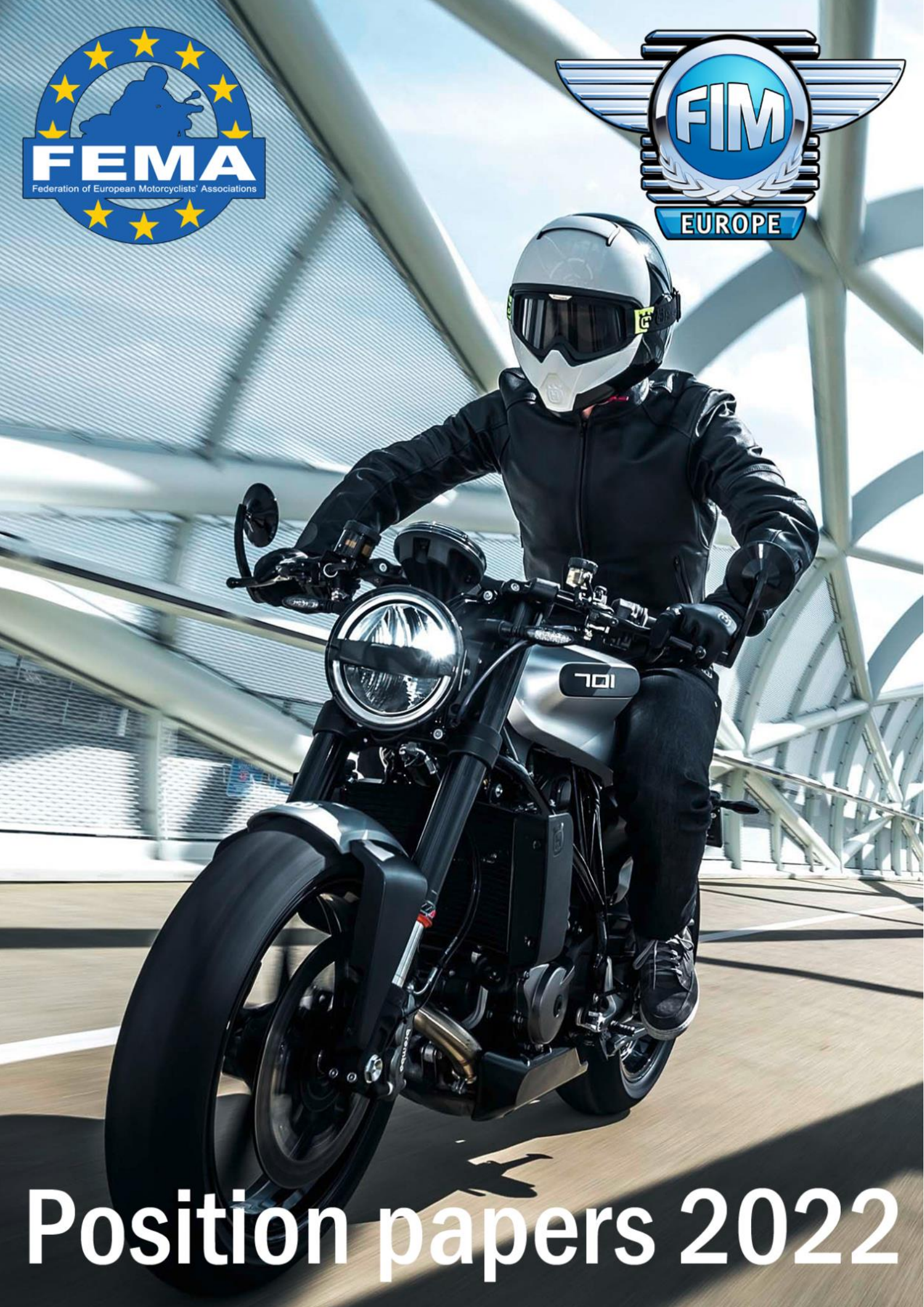
FEMA
Federation of European Motorcyclists' Associations

FIM
EUROPE



Position papers 2022

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Cover image courtesy of Husqvarna Motorcycles

After FEMA and FIM Europe in 2014 decided to work more closely, we started to investigate where our views would meet, and the results were laid down in several joint position papers. This was done in the FIM-FEMA Working Group that exists of delegates from both organisations. We choose to make the position papers compact, fitting on one A4 sheet, so that the reader can digest our positions in very short time. The first set was published in 2015 and since then they are revised every two years by the working group. The present set is the third revised collection.

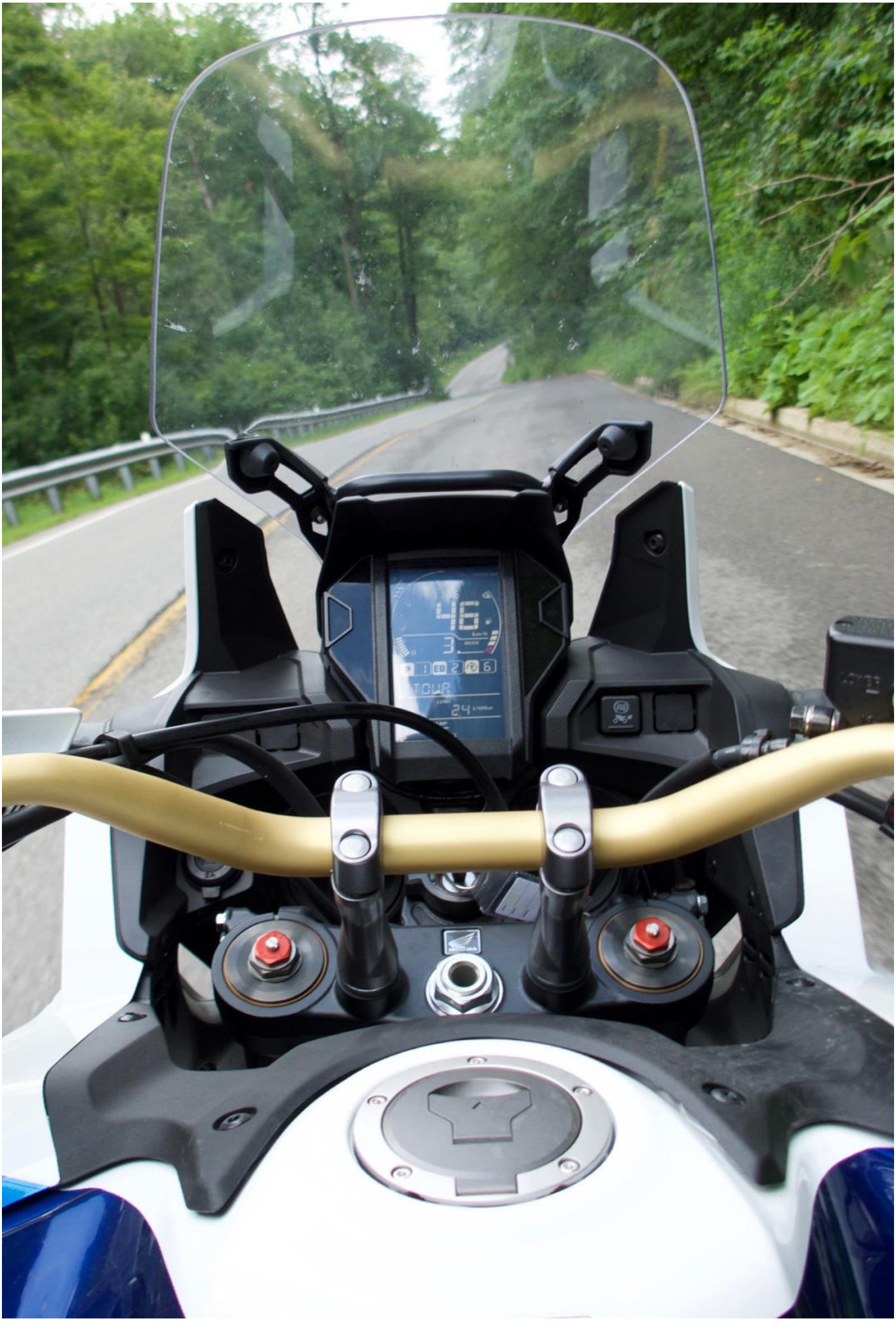
In a fast-changing world, we are confronted with many new developments. Therefore, we added a new position paper on decarbonisation because this has become an important issue, especially since the British Government and the European Commission have announced that from 2035 all vehicles should have zero CO2 tailpipe emission.

Although FIM Europe and FEMA do not share an office in Brussels anymore after 2021, the close cooperation on operational level will continue, to which this collection of joint position papers will certainly contribute. After all, our common goal is to stand for the interests of the riders of powered two-wheelers in Europe and to promote safe and affordable motorcycling.

Many thanks to all experts that have been contributed to these position papers from the beginning.

