# NEWS

International Regulatory Developments

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#### **EUROPE**

#### Parliament adopts Report on Type-Approval Framework Reform

On 9 February 2017 the European Parliament's Committee on Internal Market and Consumer Protection (IMCO) adopted its Report on the Commission's proposal for a new vehicles' type-approval framework Regulation.

MEPs voted on 1142 amendments tabled by MEPs of the Committee plus 22 compromise amendments developed between the Rapporteur MEP Dalton (ECR, UK) and the Shadow Rapporteurs MEPs from the other political groups.



The Report amends the legislative proposal so that the costs of type-approval and market surveillance work will have to be covered by the Member States in order to ensure independence, either through their national budgets, fees to be levied on the carmakers who have applied for Type-Approval in that country or a combination of both methods. Also authorities will be required to test 20% of new vehicle models on the road to boost market surveillance. An online database would also be created to compare test results between models, with the contents made available to third parties. In the report, the powers of the "Forum on Enforcement" are increased, e.g. in the areas of coordinating and assessing member states' activities, exchanging information and considering complaints about possible non-compliance cases.

Also, MEPs' amendments would require national market surveillance programmes to be approved by the Commission and IMCO proposes a two-step approach whereby the Commission could oblige a Member State to do a test it deems necessary or do the tests itself under certain conditions.

Car manufacturers who are in breach of the rules, e.g. for falsifying test results, risk administrative fines of up to  $\in$ 30 000 per vehicle, which can be levied by the Commission if no fine is imposed at national level. The penalties should be used to support market surveillance, benefit affected consumers and, if appropriate, for environmental protection.

In addition, MEPs adopted an amendment to Annex XIII (list of parts or equipment that are capable of posing a significant risk to the correct functioning of systems that are essential for the safety of the vehicle or its environmental performance, the performance requirements, the appropriate test procedures, and marking provisions) that introduces catalysts and Diesel Particulate Filters in the Commission's empty table.

The IMCO members voted against plans to create an EU agency to oversee national markets. The proposal is controversial but is expected to be considered again in plenary.

The IMCO report was adopted by 33 MEPs in favour and 4 against. It will be put to a vote by the full House in a next plenary session, most likely in April 2017.

#### EU Ministers discuss Vehicle Type-Approval Framework Reform

On 20 February 2017 the Competitiveness Council discussed on the progress on the proposal revising the type-approval framework for motor vehicles.

The Maltese Council Presidency informed EU Member States that it intends to continue the examination of the Commission proposal with the aim of presenting the text of a General Approach (common internal position) to the Competitiveness Council in May 2017.

Several Member States subsequently set out their position on the proposal. France welcomed the Commission's proposal. It felt that enough powers should be given to a body in order to decide on the appropriate application of rules, and that non-conformity should be corrected without delay. France furthermore argued that demanding controls need to be set at the European level, with the Commission or another body with sufficient expertise to detect fraud. France also felt that the provisions allowing the Commission to carry out inspections were going in the right direction, and that the results of audits and inspections should be published.

Germany underlined that uniform and clear requirements for type-approval and market surveillance were vital. Germany felt that an organisation at EU level should provide a common decision in cases of disagreement, and that requirements for technical services should be harmonised. Type-approval authorities should furthermore request a second technical service to carry out sample tests, on a rotating basis.

Italy also felt that is was necessary to reinforce the system in order to have a greater level of uniformity of technical assessment. It acknowledged that this required a balance between different positions, but indicated its willingness to contribute to a solution.

The UK expressed its support for market surveillance, the peer review of type-approval authorities, the joint assessments of technical services, the Forum, and enhanced safeguarding clauses. The UK hoped others would also support these elements, and underlined that restoring trust in the system was a priority.

Spain regretted that the options of an EU agency or industry self-certification were not investigated. It



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nevertheless expressed support for the proposal, and felt that a common position could be found in the near future.

