

Deliverable Summary

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Context and Purpose

MobiMart is one of the 69 measures of the CIVITAS MIMOSA project. The specific objective of the measure is to shift some systematic movements from motorized private transport to public or sustainable transport modalities, such as flexible transport service, car pooling, car sharing or cycling.

The research activity as well as the related tests are based on a mobility credit mechanism i.e. a system of rewarding positive behaviours related to transport and to convert the CO2 saved into “mobility credits” that can be traded for the benefit of the proposer. This rewarding system is implemented through:

- The development of four pilot tests on specific transport modalities;
- An appropriate methodology for calculating the amount of CO2 saved;
- A conversion of these reductions in so-called "mobility credits" which can be attributed to public administrations or private companies.

MobiMart aims to evaluate whether the creation of this system can encourage private individuals and companies to adopt more sustainable practices from an environmental perspective or not.

A rewarding system is established, identifying right conversion factors in order to incentive habitual users and to attract new ones multiplying the positive effects and changing the way of thinking on mobility issues. A conversion methodology and the completion of the trade circle can be considered the main outputs of the measure. They are drafted and tested based on the Guidelines for the definition and implementation of local authorities' GHG emission reduction strategies edited by the Cartesio network (2010).

Italy ratified Kyoto Protocol and assumed as a national objective the reduction of green house gases emissions of 6,5% referred to 1990 level. To respect this commitment, in 2008-2012 period, the Italian emissions could not exceed the 485,7 Mt CO₂ eq. On a yearly basis, this objective correspond to 95 Mt CO₂ eq. The reduction of 30 millions of tons of GHG emissions will be achieved by industrial sector, through the European Emission Trading Scheme (Directive ETS CE/87/2003). For the remaining 60 millions of tons, could be implemented some kinds of cooperation among government, regional authorities and local bodies. For this reduction, main involved sectors are: transports, buildings and the promotion of eco-efficiency in industrial and civil consumptions. Regional authorities and local bodies have important competences related to these sectors. Some local authorities have acted in advance through the adoption of voluntary tools aimed to: quantification, planning, communication and valorisation of reduction and compensation actions.

Cartesio Network is committed to survey and analyse the possible contribution of regional authorities and local bodies to accomplish Kyoto target and to identify common methods to report and quantify the results. It is promoted by six Italian regional authorities: Emilia-Romagna, Lazio, Liguria, Lombardy, Tuscany and Sardinia and is open to public and private actors. Cartesio network currently involves more than 150 organizations from 16 Italian regions.

The network is aimed to reach and promote collective solutions in cluster sustainable management in both industrial and urban areas in order to improve existing synergies.

Cartesio topics are: cluster approach to EMAS (Eco-Management and Audit Scheme), Eco-industrial parks, product supply chain policies, governance and climate change.

The strategy outlined in the proposed guidelines by Cartesio Network answers to the most recent policy acts issued by European Commission about fighting Climate Change, primarily the White Paper on adapting to Climate Change [COM(2009) 147 final].

Summary Contents

MobiMart includes four different projects of emissions reduction, which are developed according to the methodological requirements relevant to the validation of the reduction quotas. The testing phase is followed by a monitoring one aimed at assessing the state of the pilot projects, both in relation to the objectives set, and in relation to the operating and the benefits accounting methods.

Supervision and authentication activities are conducted by the methodological point of view during the testing phase by an external academic auditor, with the role of confirming the consistency of MobiMart with the Cartesio guidelines and identifying the experimental tests as "GHG reduction projects" as defined by the same guidelines, assuming the possible validation of the corresponding "reduction quotas" which may be entered in a suitable register.

The supervision and authentication activities are especially focused on: objectives of emissions reductions, general eligibility requirements (additionality¹), baseline reference and monitoring.

¹ The criterion of additionality, one of the fundamental requirements of the reduction projects under the Kyoto Protocol, provides that actual emissions associated with a reduction action should be lower than those which would have had without the intervention itself, or in a situation of business-as-usual.

