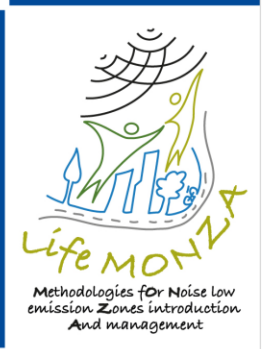




**REPORT**  
**BOTTOM-UP actions planning in the  
pilot area and public and stakeholders  
information and participation**  
**ACTION B2**





**LIFE15 ENV/IT/000586**

**LIFE MONZA**  
**Methodologies fOr Noise low emission Zones introduction**  
**And management**

**Technical Report**

<b>Deliverable</b>	Report on BOTTOM-UP actions detail design
<b>Action/Sub-action</b>	B2 - BOTTOM-UP actions planning in the pilot area and public and stakeholders information and participation
<b>Authors</b>	<b>Comune di Monza:</b> Jonathan Monti, Eleonora Plescia <b>Vie en.ro.se. Ingegneria:</b> Raffaella Bellomini, Sergio Luzzi, Lucia Busa, Stefano Baldini
<b>Status - date</b>	Final Version- 20-05-2020
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## 1. Introduction and objectives

LIFE MONZA project, co-founded by European Commission under the Life2015 program, is realized in Libertà district in Monza that is a densely populated area in the north-est part of the City. The district is crossed by Viale Libertà where about 30.000 vehicles pass through every day.

Based on the results of the Strategic Acoustic Mapping performed in 2012, in the band of 30 m from Viale Libertà, almost 100% of receivers are exposed to noise levels bigger than 65 dB(A) in the daytime and 55 dB(A) in the nighttime, so that this area is defined as critical in the Action Plan, drawn up according to the Directive 2002/49/CE.

The project has foreseen “top-down” measures consisting of infrastructural works and traffic management in Viale Libertà, and “bottom-up” measures - in B2 action - with interventions aimed to involve citizens actively in the promotion and management of customs oriented towards the reduction of noise and the improvement of air quality and health in the living and working environment.

Action B2 is divided in 3 sub-actions:

### **B2.1 Stakeholders/public participation in bottom-up actions proposal and management**

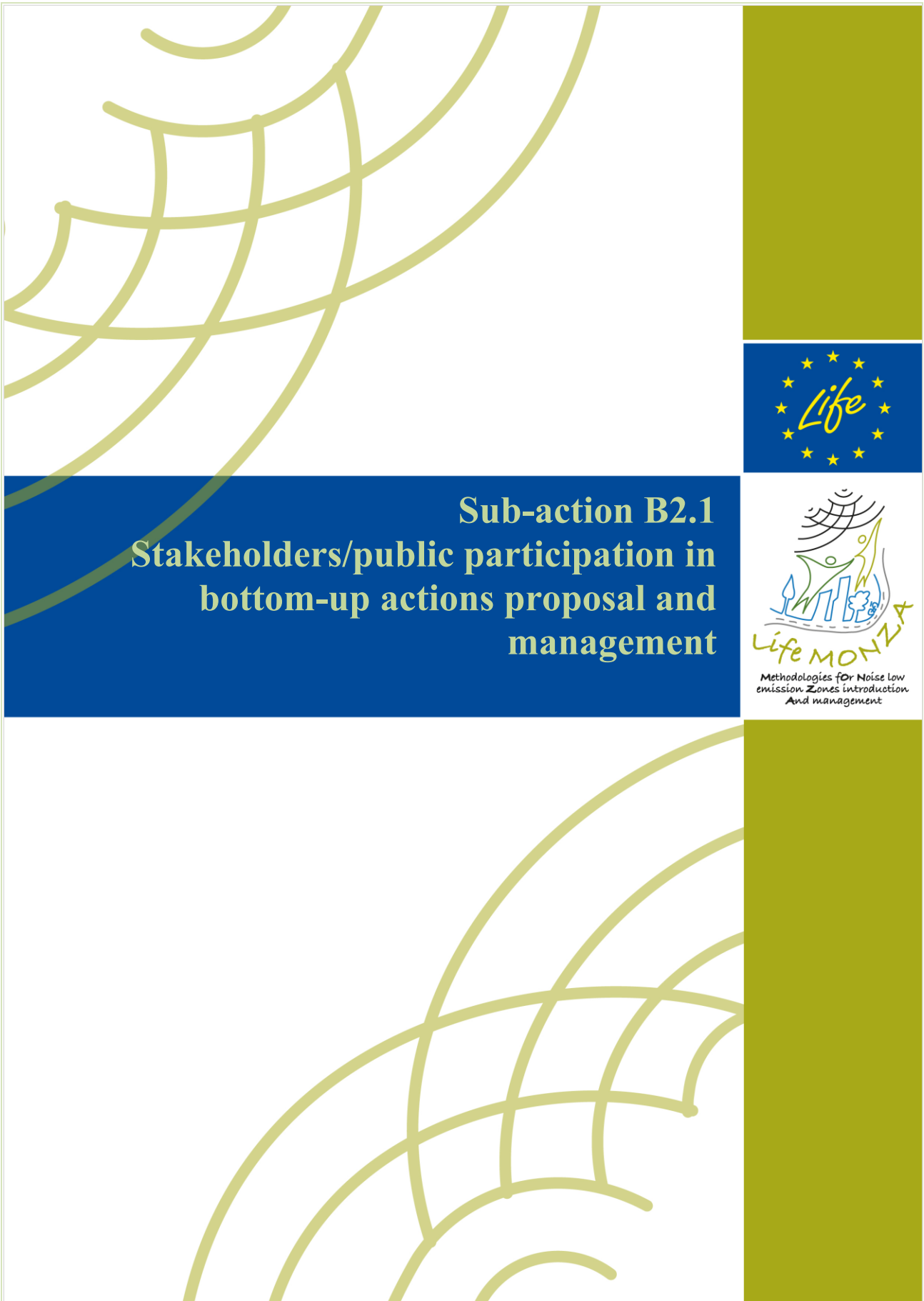
**B2.1.1** Public involvement, meetings organization, ideas contest (MONZA)

**B2.1.2** Public involvement: health aspects (UNIFI)

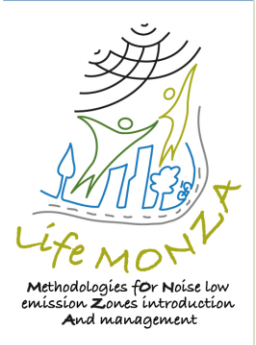

**B2.1.3** Public involvement: environmental aspect: (VIENROSE)

### **B2.2 Bottom-up actions detail design and App realization (MONZA)**

### **B2.3 People involvement: use cases identification and App design to manage public participation (UNIFI)**



**Sub-action B2.1**  
**Stakeholders/public participation in**  
**bottom-up actions proposal and**  
**management**



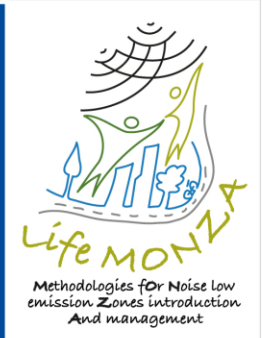
*Life MONZA*  
Methodologies for Noise low  
emission Zones introduction  
And management





**SUB-ACTION B2.1.1**  
**Public involvement, meetings organization, ideas contest**

**SUB-ACTION B2.1.3**  
**Public involvement: environmental aspect**







**LIFE15 ENV/IT/000586**

**LIFE MONZA**  
**Methodologies fOr Noise low emission Zones introduction**  
**And management**

**Technical Report on Pilot area actions implementation**

<b>Deliverable</b>	Report on BOTTOM-UP actions detail design
<b>Action/Sub-action</b>	B2.1.1 “Public involvement, meetings organization, ideas contest” and B2.1.3 “Public involvement: environmental aspect”
<b>Authors</b>	<b>Comune di Monza:</b> Jonathan Monti, Eleonora Plescica <b>Vie en.ro.se. Ingegneria:</b> Raffaella Bellomini, Sergio Luzzi, Lucia Busa, Stefano Baldini
<b>Status - date</b>	Version- 20/05/2020

<b>Beneficiary:</b>	Comune di Monza
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## 1. Introduction

In this paragraph, the activities about the action B2 “BOTTOM - UP actions planning in the pilot area and public and stakeholders information and participation” will be presented, with particular attention to the sub-action B2.1.1 “Public involvement, meetings organization, ideas contest” jointly achieved by Comune di Monza and Vie en.ro.se. Ingegneria, and at the sub-action B2.1.3 “Public involvement: environmental aspect”, achieved by Vie en.ro.se. Ingegneria.

Table 1 – B2 sub-actions

Azione	Attività	Beneficiario
B2_1	Stakeholders/public participation in bottom-up actions proposal and management	
B2_1_1	Public involvement, meetings organization, ideas contest	MONZA
B2_1_2	Public involvement: health aspects	UNIFI
B2_1_3	Public involvement: environmental aspect	Vie en.ro.se. Ingegneria
B2_2	Bottom-up actions detail design and App realization	MONZA
B2_3	People involvement: use cases identification and App design to manage public participation	UNIFI

## 2. Sub-action B2.1.1 “Public involvement, meetings organization, ideas contest”

In the context of sub-action B2.1.1, many meetings with citizens and users of Libertà district have been conducted. The aim of these meetings was to present people the LIFE MONZA Project, disseminating information about it and the expected impact on the quality of people’s life. Moreover, efforts were made to stimulate changes in citizens' lifestyles through their participation in the project activities.