Commissioner for Industry Elzbieta Bieñkowska then said that a credible system with credible supervision was needed, as the current system had shown that it was not credible. She argued that the Commission should be able to carry out its own emission and safety tests since peer reviews had shown to be insufficient. The Commissioner also reiterated that some Member States had not changed their attitude following the emissions scandal.

After the Competitiveness Council meeting, the chairman, Maltese Economy Minister Christian Cardona, told the press that the Maltese Presidency



was "very committed" to reaching a compromise among Member States "as soon as possible".

### Further Developments in Parliament's EMIS Committee

On 9 February 2017 the European Parliament's Committee of Inquiry into Emission Measurements in the Automotive Sector (EMIS) debated with industry Commissioner Bieñkowska and then on the amendments tabled to the Rapporteurs' draft Report and draft Recommendations.

Ms Bieñkowska thanked the EMIS Committee for their work that complemented the Commissions' activity on the issue of car emissions. She said that a lot has been done in the last 18 months but unfortunately there



has been no shift in attitude in industry and a number of EU Member States.

She summarized the work of the Commission which included a proposal for a new Type-Approval framework regulation, the change of regulatory test procedure to WLTP, the introduction from September 2017 of Real-Driving Emissions (RDE) requirements – making the EU the first entity in the world to make on-road emissions measurements mandatory – a guidance document on defeat devices, and infringement procedures against 7 Member States (and more to come).

She stressed the very slow progress in the Council regarding discussion on the new Type-Approval framework Regulation and wished to keep up the pressure both on the speed of process but also on its content.

Several MEPs, including van de Camp (EPP, Netherlands), Revault d'Allonnes Bonnefov (S&D. France). Demesmaeker (ECR, Belgium), and Koch (ALDE, Germany) asked for the Commissioner's opinion on the establishment of an EU Agency for vehicles' type-approval. Bieñkowska felt that the EU did not need a separate agency like the US Environmental Protection Agency (EPA). Instead, the EU needed market oversight from authorities which would be independent from Member States. Cost, time, and budgetary implications were further reasons why the Commission did not retain the idea of a European Agency, the Commissioner explained.

When MEP van de Camp asked about what has been done so far, Bieñkowska indicated that the Commission had presented the second and third RDE packages as well as the new WLTP test procedure, and that work was ongoing in the GEAR 2030 High Level Group. She regretted that industry represented in GEAR 2030 had not changed their approach. It continues to support improvement in combustion engines rather than shift efforts and resources to electric and zero-emission vehicles.

During the second part of the meeting, MEPs shortly discussed the amendments tabled to the draft Final Report.

Shadow Rapporteur Revault d'Allonnes Bonnefoy (S&D, France) indicated that the S&D Group would not abandon several amendments, including the creation of an EU Agency, the lack of a clear mandate given to the JRC for looking into non-compliance and defeat devices, and a penalty regime at EU level. MEPs Evi (EFDD, Italy) and Demesmaeker (ECR, Belgium) both supported the creation of an Agency.

Concluding the debate, Co-Rapporteur Gieseke (EPP, Germany) felt that the work of the EMIS Committee should not be seen as a vote of confidence in the Commission. He furthermore argued that the Commission should be strengthened, rather than outsourcing responsibilities to an Agency.

The EMIS debate can be watched at www.europarl.europa.eu/news/EMIS\_170209.

Finally, on 28 February 2017, the EMIS Committee voted on the Co-Rapporteurs' draft Final Report on the investigation's conclusions and on the draft Recommendations to the Council and Commission, as well as on the amendments and compromise amendments tabled by MEPs.

MEPs approved 59 amendments and 10 compromise amendments to the draft Recommendations, and adopted the Recommendations, as amended, with 37 MEPs voting in favour and 3 against, with 4 abstentions.

With regards to the draft Final Report, MEPs approved 36 amendments and 14 compromise amendments, and adopted it with 40 MEPs voting in favour and 2 against, with 2 abstentions.





During the press conference following the adoption of the Final Report and Recommendations, Committee Chair Van Brempt (S&D, Belgium) remarked that she had already noticed the positive impact of the Committee's work, and felt that the Report could not be ignored by the Commission and the Council.