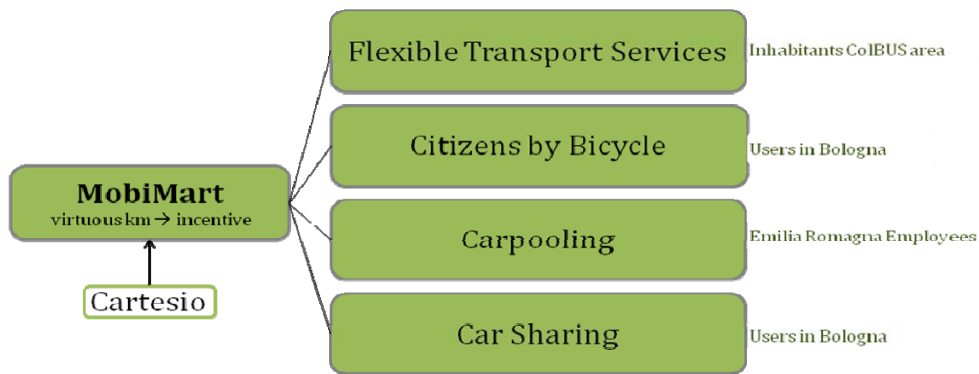


Fig. 1: Overview MobiMart 4 pilot actions

a) Flexible Transport Services: a pilot test on colBUS – La Navetta del Borgo

colBUS – La Navetta del Borgo is an experimental service of urban public transport line delivered since June 2009 in a neighborhood district in Bologna, previously not served by urban buses. colBUS can be booked by phone, and allows workers, students and residents to move inside the district or to be linked with the main lines of public transport and the main services of the district. It is therefore a Flexible Transport Service, operated according to itineraries and schedules which are agreed at the time of booking by phone between the users and the telephone operators. Trips can only be booked among bus stops of different colors referring to two different areas (e.g. from blue to red or vice versa). This restriction was implemented with the aim to avoid short trips that can be easily made by walking.



Fig. 2: (a) colBUS area of service with details of bus stops divided into red ones (centrals) and blue ones (peripherals); (b) image of the bus.

The pilot action was launched by SRM with the initiative named “Fall in love with colBUS – La navetta del Borgo”. During the Valentine’s week, from 14th to 19th of February 2011, colBUS was available for free to all the citizens that wanted to use it for their daily trips. Furthermore, as additional incentive to gratuitousness, users could have been rewarded with a monthly ticket by simply having booked and used colBUS during Valentine’s week.

The aim of the initiative was to raise awareness on colBUS service inviting citizens to a free trial in order to increase the use of public transport. The pilot week was preceded by a two week bulk advertising campaign.

The pilot test was advertised since the end of January 2010 by:

- Direct mailing towards the 199 people that provided personal data during the 2010 survey;

- A3 sized flyers posted on the public bulletin boards of the Borgo Panigale district;
- A4 sized plastic flyers posted on the most used colBUS stops;
- News on the Borgo Panigale district's website.

First significant results of the initiative were already obtained after the dissemination campaign started at the end of January and good results in terms of participation were registered during the initiative and after it. The average number of passengers in 2010 per month was 204; a similar number of passengers was registered in January 2011 when the number of passengers was 212. In February, with the help of the pilot week and above all of the related promotional campaign, 326 passengers used colBUS, increasing the average number of passengers per day from 9 to 14 (+55%).

The pilot week registered a good result in term of number of passengers if compared with an average number and with the first week of service (June 09).

