REPORT

with recommendations to the Commission on odometer manipulation in motor vehicles: revision of the EU legal framework (2017/2064(INL))

Committee on Transport and Tourism

Rapporteur: Ismail Ertug

(Initiative – Rule 46 of the Rules of Procedure)
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MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

with recommendations to the Commission on odometer manipulation in motor vehicles: revision of the EU legal framework
(2017/2064(INL))

The European Parliament,

– having regard to Article 225 of the Treaty on the functioning of the European Union,
– having regard to Articles 91 and 114 of the Treaty on the functioning of the European Union,
– having regard to Directive 2014/45/EU of the European Parliament and of the Council¹,
– having regard to Directive 2014/47/EU of the European Parliament and of the Council²,
– having regard to Commission Regulation (EU) 2017/1151³, Regulation of the European Parliament and of the Council (EC) 661/2009⁴, Commission Regulation No. 692/2008⁵ and UNECE Regulation 39⁶,
– having regard to its resolution of 10 December 2013 on CARS 2020: towards a strong, competitive and sustainable European car industry⁷,
– having regard to the European Parliamentary Research Service (EPRS) study from November 2017 entitled “Odometer tampering: measures to prevent it”⁸ and its accompanying European Added Value Assessment “Odometer manipulation in motor

⁶ Regulation No 39 of the Economic Commission for Europe of the United Nations (UN/ECE) — Uniform provisions concerning the approval of vehicles with regard to the speedometer equipment including its installation (OJ L 120, 13.5.2010, p. 40).
vehicles in the EU”\(^1\),

– having regard to the final report of the Association of European Vehicle and Driver Registration Authorities entitled “Vehicle Mileage Registration”\(^2\),

– having regard to the European Commission’s “Consumer Market Study on the Functioning of the Market for Second-Hand Cars from a Consumer’s perspective”,

– having regard to European Parliament Written Declaration 0030/2016 of 11 April 2016 on combating mileage fraud in the second-hand car market;

– having regard to Rules 46 and 52 of its Rules and Procedures,

– having regard to the report of the Committee on Transport and Tourism (A8-0155/2018).

**Current situation**

A. whereas odometer tampering, i.e. the malpractice of deliberate and unauthorised altering of the real mileage of a vehicle shown on its odometer, is a serious and widespread problem throughout the whole European Union especially in cross-border trade and harms third countries, which import second-hand cars from the European Union;

B. whereas the economic profit of odometer tampering can be remarkable given the low prices of the equipment needed and the artificial increase of the used cars’ value; whereas studies estimate the share of tampered vehicles between 5 % and 12 % of used cars in national sales and between 30 % and 50 % in cross-border sales, accumulating to a total economic damage between EUR 5.6 and 9.6 billion in the whole Union;

C. whereas the number of kilometres driven is one of the most important parameters for a buyer to assess the technical condition of a vehicle, and whereas the mileage reading has a significant impact on a vehicle’s market value;

D. whereas odometer readings are stored and shown digitally while external access for reconfiguration is easy as their protection level is lower than other components\(^1\) in the vehicle;

E. whereas odometer tampering harms consumers, second-hand car dealers, insurers and leasing companies, while financially benefiting those who commit this fraud, and technical solutions must be found in order to make it more difficult for non-professionals to tamper with odometers;

F. whereas the increased wear and tear on cars with manipulated odometers negatively affects road safety, and buyers of such cars can face increased maintenance and repair costs if cars are not inspected on the basis of their real mileage;

G. whereas cars with tampered odometers can show higher consumption and higher pollutant emissions than expected, thus violating durability requirements of the type


approval legislation;

H. whereas the second-hand car market in the European Union, which is two to three times larger than the market of new cars, has the lowest consumer trust among goods markets\(^1\) and odometer tampering seriously contributes to the loss of consumers\(^1\)’ trust in second-hand dealers and thus distorts the functioning of the internal market and fair competition;

I. whereas consumers are not sufficiently informed about possible ways of preventing manipulation of odometer readings in second-hand cars and about existing techniques for monitoring mileage and preventing fraud in this area, and ways of gaining access to those techniques;

J. whereas many Member States are still failing to provide consumers with the necessary tools that would enable them to verify the history of a used vehicle;