Dolf Willigers

Chair FIM-FEMA Working Group.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Position paper:

INTELLIGENT SPEED ASSISTANCE (ISA)

January 2022

In general

From 2022 new cars will be fitted with an intelligent speed assistant (ISAs) system. This system will alert drivers in a haptic way when they are speeding. Motorcyclists need to be aware of a possible introduction for powered two-wheelers (PTWs) too.

What is ISA

The working of ISA is that a vehicle is fitted with a camera that recognizes traffic signs and/or a database of traffic signs locations connected to a satellite receiver. When this system notices that a vehicle is speeding, either the engine power is temporarily limited (intelligent speed adaptation or ISAd) and/or the driver is warned by a visual or acoustic signal or in a haptic way (intelligent speed assistance or ISAs). In present schemes, the driver is always able to override the system and it is always possible to switch it off.

Speed and collisions

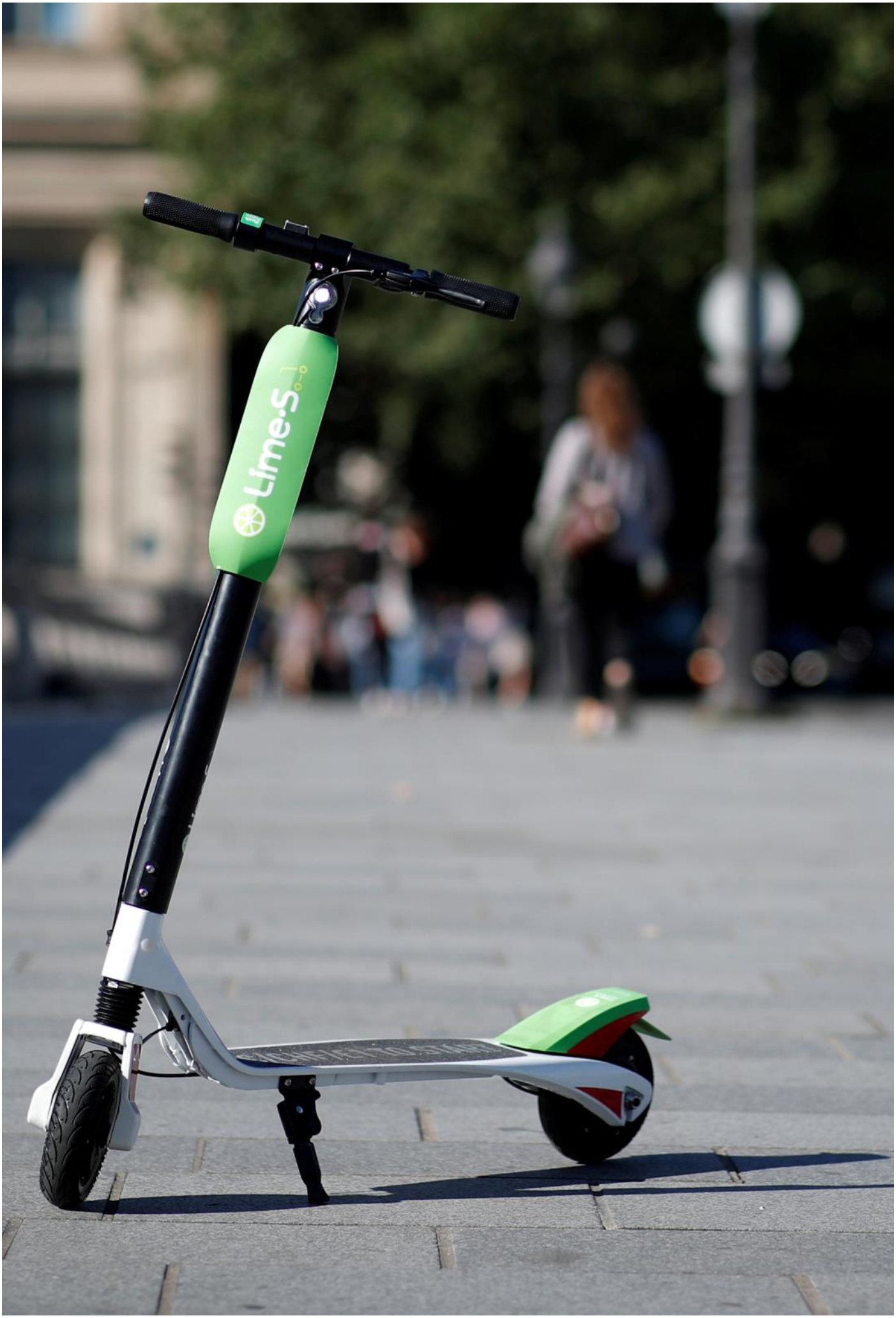
Speed is a complex factor. According to the International Transport Forum (ITF) it can influence the crash process at three different stages:

- At the driving phase, the driver can be in a situation that he cannot react or act on time.
- At the emergency phase, inappropriate speed can prevent the driver from efficiently regulating the vehicle direction and decelerate properly to compensate for a delicate situation.
- At the collision phase, speed can drastically increase the crash severity due to the kinetic energy dissipated during the crash.

ISA is expected to reduce collisions by 30% and fatalities by 20% by mass installation in vehicles. It also helps drivers and riders to avoid speeding tickets and focus more on the road instead of the speedometer.

ISAs or ISAd for PTWs

- PTWs have different dynamics than cars. Full control of speed is essential for the control of PTWs and the direction in which it goes. A system that prohibits acceleration (ISAd) is dangerous for motorcyclists due to reduced active safety and therefore not acceptable.
- ISAs for PTWs should only be implemented when it is beneficial for road safety.
- This leaves the question open if ISAs that only requires more effort from the rider to accelerate (through a greater resistance of the throttle) when he/she is speeding or going to speed is acceptable. We think that this is too dangerous and therefore not acceptable.
- Any form of ISAs should only be implemented when it is tested thoroughly first and these tests prove that there is no extra risk for the rider.
- Installation of an ISAs device should not come at high costs and should not be heavy.
- Any kind of ISAs should be overridable and the rider must be able to switch it off.
- ISA systems should be designed and fitted in a standardized way and work in the same way on all PTWs.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Position paper:

PERSONAL LIGHT ELECTRIC VEHICLES (PLEVs)

January 2022

In general

Worldwide, especially in the cities, a growing number of people are using personal light electric vehicles (PLEVs), to move on the streets; e.g. electrically powered step type "scooters" and other devices such as Segways, monocycles and powered skateboards. Bicycles, fully electric or with electric pedal assistance, are also becoming more common. Some of the bicycles have at least as much power as a L1e-B moped, and an electric kick-scooter has been seen on the road doing over 80kph. Users may choose to use them in pedestrian, cycle or vehicular space on the street. Most of these vehicles are currently not subject to any form of registration, or any other regulation usually associated with the use of vehicles such as type approval, driver training and licensing, third party insurance and the use of protective equipment. Only some of the applicable regulation is made at EU level and may be subject to variations of implementation by Member States. In some cities a significant number of injuries are being sustained by the users of these vehicles.