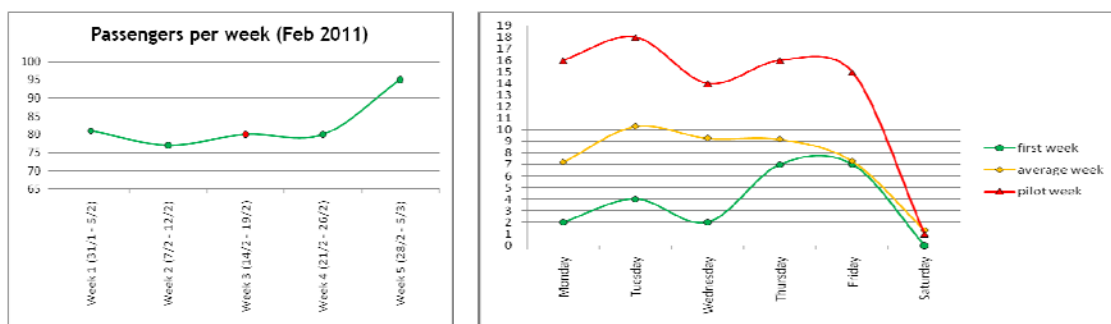


Fig.3: (a) average number of passengers per week on colBUS in February (31 Jan – 5 Mar) – Tot. 413 pax; (b) comparison among colBUS passengers during first week of service, average week and pilot week.

In order to quantify the reduced CO2 and the additionality required by Cartesio guidelines, SRM compared the impact of the travel behavior before (habit) and after (pilot week). Results were positive in terms of CO2 reduction.

b) Citizens by Bicycle

Citizens by Bicycle is an initiative organized by SRM with the aim of encouraging the use of bicycles and raise awareness of citizens to the theme of sustainable mobility.

The pilot initiative was started with a questionnaire during the European Mobility Week 2010 and events linked to it. On this occasion, 746 people were interviewed of which 362 have shown interest in participating in the pilot. Respondents were asked to indicate on an appropriate average weekly chart the movements, the motive and the means of transport used.

On May 23, 2011 the campaign itself kicked off, preceded by a series of awareness campaigns through press releases and social networks. Participants were asked to record the movements carried out for two weeks on a special diary over a period of 4 weeks.

Parallel steps were taken to activate a profile on Endomondo.com, site specialized in GPS tracking for sports activities. Following a special agreement, Endomondo has provided SRM a site specifically created for the campaign "Bologna citizens by bicycle" (www.endomondo.com/campaign/mimosa); through the website is possible to download for free a mobile application for GPS tracking of workouts and trips, including the "cycling transportation", the only relevant activity within that campaign.

Incentives and prizes strictly related to cycling were foreseen as well as a lottery among participants.

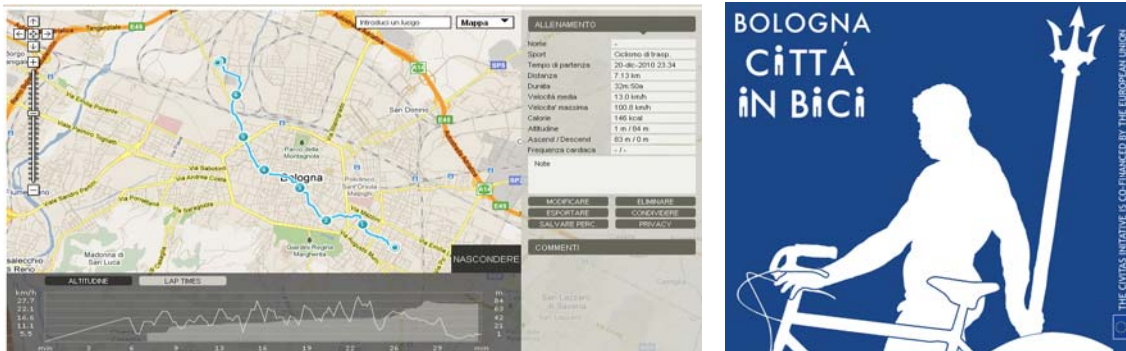


Fig. 4: (a) screenshot of Endomondo website; (b) campaign logo

The pilot results in terms of emission reduction were based on a restricted group of participants to the pilot that were interviewed twice, since they participated in the pilot final stage.

N. 138 participants were asked to record the movements carried out for 2 weeks on a special diary over a period of 4 weeks. Aim of incentives was to stimulate cycling instead of using private motorized means of transport.

The reduction of CO2 emissions was calculated according to the transport footprints of each participant.

Despite the small decreasing in cycling mileage, by assessing individual behaviour of participants, a calculation on CO2 equivalent savings was positive (-7%).

c) Car pooling among employees of Emilia-Romagna region

In MobiMart car-pooling groups were arranged within a big public body: Emilia-Romagna Region.

