



The  
Motorcycle  
Industry In  
Europe



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Industry Report

2015



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# 1. FOREWORD

We are delighted again to be presenting this ACEM biennial report. This edition provides an overview of the most important developments in the motorcycle industry in Europe for 2013 and 2014. It also highlights some key challenges and opportunities in relation to motorcycling for both society and the industry.

## The contribution of motorcycling to society

Motorcycling makes an extremely important contribution to our living standards. Along with public and other private means of transport, L-category vehicles (i.e. motorcycles, mopeds, tricycles and quadricycles) make possible urban mobility.

In Paris, London, Rome and many other places, hundreds of thousands of citizens use these vehicles every day to get in time to their jobs, to go back to their homes, and to move around the city. Unfortunately, this simple fact is still often overlooked by politicians and officials when drafting legislation and policies.

L-category vehicles have other important functions, such as the delivery of services and goods, the provision of leisure and tourism opportunities, and contribute to reduced congestion levels. Furthermore, today's motorcycles and mopeds have even higher fuel efficiency levels than in the past. Vehicle emissions have also been drastically reduced over the years. The launch of new electric and hybrid models to the market confirms that our sector continues to make a valuable contribution to the sustainability of Europe's transport systems.

## Latest developments in motorcycling safety

On the road safety side, a top priority for the industry, ACEM launched a new road safety strategy in September 2014: The safe ride to the future. As part of this comprehensive strategy, the industry adopted a memorandum of understanding on cooperative ITS systems and is working on the development of eCall systems for motorcycles.

ACEM is also strengthening its cooperation with national stakeholders to improve road safety, and will promote high-quality post-license training schemes in the EU through a European quality label. We look forward to continuing to work in this area with our partners, both at European and national level.

## Recent economic trends in the industry

On the economic side, the motorcycle industry continues to face difficult times. Over the period 2007-2013 the whole European market shrunk by more than 54.9%. Regrettably, some historic brands, as well as many SMEs were forced out of businesses, taking many jobs in this process.

Nonetheless, there are also reasons to be optimistic about the sector. Although it is early to speak about a recovery, the latest figures indicate that registrations in some European markets are starting

to increase. This is excellent news and our industry will continue providing products that allow people to both commute and enjoy their leisure time.

The ambitious European agenda on international trade is another positive development. Important trade negotiations with the US and Japan, as well as with other regional economies, are ongoing or will start soon. Together with a more vibrant domestic market, exports will help the industry to grow and to create new jobs in the EU.

## The importance of sound legislation for the sector

This report also examines carefully other policies that have a great impact in our industry, such as Regulation 168/2013 on the type-approval of powered-two and three-wheeled vehicles and quadricycles, and its implementing and delegated acts.

There is no doubt that common European rules are essential to ensure the internal market functions properly. It is also true that ill-advised legislation can just have the opposite effect. At a time when governments are focusing on promoting economic recovery, this report serves as a timely reminder of the importance of getting legislation right. Sound regulation requires sound science, and must be technically feasible. It also has to be underpinned by solid economic assessments and must not negatively affect market acceptance of products.

The motorcycle industry plays an important role in this regard. ACEM provides policy-makers with the data they need, as well as recommendations and realistic, engineering and market-based assessments of what can (and cannot) be achieved.

## Working together

The following pages show that although these are not easy times for the motorcycling industry, many achievements have been possible and hopefully bigger achievements will be attained in the future.

Our association is keen to continue to work closely and openly with European and national authorities, as well as with other stakeholders.

We do hope that you will enjoy reading this report, and look forward to continue working together.



Stephan Schaller  
ACEM President



Antonio Perlot  
ACEM Secretary General

## 2. THE VOICE OF THE MOTORCYCLE INDUSTRY IN EUROPE

### About ACEM

ACEM, the European Association of Motorcycle Manufacturers, is the trade association that represents manufacturers of powered-two and three-wheelers as well as quadricycles (L-category vehicles) in Europe.

ACEM members include 15 manufacturing companies and 17 national industry associations in 14 different European countries. About 156,300 jobs depend on the motorcycle, moped, tricycle and quadricycle industry in Europe.

ACEM works closely with the EU institutions, as well as with a wide range of stakeholders, in different policy-areas. These include type-approval of L-category vehicles, environmental legislation, road safety and transport policies, international trade negotiations, etc.

The key objectives of the association are:

- To engage in dialogue with the European institutions and other key stakeholders in order to advance the understanding of industry positions on relevant policy issues (e.g. competitiveness, road safety, mobility and sustainability)
- To provide clear and factual information concerning the European motorcycle sector and to foster the understanding of the sector's contribution to society
- To advocate on behalf of its members policies that enhance the competitiveness of manufacturers
- To contribute to effective policy and legislation at both European and global levels
- To monitor regulatory activities that affect the motorcycle industry

## Management structure

ACEM is governed by an Executive committee, which brings together the CEOs of ACEM manufacturing members. This body acts as the board of ACEM providing political guidance to the association and taking decisions on major strategic issues for the industry.

The Executive committee elects a President and two Vice-presidents. These positions are currently held by:



Stephan Schaller  
President  
(BMW Motorrad)



Stefan Pierer  
Vice President  
(KTM Motorrad AG)



Leo Francesco Mercanti  
Vice President  
(Piaggio Group)

The association has a flat management structure to ensure an efficient decision-making process. This enables ACEM to maintain a flexible, responsive approach, and to deal with technical and political issues in an independent manner.

The overall consistency of the works of the association is ensured by three bodies: the Coordinating Committee, currently chaired by Dietmar Krohm (BMW Motorrad), the Strategic Management Group and the Secretariat.

Implementation and delivery of advocacy actions is done by the Public affairs and communications group, in close cooperation with national associations.

Relevant topics are discussed by specialised bodies that deal with either technical issues (technical and regulatory committee) or other policy areas such as transport and mobility, road safety, economics and statistics (policy committee).

These bodies rely on the expertise provided by both companies' specialists and national associations.

## Secretariat

ACEM's Secretariat is based in Brussels. The Secretariat is responsible for supporting the various committees and working groups.

The Secretariat works closely with representatives from member companies and national associations. It supports industry advocacy efforts and relays information about developments on the European level of relevance to the motorcycle industry.



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## Working with the EU institutions and bodies

ACEM works closely with policy-makers from across the European institutions.

Technical matters related to L-category vehicles are an essential part of ACEM's remit. They are discussed within various fora including the relevant European Commission's working groups, the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardisation (CENELEC).

Furthermore, the association provides its expertise on other issues such as international regulation, international trade, as well as transport and safety policies. ACEM also monitors data on monthly registrations of L-category vehicles, production of vehicles in Europe, etc.

The ultimate objective of the association is to ensure that policy-makers at both European and national level duly take into account the specific needs of the motorcycling industry.

## Working together with other stakeholders

ACEM also works closely with other stakeholders and is a member of several bodies where issues of relevance to the motorcycle industry are discussed.

- **International Motorcycle Manufacturers Association (IMMA)**. As a member of IMMA, ACEM is represented within UNECE<sup>1</sup> as well as within the International Transport Forum under the auspices of the OECD<sup>2</sup>.
- **CARS 2020**. ACEM is also part of CARS 2020, a high-level group set up by the European Commission to make policy recommendations to support the competitiveness and sustainable growth of the European automotive industry.
- **Forum for Mobility and Society**. This forum, which debates mobility policies at EU level, brings together key industry players and European policymakers. The Forum acts as a place to exchange information and views and as a think tank for all those interested in automotive issues.
- **Mobility for prosperity in Europe (MPE)**. MPE is a transport association bringing together transport organisations and multinational companies supporting European transport policy should be fact-based and rely on users' needs and on the efficient use of resources in order to ensure future prosperity.
- **European Green Vehicles Initiative (EGVI) and European Green Vehicles Initiative Association (EGVIA)**. Research is a top priority for the motorcycle industry. ACEM is an associated member of EGVI and EGVIA, two fora that bring together industry and researchers to promote and facilitate pre-competitive research on road transport systems.
- **European Road Transport Research Advisory Council (ERTRAC)**. ERTRAC is a body dedicated to providing strategic advice on research and innovation to industry and researchers, as well as European and national decision-makers.
- **iMobility Forum**. The iMobility Forum, established in 2002, provides a platform for all ITS stakeholders in Europe to develop, implement and monitor work programs linked to roadmaps and international cooperation for the successful development and deployment of ITS. The iMobility Forum is chaired by the European Commission. A working group on vulnerable road users (VRU WG) was created within the iMobility Forum. The VRU WG targets the improvement of the safety of vulnerable road users (pedestrians, cyclists, motorcyclists), along with recommendations and guidelines to achieve this target.
- **Motorcycle community**. ACEM takes part in the debates of the Motorcycle Community, together with the Federation of European Motorcyclists' Associations (FEMA) and the International Motorcycling Federation (FIM).

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1 United Nations Economic Commission for Europe.

2 Organisation for Economic Cooperation and Development.

# 3. UNDERSTANDING THE TYPE-APPROVAL LEGISLATIVE FRAMEWORK

## The L-category: vehicles for a wide range of usages

ACEM represents companies that manufacture L-category vehicles. This category includes very different types of vehicles such as powered-two and three wheeled vehicles as well as the more recent quadricycles.

L-category vehicles are small, light, and take up relatively little road space compared to other vehicles such as cars, vans and buses. They are used for a wide range of purposes such as commuting, particularly in urban environments, for tourism purposes – touring – and for practising sports.

In order to be allowed on public roads L-category vehicles must comply with applicable EU rules. The assessment of compliance with existing norms is called ‘type-approval’ or ‘homologation’.

## Type-approval of vehicles in the European Union

The basis for the whole vehicle type-approval of L-category vehicles in the EU is Regulation 168/2013<sup>3</sup>. This Regulation, adopted on 23 October 2013, replaces Directive 2002/24/EC as well as several other Directives, by a single text as of 1 January 2016.

The Commission tabled its proposal in 2010, during a critical time for the industry, with sales decreasing in most of the EU as a result of the hardest economic crisis Europe has faced in many decades.

Regulation 168/2013 was followed by the adoption of several implementing and delegated acts that provide for safety<sup>4</sup>, construction<sup>5</sup>, new environmental<sup>6</sup> and administrative<sup>7</sup> requirements for the type-approval of new L-category vehicles.

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3 Regulation n° 168/2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles.

4 Commission Delegated Regulation (EU) No 3/2014 of 24 October 2013 supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to vehicle functional safety requirements for the approval of two- or three-wheel vehicles and quadricycles Text with EEA relevance.

5 Commission Delegated Regulation (EU) No 44/2014 of 21 November 2013 supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to the vehicle construction and general requirements for the approval of two- or three wheel vehicles and quadricycles.

6 Commission Delegated Regulation (EU) No 134/2014 of 16 December 2013 supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to environmental and propulsion unit performance requirements and amending Annex V thereof Text with EEA relevance.

7 Commission Implementing Regulation (EU) No 901/2014 of 18 July 2014 implementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to the administrative requirements for the approval and market surveillance of two- or three-wheel vehicles and quadricycles.

## A level playing field for the motorcycle industry

Regulation 168/2013 and its delegated and implementing acts provide for detailed technical requirements regarding the construction of vehicles, systems, components and separate technical units. It also establishes rules regarding vehicle emissions, braking systems, anti-tampering and access to repair and maintenance information, among others.

Although this new legislative framework enters into force as of 1 January 2016, it is already having an effect on production planning processes and on the cost of the products manufactured by the sector.

One of the most important and welcomed outcomes of this process is the creation of a level playing field for the motorcycle industry. This should ensure the conditions for fair competition within the motorcycle sector, provided that some actions such as efficient market surveillance of non-compliant products is implemented across the European Union.

## Unfair commercial practices in the EU, a threat to European citizens

EU legislation on the type-approval of L-category vehicles has achieved the harmonisation of construction standards in the internal market. The process, however, remains complex and requires considerable investments from manufacturers.

ACEM has observed cases where vehicles sold in the EU do not meet type-approval requirements. Italian, British and Spanish authorities have also found that many vehicles imported into the EU from China do not comply with European laws.

This evidence strongly suggests that some manufacturers or importers have avoided compliance, deliberately or otherwise, in order to gain a competitive advantage.

This situation creates a threat to both the safety and the health of European citizens. National authorities should use all the market surveillance instruments at their disposal to ensure that this situation is properly addressed.



# The diversity of the L-category industry



## The legislative process outside of the European Union

Together with the European Union, the United Nations Economic Commission for Europe, UNECE, has an important role in the development of international rules.

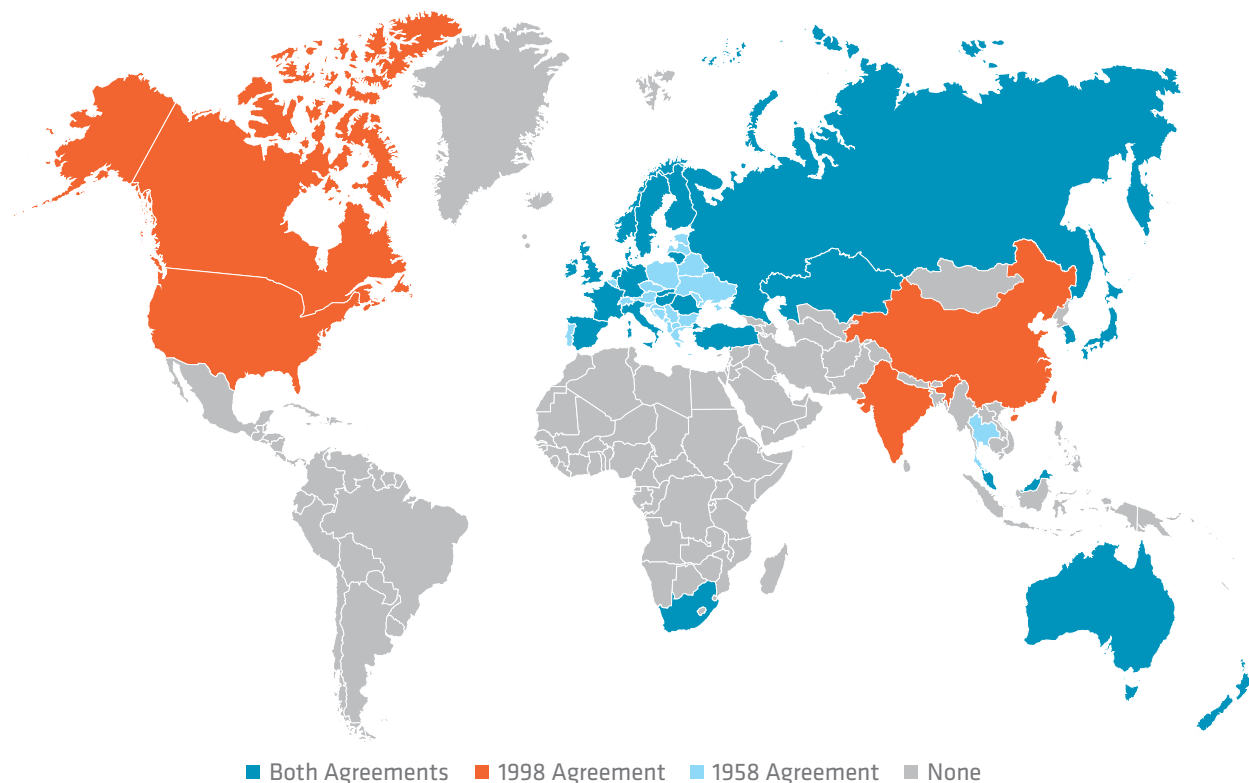
The Inland Transport Committee (ITC) is UNECE's highest policy-making body in the field of transport. ITC's Working Party 29<sup>8</sup> has the remit to create a uniform system of international regulations, called UNECE or UN regulations. These regulations are developed under the 1958 Agreement<sup>9</sup> which has established an integrated global system for the mutual recognition of vehicle-related product and subsystem approvals.

UNECE Regulations provide uniform testing, performance, and administrative requirements by which approval authorities of participating countries can certify products for use in motor vehicles. These certifications are then accepted by all signatories to the 1958 Agreement that have adopted each particular regulation within their respective regulatory systems.

However, many major economies such as the US and Japan have not ratified the 1958 Agreement yet. In an attempt to address this, another text of international law, the 1998 Agreement, was adopted. This agreement provides for rules for the adoption of Global Technical Regulations (GTRs).