Co-Rapporteur Gieseke (EPP, Germany) stated that the Real-Driving Emissions test procedure and proper enforcement of EU law was the way forward, regardless of whether EU oversight was done through an EU agency or other platform. Co-Rapporteur Gerbrandy (ALDE, the Netherlands) highlighted the maladministration by Member States and the Commission. Although he was not 'proud' of the attitude of Member States and the industry vis-à-vis the scandal, he was encouraged by the latter's shift to investing in low/zero emission vehicles following the scandal.

The European Parliament is expected to discuss the final Report and Recommendations, and vote on the latter, during a plenary session in April 2017.

The EMIS Report is available at: http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A8-2017-0049+0+DOC+PDF+V0//EN

and the Recommendations (provisional version) are at: <a href="http://www.aecc.eu/wp-content/uploads/2017/03/170301-EMIS-draft-recommendation-provisional.pdf">www.aecc.eu/wp-content/uploads/2017/03/170301-EMIS-draft-recommendation-provisional.pdf</a>.

### Council Decision not to oppose WLTP Regulation

On 20 February 2017 the Council of the EU decided not to raise any objection to the adoption of the Commission proposal replacing the regulatory test cycle for type-approval of cars and vans with the Worldwide harmonized Light vehicles Test Procedure (WLTP).

The text amending the Euro 5 & 6 Regulation was voted by Member States in the Technical Committee Motor Vehicles (TCMV) on 14 June 2016. It was sent for scrutiny to the European Parliament and Council in January 2017; the deadline for raising objection is set to 14 April 2017.

Provided no objection to the legal grounds is neither raised by the European Parliament, the text introducing in particular Annex XXI on WLTP to the implementing Regulation of Euro 5 & 6 is expected to be published in the Official Journal by end April - early May 2017.

The Council decision is at <a href="http://data.consilium.europa.eu/doc/document/ST-6362-2017-INIT/en/pdf">http://data.consilium.europa.eu/doc/document/ST-6362-2017-INIT/en/pdf</a>.

#### **Commission's Final Warning on Air Pollution Breaches to 5 Member States**

On 15 February 2017 the European Commission sent final warnings to Germany, France, Spain, Italy, and the UK for failing to address repeated breaches of air quality limits for nitrogen dioxide ( $NO_2$ ).

The reasoned opinion from the Commission concerns persistent breaches of  $NO_2$  limit values in Germany (28 air quality zones including Berlin, Munich, Hamburg and Cologne), France (19 zones including Paris, Marseille and Lyon), Italy (12 zones including Rome, Milan and Turin), Spain (3 zones in Madrid and Barcelona), and the UK (16 zones including London, Birmingham, Leeds, and Glasgow).

The European Commission urges the 5 Member States to take action to ensure good air quality. While it is up to the Member State authorities to choose the appropriate measures to address exceeding  $NO_2$  limits, much more effort is necessary at local, regional and national levels to meet the obligations of EU rules and safeguard public health.

Possible measures to lower polluting emissions, at the same time accelerating the transition to a low-carbon economy, include reducing overall traffic volumes, the fuels used, switching to electric cars and/or adapting driving behaviour. In this context, reducing emissions from diesel-powered vehicles is an important step towards achieving compliance with EU air quality standards, the Commission said.

If Member States fail to act within two months, the Commission may decide to take the matter to the EU Court of Justice.

To date legal action on NO<sub>2</sub> involves 12 EU Member States, with ongoing infringement cases against Austria, Belgium, the Czech Republic, Denmark, France, Germany, Hungary, Italy, Poland, Portugal, Spain and the UK. Action against other Member States may follow, the Commission indicated.

### European Commission's Environmental Implementation Review

On 6 February 2017 the European Commission published its first Environmental Implementation Review (EIR), a tool to improve implementation of EU environmental law and legislation which aims to address the causes of implementation gaps and tries to find solutions before problems become urgent.

