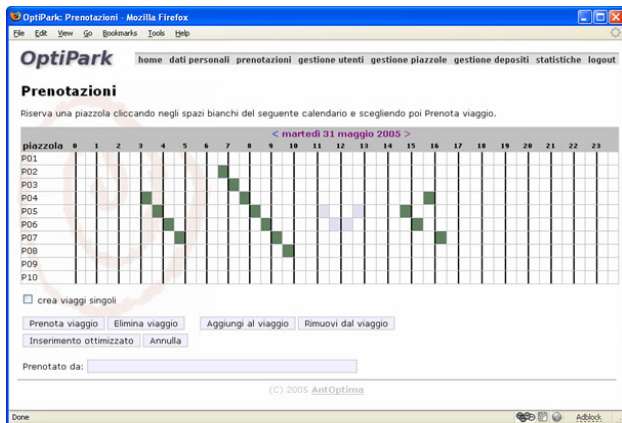


In the context of the CityPort European project for the urban distribution of goods in the City of Parma, AntOptima develops OptiPark, an innovative client/server system for the dynamic optimization of parking bays in the centre of the city of Parma.



A number of dedicated parking bays are spread in the city centre in order to perform the delivery operations as close as possible to the destination points (shops, mini-markets, etc). Every day, transportation operators try to access autonomously these parking bays, but it often happens that when an operator arrives at a parking bay, he cannot use it because someone else has already taken it. In this case, either the operator stands by the bay waiting for his turn (possibly causing traffic jams) or he goes on performing

other deliveries in the city (if any) before coming back and trying again to park (thus increasing the traffic flow). Actually, there is also the possibility that the operator does not wait and performs anyway the delivery (without using the dedicated bay), but this again could lead to traffic jams. Hence, the main problem is the lack of coordination between the transportation operators when they act autonomously.

OptiPark is a tool that allows managing such a coordination providing the possibility of booking the parking bay using a standard web browser. Any transportation operator can have an overview of the occupation of the bays along the day as well as make bay reservations for his own needs.

The reservation process can be carried out either manually (simply selecting the involved parking bay and time slots by means of a couple of mouse clicks) or automatically, using the optimization tool. In case of automatic reservation, the selected time slots are interpreted as "desired time slots" for the associated parking bay and the optimization tool will compute and propose to the user a reservation plan minimizing an objective function (minimization of the total tour time, minimization of the time window violations and so on).