The first objective of the project was to introduce an easily replicable model for the identification and management of low noise emission zones, whose impacts and benefits were analysed and tested in the pilot area identified in the Libertà district.

In order to achieve this objective, it was essential to establish a virtuous exchange of information with citizens, actively involving them through various types of actions: press conferences, publication of articles, distribution of information posters and radio campaigns, scheduling of neighbourhood consultations at the Civic Centre and distribution of questionnaires.

In order to promote this involvement also among young people, information meetings have been held in some schools in the neighbourhood, reported in more detail in paragraph 2.1, and a competition of ideas was organized for students of the Istituto Tecnico Statale Commerciale e per Geometri "Achille Mapelli", located in Viale Libertà.

### 2.1 Public involvement: informative meetings in the Libertà district

In the framework of the "bottom-up" measures, collected in Action B2 of the project, activities have been developed with the aim of an active involvement of citizens in the promotion and management of good practices for noise reduction and improvement of air quality and health in living and working environments.

The dissemination meetings, which began in *December 2016*, have been promoted to increase awareness of the project among stakeholders in the neighbourhood, including schools.

The first meetings held in schools were preparatory to activities related to the raise of awareness of environmental issues in the neighbourhood, later organized in the three-year period 2017-2019 with teachers and students from four main schools: the “Gianni Rodari” Primary School, the “Achille Mapelli” Institute, the “Carlo Porta” High School and the “Sabin” Secondary School.

The main dissemination activities and meetings held in the neighbourhood as part of the project are listed as follows:

On 19th July 2016, the Municipality of Monza issued a press release announcing the award of funding from the European call for proposals LIFE 2015. The project was presented to the citizens by Paolo Confalonieri of Municipality of Monza.

On 15th/16th December 2016, dissemination initiatives were held in Monza: one meeting between the Municipality (Paolo Confalonieri), Vie en.ro.se Ingegneria (Raffella Bellomini) and ISPRA, another meeting with the stakeholders of the neighbourhood and, later on, a press conference (Figure 1).

The purpose of the meeting was twofold: to promote, among the members of the Council, the start and the objectives of the project, as well as to request the involvement of the various sectors represented (seniors, businessmen, residents, associations) for support in the planned participation activities. The feedback was very positive and the representatives of the Consulta also participated in the following meetings, with more operational and organizational themes.

Figure 1 – Press conference to present the Life MONZA project

### QUARTIERE LIBERTÀ Un piano sperimentale per ridurre il rumore coi fondi dell'Unione Europea

## Inquinamento acustico, al via il progetto «Life»



PROGETTO «LIFE» Da sinistra Raffaella Bellomini, Paolo Confalonieri, Simonetta Vittoria

MONZA (snn) Un progetto sperimentale del valore di un milione 800mila euro. Un piano che ha come obiettivo quello di introdurre una metodologia facilmente replicabile su scala europea per l'individuazione e la gestione della «noise low emission zone», ovvero un'area della città - in questo caso il quartiere Libertà - a bassa emissione di rumore. Col coinvolgimento dei residenti del quartiere, della consulta Libertà e degli studenti del vicino istituto «Mapelli»,

il Comune di Monza ha dato il via al progetto «Life» che, dopo una prima fase di monitoraggio, prevede una serie di interventi volti a migliorare la situazione dell'inquinamento acustico e del traffico, a partire dalla realizzazione di attraversamenti pedonali protetti e all'installazione di sensori per misurare il rumore. E' prevista anche l'istituzione di una zona a 30 chilometri orari e la Ztl per i mezzi pesanti, «in modo che se l'autostrada è bloccata i camion

non escano per passare da viale Libertà». Per quanto riguarda questi ultimi punti, la Polizia locale sarà impegnata in azioni di controllo.

«Il rumore è la seconda causa di problemi derivanti dagli elementi inquinanti - ha fatto notare Raffaella Bellomini della Vie en.ro.se, la società di ingegneria di Firenze che si occupa del progetto - Il Comune di Monza sarà tra i primi a sperimentare queste nuove tecnologie in ambito urbano. Non solo verranno posizionati dei rilevatori acustici in determinate strade, ma viale Libertà verrà anche rifatta con l'asfalto antruro».

Soddisfatto l'assessore alla Viabilità Paolo Confalonieri che ne approfitta per fare un bilancio del lavoro svolto dall'inizio della Legislatura. «Quello del rumore è un tema più che mai attuale anche alla luce della vicenda legata alla ferrovia e ai residenti di via San Gottardo e di San Rocco - ha spiegato - Abbiamo fatto il Piano di zonizzazione, la mappatura acustica. Abbiamo poi approvato il piano di risanamento acustico per la tratta ferroviaria Monza-Sesto e ora abbiamo attivato questo progetto i cui fondi arrivano dall'Unione Europea. Al Comune saranno destinati 459mila euro».

On 12th April 2017 a meeting was held between Raffaella Bellomini of Vie en.ro.se Ingegneria, the Communication Office of the Municipality of Monza and the representatives of the Libertà District Council, to organize the information of citizens in view of the beginning of noise and air quality monitoring activities. A meeting was also held with the Headmaster of the Primary School "Gianni Rodari" about the activation of the "Pedibus Libertà" service for the following school years.

Between 26th and 28th May 2017 the Municipality of Monza has promoted another opportunity to spread the project, preparing a designated position for the entire duration of the annual festival of the district, called "Festa di Primavera", which host about 3000 people per year. During the event, the staff of the Municipality provided information and collected suggestions from the citizens about the LIFE project. The event was repeated in 2018.

On 12th and 13th October 2017 ISPRA, Comune di Monza and Vie en.ro.se Ingegneria participated in a meeting with the Headmaster and the Coordinator of the school-work alternation convention at the "Carlo Porta" High School, defining the modalities of involvement of the *classi quarte* (corresponding to students aged 17-18). In this occasion, it was established that the meetings with the students would be scheduled from January 2018.

The partners also proceeded with the definition of the competition of ideas to be promoted in the neighbourhood schools and the contents of the app, involving the Communication Office of the Municipality.

On 22nd November 2017, Raffaella Bellomini from Vie en.ro.se Ingegneria took part in a meeting with the Vice-principal and the Coordinator of the school-work alternation of the "Carlo Porta" High School, defining the outline calendar and the duration of the training course, with the forecast to take place between January and March 2018.

It was decided that the activity would involve 23 girls from a *classe quarta* (corresponding to students aged 17-18) in a part of classroom training (on social science methodology, statistical

sampling techniques, data analysis and post-analysis, information processing software) and a part in the fieldwork, for the supply of quality of life assessment questionnaires in the Libertà district.

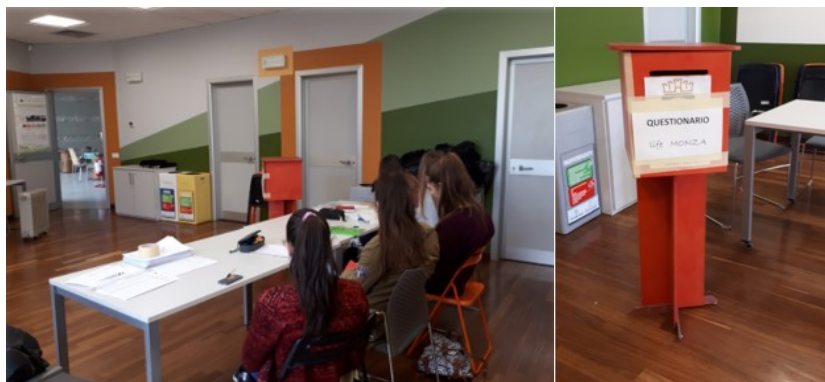
On the same day, a meeting was held with the Headmaster and the Responsible of the school-work alternation of the “Achille Mapelli” Institute, in order to define the training and information activities to be carried out within the sub-action B4.4 of the project, with a request to activate an agreement to conduct the activity in the months of January-March 2018.

On *16th January 2018*, a meeting was held at the “Achille Mapelli” Institute to define the convention between Vie en.ro.se Ingegneria and the School on the project of school-work alternation. During the discussion, a programme of meetings to be held between February and March 2018, managed exclusively by Vie en.ro.se Ingegneria, was drawn up to organise a training course on room acoustics as well as a series of training/information lessons on noise risks for large groups of students. During the meetings for the definition of the school-work alternation convention, Vie en.ro.se Ingegneria has promoted the MONZA project thanks to the collaboration with the School Teachers' Board.

In *February 2018* the Municipality of Monza and Vie en.ro.se Ingegneria met to talk about how to send the sample survey questionnaires on the Libertà district. Vie en.ro.se Ingegneria organized and managed three days for tutoring the students of the “Porta” High School, in which, in addition to the collection of the questionnaires, filled-in by the population (Figure 2), there was a moment of training/information on the specific software for data analysis and on the environmental issues object of the project.

In addition, as a part of the convention between Vie en.ro.se Ingegneria and the “Mapelli” Institute, the first training/information meetings on noise exposure risks were held.

