



Ensuring Sustainable Urban Mobility: The key role of Powered Two-Wheelers (PTWs)

A large majority of European citizens live in an urban environment. Over 60% of Europeans live in an urban area of over 10,000 inhabitants, sharing the same space and mobility infrastructure.

Urban traffic accounts for 40% of road transport CO₂ emissions and up to 70% of other pollutants from transport. Noise pollution is also a serious environmental health problem in urban areas. According to the European Environment Agency around 100 million people are affected by harmful levels of noise, mostly in heavily populated areas. Furthermore, vulnerable road users constitute 68% of road fatalities in urban areas. This category includes pedestrians, cyclists, as well as motorcyclists.

Urban areas are also the “engine” of economic growth and employment, and the foremost producers of knowledge and innovation. Approximately 85% of the EU’s GDP is generated in European cities. In short, towns and cities are the hubs and drivers of economic activity and welfare. Urban transport systems are vital to the economic functioning of cities through their provision of accessibility for goods and commuters. Similarly, they are vital to the welfare of the population by providing accessibility for all social activities.

European cities increasingly face problems caused by transport and traffic. The question on how to enhance mobility and simultaneously reduce congestion, accidents and pollution is a common challenge for all major cities in Europe. Besides this direct impact, urban transport also affects social development and social inclusion. The need for sustainable (in three dimensions: economic, social

Ensuring Sustainable Urban Mobility: The key role of Powered Two-Wheelers (PTWs)

and environmental) mobility has been gaining increasing attention and is at the heart of the powered two-wheeler industry's constant efforts to deliver products capable of mitigating the impact of traffic in cities while promoting welfare in all aspects of people's daily lives.

Today, ACEM manufacturers continue to work on exciting, sustainable individual mobility, leisure and personal transport solutions for now and for the future; ensuring safe, clean, smart, fun and efficient mobility for all. Taking note of the ambitions of the European Green Deal and looking forward to the revision of the Urban Mobility Package, ACEM members are committed to working with cities to increase access and availability to (electric) Powered Two-Wheelers, in order to increase mobility and accessibility for citizens.



PTWs: Efficient day to day mobility.

An industry ready to deliver on sustainable urban mobility

Mitigating climate change

In order to achieve the EU's ambition of net zero carbon emissions by 2050, ACEM members are committed to delivering L-category vehicles that contribute to the decarbonisation of transport, in a sustainable timeframe, which supports jobs, growth and the environment. PTWs represent less than 2% of the vehicle fleet on EU roads: PTWs are a smaller, lighter and more efficient mobility solution for personal transport and light goods delivery, which should be encouraged for the part they can play - today and in the future - in a multimodal transport system.

Ensuring Sustainable Urban Mobility: The key role of Powered Two-Wheelers (PTWs)

Besides these inherent beneficial qualities of the products, ACEM also recognises the environmental imperatives that requires us to play our part in decarbonisation. While CO₂ emissions from traditional Internal Combustion Engine (ICE) propelled PTWs continue to be reduced, due to new technology and design, the Industry will continue to place more and more electric vehicles on the market every year.

Reducing air and water pollution

Air quality is just as important as decarbonisation. PTWs can assist in immediate action on air pollution by reducing congestion in urban centres. PTWs have reduced air pollutants dramatically, in accordance with European EURO Stages. Since 1999, in the course of the development of the “Euro steps”, the reduction process between Euro 0 and Euro 3 achieved a considerable 94% reduction in carbon monoxide and hydrocarbon emissions, and a 50% reduction of nitrogen emissions. Moreover, this tremendous reduction in the limit values has been coupled with more rigorous test cycles. Another major step was reached in 2016 with Euro 4 (25% reduction over Euro 3) and since 1 January 2020, the Industry has been Euro 5 compliant (a further 25% reduction) with pollutant emission limit levels equivalent to Euro 6 for cars. Combined with the market uptake of electric PTWs, Euro 5 emissions of traditional ICE propelled vehicles will have a positive impact on air and water pollution, especially in dense urban areas.

Ensuring road safety

The PTW industry is committed to road safety and has a long history of proactive engagement on safety improvement. Continuous improvement in safety features, including advanced motorcycle design, new intelligent features and new braking, lighting and suspension systems have been instrumental to increase motorcycling safety, for all usages including inner-city. Currently, ACEM members are working to further improve road safety by deploying Intelligent Transport Systems (ITS) on powered two-wheelers in Europe and taking a forward-looking stance on research and development to deliver on vehicle-to-vehicle and vehicle-to-infrastructure connectivity. Different road safety and training campaigns, often led by the motorcycle industry, have also made significant safety contributions. As vulnerable road users, it is hoped that the changes cities are making, in a post-COVID19 world, will have a positive impact on safety and the way vehicles share the road. The industry is keen to work together with urban planners to create safe cities for the future.

