

New Research Reveals How Electric Car Sounds Are Changing the Driving Experience

Electric vehicles (EVs) are rising fast. New sounds from EVs, studied by Aalborg University, can feel alien and subtly affect the driving experience.

AALBORG, DENMARK, October 27, 2025 /EINPresswire.com/ -- The familiar roar of combustion engines, the metallic click of gear shifts, and the rumble of exhausts are gradually disappearing from our streets. In their place, city soundscapes are increasingly filled with futuristic whooshes, musical tones, and deep hums designed to mimic traditional engines.

A new study published in [Continuum: Journal of Media & Cultural Studies](#) explores how these electric vehicle sounds shape our perception of them.

[Professor Nicolai Jørgensgaard Graakjær](#) from Aalborg University, who researches sound branding in the automotive industry, has analyzed the meanings and functions of EV sounds through theories from sound studies and semiotics.

++Three Types of Sound++

Graakjær identifies three main categories of EV sounds:

- Combustification – artificial sounds that imitate the familiar growl of combustion engines.
- Whooshification – futuristic, space-like sounds that emphasize the car's advanced technology.
- Musicalization – tones and harmonies that give the vehicle a musical or emotional character.

Behind every whoosh or hum stand sound designers, composers, and branding specialists. For example, BMW has hired Oscar-winning composer Hans Zimmer to create custom sounds for its electric models.

++More Than Noise and Safety++

It's a legal requirement that electric cars emit sound when reversing or driving below 20 km/h (12 mph) to ensure that pedestrians and cyclists can hear them.

But the sound of a car does much more than signal safety — it also shapes our perception of the vehicle and its brand identity.

"The sound design of cars is incredibly detailed. In traditional vehicles, a quiet cabin and low engine noise were considered signs of quality and advanced engineering. In electric cars, the

absence of sound means something entirely different,” explains Graakjær.

“Without familiar sound feedback, it can be harder for the vehicle to ‘communicate’ with the driver. This weakens both the car’s sound identity and the expression of the brand’s personality — and in some cases, it can even feel confusing or uncomfortable.”

++The Green Transition Is Changing Our Sound Environment++

According to Graakjær, the new EV sounds — whether musical or mechanical — also have a cultural and psychological impact. Some listeners perceive them as artificial or even alienating, which raises important questions from a sustainability perspective.

“The case of electric vehicle sounds shows more broadly that the green transition creates new soundscapes that we need to understand — not only in terms of safety, information, and health, but also in terms of the meanings of sounds themselves,” says Graakjær.

“That understanding can help support sustainability and the wider green transition. There’s still a need for more research into how these new sounds affect us.”

Did You Know?

- Hans Zimmer has composed the soundscapes for BMW’s electric cars.
- Tesla’s Boombox Mode lets drivers play their own custom sounds.
- Renault drew inspiration from sci-fi classics like Blade Runner and The Jetsons.
- Some models use the Shepard tone, an auditory illusion of endless acceleration.
- Musicians such as Leslie Mándoki (VW) and Richard Devine (Jaguar) have also designed sounds for EVs.

About the Researcher

Nicolai Jørgensgaard Graakjær is a Professor of Music and Sound in Marketing Communication at the Department of Communication and Psychology, Aalborg University, Denmark.

His research explores how sound influences the way we think, feel, and behave — from stadium crowd noise to the sound design of food, sports, and cars.

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