

QUADMAP
quiet urban areas

QUADMAP

19-20 February 2015

Project overview: objectives, actions, state of progress

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FIRENZE


DIPARTIMENTO
DI INGEGNERIA
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Rotterdam 19-20 February 2015

LIFE10ENV/IT/407 With the contribution of the LIFE financial instrument of the European Community



The European Directive 2002/49/EC on the Assessment and Management of Environmental Noise (**END**) was adopted to **define a common approach to avoid, prevent or reduce the harmful effects due to noise exposure.**

Member States are requested to produce:

- ✓ **noise maps** for the main sources of noise pollution (road traffic, railways, airplanes, factories)
- ✓ **strategic action plans** including, as main objects, hotspots and **QUIET URBAN AREAS (QUAs).**

The END defines “Quiet Area” as *an area, delimited by the competent authority, which is not exposed, for instance, to a value of L_{den} , or of another appropriate noise indicator, greater than a certain threshold (set by the Member State) from any noise source.*

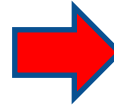
One of the main aims of the END is indeed to **preserve the environmental noise quality where it is good.**



END's lacks concerning Quiet Areas:

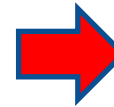


1) no indications are provided in order to allow an appropriate assessment and management of QUAs in urban environment.



The first important topic is the need of a **procedure** for recognizing and protecting areas that are **currently quiet**.

2) Areas (formally QUAs) in which citizens expect to find a quiet environment often do not meet the noise limits established by the national law.



The second topic is the need of understanding how to **identify and manage** those areas that are only **potentially quiet**, to ensure that they effectively pursue the role for which they were designed.



Consequence:

current practices about **selection**, **assessment** and **management** of **QUAs** (Quiet Urban Areas) in EU Countries, though regulated by the END, appear to be **extremely fragmented and inhomogeneous**.

In fact, each country during past years adopted a set of strategies strictly related to its specific context.

Aim of **QUADMAP** (**Q**Uiet **A**reas **D**efinition and **M**anagement in **A**ction **P**lans) project:

- ✓to proposing a solution to overcome the lack of harmonized methodologies for QUAs.
- ✓to provide a set of ***procedures for definition, selection, and analysis of QUAs***, in terms of both strategic and operative actions.



LIFE+10/ENVIT/407



The Project's coordinator is:

University of Flo



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Partners in this Project are:

Comune di Firenze (IT)



Vie En.Ro.Se. Ingegneria S.r.l.



Tecnalia (SP)



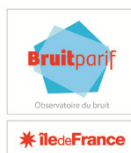
Ajuntamento de Bilbao (SP)



DCMR Environmental Protection Agency (NL)



Bruitparif (F)



The Project's supporter is:





About the Coordinating Beneficiary...

The **University of Florence** was established in 1321, and is one of the largest and most productive public research systems in Italy.

In particular, the **Department of Industrial Engineering** (DIEF) is composed of professors, researchers and technical staff who perform researches in the fields of:

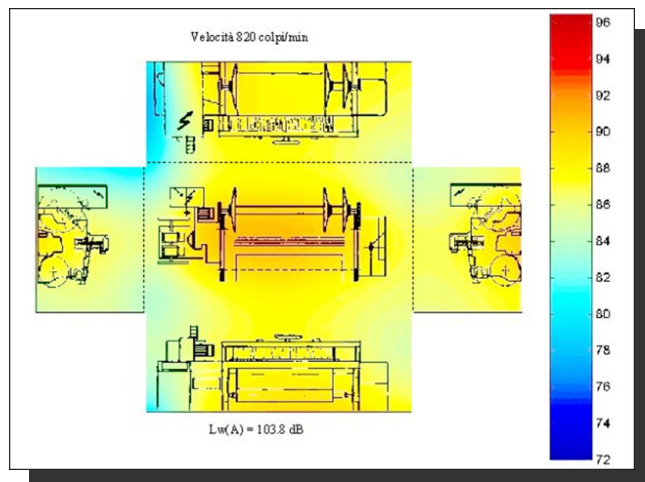
- ✓ energy systems and their environmental impact
- ✓ atmospheric pollution
- ✓ environmental and industrial acoustics
- ✓ Geographical Information System (GIS) for urban planning.

These activities are prevalently carried out in collaboration with public and private research bodies, industries, national and international public entities.

Funding mainly comes from: research projects financed by MIUR, European Community projects, R&D contracts and technical services



In particular, in the last 15 years the UNIFI-DIEF has acquired a wide experience in the field of acoustics: Industrial Noise



Noise
characterization and
acoustic optimization
on textile machines



Design of a tool for
the assessment of
noise emission of
piping systems



Design of low noise
emissions generators



In particular, in the last 15 years the UNIFI-DIEF has acquired a wide experience in the field of acoustics : Environmental Noise