Providing an efficient solution to congestion

PTW mobility helps to reduce traffic congestion through a more efficient use of limited road space. Time lost as a result of congestion has huge economic costs for cities. Congestion also imposes serious environmental costs as internal combustion engine vehicles are less fuel-efficient when driven in stop-start traffic, increasing greenhouse gas emissions and air pollution. The impact of congestion is particularly severe in urban areas.

Europeans spend a significant amount of time commuting to work. Eurostat data suggests that the average one-way commute takes 41.9 minutes. Research carried out in 2019, by the Federation of European Motorcyclists' Association (FEMA), conducted in Rome, found that during rush hour morning traffic, journey times for L-category vehicles were, on average, 26% faster than for cars and 39% quicker than public transport.

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In view of this, Local Authorities should, at the earliest opportunity, incorporate a strategy to accommodate PTWs, in their Local Mobility Plan Update, ensuring secure and dedicated parking, especially in the vicinity of public transport hubs (train and bus/coach stations).

Governments and local policy makers should also ensure that PTWs are acknowledged, in all transport policies, for the role that they can play in addressing urban mobility and commuting issues. In particular, investment decisions should be made for the development of more charging stations for electric PTWs.



ACEM members are progressively widening their product ranges with electric vehicles. Policy makers should actively support market uptake through rapid deployment of charging infrastructure.

Promoting active and healthy mobility

The PTW industry supports active travel and many members have already invested in electric bicycle production to support this change in consumer demand for short journeys. Additionally, there is still an important role for propulsion vehicles for longer journeys, transporting goods/storage needs, and importantly to support the vital mental health benefits that motorcycle riding brings when escaping the cities, another dimension of our products – leisure - that should not be forgotten: The benefits of PTW use are particularly pertinent now given the impact of the coronavirus pandemic¹. People's choice of transport method has been affected by the pandemic and consequent lockdown, making the issues of congestion and transport planning even more important.

¹ A 2018 neurobiological study, conducted by researchers from UCLA's Semel Institute for Neuroscience and Human Behaviour, yielded pioneering scientific evidence of the potential mental and physical benefits of riding, e.g. riding a motorcycle decreased hormonal biomarkers of stress by 28%.

Ensuring Sustainable Urban Mobility: The key role of Powered Two-Wheelers (PTWs)

Limiting noise exposure in cities

Up until today, sustained economic development and traffic growth have been intimately linked. Efficient mobility in and around the outskirts of cities is a key issue for the future of our modern society. 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.

The share of motorcycles and mopeds in overall surface transport in Western Europe is on average about 3%, although the density of these vehicles is much higher in big cities. When fitted with well-maintained road legal exhaust systems, these vehicles emit similar sound levels to passenger cars. ACEM understands that some citizens are disturbed by motorcycle noise. Whilst sound is an inherent part of motorcycle architecture (due to exposed mechanical parts...), the industry does not support anti-social rider behaviour nor illegal modification of vehicles taking them out of legal sound limits. A well-maintained motorcycle ridden smoothly will always be considerably quieter than the same but poorly maintained vehicle, driven in an aggressive manner. Rider awareness is therefore of paramount importance to reduce sound emissions.

ACEM commits to working, with all stakeholders involved, to prevent excessive noise; increase collaboration with policy makers providing guidance on appropriate technical requirements and increase oversight of the after-market by third parties (e.g. policy makers, police etc.).

Regardless of technical feasibility and costs, ACEM believes that a further decrease in the noise limits for new vehicles would have a very limited real-world effect. Conscious of its role in this major topic, ACEM has proactively worked on and proposed, a drastic change in the way sound emissions of vehicles are tested today, to better reflect real driving conditions and consequently ensure that vehicles in their original state remain acceptable to European citizens. ACEM calls on policy makers to swiftly implement the proposal to that end.



Riding responsibly, a key to lower noise emissions.

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Looking at the future, now

It is important that the EU continues to help the PTW industry adapt, by continuing to fund the research and development of low carbon technologies. PTW manufacturers have smaller economies of scale to support the transition from internal combustion to electric powertrains. More time will be needed for these businesses to carry out research and develop the most robust and technically reliable EV systems in order to provide consumers with high quality products that justify the increase in the implementation costs of this new technology. Whilst electric PTWs will be the predominant solution for urban mobility in the future, PTWs with conventional internal combustion engines (ICE) still have an important role to play. Local strategies should also be encouraged to support the needs of PTWs, such as lane access, dedicated parking spaces and appropriate charging availabilities for electric PTWs.

Guidance to support local decisions on the design and allocation of urban space, should ensure that the continued use of PTWs, as mobility solutions, is as safe as possible.

Motorised 2-and 3-wheelers were the original urban mobility products in the 1880s and today, over 140 years later, they remain an essential mobility tool and leisure preference across the world. ACEM's vision is that, with the right conditions for success, PTWs will remain an essential part of the transport mix and an ideal urban mobility product.

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