The first EIR package includes 28 country reports which map national strengths, opportunities and weaknesses; a



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Communication identifying common challenges across countries and how to combine efforts to deliver better results; and an Annex to the Communication that summarises suggested actions for improvement for all EU Member States.



Full implementation of EU environment legislation could save the EU economy €50 billion every year in health costs and direct costs to the environment.

Regarding air quality, the EU has adopted and regularly updated a body of legislation establishing binding standards and objectives for a number of air pollutants. But the Commission remains concerned about the overall pace of progress in achieving the limit values set by EU legislation in Member States. Only five Member States have no exceedances of limit values for  $PM_{10}$  and  $NO_2$ . 16 Member States are facing legal action for exceeding  $PM_{10}$  limit values, and 12 Member States for  $NO_2$  exceedances as well as for lack of effective measures taken at national level.

The  $PM_{10}$  pollution can be caused by a wide range of sources (e.g. domestic heating, industrial emission, agriculture, traffic). Measures to achieve  $NO_2$  compliance have to target diesel vehicles in particular, the EIR says. Successful practices include low emission zones introduced by many European cities which limit the circulation of certain vehicle categories depending on their respective emissions potential. Phasing out preferential tax treatment is the other measure suggested in the EIR. Transport demands in general should be addressed through the implementation of strategic urban mobility plans.

Specific environmentally harmful subsidies, such as preferential tax treatment for certain fuels and tax advantages for privately used company cars, which impede progress in tackling traffic congestion and air pollution are still in place in many countries and need to be phased out, the EIR says.

The main common root causes identified so far for poor implementation include ineffective coordination among local, regional and national authorities; lack of administrative capacity and insufficient financing; lack of knowledge and data; insufficient compliance assurance mechanisms; and lack of integration and policy coherence.

The Environmental Implementation Review is at <u>http://ec.europa.eu/environment/eir/index\_en.htm</u>.

#### EU Court of Auditors to investigate Measures against Air Pollution

On 10 February 2017 the European Court of Auditors (ECA), the guardians of the EU finances, announced the first details of an audit of EU-wide measures against air pollution.

Mr Wojciechowski, one of the two ECA Members responsible for the audit, said "We will be checking on the effectiveness of EU and national measures to reduce air pollution. We will also look at the European legal framework addressing the issue and assess whether EU funds are being spent wisely."

In addition, the EU auditors will work together with fifteen audit institutions from countries in Europe and beyond on a joint report aimed at providing a reliable and accurate picture of the situation in different countries as well as an overview of good practices and effective solutions.

Detailed figures on EU funding provided to reduce air pollution are not yet available, but so far, the auditors have identified over €2 billion of expenditure under the general heading of "air quality". This does not take into account additional support provided through sectors such as transport and industry.

#### EU Energy Consumption below its 1990 Level and still mainly from Fossil Fuels

On 20 February 2017 Eurostat, the statistical office of the EU, released energy consumption figures in 2015 and an



update of the progress made towards the 2020 objective to reduce the EU energy consumption by 20% compared to baseline projections.

In 2015 gross inland energy consumption amounted in the EU to 1626 million tonnes of oil equivalent (Mtoe), below its 1990 level (-2.5%) and down by 11.6% compared to its peak of almost 1 840 Mtoe in 2006.



Accounting for nearly three-quarters of EU consumption of energy in 2015, fossil fuels continued to represent by far the main source of energy, although their weight has constantly decreased over the past decades, from 83% in 1990 to 73% in 2015. However, over this period, EU dependency on imports of fossils fuels has increased, with 73% imported in 2015 compared with just over half (53%) in 1990.

In every EU Member State, the share of fossil fuels in energy consumption decreased over the period 1990-2015, most notably in Denmark (from 91% in 1990 to 69% in 2015), Latvia (from 83% to 61%) and Romania (from 96% to 74%). However, the large majority of Member States remains highly reliant on fossil fuels for their energy consumption. In 2015, fossil fuels made up less than half of the energy consumption in only three Member States: Sweden (30%), Finland (46%) and France (49%).



