



ACEM Commitment towards the deployment of Advanced Braking Systems

ACEM Commitment on Advanced Braking Systems offer deployment on Powered Two-Wheeler vehicles in the framework of a road safety agreement between the European Commission and ACEM

ACEM, the Motorcycle Industry in Europe, is the professional body representing the interests and combined skills of 12 manufacturers, responsible for a total of 25 motorcycle, scooter and moped brands. The members of ACEM account for 90% of the European production and powered two-wheeler market.

Background Information

1. Brake/tyre combinations on today's powered two-wheelers have very high performance capabilities in a very wide variety of traffic and road conditions. In some emergency situations, when the rider has to make decisions in a split second, human 'decision failures' and faulty collision avoidance manoeuvres sometimes lead to loss of control, tyre lock up, rear tyre slide out, etc. In other cases, the accident happens without sufficient warning for the rider to take any action.
2. In 2004, in an effort to provide simpler-to-use brake systems to riders and especially novice riders in emergency as well as in all other braking situations, ACEM manufacturers have jointly committed to the European Road Safety Charter to progressively supply powered two-wheelers with advanced braking systems, taking into account their distinctive characteristics.
3. As a result of this commitment, **35%** of the motorcycles sold by the ACEM manufacturers and registered in Europe in 2008 were equipped with advanced braking systems.
4. Demand and market acceptance are crucial to the development of advanced braking systems on powered two-wheelers, and largely depend on the appropriateness of the solutions offered, technically and in terms of cost, to the specific market segment and model.
5. ACEM believes that it would be impractical and nearly impossible to try to translate into legislation the rich variety of systems and combinations of systems and their adaptation to the variety of motorcycles and uses. A legislative approach (that, by definition, would need to be simple, clear and rigid) would lose the benefits of this diversity and would be detrimental to technology innovation.

Introduction and Principles

1. This new Commitment is part of the ACEM road safety strategy that is based on the three following main pillars
 - Improving the knowledge about motorcycling safety,
 - Developing an integrated approach, and act on
 - The human factor,
 - The vehicle,
 - The infrastructure,

- Cooperating with institutions and stakeholders.
2. This commitment has the support of all ACEM powered two-wheeler manufacturing companies including their respective affiliated companies and commercial brands:
 - Bayerische Motoren Werke AG (BMW Motorrad) as well as its affiliated company Husqvarna Motorcycles S.r.l.,
 - BRP European Distribution s.a
 - Ducati Motor Holding S.p.A.,
 - Harley-Davidson Europe Ltd. as well as its affiliated company Buell, MV Agusta and its commercial brand Cagiva,
 - Kawasaki Motors Europe N.V.,
 - KTM-Sport motorcycle AG,
 - Honda Motor Europe Ltd., as well as its affiliated company Montesa,
 - Peugeot Motorcycles,
 - Piaggio & C. S.p.A. as well as its affiliated company Derbi, and its commercial brands Vespa, Gilera, Aprilia, Scarabeo and Moto Guzzi
 - Suzuki International Europe GmbH,
 - Triumph Motorcycles Ltd.,
 - Yamaha Motor Europe n.v. , as well as its affiliated company MBK Industries.

These companies have agreed to make every endeavour to contribute to ACEM's road safety goals to reducing accidents by funding research, financing and participating to road safety projects and acting towards the common objective of improving the road safety of powered two-wheeler users through "shared responsibility" initiatives.

3. This Commitment is in line with the European Union's undertakings under the European Road Safety Action Programme and in particular with the European Road Safety Charter, whose principles were adopted by ACEM and its members after ACEM became one of the first signatories at the Dublin Charter event in April 2004.
4. At the same time this commitment aims at preserving the diversity of the product offerings of the manufacturers, reflecting the diversity of motorcycle use, encouraging the development of innovative solutions especially in the domain of braking systems. This commitment also seeks to not negatively influence competitiveness, as well as the financial performance and employment of the European powered two-wheeler industry.
5. ACEM is assuming that this Commitment provides complete and sufficient substitute for all new regulatory measures to mandate any advanced braking systems on powered two-wheelers of any category, as long as it is being honoured and produces satisfactory results in terms of market penetration.
6. The European powered two-wheeler industry's braking commitment is very ambitious in the light of present and future technologies, and the industry is willing and prepared to commit substantial development efforts to implement it.
7. Together with the European Commission, ACEM will ensure that the Commitment is implemented in a manner that is in line with applicable competition rules.

