

Output factsheet: Pilot implementation of ICT enhanced services for smart parking for Vicenza's FUA

Project index number and acronym	CE243 SOLEZ
Lead partner	Municipality of Vicenza
Output number and title	O.T3.1 - Pilot implementation of ICT-enhanced services for smart parking (in FUA Vicenza)
Investment number and title (if applicable)	n/a
Responsible partner (PP name and number)	City of Vicenza (LP)
Project website	http://interreg-central.eu/solez
Delivery date	01/2020

Summary description of the pilot action (including investment, if applicable) explaining its experimental nature and demonstration character

The smart parking pilot action implemented in Vicenza, regards Car Park F.lli Bandiera, one of the 5 parking lot system around the Local Health Unit (ULSS Berica 8) of San Bortolo Hospital.

The overall parking strategy that the local administration aimed to implement with SOLEZ Pilot Action was to “improve user information” by giving the possibility to forecast parking availability in a given day and time and plan accordingly the visits to the Hospital with a significant reduction of parasite traffic of vehicles in search of parking spaces, traffic congestion in the Hospital area, improvement of road security and reduction of CO2 emissions.

The Smart Parking Tool developed at project level (see bottom references) has been customized to elaborate the model. According to the requirements analysis for each Smart Parking Pilot Site, Car Park F.lli Bandiera has been selected because it is the best suited to be equipped with the deployment of the data collection system choose by the administration to achieve set goals. The presence of a single access gate made it possible to equip the site with inductive loops positioned at the entrance/exit of the area and connected through the optical fiber network that wire up the all city and connect various services and other public bodies.

Therefore, the implementation of the SOLEZ Pilot action has consisted in the development of a predictive model of Car Park F.lli Bandiera occupancy by collecting data, via inductive loops, from the beginning of March 2019. At the same time, the AWS infrastructure designed has been tested verifying the performance of the algorithm created. A Chatbot on Telegram (a cloud-based instant messaging app) has been developed in parallel by AIM Mobilità (the parking provider) as communication layer to make available to the FUA citizens the data elaborated. The model is user-friendly, provides a very reliable forecast (around 95%) of parking availability, it can be easily

transferred to other systematize parking places in Vicenza. Therefore, it is expected to have in a short/medium term, a great impact on the FUA citizens habits on their daily trips towards the main city parking places.

NUTS region(s) concerned by the pilot action (relevant NUTS level)

ITH32 Vicenza

Investment costs (EUR), if applicable

The realization of the Smart Parking Pilot Action was carried out as a service. No investments costs for the project.

Expected impact and benefits of the pilot action for the concerned territory and target groups and leverage of additional funds (if applicable)

In terms of benefit, the experimentation of the new detection, communication equipment installed, combined with new predictive system and ICT communication technology for collection data to smart phone application, gave a concrete opportunity to improve the current parking system that is principally based on automatic barriers.

Furthermore, the parking occupancy data collected will be extremely important to improve the overall parking strategy keeping it updated to real citizen's needs.

Sustainability of the pilot action results and transferability to other territories and stakeholders.

A private investment has been made to develop the communication device (ChatBot) and make the predictive model available to wide public. This is a guarantee of sustainability for the pilot action and its applicability and extension to other parking lots of Vicenza's FUA. As a matter of fact, the smartphone app developed has been prepared for applying the predictive tool to other parking lots which are already systematized with barriers for years and whose historical database of occupancy is already available. The administration has already committed with an official deliberation to extend the predictive model few months after project end.

Lessons learned and added value of transnational cooperation of the pilot action implementation (including investment, if applicable)

The predictive analysis system was implemented with limited resources thanks to the use of computing environments and application programs in the cloud (Amazon Web Services).

That made it possible to concentrate the investment of AIM Mobility mainly in the expertise for the creation of the Artificial Intelligence engine, achieving effective and excellent results in a short period of time.

The transnational cooperation, with the assistance of Czech technical partners in this task, has been crucial.