More information is at

http://ec.europa.eu/eurostat/documents/2995521/7882431/8-20022017-AP-EN.pdf/4f3e5e6a-5c1a-48e6-8226-532f08e3ed09.

#### Commission adopts Proposal on Comitology Reform

On 14 February 2017 the European Commission adopted proposal COM(2017) 85 final to reform the Comitology legislative process under which implementing legislation is adopted.

The proposal includes four amendments to the Comitology Regulation (EU) No 182/2011 to increase transparency and accountability in the EU legislation implementation procedures. A change to the voting rules at the last stage of the comitology procedure (the Appeal Committee) is proposed, so that only votes in favour or against an act are taken into account for the qualified majority criteria (55% of Member States, representing at least 65% of the population of the EU); this will reduce the use of abstentions and the number of situations where the Committee is unable to take a position and the Commission is obliged to act without a clear mandate from the Member States;

The Commission also proposed to involve national Ministers by allowing the Commission to make a second referral to the Appeal Committee at Ministerial level if national experts do not take a position; this will ensure that sensitive decisions are discussed at the appropriate political level.

Finally, it is proposed to increase voting transparency at the Appeal Committee level by making public the votes of Member State representatives and to ensure political input by enabling the Commission to refer the matter to the Council of Ministers for an Opinion if the Appeal Committee is unable to take a position.

The proposal is sent to the European Parliament and Council for co-decision.

Proposal COM(2017) 85 final is at <u>http://eur-lex.europa.eu/legal-</u> content/EN/TXT/PDF/?uri=CELEX:52017PC0085&from=EN.

### Germany to adapt CO<sub>2</sub> Car Taxation to WLTP in 2018

On 8 February 2017 Germany notified the European Commission that its motor vehicle tax for newly registered passenger cars will be based on  $CO_2$  emissions determined according to the Worldwide harmonized Light vehicles Test Procedure (WLTP).

To create legal and planning certainty and ensure equal tax treatment, 1 September 2018 has been set as the effective date for applying more realistic  $CO_2$  values according to the WLTP to calculate the motor vehicle tax for new passenger cars.

### Commission approves German State Aid for Electric Vehicles Infrastructure

On 13 February 2017 the European Commission decided that Germany's scheme to roll out a network of userfriendly infrastructure for charging electric vehicles across the country is in line with EU state aid rules.

At a cost of in total €300 million over four years, this measure promotes the installation of new standard and high-speed charging stations for electric vehicles, as well as the extension of the existing infrastructure. The scheme is open to all, including companies, individuals and local authorities, and support will be awarded progressively



through an open and transparent tender procedure. It requires that the electricity for the charging infrastructure comes from renewable energy sources.

The European Commission considers that this measure will encourage a significant uptake of electric vehicles and therefore make a major contribution towards meeting the common interest of reducing emissions and improving air quality. The measure will also support the European Strategy for low-emission mobility, in particular in terms of the objective of speeding up the deployment of lowemission alternative energy for transport and contributing to the decarbonisation agenda.

This support measure is expected to stimulate investment in a market that still requires incentives before it can function on its own. The Commission expects that the financial support for the construction of charging infrastructure will create the conditions for its further expansion without any further support in the future. It will also encourage the use of electric vehicles on German and European roads.

On this basis, the Commission concluded that the measure is in line with EU state aid rules which allow aid to facilitate the development of economic activities in the common interest under certain conditions.

#### **Stuttgart to ban pre-Euro 6 Diesels during Air Pollution Peaks**

On 21 February 2017 the State of Baden-Württemberg in Germany decided on future traffic bans to improve air quality.

From 2018 onwards, during air pollution peak events, diesel vehicles of an earlier emissions standard than Euro 6 will no longer be allowed to drive within the city of Stuttgart.

### London to introduce Emissions Surcharge (T-Charge) in Autumn 2017

On 17 February 2017 London Mayor Mr Sadiq Khan announced that, in a further effort to mitigate air pollution, cars, vans, minibuses, buses, coaches and heavy goods vehicles in central London will need to meet minimum exhaust emissions standards from 23 October 2017 onwards, or pay a daily £10 (€12) Emissions Surcharge (also known as the 'T(oxicity)'-charge).