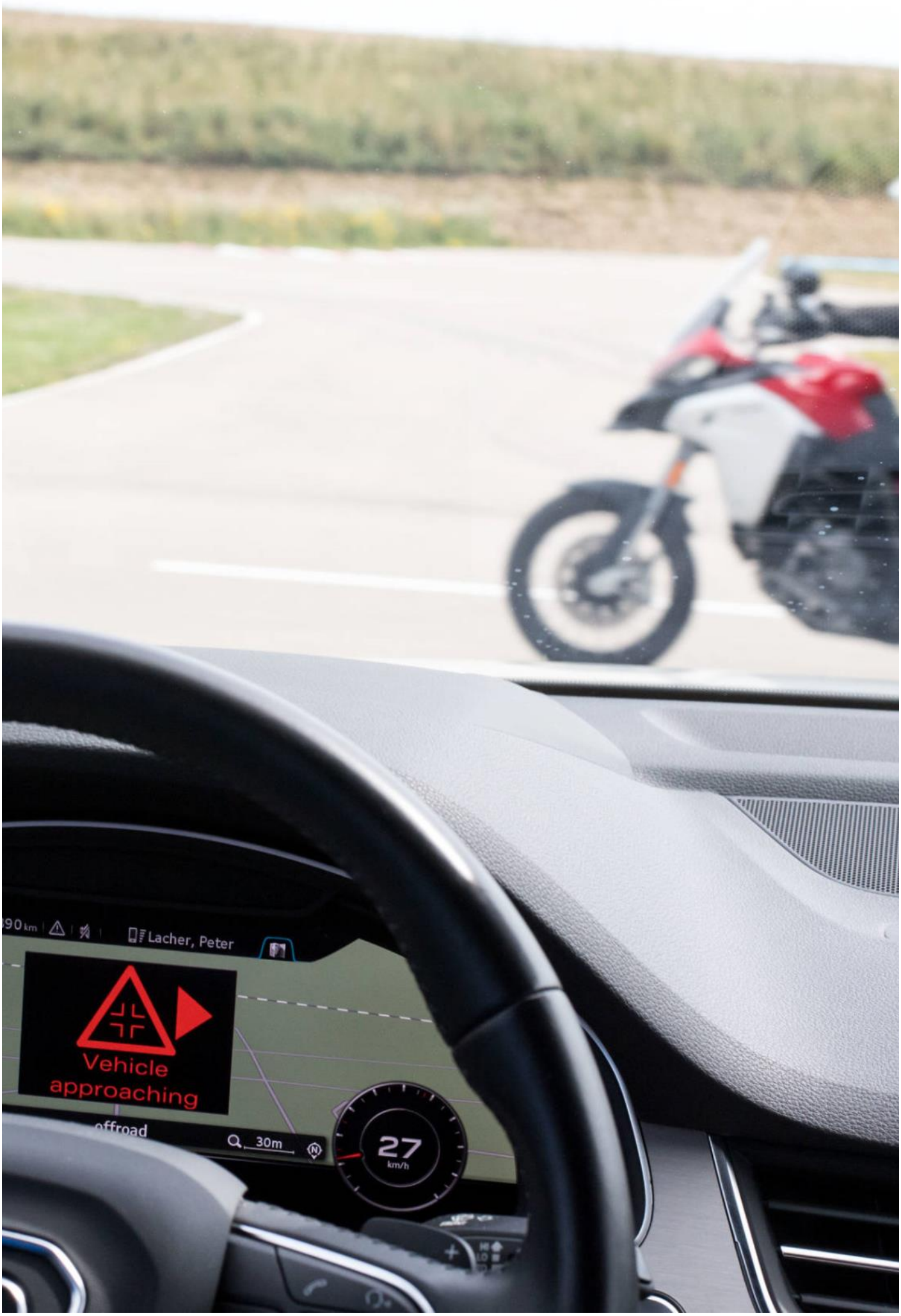
It is not within the remit of FEMA or FIM to presume to specify what regulations should be applied to the manufacture and the use of vehicles which are not mopeds or motorcycles. However, we do have concerns about their use since their users fall, as motorcyclists do, into the category of vulnerable road users.

Considerations

- Collision and injury data relating to these vehicles must be collated separately from that relating to motorcycles, mopeds, or bicycles. This is a major concern for us as we do not want to have the collision data for powered two-wheelers (PTWs) skewed by the inclusion of powered vehicles which are not subject to the same regulations.
- Consideration must be given as to what regulation, if any, should apply to these personal light electric vehicles.
- We propose to create a separate category for PLEVs to distinguish them from bicycles, electric assisted bicycles, mopeds, motorcycles, and other L-category vehicles.

Vehicle demands or test specifications should include

- The possibility of specific vehicle categorisation
- Maximum allowable speed
- Braking capability
- Lights
- Provisions for audibility of the vehicle
- Cyber security, where applicable


Lacher, Peter
Vehicle approaching
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Position paper:

ADVANCED DRIVER ASSISTANCE SYSTEMS (ADAS)

January 2022

In general

Advanced Driver Assistance Systems (ADAS) cover a wide range of systems and applications and provide personal assistance to drivers. In this context we mean ADAS for cars. ADAS can draw attention to approaching traffic and stationery or slow-moving vehicles, signal road users in the drivers' blind spot and provide prior knowledge of the traffic situation ahead. Some systems actively interfere by braking, by applying additional braking force or interfering with the steering or speed of the vehicle. In a number of situations and in certain circumstances, ADAS can completely take over the task of the driver. ADAS can work autonomously or in connection with other vehicles (V2V) or with the infrastructure (V2I/I2V).

Effects of ADAS on powered two-wheelers (PTWs)

- Riders can benefit from ADAS by better visibility, especially in combination with V2V connectivity like developed by the Connected Motorcycle Consortium (CMC) of which FIM Europe and FEMA are supporters. ADAS devices can also prevent accidents where drivers are not aware of motorcyclists, especially in situations where a car is crossing the lane of oncoming traffic, or when a car driver's vision is obscured at crossings.
- In the transition period when many PTWs belong to a declining number of non-automated and non-connected vehicles, this can cause risks if ADAS devices in cars assume connectivity and digital visibility.
- ADAS can lead to an overflow of information, thus leading to distraction and diversion.

Conditions for ADAS to be safe and acceptable for PTWs

- PTWs differ from other non-connected road users like bicycles and pedestrians in speed and acceleration. ADAS devices must be developed with all kinds of vulnerable and non-connected road users in mind, should always be tested with PTWs and must comply with UNECE regulations.
- ADAS devices must be developed and tested with non-ADAS equipped road users in mind.
- Optional retrofitting of devices, such as beacons, on motorcycles must be possible and allowed to enhance (digital) conspicuity.

Position paper:

ADVANCED RIDER ASSISTANCE SYSTEMS (ARAS) ON POWERED TWO-WHEELERS (PTWs)

January 2022

In general

ARAS covers a wide range of systems and applications that provide personal assistance to riders. ARAS can draw attention to approaching traffic, signal road users in the riders' blind spot, assist the rider in directing his attention to relevant information, provide prior knowledge of the next traffic situation, warn the rider of obstacles in his path. ARAS can work autonomously or in connection with other vehicles (V2V) or infrastructure (V2I/I2V). In this case it is a Connected ITS (C-ITS) device.

Effects of ARAS on PTWs

- Existing vehicle safety systems, such as ABS, lean ABS (or cornering ABS) and traction control, have already proved beneficial to motorcycle road safety. Other devices can be just as beneficial if the rider is allowed a full control of the throttle, both deceleration and acceleration, braking and steering.
- Systems can give warnings to riders about speed limits, oncoming curves, traffic jams ahead, damaged roads etc. However, this can also result in information overload. Special attention is needed for fully functional human machine interfaces (HMIs) that filter the needed information and cause no danger by their design.
- The situation may occur where many PTWs belong to a declining number of non-automated and non-connected vehicles, which can cause risks if ITS devices of other vehicles assume connectivity and digital visibility.

Conditions of ARAS to be safe and acceptable for PTWs

- ARAS devices for PTWs must not take over the control of throttle and steering from the rider with present technology.
- Mandatory devices must be tested on benefits for comfort and road safety and should not be implemented unless it is certain that they do not affect safety in a negative way.
- Roads should always remain accessible for vehicles that are not controlled by electronic systems, and are not connected with other vehicles and/or infrastructure.
- Retrofitting of devices that connect PTW with other vehicles and/or infrastructure should be possible and allowed, but should not be mandatory.
- Data must be secure, controlled by the vehicle owner and privacy should be guaranteed.

Position paper:

POWERED TWO-WHEELERS (PTWs) AND DECARBONISATION

January 2022

In general

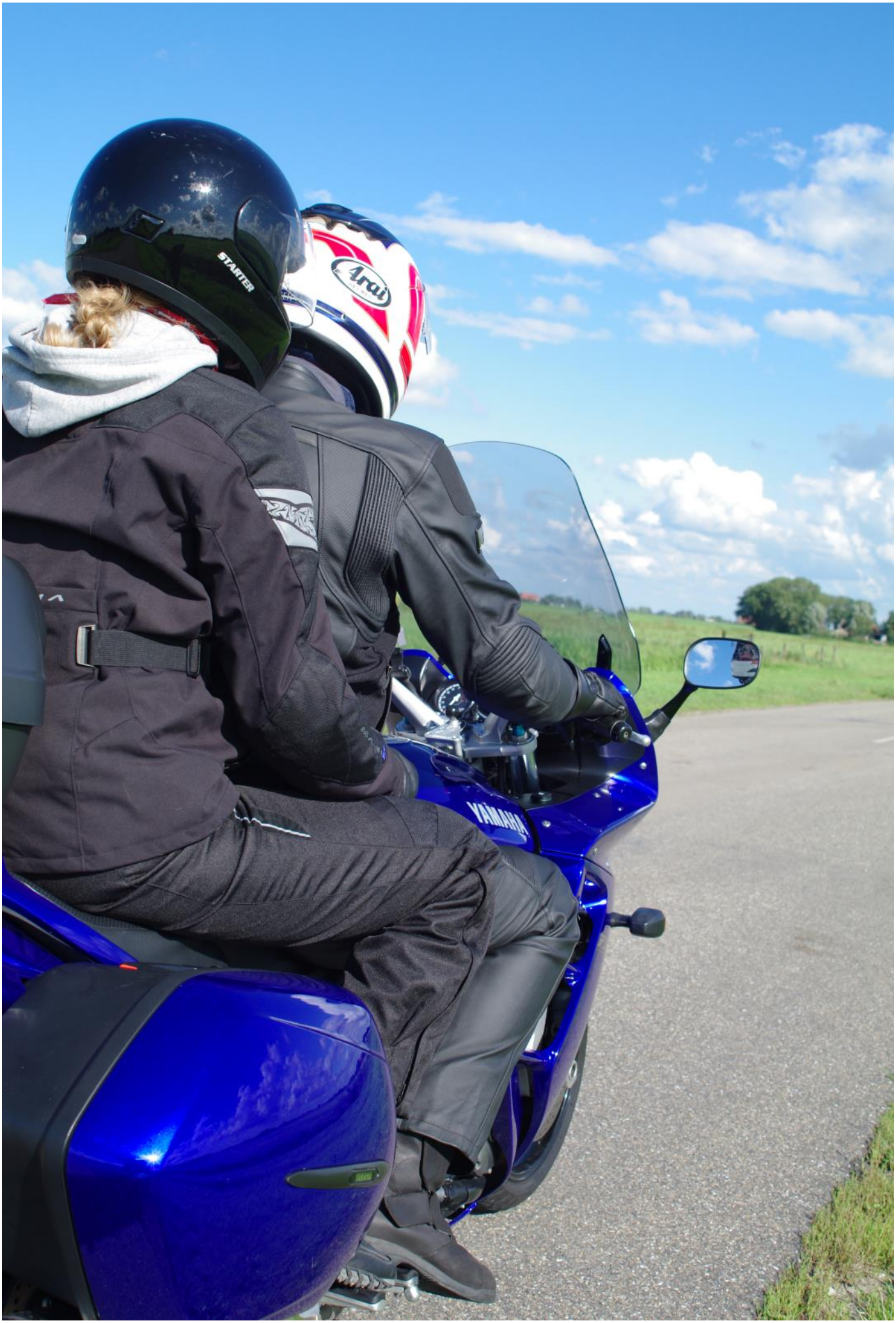
With around 315 million existing vehicles in the EU, measures to decarbonise transport rapidly must also focus on the existing fleet rather than only rely on replacing older vehicles with zero emission alternatives. Transport plays a significant part in CO2 emissions and therefore the European Commission and the government of the United Kingdom plan to eliminate sales of vehicles without zero CO2 tailpipe emission from 2035 as part of policies to reduce CO2 emissions to zero by 2050. In the UK this explicitly includes motorcycles. We recognise the need for decarbonisation. This can be done in several ways. In our view, measures to reduce the emission of CO2 should be technological neutral.

