

A.2 PROJECT SUMMARY

The CITYHUSH project will support city administrations in the production and implementation of noise action plans according to the directive EC 2002/49.

The identified hot spots and noise action plans made with the existing technology suffer from major shortcomings:

1. poor correlation between hot spots with annoyance and complaints;
2. most measures lead to increased emissions;
3. only indoor noise comfort is addressed.

Step change solutions are proposed to reduce noise in the city environment. The project deals with developing suitable problem identification and evaluation tools and with designing and developing solutions for hot spots, which show high correlation with annoyance and complaints.

Following innovative solutions and tools will be developed:

1. Concept of Q-zones (zones in inner city where only quiet low emission vehicles are tolerated).
2. Concept of parks embedded in Q-zones.
3. Improved indoor noise score rating models by integrating low frequency noise and the occurrence of high noise single events.
4. Noise score rating models for the outdoors.
5. Objective and psychoacoustic evaluation tool for low noise low emission vehicles.
6. Mathematical synthesis tool for noise from low noise low emission vehicles.
7. General performance noise specifications for low noise low emission vehicles.
8. Novel concepts for low noise roads based upon dense elastic road surfaces.
9. Novel concepts for low noise roads based upon grinding of asphalt top layers.
10. Novel concepts for tyres for low noise vehicles, including heavy vehicles.
11. Criteria for use of low noise motorcycles.
12. Active and passive noise attenuation measures within the tyre hood.
13. Solutions for high low frequency absorption at facades of buildings.
14. Solutions for high low frequency isolation in the propagation pad.

All the above solutions and tools will be designed, prototyped and validated. They will result in obtaining the anticipated noise impacts.