Vehicles will have to meet at least Euro 4/IV standards to be free of the T-charge; Euro 3 for tri- and quadricycles. Vehicle owners can use a specially created online vehicle compliance checker, on the Transport for London (TfL) website to establish whether their vehicle is affected by the T-Charge.

The T-charge will operate on top of, and during the same operating times, as the Congestion Charge (Monday to Friday 7am-6pm), so it will cost £21.50 per day (€25) to drive a pre-Euro 4 vehicle in the zone. The T-Charge will

use a camera-based mechanism for enforcement, monitoring both diesel and petrol vehicles.

The online car compliance checker is at <u>www.tfl.gov.uk/emissions-surcharge</u>.

#### London Mayor calls for UK Diesel Scrappage Scheme

On 13 February 2017 London Mayor Mr Sadiq Khan called on the UK Government to implement his new proposals for a national 'dirty' diesel scrappage fund.

His proposals include:

- Payments of £3500 (€4500) to scrap up to 70 000 polluting vans and minibuses in London and a national fund to support charities and small businesses that often own older diesel and mini buses;
- a credit scheme valued at £2000 (€2570) to help lowincome households in cities (those with incomes lower than £231.60 (€300) per week after housing costs) scrap up to 130 000 polluting cars, with incentives for car clubs; and
- Payments of £1000 (€1285) to help scrap up to 10 000 older polluting London taxis (in addition to extra help from Transport for London for drivers to upgrade to greener taxis).

The package of proposed measures could be delivered by the Government over a two-year period, and would help fulfil the UK's legal obligation to comply with European pollution limits, incentivise 'dirty' diesel drivers to switch to cleaner vehicles, and protect the health of people in the capital and across the country, Khan said.

### Low Emission Zones in Antwerp and Brussels, Belgium

On 1 February 2017 the city of Antwerp in Belgium introduced a Low Emission Zone (LEZ).

The most polluting cars are no longer allowed in the city to improve air quality in the

Specific traffic signs are indicating the zone which applies 24 hours a day, every day of the week. It applies to the following categories:

city.



- category M: passenger transport with passenger vehicles, vans, buses and coaches,
- S category N: freight transport with vans and lorries
- S category T: wheeled agricultural and forestry tractors

The LEZ does not apply to mopeds and motorbikes.

Enforcement will be checked via automatic cameras installed along the boundaries of the LEZ. They will zoom



in on every number plate. The number plate will be compared to a list of all admitted vehicles. Cars that are not on the list and that enter the city will be fined.

The most polluting vehicles may no longer enter the city. These include older diesel vehicles (before Euro 3/III) and very old petrol vehicles (before Euro 1/I).

Whether a car may enter the LEZ depends on its Euro norm. Euro 3/III diesels equipped with DPF up to Euro 6/VI are freely admitted in the LEZ whereas Euro 3/III without DPF can still be admitted after payment.

In 2020 and 2025, the LEZ requirements will become more stringent.

Also in February 2017, the Brussels region launched a website dedicated to its future LEZ <u>www.lez.brussels</u>.

Information is available in French and Dutch on the Brussels LEZ that will be implemented from 1 January 2018 to mitigate air pollution.



The oldest vehicles will be progressively banned from the whole Brussels region, according to the Euro standard they are certified to. In 2018 pre-Euro 2/II diesel vehicles will be banned. In 2025 no pre-Euro 5/V diesel vehicles nor pre-Euro 3/III gasoline, LPG, and CNG vehicles will be allowed in the city.