*Figure 2 – The collection of questionnaires in the ante-operam phase*



In *March 2018* Vie en.ro.se Ingegneria held some meetings to verify the progress of the supply of the questionnaire among the population involved and the partners defined the procedures for the improvement of the citizens' adherence to the survey. Contacts were also established with the “Sabin” Secondary School, located outside the Libertà district, to involve it in the INAD 2018 noise awareness day, with positive adhesion.

In the month of *May 2018*, the Municipality of Monza e Vie en.ro.se Ingegneria set up a commission for the evaluation of the works drawn up by the students of the “Achille Mapelli” Institute in the context of the competition of ideas and the prize-giving ceremony for the winners was organized on May 25th, as better described in paragraph 2.2.

On *24th September 2018*, there was a neighbourhood consultation at the Civic Center Libertà which was attended by Carlo Nicola Casati, responsible for the project LIFE MONZA for the Municipality of Monza, Giulia Pessina administrative manager of the project and Luciano Lanzani responsible for the asphalt works started the previous week.

During this meeting, the progress of the project and the ongoing top-down activities were discussed and citizens were informed about the future action to forbid the transit of heavy trucks on some streets of the District.

In addition, among the interventions promoted to encourage the involvement of citizens in the project actions, the service "Pedibus Libertà" for the school years 2018/2019 and 2019/2020 has been programmed for the pupils of the "Gianni Rodari" School, in collaboration with ABCittà. The Pedibus, as defined by the "Rules of the Pedibus of Monza-Libertà", is a "School bus on foot and a participatory action that promotes mobility on foot on the home-school journey. Children registered for the Pedibus, organized in small groups, are accompanied by parents and/or grandparents who are volunteers and go from home to school following precise itineraries, the Pedibus lines". The Pedibus, therefore, does not correspond exclusively to the logic of a "service" proposed to the school community but becomes a participatory educational experience to be carried out with the support of the school and the local community.

The reference model, proposed by ABCittà, and made by the Administration of the Municipality of Monza, recognizes the Pedibus as a real "common good of the city". The pedibus has provided for several actions including a survey on school mobility through a questionnaire distributed in school classes, educational meetings at school with pupils and teachers, meetings to raise awareness, coordination and monitoring for the ongoing evaluation on the progress of the pedibus. In the month of *November 2018*, a meeting was held at the Libertà Civic Centre with several local associations and citizens to set up a group of volunteers for accompanying and supporting the pedibus (Figure 3). The children are accompanied not only by their parents but also by volunteers engaged in local associations who have recognized, in this simple weekly activity, a concrete effort to improve the quality of life in the district.

Within the Pedibus service, various graphic-communication materials (postcards, posters, banners, bibs for students and companions, maps and pins) were produced to promote and inform the stakeholders of the district.

*Figure 3 – The meeting held to present the "Pedibus Libertà" service at the District Council*






Finally, in the institutional website of the Municipality of Monza there is a section dedicated to the Life MONZA project (<https://www.comune.monza.it/it/servizi/Lavori-pubblici/Riduzione-rumore/>) in which the objectives and actions carried out by the Municipality of Monza are described. The project is periodically promoted also on social networks (Facebook) with dedicated posts.

## 2.2 Idea Contest for the creation of a Logo and a Slogan

During the training and information meetings concerning LIFE MONZA project, sub-action B4.4 “Support on bottom-up actions implementation (school meetings, training activities on noise and other pollutants effects)”, the ideas contest announced by the Municipality of Monza - Institutional Communication Service and External Relations – has been presented to “Mapelli” school students. The object of the contest is the definition of a logo and a slogan for the communication and promotion of the *Noise LEZ* of the Liberty district in Monza. The goal of the logo and slogan is to express the aspects considered essential for the connotation of the Libertà district as *NOISE LEZ* and support environmental activities, in particular against noise pollution.

Figure 4 – Ideas contest tender

 <p>Concorso di idee per l'ideazione del logo e slogan per la comunicazione e la promozione della NOISE LEZ (Low Emission Zone) quartiere Libertà di Monza afferente il progetto "Life Monza"</p> <p><b>Premesse</b></p> <p>ISPRA (Istituto Superiore per la Protezione e la Ricerca Ambientale) soggetto capofila, l'Università degli Studi di Firenze, Via En.Ro.Se. Ingegneria S.r.l. di Firenze ed il Comune di Monza sono partners del progetto cofinanziato dall'Unione Europea LIFE MONZA.</p> <p>Obiettivi principali del progetto, che è iniziato a settembre 2016 e si concluderà a giugno 2020, sono:</p> <ol style="list-style-type: none"> <li>1) Sviluppo e sperimentazione di una metodologia, applicabile in differenti contesti per l'identificazione e la gestione delle Noise LEZ (Low Emission Zones). Gli impatti ed i benefici riguardanti l'inquinamento acustico saranno analizzati e testati nell'area pilota del quartiere Libertà, del Comune di Monza</li> <li>2) Applicazione e sperimentazione di       <ul style="list-style-type: none"> <li>• specifiche misure top down, attraverso interventi riguardanti le infrastrutture stradali e mobilità urbana (per esempio azioni riguardanti la gestione del traffico e la sostituzione della pavimentazione stradale in Viale Libertà, caratterizzato da un significativo flusso di traffico di mezzi pesanti)</li> <li>• misure bottom up, collegate ad azioni che dovrebbero partire dagli utenti dell'area (per esempio un approccio meno vincolato all'uso dell'auto)</li> </ul> </li> <li>3) Riduzione dei livelli di rumore nel quartiere Libertà, con effetti positivi anche sulla qualità dell'aria e sulle condizioni di benessere delle persone</li> <li>4) Coinvolgimento attivo della popolazione nella definizione di un diverso stile di vita maggiormente sostenibile.</li> </ol> <p>Il presente concorso rientra nella fase del progetto afferente alla seguente azione:</p> <p>Azione B2 - Pianificazione delle azioni bottom up nell'area pilota e processo partecipativo</p> <p>B2.1.1. - Processo partecipativo: organizzazione incontri e concorso di idee per l'ideazione del logo e slogan della Noise Low Emission Zone del quartiere Libertà.</p>	<ul style="list-style-type: none"> <li>• composto da parole semplici o da espressioni comuni, essere facilmente comprensibile e facile da ricordare</li> <li>• non essere simile o uguale ad altro slogan esistente di ente o organismo pubblico o privato</li> <li>• formato solo da una parte scritta (lettering)</li> <li>• realizzato a colori e in bianco e nero.</li> </ul> <p>I progetti di cui ai punti 3.1 e 3.2 devono poter essere impiegati contemporaneamente all'interno degli strumenti di comunicazione in uso.</p> <p><b>Articolo 4 - Modalità e termine di presentazione della domanda di partecipazione</b></p> <p>Le proposte progettuali dovranno essere presentate in busta chiusa e sigillata, contrassegnata dalla scritta a chiare lettere "CONCORSO DI IDEE PER L'IDEAZIONE DEL LOGO E SLOGAN PER LA COMUNICAZIONE E LA PROMOZIONE DELLA NOISE LEZ (LOW EMISSION ZONE) QUARTIERE "LIBERTÀ", NELL'AMBITO DEL PROGETTO LIFE MONZA".</p> <p>All'interno della busta dovranno essere inseriti:</p> <ul style="list-style-type: none"> <li>• una relazione descrittiva della proposta progettuale (max 2000 battute spazi inclusi)</li> <li>• n. 1 elaborato cartaceo del logo e slogan a colori in formato A4 su fondo bianco</li> <li>• n. 1 elaborato cartaceo del logo e slogan in bianco e nero in formato A4 su fondo bianco</li> <li>• domanda di partecipazione redatta sull'apposito modulo debitamente compilata e sottoscritta (allegato A).</li> </ul> <p>La busta contenente la documentazione richiesta, deve essere consegnata c/o la Segreteria dell'Istituto - <u>entro e non oltre le ore 12.00 del giorno 5 aprile 2018.</u></p> <p>L'Istituto scolastico, provvederà consegnare entro 3 (tre) giorni lavorativi al Comune di Monza, le buste chiuse degli elaborati degli studenti, allegando apposito modello (allegato B) redatto su carta intestata e sottoscritto dal dirigente scolastico.</p> <p><b>Articolo 5 - Criteri di valutazione</b></p> <p>La valutazione del logo e dello slogan sarà unica, a tal fine sono stati individuati criteri di giudizio costituiti dagli elementi sotto indicati:</p> <ol style="list-style-type: none"> <li>1) <b>Originalità:</b> capacità di essere esclusivo e concorrenziale, senza generare confusioni e sovrapposizioni con altri marchi. Incidenza massima 20 punti</li> <li>2) <b>Memorabilità:</b> capacità di essere memorizzato sia per struttura che per potere evocativo. Incidenza massima 20 punti</li> <li>3) <b>Adeguatezza:</b> capacità di rappresentare il Quartiere Libertà nel suo ruolo di esempio come Noise LEZ, nella città di Monza, in Lombardia, in Italia e in Europa. Incidenza massima 15 punti</li> <li>4) <b>Semplicità:</b> capacità di raggiungere in modo diretto ed efficace gli interlocutori. Incidenza massima 15 punti</li> </ol>
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The invitation to tender was given to the school in one hundred paper copies and was made available for download from the school website.

Students, according to the tender contents, have participated in groups of two and prepared a closed envelope containing a descriptive report of the project proposal, a paper print of the logo and slogan in A4 format and the application form filled and signed (Annex A).