In order to identify available volunteers, SRM and the Emilia-Romagna Region Mobility Manager conducted an information campaign among the employees using the intranet, a road show and the website already activated that promotes the creation of crews for car-pooling company.

A specific on board device (AZregolo) and a microchip card allow highly accurate detection of trips made in sharing and, consequently, an exact accounting of CO2 saved.

For each crew, AZregolo is able to collect all the needed data for MobiMart car-pooling purpose thanks to smart card use. First passenger that make check-in is considered the driver thus the car operating is that associated to the driver in its profile. The others that check-in are automatically passengers. At the end of the trip each passenger has to check out, so it allows a punctual registration of km done onboard for each passenger.

At the end of each month the server calculates the amount of virtuous mileage for each crew and for each subscriber. The system is also able to calculate the amount of money that each passenger should charge and to make the costs clearing among them. Incentives are foreseen in order to invite Emilia-Romagna Region employees to participate, such as free parking and leisure packages.

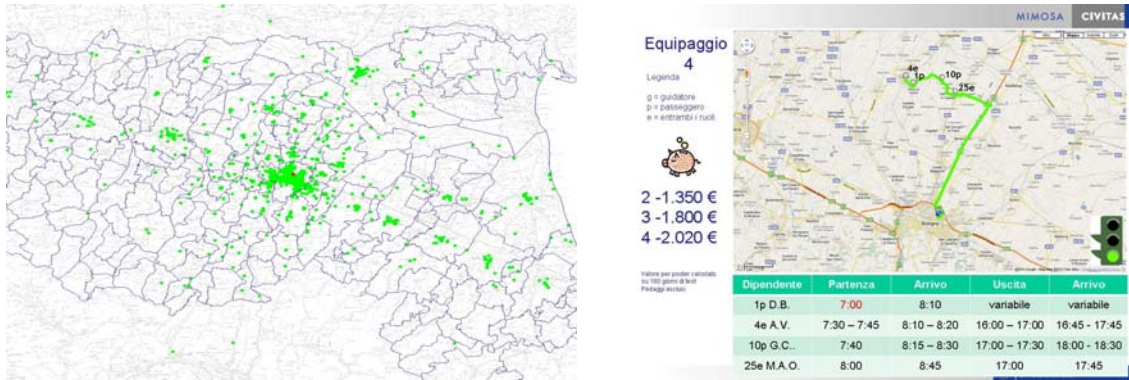


Fig. 6: (a) Regione Emilia-Romagna employees' home (origin); (b) Example of one potential crew among volunteers with information on work shifts, possible route, yearly money saving according to the average occupancy of the car.

A first direct incentive is the money saving that components of the crew can achieve by implementing the car pooling system itself and a second incentive is a free reserved parking for each crew of car poolers close to the office venue. Prizes, such as “leisure packages” were foreseen to be attributed to the most virtuous car poolers, while another additional one was assigned by lottery among all the participants.

In order to assign the prizes, the virtuous mileage was calculated using vehicle occupancy coefficient while the CO2 reduction (-11%) was calculated using CORINAIR COPERT system.

d) Car-sharing managed by ATC in Bologna area

Bologna is one of the first cities offering car sharing service in Italy: since August 2002, after some pilot trials and a brief running-in period, car sharing is now a fully operational reality. The service is currently performed by ATC (local public transport company in Bologna), and takes part in the ICS group (“Car Sharing Initiative”, involving several Italian cities where car sharing service has been carried out). At the moment, the car sharing fleet is composed of about 30 vehicles available in the urban area and 10 in the province. The system now has more than 1.000 members in Bologna area. Even though car sharing is implemented in several Italian cities the basic concept of the system “use a car without owning it” is extremely innovative in Italy. The car is in fact a status symbol and it’s extremely hard for people to consider it only as a transport mean.