Diesel	2018	2019	2020	2022	2025
EURO 6 / VI	Autorisé	Autorisé	Autorisë	Autorisé	Autorisë
EURO 5 / V	Autorisé	Autorisé	Autorisé	Autorisé	Non autorisé
EURO 4 / IV	Autorisé	Autorisé	Autorisé	Non autorisé	Non autorisé
EURO 3 / III	Autorisé	Autorisé	Non autorisé	Non autorisé	Non autorisé
EURO 2 / II	Autorisé	Non autorisé	Non autorisé	Non autorisé	Non autorisé
EURO 1/I	Non autorisé				
Sans EURO	Non autorisé				

#### **NORTH-AMERICA**

### Scott Pruitt confirmed as US EPA Administrator

On 17 February 2017 the US Senate confirmed, by 52 votes in favour to 46 against, Mr Scott Pruitt as the 14<sup>th</sup> Administrator of the US Environmental Protection Agency (EPA).

The US EPA website says that, "as Administrator, Pruitt's overarching goal is to lead EPA in a way so that our future generations inherit a better and healthier environment, as he works with the thousands of dedicated public servants at EPA who have devoted their careers to helping realize this shared vision, while faithfully administering environmental laws."

The *New York Times* is however calling Pruitt "the Oklahoma attorney general who has built a career out of suing to block the EPA's major environmental rules and has called for the dissolution of much of the agency's authority."

#### Bosch reaches Settlement Agreement for Diesel Vehicles in the US

On 1 February 2017 Bosch announced that it has entered into a settlement agreement with civil claimants in the US in order to settle the most substantial part of the civil law proceedings pending in connection with Volkswagen, Audi and Porsche diesel vehicles that were sold in the US.

The agreement would settle the claims of consumers and dealers of used vehicles against Robert Bosch GmbH, its affiliates, employees, and directors concerning VW and Audi diesel vehicles with 2.0L engines for model years 2009 through 2015 and VW, Audi, and Porsche diesel vehicles with 3.0L engines for model years 2009 through 2016.

For this purpose, Bosch will pay a total amount of \$327.5 million (approx. €304 million). By entering into the settlement, Bosch neither acknowledges the facts as alleged by the plaintiffs nor does Bosch accept any liability.

The settlement agreement, which concerns only civil law claims, requires the approval by the judge conducting the nationwide proceedings in which civil law actions have been combined. Bosch nevertheless stated that the company will continue to defend its interests in all other civil and criminal law proceedings and to cooperate comprehensively with the investigating authorities in Germany and in other countries.

More info is at <u>www.bosch-presse.de/pressportal/de/en/bosch-</u> reaches-settlement-agreement-for-diesel-vehicles-in-the-u-s-87936.html.

#### ASIA PACIFIC

### South Korean Court rules against Nissan in Emissions Case

On 9 February 2017 *Reuters* news agency reported that a South Korean Court ruled against Nissan Motor Co in an emissions case, siding with the Government in its accusations that the Japanese automaker had used a so-called defeat device in its Qashqai sport utility vehicle (SUV).



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In 2016 Nissan sued South Korea's Environment Ministry after it said Nissan cheated on emissions of the Qashqai diesel model and fined it 330 million won (~€250 000).

The Qashqai SUVs affected use 1.6 litre diesel engines supplied by Renault.

#### **UNITED NATIONS**

### WHO Report on Evolution of Air Quality Guidelines

On 13 February 2017 the World Health Organization (WHO) regional office for Europe published a report on the "Evolution of WHO Air Quality Guidelines: past, present and future".



The report summarizes key WHO publications in the field of air quality and health since the 1950s. which led to the development of the series of WHO Air Guidelines Quality (AQGs). It outlines the evolution of the scientific evidence on the health effects of air pollution and of its interpretation, supporting policy and other decision-makers in setting outdoor and

indoor air quality management strategies worldwide. Current WHO activities and their future directions in this field are also presented.

WHO indicates that the update of the global AQGs initiated has received funding and support from the European Commission (DG Environment), Germany, Switzerland, and the US. It is expected that the next AQGs will provide updated numerical concentration limits and, where possible, an indication of the shape of the Concentration-Response Functions for PM<sub>10</sub>, PM<sub>2.5</sub>, ozone, NO<sub>2</sub>, SO<sub>2</sub> and CO, for short- and/or long-term exposure.