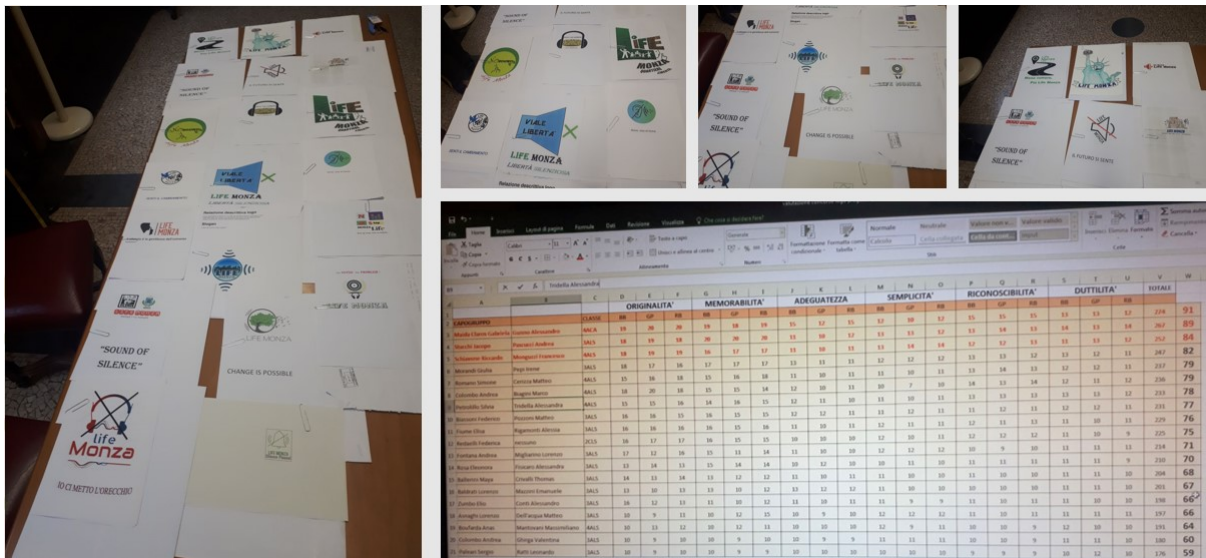
The deadline of the contest was April 5<sup>th</sup>, then the school has delivered all the received works to the Municipality of Monza which organized the meeting of a judging commission composed by Raffaella Bellomini (for Vie en.ro.se. Ingegneria), Giulia Pessina and Bruna Bonzini (for the Municipality of Monza) on May 2<sup>nd</sup>.

The works have been evaluated according to the following criteria reported in the tender with the relative maximum scores:

1. **Originality:** the ability to be exclusive and competitive, without generating confusion and overlapping with other brands (maximum incidence of 20 points).

2. **Memorability:** the ability to be memorized both for the structure and the evocative power (maximum incidence of 20 points).
3. **Adequacy:** the ability to represent the Libertà District as an example of Noise LEZ, in the city of Monza (maximum incidence of 15 points).
4. **Simplicity:** the ability to reach interlocutors directly and effectively (maximum incidence of 15 points).
5. **Recognizability:** the ability to stand out and be immediately accepted for what it represents (maximum incidence of 15 points).
6. **Ductility:** the ability to adapt, without losing the characteristics of recognizability, to different chromatic and dimensional situations and to the tools and paper and electronic supports on which it will appear (maximum incidence of 15 points).

Figure 5 – Pictures taken during the evaluation of the works



Twenty-one works have been presented and, among them, a work has been evaluated as a completer and more responsive to all the requests of the tender. The winning work was made by the group of Gabriela Maida Claros and Alessandro Gunno, with a total score of 91/100. The scores of the second and third classified group are 89/100 and 84/100 respectively.



Figure 6 – First classified logo and slogan

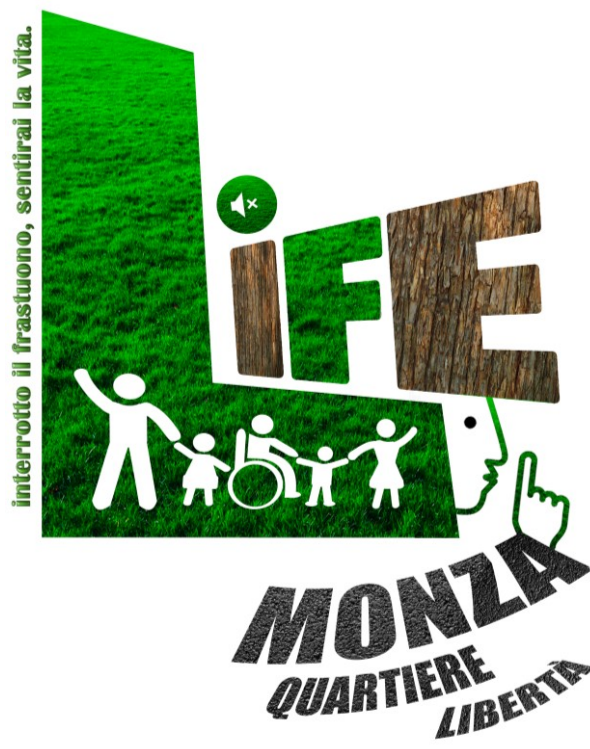


Figure 7 – Descriptive report of the winning logo and slogan

**LOGO:**

Per il logo ho optato per la scritta "life Monza" e siccome i lavori futuri, saranno sul quartiere libertà, ho aggiunto la scritta "quartiere libertà".

Ho risaltato la lettera "L" di life e dentro ho posizionato: un uomo, due bambini, un uomo in sedia a rotelle e una donna. Queste persone rappresentano la vita, la crescita e l'unità. Sono presenti vari segnali che indicano il silenzio, per esempio il megafono dentro il punto sulla "I" di Life e la faccia che fa cenno di silenzio.

Le scritte "Monza e quartiere libertà" sono state distorte, formando archi, in modo da ottenere delle onde sonore attenuate, per questo verso l'esterno.

I colori che ho scelto sono, il verde (prato), il marrone (tronco di albero) e grigio oscuro (asfalto fonoassorbente).

Il messaggio che vorrei inviare è: vivremo insieme, in tranquillità e in un quartiere che equilibra la natura con contesti urbani. Sappiamo cambiare ma, rispettando ciò che abbiamo intorno.

**SLOGAN:**

Tutto gira intorno alla vita, questa viene influenzata da tutto ciò che ci circonda. La vita può essere ascoltata (Le foglie degli alberi che si strusciano), toccata (il legno, ruvido e duro, l'erba del prato, liscia da una parte e ruvida dal'altra), assaporata (Il sapore dei frutti), vista (Alberi in tutte le tonalità di verde, fiori di tutti i colori) e odorata (il profumo dei fiori, l'erba appena tagliata). Molte volte, distratti da tantissime fonti rumorose, non riusciamo a sentire la bellezza delle piccole cose, che aspettano in silenzio armonioso. Il cielo per esempio, è immenso ed è sopra di noi ciò nonostante, non ci fermiamo nemmeno un secondo a contemplarlo. I bambini, noi ragazzi e probabilmente anche alcuni adulti, siamo talmente distratti a sentire i motorini o le macchine che passano veloci, provocando un frastuono fastidioso, e non facciamo caso di quello che si ha attorno. Perciò mi aspetto che con questi miglioramenti, *interrotto il frastuono, sentiremo la vita e cambieremo sempre in modo positivo.*

### 2.2.1 Ideas contest awarding

The award ceremony for the ideas contest took place on May the 25<sup>th</sup>, 2018 at the *Centro Civico Libertà* of the city of Monza.

During the award ceremony the following people were present: the mayor of the city of Monza who awarded the first classified group, the "Mapelli" Institute vice-principal, the judging commission - composed by Raffaella Bellomini (for Vie en.ro.se. Ingegneria), Giulia Pessina and Bruna Bonzini (for the Municipality of Monza) -, Prof. Tomaino, the referent of the school for the Life project, the parents' Representative and the students participating in the contest. The names of the winners were announced only during the meeting at the Civic Center where the works of all the participants were exhibited.

Each member of the first three classified groups received a city-bike, whereas all the participating groups received gadgets prepared for the occasion: a t-shirt and a pencil on which the winning logo and slogan were printed.

Figure 8 – Ideas contest awarding leaflet

## Il Concorso di idee

Il concorso, rivolto a tutti gli studenti dell'Istituto Mappelli di Monza, è stato promosso dal Comune di Monza - Servizio Comunicazione Istituzionale e relazioni esterne.

Oggetto del concorso è stata la creazione e sviluppo di un **LOGO** e di uno **SLOGAN** per la comunicazione e la promozione della **Noise LEZ** del quartiere Libertà a Monza.

La finalità è rappresentare gli elementi ritenuti fondamentali per la connotazione del quartiere come NOISE LEZ e supportare le attività a sostegno della qualità ambientale, in particolar modo contro l'inquinamento acustico.

Tutti i lavori presentati saranno esposti presso il Centro Civico Libertà dal 19 maggio 2018 fino al 27 maggio 2018.

Orari: tutti i giorni dalle ore 10:00 alle ore 19:00

I primi tre gruppi classificati riceveranno come premio una coppia di city bike.