K. whereas mileage fraud disproportionally affects social groups and geographical areas with lower income, exposing customers in the Member States which acceded after 2004 and in countries in the immediate vicinity of the EU (particularly those Western Balkan countries into which second-hand cars are imported from the EU without significant amounts of duty being levied on them or duty-free) to a higher risk of buying a car with manipulated odometer and thus they are more often harmed by this malpractice;

L. whereas, in the absence of a common, integrated system for exchange of information between Member States, there is an increased risk of legalising a mileage reading already manipulated before its initial verification in the country in which the car will ultimately be registered and where there are already measures to register the vehicle and verify its mileage;

M. whereas tackling odometer fraud by swiftly establishing uniform rules to prevent manipulation will fundamentally enhance security and certainty in the cross-border purchases of vehicles hence reducing the scale of unfair practices and also bringing substantial benefits to millions of Europeans consumers;

Existing measures addressing odometer fraud

N. whereas some Member States have already introduced instruments to minimise odometer manipulation like “Car-Pass” in Belgium and “Nationale AutoPas” (NAP) in the Netherlands; whereas both those Member States use a database collecting odometer readings at every maintenance, service, repair or periodical inspection of the vehicle, without collecting any personal data, and both have almost eradicated odometer fraud in their domains within a short timeframe;

O. whereas the Belgian system is operated on a legal foundation by a non-profit organisation and the system in the Netherlands is run by a governmental agency and both operate at reasonable cost and the success of both systems is accompanied and fostered by awareness and information campaigns as well as a strong legal framework establishing clear rules and dissuasive penalties;

\(^1\) Consumer Markets Scoreboard, European Commission 2014
P. whereas the significantly higher number of manipulated cars in countries without access to these databases shows that cross-border data exchange and cooperation between Member States are crucial to their success;

Q. whereas EUCARIS, the European Car and driving license Information System already provides infrastructure and organisation for the exchange of harmonised data related to transport between Member States’ authorities and is used by all Member States to fulfil obligations under Directive 2011/82/EU of the European Parliament and of the Council\(^1\) while its functionalities already include mileage recordings;

R. whereas there are also technical solutions, both regarding hardware and software, that could be integrated into vehicles by manufacturers and thus prevent odometer manipulation from the start, whereas “Hardware Security Modules” (HSM) and “Secure Hardware Extensions” (SHE) are already used to protect electronic control units (ECU) in vehicles against unauthorised access, manipulation or car theft and their cost per vehicle is estimated at one euro;

S. whereas Regulation (EU) 2017/1151 obliges manufacturers, in order to obtain type-approval for a vehicle, to implement systematic tamper-protection strategies and write-protect features to deter reprogramming of odometers, also taking account of remote data exchange features; whereas it only requires information and explications provided by the manufacturer and does not foresee any testing if the odometer is tampering proof while there are certified and internationally recognized processes like Common Criteria for Information Technology Security Evaluation; whereas internationally recognised processes such as the Common Criteria (ISO/IEC 15408), for instance, can help safeguard against tampering;

Legislation and loopholes

T. whereas odometer manipulation is prohibited in 26 Member States, only ten of them have additional measures to verify the mileage available to customers and only six recognise odometer manipulation as criminal offense\(^2\); whereas the hardware and software used for tampering with odometers are freely available in the Union and that is not classified as a criminal offence and whereas more Member States are on the way to criminalising activities connected with the illegal manipulation of meter readings;

U. whereas odometer fraud represents a threat to roadworthiness, which is also noted in Directive 2014/45/EU, which calls on Member States to impose effective, proportionate and dissuasive penalties on such manipulations; whereas the Commission should further examine the feasibility of connecting national platforms in order to allow the cross-border exchange of information on roadworthiness which include odometer readings;

V. whereas Directive 2014/45/EU contains the obligation to record mileage readings during the periodical technical inspection (PTI) and makes these recordings available for the subsequent PTIs, but only addresses mileage recordings during roadworthiness

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\(^2\)European Consumer Centers Network (ECC-Net, 2015), Cross-border car purchases: what to look out when you’re bargain hunting, p. 236
tests from the first roadworthiness inspection onwards; whereas the first PTI might occur as late as four years after the first registration of the vehicle therefore leaving enough time for odometer manipulation before the first inspection as well as between inspections and might even result in an official recording of incorrect mileage records.

