

# DELIVERABLE 14

“After Life Dissemination Plan”



**LIFE 09 ENV/IT/102**






## **NADIA**

*Noise Abatement  
Demonstrative and  
Innovative Actions  
and information to  
the public*

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# 1 The project

The project LIFE09 ENV IT 000102 NADIA concerned the noise mapping in urban and some suburban roads, preparation of action plans, implementation of measures of restoration (noise barriers, windows, asphalt low noise), verification of the effectiveness of interventions, educational meetings and awareness-raising in schools, roundtables and seminars for professionals. The work was conducted with the participation of stakeholders and accurate communication with the population, according to a statement of the European working groups.

The NADIA project partners are: Province of Genoa, Province of Savona, Municipality of Prato, City of Vicenza and CIRIAF (Interuniversity Center for Research on Physical Agents, at the Perugia University).

The Nadia project website is: [www.nadia-noise.it](http://www.nadia-noise.it).

## **1.1 Objectives of NADIA project**

The overall objectives are to contribute to the END implementation and:

- to demonstrate the technical and economic feasibility and effectiveness of best practices for reducing the noise caused by road traffic;
- to demonstrate the effectiveness of stakeholder involvement and proper communication with the public, to increase the awareness on traffic noise emissions and their effects on health and quality of life;
- to valorise the project activities and results in terms of education and sensitisation of pupils;
- to widely disseminate the results during and at the end of the project, at local, national and European level and to prepare the communication activities after the project conclusion.

## **1.2 Level of innovation of technology and methodology**

The innovative aspects of the project are mainly methodologic and consist in the development of the model for noise mapping, the cost - benefit analysis of the measures envisaged in the plans of action, the involvement of stakeholders in the definition of action plans and in the design of some remediation works, the education activities addressed to schools.

## **1.3 Environmental, social and economic results**

The project has allowed to significantly improve the noise climate in project areas, in many cases with additional beneficial effects: increased security (and absorbing asphalt and drainage), energy savings (windows high acoustic and thermal insulation), aesthetic improvement (windows, barriers with decorative elements).

The LIFE contribution allow the project partners to comply with laws adding value in terms of awareness raising and teaching activities, results transferring, improving technical and methodological approach to noise management.

After the project the awareness of involved people increased on noise associated risks and on wasting of life quality because of noise disturb, mainly during the night.

## **1.4 Demonstration value – trasferibility – possibilities for replication**

The project demonstrates the effectiveness of the involvement of the stakeholders and the communication to the public for increasing the awareness on traffic noise topic.

Moreover the project allowed to define a methodology for the realization of noise action plan through an innovative cost-benefit analysis.

This approach was also shared with 15 local bodies that participated in the working group sessions held in Vicenza and Genova and contributed to make the approach adptable in many contexts.

Even if some relevant problems occurred, solutions have been tested on real scale and made available to the public. They allowed to reduce the noise level in critical contexts.

Also solutions were discussed with other local bodies in charge for noise management, during the working group sessions, seminars and other meetings. Conclusions on their effectiveness and economic sustainability were shared as well as exceptions due to particular characteristic of roads (i.e. noise absorption asphalts used for steep and tortuous road stretches).

Few citizens participated in the communication events. Nevertheless an active participation of technicians and pupils in the project activities was observed. Future project could focus their dissemination activities on this part of population.

Project results are easily replicable even if, because of budget restrictions, it would be very difficult to make noise absorption interventions, mainly noise barriers.

Windows substitution is associated also to energy saving and asphalts have only an extra cost once you have to renovate roads.

### ***1.6 Relevance to environmental policy and legislation***

The project activities has allowed to formulate some recommendations to better harmonize the European and Italian legislation.

Such recommendations are synthetized in Deliverable n.13.

## 2 Communication strategy

### 2.1 Main target groups

The experience gained has allowed to identify the following main targets for future dissemination actions:

- ✓ school population (from primary to high school);
- ✓ technicians on noise operating in both, private and public sectors (companies, professionals; local authorities, control public bodies, Universities);
- ✓ policy makers.

### 2.2 Dissemination activities/products and their results during the project

Many dissemination products have been produced during the NADIA project. They are:

- The web site "<http://www.nadia-noise.eu>" (in Italian and in English);
- Project deliverables:
  - ✓ M1: "Data quality and quantity specifications with regard models" (in English only);
  - ✓ D1: "Survey Report" (in English only);
  - ✓ D2: "Noise propagation model optimized and validated" (in English only);
  - ✓ D3: "Noise maps" (in English only);
  - ✓ Q4: "Noise reduction Action Plans" (in English only);
  - ✓ D5: "Demonstrative actions for noise reduction" (in Italian only);
  - ✓ D6: "Lessons for pupils" (in Italian only);
  - ✓ D13: "Recommendations for policy makers" (in English only);
  - ✓ "Layman's Report" (in English only);
  - ✓ "Factsheet - How to do it" (in English only);
  - ✓ "dissemination kit" (a folder containing project deliverables, the Layman'Report, the fact-sheet and methodological additional three cases on noise reduction, noise mapping and action plan);
  - ✓ the e-book "Noise and surroundings" (in Italian only);
  - ✓ the "teaching kit" (a folder containing materials for activities with schools such as the e-book, games, easy information on noise addressed to primary schools).

Many dissemination and participatory activities were carried out:

- ✓ Organization and working sessions of group made of local authorities in charge for noise monitoring and reduction;
- ✓ conferences with national and international experts and representatives of other LIFE projects;
- ✓ technical seminars and round tables in all project areas;
- ✓ public meetings focused on noise reduction action plans in all project areas;
- ✓ education and teaching activities on environmental noise at primary and secondary schools in all project areas;
- ✓ visits of some project demonstration sites by schools classes;
- ✓ realization of Educational Workshops with school classes at the Festival of Science 2013 (Genoa);
- ✓ Participation in national and international conferences and writing articles.

