

Kraftfahrt-
Bundesamt



/ Market Surveillance Report 2021

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/ Introduction

With this report, the Kraftfahrt-Bundesamt (KBA) publishes its results in the area of market surveillance to ensure public interests such as health, safety and the environment. With the official opening of the Harrisee Laboratory (HaL) in August 2021, KBA officially put into operation its new testing facilities in order to, among other things, conduct its own exhaust gas tests. The laboratory has already led to a noticeable increase in product testing. In addition to the focus on emissions testing, the focus is also shifting to testing the noise behaviour and lighting systems of vehicles and retrofit parts. KBA's own Test Center in the municipality of Leck (TeCeL) is currently creating or expanding the testing facilities for this purpose. In the future, an infrastructure will be created at TeCeL that will provide various legally required testing options for automated and autonomous driving systems.

Market surveillance is based on national and international legislation that provides various tools to protect the market from harmful influences. It is about safety and environmental compatibility of vehicles as well as competition and a level playing field for all market participants.

In Germany, KBA is responsible for the market surveillance of motor vehicles and their systems, components and separate technical units. Three pillars form the basis of KBA's effective market surveillance: **investigations**, **recalls** and **sanctions**.

Investigations serve to examine whether the goods made available on the market comply with the legal requirements. If KBA identifies specific deviations from the requirements or product risks to health, safety and the environment, the manufacturers, distributors or other economic operators responsible for the product are confronted with the results. If serious hazards are identified, the product responsible, usually the manufacturer, is required to carry out a recall. If necessary, restrictive measures for making the products available on the market may also be issued.

KBA initiates **recalls** as an official measure against product responsible, if the vehicles or vehicle parts they make available on the market deviate from the applicable regulations or pose a risk to health, safety, the environment or to other aspects of the protection of public interests. The persons responsible for the



Source: KBA

product must take all measures to eliminate the deficiency and restore the product to its legal condition. As a rule, the deficiency is remedied in the manufacturer's specialist workshops. Affected vehicle owners are informed by mail and asked to present their vehicle to the specialist workshop for defect rectification.

If this does not happen despite repeated requests, KBA can initiate the prohibition of operation of the vehicles in question by notifying the local registration office so that the defective vehicle is removed from circulation and the safety of all road users – not just the owner's – is ensured. In addition to the vehicle-specific owner notification as part of the recalls, KBA also offers the general public a convenient way to find out about recalls via a manufacturer- and model-specific search in the form of the recall database. The recall database is being continuously developed. If you have any further questions, KBA is happy to answer them by phone, e-mail or letter.

KBA imposes **sanctions** on those responsible for products who do not comply with the specified rules. A significant proportion of KBA's proceedings are directed against vehicles and products that are not offered for sale in compliance with the applicable laws. These can be identified by missing or incorrect approval marks. KBA punishes violations with severe fines. For this reason, KBA monitors the market and examines it for such products. Furthermore, KBA examines products that have come to light during customs import controls and decides on their importation. In this way, KBA prevents non-compliant vehicles and vehicle parts from entering the market at an early

stage. The focus is on safety, environmental compatibility and fair competition.

KBA works closely with other national and international authorities to monitor the market effectively. In doing so, KBA contributes its expertise to expert committees and adapts the tools of market surveillance to technological progress.

For example, KBA maintains a close exchange with the European Commission and the type approval and market surveillance authorities of the European member states. The member states exchange information on tests in order to avoid unintentional duplicate tests. The results and actions taken are shared with all member states to achieve a unified approach in Europe.

This year's report addresses the topic of noise emissions from passenger cars and motorcycles for the first time. One focus is on considerations of automated and autonomous driving functions. For this purpose, the breakdown of the levels of driving automation and the test track available for testing these functions in Leck are presented. In the area of recalls, KBA shows how the number of official recalls is divided among the vehicle components affected. From the area of sanctions, information is provided on the current dimensions of online trade in parts that are unapproved but subject to approval, based on three product groups. The report is rounded off by the cooperation project with the Federal Highway Research Institute (BASt) and the greetings from the Chairman of the Advisory Board at KBA, Prof. Dr.-Ing. Karsten Lemmer.

/ Investigations



Source: KBA

Driver assistance systems are now well established in modern automobiles. These systems, which support us in our driving activities, influence our driving behaviour. Developments in this field are rapid and innovation cycles are becoming shorter and shorter, so that in the future vehicles without drivers on the road will no longer be a vision, but will be within reach. But how does the transfer of the driving task from human to vehicle take place and what has to be considered? This market surveillance report answers these and other questions.

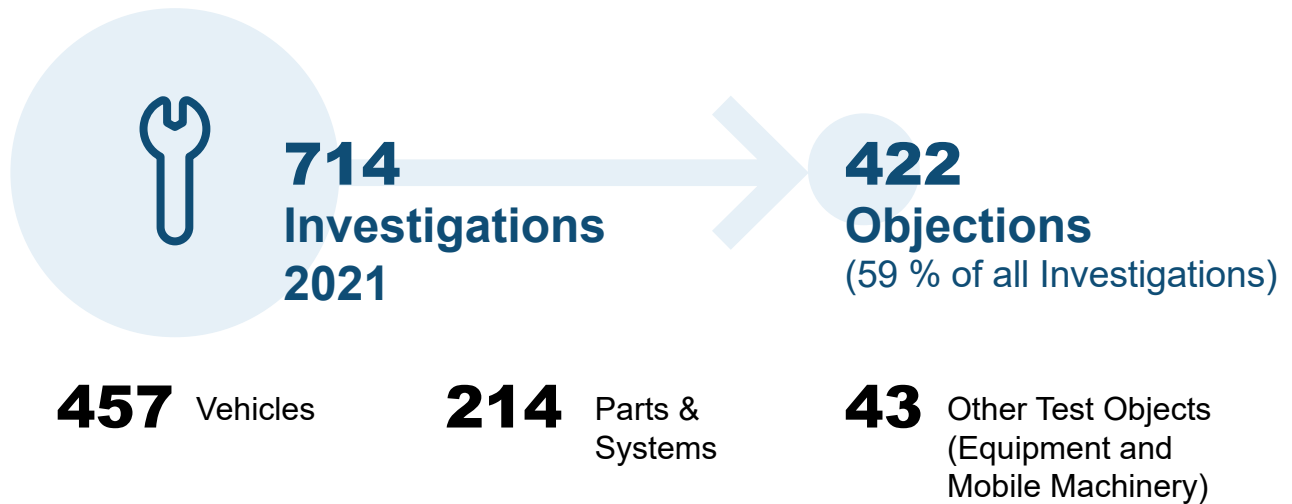
In addition to checking the above-mentioned (assistance) systems, the market surveillance ensures as part of its product testing that the vehicles operated on German roads and their

components comply with the legal requirements in order to exclude risks to safety or the environment.

The product tests cover type-approved vehicles, systems and components. Test objects are selected irrespective of which type approval authority has granted the approval.

The focus of the tests carried out in 2021 continued to be on exhaust gas emissions. In addition to these, further tests were carried out.

The product tests carried out by KBA in the market surveillance year 2021 are made up as follows:



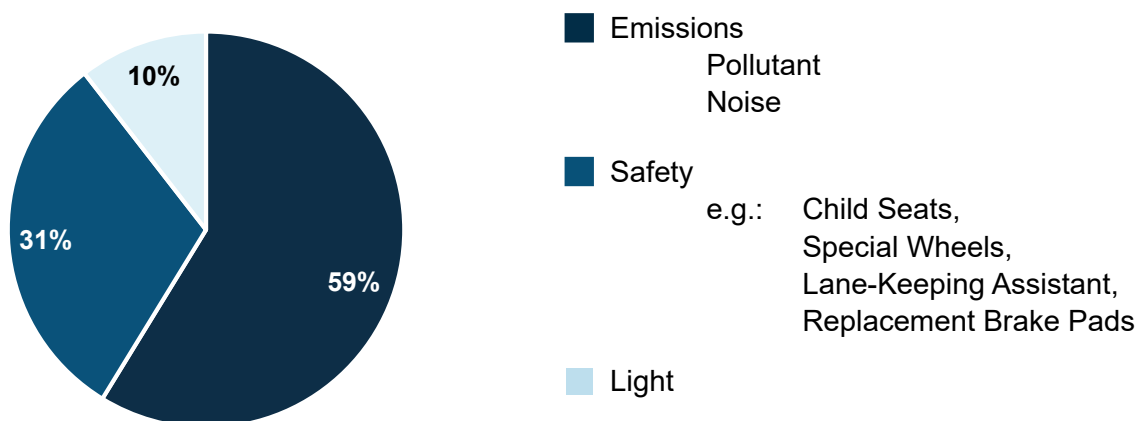
Source: KBA

The product tests carried out in 2021 are, similar the previous market surveillance year, characterized by a broad spectrum of test objects. Test objects ranging from e-scooters and passenger cars to heavy duty vehicles were selected. The tests covered, among other things, illuminants, restraint systems, automated steering systems, exhaust aftertreatment systems and noise emissions. KBA carried out 159 physical tests on vehicles with regard to their exhaust emissions in connection with EU Regulations 715/2007, 595/2009, 2017/2400, 2005/55, 88/77, 72/306 and § 22 of the Road Traffic Licensing Regulations (StVZO) concerning NOx reduction systems. 253 objected tests of the above balance are due to manufacturer self-reports.