In order to ensure that legislation affecting L-category vehicles is consistent across different countries, ACEM members actively participate in the development, finalisation and implementation of both UNECE regulations and GTRs. UNECE and GTR rules are often transposed into EU legislation. Nevertheless further alignment between EU law and UN regulations is possible and required.

### World forum for harmonization of vehicle regulations.



<sup>8</sup> Also called World Forum for Harmonization of Vehicle Regulations.

<sup>9</sup> The full name of the 1958 Agreement is *Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions.*

# 4. THE ECONOMICS OF THE MOTORCYCLE SECTOR

## A highly internationalised industry

The beginnings of motorcycling date back to the mid-19th century, in Europe. Since then, the continent has become a leading production base for many companies manufacturing powered-two and three wheelers and quadricycles, such as BMW Motorrad, Ducati, KTM, Peugeot, Piaggio, Renault and Triumph.

Manufacturers from other countries such as Honda and Yamaha have also set up European production facilities in Europe.

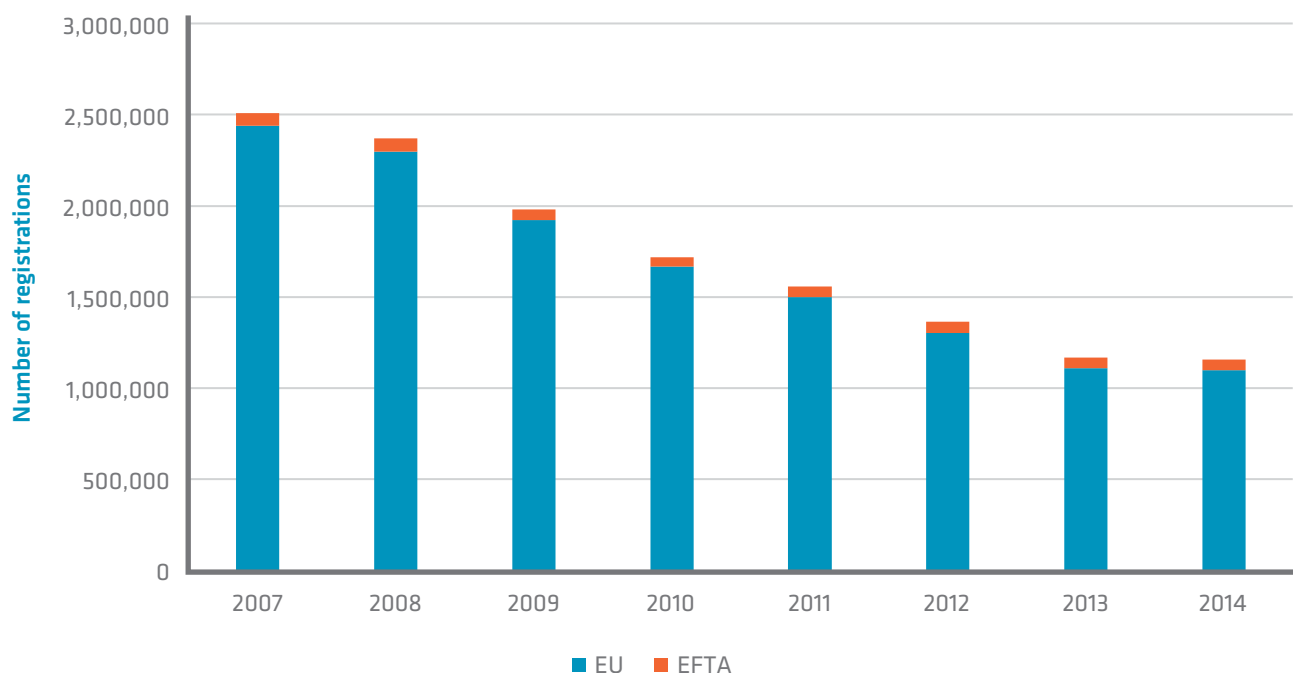
Moreover, companies like BRP, Harley Davidson, Kawasaki, Suzuki and Polaris Industries have established distribution businesses in Europe.

## The sector today: recent trends in registrations

A total of 1,205,538 powered-two and three-wheelers were registered in EU and EFTA countries in 2014. 1,147,986 vehicles were registered in the EU, whilst 57,552 in the EFTA. This represents a slight increase of 2% compared to 2013 registrations. It is the first time that registrations increase since the beginning of the economic and financial crisis in 2007.

The highest number of registrations were recorded in France (251,495), followed by Italy (184,878), Germany (175,826), Spain (126,260) and the UK (101,807).

Combined motorcycle and moped registrations in EU and EFTA countries (2007-2014)



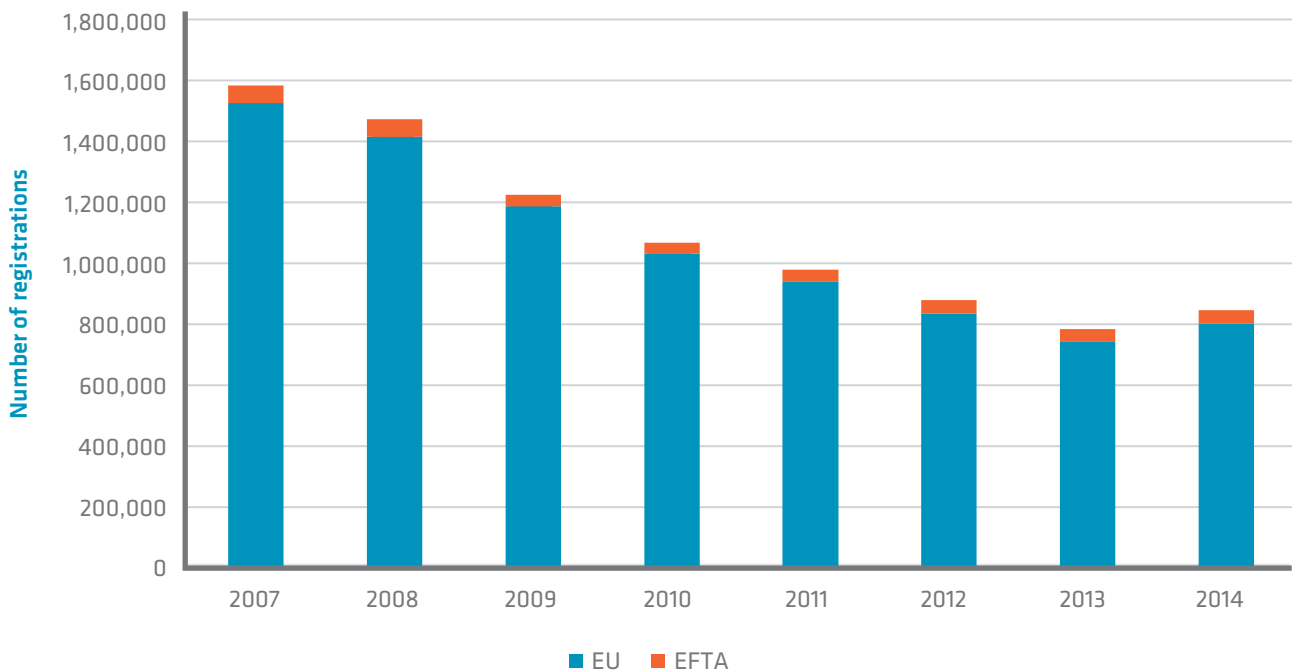


## Registrations of motorcycles and mopeds: opposite trends

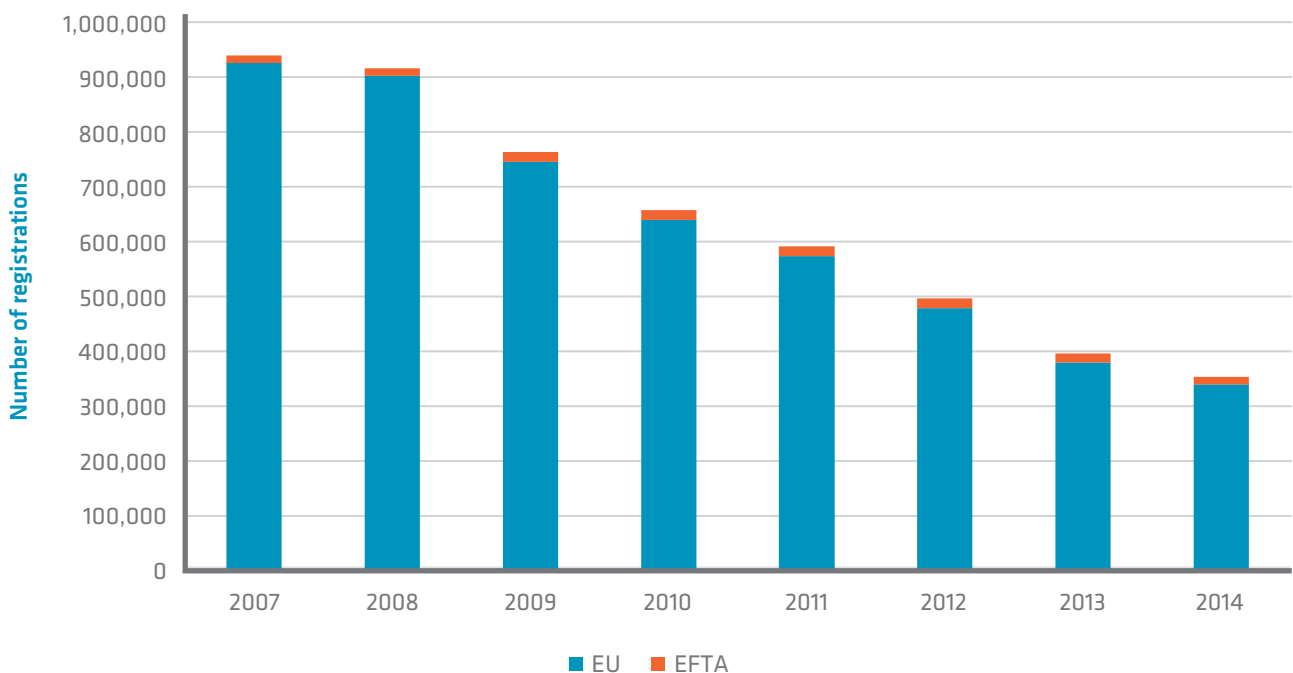
An analysis by segment shows that 798,328 motorcycles were registered in the EU in 2014, compared to 743,279 in 2013. This represents an increase of 7.4% on a year-on-year basis. Most motorcycle registrations took place in Italy (156,509), France (153,319), Germany (141,623), Spain (111,454) and the UK (91,193)

Conversely, the moped segment continued to decrease. 349,384 mopeds were registered in 2014, compared to 381,413 in 2013. Moped registrations were led by France (98,176), the Netherlands (62,865), Poland (40,710), Germany (34,200) and Italy (28,370).

### Motorcycle registrations in EU and EFTA countries (2007-2014)



### Moped registrations in EU and EFTA countries (2007-2014)



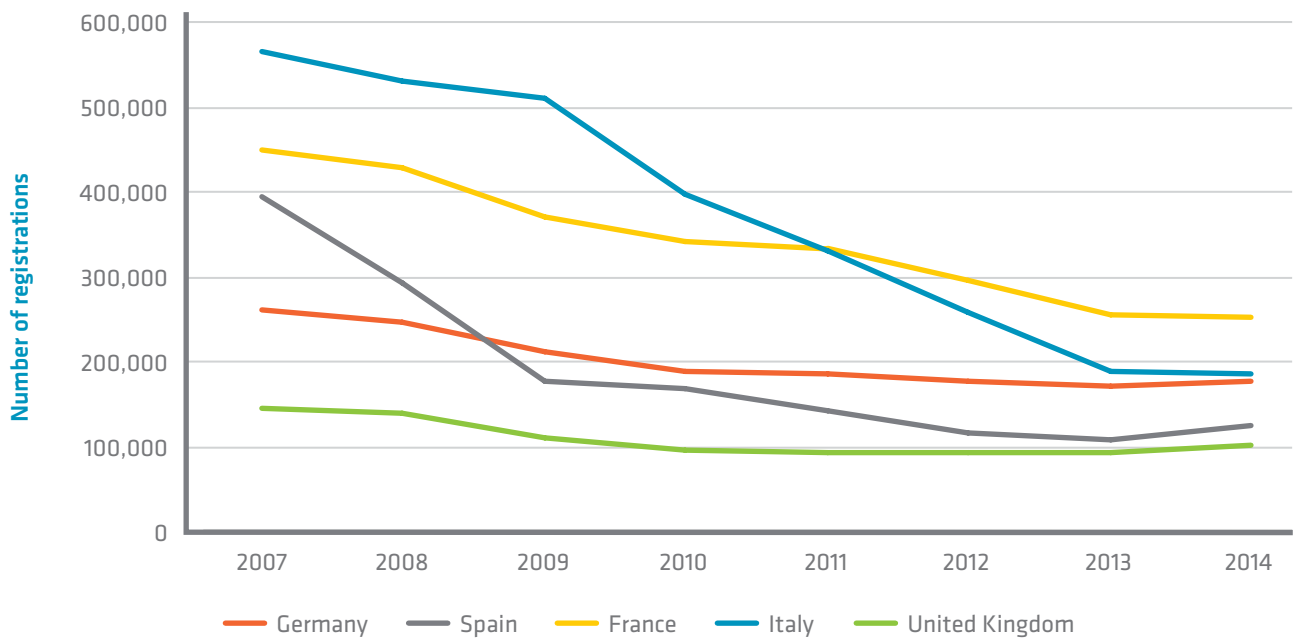
## A challenging economic juncture

The latest figures available for 2014 show that powered-two and three-wheeler markets are at a historical minimum. Between 2007 and 2013, registrations in the EU fell from 2,437,900 to 1,099,000 units. This represents a decrease of 54.9%.

This drop by more than half has put enormous pressure on the industry, which is also facing increasing competition from countries with low labour and environmental standards.

Although the latest registration figures in Europe suggest the beginning of a recovery, the industry is still at a critical juncture and there is a clear need for a balanced regulatory framework.

### Combined registrations of motorcycles and moped in largest European markets (2007 - 2014)



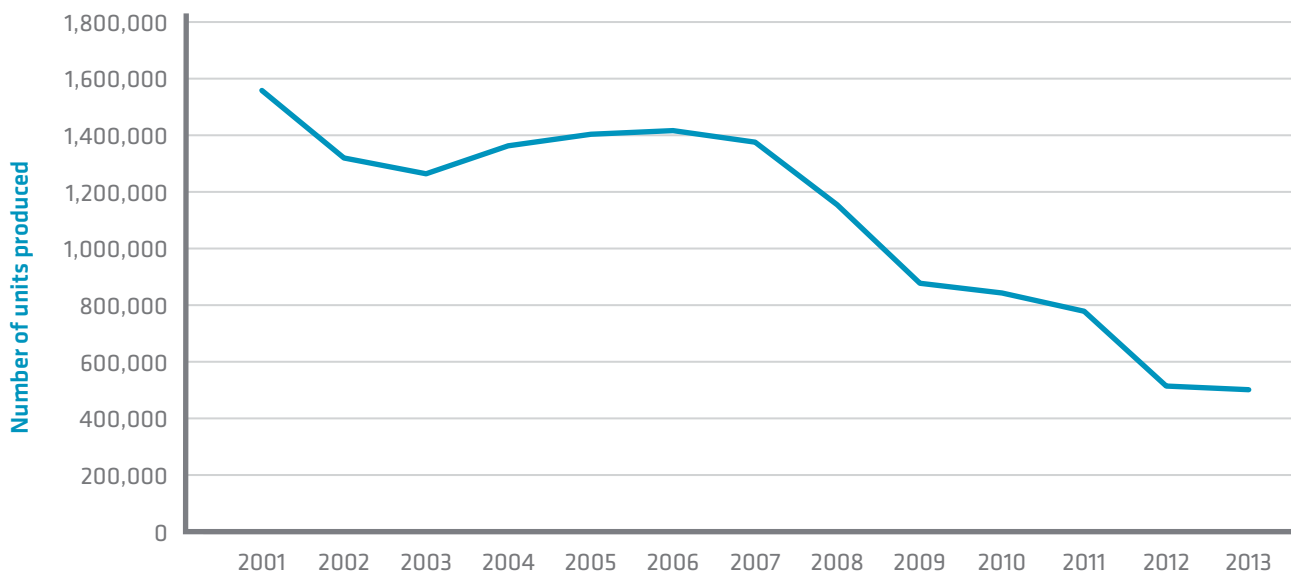
## Production trends in the motorcycle industry

The latest production figures refer to the year 2013. A total of 487,570 motorcycles and mopeds were produced that year. This represents a reduction of 2.8% compared to the production levels of 2012.