Another positive key element of transnational cooperation has been the organization of the twinning trip with the direct involvement of the key stakeholder for Vicenza's pilot action. This peer-to-peer experience has been extremely important in this project phase: it was a chance to discuss and clarify in person, and with peer colleagues, technical details about pilot implementation. Furthermore, the more advanced stage of implementation of Blansko P&R system, different from Vicenza's parking strategy, has been the opportunity to evaluate another cost-effective solution that could find application also in Vicenza's FUA and expand the concept of smart parking, with extra funding, beyond project activities. Each partner has defined own smart parking strategy according to what emerged from Action Plan elaboration at FUA level. However, it has been during the real-life mutual assistance and confrontation of the twinning experience that the full potential of the transnational cooperation has revealed and has been better exploited, resulting in the sustainability of these project outcomes.

Contribution to/ compliance with:

- relevant regulatory requirements
- sustainable development - environmental effects. In case of risk of negative effects, mitigation measures introduced
- horizontal principles such as equal opportunities and non-discrimination

Sustainable development: the pilot actions combined with the investment contribute to stimulating market transformation towards implementation of other smart systems, mobilizing public & private investments, users of the smart parking system will be stimulated to adopt more efficient behavior that can be required in other parking lots.

Equal opportunity: The use of predictive system for parking (real-time and historical based) does not exclude the possibility that disabled people can better plan parking nearby hospital.

Environment: Giving the possibility to forecast parking availability in a given day and time and planning accordingly the visits to the Hospital, will result in a significant reduction of:

- cruising traffic of vehicles in search for parking spaces,
- traffic congestion in the Hospital area,
- CO2 emissions

and least but not last, in the improvement of road security in a critical city area.

References to relevant deliverables (e.g. pilot action report, studies), investment factsheet and web-links

If applicable, additional documentation, pictures or images to be provided as annex

The ICT smart parking tool developed during the project are described in the following deliverables:

- D.T2.1.1 - *Transnational review and user requirements of smart parking solutions*
- D.T2.1.2 - *Overall design and Regulation Schemes and related Data Management System*
- D.T2.1.3 - *Smart Parking tool developed*

The documents are available on www.interreg-central.eu/SOLEZ in the Publication section.

The full description of the Pilot Action implementation has been described in the project deliverables:

- D.T3.1.3 - *Report on Pilot Actions on Smart Parking*
- D.T3.4.1 - *Evaluation report of Smart Parking Pilot Actions*

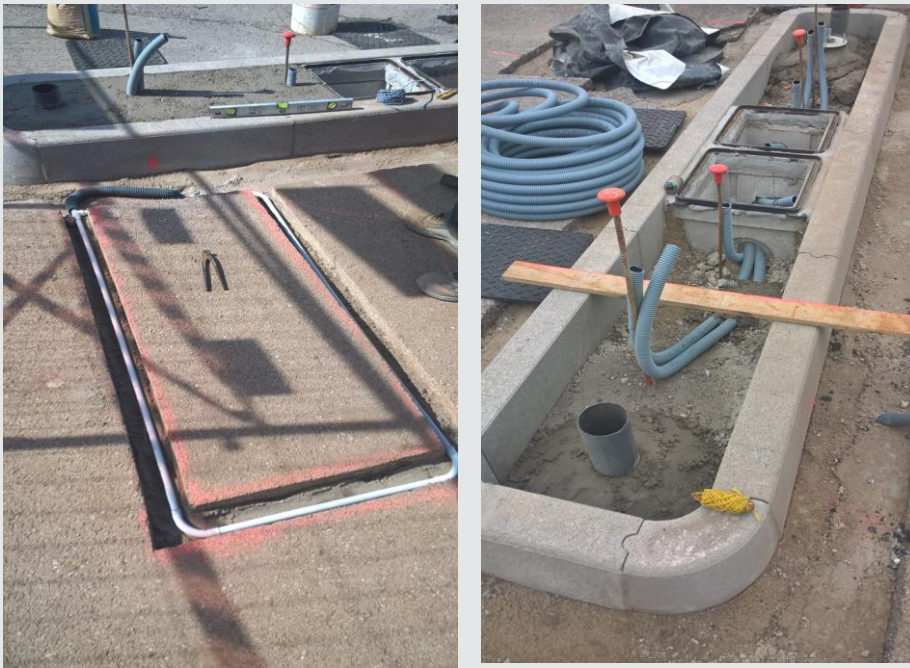


Fig 01-02-03 - Preparatory works for installation of inductive loops and barriers