Decarbonisation of powered two-wheelers

- Batteries which can provide a substantial range and power are very heavy which in turn can have a negative effect on handling and safety of the vehicle. Therefore, current battery technologies suit electrification of limited range PTWs for use in urban areas. Long range motorcycles that are used for touring, travelling, and other more demanding activities (like emergency services) still need an internal combustion engine in the short to medium term.
- Motorcycles have become much cleaner in the last decades and have become even cleaner with the implementation of the Euro 5 emission limits in 2020. With non-carbon fuels, the well-to-wheel performance may be cleaner than alternatives like battery electric propulsion based on the low share of renewables in some EU member states.
- Techniques combining Fischer-Tropsch and carbon capture have already shown good potential to replace liquid fuels with zero- or low-carbon alternatives. This would help rapidly decarbonise the existing fleet if it can be scaled commercially. Developments of other alternative fuels are also looking very promising. For that reason, the authorities should keep an open mind to all solutions.

Contribution of motorcycles to cleaner environment

- Authorities should keep in mind that PTWs already have a very low contribution to CO2 emissions both in use and manufacture.
- PTWs need less space for parking and in traffic which in turn contributes to a better flow for other traffic and thus fewer emissions.
- Less energy and material are needed to produce and scrap PTWs. Motorcycles also have a longer lifecycle than other vehicles which reduces the CO2 emission overall.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Position paper:

POWERED TWO-WHEELERS AND THE ENVIRONMENT

January 2022

In general

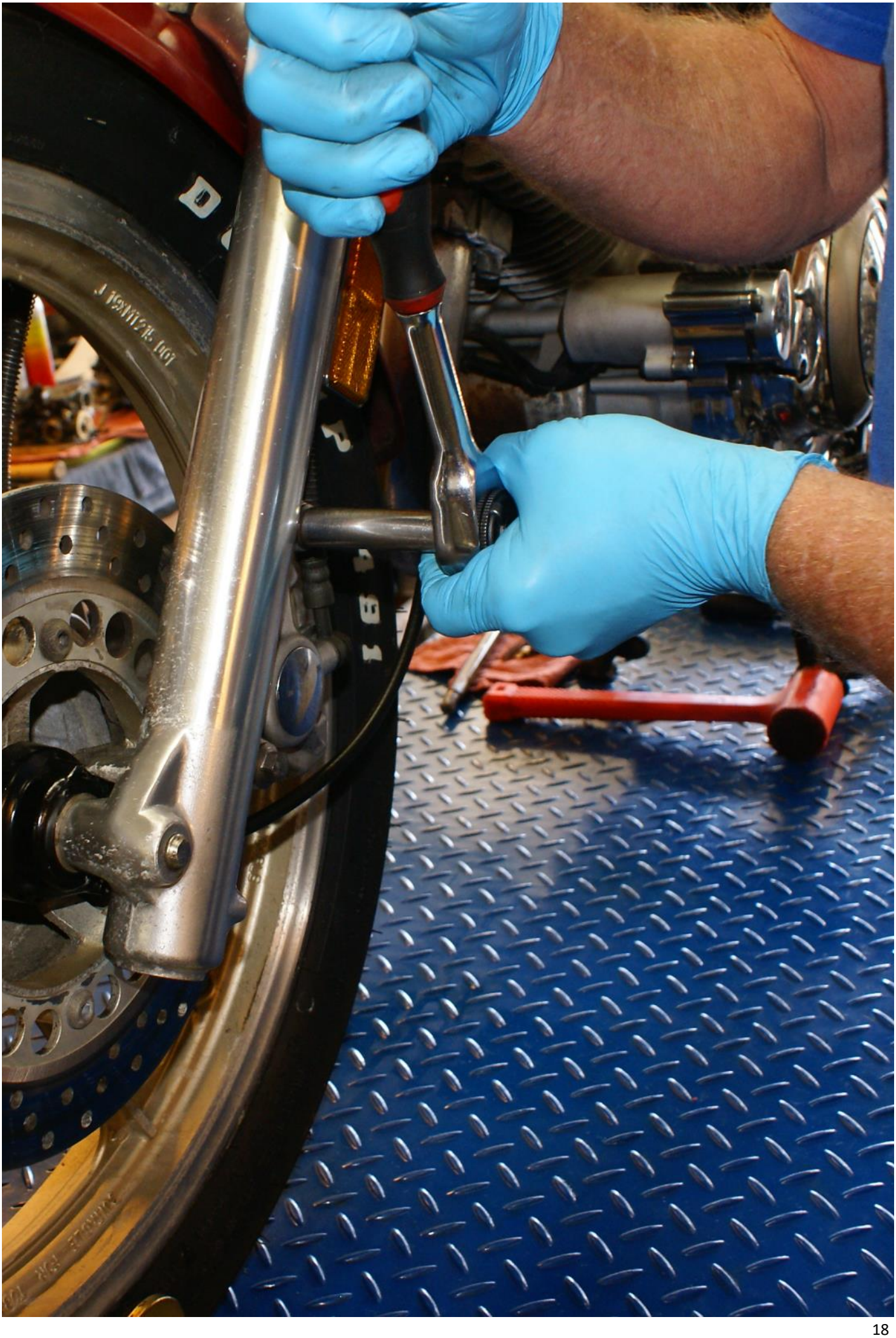
The European Union has laid down several goals to decrease the emission of especially CO2, PM, and NOx. National and local authorities are also trying to reduce CO2, PM, and NOx emissions. Some have already banned or are planning to ban older vehicles, including PTWs, or demand high tolls to enter cities, e.g., Paris and London. Furthermore, taxation schemes are being developed that are based on fuel consumption, exhaust emissions and sound. These developments demand an appropriate answer from the motorcycle industry and motorcyclists to preserve a role in future mobility schemes.

Contribution of PTWs to a cleaner environment

- PTWs are smaller and lighter than cars and therefore already contribute to less fuel consumption and less pollution. They also need less space in traffic and parking, which also contributes to a better flow in traffic and thus less pollution.
- Because PTWs can keep moving where cars are stuck in traffic jams, they use less fuel and pollute less.
- Motorcycles have become much cleaner in the last decades and have become even cleaner with the implementation of the Euro 5 emission limits in 2020.
- Less energy and material are needed to produce and scrap PTWs compared to cars, because PTWs are smaller than cars and much less material and energy is used to make them.
- Electric PTWs for urban use are much cheaper than electric cars, with swappable batteries as agreed by the PTW manufacturers. The break-even for electric PTWs will be much lower.