ACEM Commitment

1. This new ACEM Commitment is based on the experience and expected results from the ACEM braking commitment agreed among powered two-wheeler manufacturers under the umbrella of the European Road Safety Charter in 2004.
2. The motorcycle industry in Europe commits to progressively supply more motorcycles (powered two-wheelers above 50 cc) equipped with advanced braking systems to the market of the European Union.

3. As before, this new commitment will take account of the main purposes of motorcycles, their distinctive characteristics and specificities, e.g. balance, weight, dynamics, and general capacities, and the cost-effectiveness of the technical solutions.
4. As a result of this commitment 75% of street motorcycle models offered on the market in 2015 will be available with an advanced braking system as an option or as standard fitment.
5. To assess compliance and results with this commitment, there will be a joint ACEM/Commission monitoring of the relevant factors with regard to this commitment i.e. % of manufacturers' offering of motorcycle and market penetration. The Commission could decide to follow up the commitment and its results through an independent auditor.

Definitions and Scope

1. An **Advanced Braking System** is a braking system in which either an antilock brake system and/or a combined brake system is present. An **Antilock Brake System / ABS** is a system for sensing and controlling the amount of relative slip velocity between the tyre and road surface during braking. A **Combined Brake System / CBS** is a type of PTW braking system in which each brake manipulator (i.e., either lever and/or pedal) actuates a brake on the front wheel and a brake on the rear wheel. Definitions and performance and construction requirements for each of these brake systems are as laid down in ECE 78 or GTR3.
2. Both braking systems (ABS and CBS) can be combined and complemented with additional features e.g. rear lift off protection, automatic brake force distribution, powered braking system, braking-by-wire system etc. Any other brake system with a function and braking performance equivalent to ABS or CBS, or better, is considered as Advanced Braking System.
3. Any innovative architecture of motorcycles (powered two-wheeler above 50 cc) with a brake system, whose function and braking performance are equivalent to ABS or CBS, or better will be consolidated in the above mentioned monitoring of Advanced Braking System deployment.
4. The commitment covers street motorcycles. The commitment does not cover certain categories of vehicle known as enduro and trial motorcycles. Enduro and trial motorcycles are primarily designed for off-road use and are therefore incompatible with ABS and indeed coupling braking devices: being able to intentionally lock the wheels is essential in certain off-road conditions. The industry commitment therefore excludes those vehicles corresponding to the following characteristics:
 - Enduro Motorcycles
 - Minimum seat height: 900 mm and
 - Minimum ground clearance: 310 mm and
 - Minimum overall gear ratio in the highest gear (primary ratio x gear ratio x final drive ratio) of 6,0;
 - Trial Motorcycles
 - Maximum seat height: 700 mm and
 - Minimum ground clearance: 280 mm and
 - Maximum fuel tank capacity: 4 l and
 - Minimum overall gear ratio in the highest gear (primary ratio x gear ratio x final drive ratio) of 7,5.
5. The Industry commitment also excludes vehicles intended for production in small series of up to a maximum of 200 units a year per type of vehicle, per system, per component or per separate technical unit.

Accompanying Provisions

1. Promotion of advanced braking system technologies
This commitment is based on the assumption of an unhampered distribution of motorcycles fitted with advanced braking systems into the market via competition amongst ACEM members and other market participants which is expected to result in market mix changes. Therefore it is fundamental that any measures which might hamper the distribution process will be taken into consideration in the monitoring procedure.
2. Acceptance of innovations
The acceptance by the Commission, that innovative concepts of vehicles/features offering better performance than conventional braking systems comply with the Commitment.

Monitoring

The Motorcycle Industry in Europe will regularly communicate a status report on the progress of advanced braking systems available on the market. The joint ACEM / Commission monitoring procedure should cover:

1. The development of the manufacturers' offering of motorcycles available with advanced braking systems.
2. The development of the market penetration of registered motorcycles fitted with advanced braking systems.
3. The assessment of new technologies and vehicle architectures that can be agreed to be in the spirit of this Commitment.
4. The percentage offered with an advanced brake system shall be measured by calculating the number of types offered with an Advanced Braking System variant or version versus the total number of types offered (type, variant and version as defined in framework directive 2002/24/EC).
5. To allow manufacturers to collect all data on new model line ups, the actual calculations of the status of the commitment will happen at the end of a year (first time end of 2015).

The Commission's official reports on the monitoring results may refer to individual companies' achievements. ACEM is willing to provide the necessary data to achieve the objectives of the monitoring.

ACEM and the Commission will review the situation on the basis of the monitoring reports and make any necessary adjustments in good faith, in particular also if the impacts of this Commitment on the European motorcycle industry and market, the employment situation and the global competitive environment, would appear to be detrimental.