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**Environmental management of a large construction site in a  
densely populated urban area: an innovative approach to noise  
and vibration mitigation**

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An innovative approach to noise and vibration mitigation has been applied to the construction of a new underground railway. The aim is to overcome the difficulties in respecting noise level limits in densely populated areas, as specified by current legislation, even with state-of-the-art technology (e.g. low-emission machinery, noise barriers, etc.). The proposed approach aims at integrating the construction activity in the urban soundscape, placing maximum emphasis on construction organisation measures (e.g. construction activity scheduling and execution, training and information of contractor's personnel, etc.) and on communication and involvement of the exposed population. In this respect, two key figures have been identified: the first is an environmental engineer permanently assisting the construction manager in all the environmental impact issues; the second consists of a sample of population for which the subjective reaction to noise is monitored and fed back to the construction manager. Results are presented and discussed for one of the main construction sites in central Turin.