Details of product tests performed can be found at www.kba.de or by using this QR-Code:



Test Subjects of Market Surveillance 2021



Source: KBA



How to find out, whether there are test results for my vehicle?

To find out whether your vehicle is among the test results mentioned on page 7, use the QR code provided there. The results are stored on the referenced website. First

of all, you can use the search field to reduce the number of results. To do this, you can first start with the manufacturer's name and the usual trade name:

Zusammengefasste Ergebnisse der durchgeführten Fahrzeugtests

10 ZEILEN ANZEIGEN SUCHE: Audi A4

Hersteller	Handelsbezeichnung	Hubraum [ccm]	Motorleistung [kW]	Kraftstoffart	Motorbuchstabe	Typ/Variante/Version	Abgasnorm	Typgenehmigung Whole Vehicle Type Approval	Link
Audi	A4 1.4 TFSI	1395	85	Benzin	HRA2	B8 / L2CVNAF1 / FM6FM6 DJ007P8W05S57MMEM1	Euro 6b (NEFZ)	e1*2001/116*04630*50	Audi A4 1.4 TFSI
Audi	A4 Avant 2.0 TFSI	1984	140	Benzin	CVKB	B8 / A2CVKBF1 / FM6FM6D J0005P8W07S57MMEM1K	Euro 6b (NEFZ)	e1*2001/116*0430*43	Audi A4 Avant 2.0 TFSI
Audi	A4 2.0 TDI	1968	110	Diesel	DEUA	B8 / A2DEUAF1 / FD7CK006P8W05S57MMEM1	Euro 6b	e1*2001/116*0430*40	Audi A4 2.0 TDI 1
Audi	A4 2.0 TDI	1968	140	Diesel	DETA	B8 / A2DETAF1 / FD7CK006P8W10S57MMEM1	Euro 6b	e1*2001/116*0430*38	Audi A4 2.0 TDI 2
Audi	A4 Avant 2.0 TDI quattro	1968	140	Diesel	DETA	B8 / A2DETAQ1 / QD7CL002P8W10S57MMEM1	Euro 6b	e1*2001/116*0430*40	

Subsequently, certain characteristic values of your vehicle are required for identification. Generally, all the values for this can be found in your registration certificate part 1, which documents values such as displacement, engine power in kW, vehicle type, variant or version. When determining the engine identification, it is often helpful

to take a look at the variant of the vehicle. Here you can already identify many vehicles. If the approval number of the type also matches, which can also be taken from the registration certificate part 1, then you can be sure that the results shown match your vehicle:

10 ZEILEN ANZEIGEN SUCHE: Audi A4 DEUA e1*2001/x

Hersteller	Handelsbezeichnung	Hubraum [ccm]	Motorleistung [kW]	Kraftstoffart	Motorbuchstabe	Typ/Variante/Version	Abgasnorm	Typgenehmigung Whole Vehicle Type Approval	Link
Audi	A4 2.0 TDI	1968	110	Diesel	DEUA	B8 / A2DEUAF1 / FD7CK006P8W05S57MMEM1	Euro 6b	e1*2001/116*0430*40	Audi A4 2.0 TDI 1

Finally, you can view the results using the reference stored in the "Link" column.

Emission-Related Test Activities

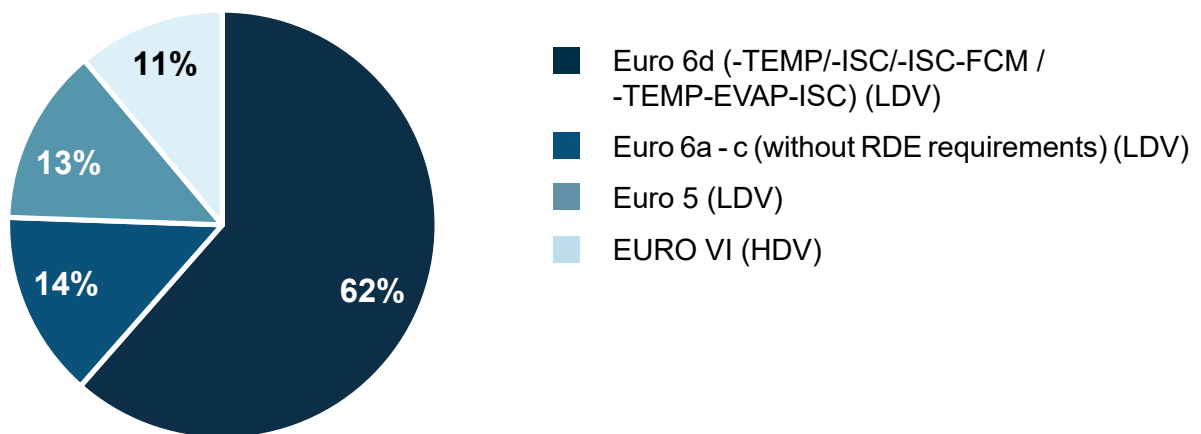
A large part of the 2021 test scope concerned exhaust emissions. The vehicles were tested on roller dynamometers and with regard to their real driving emissions (RDE) with portable emission measurement systems (PEMS).

Approximately three-quarters of the emissions tests listed below were carried out on Euro 6 vehicles, with Euro 6d vehicles accounting for

more than 60 percent of the total. The remaining quarter comprised tests on Euro 5 vehicles and heavy commercial vehicles with the emission standard Euro VI.

An overview of the distribution of the emission-related test scope among the corresponding exhaust emission standards is given below:

Tested Emission Groups 2021



Source: KBA

The exhaust emission tests comprise different measurement procedures, which are designed depending on the subject of the test. The measurement procedures can have different environmental conditions (e.g. ambient air temperature) in the corresponding driving cycles and profiles (NEDC, WLTC and RDE).

In addition, the driving cycles and profiles can also be individually adapted. The possible degrees of freedom in the design of the measurement procedure serve, among other things, to ensure that any manipulations can be determined.

Opening of the Harrislee Laboratory (HaL)



Source: KBA

KBA officially opened its in-house test laboratory in Harrislee, Schleswig-Holstein, on 19 August 2021. This project, which was completed after two years of construction, enables KBA to perform tests on its own exhaust gas test benches. In addition, state-of-the-art measurement technology and IT systems in combination with KBA's own test track in Leck will enable full-scale testing of vehicle exhaust emissions. Doing so, KBA is able to determine whether violations of the limit values for legally limited pollutants are being committed

at the expense of the environment. In addition to exhaust emission tests, the Harrislee Laboratory (HaL) enables the most important systems of the vehicles to be tested, primarily in order to detect safety-relevant defects. Due to the increasing automation of vehicles, the tests will be expanded in the future. At the heart of the newly opened test laboratory are two roller dynamometers for testing pollutant emissions. A wide range of environmental conditions and driving curves can be set on these test benches, such as the prescribed NEDC (New European Driving Cycle) and WLTC (Worldwide Harmonized Light Duty Test Cycle) driving cycles, in which the environmental conditions (temperature, humidity, air pressure) are fixed for the respective driving cycles. For KBA's market surveillance, however, these legally defined tests are merely the starting point of the investigation. To test the vehicle under a wide variety of ambient and driving conditions, KBA varies these within its tests. In addition to the laboratory tests, KBA also tests in actual driving conditions using portable emission measurement systems (PEMS).