Actions to make PTWs cleaner

- PTW riders should be aware of the fuel consumption and emissions of their motorcycles and make a balanced choice when they purchase a new motorcycle. To be able to do this the manufacturers of motorcycles should provide motorcycles with consumer-information about fuel consumption, CO, NOx, and CO2 emissions.
- PTW riders should be aware that their behaviour affects the impact they have to their surroundings, especially the sound emissions, and therefore need to behave in a proper and social way.
- Manufacturers of PTWs should keep on developing cleaner PTWs by enhancing the environmental performance of internal combustion engines, and at the same time develop towards zero emission engines.
- Charging for electric PTWs should be encouraged by implementing simple and universal payment systems and creating secure and dedicated charging and parking facilities for PTWs.
- Development of a circular system to process old batteries is crucial.



Position paper:

REPAIR AND MAINTENANCE INFORMATION (RMI)

January 2022

In general

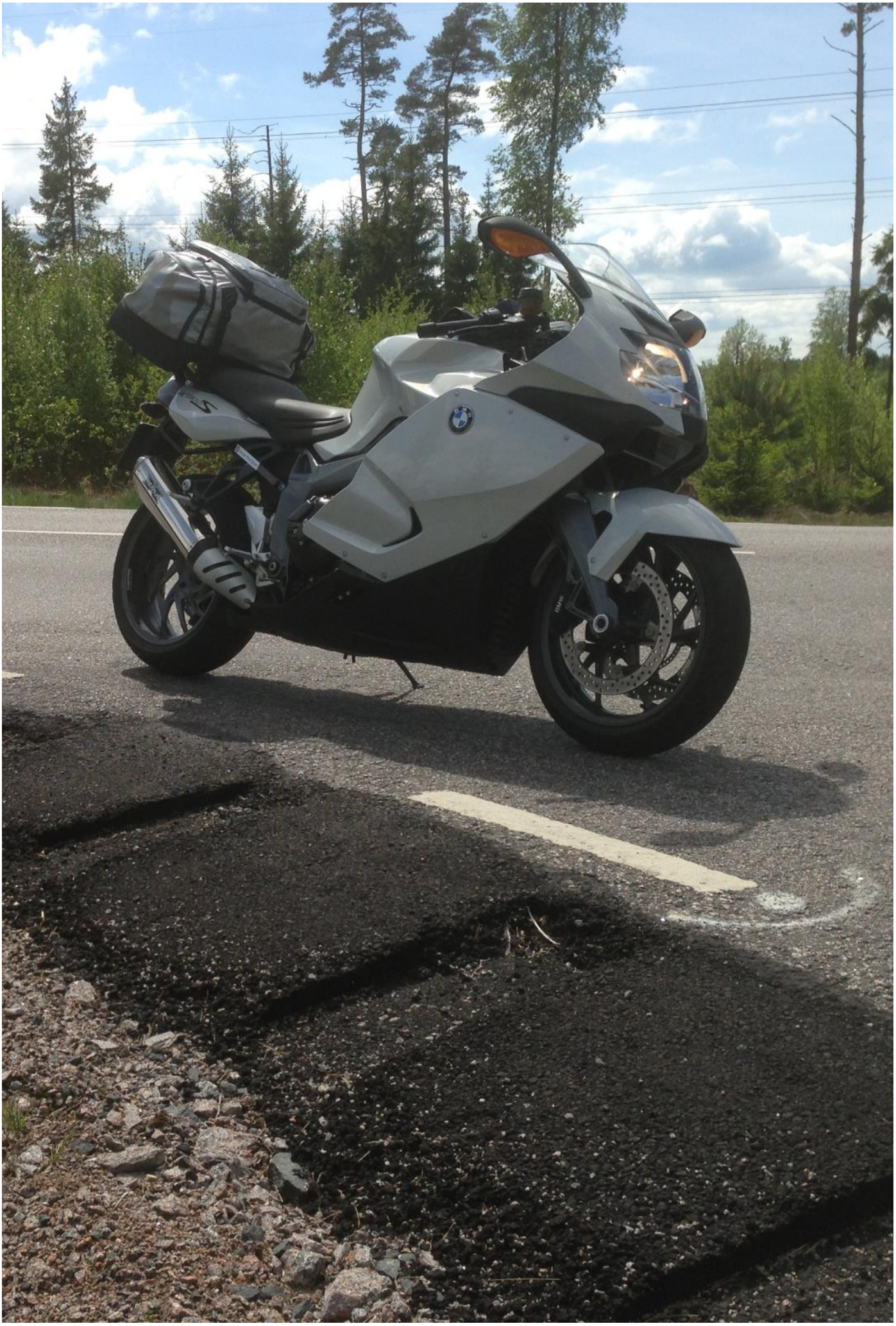
Repair and maintenance information (RMI) is information that is stored in electronic devices which are part of the vehicle. RMI can be accessed by universal or special connectors or on-line. RMI means all information required for diagnosis, servicing, inspection, periodic monitoring, repair, re-programming, or re-initialising of the vehicle, which the manufacturers provide for their authorised dealers and repairers, including all subsequent amendments and supplements to such information. This information includes all information required for fitting parts or equipment on vehicles.

Why is RMI important for the rider?

- RMI is vital for the functioning of the powered two-wheeler (PTW) and therefore for the rider.
- Without access to the RMI, repair shops, roadside assistance services and owners of vehicles who, for whatever reasons, do their own maintenance and repairs, may not be able maintain and repair their vehicle.
- RMI stores a large amount of data on the vehicle itself. Such data can be accessed via an external device or might even be transmitted to the manufacturer wireless. Therefore, ownership of data and privacy are at stake.
- The rider needs to be able to perform repairs and maintenance where it is very hard or even not possible to have this done in a workshop.

How to handle RMI

- Riders own the RMI and have the right to know what data is generated and how it is used.
- Riders must have the ultimate right to decide who has access to the RMI and what is being done with it.
- RMI should be accessible by the owner, or anyone who is delegated to this by the owner, by way of a standardized connector, at no extra cost.
- The access to RMI should be secured, especially against attacks from cyberspace. No unauthorized access to the data of the PTW or interference with the handling of the motorcycle must be possible through the RMI interface.



Position paper:

POWERED TWO-WHEELERS (PTWs) HIGH RISK SPOT AND NETWORK SAFETY MANAGEMENT

January 2022

In general

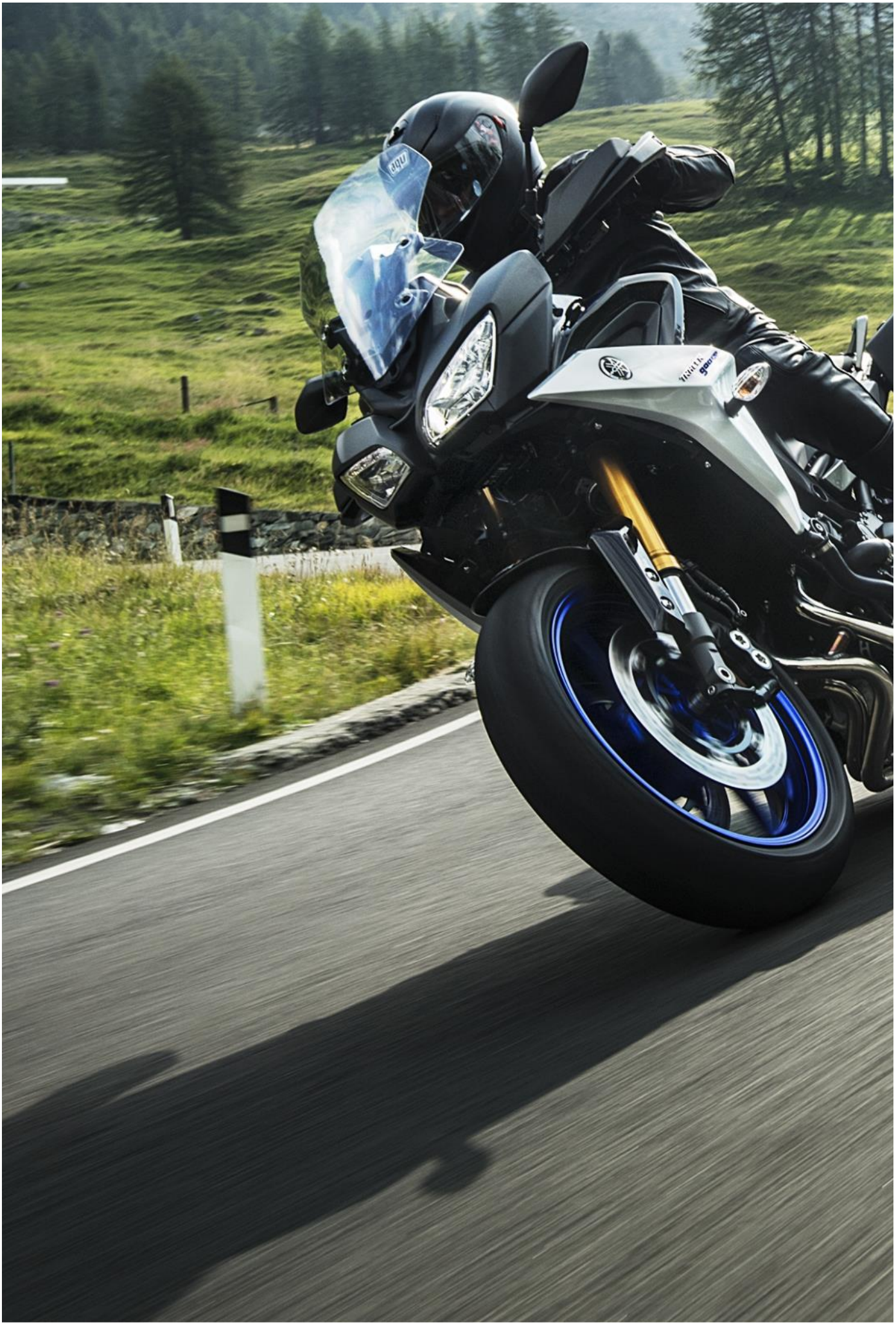
To enhance PTW road safety, a safe road infrastructure is essential. This starts with a safe road design. However, accidents can occur, and infrastructure can be less safe than expected and desirable. Therefore, PTW high risk (or blackspot) management (HRSM/BSM) is an essential part of the site-specific traffic safety work done by the road authorities and concerns short road sections (< 0.5 km). Supplementary to this is network safety management (NSM) that concerns longer road sections (2-10 km). Both high risk spots management and network safety management concern all infrastructural aspects, but both HRSM/BSM and NSM lack standardised definitions and methods. Authorities must realise that roads should be safe for every road user and roads that are safe for PTW-riders are safe for every road user.