W. whereas neither Directives 2007/46/EC of the European Parliament and of the Council\(^1\) and Commission Regulation (EC) No 692/2008 on type approval, nor UNECE Regulation 39 take account of mileage fraud and tamper-proof odometers; whereas the Regulation (EC) 661/2009 makes a reference to UNECE Regulation 39 regarding approval requirements for the speedometer, there are no requirements for the odometer or its essential characteristics;

**Future development in the automotive sector**

X. whereas the automotive industry has made huge progress in developing and producing vehicles that are connected, use ITS and communicate with their environment so that most cars entering the market are already capable of connectivity features thus progressively moving towards a connected car fleet on Europe’s roads;

Y. whereas, according to various surveys, the average age of cars on European roads is 7-11 years and is constantly increasing, while in the Member States which acceded after 2004, cars are far above average age, resulting in a fleet that consists of newer, highly connected cars and older cars without any connectivity features;

Z. whereas modern vehicles already today regularly send datasets to manufacturers including actual mileage and total operating time delivering key data for the verification of mileage record plausibility;

AA. whereas blockchain technology could be one solution for future odometer data storage;

AB. whereas CarTrustChain is a successful project on how to use blockchain technology to eliminate odometer fraud that was co-funded by the European Funds for Regional Development.

1. Requests the Commission to submit, on the basis of Article 91(1) and Article 114 of the Treaty on the Functioning of the European Union, a legislative framework that requires Member States to create legal, technical and operational barriers in order to make odometer manipulations impossible, following the recommendations set out in this report and the Annex hereto within a timeframe of twelve months after the adoption of this report by the European Parliament; calls on the Commission to review the statutory requirements of Regulation (EU) 2017/1151;

2. Calls on the Commission to ensure that the same legal and technical barriers are also applied to imports from non-EU countries;

3. Welcomes technical solutions such as HSM and SHE, which are already widely used to protect sensitive data in cars, and underlines the fact that odometer readings should

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enjoy the same level of protection in order to prevent odometers from being easily manipulated;

4. Calls on the Commission to strengthen type approval for in-car security, especially for the technical measures against odometer fraud but also in light of the increase of connected cars;

5. Welcomes that the Commission included requirements on technology security for odometers in Regulation 2017/1151; points out however, that there are no provisions on how to monitor these requirements and therefore calls on the Commission to establish clear criteria for effectively checking the safety of odometers, to adjust those requirements if necessary, within the shortest timeframe possible and to report to the Parliament about the effectiveness of the regulation;

6. Notes that national solutions using databases of frequent odometer readings from PTI, garage visits and other vehicle inspections achieved great success in fighting odometer manipulation in the respective Member States, and therefore proposes that those Member States that, to date, have failed to act accordingly should establish appropriate solutions as quickly as possible;

7. Emphasises in this regard that all Member States should have national registers and engage in cross-border exchange of data from those registers, since that is the only way in which mileage fraud can be tackled efficiently in the European Union; therefore calls on the Commission to propose a legislative framework for Member States to set up comparable and mutually compatible national data collection mechanisms, based on existing best practices, that will provide frequent and reliable mileage data collection, starting at the time of a vehicle’s first registration and allow for international exchange;

8. Stresses that cross-border access to odometer readings should be possible and that easy access to this information by a buyer of a second-hand vehicle would be a major contribution to consumer protection; underlines that a buyer of a second-hand vehicle should be able to verify the accuracy of its odometer reading, regardless of the Member State in which it was previously registered; calls on the Commission and the Member States to proactively inform consumers and stakeholders about existing measures against odometer fraud and about ways to detect and prevent odometer manipulation;

9. Underlines that EUCARIS offers an existing infrastructure for cost-effective exchange of odometer readings across the Union based on a database solution; regrets that in 2017 only Belgium, the Netherlands and Slovakia made use of the EUCARIS platform to exchange information on odometer readings and therefore encourages Member States to participate in exploiting the opportunities provided by this system;

10. Calls on the Commission to make participation in EUCARIS mandatory and to implement it as a vehicle information platform thus facilitating mileage verification throughout the whole Union with a view to reducing the possibilities for odometer manipulation;

