



LAUNCH EVENT ROAD SAFETY REGULATIONS FOR NON-ROAD MOBILE MACHINERY

03-05-2023

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BE MADE AVAILABLE TO THE PUBLIC**

TIRL THE FUTURE
OF TRANSPORT

Please ensure your microphone is muted

You may wish to switch off your camera to spare some bandwidth, but it's nice to see your faces during discussions

Please ask questions in the chat as we go along, we may answer these immediately or at the end of the presentation

There will be an opportunity for questions and discussion at the end of the presentation

The presentation is being recorded and will be made publicly available

The views expressed are not necessarily those of the European Commission

Goals of this event

- » Introduce the proposed regulation COM(2023)178
- » Introduce the current project being conducted by fka and TRL
- » Outline the assistance that will be required from industry, national authorities and other interested parties in the coming months



- » Introduction to fka and TRL
- » EC Introduction and background on the proposed new regulation
- » Structure and scope of the current project
- » NRMM Definition (Typical machines included/excluded)
- » 26 things being investigated
- » Schedule of future stakeholder engagement events and topics
- » Q+A



Our vision

“Clean, efficient transport that is safe, reliable, and accessible for everyone.”

200

engineers, scientists, psychologists, IT experts and statisticians



Our commercial structure

TRL is a wholly owned subsidiary of the Transport Research Foundation (TRF), a non-profit distributing company

Our mission

Challenge and influence our chosen markets, driving sustained reductions (ultimately to zero) in:

- Fatalities and serious injuries
- Harmful emissions
- Barriers to inclusive mobility
- Unforeseen delays
- Cost inefficiencies

Founded
1933

Formerly
part of DfT

Privatised
1996



1000 clients in

145 countries



Basic data

- Founded in 1981 as a spin-off from the Institute for Automotive Engineering (ika) of RWTH Aachen University
- Together with co-operation partner ika access to a total staff of approx. 470 employees

References

- Automotive customers from Europe, USA und Asia
- OEM and suppliers
- Public funded research

Projects structure

- 55 % Advanced engineering
- 20 % Serial vehicle development
- 25 % Future development and others