The largest producers in the EU in 2013 are Italy (240,630 units, -3.6%), Germany (105,000, +3.3%) and Austria (81,160, +6.0%).

Production levels have substantially decreased over the last decade. Between 2001 and 2006 production went down by 9.2%. However between 2007 and 2013, as a result of the global economic downturn, the decrease was substantial: 64.5%.

### Manufacturing of motorcycles and mopeds in the EU (2001 - 2013)

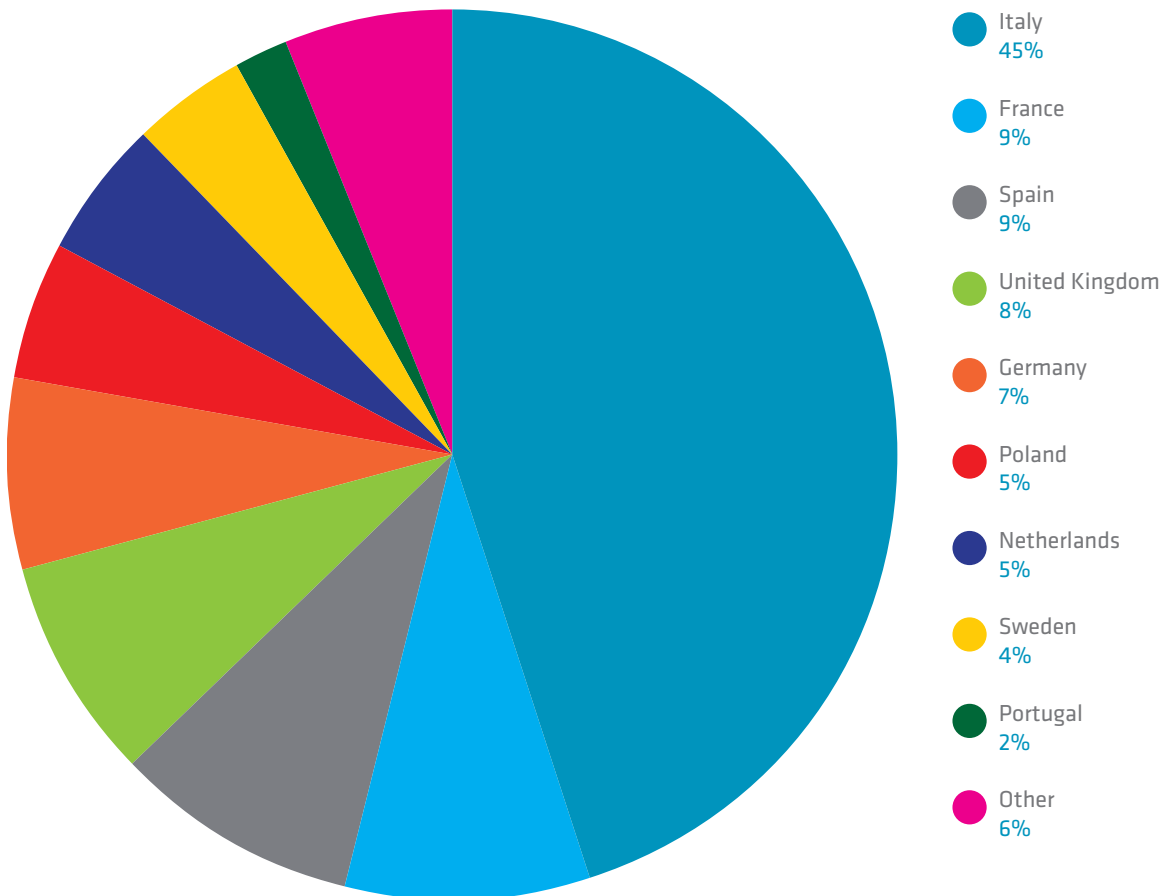


## Structure of the motorcycle industry

Eurostat estimates the total number of motorcycle manufacturers operating in the EU28 in 2011 at 966 units.

Most enterprises are located in some of the largest countries: Italy alone accounted for about 45% of the EU total, followed at some distance by France and Spain (both at 9%), the United Kingdom (8%) and Germany (7%)<sup>10</sup>.

### Combined registrations of motorcycles and moped in largest European markets (2007 - 2014)



<sup>10</sup> The percentages have been calculated on the basis of the total for the EU Member States which provided data, which account for the majority of enterprises manufacturing motorcycles. Values refer to the sector as defined in the classification NACE Rev.2, which has been adopted in 2008. Data for Bulgaria and Denmark refer to 2010; data for Greece refer to 2009; data for Belgium and Germany are encoded according to the NACE Rev. 1.1 classification and refer to 2008. Both for Belgium and Germany 2009-2011 data are indicated as confidential and are not exposed. The Member States for which data are not available are: the Czech Republic and Malta.

## Direct employment in manufacturing of L-category vehicles

Regarding employment in the manufacturing of L-category vehicles, Italy ranks first in the scale with approximately 12,300 people employed.

France accounts for about 1,700 jobs, whilst Germany, the UK and Austria employ about 1,500 people each. Direct employment in the manufacturing of L-category vehicles in Spain is about 1,000 people.

Manufacturing of L-category vehicles in the rest of the EU accounts for about 3,100 jobs.

## Downstream and upstream activities

In addition to manufacturing valuable goods, the motorcycle industry has ripple effects through the economy and supports other activities such as manufacturing of components, parts and pieces (upstream activities).

The motorcycle industry also has ripple effects through sales (both retail and wholesale), maintenance and repair of motorcycles and related products (downstream activities). The importance of the downstream sector is related to the size of the motorcycle market, as well as to the existing vehicle fleet.

Considered together, the upstream and the downstream sectors employ around 24,300 people in Italy; 23,600 in Spain; 21,900 in Germany; 19,500 in the UK; 14,300 in France; 3,100 in Austria. Upstream and downstream activities account for about 27,000 jobs in the rest of the EU.

## The importance of the industry for the European economy

The L-category industry is estimated to support about 22,600 jobs in manufacturing in the EU. The upstream and downstream sectors account for about 133,700 jobs. In total the industry supports about 147,400 jobs in the EU.

It is important to note, however, that these figures do not capture other forms of employment related to the sector (e.g. tourism-related employment, driving instructors, safety trainers, insurers, etc.).

Furthermore, the L-category industry also indirectly supports jobs in other sector through the purchases of goods and services from other industries.

Employment in the motorcycle industry in Europe.

Sources: ACEM, ANCMA, Eurostat

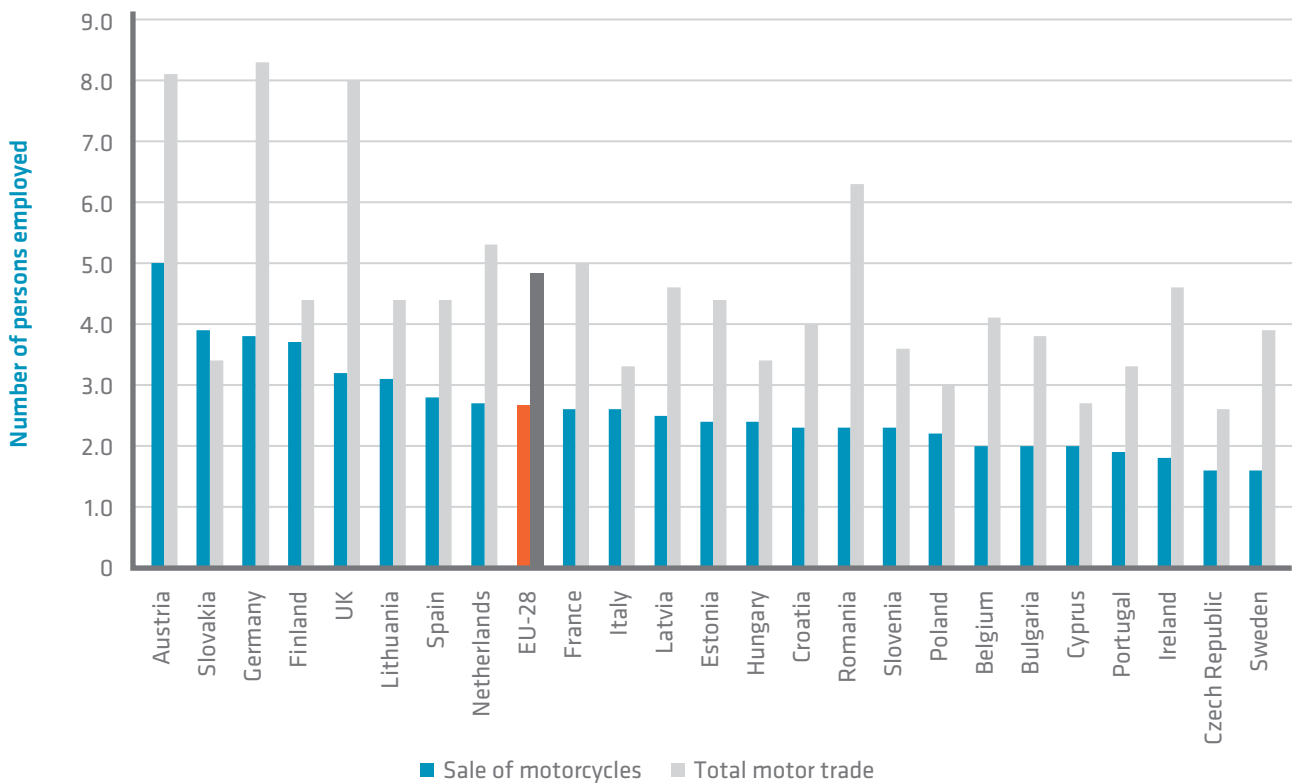
Countries	Employment		
	Manufacturing of vehicles	Upstream and downstream	Total
Italy	12.3	24.3	36.6
Spain	1	23.6	24.6
Germany	1.5	21.9	23.4
UK	1.5	19.5	21
France	1.7	14.3	16
Austria	1.5	3.1	4.6
Subtotal - Other EU Countries	13,336	59.8	30.1
<b>Total</b>	<b>22.6</b>	<b>133.7</b>	<b>156.3</b>

## Size of companies operating in the downstream sector

Enterprises operating in the trade of motorcycles are in general much smaller in size than those operating in the trade of other vehicles. The largest enterprises, on average, are located in Austria, where each motorcycle trader and repairer has about 5 persons employed, compared to an EU average of 2.7. In the majority of countries each enterprise operating in trade and repair employs less than 3 workers.

This shows that the downstream sector of the motorcycle industry is dominated by small and medium enterprises (SMEs).

### Combined registrations of motorcycles and moped in largest European markets (2007 - 2014)



## What can policy-makers do?

The motorcycle industry is at a critical juncture. Sales of L-category vehicles have declined sharply since the beginning of the economic crisis in 2007. This had a negative effect in terms of employment in both the downstream and the upstream sectors.

In order to facilitate the recovery of the motorcycle industry, policy-makers must create the favourable and predictable conditions to help business to invest.

- **Assessing the effects of EU legislation.** Impact assessments must be carried out when proposals are being drafted by the European Commission's services, but also when they are significantly amended by other institutions. Moreover, legislative proposals should always be cost-effective, easy to administer and must not create unneeded additional burdens on manufacturers.
- **Type-approval rules and implementation of regulations.** The EU must ensure that there is a predictable EU whole-vehicle type-approval system. Moreover, lead-times for the implementation of regulations affecting the industry should be reasonable. They also must take into account aspects such as the product lifecycle and the complexity of manufacturing processes.
- **Market surveillance.** Market surveillance plays a key role in ensuring regulatory compliance by all economic actors and safety for European consumers. Control programmes of imported vehicles should be developed with adequate means. Market surveillance authorities must be able to perform periodic and efficient checks.
- **Non-discriminatory incentives.** L-category vehicles should benefit from similar incentives and interventions that support the renewal of the car fleet across the EU.
- **Functioning of the internal market.** Arbitrary national measures which negatively affect the functioning of a European market must be prevented.





## 5. INTERNATIONAL TRADE, A STRATEGIC PRIORITY FOR THE INDUSTRY

As global players, ACEM members support trade agreements that foster innovation, economic growth and prosperity for the EU and for its trading partners.

Trade agreements are essential to increase exports, sustain jobs in the sector and give the industry a standard-setting role in foreign markets.

### Exports of vehicles, parts and accessories

The motorcycle industry exports a wide range of products including vehicles, engines, protective equipment, etc. EU exports of motorcycles, parts and accessories reached € 1,700 million in 2012. This represents an increase of 11.3% compared to 2011. Over the same period, EU's total exports increased by 8.2%.

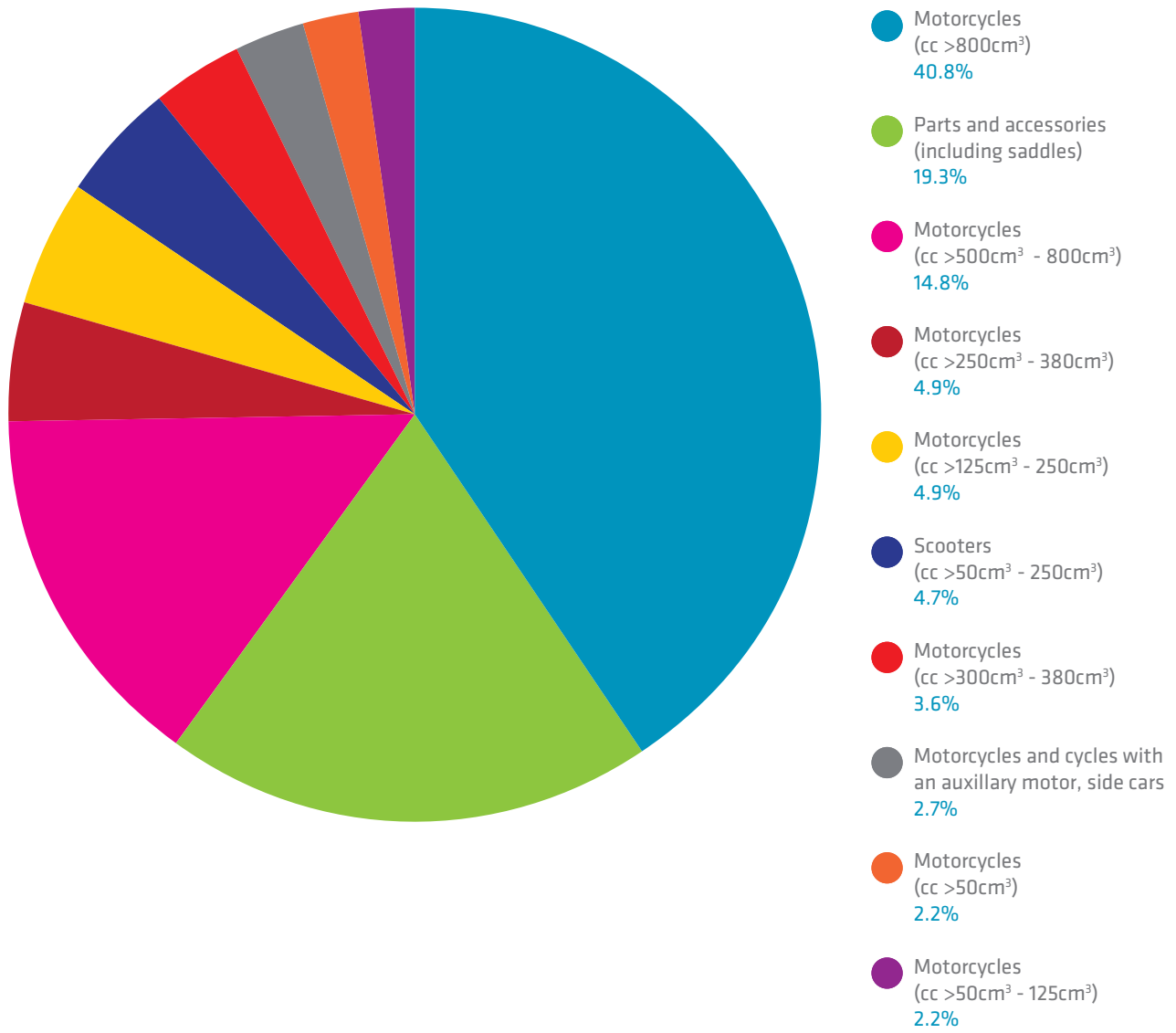
In 2012 exports of motorcycles with cylinder capacity > 800 cm<sup>3</sup> exceeded 675 million euro. This represents nearly 41% of total EU exports of motorcycles. Motorcycles with a cylinder capacity between 500-800 cm<sup>3</sup> also accounted for a relatively high share in total EU exports: € 244 million (15% of the exports). Exports of parts and accessories of motorcycles reached € 319 million (19.3% of the exports).