11. Regrets the fact that the electronic register from directive 2014/45/EU has not been established yet and that the Member States’ penalties are not dissuasive enough, as a result of which the data exchange objectives have not been met;
12. Calls on the Commission to provide for a legal framework enabling the Member States to register mandatory odometer readings from PTIs, from each inspection, service, maintenance operation and repair carried out, and from other garage visits, starting with the vehicle’s first registration;

13. Emphasises that a blockchain based solution could be more cost-effective and calls on the Commission to conduct a cost-benefit-analysis for this solution within twelve months after the adoption of this report by the European Parliament, including security, transparency and protection of data; until the potential uptake of this technology effective easy to use and rapidly operational solutions, notably databases, should be implemented without delay;

14. Underlines that wider application of advanced cryptographic technologies, such as Hardware Security Modules (HSM) or Secure Hardware Extensions (SHE) based solutions, could provide additional protection against odometer manipulations, protecting odometers from non authorised access by way of secured chips;

15. Emphasises that vehicles have become increasingly capable of connectivity and that this development will continue thus allowing to automatically feed odometer data into a database or a blockchain network; welcomes the automotive industry’s efforts to develop a variety of technical safeguards against odometer tampering including data encryption, data protection and security but also calls on manufacturers to further improve the effectiveness of their technical solutions;

16. Highlights that all measures involving transmission and storage of data should follow the European data protection acquis, only be practiced for preventing odometer manipulation and with the highest level of cyber protection;

17. Calls on Member States to create or amend legislation on odometer manipulation in order to make it a criminal offence – including the provision of hardware, software and the related services required for unauthorised manipulation – since tampering leads to incorrect assessment of vehicle roadworthiness and thus has a negative impact on road safety; calls on Member States to provide sufficient human and financial resources for the effective, non-discriminatory and proportionate enforcement of this legislation;

18. Believes that swapping one vehicle odometer for another with a lower mileage reading, if the aim in so doing is to conceal the real mileage and thereby make a profit, should be considered vehicle mileage fraud;

19. Requests the Commission to submit, on the basis of Article 91(1) and Article 114 of the Treaty on the Functioning of the European Union, a proposal for an act on measures tackling odometer manipulation, following the recommendations set out in the Annex hereto;

20. Instructs its President to forward this resolution and the accompanying recommendations to the Commission and the Council.
ANNEX TO THE MOTION FOR A RESOLUTION:
RECOMMENDATIONS AS TO THE CONTENT OF THE PROPOSAL REQUESTED

Fostering technical solutions and type approval

In order to make the manipulation of odometer readings more difficult, a higher level of in-vehicle security for odometer data should be established. This shall be achieved through the following means:

- Monitor the implementation of Article 5 (3) (f) of Regulation 2017/1151 and report the results as soon as possible to the Parliament;

- Establish clear requirements for securing odometer readings against manipulation including – if positively assessed – cryptographic manipulation protection, manipulation recognition systems, separate mileage detection and recording and hardware security;

- Introduce a test method or apply the Common Criteria for Information Technology Security Evaluation for the preventive solutions from Regulation 2017/1151 regarding odometer fraud;

Database systems

Databases with odometer readings significantly reduce the number of manipulated vehicles. It is important to achieve a EU-wide solution, as isolated national initiatives cannot prevent odometer fraud in cross-border trading of second-hand vehicles. Therefore, following measures should be proposed:

- the mandatory odometer reading recordings as called for in Directive 2014/45/EU should be made available for cross-border exchange and on request also to customers;

- create a legal framework for setting up comparable mileage recording databases in the Member States, ensuring international exchange and access to information, based on existing best practice that provides frequent and reliable mileage data recording;

- existing odometer reading databases on Member States’ level should be interconnected, compatible and interoperable on EU-level and allow for international data exchange while existing infrastructure like the EUCARIS should be used for a cost-effective and timely implementation;

- data protection rules should be respected and, where necessary, adapted in a way to enable storage and exchange of the relevant data and protection of privacy while effectively preventing fraudulent use of the collected data;

- buyers of second-hand vehicles should be provided with a means to verify, before the purchase, the accuracy of the odometer reading of the car, based on the collected mileage data from that vehicle regardless of the Member State in which it was previously registered;
Blockchain and connectivity as potential and complementary long-term solutions

Vehicles become increasingly connected and the share of connected vehicles in the European fleet is constantly growing. They already transmit data like the actual mileage reading to the manufacturers’ servers. Those data could already be used to discover mileage fraud.

