

What will be the Influence of E-Mobility on Soundscape?

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The increasing electrification of the powertrain after 125 years of continuous development of the internal combustion engine will not only lead to a sound pressure level reduction of vehicle exterior noises but to a complete change of sound quality. With this expected development road traffic noise affected persons hope for quiet cities and a better quality of life. The creation and successful preservation of quiet zones in cities and to avoid harmful effects of noise exposure are special focuses in European noise policy. However, different surveys have shown the increased risk of accidents for pedestrians and cyclists with respect to collisions with quiet vehicles, which caused a lively discussion about acoustical warning systems for the prevention of crashes. But it is obvious, that major conflicts between quietness and safety arise. Consequently, to address this issue, on the one hand sustainable concepts must be developed for the successful avoidance of accidents and on the other hand the general traffic noise must be minimized. The sound of electric vehicles will influence in a significant way our soundscape at places and cities in the future. This is a special challenge for psychoacoustics to provide helpful contribution besides the A-weighted sound pressure level.

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