



Environment Policy & Governance

LIFE PROJECTS 2013



LIFE Environment

Environment



Dynamic Acoustic Mapping - Development of low cost sensors networks for real time noise mapping

Project background

The regular updating of noise maps using a standardised approach is required by the Environmental Noise Directive (END). Collated information is processed using acoustic models to produce the updated maps. This procedure is time consuming and costly, and has a significant impact on the budget of those responsible for providing the maps. Furthermore, END requires that simplified and easy-to-read noise maps are made available to inform the public about noise levels and actions to be undertaken by local and central authorities to reduce noise impacts. To make the updating of noise maps easier and more cost effective, there is a need for integrated systems that incorporate real-time measurement and processing to assess the acoustic impact of noise sources.

Project objectives

The LIFE - DYNAMAP project aims to develop a dynamic noise mapping system that is able to detect and represent in real time the acoustic impact of road infrastructures. This will help implement the END (European Noise Directive 2002/49/EC), which requires the updating of noise maps every five years. The project will develop an integrated system for automated data acquisition and processing of road noise. The main objectives of the project are therefore to:

- Automate the noise mapping process using the information retrieved from a low-cost monitoring network;
- Develop low-cost sensors and communication devices to collect the information needed to update noise maps in real time;
- Implement and test the system in two sites with different characteristics: an agglomeration and a major road;
- Demonstrate that the automation process will lead to a significant reduction in the resources needed to update noise maps (time, costs and dedicated personnel);
- Improve and ease public information through different access levels of the system to provide user-friendly information; and
- Check the possibility of improving the system with additional information to dynamically report multiple environmental data.

Expected results

- Development of low-cost sensors to measure the noise levels generated by sources in the mapping areas;

LIFE13 ENV/IT/001254
LIFE - DYNAMAP



Beneficiary:

Type of beneficiary

National authority

Name of beneficiary

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Duration of project:

60 months (01/07/2014 – 30/06/2019)

Total budget in euro:

2,230,319.00

EC contribution in euro:

1,063,274.00

Themes: Air and Noise: Noise / Land-use and Planning:

Transport planning - Traffic monitoring - Urban design /
Risk management: Risk assessment and monitoring

- Development of a software tool for dynamic noise mapping, using real-time data management and processing;
- Implementation of two demonstrative systems: the first located inside the agglomeration of Milan and the second along a major road surrounding the city of Rome;
- The system tested for one year in order to assess its reliability, with any problems detected and solved, and its accuracy determined and uncertainty calculated in associated noise maps; and
- An analysis of the possibility of strengthening the system with applications for dynamically reporting integrated environmental data, such as air quality and meteorological conditions.