**life MONZA**  
Methodologies for Noise low emission Zones introduction and management

LIFE15 ENV/IT/000586  
Questo progetto è cofinanziato dalla Commissione Europea nel quadro del Programma Operativo LIFE 2014

**Premiazione**  
**Concorso di idee**

un logo e uno slogan per la comunicazione e la promozione della **Noise LEZ** del Quartiere Libertà a Monza

**Centro Civico Libertà**  
Viale Libertà 144 Monza

**Venerdì 25 maggio 2018**  
ore 10.30

Info: [www.lifemonza.eu](http://www.lifemonza.eu)

### I risultati attesi

Il risultato generale è quello di fornire una **linea guida** che descriva una procedura, applicabile in diversi contesti, per la **definizione, l'identificazione e la gestione delle Noise LEZ**. Implementazione e sperimentazione di un nuovo sistema di **monitoraggio smart** a lungo termine nell'area pilota.

Sviluppo di un'applicazione **multimediale** per la gestione delle azioni bottom-up e la valutazione dei cambiamenti concreti nello stile di vita della popolazione, in modo da essere tradotti in bonus e incentivi per i cittadini.

Nell'area pilota del quartiere Libertà è previsto un miglioramento degli **aspetti ambientali** legati al **rumore** e la **qualità dell'aria**, e, di conseguenza, delle condizioni di benessere dei cittadini. In particolare, si stima:

- una riduzione del rumore e un miglioramento della qualità dell'aria nelle zone vicine al Viale Libertà dovuto all'introduzione dei seguenti interventi: a) una nuova pavimentazione a bassa rumorosità; b) una limitazione del passaggio dei veicoli pesanti; c) una riduzione della larghezza delle corsie con l'introduzione di due attraversamenti pedonali dotati di "isole di sicurezza"; d) una limitazione della velocità dei veicoli (50 km/h);
- una riduzione generale del flusso del traffico stradale nelle Noise LEZ dovuta alle azioni bottom-up;
- una riduzione del rumore generale e un miglioramento della qualità dell'aria dovute alla riduzione del flusso di traffico stradale e all'aumentata sensibilità su uno stile di vita sostenibile;
- una riduzione del rumore nei pressi degli edifici scolastici come conseguenza dell'utilizzo dell'APP.

Inoltre, sarà sviluppato un sito web a partire dall'inizio del progetto per la condivisione dei materiali e dei risultati con tutti gli stakeholders, sia nel corso del progetto che dopo la fine del progetto.

### Interventi sul Viale della Libertà

NUOVA PAVIMENTAZIONE A BASSA RUMOROSITÀ

RIDUZIONE DELLA LARGHEZZA DELLE CORSIE CON L'INTRODUZIONE DI DUE ATTRAVERSAMENTI PEDONALI DOTATI DI "ISOLE DI SICUREZZA"

LIMITAZIONE DELLA VELOCITÀ

LIMITAZIONE DEI MEZZI PESANTI

AZIONI BOTTOM-UP

### CONCORSO DI IDEE

Il concorso è stato indetto dal Comune di Monza - Servizio Comunicazione Istituzionale e relazioni esterne ed è rivolto a tutti gli studenti dell'Istituto Mappelli di Monza.

Oggetto del concorso è stata la creazione e sviluppo di un **LOGO** e di uno **SLOGAN** per la comunicazione e la promozione della **Noise LEZ** del quartiere Libertà a Monza.

La finalità del logo e dello slogan è quella di riflettere gli elementi ritenuti fondamentali per la connotazione del quartiere come NOISE LEZ e supportare le attività a sostegno dell'ambiente, in particolar modo contro l'inquinamento acustico.

Tutti i lavori presentati saranno esposti presso il Centro Civico Libertà dal 19 maggio 2018 fino al 27 maggio 2018.

I primi tre gruppi classificati riceveranno come premio una coppia di city bike.



Figure 9 – Ideas contest poster



# Life MONZA

## Methodologies for Noise low emission Zones introduction And management








Una **Low Emission Zone (LEZ)** è un'area urbana sottoposta a limitazioni di traffico, al fine di migliorarne la qualità dell'aria.

Una **Noise Low Emission Zone** è intesa come una LEZ in cui vengono considerati anche gli aspetti legati al rumore, valutando i benefici in termini di inquinamento acustico e definendo le sinergie tra le problematiche connesse al rumore e alla qualità dell'aria.

**Obiettivi**

- 1 Sviluppo e sperimentazione di una metodologia, applicabile in differenti contesti, per l'identificazione e la gestione delle Noise LEZ. L'area pilota scelta per la sperimentazione del progetto è il quartiere Libertà nella città di Monza (Italia).
- 2 Applicazione e sperimentazione di: a) specifiche misure top-down, definite a partire da input della Pubblica Amministrazione (per esempio azioni riguardanti la gestione del traffico e la sostituzione della pavimentazione stradale in Viale Libertà, caratterizzato da un significativo flusso di traffico di mezzi pesanti); b) misure bottom-up, collegate ad azioni che dovrebbero partire dagli utenti dell'area (per esempio l'incentivo dell'utilizzo di biciclette in sostituzione delle auto).
- 3 Riduzione dei livelli di rumore nel quartiere Libertà, con effetti positivi anche sulla qualità dell'aria e sulle condizioni di benessere delle persone.
- 4 Coinvolgimento attivo della popolazione nella definizione di un diverso stile di vita maggiormente sostenibile.

**Area pilota**  
Quartiere Libertà






**Interventi**







**Concorso di idee**

Il concorso è stato indetto dal Comune di Monza – Servizio Comunicazione Istituzionale e relazioni esterne ed è rivolto a tutti gli studenti dell'Istituto Mapelli di Monza. Oggetto del concorso è stata la creazione e sviluppo di un **LOGO** e di uno **SLOGAN** per la comunicazione e la promozione della **Noise LEZ** del quartiere Libertà a Monza. La finalità del logo e dello slogan è quella di riflettere gli elementi ritenuti fondamentali per la connotazione del quartiere come **NOISE LEZ** e supportare le attività a sostegno dell'ambiente, in particolare modo contro l'inquinamento acustico. Tutti i lavori presentati saranno esposti presso il Centro Civico Libertà dal 19 maggio al 27 maggio. Orari mostra: tutti i giorni dalle ore 10:00 alle ore 19:00. I primi tre gruppi classificati riceveranno come premio una coppia di city bike.









**Premiazione**  
25 maggio - ore 10,30






Methodologies for Noise low emission Zones introduction And management

Figure 10 – Exhibition of the works of all the participating groups at the Libertà Civic Center



Figure 11 – First classified group prize-giving





Figure 12 – Second classified group prize-giving



Figure 13 – Third classified group prize-giving



Figure 14 – Picture taken during the award ceremony



Figure 15 – The t-shirt, prepared as a gadget for the award ceremony, given to all the contest's participants

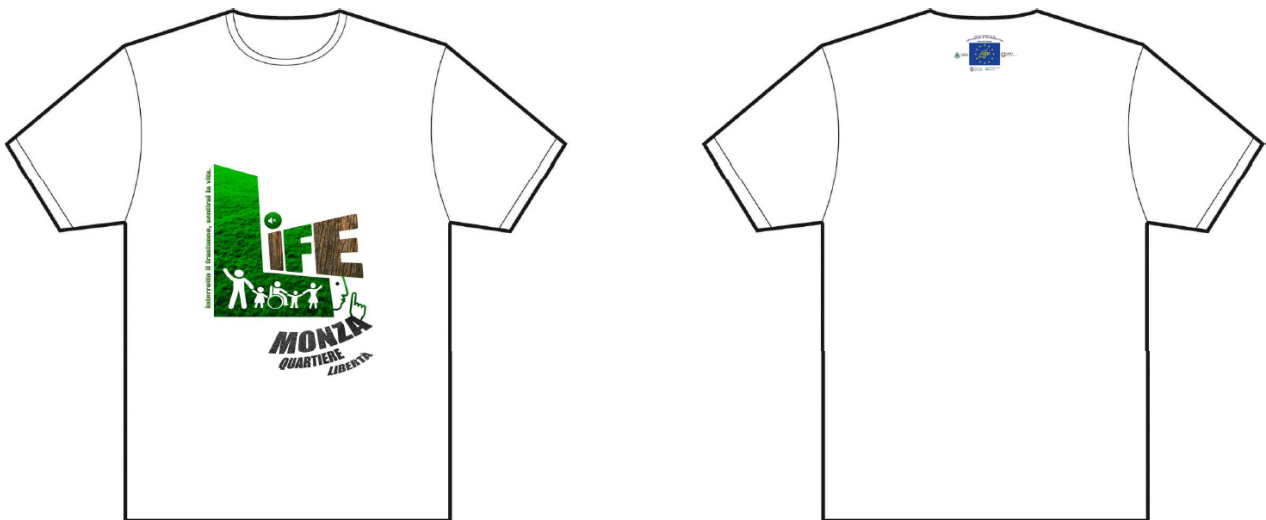




Figure 16 – Detail of the front and back t-shirt





Figure 17 – The pencil prepared as a gadget for the award ceremony given to all the contest participants



### 3. Action B2.1.3 “Public involvement: environmental aspect”

In the context of sub-action B2.1.3, many activities aimed to promote items linked to environmental impacts and about LIFE MONZA project, have been achieved. One of them involved Primary School “Gianni Rodari”, “Achille Mapelli” Institute and the secondary School “Sabin” in the International Noise Awareness Day (INAD) in the school years 2017, 2018, 2019. Moreover, a questionnaire for a sample survey has been drawn up to detect, analyse and assess judgements concerning the perceptions and behaviours of the citizens related to liveability and the conditions of environmental and social well-being.

