The Motorcycle Industry In Europe

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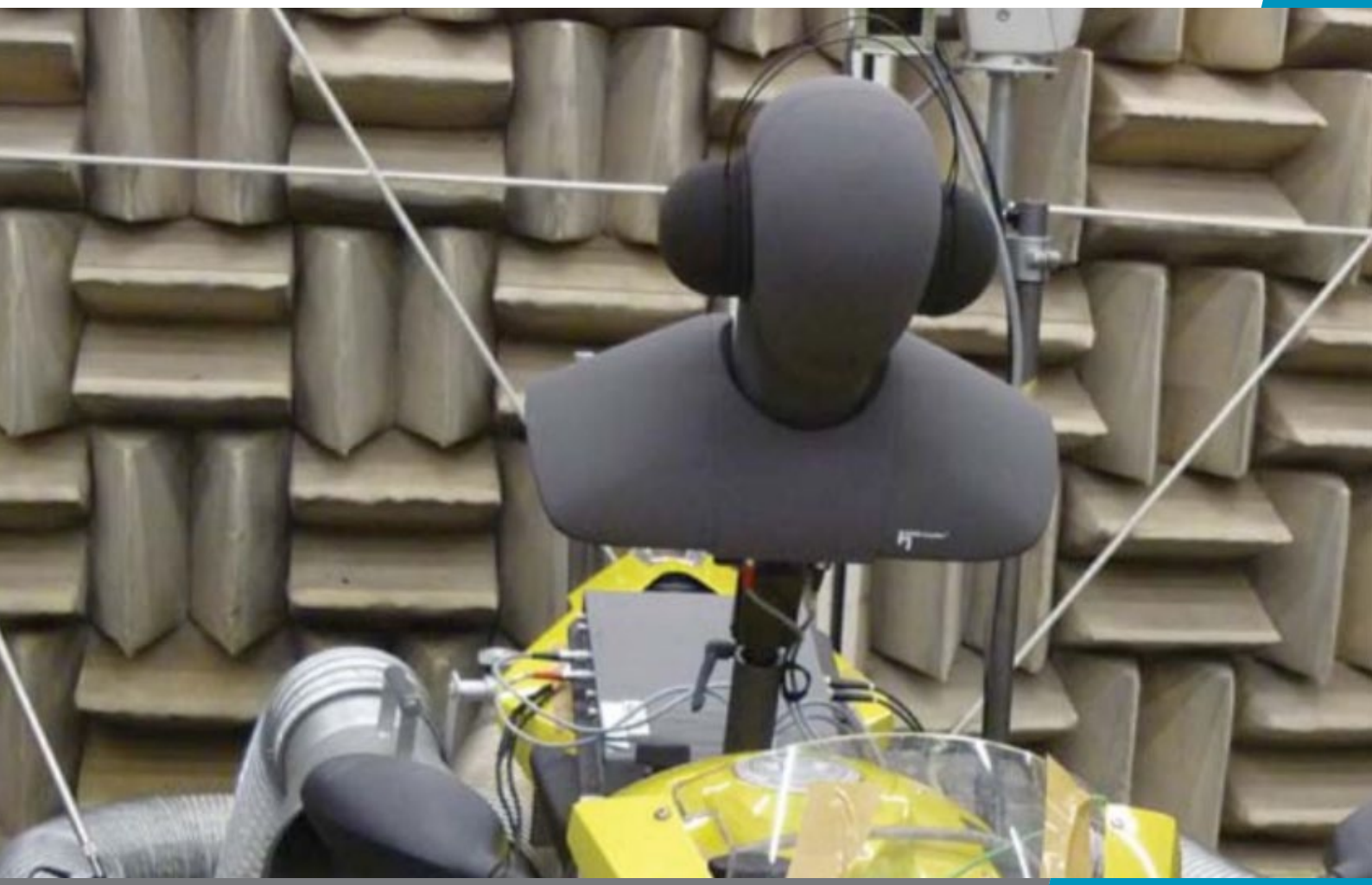
Environment