In 2012 cover ratios were greater than 100% for motorcycles with a cylinder capacity between 125-250 cm<sup>3</sup> (at 106%) and between 250-380 cm<sup>3</sup> (225%). For motorcycles with a cylinder capacity between 380-500 cm<sup>3</sup> and for those with a cylinder capacity of more than 800 cm<sup>3</sup>, cover ratios, were also relatively high (over 80%).

### Combined registrations of motorcycles and moped in largest European markets (2007 - 2014)

	Total Products	of which: motorcycles and accessories	Motorcycles as % of total
EU-27 EXPORTS			
2011	1,561,930	1,488	0.1
2012	1,690,250	1,656	0.1
% change 2011-2012	8.2	11.3	-
EU-27 IMPORTS			
2011	1,727,739	2,811	0.16
2012	1,797,436	2,850	0.16
% change 2011-2012	4.0	1.4	-

Breakdown of EU exports by product category (Eurostat, 2011)

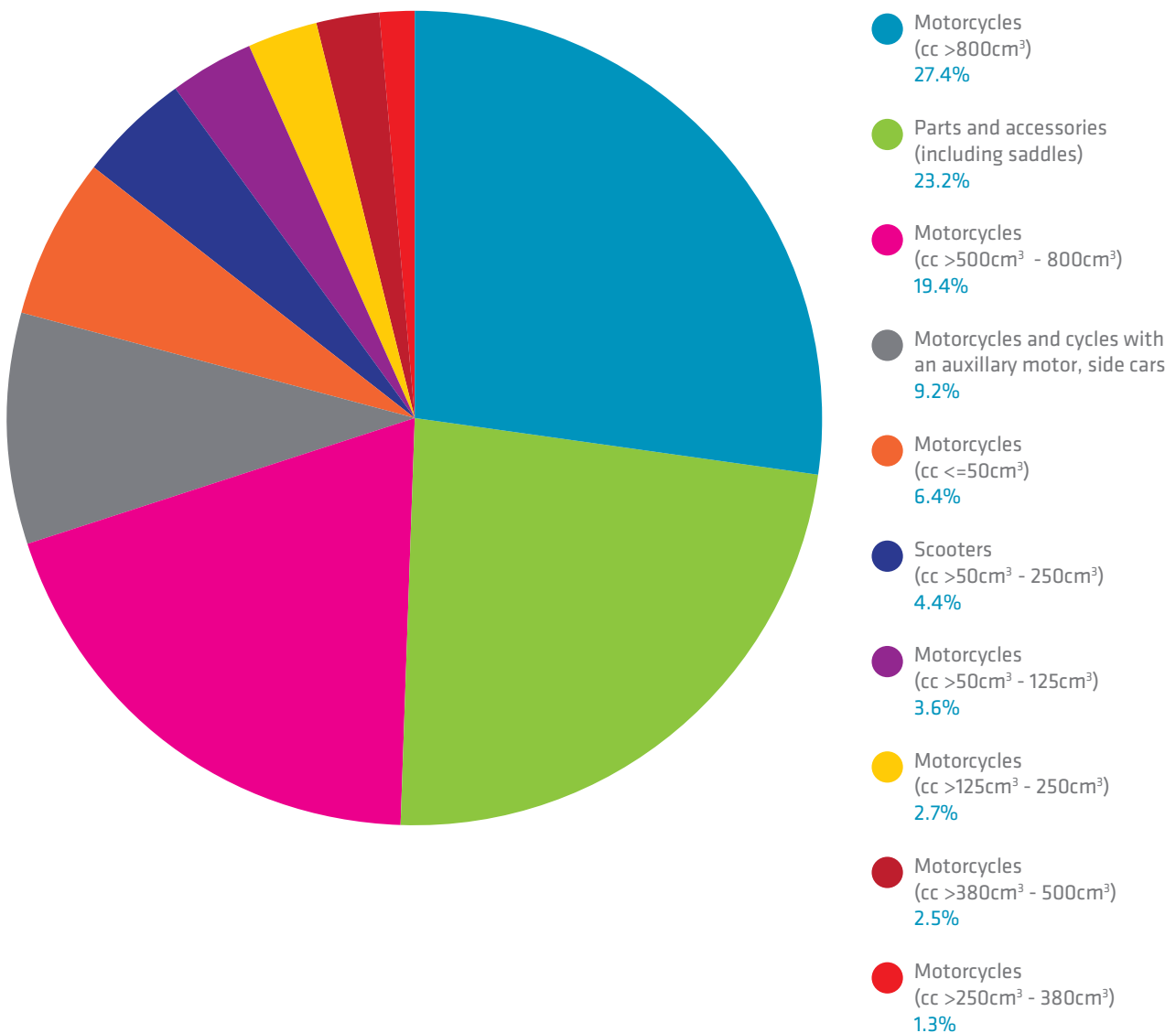


## Imports of vehicles, parts and accessories

Imports of motorcycles, accessories and parts grew by only 1.4% between 2011 and 2012 (€ 2,850 million). Prior to that, between 2008 and 2012 imports of motorcycles, parts and accessories had declined by 20%.

In 2012, imports of motorcycles with cylinder capacity > 800 cm<sup>3</sup> totalled € 780 million (27.4% of total), imports of parts and accessories exceeded € 660 million (23%), and imports of motorcycles with cylinder capacity between 500-800 cm<sup>3</sup> amounted to €552 million (over 19%).

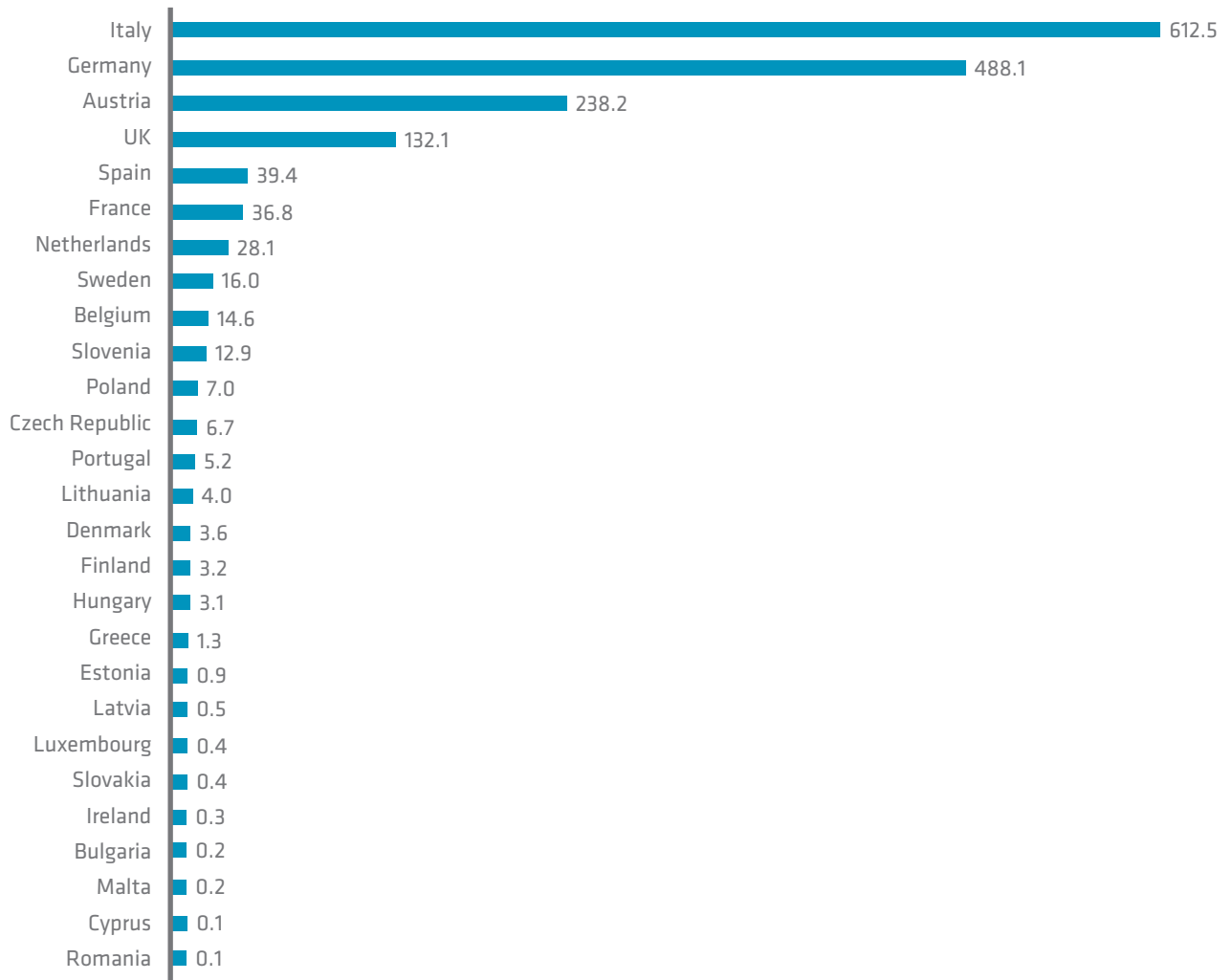
Breakdown of EU imports by product category (Eurostat, 2011)



## Main exporting countries

The three leading exporters of the EU are Italy, Germany and Austria. Considered together, they accounted for more than 80% of total EU exports. In that year Italy's exports exceeded 600 million euro, whereas those of Germany reached nearly 490 million euro. Austria's exports reached €240 million.

### Breakdown of EU imports by product category (Eurostat, 2011)



## Specialisation of exports across countries

There is a fair degree of specialisation in different countries. Germany, for example, specialises in motorcycles with cylinder capacity > 800 cm<sup>3</sup> (62% of the country's total exports, € 300 million in 2012). The same type of products also accounted for a high proportion of Italian exports (44%, € 267 million) and of the UK's exports (45%, € 60 million).

In Germany and in the UK (and to some extent in Italy) also motorcycles with cylinder capacity 500-800 cm<sup>3</sup> are relevant for exports. Italy also stands out for exports of scooters (€ 67 million in 2012) and parts and accessories (€ 133 million).

Exports of parts and accessories took relatively important shares in all the main exporting countries. In particular, in 2012 they accounted for about half of France's exports.

## Main export destinations

The EU exports motorcycles, parts and accessories to a large number of countries in all the continents.

However, exports tend to concentrate in a relatively reduced number of countries: the United States, Switzerland, Australia and Japan. These countries accounted for about 60% of total exports in 2012 and for 55% in 2011.

In 2012 exports to the United States accounted for nearly 30% of total EU exports (more than €490 million). Prior to that, in 2011, that share was at 26.5%.

The second partner country is Switzerland, with €194 million in 2012 (11.7%, compared to 12.4% in 2011), followed by Japan with €154 million (9.3% compared to 8.1% in 2011) and Australia with €139 million (8.4% compared to 8.2%).

### Main export destinations of motorcycles and accessories (Eurostat, 2012)

	Euro	% in total
United States	492,073,832	29.7
Switzerland	194,364,988	11.7
Japan	153,986,240	9.3
Australia	138,532,835	8.4
Canada	64,874,149	3.9
South Africa	56,008,724	3.4
Brazil	49,875,627	3
Viet-Nam	42,061,573	2.5
Russia	38,931,396	2.4
Singapore	31,069,716	1.9
Norway	30,206,806	1.8
Mexico	29,055,624	1.8
Thailand	23,993,894	1.4
Turkey	20,977,439	1.3
Taiwan	19,210,211	1.2
Chile	17,300,030	1.0
Korea (Rep. of South)	17,016,415	1.0
Hong Kong	15,227,396	0.9
Other	221,136,325	13.4
<b>EU-27</b>	<b>1,655,903,220</b>	<b>100</b>



## Registrations of powered-two wheeled vehicles in key Asian markets

Some specific countries, located in Asia, have a considerable growth potential for the motorcycle industry. The following registration figures for key Asian markets highlight the potential for the sector in these countries:

- China 20.6 M (2013)
- India 13.5 M (2012)
- Indonesia 7.7 M (2013)
- Thailand 1.9 M (2013)
- Philippines 1 M (2012)

Trade barriers prevent most of the high technology products to be exported to many of these markets. Measures aimed at improving market access to these countries would offer a major opportunity to the motorcycle industry.



Measures aimed at improving market access to these countries would offer a major opportunity to the motorcycle industry.

## Recent trends in exports

Between 2008 and 2012 the EU has increased its exports towards Switzerland (58.3%), Japan (43.8%), South Africa (17.1%), Canada (13.8%), among others. Exports towards Vietnam fell considerably (-33%) and to a lesser extent exports to the US (-0.8%).

Change of exports of motorcycles and accessories from the EU towards the main partner countries (Eurostat)

	2008-2009	2009-2011	2011-2012	Whole 2008-2012 period
United States	-33.7	19.7	24.9	-0.8
Switzerland	-2.9	54.4	5.6	58.3
Japan	-17.2	35.8	27.9	43.8
Australia	-18.5	12.5	14.1	4.5
Canada	-16.5	27	7.3	13.8
South Africa	-30.9	33.9	26.7	17.1
Brazil	-21.4	54.4	-12.7	5.9
Viet-Nam	11	12.6	-46.4	-33
Rest of the world	-20	58.7	8.6	37.8
<b>EU-27</b>	<b>-21.9</b>	<b>35</b>	<b>11.3</b>	<b>17.4</b>

## Recent trends in imports

As for EU imports of motorcycles, parts and accessories, in 2012 they totalled € 2.850 million. Compared to exports, imports are less diversified. More than 75% of all EU imports originate from only three countries: Japan (41.8%), China (20%) and the United States (15.9%).

Some other Asian countries also rank amongst the main countries of origin the EU imports of motorcycles, parts and accessories: Thailand (8.7% of total), Taiwan (8.6%) and India (1.9%). The EU also imports motorcycles, parts and accessories from other Asian countries including Thailand (8.7%), Taiwan (8.6%), India (1.9%) and Vietnam (1%).

In recent years there have been important changes in terms of imports. Between 2008 and 2012 imports from Vietnam, India and Thailand grew significantly, by more than 40%, while imports from the United States increased by only 5.8%. Conversely, declines were recorded for imports from China (-5.9%), Taiwan (-9.3%), Japan (-38.7%) and South Korea (-51.3%).



Main countries of origin of EU imports of motorcycles and accessories (Eurostat, 2012)

	Euro	% in total
Japan	1,190,166,453	41.8
China	568,870,122	20
United States	454,136,143	15.9
Thailand	247,106,818	8.7
Taiwan	244,235,955	8.5
India	53,982,313	1.9
Viet-Nam	28,095,231	1
South Korea	15,383,639	0.5
Canada	11,679,744	0.4
Malaysia	6,256,601	0.2
Switzerland	5,724,173	0.2
Russia	3,442,395	0.1
Indonesia	3,002,308	0.1
Hong Kong	2,708,984	0.1
Turkey	2,476,358	0.1
Bosnia and Herzegovina	2,205,173	0.1
Australia	1,743,478	0.1
Phillipines	1,041,200	0
Other	7,732,884	0.3
<b>EU-27</b>	<b>2,849,998,972</b>	<b>100</b>

% Change of imports of motorcycles and accessories of the EU from the main countries of origin (Eurostat)

	2008-2009	2009-2011	2011-2012	Whole 2008-2012 period
China	-15.3	6.3	4.5	-5.9
India	46.2	22.3	-13.2	55.2
Japan	-25.8	-16.9	-0.6	-38.7
Unites States	-64.9	184	6.1	5.8
South Korea	-22.6	-11.8	-28.7	-51.3
Thailand	-10.8	46.4	8.1	41.2
Taiwan	-8.1	-2.6	1.4	-9.3
Viet-Nam	-13.4	87.6	77.1	187.8
Rest of the world	-23.6	14.2	-33.6	-42.1
<b>EU-27</b>	<b>-25.8</b>	<b>6</b>	<b>1.4</b>	<b>-20.3</b>

## Improving export performance through better market access

Asian countries offer an enormous market potential for the motorcycle industry. About 80% of all motorcycles and mopeds are used in Asia. However trade barriers prevent most of the high-end products to be exported there.