### 4. People involvement: environmental aspects

Within the sub-action B2.1.3 “Public involvement: environmental aspect”, Vie en.ro.se. Ingegneria has coordinated dissemination activities of the project in the schools, promoting the participation in the International Noise Awareness Day. Moreover, a questionnaire has been drawn up and spread to residents with the aim to understand how environmental aspects can influence the quality of citizens’ life.

#### 4.1 Monza's Schools participation at the International Noise Awareness Day INAD-Italia

The International Noise Awareness Day aimed to promote the knowledge of acoustics, the awareness of risks due to a long-term noise exposure and to fight the harmful effects on the hearing and, more in general, on the health of kids, boys and all the citizens.

The INAD Italia initiatives of 2017, 2018 and 2019 have included the activities promoted by the European project Life Monza.

During the edition *INAD 2017 "Sounds of my place"* the Primary School "Gianni Rodari", the Institute "Achille Mapelli" and the Secondary School "Sabin" have been involved.

In the classes of these Institutes, lessons have been held regarding the items related to acoustics depending on the educational level.

All the students have received the material provided by Associazione Italiana di Acustica (AIA) and the video-cartoon "Sound of my place" realized by European Acoustics Association (EAA) has been distributed.

In total, about 200 students have been involved in this edition.

Figure 18 – Education days in the context of INAD 2017 "Sounds of my place"



The 2018 edition, *INAD 2018 "Let's get rid of the noise"* has seen the participation of a total of four classes of the "Sabin" Secondary School with 80 students involved in the following activities related to acoustics: the difference between sound and noise, the knowledge of the soundscape of your cities and the actions that can oppose the harmful noise effects on the health. The meetings were managed by Sergio Luzzi from Vie en.ro.se. Ingegneria in March 2018.

#### 4.2 Survey on Libertà District

Within action B2 "BOTTOM-UP actions planning in the pilot area and public and stakeholders information and participation" a questionnaire has been realized to assess the opinions, perceptions and behaviours of Libertà district's citizens with regard to social and environmental aspects related to the liveability of the area.

Questionnaire will be collected in two different phases, before and after the implementation of the intervention foreseen in the top-down measures, to evaluate the benefits on life quality.

The project partners identified postal questionnaires as the best solution, together with an accompanying institutional letter from the Municipality, containing indications for the hand delivery of the filled-in questionnaire to two locations and for the access to the alternative way of filling in the questionnaire via online submission (via Limesurvey).

In the ante-operam phase, the sending started in the first days of February 2018, whereas in the post-operam phase in April 2019. The questionnaires of ante and post operam survey have in common almost the total of questions, to facilitate a good comparison between ante and post operam analysis.

After two weeks of collection, a reminder was made in an indirect way with web announces and using local media.

The locations chosen for the hand delivery of the paper questionnaire were the following:

- "Carlo Porta" High School (Via della Guerrina, 15), which also ensured a space dedicated to the filling in of the questionnaire on site;
- Libertà Civic Center (Viale Libertà, 144), which has provided a coworking room with tables and seats for twenty people for a few days.

During this activity, students of "Carlo Porta" High School have been directly involved. The role of tutor and students consisted of the collection of the filled-in questionnaires and the presentation of clarifications about the compiling of the survey.

##### 4.2.1 Questionnaire contents: environmental aspects

The questionnaire is composed of seven different sections:

- social and personal data;
- home and district data;
- pollution and air quality;
- noise;
- health and life quality;
- mobility;
- knowledge and impacts of LIFE MONZA project.

The survey concerning environmental aspects focuses on the perception of pollution in the neighbourhood, based on air quality and the presence of noise.

From question 20 to question 26, a judgement on the air quality around the house and in the neighbourhood is requested, as well as the degree of subjective importance given to this

parameter. It is also asked to give an opinion on the main causes of air pollution in the neighbourhood.

Figure 19– Sample survey: air quality questions

*Inquinamento e qualità dell'aria*

20. Come giudica la qualità dell'aria nei dintorni della Sua abitazione? (*esprimere un "voto" da 0 a 10, con 0=pessima qualità e 10=ottima qualità*)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

21. Quanto ritiene importante la qualità dell'aria nei pressi della Sua abitazione? (*indicare il livello di importanza da 0 a 10, con 0=completamente irrilevante e 10= della massima importanza*)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

22. Come giudica la qualità dell'aria nel quartiere? (*esprimere un "voto" da 0 a 10, con 0=pessima qualità e 10=ottima qualità*)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

23. Quanto ritiene importante la qualità dell'aria nel suo quartiere? (*indicare il livello di importanza da 0 a 10, con 0=completamente irrilevante e 10= della massima importanza*)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

24. Quanto si ritiene informato/a sulle problematiche dell'inquinamento atmosferico?

1. Per niente informato/a	2. Poco informato/a	3. Abbastanza informato/a	4. Molto informato/a
---------------------------	---------------------	---------------------------	----------------------

25. Quali sono le sue principali fonti di informazione nel merito? (sono ammesse più risposte)

1.  tv, 2.  radio, 3.  internet, 4.  quotidiani, 5.  settimanali, 6.  riviste specializzate / libri sull'argomento, 7.  scuola, 8.  associazioni ambientaliste, 9.  non mi interessa l'argomento, 10.  altro (specificare: .....)

26. Quali sono, secondo Lei, le principali cause dell'inquinamento dell'aria nel quartiere Libertà? (dopo avere letto l'elenco proposto, riportare i numeri corrispondenti alle cause selezionate – al massimo tre – nelle caselle sottostanti, in ordine di importanza)

1. Traffico privato,
2. Traffico da trasporto pubblico,
3. Traffico da trasporto merci,
4. Produzione grande o piccolo-media industria manifatturiera,
5. Grandi centrali termiche,
6. Riscaldamento abitazioni,
7. Agricoltura e zootecnia,
8. Altro (specificare: .....)

<i>Prima causa</i>	<i>Seconda causa</i>	<i>Terza causa</i>

From question 27 to question 30, interest was raised on the noise component, asking users to make a judgement about the perceived annoyance due to noise pollution, indicating the worst time slot, the perception of the main noise sources and the effects of noise on daily activities.

Figure 20– Sample survey: noise questions

*Rumore*

27. Come valuta - in una scala da 0 (assente) a 10 (molto intenso) - il fastidio personale dovuto a inquinamento acustico nella zona in cui vive? (È obbligatorio scegliere una sola opzione)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

28. Secondo Lei quali sono le principali fonti di inquinamento acustico nella zona in cui vive? (È possibile specificare più di una opzione)

1.  Traffico, 2.  Attività lavorative, 3.  Attività domestiche, 4.  Scuole, 5.  Ospedali, 6.  Esercizi commerciali (negozi, mercati, supermercati, pub e discoteche), 7.  Animali, 8.  Edifici religiosi, 9.  Cantieri edili

29. Quali sono i momenti della giornata in cui percepisce un senso di maggiore fastidio a causa dell'inquinamento acustico nella zona in cui vive? (È possibile specificare più di una opzione tra le seguenti fasce orarie)

1.  06-10    2.  10-14    3.  14-18    4.  18-22    5.  22-02    6.  02-06

30. Con quale frequenza ha sofferto di uno o più dei seguenti disturbi che ritiene attribuibili all'inquinamento acustico nella zona in cui vive?

	1. Spesso	2. Qualche volta	3. Mai
30.1. Mal di testa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.2. Irritabilità	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.3. Difficoltà a dormire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.4. Stress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The next part of the questionnaire focuses on the personal perception of the quality of life and the most commonly used mobility systems for moving around the area.

Figure 21– Sample survey: life quality and mobility

*Salute e qualità della vita*

31. Quante volte ha bisogno di qualcuno che la aiuti quando legge istruzioni, opuscoli o altro materiale che le è stato consegnato dal proprio medico o farmacista?

1. Mai	2. Raramente	3. Qualche volta	4. Spesso	5. Sempre
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32. Come valuta la Sua qualità di vita?

1. Molto cattiva	2. Cattiva	3. Né cattiva né buona	4. Buona	5. Molto buona
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33. Riesce a concentrarsi sulle cose che fa?

1. Per niente	2. Poco	3. Abbastanza	4. Molto	5. Moltissimo
---------------	---------	---------------	----------	---------------

34. L'ambiente in cui vive è sicuro per la salute (nel senso del rumore, inquinamento, clima ed altre caratteristiche ambientali)?

1. Per niente	2. Poco	3. Abbastanza	4. Molto	5. Moltissimo
---------------	---------	---------------	----------	---------------

35. È soddisfatto/a di come dorme?

1. Molto insoddisfatto/a	2. Insoddisfatto/a	3. Né soddisfatto/a né insoddisfatto/a	4. Soddisfatto/a	5. Molto soddisfatto/a
--------------------------	--------------------	--	------------------	------------------------

36. È soddisfatto/a dei mezzi di trasporto pubblici che ha a disposizione?