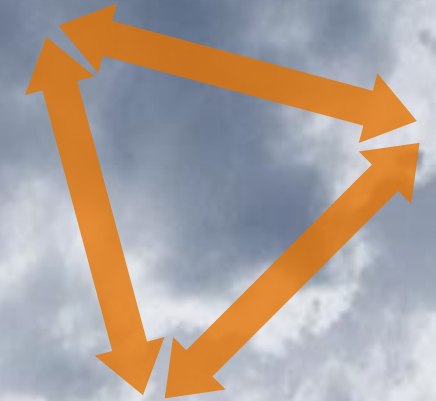


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- » Creating ideas & driving innovations!
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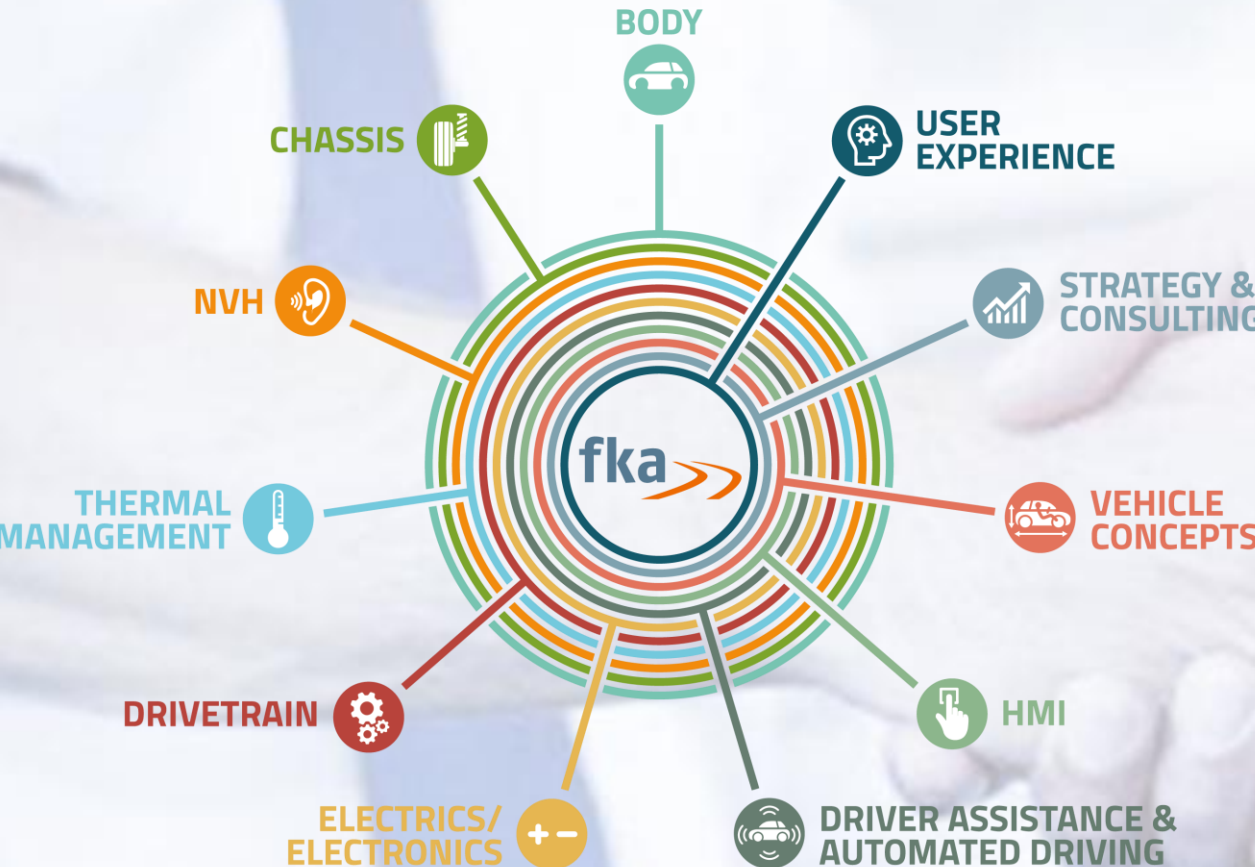
MOBILITY EXPERIENCE



SAFETY

EFFICIENCY





» Consulting

» Conception

» Engineering

» Testing

» Know-How Transfer





Proposal for a REGULATION
OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
on the approval and market surveillance
of non-road mobile machinery circulating on public roads
and amending Regulation (EU) 2019/1020

Launch Event on Road Safety Regulations for NRMM

DG GROW H2 – Machinery and Equipment

3 May 2023

Non-Road Mobile Machinery (NRMM)

- **Non-Road Mobile machinery** is designed and constructed specifically to **perform work** and, because of its construction characteristics, is **not suitable for carrying passengers** or for **transporting goods**.
- However, by the nature of their work, non-road mobile machinery **circulates on the road from time to time**.



Mobile machinery market

- EU mobile machinery sector is a significant producer and exporter of mobile machinery globally.
- Almost 80% of the EU production takes place in only 6 EU countries: Germany (37%), Italy (11%), France (10%) and Finland, Sweden and Austria (7% each).
- In 2019, the EU production was estimated at €12.5 billion
 - 42 % exported to non-EU countries;
 - 54% traded intra-EU;
 - Only 4% sold in the EU country where production takes place.

➔ Mobile machinery manufacturers rely heavily on **road approval in other countries** (both EU and non-EU).

Overview legal context

Type of vehicle	Vehicle occupational safety (safety at work)	Vehicle road circulation safety	Road circulation safety other than vehicle safety
Cars, trucks, trailers, motorbikes, tractors	EU Regulations 2018/858, 167/2013 and 168/2013 on motor vehicle categories; M, N, O, L, T, C		Other legislation on road rules other than vehicle safety (such as road infrastructure, road circulation rules, rules on vehicles allowed or not to circulate in certain roads, driving license, etc.)
Agricultural trailers and interchangeable towed equipment	Directive 2006/42/EC on machinery	Regulation 167/2013 for categories R and S (optional) or national rules	
Mobile machinery	Directive 2006/42/EC on machinery	Technical safety requirements for road circulation -> 27 sets of national rules	



Scope of the initiative

Impact Assessment Policy Options

0. Baseline: No action (27 sets of national legislation)

1. EU approval of the entire mobile machine granted by Member States authorities. the regulation includes all technical specifications for components, systems and separate technical units. This policy option includes two alternatives:

1.a) Type approval:

- for all components, systems and separate technical units the conformity assessment would involve a third party

1.b) Simplified Type approval:

- for components, systems and separate technical units which are more critical for road safety, the conformity assessment would involve a third party (e.g. braking and steering)
- for components, systems and separate technical units which are less critical for road safety, the conformity assessment would be based on reports or self certifications by the manufacturer (e.g. lights, mirrors).

