

# "FERRY" SMART PARKING IN GOTHENBURG

With real-time parking information displayed via dynamic signs, it is no longer hard to find an available parking space in the Saltholmen area in the Swedish city of Gothenburg. In the summer and during the weekends, Saltholmen is an important place for the city's citizens and tourists. From here, the ferries of Gothenburg depart to the beautiful, popular islands of Bränno, Aspero and Köpstadsö.



Parking bays equipped with floor mounted wireless sensors and the integration with the Gothenburg's P-IN parking management system have resulted into less congestion, reduction of emissions and a better parking service and thus a more customer satisfaction. The City of Göteborg Parkerings AB asked the Swedish traffic management provider Infracontrol to come up with a clever solution which makes the available parking spaces in Saltholmen easily findable and, furthermore, a solution which is easy to integrate with the existing P-IN parking management system. The wireless parking sensor system SENSIT, developed by the Dutch technology company Nedap, fully answers the requirements of the City of Göteborg Parkerings AB.

SENSIT, consists of wireless parking sensors that detect in real-time whether or not a single parking bay is occupied and for how long it has been occupied. The parking sensor system is robust and specifically designed for parking in challenging on-street environments.

## P-IN Parking management

For both the City of Göteborg Parkerings AB and its citizens and tourists, the introduction of the parking management system P-IN offers great advantages. With dynamic information about the availability of parking spaces, the existing parking capacity is utilized better. P-IN reduces search traffic, which is positive for the traffic situation, the safety and the environment. For example, if motorists, driving to Saltholmen, are informed by signs along the road about the fact that Saltholmen's parking lots are fully occupied, visitors will avoid going all the way to Saltholmen and will decide to park the car in Langedrag instead.

In the city centre of Gothenburg itself, motorists have experienced the P-IN as a very effective parking guidance system for many years already. Research has shown the positive impact on the accessibility of the city and the reduction of emissions. Now, this system is extended with real-time information from wireless parking sensors to guide motorists to available parking spaces on Saltholmen.

## Infracontrol Online

Johanna Einarsson, Project Manager at Infracontrol, says that as a result of the positive effects, this solution will be introduced in other cities in Sweden. She briefly explains: "The occupancy information is collected by Infracontrol Online, transmitting the number of available parking spaces to the dynamic signs along the roads. The parking information is also accessible for administrators via the Internet and their smart phone. Johanna Einarsson continues: "The monitoring system consists of multiple functionalities, including alerts that will be send in case of operational issues, and different parking parameters, such as: whether or not a single parking bay is occupied and for how long it has been occupied."

Nedap has been focusing on designing the most accurate sensor hardware and the most reliable communication network using wireless sensor nodes. Intensive field tests, held by authorities of major cities, conclude that SENSIT offers the most robust and accurate sensor hardware and the most reliable communication network for outdoor parking available in the industry.

Nedap has designed the solution to be easily integrated with third party systems for parking guidance and traffic management systems, way finding apps and enforcement equipment that are used by major cities all over the world.



## Parking app for motorists

The city of Gothenburg developed a parking app. With this app, motorists can easily find the nearest available parking spaces. Additionally, the actual number of available parking bays is presented on a map. Motorists can also get more detailed parking information: parking rates on different times, the number of pay and display machines nearby and the possible payment methods. Using the built-in route navigator, motorists can also be guided from their current location to the selected parking space.

## Smart parking with Nedap SENSIT

A clever sensor technology is available to make on-street and off-street parking spaces easily findable for motorists. This high-tech system, called SENSIT, is developed and manufactured by the Dutch company Nedap. SENSIT consists of wireless parking sensors which detect in real-time whether or not a single parking bay is occupied and how long it has been occupied. Real-time parking information results in less congestion, reduction of emissions and safer streets and thus a more attractive city for visitors.

For almost twenty years Nedap is considered an expert in advanced and effective solutions for vehicle identification and vehicle detection. SENSIT was awarded for its product innovation at Intertraffic Amsterdam in 2006. Since that day