1. Molto insoddisfatto/a	2. Insoddisfatto/a	3. Né soddisfatto né insoddisfatto/a	4. Soddisfatto/a	5. Molto soddisfatto/a
--------------------------	--------------------	--------------------------------------	------------------	------------------------

*Mobilità*

37. Come si muove normalmente:

	1. A piedi	2. In bicicletta	3. In moto	4. In auto	5. Con i mezzi pubblici	6. Non presenti
37.1. Spostamenti per il e dal luogo di lavoro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.2. Spostamenti per il e dal luogo di studio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.3. Altri spostamenti per accesso ai servizi commerciali, svago, cultura, spettacoli, sport, ecc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The questionnaire ends with three questions about the LIFE MONZA project in order to assess how many people are aware of it.



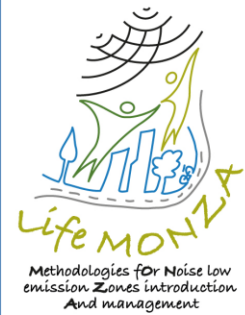




**REPORT**

**Public involvement: health aspects**

**SUB-ACTION B2.1.2**





**LIFE15 ENV/IT/000586**

**LIFE MONZA**

**Methodologies fOr Noise low emission Zones introduction  
And management**

## **Technical Report on Pilot area actions implementation**

<b>Deliverable</b>	Report on BOTTOM-UP actions detail design
<b>Action/Sub-action</b>	B2.1.2 “Public involvement: health aspects”
<b>Authors</b>	UNIFI- Dipartimento di Medicina Sperimentale e Clinica, Medicina del Lavoro (Prof. Giulio Arcangeli, Prof. Nicola Mucci, Dott.ssa Veronica Traversini) e Dipartimento di Scienze della Salute, Igiene e Medicina Preventiva (Prof. Guglielmo Bonaccorsi, Dott.ssa Chiara Lorini)
<b>Status - date</b>	Version- 19/05/2020

Through analysis of the scientific literature, the WHOQOL-Bref questionnaire was identified as the only measure of quality of life that also presents a specific domain on the environment. Through its items, a comparable score can be obtained to "objectify" the quality of life of residents and to attribute a potential role to the structural changes made. In addition to the questions already envisaged, there are questions relating to annoyance on the basis of the most recent and authoritative industry literature, in order to carry out an enlarged general assessment.

In March 2017 the project was presented to students of the graduate school in Occupational Medicine and Hygiene and Preventive Medicine of the University of Florence of all years of study, in order to raise awareness of future specialists to the problems of noise, air quality and quality of life related to them.

Subsequently, together with Vienrose and ISPRA, various aspects of the questionnaire were deepened and defined (such as the structure and contents of the questionnaire, methodology and sample number, administration). The choices were shared in a videoconference meeting held on September 26, 2017.

In September 2017, a telematics meeting was held between UNIFI, Vienrose and ISPRA aimed, in particular, at identifying the final versions of the questionnaires to be administered.

In October 2017 – with constant contacts between the parties – the overall questionnaire was developed. Collectively, the administration of the 9 selected questions (5 from the WHOQOL-Bref questionnaire and 4 for annoyance) was agreed in a single overall questionnaire and to attach the entire WHOQOL-Bref as a module in its own right, reserving participants the right to respond to it or not.







**LIFE15 ENV/IT/000586**

**LIFE MONZA**

**Methodologies fOr Noise low emission Zones introduction  
And management**

## **Technical Report on Pilot area actions implementation**

<b>Deliverable</b>	Report on BOTTOM-UP actions detail design
<b>Action/Sub-action</b>	B2.2 “Bottom-up actions detail design and App realization”
<b>Authors</b>	Comune di Monza: Ing. Jonathan Monti
<b>Status - date</b>	Versione 30-04-2020
<b>Beneficiary:</b>	Comune di Monza
<b>Contact person:</b>	Jonathan Monti
<b>E-mail:</b>	<a href="mailto:jmonti@comune.monza.it">jmonti@comune.monza.it</a>
<b>Project Website:</b>	<a href="http://www.lifemonza.eu">www.lifemonza.eu</a>

## 1. Action B2.2 “*Bottom-up actions detail design and App realization*”

In February, March and April 2017, a series of meetings was held between the offices of the Environment and Energy Sector, the Traffic-Mobility and Networks Sector and the Communication Offices, as well as with representatives of the Viale della Libertà Council, to define the contents and structure of the APP jointly. These meetings were also attended by the partners involved, in different ways, in the implementation of the App (UNIFI) and in activities to involve the population in environmental aspects (VIENROSE).

The APP was not feasible, as some of the services, defined in the project, do not exist at the moment (carpooling, gaming). Therefore, alternatives have been proposed, including: bike-sharing with connection to existing app (via link); public transportation timetables with connection to the existing app “*Muoversi in Lombardia*” (Moving in Lombardy); graph with weekly percentage of noise reduction in the area affected by the project (cross-reference of data collected before and after asphaltting); measurement of distances travelled by bike to reward the most “virtuous”; management of the “Pedibus” service; air quality data from the control units (source ARPA).

The Technical Specifications required in the Life Monza App contained the following general requirements:

1. it can be implemented as a Progressive Web App or as a native App, providing equivalent results in terms of functionality and final visual appearance;
2. it must be compatible with Android and IOS systems released in the last 4 years and equipped with GPS functionality;
3. it must be guaranteed for the use at least until the end of the Life MONZA project (June 2020) - App maintenance.
4. A test phase with a limited number of participants will be organized. This phase will be used to validate the system before it goes online. The end-user must be instructed on the use of the App with appropriate guidelines that display the most common application scenarios both for the test phase and for the subsequent use.

The following actions should be made possible in the App:

- parents authenticate and register their children to use the “pedibus” service;
- the person in charge of the service authenticates himself/herself daily, generates a new “pedibus” event and confirm the presence or absence of each participating child;
- in the App will be available the map with the route of the pedibus;
- depending on the use, “green points” will be the assigned and viewable by the user; the App provider will have to interface with the Municipality of Monza, under the supervision of the UNIFI partner, for the verification of the functioning of the service, the data on the routes, the mechanism of the “green points” and for the descriptive texts to be inserted in the form.

The main characteristics of the service are:

- automatic tracking of position and speed of movement based on GPS functionality for which the authenticated user must provide, in addition to explicit consent to be monitored, the start and stop of the walk;
- “green points” will be the assigned, based on the frequency of use, and viewable by the user. The aim is the “measurement” of walking or cycling within the district with prizes or incentives.

The App foresees:

- an App tab with the links to the relevant sites of interest.  
The links to be reported in the App and the descriptive texts to be inserted in the form will be defined by the Municipality of Monza under the supervision of the UNIFI partner.
- The publication of acoustic data from the 10 low-cost sensors installed in the Libertà district. With regard to the publication of noise pollution data, there is a periodic calculation of an index which is recorded on a special server.
- A dedicated App tab in which the index data will be published with a brief explanation of the meaning. For the verification of the functioning of the service, for the data to be used and for the descriptive texts to be inserted in the form, the service provider must interface with the UNIFI partner under the supervision of the Municipality of Monza.

In case that, during the participatory process activated by the Municipality of Monza, a request is made by citizens for the implementation of additional services of the App, the developer will consider the possibility of adding proposed services. In order to verify the functioning of any additional service, to obtain the data to be used and the descriptive texts to be inserted, the service provider will have to interface with partners (UNIFI and the Municipality of Monza).

## 2. App realization

In August 2019, the Municipality of Monza assigned to Wonderlab srl (an innovative startup in Salerno) the realization of the app of the Life Monza project. It was the first time that the App underwent practical developments.

The company which implemented the app operates in all areas of technological innovation, with particular reference to the development of web and mobile software, video games and digital entertainment solutions, systems in augmented reality and virtual reality, artificial intelligence projects and/or big data processing, multimedia content creation, social and web TV campaigns, cloud management and process dematerialization platforms.

The developed software includes the possibility to acquire information on Life Monza activities, to use the Pedibus service for children in the Libertà district, to have access to the “green points” collection, that rewards healthy behaviour, and to use good practices concerning responsible and sustainable mobility.

The app, available for both Android and iOS, is an important tool to encourage the involvement of citizens in the activities of their municipality and in the acquisition of eco-friendly lifestyles.

The realization of this app has multiple purposes:

- is a collector of information and communications related to the project,
- is a support tool for project initiatives,
- is a system to raise awareness of sustainable mobility and improvement of air quality.

The realization of the App was based on the principles of software engineering, considering 5 main phases: requirements analysis, design, development and testing, distribution, testing and commissioning, go-live, maintenance, management and assistance.



All the activities have been carried out in close cooperation with the representatives of the Municipality of Monza in order to share choices and operational strategies and have been conducted in compliance with the directives and guidelines for the implementation of the information systems for Public Administrations.

The design was based on the arrangement of graphic prototypes (wireframe) that allowed to achieve the graphic model of the software and define the functionality, optimizing time and ensuring the achievement of objectives and expected quality standards.

Overall, the app can be represented as a set of four macro-areas of action:

1. Information section, which contains the documentation of the Life Monza project, with the possibility to display data related to general information, objectives, results and the acoustic monitoring of the Libertà district;
2. Pedibus section, which allows parents to book stops for their children and check that the route to school has not presented any problems;
3. Green Points Section, where you can start collecting points that reward sustainable mobility choices within the pilot district;
4. User area, which allows you to check/update your data and view the balance of the green points collected.