Most of the South East Asian markets do not allow the imports of high-end large engine capacity motorcycles. South Korea, for example, prohibits all motorcycle traffic in its toll ways, major highways and bridges. In addition to this, certain roads in Korea are designated “automobile only”.

China has a similar policy in place. Moreover, the Chinese government applies registration quotes to foreign motorcycles. Conversely, it is relatively easy for Chinese manufacturers to place their products in the European market.

This creates an unbalanced situation, which distorts trade of goods and decreases the industry’s capacity to export.



Sensible trade agreements that provide for the gradual phase-out of tariffs on vehicles, parts and components would substantially increase the industry's capacity to export and will support job creation in the sector.

## Tariffs and taxes

Many countries maintain very high tariffs on motorcycle imports, as well as a wide range of taxes that increase retail prices (luxury taxes, registration taxes, etc.). These duties and taxes act as a disincentive for consumers to purchase motorcycles and scooters.

Some of the taxes with the highest motorcycle tariffs include: India (100%), Vietnam (90%), Thailand (60%), Philippines (30%), Malaysia (30%), Brazil (20%) and Argentina (20%).

## What can policy-makers do?

The EU is currently engaged in a number of free trade agreement negotiations and may open new negotiations with other countries in the near future. In order to secure agreements that benefit both European companies and consumers and to promote economic growth and jobs in Europe, the EU should adopt a trade policy that increases opportunities for exports.

- **Removing tariff and barriers.** The EU must pursue sensible trade agreements that provide for the gradual phase-out of tariffs on vehicles, parts and components. This will substantially increase the industry's capacity to export and will support job creation in the sector.
- **Reducing non-tariff barriers.** The EU must encourage the uptake by third countries of UNECE regulations to achieve global regulatory harmonisation and to ensure that motorcycles, accessories, parts and components are accepted without additional testing or certifications. EU type-approved vehicles must be allowed to enter other countries without any modifications.
- **Lead-time for implementing FTAs.** FTAs must ensure that all tariff and non-tariff barriers are eliminated in full and within a reasonable lead-time.
- **European and international standards.** The EU should favour the adoption of international standards over European ones. In order to do this, the European Commission must seek to convince other major actors, such as the US and Japan, to adopt new rules within the UNECE framework.
- **Increasing regulatory predictability.** The introduction of new non-tariff barriers must be avoided. Technical legislation should be drafted exclusively at UNECE level. Only after individual standards are agreed at the UNECE, should the development of the corresponding domestic technical regulations begin.
- **Fostering mutual recognition.** In case an agreement at UNECE level is not feasible, mutual recognition of technical regulations should be pursued, provided they offer a similar level of protection for consumers and the environment.
- **Clarifying rules of origin.** Rules of origin can put a considerable burden on manufacturers by complicating export procedures. In close consultation with the motorcycle industry, robust rules of origin must be established in order for FTAs to provide substantial economic benefits.





## 6. MOBILITY, AT THE HEART OF MOTORCYCLING

### Urban congestion and pollution, a major test for European cities

The European Commission's Joint Research Centre, estimates that traffic congestion, which is often located in and around urban areas, costs the European economy about 1% of its GDP every year. Costs are higher for countries like the United Kingdom, Poland or Lithuania (1.6%, 1.6% and 1.7% of their national GDP respectively)<sup>11</sup>.

This major urban problem also comes at an enormous cost in terms of increased fuel consumption and lost time for commuters just to name a few.

But congestion does not only affect road users. As a result of the constant stop-and-go of vehicles, traffic jams lead to higher levels of air pollution, which negatively affect people living in highly populated areas. This is one of the reasons why it is becoming increasingly difficult for many European cities to comply with European air quality legislation.



As more and more people move to cities congestion is becoming an increasingly worrying problem across Europe.

<sup>11</sup> Measuring road congestion. Joint Research Centre, 2012. [https://ec.europa.eu/jrc/sites/default/files/congestion\\_report\\_final.pdf](https://ec.europa.eu/jrc/sites/default/files/congestion_report_final.pdf)

## Reducing congestion in urban environments

It is not by chance that L-category vehicles, i.e. powered-two and three-wheelers and quadricycles, are a very popular form of transport in cities facing congestion problems. Commuters in London, Paris, Rome or Madrid know for a fact that these vehicles are a very efficient alternative to cars, which can almost be considered oversized for many streets.

As a result of their reduced size compared to other road vehicles, mopeds, motorcycles, tricycles and quadricycles reduce congestion levels in urban areas.

This is why, as the European Commission rightly pointed out in its 2011 White Paper on transport policy, “the use of smaller, lighter and more specialised road passenger vehicles must be encouraged”.



L-category vehicles not only can save time, space and money for commuters. They also have the added benefit of reducing congestion for all road users.



Motorcycling also allows for alternative forms of mobility, such as cruising, which involves riding a vehicle for the pleasure it brings.

## Other advantages of L-category vehicles

Also, because of their limited dimensions, motorcycles, mopeds, tricycles and quadricycles are easier to park and reduce travelling times. They have reduced running costs and create fewer impediments for pedestrians and cyclists.

L-category vehicles have many fleet and logistics applications too. Police, paramedics, breakdown services, among others, use motorcycles when they need to cut through the traffic.

In addition to these inherent benefits, advanced internal combustion engines with technologies such as electronic injection, catalytic converters and reduced internal engine friction, means that L-category vehicles have a limited environmental impact.





L-category vehicles allow public safety professionals such as policemen, doctors and firefighters to arrive quickly to where they are needed most.

## More motorcycles and mopeds would alleviate traffic jams

There is solid evidence that a higher share of motorcycles and mopeds in the traffic mix would reduce congestion levels.

A study performed by Transport & Mobility Leuven, *Commuting by motorcycle: an impact analysis*, analysed the problem of congestion on a stretch of road from Leuven to Brussels on the E40 highway during rush hour, based on the traffic statistics of a regular work day.

The investigation commissioned by FEBIAC showed that if just 10% of car drivers were to swap to a moped or motorcycle, congestion would be reduced by 40%. And with a 25% swap, congestion would be eliminated altogether<sup>12</sup>.

By extrapolating these observations to the entire road network, the study makes indicative conclusions: “15,000 hours lost in traffic per day could be avoided in Belgium, equivalent to a total time savings of approximately 350,000 € per day.”

The study shows that motorcycles and mopeds are an extraordinary resource for easing traffic jams, making traffic more fluid and improving the quality of life in Europe’s cities.

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<sup>12</sup> Belgian Federation of Automobile and Motorcycle Industries.



L-category vehicles are particularly suitable for cities. They reduce commuting times, are easier to park, and have less running costs than cars.

## Economic benefits of motorcycle and moped mobility in cities

Pierre Kopp, professor of Economics at La Sorbonne University, published a study<sup>13</sup> examining the consequences of the increase in motorcycle and moped traffic (measured in vehicle/km) in Paris.

The share of motorcycles and mopeds in Paris traffic increased by 36% between 2000 and 2007, with these vehicles now accounting for a share twice as large as that of buses.

An original survey has shown that 21 million additional passenger kilometres were made by PTWs in 2007 compared to 2000. 53% of this increase comes from people shifting to motorcycles and mopeds from public transport and 26.5% from private cars. The remaining 20% is attributable to the increased use of PTWs by those already using such vehicles in 2000.

Through a cost-benefit analysis, weighing time spent in traffic, impacts on road safety, environment and taxes, the study concluded that, despite the absence of supportive accompanying public policies, the shift towards PTWs over the period 2000-2007 generated a considerable gain for the community.

<sup>13</sup> La contribution des deux roues motorisées à la mobilité dans une grande métropole: le cas de Paris. Revue Transport, July-August 2009, n° 456. Document available at <http://goo.gl/m5h26b>

## Reducing commuting times in cities

A study by ADEME<sup>14</sup>, the French Environmental Agency, concluded that 'pure' PTWs travel time was halved when comparing PTW and car trips in the city of Paris. The survey was performed in "real life" conditions with the aim of comparing the two modes of transport on the same type of use.

They were timed on a typical "homework" trip, between a suburb (Linas) and the Paris city centre (Musée d'Orsay), at peak time. While car drivers needed, on average, 88 minutes to cover a 31 Km journey, motorcycle and moped users made it in 44 minutes, clearly benefiting from their lower exposure to congestion (less idling in traffic).

The study also showed that car drivers needed on average an additional 16 minutes to find a parking place.



In many European countries leisure machines offer a 'cross over' function, also being used for commuting.

<sup>14</sup> Agence de l'Environnement et de la Maîtrise de l'Energie (ADEME). Deux roues motorisées Euro3: progrès environnementaux et comparaison à l'automobile, Etudes Ademe, 2007.



The L-category segment encompasses a wide range of vehicles including powered-two and three-wheeled vehicles as well as quadricycles.

## Alternative-fuelled L-category vehicles

In recent years, the motorcycle industry has started developing new electrically- and hydrogen-powered models as well as hybrid vehicles. They emit little or no carbon monoxide and dioxide (CO, CO<sub>2</sub>), hydrocarbons (HC), nitrogen oxides (NO<sub>x</sub>) or particulate matter (PM).

Furthermore, these vehicles operate in a smoother manner and consequently have very low sound emissions. From the user's point of view, they can be easily charged at home or work, without special charging infrastructure.

Compared to electric cars, electric mopeds, motorcycles, tricycles and quadricycles have substantially lower prices. This makes them affordable to a wider range of people. And as a result of their reduced weight and mass they are easier to electrify than cars. Furthermore, they can take full advantage of the key features of mobility in urban environments: trips in high-traffic density zones, short travelling distances, and limited availability of parking spaces.

In spite of these comparative advantages, market uptake of electric mopeds, motorcycles, tricycles and quadricycles remains limited. According to ACEM's estimations, only between 1% and 2% out of all L-category vehicles registered in Europe in 2014 were electric models.

It is true that some countries are witnessing an increase in the number of electric vehicles. In the Netherlands, for example, registrations went up from 4,090 units in 2010 to 5,123 units in 2014. In Spain, registered vehicles increased from 165 in 2010 to 1,053 in 2014. Notwithstanding this, the absolute figures remain for now at niche levels.

The fact that some national administrations do not yet distinguish between internal combustion engine and electric engine vehicles in their official statistics is symptomatic of the situation in this segment of the market.





In recent years, the motorcycle industry has started developing new electrically and hydrogen-powered models, as well as hybrid vehicles.

## Stimulating market update of alternative-fuelled vehicles

In 2013, as part of its efforts to promote the electrification of transport, the European Commission proposed a Directive on the promotion of clean and efficient road transport vehicles. The original Commission's proposal included very ambitious objectives such as specific targets for charging points all over the EU to be achieved by 2020.

However the final text agreed by the Council of the EU and the Parliament adopted a more flexible framework, without quantitative objectives.

Also, important efforts have been made in the field of harmonisation. Experts from the public and private sectors working together at the CEN-CENELEC's working group 69 of the technical committee 23 have defined a standard to harmonise plug-ins for electric L-category vehicles (type 3a plugs).

An explicit reference to this standard should be made in Directive 2014/94/EU on the deployment of alternative fuels infrastructure. This would facilitate the free movement of products within the internal market and would increase their acceptance among consumers, providing further possibilities for charging in public spaces.



KTM Motorrad has launched electric motorcycles specifically designed for sports activities like enduro.

## Levelling the playing field

Financial and tax incentives can also play a key role in creating an adequate environment for the uptake of vehicles running on alternative fuels. Although some national governments have launched rounds of subsidies to incentivise sales of electric vehicles, powered-two and three-wheelers are not always eligible for these schemes.

This situation, which creates an unequal playfield between electric L-category vehicles and other electric means of transport, should be changed.

Whether the share of electric vehicles increases or not will depend mostly on two elements: consumers' choices and the policies that will be put in place by decision-makers. For the time being, and quite likely for years to come, internal combustion engines will continue to play an important role in transportation.



Fuel cell scooters use an hydrogen fuel cell to power its on-board electric motor. They only emit water and heat.

## The importance of cooperative research: the RESOLVE project

Research can play a key role in increasing the uptake of e-mobility solutions across Europe. Cooperative publicly funded research can effectively complement in-house development projects, and help companies to develop innovative products.

The European Green Vehicles Initiative (EGVI), a public private partnership, will be instrumental in achieving a “smarter, greener and more integrated transport”, one of the objectives of the EU Framework Programme Horizon 2020.

In February 2015 the European Commission decided to allocate between 5 and 8 million euros to the RESOLVE project under the GV5 call of the Horizon 2020 programme. This initiative will develop new prototypes of vehicles with innovative powertrains.

Projects like RESOLVE illustrate the importance of EGVI as a platform to create synergies between partners, and are an excellent example of cooperation between industry and policy-makers.

## What can policy-makers do?

L-category vehicles are an essential part of the toolbox available to solve the traffic congestion and parking problems that affect many European cities. In this regard ACEM recommends European and national policy-makers to:

- **Mainstream motorcycling into transport policies.** The future of city centres, their vitality and the preservation of their role as assets for social and economic development is closely related to ensuring mobility. National and local policy-makers must understand that powered-two and three-wheelers as well as quadricycles can help to increase urban traffic fluidity and reduce congestion.
- **Achieve higher co-modality levels.** Transport policies must be established on the understanding that transport modes are generally complementary. Motorcycles, mopeds, tricycles and quadricycles are used not only over short distances but also as part of longer 'multi-modal' journeys. Indeed, they can be used at the beginning and/or end of journeys where public transport cannot offer a complete door to door solution. This will require specific facilities at public transport intersections.
- **Improve infrastructure for mopeds and motorcycles.** Road design and infrastructure need to be motorcycle friendly. This can be achieved, for example, by opening bus lanes to motorcycles and mopeds, such as in London or Madrid. This initiative, which has helped to optimise the use of existing road infrastructure, should be encouraged by the EU in other cities. Also, the construction or renovation of hubs (e.g. railway and bus stations) should be linked to the provision of adequate motorcycle and moped parking infrastructure for commuters.
- **Adopt policies that support innovation.** Electromobility is a relatively recent field and many important engineering challenges remain to be addressed. Industry efforts should be supported in different areas, such as optimisation of batteries' weight and volume, or charging infrastructure, which would greatly benefit from further European support.
- **Put in place appropriate financial and tax incentives.** A sensitive combination of financial and tax incentives would also be required in order to create an adequate environment for the uptake of vehicles running on alternative fuels. Although some national governments have launched rounds of subsidies to incentivise sales of electric vehicles, powered-two and three-wheelers are not always eligible for these schemes.
- **Type 3A plugs.** Experts working at CEN-CENELEC's TC 23 WG 69 have defined a standard to harmonise plug-ins for electric L-category vehicles (type 3a plugs). An explicit reference to this standard should be made in Directive 2014/94/EU on the deployment of alternative fuels infrastructure. This would facilitate the free movement of electric L-category vehicles within the internal market and would increase their acceptance among consumers.





## 7. OTHER SOCIAL ADVANTAGES OF MOTORCYCLING: LEISURE AND SPORTS

Motorcycling offers quality of life not only through affordable mobility but also through the enjoyment of sports, leisure and tourism.

Motorcycle use for leisure and sport attracts many around the world for the personal benefits they can bring: social interaction with others, an alternative form of tourism, and the pleasure of riding as an end in itself, among others.

The motorcycle sport and leisure sector covers a wide range of activities enjoyed by, and involving the participation of, large numbers of motorcyclists and non-riders alike.

### Motorcycling sports: a wide range of disciplines

Motorcycling sport runs in different disciplines such as road racing, which includes Grand Prix, speedway, and superbike events. There are also off-road activities, such as motocross, supercross, trial, enduro and grass track competitions.

The different motorcycle Grand Prix races in Europe attract hundreds of thousands of spectators. The same applies to events that, although do not have the scale of some of the large road-racing competitions, still attract many riders, support teams and spectators on a regular basis.

