traffic roadways and divert traffic and parking to less-occupied zones, we proposed to Logroño City Hall an app we had developed in house for calculating roadway occupation based on:
 - ✓ Calculating places with statistical data provided by the number of online parking slips issued. It should be pointed out that the city had not previously had online information available.
 - ✓ Magnetic sensors installed underneath the road surface that send occupation data online.

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>> The sensor solution was implemented in the most sensitive high-occupation zones, in other words, in the most central and commercial streets. To provide information for users and traders, the area is fully sensorized, with different panels distributed around nearby areas showing the exact number of places available at any given time.

- Users who need to run quick errands also have a free 15-minute courtesy parking slip available, which can be obtained once a day per vehicle.
- Loading and unloading control by means of sensors that detect the vehicle's presence.
- A development one of our own apps since 2008, Logroño was one of the first cities in Spain in which **EYSAMOBILE**, now **ELPARKING**, could be used, changing the way parking fees were previously paid for, introducing concepts such as fair payment of rates, the possibility of not having to worry about having the right change in coins, etc.



Case study: City of Murcia

Eysa began its activity in October 1990 and continues to do so after several tenders in the course of these 26 years, managing more than 5,900 on-street parking places.

Currently, Murcia City Hall, together with the University of Murcia, is driving forward one of the largest Smart City projects, with the collaboration of Estacionamientos y Servicios. The project seeks to integrate on a single platform the management and information of public transport as well as the management of regulated parking. The management model implemented in this city has evolved according to the demands of citizens and users of the service and currently has the following types of places and/or rates:

- Places/Blue Rate: intended for improving on-street parking, compelling users to move their vehicle every 2 hours to achieve rotation.
- Places/Orange Rate: intended mainly for residents living in the area. They get a special permit for parking their vehicle in their area without having to obtain a parking slip. A vehicle from outside the area may also park but will have to pay a higher price per parking hour.
- Places/Green Rate: these places are intended for workers, allowing them to park their vehicle over 3 periods: morning, afternoon or full day. This facilitates parking in the city's busiest business areas.

Murcia has already sensorized loading and unloading places as well as disabled places and their availability can be checked in real time, offering this information to the users through the website we have developed. We are working on offering occupation in different districts by calculating occupation levels and displaying them on the different information panels distributed around the city. All these parking meters, PDAs, sensors and information panels are integrated into a single platform, with Estacionamientos y Servicios collaborating in its development.

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>> Part of the service improvement and adaptation that **EYSA** provides is its ability to adapt to the needs designated by the different town halls, connecting our services with different municipal platforms to provide the required two-way information. An example of these services is managing residents through Murcia City Hall but integrated in the platform so that controllers can consult the data in real time. We are managing this through RFID cards that prevent duplication or copying and benefit users because they do not need to renew them each year. They also benefit the City Hall because it means that it does not have to renew each year the nearly 8,500 residents' cards it manages, with the cost savings that this represents.

Other aspects that demonstrate the positive organization and understanding between **EYSA** and the City Hall is the way we are constantly adapting to the times and to what the City Hall wants and that any company would want. In the case we are featuring, it leads to savings not only in costs but in the administration personnel's time and in security, brought about by having introduced the online processing of sanctioning procedures, which does away with paper dispatches between the company and the City Hall, as well as the mobile payment application.

Through **Eysanet** we manage all terminals and personnel in a centralized manner, issue reports and automatically generate the consignments of reports with a digital signature after they have been validated overnight.

 Case study: **City of Oviedo**

The city of Oviedo is managed by Estacionamientos y Servicios since the year 1988. Currently, we manage approximately 2,600 parking places.

At this time, from the point of view of mobility and on-street parking management, Oviedo is a centralized city with the greatest technological advances in the industry. It has a platform denominated ParkXplorer that was entirely developed by Estacionamientos y Servicios, which covers all the parking meters in the city, together with the operations they perform and any existing device such as PDAs, camera-equipped vehicles, sensors, mobile payment, panels, etc. This platform gathers all the information in a back office for programming control panels, dynamic routes, managing the urban furniture around the city, etc.

The confidence in the management and technological leadership provided by EYSA, which operates more as a partner than as a simple service company, together with the services we have rendered the city of Oviedo over the years, has led to a six-year renewal of the contract in the latest tender issued in 2014. At the end of this contract we will have been managing the city's mobility for more than 20 years. Prominent among the app functionalities aimed at facilitating parking payments and user information are:

the following payment-related functionalities:

- Sending an alert of parking slip expiry to the user's telephone.
- Sending a fine report alert to the user's telephone.

the following user information-related functionalities:

- Voice guidance to free places.
- Information on special places (loading and unloading, reduced mobility) and reserving them.

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>> Thanks to **ParkExplorer**, we are able to display relevant information, for the user for example, such as availability of free on-street parking places. We do this without having to sensorize the parking places, which leads to savings in implementation and maintenance costs.

Other noteworthy improvements implemented by EYSA in the city of Oviedo are the QR code for cancelling fines and the implementation of Smartique, which consists of automatically charging service subscribers for a predetermined time period and fee when our systems or controllers detect their vehicle on the street without the user's direct intervention.





Case study: City of Salamanca

Salamanca, the quintessential tourist and university city, is managed by EYSA since the year 1989. We combine the management of regulated parking with the removal of vehicles from public roadways and with off-street parking. These services are perfectly integrated through the Comprehensive Mobility Solution developed by EYSA's R&D department.

One of the innovative services introduced by **EYSA** in this city is the development of “tele-removal”, which allows the police department to ratify a removal order without having to be present at the place where the offence has occurred. This allows for greater service flexibility and speed.

We pioneered the operation of this tool (**eysanet**) in Spain, which entailed major difficulties at the start due to the restrictions of Spanish legislation, which established that only the municipal police could remove a vehicle from the public roadway. However, regulations and technology have evolved and images/videos are now accepted as proof.

The management model implemented in this city has gradually evolved to keep up with the demands of the citizens and users of the service. At this time the following types of places and/or rates are available:

- Rotational Places: intended for improving on-street parking, which compels the users of the service to move the vehicle every 2 hours to achieve rotation. The rate applied varies according to how much the vehicle pollutes, the parking area and the type of vehicle.
- Residents' Places/Rate: intended mainly for residents living in the area. They get a special permit for parking their vehicle in their area without having to obtain a parking slip. A vehicle from outside the area may also park but will have to pay a higher price per parking hour.

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>> Given the way the sanctioning procedure was regulated at the start, it was not easy to guess that fines could be paid directly and immediately at the bank, but regulations changed and included novelties in the way fines could be paid. In Salamanca, in collaboration with the City Hall and various banking establishments, we decided to develop a model that would allow our fine reports to meet the rules of Log 60 and the fines to be paid directly. The offender takes the fine directly to the bank, where they read the barcode, and it is paid as if it had been previously notified. This has provided important savings for the City Hall, which avoids the notification procedure for users who pay earlier. This system is also configured for handling any applicable early-payment discounts, a modification that has recently been introduced by the legislation and which is preventing numerous appeals and non-payments.

In regards to sanctions, we have to point out that recently **EYSA** acquired for its Group one of the most important companies in this field, with more than 40 years' experience (SCI: Servicios de Colaboración Integral; S.L.U.), which brings to **EYSA**, and consequently to the town halls where we work, the considerable experience it has in this field and which is so necessary for the proper operation of this type of services.

All of these services are connected to different municipal platforms to provide the required two-way information. An example of these services is the managing of residents through Salamanca City Hall but integrated in our program so that controllers can consult the data in real time.