### **2.3 Dissemination activities after the project**

All the partners are interested in exploiting obtained results according their role.

Italian Provinces are currently subject to a reform process that could determine the definitive suppression of their political dimension becoming structures part of regional and/or municipal organisations.

In any case, functions and personnel will be transferred to such organisations and NADIA project results will be adopted in this new context.

On the other side, municipalities are in charge for noise monitoring and reduction in urban areas as well as for citizens and children awareness raising.

Main actions conceived by the project partners local bodies are:

- continuously developing technical issues and personnel skills to improve their action towards noise sources (traffic, industries, construction sites and roadworks, etc.);
- production of articles, technical and informative, to be published in magazines and to be presented during specialized and public meetings;
- participation in events and networking activities together with representatives of projects HUSH ([www.hush-project.eu](http://www.hush-project.eu)), QUADMAP ([www.quadmap.eu](http://www.quadmap.eu)), HARMONICA ([www.harmonica-project.eu](http://www.harmonica-project.eu)), with which cooperation has already been developed during the project, and DYNAMAP that participated in the NADIA final event although it wasn't started yet;
- developing activities of the Teaching Laboratory at the facilities of MUVITA Foundation, owned by the Province of Genoa, which has, among its mission, the environmental education towards Liguria Region (Province of Savona included);
- empowering environmental information offices at Municipalities of Vicenza and Prato
- participation in future editions of the International Noise Awareness Day (INAD);
- promotion of educational events at schools and school visits at the sites of action of the project (involvement of at least 10 schools per year);
- organization of workshops and technical seminars (1 per year in each project area).

Dissemination tools are those produced during the NADIA project and in particular:

- the “dissemination kit” and
- the “teaching kit”.

These tools are available to all partners and to all local bodies and education agencies through the NADIA web site.

Because of budget restrictions, project partners will print materials only and when they are required according to the event type.

On the other side, attention has to be paid to update contents of dissemination tools.

With regard to the activities with schools, that has obtained very good results during the project, the partners will act according to the following guidelines:

- ✓ goals: to develop specific knowledge and skills on noise (physical principles, laws, mapping, planning, technical solutions) and methodological transversal competences (eg. approach to monitoring and measurement, thematic mapping, reporting, etc.), use of “media”.
- ✓ Methods: meetings with schools will be divided into stages, providing opportunities for active participation by young people. For example: open discussion, analysis of papers/projects, listening to sounds in the classroom and outside, acoustical measurements, elaboration of

acquired information); especially with the youngest students, at least a part of the meetings should be based on edutainment approach.

- ✓ Programs: programs will be structured according to the age of the young people involved:
  - nature of the noise
  - problems caused
  - how noise is regulated
  - solutions
- ✓ teaching tools. Several teaching tools are available to students such as handouts and presentations, games, network resources such as thematic videos (e.g. for safety in the workplace), pre-recorded sounds, supply of sound level meters to boys for their direct use with the guidance of experts, data-base of measures made in different situations, software programs to simulate the effects of interventions.



*Teaching and awareness raising activities on environmental noise at a secondary schools*



*Visits at a demonstration site: analysis of reduction projects*



*E-book cover "Noise and surroundings"*

## **2.3 Cost and benefits**

### **Noise reduction solutions**

Unfortunately the local bodies' annual budget doesn't allow relevant interventions to reduce noise.

In any case, thanks to the good results obtained by the City of Vicenza, it was stated that a part of the annual budget is dedicated to noise reduction interventions.

Available amounts are not so relevant but the decision taken is very relevant from the political and qualitative point of view.

Noise barriers are the most expensive solutions and they will be adopted only in special conditions where noise levels are too high to be reduced under the legal limits with other solutions.

This is the case of main roads with huge traffic and sensitive targets such as schools, hospital but also houses.

Noise absorption asphalts will be used in similar situations when the old asphalt is damaged and must be renewed. In this case only the extra-cost compared to traditional asphalt shall be considered.

On the other side a number of solutions are available for noise reduction but also for other environmental issues such as energy consumption and CO2 reduction.

Windows as those adopted during the NADIA project are an example and they are more and more adopted in Italy thanks to Government incentives.

The less expensive solution is to encourage citizens to take profit from such incentives and install energy efficient and noise absorption windows.

But the main solution to concentrate on is the dissemination of electric vehicles according to energy, climate change and urban quality policies.

National, Regional and Municipal policies should focus on this solution. One Euro invested on this would have relevant added value from many points of view except that of gasoline producers and distributors:

- improvement of air quality (CO, NOx, O3, fine dusts, etc.),
- CO2 emissions reduction,
- diseases reduction,
- noise reduction.

### **Awareness raising**

All NADIA partners are, directly or indirectly, in charge for environmental education also in cooperation with schools.

The NADIA project allowed the partners personnel to gain experience to give lectures in classes.

The noise reduction also goes through lifestyles respectful of the peace of other citizens: this is the general message that awareness raising activities should make available to young people.

Details concern "why" (damages, annoyance) and "how" (life styles, technical solutions).

Awareness raising activities are the less expensive mainly whether they are carried out by local authorities personnel.

In any case schools have a limited budget for external expertises such as those of education agencies owned by local bodies (i.e. MUVITA foundation of the Province of Genova).

As written above, each year 10 schools will be involved by the project partners.

10 schools, 30 classes (3 in each school) and quite 750 students (25 in each class) will be involved in total each year.

Expected costs of this action will consist of a few thousand Euros for school.