These different types of competitions play also an important role as a catalyst for social inclusion and contributing to spreading the positive values of sport.

Furthermore, their economic contribution and impact can be significant and involve expenditures of spectators/visitors, competitors, support teams, exhibitors, organisers and media. The sports competitors and teams not only spend money at each event, but invest on motorcycles, components, clothing, accessories and fuel, and contribute heavily to R&D activities.

Motorcycling sports gather millions of fans worldwide. The most attended events, such as the Moto Grand Prix in Jerez, Spain, can draw up to 250,000 enthusiasts over a weekend. Events like this one bring important economic benefits to the surrounding areas, particularly through increased tourism.

They also offer important business opportunities related to sponsoring, advertising and TV rights to broadcast competitions.

### Sports and technological innovation

The motorcycle sport sector is also at the forefront of many innovative and technological advances, which are then adapted to standard or non-sport motorcycles. Motorsports contribute to manufacturers' research and development activities in a wide range of areas such as safety, environmental performance, reliability and overall rideability.

Examples of innovations that originated in motorcycle racing include airbag jackets for riders, ABS brakes and advanced engine management systems, among others.



Motorcycle racing is a popular competitor and spectator sport that allows for emotions in a controlled environment. Motorsports play a key role in manufacturers' research and development activities.

## Leisure motorcycling and tourism

The motorcycle leisure sector is closely linked to the wider tourism sector. Motorcycle touring offers an alternative way to enjoy the pleasure of riding as an end in itself, as well as visiting the outdoors. The industry has developed tourism-oriented vehicles which provide considerable comfort and a high storage capacity.

Leisure motorcycling has developed to the point that nowadays specialised companies organise tours across Europe. Similarly, several companies offer leisure-oriented training programmes (e.g. off-road riding training).

Leisure motorcycling supports employment in tourism-related activities, such as accommodation, food and drink, retail and recreation providers. A large number of the firms operating in this sector are small family-run businesses, many of which employ riders on a part-time basis to provide support during the tours.

The tour providers offer a range of services to motorcyclists including expedition guides and support teams, bike hire/freight, hotels and bed and breakfast accommodation, food and drink, etc. Tours are typically focused on more rural and remote areas of Europe.

Most overseas tours have traditionally focused on destinations in Europe and the US, although there has been significant recent growth in tours to Northern Africa, South America, Asia and Australia.





Touring motorcycles are optimised for long-range travel. Together with sports motorcycles, adventure/touring vehicles are the core of the leisure sector.

## Tourism spending relating to motorcycling

Most European national authorities do not collect official statistics on the touring sector, nor do they look at its indirect economic impacts on tourism expenditure. Nonetheless, there are estimations available for some countries.

In the UK, for example, the average motorcyclist undertakes at least 4.4 leisure day trips and 2.1 overnight stays per annum, equating to 5.3 million day trips and overnight trips of 2.5 million nights each year. Around 109,000 riders from the UK take tourism-related motorcycling trips abroad each year, compared to 46,000 international riders visiting the UK.

Domestic tourism spending relating to motorcycling (excluding expenditure relating to the motorcycle sports and leisure sub-sector) is estimated to be £562 million (2012 prices). Moreover, overseas motorcycling tourists are estimated to account for £28 million of expenditures in the UK – which gives rise to an additional economic impact at the national level. This excludes expenditures of overseas visitors at UK sports and leisure events.

The total tourism spending associated with motorcycling is estimated to support 13,200 FTE tourism jobs in the UK, of which approximately 650 are supported by expenditure from overseas motorcycling visitors.

### Source

*The economic significance of the UK motorcycle industry*

GHK study commissioned by the UK Motorcycle Industry Association (MCIA)



Many people ride simply for pleasure it brings and to discover new places.



The adventure touring motorcycle concept encompasses dual-sport motorcycles designed specifically to provide long range touring capabilities both on roads and off roads making virtually any destination reachable.



## 8. ROAD SAFETY, A SHARED RESPONSIBILITY

### Positive developments in the area of road safety

Over the last decade a substantial decrease in the number of road casualties affecting powered-two-and three-wheelers took place. This decrease, albeit less pronounced than in other means of transport, happened in the context of a substantial expansion of the motorcycle and moped circulating park. The motorcycle industry's long-term commitment to road safety has played an important part in achieving this positive result.

According to the data from the International Traffic Safety Data and Analysis Group (IRTAD), between 2000 and 2012 the number of fatal accidents involving motorcycle and moped users in the EU fell by 39%. More recently, between 2010 and 2012, this figure decreased by 13.4%.

The important progress made on road safety should not be a reason for complacency. Road fatalities still affect a high number of vulnerable road users, particularly motorcycle riders. This is an issue that requires decisive action.



The city council of Barcelona increased the safety of motorcyclists by introducing advanced stop lines at junctions.

## The need for an integrated approach to road safety

ACEM members work continuously to improve road safety for motorcyclists and other road users. The industry has achieved high safety levels for existing products and continues to bring advanced and innovative vehicles while ensuring a high level of safety for users.

Advanced motorcycle design includes features such as anti-lock braking systems (ABS) and traction control systems (TCS), tyre pressure monitoring systems (TPMS), electronic adjustable suspension systems, and adaptive, projector and xenon headlights, among others.

However this is only one part of the integrated approach that is required to responsibly address the issue of road safety. A genuine integrated approach to road safety should include not only vehicle technology but also human behaviour and infrastructure. Therefore industry-led initiatives must be complemented by decisive public action.

In particular, decision makers should address strategic policy areas including: enforcement of road traffic rules, riders' behaviour on the road and infrastructure design and maintenance. These areas should be addressed through inclusive policy plans at local, regional and national levels.



Powered-two and three-wheeler vehicles must be included in mainstream transport policy in order to improve the safety of vulnerable road users.



## Understanding the causes of motorcycle accidents: the MAIDS study

Between 1999 and 2004 ACEM, with the support of the European Commission and other partners, conducted an extensive in-depth study of motorcycle and moped accidents between 1999 and 2000 in five sampling areas located in France, Germany, Netherlands, Spain and Italy.

The study followed a methodology developed by the OECD for on-scene in-depth motorcycle accident investigations. A total of 921 accidents were investigated in detail. The investigation included a full reconstruction of the accident, vehicle inspections and interviews with witnesses of the accidents, as well as the analysis of medical records of the injured riders, whenever possible.

The analysis of this data allowed researchers to identify all the human, environmental and vehicle factors which contributed to the accidents. To provide comparative information on riders and PTWs that were not involved in accidents in the same sample areas, data was collected in a further 923 cases.

MAIDS remains the most important in-depth database of powered-two and three-wheelers accidents in Europe. Its results are still being used by researchers and manufacturers to improve knowledge about accidents and to develop appropriate safety countermeasures.

Furthermore, the motorcycle industry supports the ongoing study on accident causation for traffic accidents involving powered two-wheelers and bicycles in the EU 'SaferWheels'. This study, led by the University of Loughborough, aims at collecting will aims at collecting knowledge about serious road traffic injuries. This data will be used to identify more effective measures to prevent serious accidents.

## Looking into the future: intelligent transport systems

In the years ahead, further technological breakthroughs will come through innovative intelligent transport systems (ITS), which will allow vehicles to interact with each other and with surrounding infrastructure.

Research shows that the most frequent factor causing accidents is human error and, more specifically, the failure of other road users to see motorcycle or mopeds within the traffic environment. This can be caused by lack of driver attention, temporary view obstructions or the low conspicuity of the moped or motorcycle.

These problems could be addressed by enabling drivers to receive a message indicating that a motorcycle is approaching or in case of an emergency situation, a 'collision warning' message. This form of 'digital' conspicuity of motorcycle and mopeds would result in a higher level of safety for riders. For this reason, the industry sees vehicle to vehicle (V2V) communication as a technology which has a high potential to improve road safety across the EU and may lead to better integration of motorcycles in the transport system.



Some ACEM manufacturers have created their own line of riding gear that keeps riders both safe and comfortable on the road.



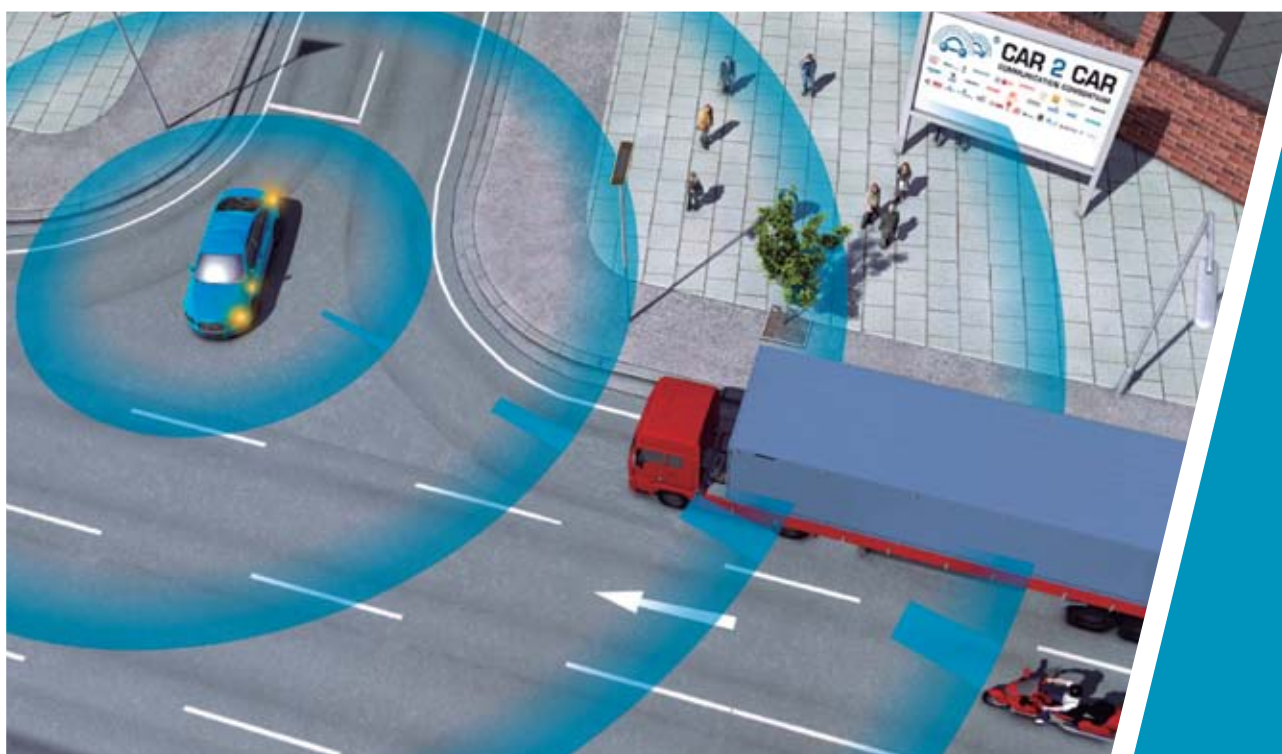
## ACEM Memorandum of Understanding on ITS

An important step towards the deployment of ITS was taken in March 2014 with the adoption of a Memorandum of Understanding on cooperative ITS. The objective of this Memorandum is to accelerate and coordinate the deployment of safety relevant cooperative ITS<sup>15</sup> on powered-two and three-wheelers in Europe.

By signing this Memorandum ACEM manufacturing members agreed to initiate the deployment of safety-relevant cooperative ITS and committed to have at least one of their models available for sale with a cooperative ITS application available either as standard equipment or as optional equipment by 2020.

Motorcycle and moped users are among the most vulnerable road users. To improve their safety levels ACEM members are committed to improving their digital conspicuity. This was foreseen in the second phase of the CAR 2 CAR Communication Consortium's Memorandum of Understanding, in collaboration with other vehicle manufacturers.

Market introduction will require the finalisation of ongoing activities on standardisation, validation and field operational tests. It will also require the completion of a number of related activities by other players including infrastructure organisations and public authorities.



The CAR 2 CAR Communication Consortium is dedicated to the objective of further increasing road traffic safety and efficiency through cooperative ITS with vehicle-to-vehicle communication (V2V) supported by vehicle-to-infrastructure (V2I) communication.

<sup>15</sup> Cooperative ITS is defined as a network of systems in which communication partners (vehicles, traffic infrastructure and/or service providers) provide and/or exchange information (i.e. 1- or 2- way of communication).

## Towards an eCall system for motorcycles

eCall technology allows for an emergency call to be made, either automatically or manually, from a crashed vehicle immediately after a road collision has occurred. The technology is already available in some cars, and the motorcycle industry has started research into how an embedded eCall system could work on motorcycles.

The minimum technical requirements needed for such a system have already been defined and research activities are ongoing in order to address the technical challenges of the system (e.g. development of crash sensor systems, accident-recognition, prevention of unnecessary triggering, etc.).

Once industry research is completed, it will be necessary to carry out standardisation activities and to develop a technical concept for eCall. At the end of this process, a reliable and robust eCall device for motorcycles will be available for consumers.

It is also important to stress that research activities on an eCall system for powered-two wheelers are being conducted in cooperation with other stakeholders in frame of the i\_HeERO consortium. i\_HeERO is a large-scale project to prepare Member State Public Safety Answering Points (PSAPs) for the deployment of eCall based on 112.



ACEM manufacturers have, in close cooperation with the car industry, participated in a number of research projects that aim to develop V2V and V2I applications. Examples of these initiatives include the CAR 2 CAR Communication Consortium, the SIM-TD and the Drive C2X projects.

## ITS solutions must be specifically designed with riders' needs in mind

ITS deployment will also require the development of appropriate human-machine interfaces (HMI), which must minimise rider distraction. For example, messages should be prioritised so that safety warnings override more general notifications.

It is also important to note that safety systems which have been primarily engineered for use in cars (e.g. advanced driver assistance systems autonomous emergency braking systems) may be dangerous to powered-two and three-wheeler riders, as this could destabilise the rider and the vehicle, potentially causing, instead of preventing, an accident. For this reason, ACEM members strongly support the use of warning systems.



A Honda Goldwing with simple, logical and intuitive HMI for faster and easier recognition of potential risks, compensating for errors of perception of momentary lack of concentration by the rider.

## The need for more tailored safety policies

ACEM strongly believes that taking into consideration the different administrative levels (local, regional and national) when developing road safety policies would allow to generate more durable and cost-effective improvements.

Moreover, all relevant stakeholders (i.e. public authorities, manufacturers, national associations as well as non-governmental and users' organisations) should come together to identify, adapt and apply measures that have a high potential to reduce the number of fatal accidents in the EU.

The motorcycle industry can certainly provide expertise on vehicle safety technology, protective equipment and future technological developments, among others. But it is also vital that public decision-makers develop and implement sound local, regional and national safety strategies for

powered-two and three-wheeled vehicles.

Evidence suggests that Member States that have developed specific road safety strategy for L-category vehicles tend to have better road safety outcomes. Conversely, restrictive policy or simply ignoring motorcycling could result in reducing awareness from other road users, putting riders at higher risk.

## Towards more efficient safety policies

The motorcycle industry will organise, in close cooperation with industry national associations and key stakeholders, thematic workshops on road safety in different parts of the EU.

The main objective of these workshops will be to create a favourable environment for improving the safety of riders in Europe. ACEM has already had preliminary discussions with some organisations in order to promote this approach, essential for road safety.

Some of the key topics to be covered in these workshops will include:

- Mainstreaming of motorcycling into transport policies
- Analysis of successful local strategies to increase safety for motorcyclists
- Safer infrastructure for motorcycling
- Public incentives to promote training of riders
- Improved knowledge on accident causation and rider behaviour
- Improvement of data gathering processes

## The importance of appropriate training

The human factor has been shown repeatedly to be the most critical factor in accidents involving powered-two and three-wheelers. For this reason the motorcycle industry encourages continued outreach to new and existing motorcycle riders on the importance of life-long rider training, including pre-licensing and voluntary post-licensing formulas.

Pre-license training provides the basic skills and awareness needed for novice riders to use their vehicles safely on the road. Subsequently, more advanced post-license courses can provide riders with additional opportunities to increase their proficiency and safety as well as their hazard perception skills.

Post-license training plays a key role in improving road safety, particularly for people who are upgrading to a more powerful motorbike, who are returning to riding after an extended period of time, or for those who want to improve their riding skills and perception abilities.