New sound limits of L-category vehicles at Euro 5 step

ACEM welcomes conclusions of the EC Cost Benefit Analysis scrutiny study performed by independent researchers

Whilst modern transport systems largely contribute to the high levels of economic and social welfare in our societies, they also generate downsides in terms of traffic congestion, traffic casualties, GHG emissions, air pollution and noise. The World Health Organization (WHO) has classified traffic noise, including road, rail and air traffic, as the second most important cause of ill health in Western Europe, second only to air pollution caused by very fine particulate matter.

According to the European Environment Agency about 100 million people are affected by harmful levels of noise, mostly in heavily populated areas. As part of the ambition of improving the sustainability of transport, Europe is increasingly focusing on reducing transport externalities such as noise. The balance between economic growth and noise levels is therefore a Europe-wide challenge that must be addressed through effective and well-targeted policies, including at local level.

New sound limits of L-category vehicles at Euro 5 step

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Scrutinising the 2017 "Euro 5 sound level limits of L-category vehicles" EC study

In 2016/2017, in the context of the revision of the EU type approval framework for L-category vehicles, the European Commission mandated a consortium of experts (Emisia, HSDAC, TNO, and Ricardo) to carry out a study[1] investigating the potential for new sound limits for L-category vehicles at Euro 5 step, including a justified proposal with a Cost-Benefit Analysis of new sound limits options.

Considering the content of the report, the low number of vehicles tested and most importantly the relative lack of robustness of some of the conclusions[2], ACEM decided to task independent and recognised experts in both CBA and sound emissions to scrutinise the Cost-Benefit Analysis of the 2017 study.

The review performed in 2021 has been compiled in a scientific and objective manner, led by the **Impact Assessment Institute (IAI)**, a Brussels-based foundation that impartially scrutinises the evidence for policy-making as a contribution to better regulation in the EU. The technical elements of the work have been conducted by **Acustica**, a specialist independent acoustics engineering consultancy firm which focuses on environmental noise management with over 30 years' experience in all aspects of environmental noise including modelling, assessment, policy, control and impact assessment.

In order to best support the work of the IAI and Acustica, ACEM also mandated Graz University of Technology (TU Graz) to carry out an experimental study on the actual status of noise emitted from 8 powered-two wheelers (NSR - Noise Source Ranking study).

This study assessed the major noise sources according to their contribution to the overall level of pass-by noise for these vehicles (i.e. intake noise, engine noise, exhaust noise and overall noise) and was carried out by conducting measurements according to the standardized pass-by noise measurement procedure as regulated by UNECE-R 41.04.

Key learnings from the scrutiny CBA study

The following are quotes from the scrutiny CBA study performed by the Impact Assessment Institute and Acustica, with reference to the work of TU Graz in the Noise Source Ranking study.

- Due to the many inconsistencies in the figures applied in the 2017 EC study CBA and the absence of sources or derivation of many of the input data and results, the results for benefits and costs presented in the CBA are subject to a high level of uncertainty.

- By reviewing the assumptions, data and calculations, we generated alternative benefits, costs and therefore benefit / cost (B/C) ratios for a 2 dB reduction in the noise limits of L-category vehicles and 25% illegal exhausts.

1 "Euro 5 sound level limits of L-category vehicles" - tender No: 524/PP/GRO/IMA/16/1131/9316; contract No: SI2.736346

2 Including the recognition by the authors that "higher uncertainty in model parameter makes it difficult to reach robust conclusions" for some scenarios.