More about the Harrislee Laboratory (HaL) is available under www.kba.de or by using this QR-Code:



“Today’s vehicle technology is a highly complex system, the essence of which is regulated by legal standards that are as complete as they are demanding. The current state of the art is subject to ever shorter innovation cycles, so that the test methods are also subject to a constant process of development. Not only the increasingly stringent requirements in the area of exhaust and noise emissions, but also the developments in the field of highly automated to autonomous driving therefore require independent, reliable and efficient government monitoring. In our KBA test laboratory, the engineers and technicians employed here have at their disposal the necessary test infrastructure with state-of-the-art measuring technology as well as air-conditioning and IT equipment to carry out a wide range of measurements for vehicle safety and environmental protection.”

KBA-President Richard Damm, 2021

KBA is also able to test the evaporative emissions of vehicles using a so-called SHED container. These must be considered in addition to the exhaust emissions generated during the combustion of the fuel and remaining after exhaust gas aftertreatment. For this purpose, KBA has a sealed room for evaporative determination (SHED). It is necessary to regulate the room temperature of the sealed room in order to be able to perform the requirements for the vehicle as well as the corresponding tests deviating from them.

Another aspect of the Harrisee laboratory sets KBA apart in Germany and Europe: Software analysis. As the only authority in Europe, KBA carries out software analyses based on the software stored in the vehicle, analysing its structure and parameterization. Here it is possible to see exactly whether links within the manufacturer’s software or the choice of any parameters have been applied in a permissible manner.

Manufacturers are obliged under European law to transmit their software, if an authority wants to analyse it.

SHED-Room



Sealed room for evaporative determination (SHED) (Source: KBA)

Climate Roller Dynamometer



Climate roller dynamometer for different test scenarios (Source: KBA)

Noise Campaign



Source: KBA

Who has not experienced it? The situation when a passing vehicle seems much louder than you personally like. The noise emissions of vehicles and replacement silencing systems are a frequently discussed topic. It is not for nothing that there are legal requirements that limit the noise emissions of vehicles and

add-on parts in the interest of the environment. Noise generation is a complex issue and often ambient conditions also lead to an increase in local noise pollution. However, it is important that vehicles comply with legal requirements so that these effects do not cause disturbance or harm to uninvolved persons. In this respect, one focus of KBA market surveillance was to ask a central question: Is this vehicle really “too loud”?

Details on the conducted noise campaign tests are available on www.kba.de or by using this QR-Code:



As a result of a decree issued by the Federal Ministry of Digital Affairs and Transport (BMDV), KBA tested various passenger cars and motorcycles in their standard condition and also with replacement silencing systems available on the market with regard to their noise emissions. The test is based on the respective type approval regulations for the vehicles and components. The tests included five light duty vehicles and six motorcycles of varying engine powers and displacements. The test proce-

dures have requirements on the measurement equipment, the test vehicles and the test track. Examples include the protection of the test microphone against wind, the selection of a test track on which free acceleration without obstacles and the neglect of weather influences is possible and the requirement of no reflec-

tion of the sound from surrounding objects. Meteorological parameters such as ambient temperature and pressure must also be measured, as well as wind speed and humidity. The scope of testing varies depending on the vehicle class and is defined in UN Regulations 41 for motorcycles and 51 for passenger cars:

Light Duty Vehicles

Measurement of noise during full throttle acceleration

For vehicles with high engine power and low weight at the same time, a constant speed test is also performed.

Noise limits vary between 68 and 80 dB (A) depending on the power and weight.

Motorcycles

Measurement of stationary and driving noise emissions

Stationary noise is measured when the motor rotational speed is successively increased up to the nominal speed.

Driving noises are measured during acceleration within a fixed defined sequence.

Noise limits vary between 73 and 77 dB (A) depending on power and weight.

The results of the tests carried out on the vehicles in series production condition against the relevant approval specifications showed that almost all the vehicles met the requirements. Nine of the ten test vehicles met all requirements. Another vehicle could not be evaluated due to its individual condition.

However, this ratio is different, if replacement silencing systems are tested. In the testing of the components, which were examined within the approved areas of use, none of the eleven replacement silencing systems complied with all legal requirements. In its function as market surveillance authority, KBA has required the manufacturers of the vehicles and replacement silencing systems to eliminate the defects.

Automated / Autonomous Driving – Technological Change on four Wheels Continues to Accelerate



Source: KBA

With the entry into force of the national law on autonomous driving on 28 July 2021, a major step was taken towards the implementation and market launch of autonomous driving. A supplementary implementation framework will also be ready in the course of 2022, completing the regulations for granting approval for autonomous driving vehicles. In addition

to the vehicle approvals by KBA, the operating ranges of the vehicles must also be determined, i.e. the requirements for the roads on which the vehicle will later be moved. Another milestone on the road to autonomous driving was reached on 2 December 2021, when KBA granted the world's first type approval in the field of automated driving for an automated lane keeping system (ALKS). This function has a higher level of automation than any previously approved function. It is already attributed to the automated mode. A detailed explanation of the automation levels is presented in the following chapter. In its current form, the use of ALKS is limited to highway-like roads up to a speed of 60 km/h. The increasing technological change on four wheels – starting with the first assistance systems up to the first partially automated driving functions – requires a constant adaptation of market monitoring. The further development of the Test Center Leck (TeCeL) creates essential prerequisites for this.

Details on the press release regarding the first approved level 3 system are available under www.kba.de or by using this QR-Code:



Last year, the TeCeL test infrastructure was further expanded so that the first tests of assistance systems could be carried out as early as 2021.

By applying lane markings, assistance systems such as the lane departure warning system and future autonomous systems can be tested in different traffic situations. Traffic situations include:

Highway



Road marking of the freeway section of the test track located in Leck (Source: KBA)

Roundabout



Road marking of roundabout to test critical driving situations in urban environments (Source: KBA)

Turning Scenarios / Normal Road Traffic / Intersections



Road marking of an expressway slip for the purpose of testing vehicle behaviour in turning scenarios and on rural roads (Source: KBA)

In addition to the road markings, traffic control systems in the form of signs supplement the test infrastructure, which can be positioned individually and depending on the test situation.

Automated/autonomous driving brings with it new testing priorities due to the “independent management of the driving task by the vehicle and infrastructure”, which must be taken into

account as part of the required market surveillance. For this reason, the test infrastructure will have to be continuously expanded in order to create a realistic image of road traffic. This will increase the number of different test scenarios.

The further expansion of the test infrastructure with regard to automated/autonomous driving will include the following elements:

Test Infrastructure

Obstacles (dummies)

Expansion of a 5G network

Traffic signals

Traffic signs

Applied Test Scenarios

Vehicle behaviour with regard to (suddenly) appearing obstacles

Testing of various communication options between vehicles and the infrastructure, such as correct traffic sign recognition