2. CE marking of the entire mobile machine granted by the manufacturer. For the entire machine and for all components, systems and separate technical units, the regulation includes only the safety requirements, while the technical specifications are detailed in standards.

~~3. Mutual recognition of existing national legislation: discarded.~~

Existing Union legislation on NRMM

- ✓ Directive 2006/42/EC (Essential health and safety requirements relating to the design and construction of machinery)
- ✓ Regulation (EU) 2016/1628 (Pollutant emissions)
- ✓ Directive 2000/14/EC (Noise emissions)
- ✓ Directive 2014/30/EU (Electromagnetic compatibility)
- ✓ Directive 2014/53/EU (Radio equipment)

Key characteristics of the legal proposal

- Type-approval legislation = follows the logic of the EU type-approval framework for vehicles (technical service issues test report, national authority issues the certificate)
- But ‘simplified’ = limited list of technical requirements (taking into account the areas already covered by the machinery directive) + streamlined EU type-approval procedure
- Closely aligned to the existing Regulation (EU) No 167/2013 on agricultural and forestry vehicles, with some elements taken from Regulation (EU) 2018/858 on motor vehicles and their trailers

Scope of application

- Applies to non-road mobile machinery within the scope of Directive 2006/42/EC on machinery
- Applies to non-road mobile machinery where it is placed on the market and intended to circulate, with or without a driver, on a public road.
- Exclusions:
 - Maximum design speed exceeding 40 km/h
 - More than three seating positions, including the driver's
 - Machinery primarily intended for the transport of one or more persons...
 - Vehicles, including motor vehicles, tractors, trailers, two-wheel or three-wheel vehicles, quadricycles and interchangeable towed equipment, falling within the scope of Regulations 167/2013, 168/2013 or 2018/858

Vehicle features to be type-approved

- Covered by the areas of investigation by the fka / TRL project
- May be subject to changes following the inter-institutional discussions and negotiations

Thank you

Contact us at: GROW-MOBILE-MACHINERY@ec.europa.eu

The structure of the current project

» 12 month project running until February 2024

Task 1:

NRMM types currently in use and national road safety related regulations that currently apply to NRMM

Task 2:

Potential technical standards that could be applied to NRMM at an EU level

Task 3:

Potential test methodologies that could apply to NRMM

Task 4:

Potential product conformity mechanisms that could apply to NRMM

Our aim – to find the best combination of national and European technical and conformity regulations in order to maximise safety and minimise disruption to industry and approval authorities

- » **COM(2023)178** – Proposal for a regulation of the European parliament and of the council on the approval and market surveillance of non-road mobile machinery circulating on public roads and amending Regulation (EU) 2019/1020

“non-road mobile machinery’ means any **self-propelled** mobile machinery, falling within the scope of **Directive 2006/42/EC**, that is designed or constructed with the purpose to **perform work**”

“This Regulation applies to **non-road mobile machinery** where it is placed on the market and **intended to circulate, with or without a driver**, on a **public road**.”

- » **COM(2023)178** – Proposal for a regulation of the European parliament and of the council on the approval and market surveillance of non-road mobile machinery circulating on public roads and amending Regulation (EU) 2019/1020



Can it be EU type approved as an NRMM?

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Can it be EU type approved as an NRMM?



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Can it be EU type approved as an NRMM?



