

Keeping vehicle exhaust noise in check



Italian company, MMB has been providing IT solutions, management systems, software, and hardware for car repair and vehicle testing activities since 1999. Initially established as a support centre for service centres, MMB has since become increasingly specialised in IT and has developed innovative products with the help of their customers.



CHALLENGE

To replace the obsolete sound level meters installed in Italian garages with a government-approved alternative. The sound level meters are used for stationary exhaust noise measurements and acoustic alarms at vehicle inspection garages/stations as well as for on-the-spot vehicle inspections by police and transport authorities.

SOLUTION

B&K 2245 sound level meters with integrated MMB software.

RESULT

A sound level meter solution that is reliable and homologated by the Italian Ministry of Transportation, making it a trusted and compliant option for authorised garages throughout Italy.

NOISE POLLUTION – FROM A MOTORWAY'S HUM TO EXHAUST NOISE

Many of us have had our sleep disrupted due to the noise generated by traffic on major roads. Across the globe, road traffic stands out as a pervasive source of noise pollution, causing significant annoyance and interference. The loud exhaust noise from modified vehicles consistently ranks among the most aggravating sounds and is a primary cause of citizen complaints.

In Europe, efforts to mitigate traffic noise hold a high priority. The Directive on Motor Vehicles 70/157/EEC sets standards for acceptable sound levels and exhaust systems in motor vehicles. Unauthorized modifications leading to noise levels exceeding these standards may result in motorcycles or cars being taken out of circulation. This directive, alongside its amendments, outlines a procedure for measuring vehicle noise to facilitate inspections. Additionally, ISO 5130:2019 outlines a test procedure, environmental conditions, and instrumentation for measuring exterior sound pressure levels from stationary road vehicles, enabling continuous assessment across different engine speeds. To ensure compliance, periodic inspections play a crucial role.

VEHICLE INSPECTION

In Italy, regular inspections for cars, motorcycles, and mopeds are compulsory, with penalties for non-compliance including fines and suspension of vehicle registration certificates. Sound level meters are commonly used during these inspections to assess exhaust noise levels and acoustic alarms, ensuring standard compliance and reducing the risk of vehicle withdrawal.

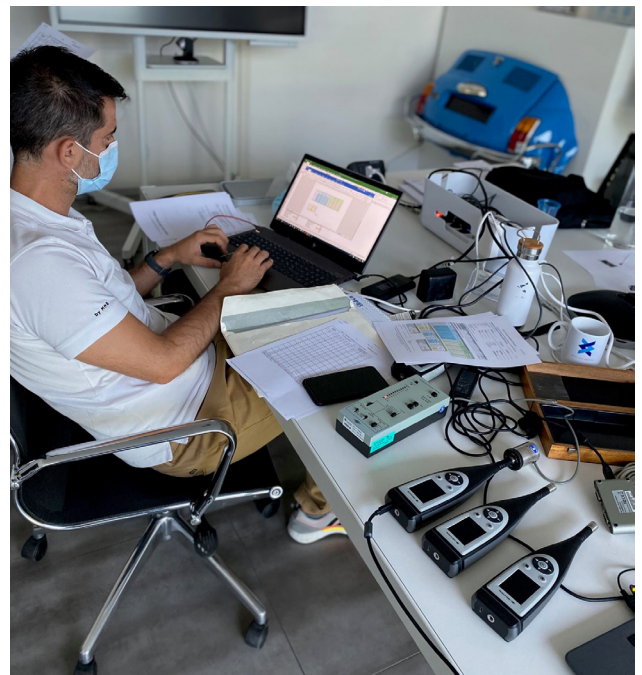
MMB recognise the importance of technological advancement to maintain efficiency and ensure accurate measurements. Eugenio Assirelli, MMB's Chief of Operations, spearheads development and customer service. He explains the need to upgrade devices and embrace the latest advancements. "We develop software for workshops, tyre shops, service centres, network and spare part dealers. We support them in facing everyday challenges through software solutions that are user friendly and developed based on industry needs. To find the best solutions for our customers, we need to understand their requirements. We are very conscious that our work never ends, and that our software can always be improved, while keeping in mind that it must also respect limits imposed by the MCTCNET2 protocol, regulated by Italian legislation."

Having relied on HBK sound level meters for many years, HBK's PTB-certified and calibrated Class 1 sound level meter B&K 2245 seemed to be the perfect new companion for both workshop and on-the-road use. With a range of new features enhancing user experience, as well as a rugged body that withstands dust and water (IP55), this device is not only well-suited for bustling workshop environments but also excels at promptly and accurately evaluating a vehicle's stationary noise level.

With the support of test bench and network integration partners MMB, HBK successfully managed to navigate the network integration and homologation process for B&K 2245. Eugenio says, "We chose to cooperate with HBK because they are a market leader, well-known internationally and nationally. The B&K 2245 sound level meter is not only reliable and at the cutting edge of technology but also approved by the Italian Ministry of Transportation."

FUTURE COMPATIBILITY

To ensure ongoing compatibility, the B&K 2245 has been engineered to seamlessly adopt emerging software standards. For example, it is fully equipped to perform all necessary measurements for an Acoustic Vehicle Alerting System (AVAS) test and can accommodate future test requirements through simple software updates. This forward-thinking approach ensures that the instrument remains adaptable and relevant in an ever-evolving regulatory landscape.



Alessandro Rusticali from MMB during the 2245 homologation session