- Our results rely on the veracity of the following assumptions and simplifications, detailed in the text of this report:
  - The impact of fractional dB changes in sound pressure levels can be interpolated between the whole number dB increments in the dose-response relationships
  - The UK dose-response relationship is currently the most robust available
  - The reconstructed flow rates generated from various sources are representative
  - The compliance costs provided by the OEMs with the most representative profile can be used to generalise costs for the whole analysis
- Overall, our reassessment of the benefits and costs leads to a B/C ratio of 0.82 based on the above assumptions, compared to 2.18 in the CBA. Due to the absence of sufficient relevant data in the appropriate form and level of detail, in particular on flow rates and compliance costs, this result is subject to high uncertainty. It is a best estimate that serves as an orientation for assessment of the impacts, subject to the clearly stated assumptions. The B/C ratio is sensitive to those assumptions. Taking into account all the potential scenarios and delta analysis detailed in the benefit and cost chapters 3 and 5, a range of B/C ratios an order of magnitude higher or lower than the primary estimate above could result. This result emphasises the high level of uncertainty inherent in the benefit/cost calculations.
- The Noise Source Ranking (NSR) testing results confirm the challenging technical interventions required to meet a 2 dB limit reduction and qualitatively support the substantial R&D and manufacturing costs underlying the cost estimates. Robust and accurate cost estimates are however difficult to achieve because of the many systems requiring intervention and are different for different L-category vehicle types.
- Cost data are insufficient to generate equivalent benefit/cost ratios for a 5 dB limit reduction. NSR results indicate that a 5 dB limit reduction would likely be infeasible for smaller motorcycles and very challenging or potentially infeasible for larger motorcycles.

ACEM takes

ACEM welcomes the conclusions of this independent scrutiny study as it demonstrates that a 2dB limit reduction would be technically and economically very challenging for manufacturers.

ACEM also trusts that this thorough work will once and for all put aside any ambition to reduce limits by 5dB, a scenario that is simply unrealistic.

ACEM looks forward to the conclusion of the work currently underway by Applus IDIADA and ACASA for the European Commission, to support the European Commission on the Impact Assessment of its future proposal for new sound level limits.

ACEM calls on all stakeholders, the Member States and the European Commission to review the IAI/

Acustica and TU Graz reports, and on the European Commission, Applus IDIADA and ACASA, to duly consider their content and findings in order to avoid any shortcomings in the current policy making preparatory phases that would lead to ill-advised policy recommendations.

ACEM position on motorcycling noise

Traffic noise is one of the four challenges identified and addressed in the ACEM "Vision 2030+ The motorcycle industry's vision towards sustainable mobility in Europe".

ACEM is accepting its share of the responsibility and continues its proactive role in enhancing the effectiveness of noise emission regulations. ACEM takes this opportunity to recall the imperative need for a multi-stakeholder approach and commits to working with all stakeholders involved to prevent excessive motorcycle noise, as follows:

- Working in synergy with all actors in the motorcycle sector, and in particular motorcycle users.
- Associations, to reach riders and raise their awareness on social responsibilities. Individual riders should choose to be part of the solution, not part of the problem.
- Increasing collaboration with policy makers and authorities, at European and national levels, to guide on appropriate technical requirements and increase oversight of the after-market by third parties.
- Supporting local and regional administrators, through participation in roundtables, to properly address specific noise issues in urban environments and at hot spots (targeting riding behaviour, building awareness, contributing to the development of meaningful local policy measures…)

About ACEM

The European Association of Motorcycle Manufacturers (ACEM) represents manufacturers of mopeds, motorcycles, three-wheelers and quadricycles (L-category vehicles) in Europe.

ACEM members include 18 manufacturing companies: BMW Motorrad, Bombardier Recreational Products (BRP), Ducati Motor holding, Harley-Davidson, Honda, Kawasaki, KTM, Kymco, MV Agusta, Peugeot Scooters, Piaggio, Polaris Industries, Qooder, Royal Enfield, Suzuki, Triumph Motorcycles, Yamaha and Zero Motorcycles.

ACEM also represents 20 motorcycle industry associations in 17 different European countries. About 300,000 jobs depend on the L-category industry in Europe. There are more than 39 million motorcycles and scooters on Europe's roads (2019 estimate).

To find out more about ACEM please visit www.acem.eu