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- » 1. Vehicle structure integrity
- » 2. Maximum design speed, speed governor, speed limitation devices and speedometer
- » 3. Braking devices
- » 4. Steering
- » 5. Field of vision
- » 6. Windscreen wipers
- » 7. Glazing and installation
- » 8. Indirect vision devices
- » 9. Lighting and lighting installation
- » 10. Vehicle exterior and accessories in on road position, including working equipment and swinging structure
- » 11. Audible warning devices and installation
- » 12. Heating systems, defrost and demist
- » 13. Registration plate spaces
- » 14. Statutory plate and marking
- » 15. Dimensions
- » 16. Masses, including maximum on-road laden mass
- » 17. Fuel tanks
- » 18. Tyres
- » 19. Reverse gear
- » 20. Tracks
- » 21. Mechanical couplings
- » 22. Driver and other occupants' seating positions and restrain systems
- » 23. Operator's manual for road use
- » 24. Operator's controls for on-road use
- » 25. On road information, warnings and markings
- » 26. Sound level (external)

- » Introduction
- » **Overview of National Legislation with Respect to Project Categories**
- » Specific Examples

Overview of Topics to be Analysed

Countries without articles pertaining to specific project categories

			Vehicle structure integrity	Maximum design speed	speed limitation device	speedometer	Braking system	Steering system	Field of vision	Windscreens wipers	Glazing and installation	rear-view mirrors	Lighting *	Swinging upper structure	Accessories	Audible warning device	Heating, ventilation, air conditioning	Registration plate	Statutory plate	Maximum length, width, height **	Fuel tank (pressurization and leakage)	Tyres	Reverse	Tracks	Mechanical couplings, Towing devices	seating positions and restraint systems	Operator controls related to circulation	road information, warnings and markings	External sound level	
115	Latvia	8	4	1	0	3	3	1	2	2	3	4	0	3	4	2	2	4	2	1	1	2	1	2	4	9	40	6	1	
86	Netherlands	7	0	1	2	12	3	1	0	1	3	20	0	2	1	0	0	4	7	6	0	1	0	7	4	0	0	2	2	
116	Ireland	3	0	0	2	8	3	1	1	1	1	25	0	2	3	0	0	1	41	1	12	0	2	2	2	0	0	3	2	
34	Finland	4	0	1	3	0	1	0	0	1	1	1	0	0	1	0	8	0	4	0	0	2	0	1	0	1	1	1	2	
43	Czechia (2/2)	5	0	1	1	0	2	2	1	1	1	1	0	5	0	1	4	3	4	0	2	1	0	4	0	0	1	4	0	
124	Slovak Republic	1	2	2	0	4	2	2	2	4	3	6	0	8	4	1	3	3	8	2	9	1	1	7	8	11	14	12	2	
92	Austria	3	2	1	1	17	3	1	2	2	1	14	0	2	2	2	1	0	7	1	4	1	0	5	2	0	3	7	4	
58	Sweden	2	2	0	2	3	3	3	1	2	0	21	0	0	1	1	0	3	0	0	3	1	1	0	0	0	1	6	2	
55	Denmark	1	0	0	0	1	2	0	0	2	1	7	0	6	2	0	0	2	15	0	3	2	1	1	2	0	1	2	4	
49	Portugal	1	1	1	2	2	2	1	1	1	2	1	1	3	1	0	3	2	9	0	1	1	0	2	2	0	2	2	1	
45	Romania	2	2	1	0	3	4	0	3	3	5	2	0	2	3	0	0	2	4	0	3	0	0	2	3	0	0	1	0	
18	Spain	0	0	1	0	1	1	0	0	2	1	1	0	1	1	0	1	1	2	0	0	1	0	2	2	0	0	0	0	
57	Germany	2	1	1	1	2	3	1	1	1	2	12	0	0	1	2	3	0	9	0	2	1	0	5	1	0	1	3	2	
44	Belgium (2/2)	2	0	1	0	7	2	1	1	1	2	0	0	6	1	3	0	0	5	1	1	0	0	2	2	1	1	3	1	
50	Luxembourg	2	1	1	1	1	0	1	0	0	1	15	0	2	0	3	1	1	4	0	4	1	0	4	2	0	0	3	1	
102	France	0	1	0	1	2	1	1	1	2	3	23	0	7	3	1	5	10	19	1	10	1	1	4	0	0	1	4	0	
5	Italy	0	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2	Greece	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

1 Member states, for which no requirements identified for certain categories

* Includes Signaling and Side Reflectors

** Includes Defrost/Demist

If requirements exist, please provide these articles and/or documents to off-highway@trl.co.uk