High risk spot detection and registration

- Regular road inspections must be done with and include a PTW focus.
- Systematic accident data collection will reveal places and stretches of roads that are particularly PTW accident prone, needing further investigation and follow-up measures.

High risk spot safety management

- As PTW accidents are rare occurrences and spread over the road network it is virtually not possible to identify a high-risk spot simply by the number of accidents. Therefore, road authorities should adopt the British Critical Crash Rate Factor Method, or other systems that are aimed at identifying the high-risk spots, as these consider additional factors, including traffic volume, to assess risk.
- High risk spot management and network safety management should be part of the safety policy of the European Union and non-EU governments with special attention to vulnerable road users, including riders of powered two-wheelers.
- High risk spot management should include all public roads.



Position paper:

POWERED TWO-WHEELERS (PTWs) SAFE INFRASTRUCTURE

January 2022

In general

Road infrastructure is developed with two-track vehicles in mind. The design of roads, the tests of roadside and median barriers, poles, road surfaces and everything else that is part of or next to a road is done from the perspective of car drivers. Powered two-wheelers (PTWs) are by their design different from cars and have different needs. PTWs are one-track vehicles and as such are more sensitive than cars to unevenness, slippery and polluted road surfaces, badly maintained or repaired road surfaces and poorly applied markings on the road. Motorcyclists have no protective cage like car drivers. Therefore, road restraint systems, curbs, poles, and other obstacles that may be beneficial, or just not dangerous to other road users, are often a hazard for motorcyclists and increase the injury risk in case of an accident. For further detail, see Road restriction systems position paper.

Why better infrastructure

- Inadequate and/or badly maintained infrastructure are common factors of crashes in which PTWs are involved.
- Inadequate and/or badly maintained infrastructure is one of the main causes of severe injuries and deaths of motorcyclists, even when it is not the cause of the crash.
- Additional costs to improve road infrastructure standards to meet the, so far neglected, needs of vulnerable road users, including PTW riders, is by far outweighed by the benefit of saving lives on European roads. Funds, spent on infrastructure are not costs but investments in lives, life quality and in financial revenues.

How infrastructure should be improved

- New standards should be adopted for roadside and median road restraint systems to make them less dangerous for PTW riders.
- All unnecessary objects along the road must be removed where possible, to create an obstacle free roadside and to provide free sight for all road users. Objects that cannot be removed should be shielded in a proper and safe way.
- The surface of the road should be free of unnecessary markings. Where markings are unavoidable they should be made of a material with the same skid resistance as the pavement, and the thickness of the material should be limited. This skid resistance should be maintained for as long as the marking exists.
- The road should be free of all raised lane separations that cannot be driven/ridden over, especially at roundabouts.
- Road layout, and the development, installation and maintenance of road infrastructure and road furniture should be designed with PTWs in mind.
- Paved roads should be free of debris, including grit.
- Roads must be fitted with frangible signposts.

Position paper:

ROAD RESTRAINT SYSTEMS

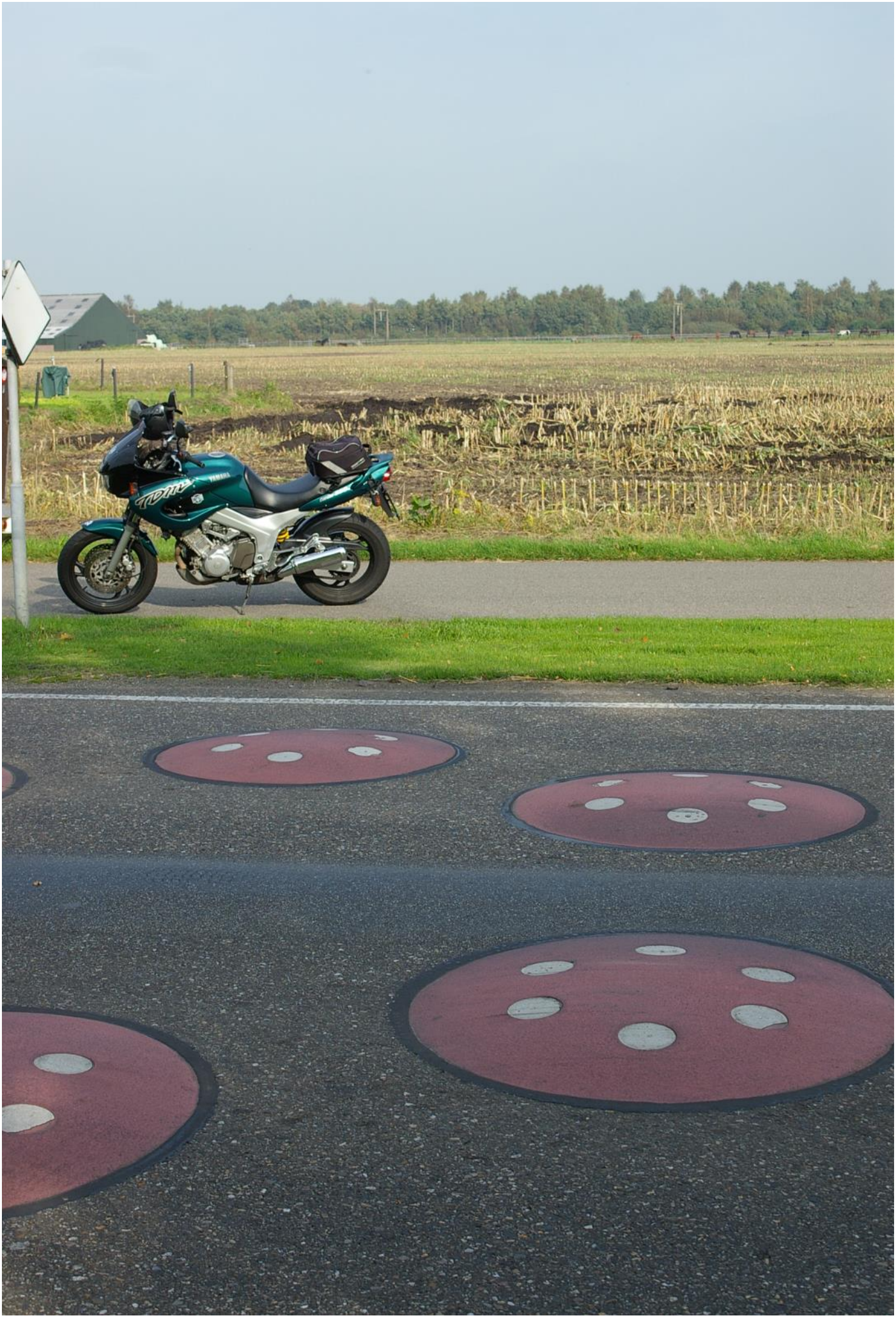
January 2022

In general

Road restraint systems (crash barriers) are usually developed for, and tested with, cars and trucks. Especially for these vehicles they can improve safety as they prevent them from hitting objects near the road or colliding with oncoming vehicles. However, by their design and features they can also create a hazard for powered two-wheelers (PTWs). Motorcyclists have no protective cage like car drivers and motorcyclists have less chance of surviving a collision with a barrier than car drivers. Barriers must therefore only be installed when necessary and must be safe for motorcyclists. The cost of improving standards for roadside and median barriers to meet the needs of vulnerable road users, including riders of PTWs, is far less than the benefit of saving lives or prevent serious injuries on European roads. Road restraint systems must be safe for all road users.

