

**STATEMENT OF THE EARPA TASK FORCE "NOISE, VIBRATION & HARSHNESS" (NVH)  
ON THE**

**IMPORTANCE OF RESEARCH IN  
NOISE AND VIBRATION REDUCTION OF LOW-CARBON VEHICLES**

**24 November 2010**

In view of the forthcoming discussions on the FP7 Work Programmes 2012-13 for Transport, the EARPA Task Force NVH sees the need to emphasise again the importance of continuous research in road transport noise, because

- noise emission of electrified vehicles is low only in low speed ranges (and considered too low in view of vulnerable road user safety). Even in the upper range of urban vehicle speeds, the noise advantage of electrified vehicles disappears because of rolling and aerodynamic noise;
- within the next decades the share of electric vehicles in urban transport is not expected to be sufficient for a significant reduction of road transport noise, motivating increased efforts in reducing noise emissions for other types of vehicles such as hybrid and internal combustion powered vehicles, with the need of deeper integration of the NVH design in the vehicle design process by means of advanced concept modelling and simulation techniques;
- road traffic is still a dominant source of noise pollution, especially in urban and suburban areas;
- quiet products and vehicles with tailored NVH behaviour will strengthen the competitiveness of the European automotive industry.

Therefore, the EARPA Task Force NVH recommends the following items as **noise and vibration research topics of highest priority**<sup>1</sup>:

- **Identification and control of the specific NVH behaviour of electrified vehicles** with the development of **new noise and vibration reduction technologies**, considering light-weight design, smart systems and novel acoustic materials
- **Advancing and extending simulation tools** and models for **improved concept modelling** and for **higher prediction accuracy of noise and vibration** generated by conventional, hybrid and fully electrified road transport, focussing on the topics of uncertainty & variability, sound quality, damping and mid-wavelength phenomena.
- **Innovative solutions in reducing tyre-road noise** of electrified vehicles, heavy duty vehicles (long-distance transport) and urban transport vehicles, considering efficiency and safety aspects.

*The EARPA Noise Vibration & Harshness Task Force*



**CONTACT:**

<b>NVH TF Chairman</b> Alfred Rust, AVL List GmbH Tel: +43 (0) 316 787 1076 <a href="mailto:alfred.rust@avl.com">alfred.rust@avl.com</a>	<b>NVH TF Secretary</b> Manfred Haider, AIT - Arsenal Research Tel: +43 (0) 50 550 6256 <a href="mailto:manfred.haider@arsenal.ac.at">manfred.haider@arsenal.ac.at</a>
More information on EARPA at: <a href="http://www.earpa.org">www.earpa.org</a>	

<sup>1</sup> For more details, see the Position Paper of EARPA Task Force NVH of 24 Sep. 2009 on [www.earpa.org](http://www.earpa.org).