The industry recognises the importance that training plays for enhancing safer motorcycling. ACEM members have offered for many years, and continue to do so, high quality and well-tailored voluntary training options across the EU.





BMW Motorrad offered its first rider training courses back in the 70's. Today it maintains a worldwide network of partners who provide practically oriented courses delivered by qualified instructors to small groups of participants.

## Helping riders to identify better training options

As noted above, post-license training plays a key role in improving road safety. However, the quality of post-license training schemes across the EU is heterogeneous. Also, given their number, it is difficult for riders to identify the best options and make informed decisions.

For this reason, ACEM and the German Road Safety Council (DVR, Deutscher Verkehrssicherheitsrat<sup>16</sup>) have started promoting high quality training schemes through the DVR Quality Seal. Moreover, other similar quality labels are currently being developed in other EU countries including Italy and the UK.

Along with the ACEM-DVR Quality Seal, these new labels could also help to increase the visibility of the best training programmes available and pave the way towards more uniform quality standards for training in Europe.



The ACEM-DVR quality seal helps riders to clearly and easily identify high-quality post-license training programmes.

<sup>16</sup> DVR is an organisation based in Germany that brings together more than 200 members including the German Federal Ministry of Transport, transport-related Ministries of the Federal States, insurance companies, vehicle manufacturers, passenger transport operators and international organisations, among others.



## What can policy-makers do?

- **Mainstreaming motorcycling into transport policies.** Inclusive motorcycling policies should be developed by European and national policy-makers. They should recognise that PTWs are a key mode of transport, particularly in cities, and therefore should be duly taken into consideration in transport planning.
- **Developing tailored safety policies.** All relevant stakeholders (e.g. users' organisations, public authorities and non-governmental organisations) should take an active role and coordinate their efforts to further reduce powered-two and three-wheeler casualties. It is of the utmost importance that local, regional and national authorities develop specific safety policies for motorcycles, mopeds and tricycles.
- **Improving knowledge on accidents.** Accident in-depth studies and naturalistic riding studies are essential for public authorities to devise effective safety measures. In-depth and naturalistic studies should be encouraged and funded at both European and national levels.
- **Creating an adequate framework for deploying ITS solutions.** ITS can help to improve road safety records in the future. This would require a clear and sound legal framework. The industry must be allowed to explore, within a competitive business environment, appropriate technical solutions for different types of vehicles and their uses. Moreover, ITS systems should under no circumstances remove the riders' control of the vehicle. It is also important that clear rules on liability of ITS devices are set up.
- **Periodical technical inspections.** Evidence shows that poorly maintained vehicles can lead to a higher safety risk. The establishment of mandatory safety checks across the EU would prevent safety failures due to inadequate maintenance. Moreover, national governments should reinforce roadside inspections in order to identify vehicles which could represent a hazard to traffic safety, when relevant safety requirements are not fulfilled.
- **Safer public infrastructure.** Road infrastructure is at the core of road safety, especially for riders. Policy-makers need to ensure that infrastructure is well-designed, well maintained and receives the necessary investment to create a safer environment for all types of road users, particularly for vulnerable road users such as PTW riders.
- **Better training for users.** Local and national authorities should ensure that training programmes educate other road users on the common causes of accidents (e.g. perception failures or misjudgements of capabilities, vehicle blind spots and differences in stopping distances).
- **Training campaigns and post-license training.** Campaigns encouraging riders to improve their skills and hazard perception, as well as campaigns encouraging car drivers to pay attention to motorcyclists on the road, should be promoted. Also, public authorities should provide incentives for riders to undergo voluntary post-licensing training in order to keep their skills honed to a high level.

## 9. PLAYING A PART IN THE SUSTAINABILITY OF TRANSPORT

### Sustainability, a key objective for the motorcycle industry

Motorcycles, mopeds, tricycles and quadricycles sold in the EU comply with strict limits on tailpipe emissions and other pollution sources of the vehicle, such as evaporative emissions from the fuelling system. This has been made possible by steady progress in vehicle technology, which has helped meet progressively tighter emission standards as European rules have developed.

The implementation of European environmental standards, usually referred to as 'Euro' standards, is a highly technical and complex process. It involves extensive research and data analysis, and requires close cooperation between public authorities and industry.

To this end, ACEM is actively engaged in a constructive dialogue with key stakeholders including the European Commission, the European Parliament and the Council of the EU. The motorcycle industry advocates for standards that protect the environment and consumers, and are also technically attainable and economically viable.

### A new legal framework for motorcycles and mopeds

In March 2013 the EU adopted Regulation 168/2013, which sets out rules to type-approve L-category vehicles in the EU<sup>17</sup>. This Regulation provides for new environmental requirements for PTWs as well as for different test procedures to assess compliance with these new standards. The technical details regarding the environmental provisions of this Regulation are laid out in a separate legal text<sup>18</sup>.

The industry actively participated in the development of these two pieces of legislation. ACEM members provided the European Commission with information on energy consumption of different types of vehicles (i.e. internal combustion, hybrid and electric PTWs) and submitted concrete and detailed proposals on a wide range of areas: CO<sub>2</sub> measurement, durability requirements, emission control and on board diagnostic systems, among others.

Some of the industry proposals and recommendations were incorporated into the final version of the mentioned texts to create a clear and comprehensive regulatory framework for vehicle homologation and market surveillance.

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<sup>17</sup> Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles.

<sup>18</sup> Commission Delegated Regulation (EU) No 134/2014 of 16 December 2013 supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to environmental and propulsion unit performance requirements and amending Annex V thereof.

## Key elements of the new environmental standards

Under Regulation 168/2013 new environmental requirements and a new testing method for sound emissions are introduced. Moreover, manufacturers of L-category vehicles will be required to provide information on CO<sub>2</sub> emissions of their vehicles.

The Regulation also introduces an obligation to reduce emissions of the following substances:

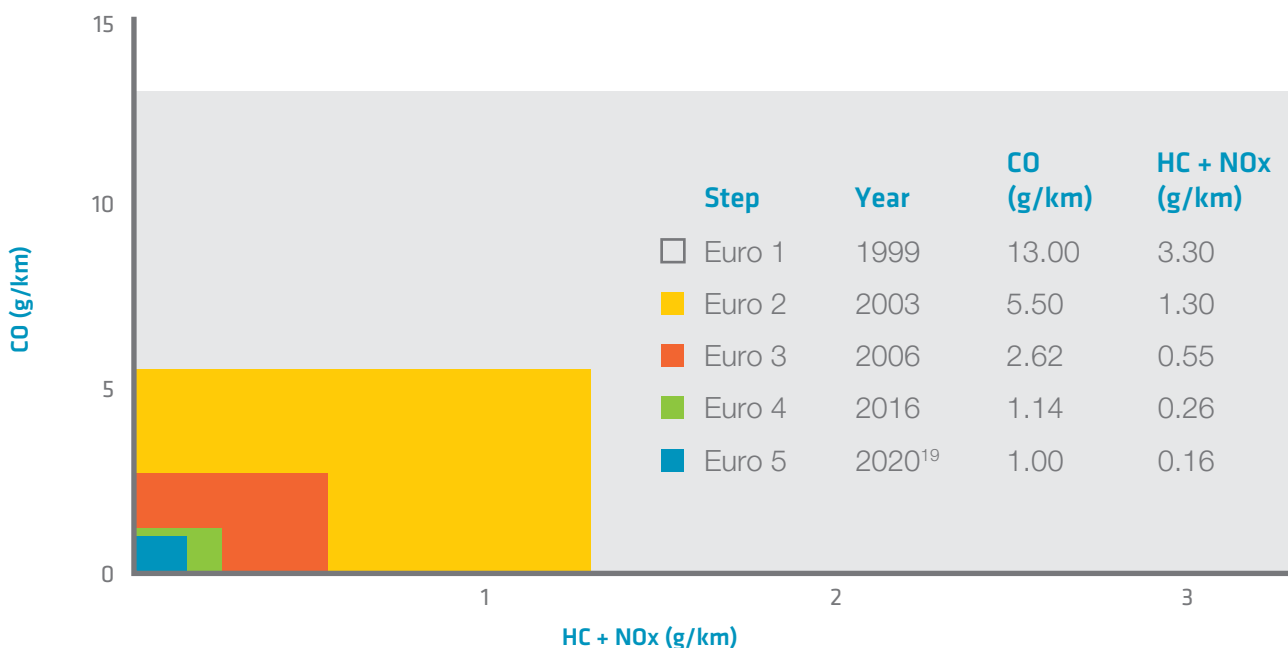
- CO (carbon monoxide)
- HC (hydrocarbons)
- NO<sub>x</sub> (oxides of nitrogen)
- NHMC (non-methane hydrocarbons)
- PM (particulate matter)

This is done through a new set of environmental standards. The standard 'Euro 4' will apply to L3e (motorcycles), L4e (motorcycles with sidecars), L5e (tricycles), L7e (heavy quadricycles) as for 1 January 2016. Euro 4 will apply to L1eB (two-wheeled mopeds), L2e (three-wheeled mopeds) and L6e (light quadricycles) as of 1 January 2017. Existing vehicles will be allowed an extra year to comply with these new standards.

## Emission reduction process for motorcycles

The sector has made considerable progress in terms of reduction of polluting substances.

The table below illustrates the emission reduction process for motorcycles.



<sup>19</sup> Subject to a confirmatory study

## The environmental study foreseen in Regulation 168/2013

Regulation 168/2013 mandates the Commission to carry out a “comprehensive environmental effect study” by 31 December 2016 to assess whether or not to introduce the Euro 5 standard for L-category vehicles as of 2020.

Important issues regarding this environmental study need further clarification. ACEM strongly believes that this analysis must carefully examine the cost/benefit ratio for the Euro 5 step for the different types of L-category vehicles.

Firstly, it is necessary to understand whether it is technically feasible. Secondly, the cost/benefit ratio for Euro 5 must be analysed.

These are critical points for the industry. A previous analysis carried out by the Laboratory of Applied Thermodynamics (LAT) at Aristotle University of Thessaloniki, Greece, suggests that although Euro 3 and Euro 4 brought considerable environmental benefits, that might not be the case for the Euro 5 step.

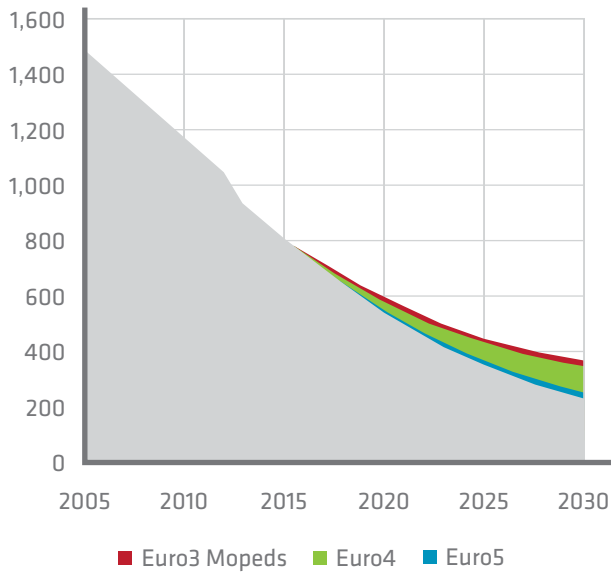
Under the Euro 5 standard, as usual when new standards are introduced, many vehicle components, including engines, would need to be modified or re-designed. This would require further investments, as well as a reasonable lead-time for implementation.



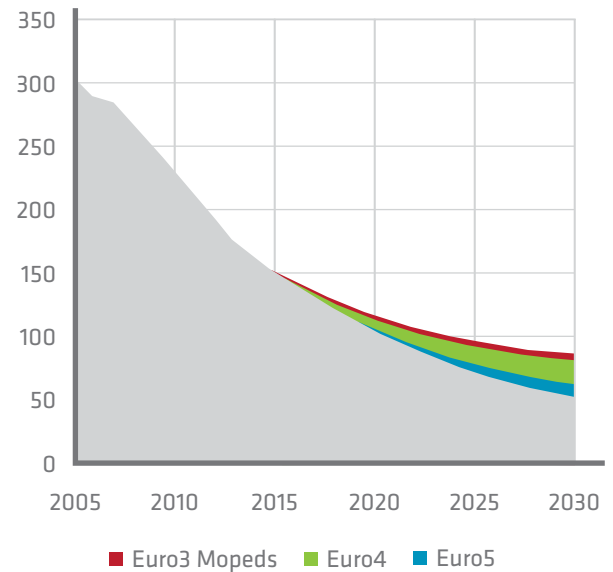
The implementation of advanced technologies - e.g. engine and exhaust after-treatment technologies - has allowed the motorcycle industry to drastically reduce pollutant emissions.

An analysis by the Laboratory of Applied Thermodynamics (LAT) at Aristotle University of Thessaloniki strongly suggests that the Euro 5 step might bring less environmental benefits than Euro 4 and Euro 3.