Fig 04 - the entrance of the Pilot site



Fig 05 - City of Vicenza's mobility councilor on the opening ceremony

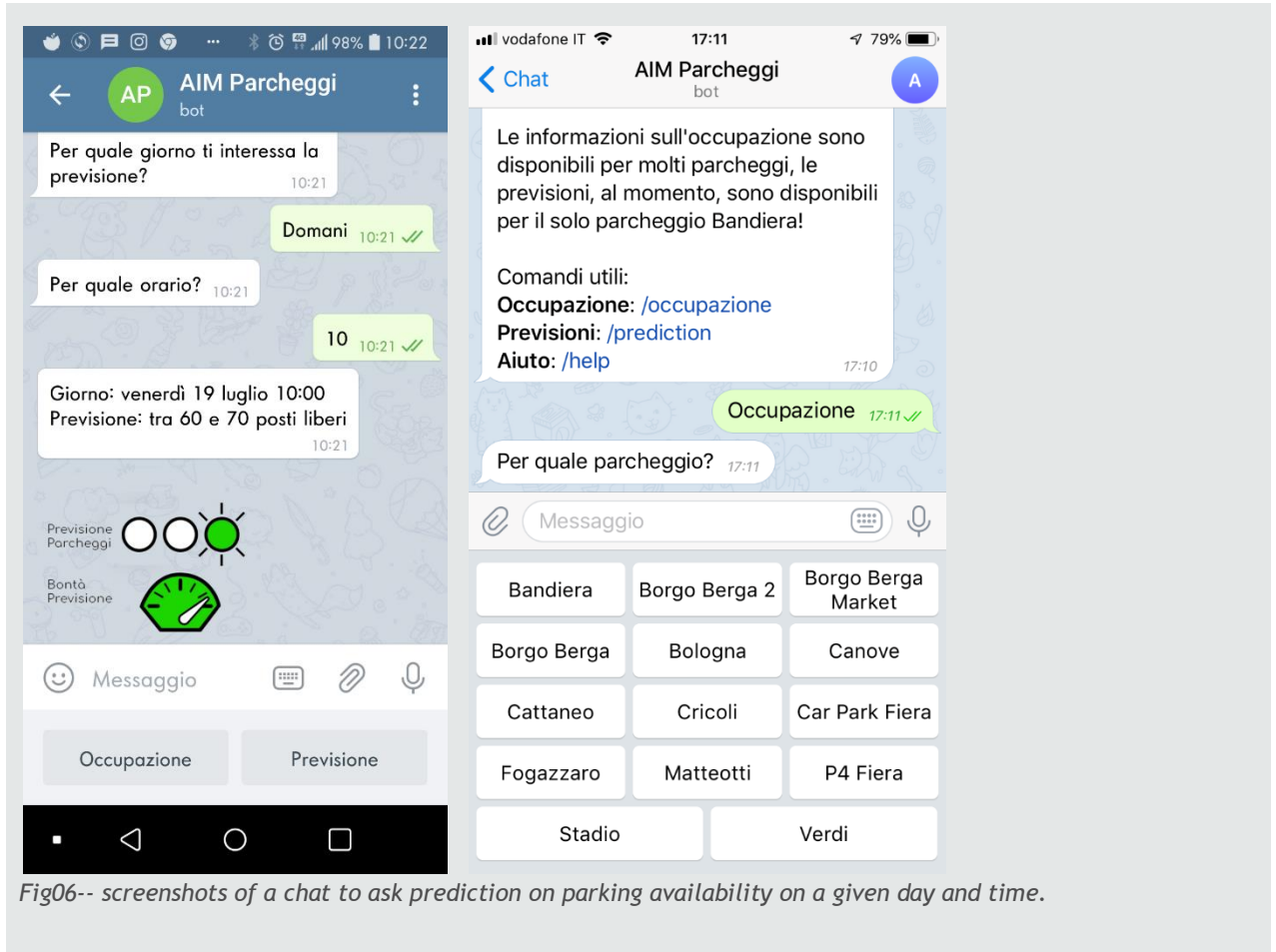


Fig06-- screenshots of a chat to ask prediction on parking availability on a given day and time.