How road restraint systems should be improved

- Road restraint systems, of whatever type, should only be installed where there is a real risk for a collision with an object or oncoming traffic and no other solution - like removing the objects - is possible.
- New, safe, types of barriers need to be developed after extensive research of collisions of PTWs with barriers. New standards for roadside and median barriers should be adopted to make them less dangerous for motorcyclists. The existing Technical Specification CEN/TS 17342:2019-10 should be further developed and turned into an EN standard.
- New standards must include protection against hitting unprotected posts and top-side protection for PTW-riders. Discontinuous protection of posts only improves the safety of PTW-riders when the collision speed is very low. Therefore, only continuous protection of the posts should be allowed.
- No new cable barriers (i.e., wire rope fences) or other barriers with unprotected posts should be installed. When old unsafe barriers need to be replaced, they must be replaced by a safer barrier type.
- Whenever a barrier is installed, the distance from the road should be as large as possible to allow for evasive manoeuvres and maximum emergency braking in the event of a collision which might reduce the force of the collision impact with the barrier
- Existing barriers in outer curves or other locations with heightened risk must be retrofitted with Motorcycle Protection Systems (MPS).
- Introduce a common European classification system for crash barriers, based on vulnerable road users (VRU) collision friendly features.



Position paper:

TRAFFIC CALMING DEVICES

January 2022

In general

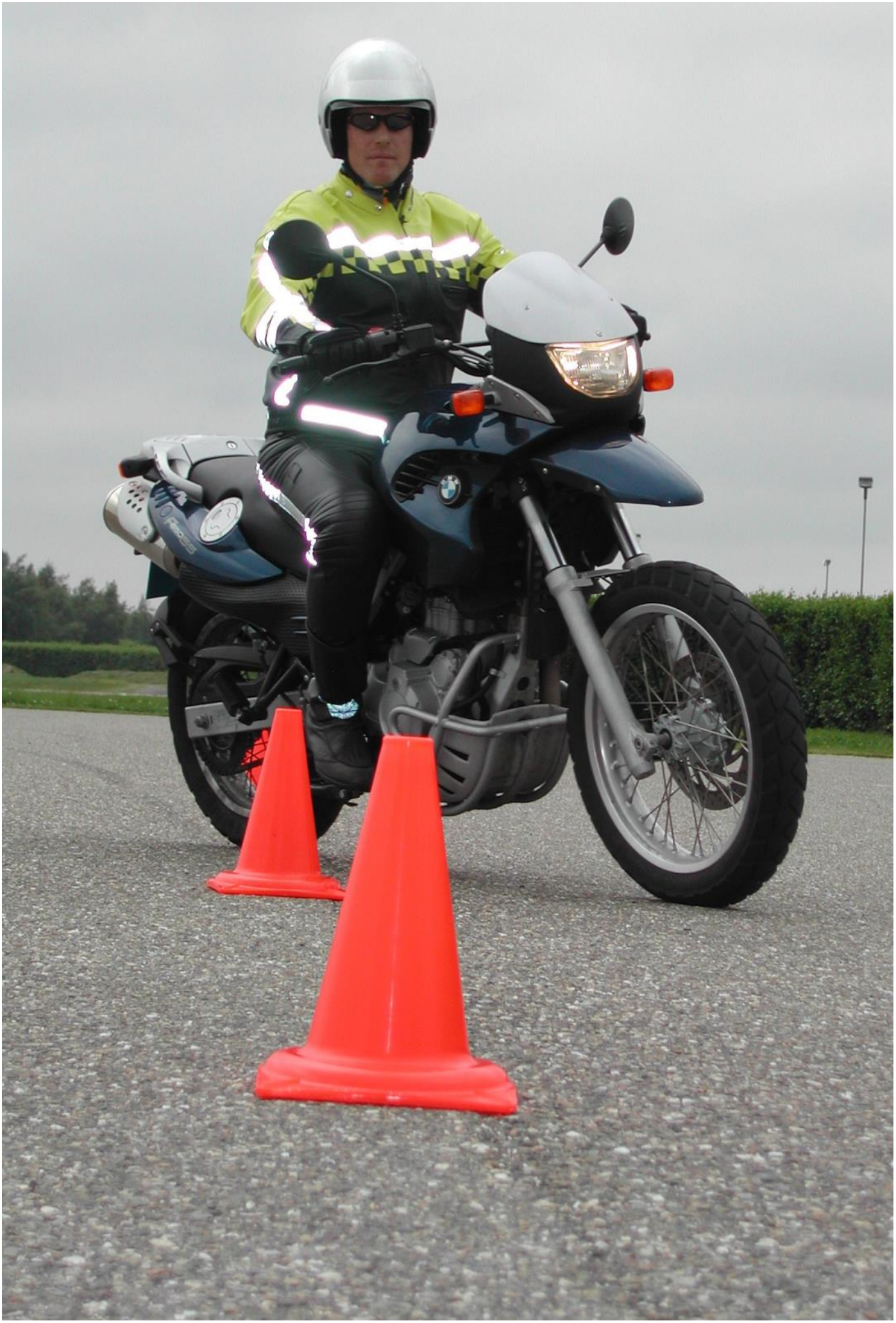
Inappropriate speed is one of the most important causes of accidents, especially on urban roads or smaller roads in rural areas. Signs are often not enough to reduce speed and enforcement is either not possible or the costs are too high. For this reason, the road authorities often choose to install traffic calming devices. These can be optical (road markings), horizontal (road width restrictions/chicanes) or vertical (speed bumps/rumble strips). Speed bumps and similar calming devices must only be installed on roads with a lower speed limit.

Why traffic calming devices can be dangerous for powered two-wheelers

- Powered two-wheelers (PTWs) are balancing vehicles, and a sudden vertical or lateral momentum can cause loss of balance.
- A sudden vertical momentum can be caused by excessive gradient or height of a speed bump, or vehicle speed that is too high under the circumstances but can be still within the limits.
- PTWs are single-track vehicles. This means, that they lose grip much easier than multi-track vehicles. Loss of grip can be caused by a slippery surface, but also by the sloping ends of a speed bump that does not cover the entire width of the road or by the sloping ends of cushion shaped, or rounded speed bumps.
- When a PTW does not approach a speed bump at an appropriate angle, the PTW can lose grip, or balance. This happens when a speed bump is installed in or near a bend, or when the speed bump has an abnormal shape.
- Horizontal calming devices can be dangerous when the shape is not in accordance with the current national regulations or the allowed speed, when the markings are not clear under all circumstances or are situated in a bend or in other place with inadequate view.

How to install traffic calming devices that are safe for PTWs

- Calming devices should always be designed and installed in a way that is in accordance with the current national regulations and the allowed speed.
- The calming devices should be well marked and signed and placed correctly, so they are visible for the road users under all circumstances.
- Calming devices should never be situated in or shortly behind a bend.
- The material of the calming devices should ensure enough grip under all circumstances, especially at wet roads.
- The gradient and height of a vertical calming device should never be greater than is strictly necessary.
- The vertical calming device or speed bump should never have a slope that runs lateral to the direction of an oncoming PTW, because this can lead to loss of balance.



Position paper:

