



# Share the Future. Share a bike.

Solution for Smarter Cities.

YUNEX  
TRAFFIC

# Bike Sharing

## What is it?

Bike Sharing is the most affordable, practical, environmentally friendly and stress free way of getting around in the city. Take a ride, do some exercise and leave the worries queuing in any intersection of your choice.

## How does it work?

Throughout the city, docking stations are available where you can pick your bike and drive off to your destination. Never worry again about having to keep it clean, properly lubricated and with "true" wheels. Whenever you pick up a bike, we've already ensured that everything's been already taken care of.

## For whom?

If you have to run around the city from one meeting to another or if you're sick and tired of being in a packed train 3 or 4 times a day, it's for you. If you're looking for some time

to work out, it's for you. And finally, if you think that standing in line waiting for the bus is a sheer waste of time, then this is definitely for you. After all, bike sharing is for everyone who worries about tomorrow and for those that believe in a rational use of energy.

## How do you ensure availability?

The ITS Digital Lab focuses on innovative, data driven products and services in order to solve traffic related issues for smart cities. In order to optimize the availability of bicycles at docking stations in our bike sharing system, our smart forecasting tool precisely predicts how users behave in different weather conditions at a specific time on a certain day of the week. This is just one of the examples of real world applications powered by artificial intelligence, improving the quality of the bike sharing service and ensuring that there is always a bike available for citizens and tourists alike.

# Yunex Traffic Bike Sharing Solution

## The new player

The bike sharing service is a growing business worldwide on the brink of becoming part of a wider transportation program throughout the world where conventional and electrical bikes play a major role. It has become a precious tool in terms of fleet management, public transport and tourism, and nowadays, the cycling initiatives including infrastructures like bike lanes are becoming more a priority for a large number of cities.

That's why, when combining Yunex Traffic know how and experience in Intelligent Traffic Systems, Customer Services and digitalization, with Órbita, a historical company with a vast experience in the bike manufacturing business, you get an innovative bike sharing solution.

## A turnkey project for cities

The Lisbon Bike Sharing Project is the outcome of a successful partnership between Yunex Traffic and Orbita. Yunex Traffic' technical, project management and operational expertise gels perfectly with Orbita's experience in building excellent quality bikes, stations and docking stations.

The combination is an innovative and trusted bike sharing turnkey solution provider.

Yunex Traffic is responsible for the installation and maintenance of the equipment (bikes, stations and docking stations), and for the operation of the system, including bike relocation. In addition, Yunex Traffic will also contribute to the further development of the central management system. Órbita was responsible for supplying 1410 bikes, both electrical and conventional, 140 stations and 2638 docking stations.

## Tailored Solutions

Yunex is developing big data solutions and investing in data analytics to offer continuous improvement to its customers. That's why we've developed a Modular Service Delivery System so that the project can be designed according to the specifications of each customer.

From the contract model to the contract type, from operational tasks to commercial ones, everything can be pinpointed and chosen to fit specific requests. No detail is left unnoticed and even the related consulting services or time allocated to the project can be agreed in advance.

# Additional bicycle related solutions from Yunex Traffic

## SiBike - Green Light for Cyclists

The number of bike users is increasing every day. This means pressure on safety, and emerging bicycle traffic issues.

That's why Yunex Traffic developed Sitraffic SiBike: the 'green wave' for cyclists. With the help of a smartphone application, cyclists are given priority at traffic lights. The cyclist's smartphone determines its position via GPS and checks whether the bike has passed a specific trigger point at a predetermined speed. When the bike passes this point, the app sends a green-light request to traffic lights, helping those on bicycles to reach their destination faster.

## Bike Counting - Know your numbers

Yunex Traffic offers cities a clever solution for bicycle movements' counting on cycle lanes (per direction). The bicycle counter poles count the passing cyclists and indicate the numbers via lane-side screens. The poles have a sensitizing and motivating effect because they show almost literally - that cyclists also count. The data can be used for improvements to infrastructure and road engineering, giving insightful and real-time information for decision making and urban planning.

## Lisbon Bike Sharing Project

In Lisbon the project was designed according to the following specs:

### Bikes

- 2/3 e-bikes and 1/3 conventional ones (prepared for e-conversion);
- Lithium-ion battery EDM3712.5L-ION (37V, 12,5Ah);
- 250W electrical drive in front wheel's hub;
- LCD dashboard (speed, odometer, battery level, power level);
- 25.8 kg (22 kg for conventional bikes);
- 7-gear Shimano Nexus mechanical system;
- Integrated front and backlights;
- Anti-theft fastening components;
- 26x1.5" anti-puncture tires;
- Embedded GPS location device;
- EN ISO 4210 201 and EN 15194 certified.

### Stations

- Modular concept, individual docks;
- RFID identification of attached bikes;
- Master totem to hold electrical and electronic control devices;
- CANBUS connection between docks and totem;
- Intelligent charging management system for battery life and usage optimization;
- Secure 4G connections to the Internet, for communication with central system;
- Wi-Fi hotspot;
- UPS system with 30 minutes autonomy;
- Station area lighting system;
- Acrylic surfaces for static information and advertisement



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