



Newsletter

June 2019

ECOLOGICAL supporting for traffic Management in cOastal areas By using an IntellIgenT sYstem

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Introduction

The aim of this second newsletter is to report the activities carried out within the ECOMOBILITY (ECOLOGICAL supporting for traffic Management in cOastal areas By using an IntellIgenT sYstem) project, co-funded by the Interreg V Italy-Croatia CBC Programme.

ECOMOBILITY is developing an innovative traffic management system by collecting the environmental data from monitoring stations located around the cities, with the aim of sharing this information, in form of maps, to traffic management bodies in real time. This information is also used to feed an application for mobile devices for planning ecological trips. The application has already been shared with public and can be freely downloaded from the Play Store.

The chemical analysis for raising the knowledge about the shipping impact on the air quality are in progress.



Università
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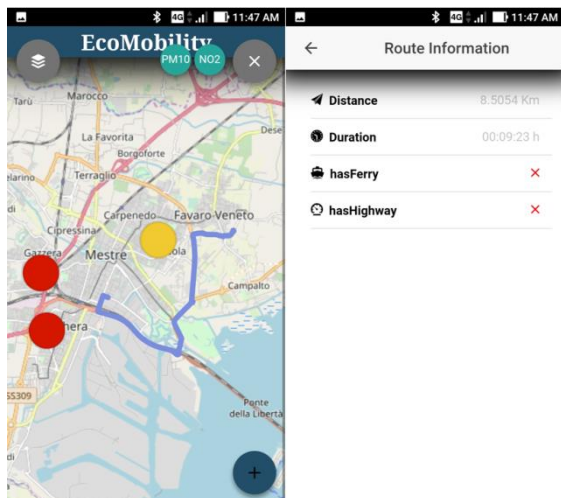


The supporting traffic management system

ECOMOBILITY addresses a serious challenge of the Adriatic area, that is how to manage road and ship traffic in coastal areas

The first phase of the implementation of the supporting traffic management system has been the scouting of ICT technologies: we chose MongoDB and Node.js Express for the server side. The protocol to access the historical and real-time data about the pollution levels and some forecast pollution data supplied by ARPAV in Venice was developed, including the main visualizations of pollution data on public domain maps of Venice and Rijeka, as supplied by the OpenStreetMap initiative. At the moment the first prototype of the supporting traffic management system is ready to be used. We are in contact with local bodies in order to complete the transferring phase in real environment in the cities of Venice and Rijeka.

The EcoMobility application



Screenshot of the EcoMobility application

The app EcoMobility is ready and available for public! It gives information about the status of the environment in the cities of Venice and Rijeka, by exploiting historical and real time spatio-temporal pollution data, along with some air quality forecasts. Through the use of an interactive map and a trip planner, a user can access the following main features of the app for planning ecological trips:

- 1) Plan a trip between two locations, choose the transportation mean, and inspect the ecological footprint of the trip;
- 2) By following the trip planner solutions the user can avoid the overexposure in the higher polluted areas on the potential transit path;
- 3) Using air quality forecasts, visualize the pollution condition at the time of departure (within 72 hours), in order to stimulate the user to choose a more environmentally friendly departure time (only for Venice).

Download the EcoMobility application using the QR code on the right or the link: <https://play.google.com/store/apps/details?id=io.ionic.ecomobility.unive&hl=it>
 Link to the web application: <http://web.ecomobility.dsi.unive.it>



Size distribution of particles

The sampling of particulate matter in different size has been conducted from August to November 2018 and in April 2019 in Venice; from October to December 2018 and from March to June 2019 in Rijeka. At the same time meteorological and high-resolution data of particulate matter were collected.

The first results of the size distribution show a trimodal distribution with three peaks of particles at around 10-3 μm , 1.0-0.5 μm and <0.05 μm .

The analysis of ions, metals, carbon and organic pollutants on the collected samples are in progress. The results will be elaborated in order to identify the pollution sources and to quantify their contribution for all the twelve dimensional classes of particles. To our knowledge this is the first study of the impact of maritime traffic to nanoparticles, that are the most dangerous for human health and in so many dimensional classes.

Follow our progress in the following newsletter!

*Within
 ECOMOBILITY
 the impact of
 ship traffic is
 being deeply
 investigated*



ISAC-CNR at Rijeka for the measurement for high-temporal measurement of particles



Sampling of particulate matter in various sizes



7th February 2019, Alfa Building, Scientific Campus of Ca' Foscari University of Venice

1st Thematic Event

Thematic meetings were organised with the aim of reaching in an efficient way traffic controllers and public bodies in the two cities. The 1st thematic event was extended also to local public and the first results of the ECOMOBILITY project were shown. The event was organised in the two cities in local language, with the same contents: on 7th February 2019 in Venice and on 8th February in Rijeka.

The 2nd thematic meeting will be reserved to the ECOMOBILITY partners and the end-users of the supporting traffic management system and will be an opportunity to collect comments about the tool.

ECOMOBILITY Workshops

The workshop of ECOMOBILITY were dedicated to a broader public. The events were held on 14th February in Rijeka and 15th February in Venice, in local language. In Rijeka the workshop was organised in the same period of the EC Green Week and the Open days of EU projects in Rijeka and with its content took part at both events. In each city, the local results of the project were described, explaining the procedures and the importance of the topics in a simple and intuitive way.

The events have been a great opportunity to provide visibility to the EcoMobility application. The workshops had about 90 participants in Venice and 30 participants in Rijeka, including representatives of local authorities, students and citizens. The national press was present at both events and had the opportunity to do interviews with the speakers. Several articles have been published in local and national newspaper in those days. The video interviews were broadcast on the news. As a result, The EcoMobility application has already been downloaded by over 300 people.

The EcoMobility application has already been downloaded by over 300 people

Pictures of the ECOMOBILITY workshops in Venice and Rijeka



NEXT EVENTS

- 2nd thematic event
- closure meeting

NEXT ACTIVITIES

- completing the transferring phase of the supporting system
- completing chemical analysis and data elaboration