The blockchain technology could in time offer a reliable tool to secure data in a network and to help prevent manipulation of data entries. Combining those developments and technology could be explored as a long-term solution to odometer fraud.

Therefore, following measures should be proposed:

– assess the potential costs and benefits of establishing a European blockchain network for odometer readings;

– if positively assessed: create the legal and regulatory framework for an automated transmission of odometer readings of cars that are equipped with connectivity functions and – irrespective of the blockchain assessment – for accessing odometer data stored and collected by the manufacturers complementing mileage recordings from manual entries at PTI and from other sources;

– make mandatory to transmit odometer readings from PTI, garage visits and inspections and thus integrating but advancing from the database system;

Legislation and enforcement

Until now, odometer fraud is not a criminal offence in all Member States, although Directive 2014/45/EU explicitly calls for that. Having effective legal measures enforced, including fines and penalties is crucial for eradicating odometer fraud. Therefore, following measures should be proposed:

– odometer fraud should be regarded as an offence committed both by the person who orders the meter reading to be changed (the car owner) and by the person who changes it, and punishable by effective, proportionate, dissuasive and non-discriminatory penalties that follow a highly comparable standard in the whole Union;
EXPLANATORY STATEMENT

Introduction

Odometer fraud is a widespread phenomenon posing a serious threat to road safety, distorting the proper functioning of the internal market and imposing unfair an additional cost to consumers, insurers, second-hand car dealers, leasing companies and also manufacturers.

Estimates show that between 5% and 12% of cars are affected in national markets but between 30% to 50% of all cars in cross border trade. The economic damage for the whole EU is estimated between EUR 5.6 and 9.6 billion. Consequently, trust in the second-hand car market is the lowest among all goods markets in the EU.¹

So-called odometer adjusting or odometer correction tools are easily available and start at very low prices. In a higher price range more sophisticated tools with software update subscriptions are available, which amortise quickly, when the service is offered on a commercial basis. The profits are remarkable as the artificially increased economic value is – depending of the vehicle segment – on average between EUR 2.000 and 5.000².

There is also an unequal distribution of the probability of buying a car with tampered odometer, both geographically and socially. In EU13 countries problems related to manipulated odometers have been reported more frequently than in other Member States. Mileage fraud also disproportionally affects social groups with lower disposable income.

Besides economic effects, there are severe negative impacts on road safety. Due to the incorrect mileage, the car owner will follow a wrong maintenance and inspection plan, which in turn can lead to a delayed or wrong replacement of parts and components. Premature wear and tear will lead to increased maintenance and repair needs and – due to unexpected cost, many people cannot bear - to more unsafe vehicles on the roads.

Moreover, the environmental performance of those cars is worse than expected and pollutant emissions increase. Therefore, cars with manipulated odometers can unexpectedly fail the emissions tests during the periodical technical inspection. Other consequences of the manipulation can also have an impact on manufacturers. Indeed, Regulation 715/2007 defines durability requirements for pollution control devices; however, a car that complies in reality with the Regulation but has a manipulated odometer may show reduced emissions control capabilities and subsequently be a threat for the manufacturer’s performance.

Discussion of countermeasures

Due to the scope of odometer manipulation and its negative impact on road safety, environment, economy and consumers, some Member States have addressed the problem and introduced countermeasures. The goal is to create legal, technical and operational barriers to make manipulations either impossible or so time consuming, difficult and expensive that it is no longer lucrative.

¹ Consumer Markets Scoreboard (European Commission, 2014)
² KTI, Technische Informationen 2/2014 Tachobetrug (http://www.k-t-i.de/fileadmin/edit/publikationen/ti/2014/2014-02_TI_Tachobetrug_V1.0.pdf)
Belgium and the Netherlands have established database systems that store mileage recordings from PTI, maintenance and inspection visits at garages. As a result, the number of cars with manipulated odometers decreased significantly and the phenomenon almost disappeared. However, this effect is only valid for internal second-hand car sales. Nevertheless, the number of manipulated cars in cross-border sales remains constant. In order to have the same effect in cross-border trade, three factors are crucial: data must be collected, it must be correct and cross-border access to those data must be possible.