Vehicle behaviour on intersections with traffic signals

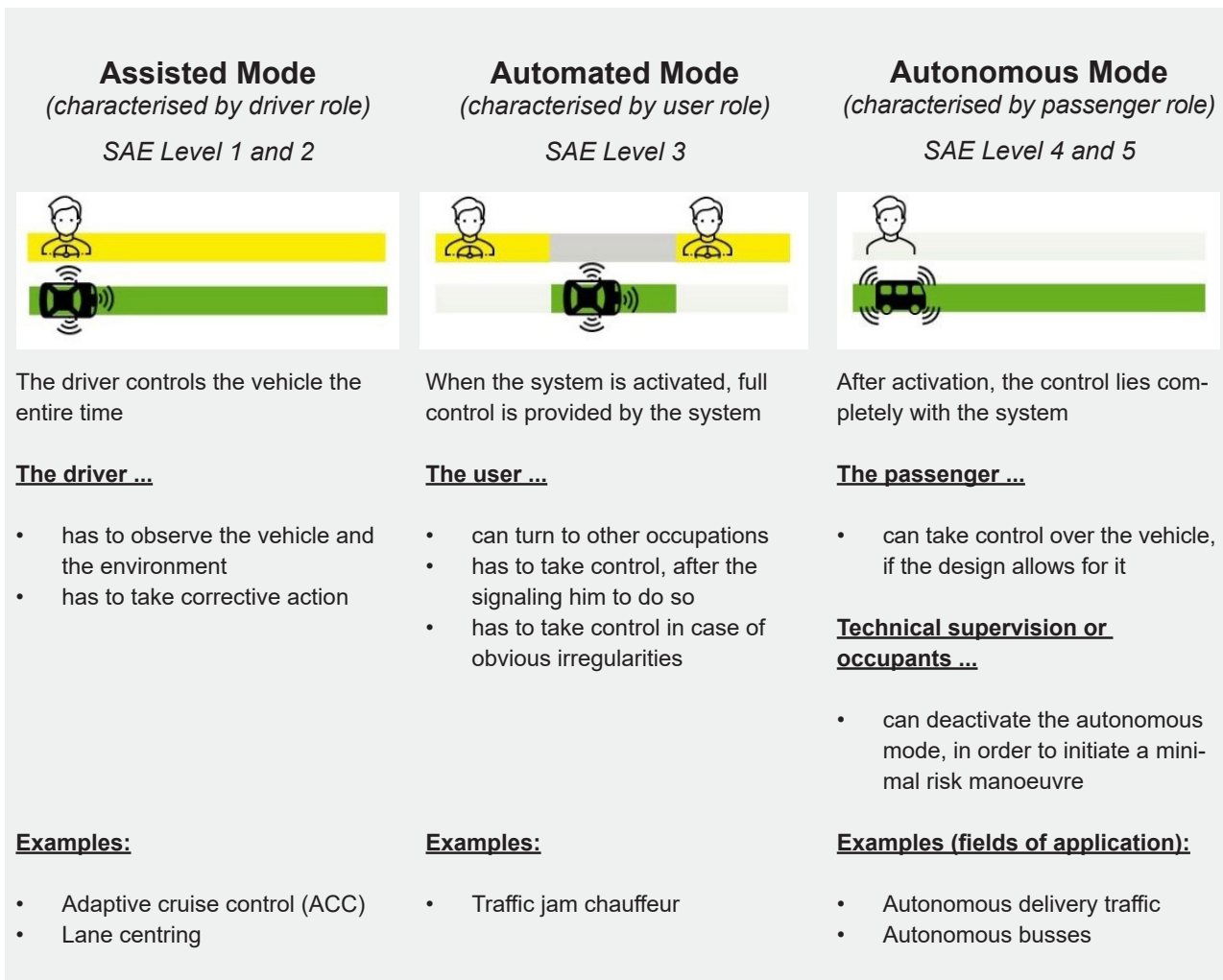
Testing of systems such as the intelligent speed assistance (ISA)

In the current market surveillance year 2022, the first tests of vehicles with regard to their automated modes are possible and planned.

The Steps to Autonomous Driving

Over the past few years, assistance functions have increasingly found their way into the automotive world. The aim of these functions is to support the driver in performing the driving task. Technological change is not limited exclusively to driver assistance. In the future, it will be possible for technologies to completely take over the driving task. This change (transfer of the driving task from human to system) does not take place immediately, but in certain defined steps, each of which characteristically

changes the role of “the driver” from today’s perspective. The three central steps or modes of BAST are shown in the figure below with the corresponding roles that “today’s driver” fulfils in the individual modes. The individual modes can include several so-called SAE levels (levels that classify assisted, automated, autonomous driving according to SAE standard J3016). For example, the assisted mode comprises SAE levels 1 and 2.



Source: BAST

The figure provides two bars for each mode, which are to be understood as a timeline from left to right. The upper bar (yellow) represents the operating time of the human driver. The lower bar (green) in turn represents the operating time of the respective assisting, automating or autonomous function.

Assisted Mode



The **assisted mode** is characterised by the fact that the driver is responsible for the driving task during the entire driving time. The driver is supported by functions such as adaptive cruise control during the journey. In addition, the driver can also be supported by other systems such as the lane departure warning system, which keeps the vehicle in the centre of the lane. These systems influence the so-called lateral guidance of the vehicle.

Automated Mode



The **automated mode** allows the driver to completely hand over his driving task to the system. However, this is only possible within a defined area, the domain of the system. The system recognizes its domain independently and offers

its activation to the driver. After the driver has activated the system, the driver changes to the role of the user and can turn to other activities. However, the user must resume control after being prompted by the system. This becomes necessary when the system recognizes that it will soon leave its domain. In this case, the system requests its user to take over the driving task with at least 10 seconds lead time. After taking over by deactivating the system, the human is again in the driver role and is again fully responsible for the driving task.

Autonomous Mode



The **autonomous mode** is characterised by the fact that there is no longer a driver as long as the mode is active. All persons in the vehicle are therefore only passengers who do not have any driving-related tasks. The system is able to take over all driving tasks.

A vehicle that has an autonomous mode can (but does not have to) have pedals and a steering wheel.

As already mentioned, the three modes of the BAST are based on the SAE levels, which classify and define assisted, automated and autonomous driving (SAE- Standard J3016). How the SAE levels are divided among the previously described roles and what characterises the SAE levels can be seen in the illustration on the following page.

Classification of Functions According to SAE Levels

Human Role	SAE-Level	Description
Driver	0	There is no continuous assisting or automating function present. However, this does not preclude the presence of other automated functions or warning functions in the vehicle, such as the lane departure warning system (LDWS). SAE Level 0 is not associated with the assisted mode.
	1	The included functions support the driver in steering (lateral guidance) or braking/accelerating (longitudinal guidance).
	2	The included functions support the driver in lateral and longitudinal guidance.
User	3	If the system is within the system limits, where the automated mode can be activated or used (within the domain), it can take over the driving task. The driver must be ready to take over the driving task again (e.g. when approaching a system boundary).
Passenger	4	The system is able to take over the driving task completely. If the system is no longer able to perform the driving task (e.g. immediate departure from the domain) and a driver does not take over control of the vehicle, the system automatically initiates the vehicle to engage a minimum-risk state.
	5	The system is able to take over the driving task completely. A driver or an intervening person in the vehicle is not required.

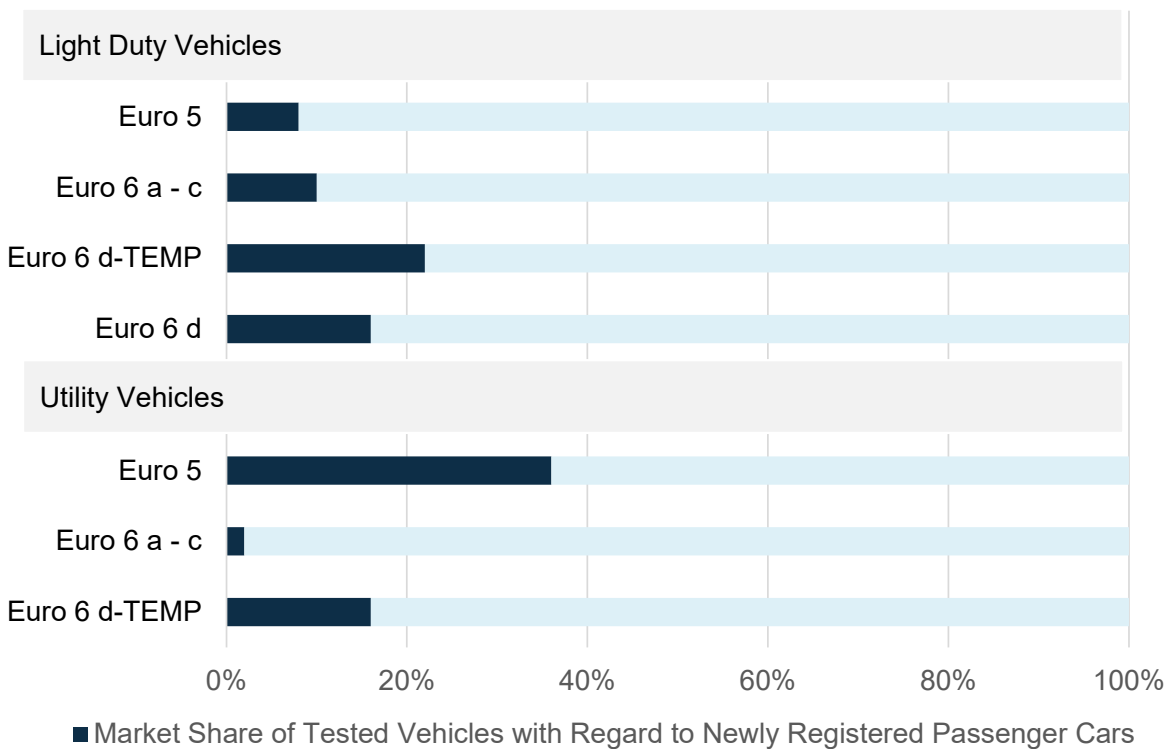
Source: BASt and SAE Standard J3016

Market Share of Test Activities

Regulation (EU) 2018/858, which has been in force since 1 September 2020, obliges each EU member state to carry out a minimum number of different tests per year. This is calculated on the basis of the number of newly registered vehicles in a given year. For every 40,000 newly registered vehicles, the scope of testing in the respective member state increases by one test. For KBA, this means that by the end of 2021, at least 110 tests had to be carried out. As this legal obligation represents a minimum number, KBA tests more vehicles and determines test contents based on current events, which may change annually depend-

ing on risk assessment and priorities. The tests contained, inter alia, exhaust emissions, tyre rolling noise, eCall, seat belts, steering systems and braking systems. In its coordinating role, the European Commission proposes to the member states a selection of vehicle types to be tested with regard to different requirements. This avoids that several market surveillance authorities test the same vehicle type. The results of these tests are transferable to technically comparable vehicles across all models. KBA covered 22 percent of the registered Euro 6d TEMP passenger cars with its tests in the year 2021. Furthermore, 16 per-

Market Share of Tested Vehicles with Regard to Newly Registered Passenger Cars in 2021



Source: KBA

cent of the registered Euro 6d passenger cars were covered by KBA's tests. For utility vehicles, the tests covered 36 percent of the registered Euro 5 vehicles.