- » Introduction
- » Overview of National Legislation with Respect to Project Categories
- » **Specific Examples**

Specific Examples (add. articles to those provided in survey) Structural Integrity

Country	Document	Text	Vehicles
Belgium (2/2)	Arrêté royal du 15 mars 1968 - Art. 27	Vehicle construction. General. From the point of view of materials, construction and finish , the vehicle must possess the technical qualities that one is entitled to demand from good and careful manufacture. Welds are only permitted if they meet the requirements of these general regulations and the standards established by the Minister of Communications or his delegate.	Motor vehicles and their trailers (M, N, O, T, C, R, S)
-	Survey	<i>/: Pas de prescription</i>	-

Question: Is there a reason why this should not apply to NRMM?

Specific Examples (add. articles to those provided in survey)

Maximum Speed

Country	Document	Text	Vehicles
Czechia (2/2)	341/2014 Sb - Annex No. 13	<p>Technical requirements for special vehicles of subcategory SS</p> <ul style="list-style-type: none"> - The actual maximum speed of the machine determined by the test must not differ from the maximum design speed by more than +5% under the prescribed conditions <p>Technical requirements for category Z vehicles</p> <ul style="list-style-type: none"> - Single axle tractors with trailers: 39. The highest design speed of the vehicle must not be higher than 10 km/h. 	Subcategory SS, Category Z
-	Survey	<i>není: není</i>	-

Question: Is there a reason why this should not apply to NRMM?

Specific Examples (add. articles to those provided in survey) Glazing and Installation

Country	Document	Text	Vehicles
Ireland	S.I. No. 190/1963 - Road Traffic - 24.	<p>24. (1) Where a windscreen is fitted to a vehicle, it shall be of a stable substance, fully transparent so that objects are not seen distorted through it, and not likely if fractured to produce fragments capable of causing severe cuts.</p> <p>(2) Where a windscreen made of glass is fitted to a vehicle, the glass shall be safety glass.</p> <p>(3) In the case of every vehicle first registered on or after the 1st day of July, 1964, the glass of all windows and partitions shall be safety glass.</p> <p>(4) In this article "safety glass" means glass so constructed or treated that if fractured it does not fly into fragments capable of causing severe cuts.</p>	Vehicles
-	Survey	<i>No Requirement available: No Requirement available</i>	-

Question: Is there a reason why this should not apply to NRMM?

Specific Examples (add. articles to those provided in survey)

Speedometer

Country	Document	Text	Vehicles
Slovak Republic / Latvia / Spain	Reg. 167/2013 - 208/2015: Annex VI	<p>Requirements on speedometers</p> <p>2. Requirements</p> <p>2.1. All tractors with maximum design speed exceeding 30 km/h shall be equipped with a speedometer according to the requirements set out in this Annex.</p> <p>2.1.1. Tractors of the categories T4.1 and C4.1 with a maximum design speed not exceeding 30 km/h shall be equipped with a speedometer according to the requirements set out in this Annex.</p> <p>2.1.2. The speedometer display shall be situated in the driver's direct field of vision and shall be clearly legible both by day and by night. The range of speeds indicated shall be large enough to include the maximum speed given by the manufacturer for the type of vehicle. ...</p>	T, C
-	Survey	<p><i>Slovak Republic - N/A: N/A</i></p> <p><i>Latvia - "Juridiskā avota nav: Prasību nav, Ir tikai Regulā (ES) 2015/208 noteiktās prasības traktoriem."</i></p> <p><i>Spain - "RD 750/2010 - Anexo VII - Apéndice 5: Anexo VI R(UE) 2015/208 o R. CEPE/ONU n.º39 (>40 km/h)"</i></p>	-

Question: Are there certain aspects of Regulation 167/2013 that are less suitable to NRMM?