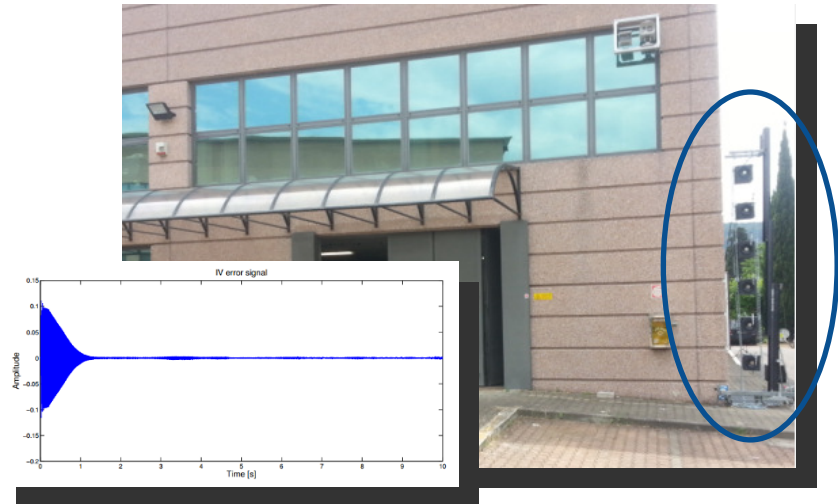
- ✓ road traffic noise
- ✓ noise monitoring
- ✓ noise mapping and action planning (LIFE+2008: HUSH project devoted to define a harmonized methodology for Action Planning)
- ✓ specific studies about Quiet Areas (LIFE+2010: QUADMAP project)



In particular, in the last 15 years the UNIFI-DIEF has acquired a wide experience in the field of acoustics : Active Noise Control

- ✓ Active Noise Barriers (ANB) for pure-tone low-frequency noise (Transformers and Reactors in Electrical Stations)

Future improvements: wide band noise sources such as road traffic noise and impulse noise.



Project lasting

The original Project's duration
was:

~~September 2011 - September 2014~~



On September 2014 the EC approved a six months extension of
the Project. As a consequence...

The current Project's duration
is:

September 2011-March 2015



Package A: Data Collection

Definition of strategies for data-collection, research and analysis about methods for selecting/analyzing/managing of QUAs.

- ✓ Setting of the Project website
- ✓ Drafting of the Project Monitoring handbook
- ✓ Analysis of the state of the art concerning QUAs
- ✓ Drafting of a report on the state of the art on QUAs managing
- ✓ Database filled up with surveys and measurements
- ✓ Drafting of a report on QUA surveys and data analysis

Action	2011		2012				2013				2014				2015		
Number of Action	September	IV	I	II	III	IV	I		II	III	IV	I	II	III	IV		I
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**Current state of Package A:
completed**



Package B: Methodology

Definition of a draft methodology to select/analyse/manage QUAs.

- ✓ Development of a **draft procedure** to select/analyse/manage QUAs to be tested in the pilot cases.

**Current state of Package B:
completed**

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Number of Action	September	IV	I	II	III	IV	I		II	III	IV	I	II	III	IV		I
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Package C: Demonstration

- ✓ Selection of case studies:
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- ✓ Bilbao 16 square and 11 Rotterdam 2 public parks per urban area
- ✓ Firenze, Bilbao and Rotterdam
- ✓ Rotterdam

- ✓ Application of the intervention method in Florijn, Rotterdam
- ✓ Collection and analysis of ante- and post-operative data and qualitative data
- ✓ Interventions realization
- ✓ Collection and analysis of post-operative quantitative and qualitative data



Package D: Results

Methodology optimization.

- ✓ Definition of the final optimized methodology, also according to the analysis of post-operam data (a draft of the report on the final optimized methodology has been prepared)
- ✓ Final version of toolkits, to be integrated in the methodology guidelines (to be presented during the final conference of the project in Rotterdam)

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Current state of Package D: completed



Package E: General Activities

Dissemination and Project Management/Monitoring/Networking

- ✓ Scientific publications on journals and conference proceedings about the novel methodology
- ✓ Presences at conferences and workshops
- ✓ Dissemination activities during conferences, workshops...
- ✓ Noticeboards, Leaflets and Layman's Report

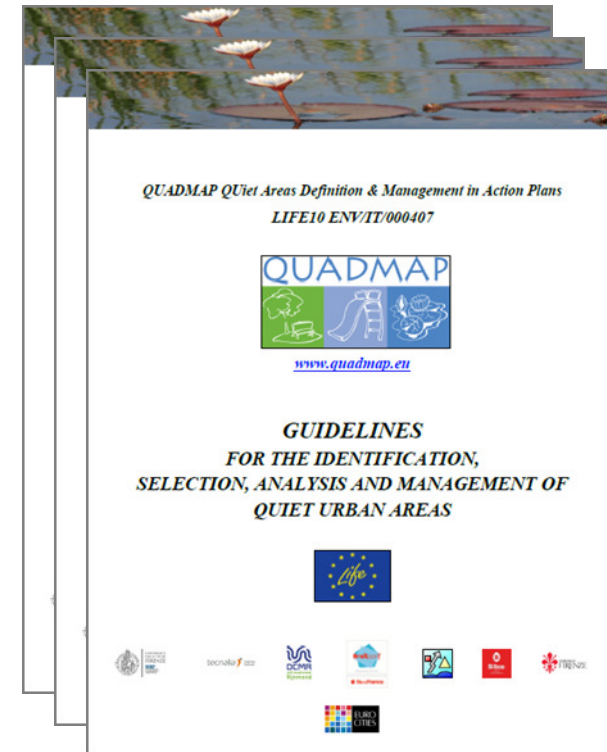
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**Current state of Package E:
in progress...**



Last results achieved by QUADMAP

- **Technical report about the optimized methodology**
- **Guidelines** addressed to noise experts
- **Leaflet** addressed to citizens



LIFE+2010 QUADMAP PROJECT

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THANK YOU FOR YOUR KIND ATTENTION!

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