In addition to the statutory minimum number, KBA carries out many more tests in its investigations in order to cover as many of the diverse risks as possible. These testing projects

are usually carried out reactively to current indications or information from the market and can therefore not be estimated prognostically. Based on the experience of the past year, the main components of KBA's market surveillance will be the testing of vehicle exhaust emissions, the testing of automated driving functions and the assurance of the function of safety-relevant systems depending on current events.

/Recalls and Public Information

Recalls in 2021



approx.
3.4 Mio. + 12 %*
recalled vehicles

* compared to 2020 (approx. 3.0 Mio.)



approx.
81,000 - 37 %*
decommissionings

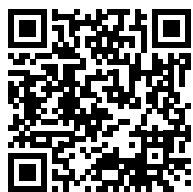
* compared to 2020 (approx. 129,000)

Source: KBA

Manufacturers of vehicles and vehicle parts are obliged to inform KBA, if there are indications or signs that their products pose a risk to vehicle occupants or other road users. KBA also examines specific indications of possible defects that it receives from other sources such as: consumers, the police, other authorities or the press. If KBA's examination

shows that the notified product poses a serious risk or that the product does not comply with harmonisation legislation, the findings are exchanged electronically between the EU member states and thus made available to the competent authorities abroad as well as to the vehicle owners concerned and the general public.

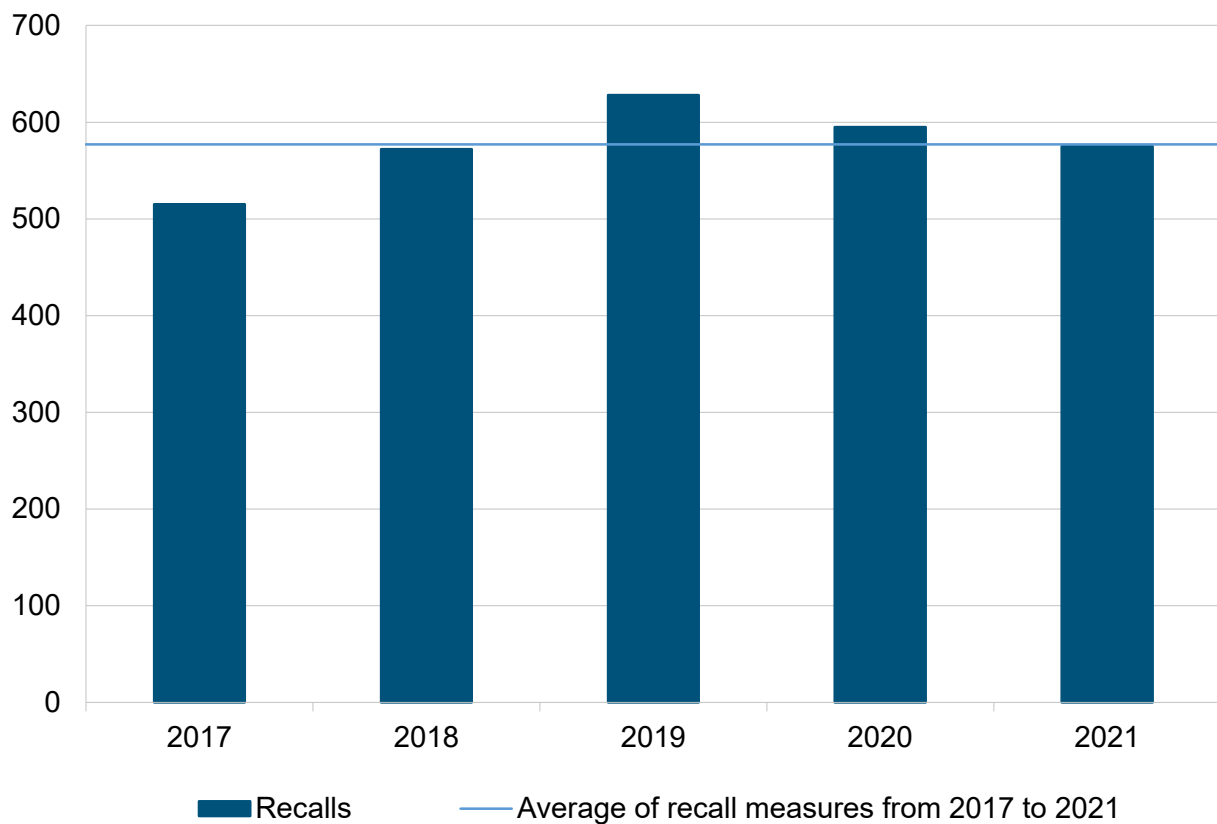
Is your vehicle subject to an official recall? You can look it up on www.kba.de or check it by using this QR-Code:



A recall action is initiated by KBA if it considers the defect to be suitable and appropriate with regard to the existing environmental and safety risk on the basis of defect reports from those responsible for the product or its own examination results.

The number of recalls initiated by KBA in 2021 was in line with the long-term average at 575, following the years 2019 and 2020. The number of product safety investigations increased by a further 12 percent compared to the previous year.

Recalls 2017 to 2021



Source: KBA

If a product has defects, the product responsible must usually take corrective measures to remedy the defects. Product defects can lead to very different hazards. The recall measures therefore vary in the way they are carried out. If there is a serious risk, the recall is usually

the most effective means of protecting vehicle owners, uninvolved road users and the public. To ensure that serious risks are completely eliminated, product responsables can use the vehicle owner addresses from the Central Vehicle Register (ZFZR) of KBA for such recalls.