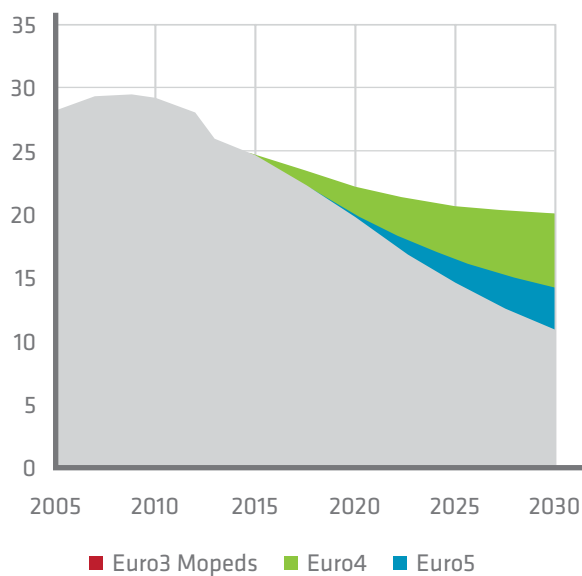
**CO L-Vehs**



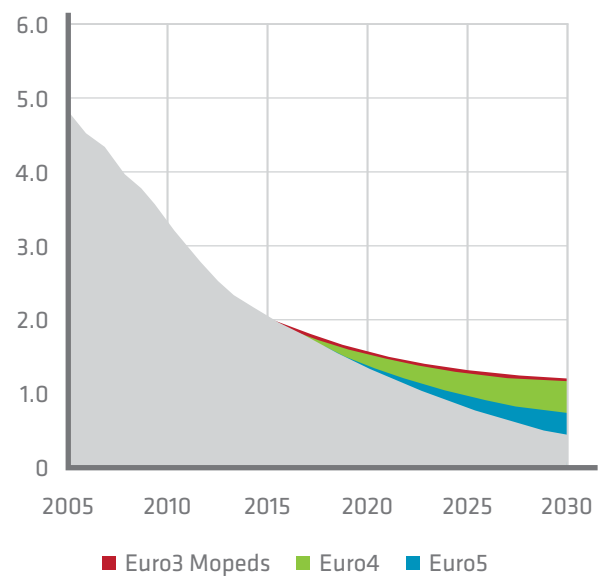
**CO L-Vehs (Exh+Evap)**



**NOx L-Vehs**



**PM Total**



## Supporting the work of policy-makers

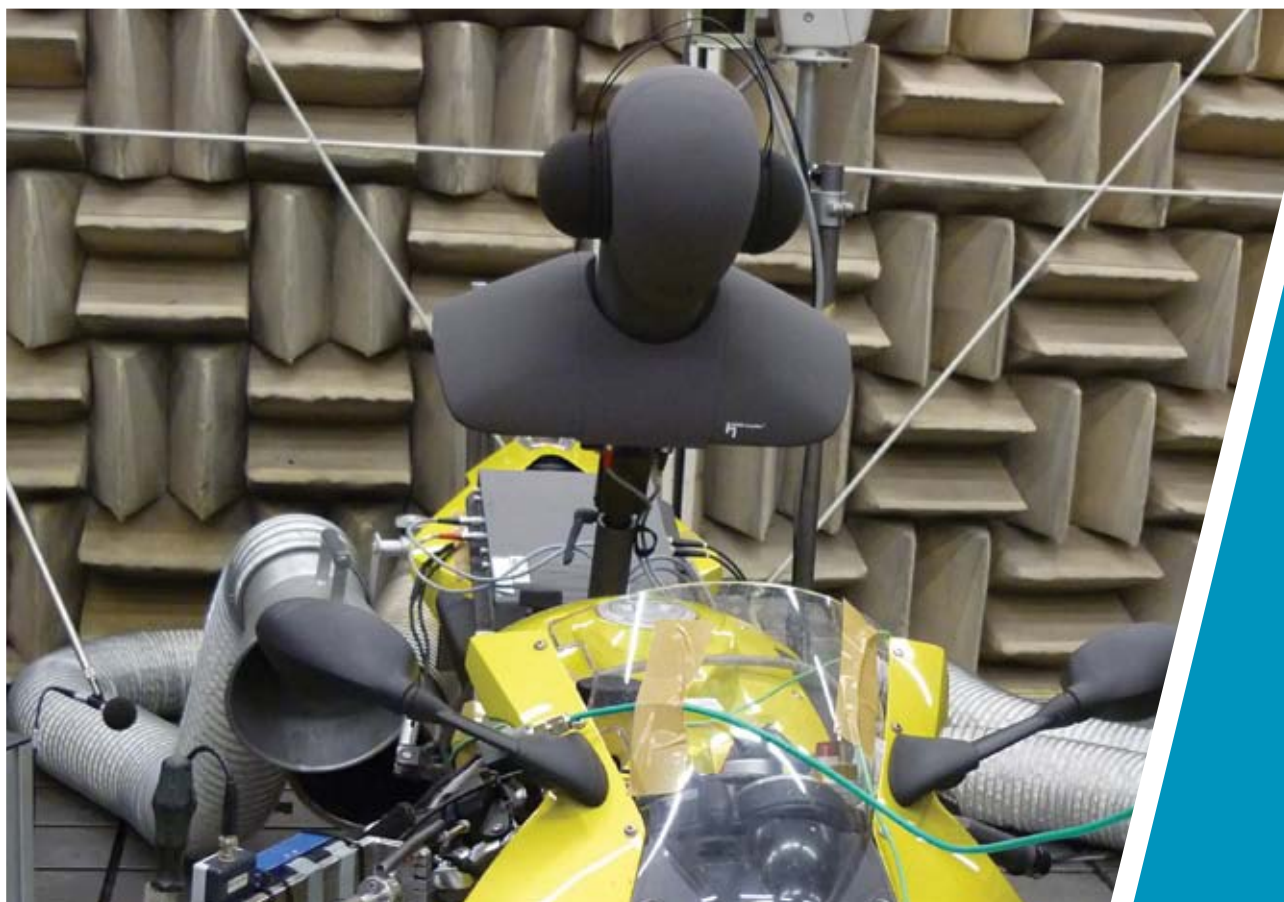
The motorcycle industry has engaged in discussions with the Directorate-General for internal market, industry, entrepreneurship and SMEs, as well as with the Joint Research Centre. The industry endeavours to supply the vehicles and test data necessary to support the 2016 study, as well as to provide the technical assistance that might be required.

In any case, since this study has not yet been completed, it is not clear whether the Euro 5 step will apply to all L-category vehicles. This situation creates considerable uncertainty for the industry and makes production planning extremely difficult.

ACEM expects that the ‘comprehensive environmental effect study’ foreseen by Regulation 168/2013 will follow the principles of ‘smart regulation’, along the lines of a fully-fledged impact assessment. Moreover, the previous impact assessment leading to Regulation 168/2013 was carried out taking as a basis pre-crisis EU market volumes. These have reduced by almost 55% between 2007 and 2013.

The market reduction has been putting high pressure on manufacturers’ R&D, and making return on investment highly challenging. This new market reality raises substantial questions regarding the cost-efficiency of Euro 5, and renders an in-depth investigation of its effects furthermore necessary, considering each category’s technical and market realities.

ACEM strongly believes that new requirements must be introduced within a reasonable timeframe, and it must be demonstrated that they are cost-efficient.



Under Regulation 168/2013 new environmental requirements and a new testing method for sound emissions are introduced.



## How does testing work?

There are several procedures for measuring vehicle emissions for regulatory purposes. One of the most commonly used is the so called World-harmonised Motorcycle Test Cycle (WMTC), which was developed by emission and testing experts at the United Nations Economic Commission for Europe.

WMTC tests are run by specialised emission laboratories which have certified measuring equipment. Exhaust gas flow is collected in bags while the vehicle is tested on the engine dynamometer. The contents of the bags are analysed at the end of the test and the test results must be below the legal emission limits.

## The need for robust testing methods

Testing methods used to type-approve vehicles in the EU must be robust, provide reliable information on emissions and reflect vehicles' real driving dynamics.

This is why the diversity of L-category vehicles must be taken into consideration when developing testing methods. The Worldwide Harmonised Motorcycle Test Cycle (WMTC), which was developed on a scientific basis by the UNECE, reflects real world riding patterns and provides an excellent way to assess the environmental performance of L3 vehicles.

Under Regulation 168/2013, a modified version of the WMTC will become a single emission laboratory test for all L-category vehicle categories as of 2020. This raises some important technical issues which need to be addressed carefully.

ACEM is ready to support efforts of European decision-makers in order to develop adequate testing solutions that take into account the real use of vehicles.

## Addressing evaporative emissions for mopeds and motorcycles

Evaporative emissions from L-category vehicles is another area where the motorcycle industry provided technical support to the European Commission. ACEM proposed an effective test procedure to measure evaporative emissions from fuel tanks. This test was subsequently included by the European Commission in Regulation 168/2013.

Furthermore, ACEM is currently assisting European Commission officials to develop a Global Technical Regulation (GTR) on evaporative emissions. This new GTR will most likely be ready around 2016. Once this standard is ready, it should be incorporated into European law in order to increase international harmonisation, reduce testing and approval complexity and protect consumers.

## On-board diagnostics systems

Simply put, OBDs are monitoring systems able to identify and inform the user about vehicle malfunctions that reduce vehicles' environmental performance. In such cases they store this information in a computer memory. The progressive introduction of OBD I systems on L-category vehicles except mopeds, was fully supported by the motorcycle industry.

Cars currently have “OBD II” systems, an enhanced standard designed to allow sensors and trouble codes to be read in real time by using a scan tool. It is unclear, however, whether car technology provides for robust monitoring in mopeds and motorcycles.

Some of the technical challenges associated with OBD II in L-category vehicles include difficulties to detect engine misfire, incorrect detection of failures (also called ‘false detections’), difficult placement of the catalyst monitor in the vehicle (due to limited size available on PTWs), decreased power and bad drivability, among others.

Furthermore, from an economic point of view, the cost-benefit ratio of such systems still needs to be determined. This is one of the issues at which the upcoming European Commission’s 2016 environmental study should look at.

## Durability requirements

The motorcycle industry also supported the introduction of durability requirements in Regulation 168/2013. These requirements are aimed at ensuring that emission performance is complied with over a prolonged period of time.

Durability test procedures should follow proven practices existing in other parts of the world. This approach would allow to reduce legislative complexity, and would avoid unnecessary duplication of testing for the industry.

## Sound emissions from L-category vehicles

The total sound emissions motorcycles and mopeds make on the road depends on different factors. Although new motorcycles and mopeds entering European public roads undergo very stringent sound level tests, vehicles on the road can sound louder than they are originally intended to.

This is the case when people purposely modify their vehicles or use unauthorised parts. The use of illegal or non-type-approved exhaust systems drastically increases vehicles’ sound emissions.

Riding behaviour and vehicle maintenance are other critical factors. A well maintained motorcycle ridden smoothly will always be considerably quieter than a poorly maintained vehicle driven in an aggressive manner. Rider education is of paramount importance to reduce sound emissions.

Some other elements to be considered include: road surfaces, tyres, engines, powertrains, etc.

The charts below compare sound emissions from vehicles equipped with original type-approved exhaust systems (green) and with tampered ones (red).

## Tackling sound emissions effectively

Traffic noise is a Europe-wide problem that must be addressed through effective and well targeted policies.

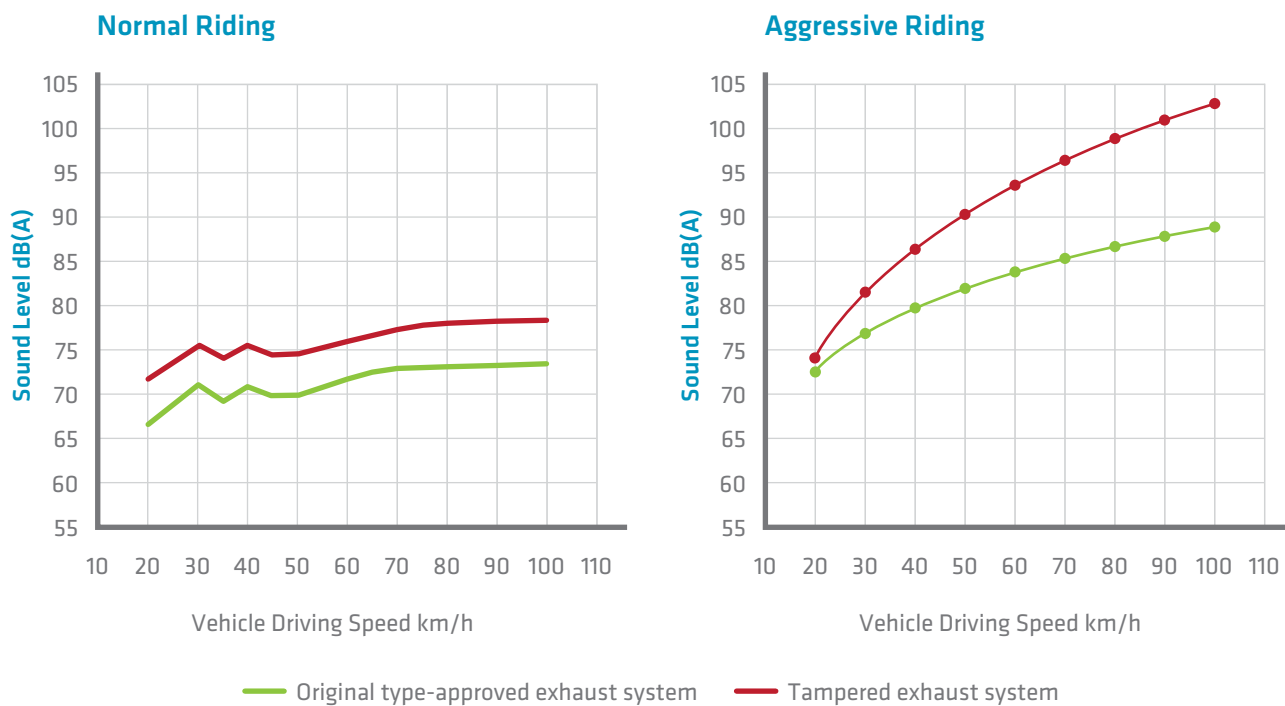
European policy-makers have already taken some steps to tackle this issue. Regulation 168/2013 and Commission Regulation 134/2014, for example, contain specific provisions on noise.

Nevertheless, in order to reach a durable solution to this issue, illegal tampering and improper use

of after-market devices must be properly addressed. This requires national authorities to implement robust road side checks and periodical technical inspections at national level.

The European Union should also accede to the relevant UN Regulations on the requirements for the replacement of exhaust silencing systems (UN Regulations Nos 9, 63 and 92).

New motorcycles and mopeds undergo very stringent sound level tests. However vehicles on the road can sound louder than they are originally intended to if they are ridden aggressively, use unauthorised parts or are not properly maintained.



## New rules on periodic technical inspections of vehicles

Until recently under EU law<sup>20</sup> only cars and larger vehicles were subject to periodic roadworthiness tests, also called periodic technical inspections.

A new Directive adopted in 2014 will<sup>21</sup> require vehicles belonging to categories L3e (motorcycles), L4e (motorcycles with sidecar), L5e (tricycles) and L7e (heavy quadricycles) with an engine displacement of more than 125 cm<sup>3</sup> to undergo periodic safety checks from 2022.

Periodic inspections and checks enhance the maintenance and repair of vehicles and increase road safety for all users. They are also an effective manner to reduce air pollutant emissions, mainly generated by older and poorly maintained vehicles. Furthermore, periodic checks discourage irresponsible tampering of vehicles.

The Directive on periodic roadworthiness tests will help to prevent safety failures due to inadequate

<sup>20</sup> Directive 2009/40/EC of the European Parliament and of the Council of 6 May 2009 on roadworthiness tests for motor vehicles and their trailers.

<sup>21</sup> Directive 2014/45 of the European Parliament and of the Council of 3 April 2014 on periodic roadworthiness tests for motor vehicles and their trailers and repealing Directive 2009/40/EC.

maintenance (e.g. failures or poor condition of lighting, tyres or braking systems) and to assist in the prevention of irresponsible tampering of vehicles.

## The importance of periodic technical inspections

Under the new rules, those Member States with “alternative road safety measures” for these vehicles are able to use a derogation from the new Directive. These Member States must show that these measures are equivalent to the proposed inspections. ACEM notes that details on how this equivalence can be quantified have not been included in the Directive.

Moreover, today L-category vehicles are not subject to periodic safety checks in almost half of EU Member States. National authorities should introduce emission checks for older vehicles during periodic technical inspections. Checking emissions during roadworthiness tests is the most cost-effective measure to control pollutant emissions.

Moreover, all L-category vehicles should fall into the scope of the Directive. The motorcycle industry, for its part, is ready to provide technical expertise and advice to national authorities that have not introduced periodic roadworthiness tests for L-category vehicles yet.

## Access to repair and maintenance information

ACEM views regular maintenance, servicing and repair as key elements to ensure that vehicles function properly and comply with safety and environmental requirements throughout their service life.

To that end, ACEM is engaged in the development of a standard for the access to technical information for the many independent operators which participate, alongside vehicle manufacturers’ networks to the proper maintenance of vehicles.

ACEM and representatives of Independent Operators work hand in hand at CEN’s technical committee 301, working group 13, to create a standard structure for websites where repair and maintenance information will be published. This should be finalised and published by mid-2016.

















Repair and servicing are essential to ensure that L-category vehicles function properly and comply with safety and environmental requirements throughout their service life.

## What can policy-makers do?

- **Implementation times.** Engines and components take several years to be designed, optimised and brought to market. Therefore, lead-times for proposals affecting manufacturing processes must be realistic and grant sufficient time for implementation.
- **2016 Environmental study.** Important issues need further clarification regarding the environmental study foreseen in Regulation 168/2013. ACEM strongly believes that this study must carefully examine the cost/benefit ratio for the Euro 5 step. Previous analysis suggests that although Euro 3 and Euro 4 brought considerable environmental benefits, that might not be the case for the Euro 5 standard.
- **Testing methods.** Testing methods used to type-approve vehicles in the EU must be robust, provide reliable information on emissions and reflect vehicles' real driving dynamics. Consequently, the diversity of L-category vehicles must be taken into consideration in order to develop sound testing methods for emissions.
- **Tackling the sound emissions challenge.** Illegal tampering and aftermarket devices are two issues that require decisive action by policy-makers. National authorities should implement robust road side checks and periodical technical inspections at national level. The European Commission must encourage Member States to accede to the relevant UN Regulations on noise (UN Regulations 9, 63 and 92).
- **GTR on evaporative emissions.** ACEM is currently assisting European Commission officials in the development of a Global Technical Regulation (GTR) on evaporative emissions. Once this GTR is ready it should be transposed into EU type-approval legislation.
- **OBD systems.** The motorcycle industry supported the progressive introduction of OBD I systems on L-category vehicles. OBD II systems, however, have been designed for cars and may not provide for robust monitoring in L-category vehicles. Furthermore, from an economic point of view, the cost-benefit ratio of such systems still needs to be determined. This very important issue also must be carefully assessed in the upcoming 2016 environmental study.
- **Durability tests.** Durability test procedures should follow proven practices existing in other parts of the world. This will also allow to reduce legislative complexity, and will avoid unnecessary duplication of testing.

# 10. ACEM MEMBERS

## Manufacturers

					<b>Kawasaki</b>
					
		 * Passion for life			

\*Guest Member

## National Associations

 Czech Republic	 Ireland	 Greece	 Italy	 Spain	 Romania
 Austria	 France	 France	 Belgium	 Austria	 Germany
 UK	 Sweden	 Poland	 Netherlands		





European Association of Motorcycle Manufacturers  
Association des Constructeurs Européens de Motocycles

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