INITIAL TRAINING AND LICENSING

January 2022

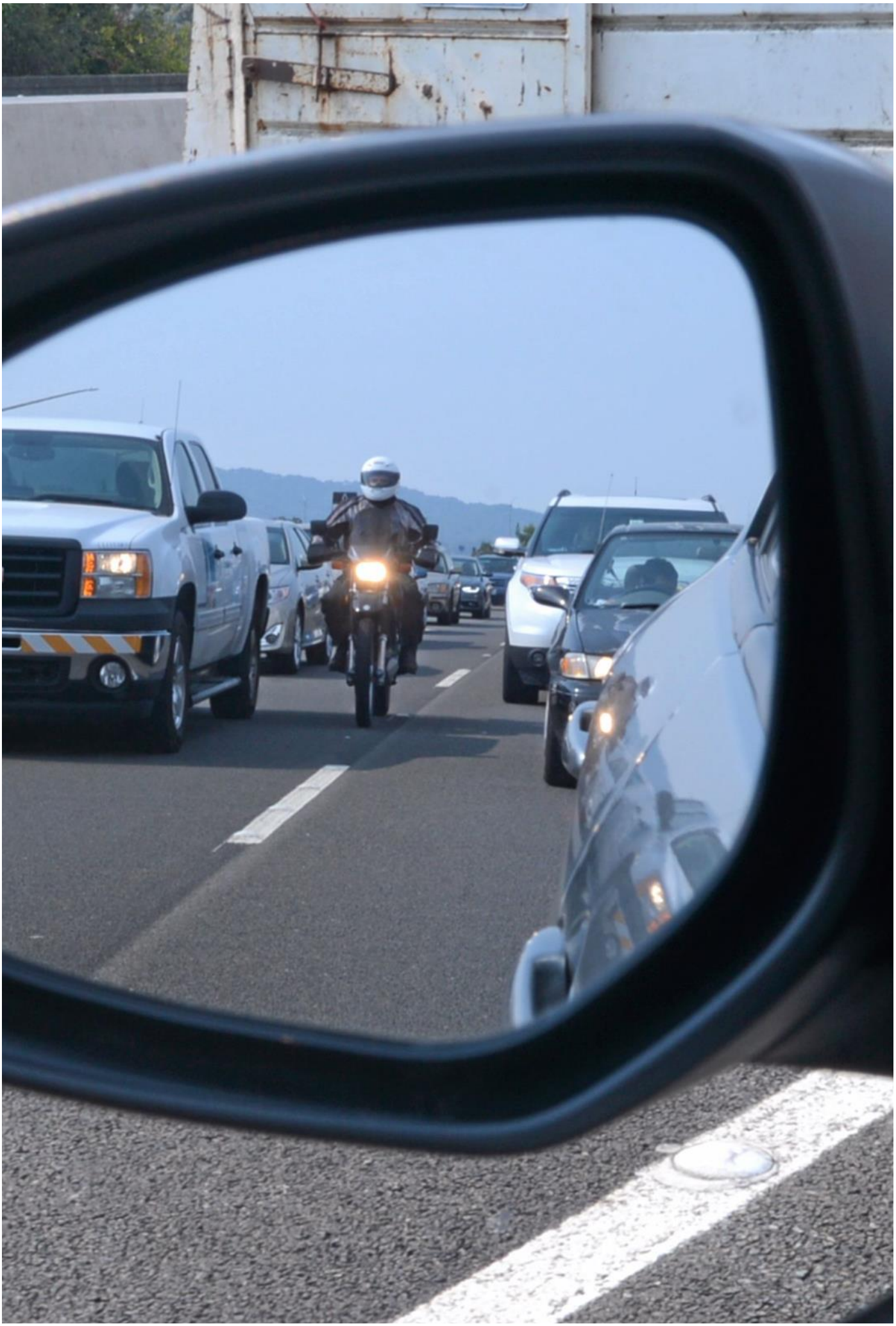
In general

High quality, cost effective initial rider training is probably the most important measure for improving powered two-wheeler (PTW) safety. Every European citizen who wants to start riding a PTW should have an easy access to training and testing. The present EU 3rd Driving Licence Directive, DLD, focuses on the regulatory framework, for example which vehicles that can be used during the test, without considering the content of training and only comments the testing briefly. The directive ignores the very purpose of training and testing.

The claimed present regulatory framework's positive effects on PTW safety are undocumented and questionable. An extensive evaluation in the EU is necessary. Today training and testing has become complicated and overly expensive which in some, especially Nordic, countries has resulted in significant percentage of fatal accidents by riders which didn't have a valid license. The requirement to repeat the same training or test three times during a stepped access doesn't encourage riders to start with a smaller motorcycle. A revision to favour the access and be gender neutral could be to reconsider the limits of the test bikes taking in consideration the arrival of new models on the market. The specific demands on test vehicles in combination with a focus on the manoeuvre tests in the final license examination are the reasons for unnecessary failures. The approval rate among women decreases with the higher demands from EU for test vehicles from A1 - A2 - A. A licence test bikes power should be ≤ 40 kW.

How to improve initial rider training

- Initial rider training must teach the skills, knowledge and attitude needed to safely operate a PTW on public roads, not just the skills needed to pass a licence test.
- Initial rider training should arrive from the EU/FEMA/FIM/ACEM Initial Rider Training Programme and should be described in detail in an agreed, national curriculum for category A.
- The licence test is a quality assurance of the candidate's competence, meaning the minimum skills, knowledge and attitude needed to safely operate a motorcycle on public roads, and it is of great importance that the licence test is designed to do exactly that.
- Risk awareness and risk management should be part of the training and licence tests.
- The licence test should not expose candidates to peculiar exercises with little relevance to real-life safe riding, the consequence being that perfectly competent candidates may fail the test, while questionable candidates, who have "learned the tricks", may pass.
- All training, testing and demand for test vehicles should be gender neutral.
- A stepped access with only one practical and one theoretical test after a cost-effective training coached by trained instructors might encourage riders to start riding on smaller and less powerful bikes.
- Instructors and examiners should be practising riders and should have participated in an officially recognised instructors /examiner's training programme derived from the agreed, national curriculum for category A.



Position paper:

POWERED TWO-WHEELERS SAFE SYSTEMS

January 2022

In general

Safe systems are an approach to road safety management, based on the principle that our lives and health should not be compromised by our need to travel. Powered two-wheeler (PTW) safe systems are especially aimed at the needs of motorcyclists. Road safety is a human right of all road users. In the Lillehammer ITF/OECD conference in 2008, and repeated in the Motorcycle Workshop 2021, it was clarified that it is a fundamental PTW safety requirement that PTWs should have a place in overall transport policy and infrastructure policy management. This still hasn't happened. PTW-riders are often excluded in guidelines for construction and maintenance. As a result, infrastructure and road furniture aren't developed including the needs of PTW-riders. PTW-riders have no protective cage like motorists, thus accident prevention measures are even more important than injury reduction measures. Next to infrastructural issues there is need for improved basic and advanced training for motorcyclists, since the basic and advanced rider training is still focused on technical skills and less on risk awareness. Another aspect that needs attention is the development of ITS (Intelligent Transport Systems) for cars that should consider PTWs better.

How PTW safe systems should be improved

- PTW-riders are road users with specific needs that must be taken into account in the Safe System Approach
- Accident prevention measures are even more important than injury reduction measures
- PTW-riders should be included in national guidelines for planning, constructing and maintaining roads and road infrastructure
- Improving safety for motorcyclists implies setting up a continuous dialogue and co-operation between the stakeholders, including PTW-riders, policy makers, researchers and PTW manufacturers
- All measures need to be founded on evidence-based scientific research into driver and rider behaviour, and before-and-after evaluations should be conducted
- Funding effective road safety activities
- Launching public awareness campaigns for drivers and riders
- Better training systems for riders with focus on risk awareness, risk avoidance and risk management
- Make PTWs safer by the use of appropriate and tested intelligent transport systems
- ITS developments for cars and trucks should always include PTW-riders and other road users
- (C-)ITS devices for other vehicles should always be developed keeping in mind that PTW often are not equipped with (C-)ITS devices.


Arai
Norbert Maier Sport
Norbert Maier Sport
Norbert
96
NR4013

Position paper:

POWERED TWO-WHEELERS (PTWs) AND MOBILITY

January 2022

In general

The current focus of the European mobility strategies is on public transport, cycling and walking. However, public transport will never reach everywhere in urban, suburban and rural areas. Cycling and walking are only possible for limited distances. Therefore there will always be a need for individual motorised personal transport. We foresee a growing role for PTWs, especially motorcycles, instead of cars.

- PTWs are cheaper to buy, easier to maintain and use less fuel than most combustion engine cars and trucks. Therefore, PTWs are often the only affordable form of personal motorized transport for many people, both in developed and in emerging countries. PTWs are an important - if not the only - means of personal motorized transport for many people commuting to work, thus escaping social exclusion.
- PTWs can go to places which other vehicles can only reach with greater difficulty or with needing much more time. This makes PTW important vehicles in all areas for the police, emergency services, medical organisations, health care and other professionals.
- PTWs provide the greatest flexibility of all means of personal transport, because:
  - they are smaller than cars, so there is less congestion and less need for parking space
  - they have a larger range than (electric assisted) bicycles.
  - as a means of personal transport, PTWs provide personal freedom on where you want to go and when you want to do so.
- PTWs use less room and therefore need less parking space and as a result motorcyclists save time and distance.
- PTWs for use in urban areas can be easier and cheaper to electrify than cars.

How can PTWs contribute to improved mobility?

- Less congestion by allowing PTWs to use bus lanes where possible.
- Less congestion by acceptance of filtering through slow moving traffic and advanced stop lines for bicycles and PTWs.
- Less need of parking spaces by acceptance of parking of PTWs on pavements if not hindering pedestrians, users of mobility scooters, and cyclists.
- Less need of car parking spaces by creating safe and secure PTW parking spaces.
- Less congestion through privileged inner-city access for PTWs.
- Tax incentive schemes and awareness campaigns highlighting the advantages of PTWs.
- Less pollution and less emissions by using “greener” PTWs: less energy consuming by internal combustion engines with use of low-carbon fuels, fuel cell powered engines, battery powered electric engines.
- Make motorcycling safer by use of appropriate (connected) intelligent transport systems (C-ITS), improved rider training, safer infrastructure, and better awareness by other road users.

Federation of European
Motorcyclists' Associations

Square de Meeûs 18
B-1050 Brussels - Belgium

Tel. +31 6 13 269 211
info@femamotorcycling.eu
www.femamotorcycling.eu

FIM Europe
General Secretariat

Viale delle Arti 181
I-00054 Fiumicino - Italy

Tel. +39 06 45777645
office@fim-europe.com
www.fim-europe.com