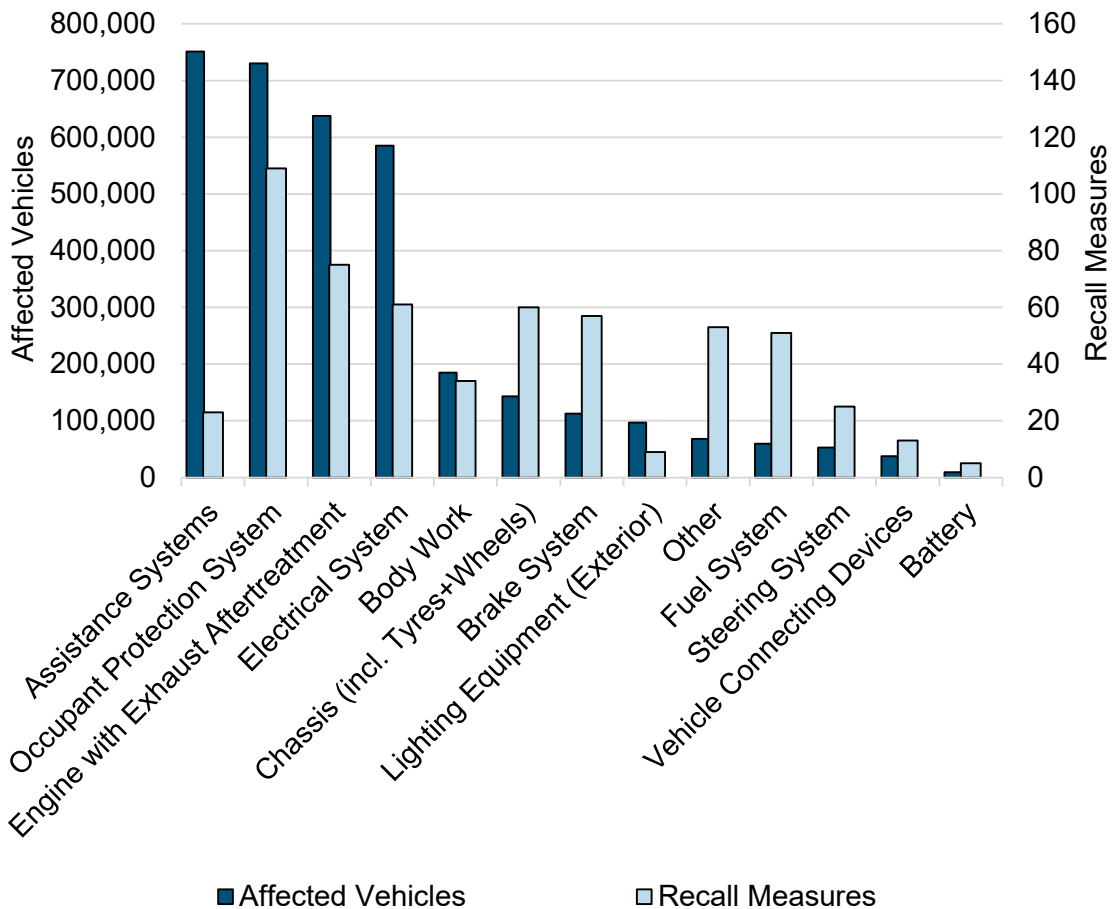


Which components are most frequently affected by a recall?

A closer look reveals that the recalls can be divided into different assembly groups depending on the system or component affected. Approximately 80 percent of the vehicles affected by recalls fall into the first four assembly groups.

- Assistance systems (e.g. faulty E-Call system)
- Occupant protection system (e.g. defective airbag)
- Engine with exhaust gas aftertreatment (e.g. defective engine components and thus increased risk of fire, prohibited defeat device)
- Electronics (e.g. defective plug connections)

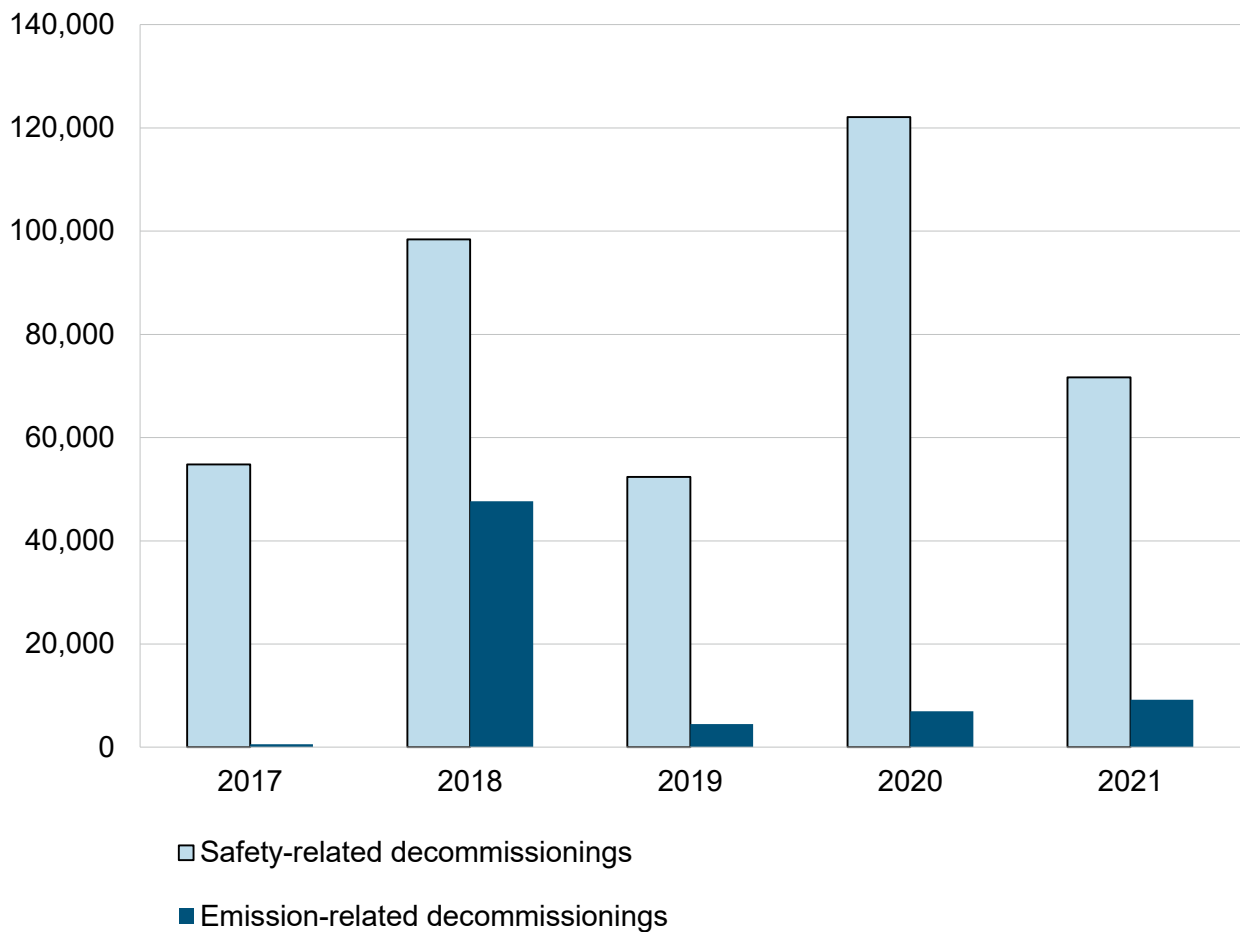
Recalls with Respect to Their Assembly Groups



Vehicle owners are also obliged and should not ignore a recall but have the defect remedied. The product responsible is instructed to report to KBA at regular intervals on the completion of the recall. If KBA finds that vehicle owners do not participate in the recall despite being requested to do so, a follow-up action will be carried out.

If the defect is not remedied even after several follow-ups actions, the locally competent registration authority can, as a result of the notification from KBA, issue an operating ban and withdraw the vehicle from circulation.

Initiated Decommissioning 2017 to 2021



Source: KBA

Public Information

KBA has recognised the interest of citizens in the results of investigations and information on recalls and launched an information service in November 2018 to inform the public. In this way, KBA ensures that questions on all matters relating to the market surveillance of motor vehicles can be answered transparently and personally. In particular, this service answers questions on safety-relevant and emission-related recalls, on voluntary measures by manufacturers, but also on any other enquiries.

The figures of the questions answered by KBA's information service are presented below.



Call KBA in case you are having any questions!

+49 461 316-1099

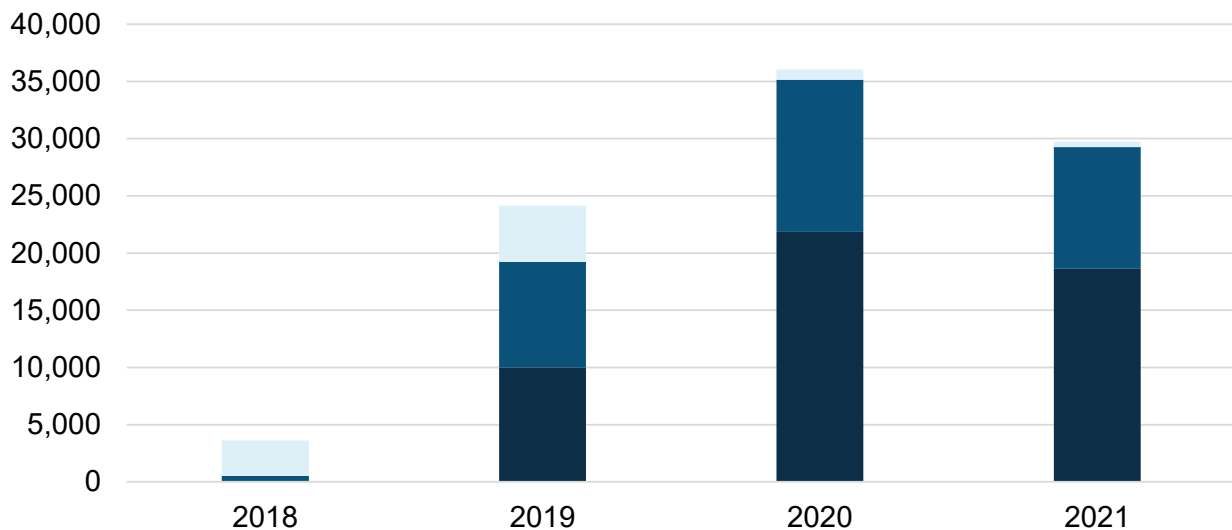
Monday – Thursday
08:00 a.m. – 04:00 p.m.

