



### Noise and Research: an Updated EU Strategy Paper

Noise pollution is a priority on the list of citizens' concerns and noise reduction has increasingly become a focus for EU legislation and a priority for research initiatives. In this context, the EU noise expert group recently presented an updated Strategy Paper for future research to reduce environmental noise in Europe. The expert group concludes that research is a key element in reducing the effects of high sound levels. Research should cover aspects such as the assessment of noise exposure and perception, health impacts of exposure to noise, noise abatement including cost-benefit aspects, new technologies and system approaches for improved noise control at source and the further development of legislative standards.

It is well proven that exposure to high levels of noise is a stress factor that can cause various health disorders such as high blood pressure, heart disease, hearing impairment, insomnia, and other psycho-physiological effects. During the last decade, successive EU Directives have laid down specific noise emission limits for most road vehicles and for many types of outdoor equipment in order to control noise pollution. However, despite the increasingly stringent legislation on noise sources, and despite the progress made in noise control by the industry, there has been little improvement in the noise exposure levels endured by citizens across Europe.

In 2002, this observation led to the establishment of the Environmental Noise Directive as a cornerstone of noise policy. The EU target for noise research by the year 2020 is to "avoid harmful effects of noise exposure from all sources and preserve quiet areas." Intensive research is required to provide a solid base for efficient and effective noise control and to prepare the next directives. The CALM II Network (EU noise expert group) has recently prepared a strategy paper, which is intended as a contribution to the implementation of the current research programme<sup>1</sup>. The main conclusions of this Strategy Paper on noise are as follows:

- Research and technological development must cover all three technical fields of acoustics: noise source, noise propagation, and noise reception. Research must focus on real world situations, including environmental health. Strategic priorities therefore include the development of perception and emission related research and better understanding of exposure/response relationships. In this context, there is a need for further harmonisation of exposure assessment techniques.
- Considering noise legislation, a first step is to set reception noise limits in order to guarantee the virtual absence of long term adverse effects. In a second phase, scenario approaches need to be encouraged, which means that scenarios with different grades of noise have to be modelled and assessed in order to optimise cost and benefits through an economic valuation of noise impacts.
- Stakeholders supporting noise research will develop improved products leading to a strengthening of their competitiveness in the international market.
- The research requirements have to be focused on the main components of environmental noise which are the four noise categories of road traffic noise, railway noise, air traffic noise, and noise from outdoor equipment. As traffic volumes will significantly increase, increased noise due to increased traffic volume needs to be taken into account when setting targets for future noise research.

Noise is perceived as one of the most significant environmental pressures on citizens. Europe continues to need major efforts in research if its citizens are to be freed from the burden of unacceptably high levels of noise pollution. The outcome of future research applied to all thematic areas of environmental noise will substantially support sustainable development towards a quieter Europe.

<sup>1</sup> Seventh Framework Programme of the European Community for Research, Technological Development and Demonstration Activities (2007 to 2013). Decision No 1982/2006/EC of 18 Dec. 2006 (OJ L 412, 30.12.2006, p. 1). See also: [http://ec.europa.eu/research/fp7/home\\_en.html](http://ec.europa.eu/research/fp7/home_en.html)

**For more information:** [http://www.calm-network.com/SP\\_2020\\_update07.pdf](http://www.calm-network.com/SP_2020_update07.pdf) (p.41, 2007)

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