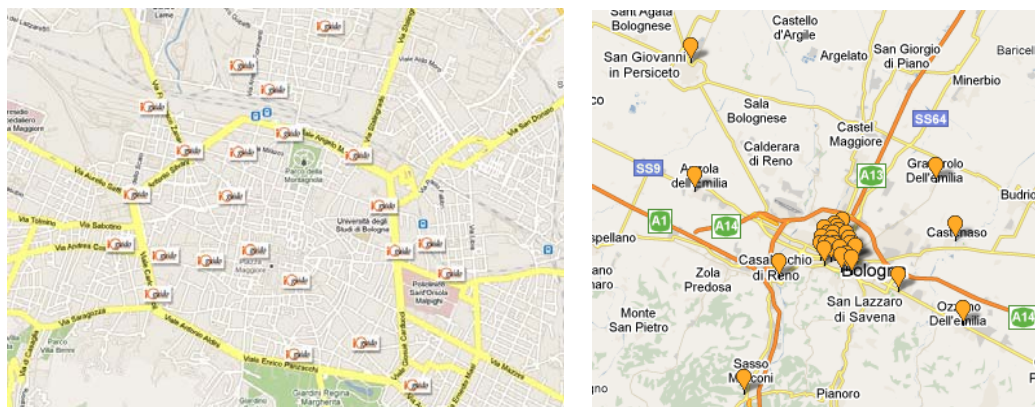


Fig. 7: (a) Car Sharing reserved parking places in the urban and (b) in the provincial area

Several studies on car sharing service demonstrate that it allows a considerable reduction of emission for the following reasons:

- The car sharing fleet is comprised of vehicles that meet the lowest possible emission in their respective vehicle class. Car sharing vehicles often run on natural gas;
- Customers of car sharing services reduce their mileage travelled by car significantly as they make more rational travel choices, including more rational use of parking space;
- Reductions also derive from the expected gap in technology and maintenance between shared cars and private cars, as stated by the EU Federation for Transport and Environment.

For these reasons the higher was the number of subscribers expected, the bigger was the potential impact of emission reduction produced by the service. For this reason, the pilot action on car sharing was based on a “Bring a friend” methodology. Incentives and rewards were foreseen both for the new subscribers and for the presenters.

The pilot has been launched on September 2011 for a period of 3 months extended to 7 months after an unsuccessful first period. Unfortunately, despite some new subscriptions to the car sharing service and even if 52 users replied to an on-line survey, the pilot was unsuccessful.

Functional Use

The purpose of the present Deliverable is to give a complete overview of the actions undertaken by SRM in Bologna in order to foster through pilot actions the use of “greener” transport modalities and to certificate the CO₂ saved by the pilot actions participants.

The pilot actions were implemented in Bologna mainly during 2011. Three out of four were successful, while one faced some barriers.

MobiMart research activity was based on a mobility credit mechanism i.e. a system of rewarding positive behaviours related to transport and, at the same time, converting CO₂ saving into “mobility credits”. Such mobility credits are certified by external auditor and then traded for the proposer’s benefit.

The certification of the mobility credits based on CO₂ savings is on-going and results are expected within the end of the project life. The certification will close the conversion methodology round that foresee a benefit (emission savings and economic rewards) in return of an investment (mobility management related action or transport behavioural changes).

Once the mobility credits are issued as kind of white certificates for the transport sector deriving from an end-user perspective, their actual tradability could be suitable to counterbalance the incentives issued by the promoting actor and to make new ones available.

Lessons learned

Despite some unsuccessful experience SRM can draft some conclusions about the original question whether some kind of incentive (especially the one that are considered in the Deliverable) could influence the travel behavior of citizens of Bologna, moving them to more sustainable modalities. The answer is YES, but the incentives have to be accompanied by a good promotional and advertising campaign in order to share a “vision” with pilot volunteers. Also the “challenge” mechanism launched especially on cycling pilot was very stimulating and allowed the volunteers to feel part of a community in action, that was doing something good for sustainable mobility.

Last but not least: if some traffic restriction measures would have been undertaken by local decision-makers or mobility managers (such as parking places reduction/parking costs increase, road pricing measures, increase of pedestrian areas, etc) even in further steps, the results could have been of much bigger impact.

Attachment

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