Friday
08:00 a.m. – 03:00 p.m.

Vehicle deficiencies can be notified online:



Public Information 2018 to 2021



- Information on safety-related recall campaigns
- Information on emission-related campaigns
- Other information (manufacturer retrofit programs, general questions about the course of recall campaigns, et cetera)

Source: KBA

/ Sanctions

Vehicles and vehicle parts made available on the market may pose risks to safety, health and the environment, if they do not comply with the applicable regulations. In order to protect consumers, various violations of the relevant regulations are therefore subject to fines. In Germany, KBA is responsible for prosecuting these offences. In addition, KBA cooperates with the

customs authorities within the framework of import controls at the external borders. Customs inspects products entering the EU market and notifies KBA of any potential deviations from the regulations. As the market surveillance authority, KBA then checks whether these products contradict the applicable Union law or pose a risk and thus decides on the import.



322
Fining Procedures

Against manufacturers and distributors, who have sold unapproved vehicles and their parts



1,179
Import Control Checks

When vehicles and parts are imported, KBA checks whether they pose serious risks to health and safety or if they violate European law.

Source: KBA

Sanction Proceedings

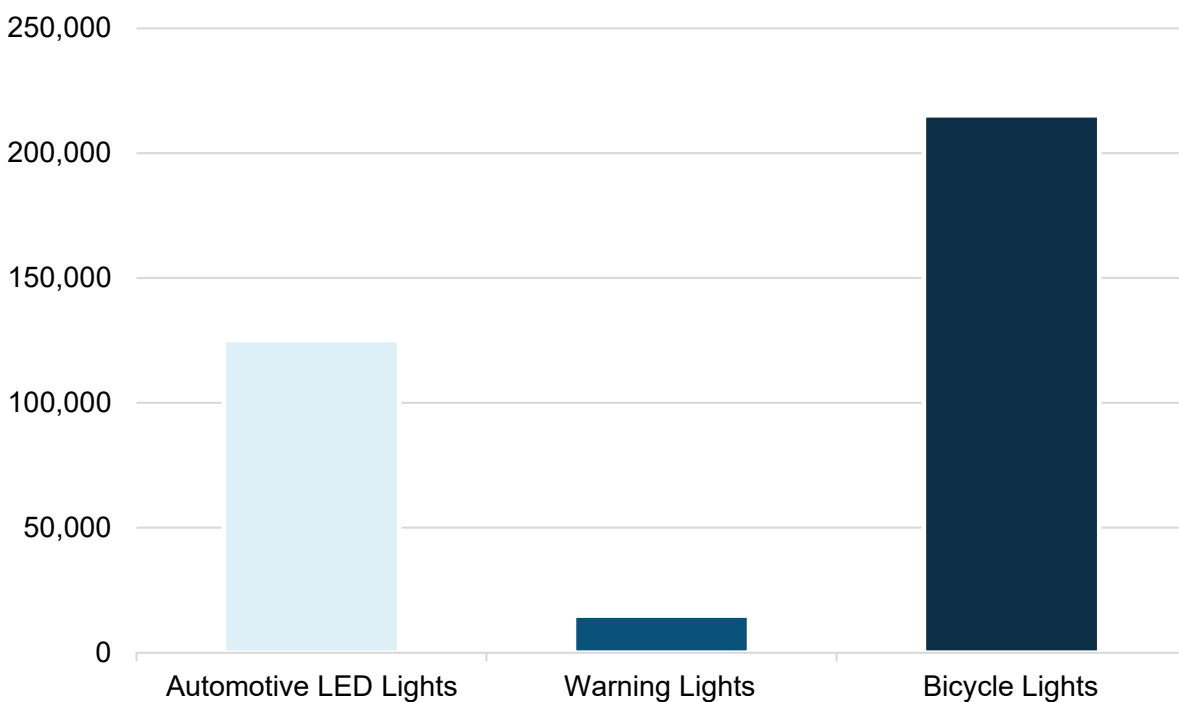
Various requirements must be met, in order to be allowed to offer vehicles and vehicle parts on the market. KBA therefore continuously monitors what is happening on the market and punishes violations with fines in order to avert risks to safety, health and the environment. In

order to achieve a lasting effect of the market surveillance activities, it is necessary to continuously look – also at the product groups in which a considerable number of non-compliant products have already been withdrawn from the market. Online retailers have recognised

their responsibility in this regard and are cooperating with KBA. They have implemented methods to identify potentially non-compliant products. Thus, offers of the product groups in which offers have already been deleted by

order of the market surveillance authorities will be checked and removed if necessary. The following diagram shows, using three product groups as examples, the offers removed from the online market in 2021.

Offers Deleted by Online Retailers in 2021



Source: KBA

In 2021, KBA mainly conducted fine proceedings against product managers, who offered unapproved vehicles and vehicle parts (such as lights or frontal protection systems). Invest-

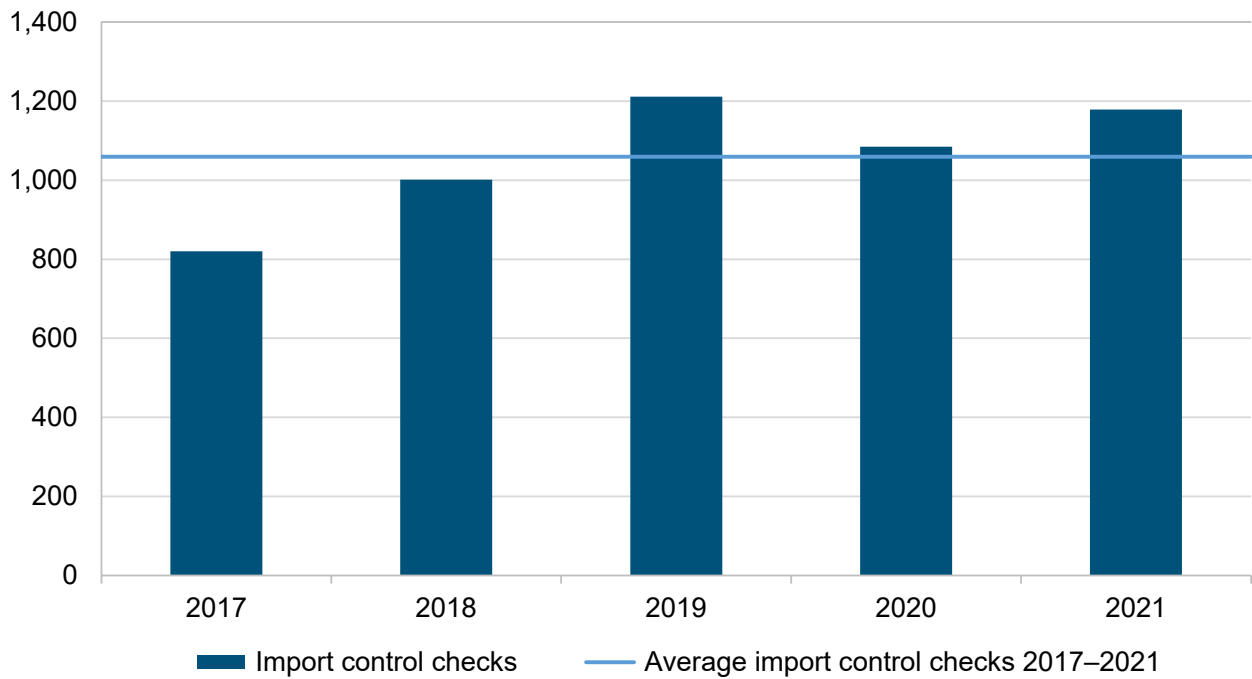
igated facts that indicate criminal offences, such as forgery of documents or fraud, were also handed over to the competent public prosecution offices.

Import Control Checks

Compliance with the regulations on imports into the European market is to be ensured by customs controls. If a product is to be imported, where there is a suspicion that the regulations are not being complied with, customs refuse to import the product. Customs notifies the market surveillance authorities – in the case of vehicles and vehicle parts, KBA – for examination. KBA

then checks whether the product is associated with a serious risk and whether it complies with Union regulations. With a total of 1,179 customs control notifications, the number remained at an above-average level. In about 50 percent of the cases, KBA had to refuse the import, which kept these non-compliant or unsafe products out of the EU market.