Specific Examples (add. articles to those provided in survey)

Mechanical Couplings (1/3)

Country	Document	Text	Vehicles
Slovak Republic	Decree no. 132/2018	<p>§ 3 General technical requirements (3) No trailer may be used for a PS category vehicle in road traffic, except for the transporter of the machine's working equipment, which is transported on it, unless otherwise stipulated in the type approval of the vehicle. If the vehicle is equipped with a coupling device, this device must secure the trailer against spontaneous release with a double mechanical safety device.</p>	PS category, Vehicles
		<p>§ 5 Technical requirements for PS category vehicles used in the construction industry (1) Vehicles of the PS category used in the construction industry must meet the technical requirements according to the technical standard or other similar technical specification with comparable or stricter requirements for h) trailer connections, if necessary, 6) - STN EN 15573</p>	
		<p>§ 13 Towing rods and towing ropes Towing bars or towing ropes for towing vehicles must be made in such a way that they ensure resistance under the action of a tensile axial force of at least 12 kN and must be clearly marked according to a separate regulation...</p>	
-	Survey	"Reg. 167/2013: only for cat. R and S 2015/208"	-

Question: Are there certain aspects of Regulation 167/2013 that are less suitable to NRMM?

Specific Examples (add. articles to those provided in survey)

Mechanical Couplings (2/3)

Country	Document	Text	Vehicles
Romania	Eliberarea cărții de identitate și certificarea... – RNTR 7	Chapter IV. 12. Coupling Device Terms 12.1. Mechanical coupling devices between motor vehicles and their trailers include all the parts and devices by which the connection between the tractor vehicles and the towed vehicles is made. They also include fixed or removable parts for mounting, adjusting or operating coupling devices. Coupling devices must bear the approval mark in accordance with Directive 94/20/EC of the European Parliament and of the Council of 30 May 1994 on mechanical coupling devices for motor vehicles and their trailers and their attachment to these vehicles or Regulation ECE-UN no. 55	Vehicles
		Chapter V. 12. Coupling and towing device conditions 12.1. Tractors can be equipped with one or more types of non-automatic or automatic mechanical coupling devices , where accidental disconnection is not possible. 12.2. In automatic coupling devices, the locked position must be ensured by two independent securing elements. 12.3. The maximum vertical static load allowed on the coupling device cannot exceed 3000 kg. 12.4. The types of coupling devices that can be mounted on the tractor are of the following types:– fork head type coupling device (with bolt);– coupling hook;– oscillating bar (coupling bar). 12.5. Coupling devices must be properly fitted and their locking and latching systems must work properly. Cracks or deformations of the parts of the coupling devices are not allowed.	Agricultural or forestry tractors
-	Survey	Nicio sursă juridică disponibilă: Nicio cerință disponibilă	-

Question: Is there a reason why this should not apply to NRMM?

Specific Examples (add. articles to those provided in survey) Mechanical Couplings (3/3)

Country	Document	Text	Vehicles
Luxembourg	Arrêté grand-ducal modifié du 23 novembre 1955 - «Art. 24bis.	Any self-propelled vehicle with a maximum authorized total weight of more than 2,500 kg must be fitted at the front with a device allowing the effort due to its being towed to be transmitted directly to the chassis side members or to what replaces them. The chassis of a bus, coach or self-propelled vehicle intended for the transport of goods must be of an approved type.	Vehicles
-	Survey	<i>Pas de code legal disponible: Pas de prescriptions</i>	-

Question: Is there a reason why this should not apply to NRMM?

1

Certain countries have yet to provide national documents containing articles relating to project categories (Bulgaria, Croatia, Hungary, Lithuania, Poland)

2

A follow-up mail/meeting will be arranged with member states to discuss articles pertaining to project categories, that were not covered in survey

3

Certain countries do not appear to have any articles in provided documentation which pertain to project categories (Estonia, Malta, Slovenia, Cyprus)

4

No country has national legislation covering every project category

Comments, queries, points of information: please contact off-highway@trl.co.uk

- **Suggestions for the best content for technical regulations**
- **Test methodologies and report templates**
- **Information on conformity procedures**
- **Conflicts/gaps in national regulations**
- **Problems that you can foresee in implementing the new regulation**

E-mail - off-highway@trl.co.uk

End of June Open meeting

Technical questions about
specific regulations

Early September Open meeting

Questions about conformity
procedures and feedback on
technical regulations

December/January Open meeting

final opportunity for feedback
and discussion

Bilateral engagement – specific issues that might be commercially or politically sensitive

- » **If you have a question, please either raise your hand or type it into the chat**

- » **Some questions from us that you might like to consider:**
 - » How would you like to engage with this project?
 - » What problems do you foresee in implementing this regulation?

Thank you for your attention.

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