That is why a European database solution could help to collect data in a uniform manner and to enable cross border exchange. Building upon existing structures like the EUCARIS would be a cost effective approach.

As databases only store mileage from the first recording onwards – which is in the worst case the first PTI after four years – one could still manipulate the odometer before this date. As a result, an incorrect mileage would be recorded officially and hence “legalised”.

In order to avoid this risk, many stakeholders advocate for an in-vehicle solution. Specific parts of the vehicle’s electronic control units (ECU) have a higher security level than others or are specifically protected against unauthorised access. So-called “Hardware Security Modules” are already in use for this purpose and according to several stakeholders represent a cheap and efficient solution, the manufacturers would have to implement. It would be a solution right from the start to set an additional barrier to manipulation.

Proposed solutions: from short term to long term

The problem of odometer fraud should be tackled through a multi-level approach. Mandating manufacturers to specifically secure the odometer against manipulation is a first step that will better protect all new cars coming to the market. Establishing a European database solution would include all cars on the road as well as all future cars.

Having a look at the technological progress, both in the automotive industry and IT, illustrates that a combination of connected cars and blockchain technology could be a long-term solution. Connected cars are already on European roads and their numbers are likely to increase further. OEMs already receive datasets from these vehicles including amongst others the current mileage. Therefore, relevant data and an automated transmission technology are already in use.

Instead of sending those datasets to a classic database, where alteration and deletion cannot be ruled out, a blockchain network could be a safe, secure and cost efficient alternative. Blockchains are by design resistant to modification of data. In the long run, automated transfer of odometer data to a European blockchain could put an end to odometer manipulation.
ANNEX: LIST OF ENTITIES OR PERSONS
FROM WHOM THE RAPPORTEUR HAS RECEIVED INPUT

The following list is drawn up on a purely voluntary basis under the exclusive responsibility
of the rapporteur. The rapporteur has received input from the following entities or persons in
the preparation of the report, until the adoption thereof in committee:

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<tr>
<td>EAC European Automobile Clubs</td>
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<tr>
<td>Allgemeiner Deutscher Automobil-Club e.V. (ADAC)</td>
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<td>Association of European Vehicle and Driver Registration Authorities (EReg)</td>
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<td>European Council for Motor Trades and Repairers (CECRA)</td>
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<td>Fédération Internationale de l'Automobile (FIA)</td>
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<td>Gesamtverband der Deutschen Versicherungswirtschaft (GdV)</td>
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<td>Kraftfahrzeugtechnisches Institut und Karosseriewerkstätte (KTI)</td>
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**INFORMATION ON ADOPTION IN COMMITTEE RESPONSIBLE**

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| **Result of final vote** | \[\begin{align*}
+ & : 46 \\
- & : 1 \\
0 & : 1
\end{align*}\] |
| **Members present for the final vote** | Daniela Aiuto, Lucy Anderson, Marie-Christine Arnautu, Georges Bach, Izaskun Bilbao Barandica, Michael Cramer, Luis de Grandes Pascual, Isabella De Monte, Ismail Ertug, Jacqueline Foster, Dieter-Lebrecht Koch, Merja Kyllönen, Miltiadis Kyrkos, Boguslaw Liberadzki, Peter Lundgren, Renaud Muselier, Markus Pieper, Tomasz Piotr Poręba, Gabriele Preuß, Dominique Riquet, Massimiliano Salini, Claudia Schmidt, Jill Seymour, Claudia Ţapârdele, Keith Taylor, István Ujhelyi, Peter van Dalen, Elissavet Vozemberg-Vrionidi, Roberts Zīle, Kosma Złotowski, Elżbieta Katarzyna Łukacijewska |
| **Substitutes present for the final vote** | Matt Carthy, Jakob Dalunde, Michael Detjen, Markus Ferber, Michael Gahler, Maria Grapini, Karoline Graswander-Hainz, Kateřina Konečná, Peter Kourtoubashev, Werner Kuhn, Ramona Nicole Mănescu, Jozo Radoš, Matthijs van Miltenburg, Henna Virkkunen |
| **Substitutes under Rule 200(2) present for the final vote** | Anna Hedh, Jeroen Lenaers, Mylène Troszczynski |
# FINAL VOTE BY ROLL CALL IN COMMITTEE RESPONSIBLE

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Key to symbols:
+ : in favour
- : against
0 : abstention