Import Control Checks 2017 to 2021



Source: KBA

/ What else was Important?

Greetings from the Advisory Board

“With its tasks, the Kraftfahrt-Bundesamt makes a significant contribution to road safety, environmental protection and the provision of information on road traffic. As an advisory board, we inform the Kraftfahrt-Bundesamt and shed light on a wide range of topics with the perspectives of consumer protection, economy and science. With this report, the Kraftfahrt-Bundesamt presents its tasks for effective market surveillance of motor vehicles. The publication is thus an important contribution to safety and trust in road traffic.”

Prof. Dr. Karsten Lemmer, Chairman

Advisory Board of KBA

In 2018, the Advisory Board was established at the Kraftfahrt-Bundesamt (KBA). In an advisory capacity, it supports the KBA. The Advisory Board was established in connection with the further intensification of KBA's testing activities in the context of type approval and market surveillance. The broad knowledge base is to contribute to the continuous adaptation of KBA's testing activities to the develop-

ment of new technologies and to increase the transparency of the work of this authority. The members have special experience in the field of vehicle technology, consumer protection, environmental protection, vehicle safety and the existing regulations. The Advisory Board is interdisciplinary in its membership structure and thus takes into account the diverse economic, technical and socio-political aspects.

Information on the advisory board at KBA can be found on www.kba.de or under this QR code:



Members

The Advisory Board, chaired by Prof. Dr.-Ing. Karsten Lemmer, currently consists of 15 experts who were personally appointed by the president of KBA. The members are representatives of federal ministries and of business, transport, environmental and consumer associations. They are appointed for a term of five years. The Advisory Board meets at least twice a year.

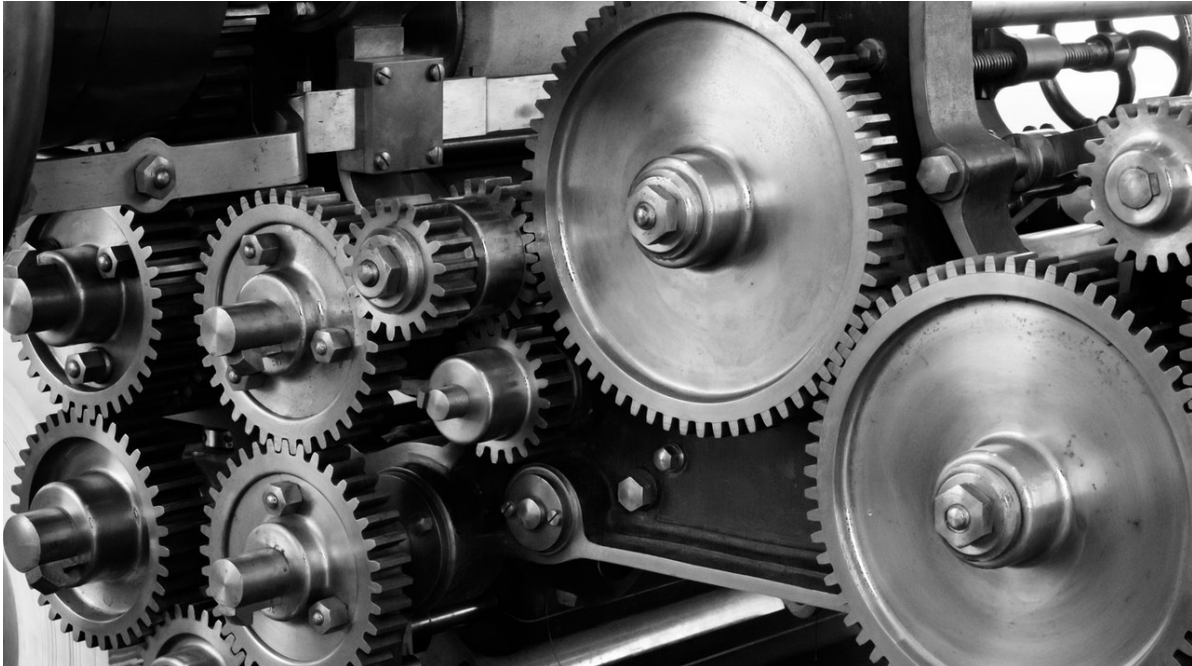


Which members were on the advisory board in 2021?

Members

1. German Aerospace Center (DLR)
2. Federation of German Consumer Organisations (VZBV)
3. Federal Ministry for Digital and Transport (BMDV)
4. Federal Ministry for Economic Affairs and Climate Action (BMWK)
5. Federal Ministry of Justice (BMJ)
6. Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)
7. Federal Highway Research Institute (BASt)
8. TÜV Association
9. DEKRA SE
10. Association of the Automotive Industry (VDA)
11. Association of International Motor Vehicle Manufacturers e.V. (VDIK)
12. Allgemeiner Deutscher Automobil-Club (ADAC e.V.)
13. International Council on Clean Transportation (ICCT)
14. Kempten University of Applied Sciences
15. German Environment Agency (UBA)

Cooperation Agreement with the Federal Highway Research Institute (BAST)



Source: [pexels.com/pixabay](https://www.pexels.com/pixabay)

The Kraftfahrt-Bundesamt (KBA), as the supreme federal authority in the motor vehicle sector, has distinctive competence and infrastructure to ensure environmental protection and the safety of vehicles and vehicle parts. The Federal Highway Research Institute (BAST) is a central research institution in the sphere of the Federal Ministry of Digital Affairs and Transport (BMDV). Integrated into a network of research institutes, it leads the further development of test procedures in vehicle technology. Together, KBA and BAST are pursuing the goal of strengthening and complementing their respective competences in a cooperation project.

As the market surveillance authority in the motor vehicle sector, KBA offers a wide range of test infrastructure with its laboratory as well as

its own test track and makes this available to the BAST for the further development of the requirements for driving systems. The Harrislee Labor (HaL), which in addition to other testing facilities has two roller dynamometers for measuring emissions, plays a central role in this cooperation project. BAST supports KBA with its extensive research in the field of accident analysis as well as with findings in the field of automated and autonomous driving systems. The increasing degree of automation of today's vehicles requires continuous further development of test procedures and test equipment to protect vehicle drivers and the environment. Within the framework of this cooperation, KBA and BAST are working together to ensure that vehicles, both autonomous and conventional, are operated safely and "cleanly".

/ Outlook to 2022

The Kraftfahrt-Bundesamt (KBA) has further expanded its testing infrastructure in 2021 to protect vehicle owners and the environment. With the opening of the Harrislee laboratory, KBA has had its own laboratory at its disposal since 19 August 2021. The expansion of the test site in Leck is also progressing in order to be able to test increasingly automated vehicles in view of technological change. In an increasingly networked Europe, KBA communicates these tests to the European Commission, the other EU member states and the citizens, thus making a significant contribution to vehicle safety and environmental protection in Europe. These tests are based on the inspection specifications of the European Commission and essentially also on KBA's own market analyses, current events, information from the public, authorities and non-governmental organisations. Furthermore, KBA carries out most of the official product tests for the European vehicle market.

The testing facilities at the Harrislee laboratory will be used in future for cooperation projects as well as national and international intercomparisons. The experience gained will also contribute to the further development of future vehicle requirements. In addition to ensuring compliance with today's specifications, KBA thus also enables the development of tomorrow's specifications.

KBA will continue to meet the increasing need for information on current and individual motor vehicle safety and environmental issues with a strong citizen communication section and up-to-date information on current inspections. The recall database will be further expanded with supplementary functionalities in the course of 2022 and go live in the course of 2023. It is a key element in providing up-to-date and individualised information.

In 2022, KBA's core tasks will continue to include protecting the public from unapproved products. With the entry into force of the EU Vehicle Approval and Market Surveillance Regulation as well as the national Regulation regarding offences, the possibilities for action in the area of sanctions will also expand.

KBA will continuously strengthen the three pillars of market surveillance and optimise the associated tasks and procedures. In this way, KBA will ensure that it continues to provide the basis for vehicle safety, environmental protection and fair competition in 2022.

Legal notice

Publisher:
Krafftahrt-Bundesamt
24932 Flensburg

Internet: www.kba.de

Special information and advice:

Phone: +49 461 316-0
Fax: +49 461 316-1650
E-mail: kba@kba.de

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