Since the services supported by the app include the participation of children ("Pedibus") and the monitoring of actions that, through geolocation lead to certain rewards ("Green Points"), particular attention has been paid to the respect for privacy and the protection of personal data.

The project aims to encourage healthy lifestyles, not to monitor people's behaviours.

For the authentication to the app, it was decided to use the tax code as the user's identifier, in order to ensure the uniqueness of each profile and immediate control over the age of the subject.

The entire computer system is then equipped with a web application that acts as a Control Panel for the City of Monza, by which you can check the proper functioning of the app, authorize users with relevant roles (eg. Pedibus volunteers), view reports and statistics on the use of the software.

As a whole, the app certainly represents a model that has been conceived on the Libertà district of Monza and designed to operate within the reference area. However, according to the project's objectives, the software is designed with a view to great scalability, therefore, it is sufficient to redefine the area of interest and the repository of access to monitoring data to expand the area of interest or to apply the logic of the project in a different location.







**Sub-action B2.3**  
**People involvement: use cases**  
**identification and App design to manage**  
**public participation**





**LIFE15 ENV/IT/000586**

**LIFE MONZA**  
**Methodologies fOr Noise low emission Zones introduction**  
**And management**

**Technical Report**

<b>Deliverable</b>	Report on BOTTOM-UP actions detail design
<b>Action/Sub-action</b>	B2.3 “People involvement: use cases identification and App design to manage public participation”
<b>Authors</b>	Monica Carfagni, Chiara Bartalucci, Francesco Borchì, Rocco Furferi, Lapo Governi, Yary Volpe
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## 1. Introduction and objectives

The aim of Sub-Action B2.3 is to design a release of a free understandable mobile App.

According to the project proposal, the App users are supposed to enjoy the “city games” and gain scores on each “green action” which have been thought to involve the grassroots in this green challenge. For each “game” all possible use cases, together with risks and threats, are supposed to be defined and managed in order to better exploit the possible social benefits. Through the App, actions as Car-pooling, use of Pedibus and use of bikes - and other possible actions come from the ideas’ context – could be performed. The idea is also to define a mechanism to verify the Carpooling adoption by citizens, based on a gps system. In fact, as soon as the travel begins, each passenger of the shared car could activate his gps position through his mobile phone and an ex-post check can be made to verify that passengers have actually travelled together. A checking mechanism could be developed also to encourage and certificate parents to walk kids to school (Pedibus) in cooperation with the school system. The choice of using the bike instead of a motor vehicle could be ensured by introducing one or more public "velo-stations" in which bikes movement can be tracked through a check-in/check-out-based mechanism.

A user-friendly interface would be designed by considering constraints & contexts, screen, input and mobility as outlines for design. In order to allow some kind of reasoning of the people movement, possibly the system would entail components of both hardware and software like for example the use of the current location or local movement of the phone. The back-end specifications and design and all the test are performed by the UNIFI staff. The goal of the cooperation with the software company is primarily to define the data routing, the security, authentication and authorization rules, the possibility of working off-line, and mainly the service orchestration. The expected outcome of the sub-action B2.3 is the release of a working app already tested with real data and validated on several possible users’ behaviours.

## 2. LIFE MONZA App specs

On 27th July 2018 UNIFI sent the App specifications to the Municipality of Monza. They have been structured as General and specific requirements.

### 2.1 General requirements

The App can be implemented as a Progressive Web App or as a native App providing equivalent results in terms of functionality and final aesthetics.

The App must be compatible with Android and IOS systems released in the last 4 years and equipped with GPS functionality.

The App requires an internet connection to work.

Maintenance of the App must be guaranteed for minimum use until the end of the Life MONZA project (June 2020).

In itinere, a test phase with a limited number of participants must be foreseen during the App implementation. This phase will be used to validate the system before going online and will be coordinated by the UNIFI partner with whom the App developer will have to interface during the activity.

The end-user will be instructed on the use of the App with adequate guidelines that visualize the most common application scenarios both for the testing phase and for the subsequent use.

### 2.2 Specific requirements

Below a list of the services that are going to be made available through the App are presented, together with their main features:

- ✓ Rodari pedibus" service which aims to manage the pedibus service activated by the Municipality at the Rodari school in the "Libertà" district and to award prizes to the most virtuous families. The following actions should be made possible in the App:
  - parents authenticate and register the children (one or more) to use the service;
  - the person in charge of the service daily authenticates himself/herself, generates a new "pedibus" event and certifies the presence or absence of each participating child;
  - a map with the route of the pedibus will be available in the App;
  - according to the use there will be the assignment of "green points" viewable by the user;
  - for the verification of the functioning of the service, the data on the routes, the mechanism of the "green points" and for the descriptive texts to be inserted in the form the App provider will have to interface with the Municipality of Monza under the supervision of the UNIFI partner.
  
- ✓ service "on foot or by bike in Libertà" which aims to "measure" the movements on foot or by bike within the "Libertà" district with periodic awards or incentives (e.g. monthly) for the most virtuous. The service must have the following characteristics:
  - automatic tracking of position and speed of movement based on GPS functionality for which the authenticated user must give not only explicit consent to be monitored, but also the start and stop of the walk;
  - based on the use there will be the assignment of "green points" viewable by the user;
  - for the verification of the functioning of the service, for the mechanism of the "green points" and for the descriptive texts to be inserted in the form, the App provider will have to interface with the Municipality of Monza and with the UNIFI partner.

- ✓ the "pedibus" and "walking or cycling in freedom" services must, when necessary and in a preferential way, rely on the data provided by the Customer and/or the "Open data" service of the Lombardy Region [<https://dati.lombardia.it/>].
- ✓ ancillary services - links to sites of: bus timetables, trains, services to Monza. In the App must be provided:
  - a tab dedicated to links to the relevant sites of interest. The links to be reported in the App and the descriptive texts to be inserted in the form will be defined by the Municipality of Monza with the supervision of UNIFI partner.
- ✓ publication of the acoustic data coming from the 10 low cost sensors installed in the "Libertà" district. Concerning the publication of the noise pollution data, a periodic calculation of an index will be recorded (on a special server). In the App it must be foreseen:
  - a tab on which the index data will be published with a brief explanation of the meaning. For the verification of the functioning of the service, for the data to be used and for the descriptive texts to be inserted in the form, the service provider must interface with the UNIFI partner under the supervision of the Municipality of Monza.
- ✓ possible further services proposed by citizens
  - If, through the participatory process activated by the Municipality of Monza, citizens ask for the implementation of additional services of the App, the developer of the App will evaluate the feasibility of any additional services proposed and, based on the difficulties of implementation of the required additional services, will define if they are residual changes, to be implemented in the terms of the initial assignment or if, given the difficulty of implementation, these additional services need an extension of the assignment. The service provider will have to interface with UNIFI partners and the Municipality of Monza to verify the functioning of any additional service, the data to be used and the descriptive texts to be inserted.

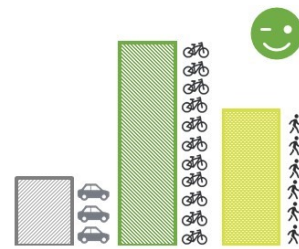
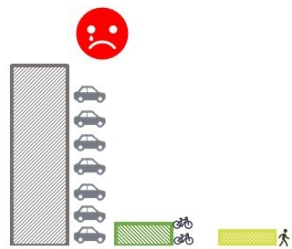
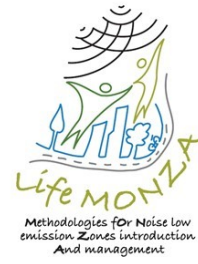
### **3. App presentation**

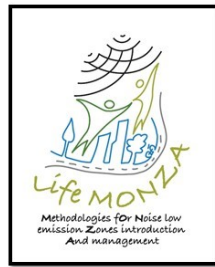
Contents of the App reported in Paragraph 2 were summarised in a graphic form in a presentation prepared at the beginning of 2017 which is reported below.





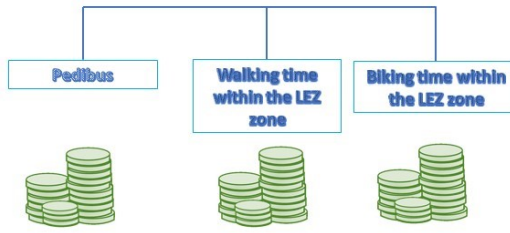
Call for green ideas





## City Games

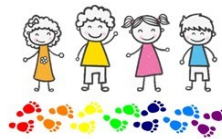
Play with your friends and accumulate green points!



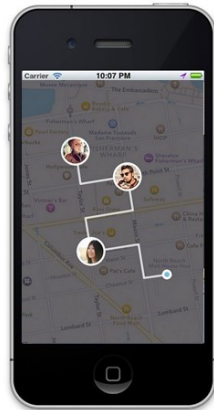
Green actions  Green points



## Pedibus



Ask your school to organize a pedibus to bring your kids to school to win tons of green points!



## Walking time within the LEZ zone



The app can track you in the LEZ area. You may gain green points just walking!



## Biking time within the LEZ zone



- ✓ Swap your car with a bike
- ✓ use the app to track you biking
- ✓ Win green points!



**What game are you  
looking for?  
Try to explain it  
... we will try  
to integrate it  
into the App!**



Green points



You can spend your green points for:

- Free bus tickets
- Free parking hours
- Museums free entrance
- ... and much more! Stay tuned!