The AQGs update process will benefit from new available studies performed in various environmental, social and health conditions, and will face the challenge of integrating results from different geographical locations with heterogeneous levels and sources of air pollutants, in order to provide recommendations of global application. The updated AQGs will also address, in general terms, air quality management and the importance of reducing emissions of harmful air pollutants, which is the most effective way to improve air quality and protect populations from the adverse health effects of air pollution. As their effectiveness highly depends on context, no recommendation for specific air quality interventions will however be developed. The WHO report is at

www.euro.who.int/en/publications/abstracts/evolution-ofwho-air-quality-guidelines-past,-present-and-future-2017.

#### 70<sup>th</sup> Anniversary of UNECE Inland Transport Committee

On 21 February 2017 Transport Ministers from the UNECE region and beyond gathered for a Ministerial meeting in Geneva to celebrate the 70<sup>th</sup> anniversary of the UNECE Inland Transport Committee (ITC).

Under the headline "Past and Future of the UNECE Inland Transport Committee", they took stock of the ITC's past contributions and signed a Ministerial Resolution on its future mission until 2030.



Through thematic panels, the 70<sup>th</sup> Anniversary Session also discussed issues related to the role of the ITC as a gateway to promote connectivity; as a platform to link regulators and innovators with special attention to technologies for sustainable mobility; and as the centre of UN transport conventions, considering the benefits of internationally harmonized regulatory governance for inland transport.

The Ministerial Resolution on "embracing the new era for sustainable inland transport and mobility" is at www.unece.org/fileadmin/DAM/trans/doc/2017/itc/Final\_Draf t\_Ministerial\_Resolution\_ITC\_70\_years.pdf.

#### GENERAL

#### ACEA calls for Action against Truck Emissions Control tampering

On 23 February 2017 the European Automobile Manufacturers' Association (ACEA) strongly condemned the advertising, sale and use of any aftermarket device that can be used by truck operators to turn off emissions control systems.

In a press release, ACEA called on the European Commission and EU Member States to:

Ban the advertising and sale of any aftermarket device (hardware or software) that can by-pass vehicle emissions control systems or enable the removal of important parts of the emissions control system.



Apply random road-side enforcement by police who are authorised to stop and check vehicles, so that truck operators are aware that if they are caught using such a device they will face a substantial fine, or their vehicle will be treated in the same way as if vehicle safety systems were defective.

ACEA added that it already raised such concerns in 2012 but no action was taken. The issue of aftermarket devices was also raised by Denmark several years earlier, but the general view at that time was that this should be a matter for national enforcement.

The ACEA statement is at <u>www.acea.be/press-</u>releases/article/truck-manufacturers-call-for-action-to-preventaftermarket-manipulation-of.

#### ACEA's Market Expectations in 2017

On 8 February 2017 the European Automobile Manufacturers' Association, ACEA, organized a press conference on its market expectations and some of its key policy recommendations for the year ahead.

"Contrary to many newspaper headlines, and despite Brexit or the Italian referendum, consumer confidence has, so far, remained robust," explained ACEA President Dieter Zetsche. Indeed, EU passenger car sales grew by 6.8% in 2016, bringing the total number of cars sold to 14.6 million units – the highest volume in nine years. However, uncertainty is expected to overshadow 2017, when a slowdown in EU car sales is likely with growth at around 1%, according to ACEA estimates.

2017 also marks the entry into force of two pieces of important emissions-testing legislation: an updated laboratory test for measuring pollutants and  $CO_2$  emissions from cars (WLTP) and the first step of a new test to measure pollutant emissions under real-driving conditions (RDE). "Both WLTP and RDE are essential measures to win back the trust of customers, but both need a proper implementation", Zetsche stated.



Regarding WLTP, a key success factor will be consumer information, according to ACEA. And policy makers must also ensure that the shift to WLTP does not impact vehicle taxation by increasing costs for consumers. To that end, ACEA has published a leaflet explaining the transition to WLTP, which also puts forward key policy recommendations to

safeguard a smooth switch to the more accurate WLTP test.

ACEA's 'Getting ready for WLTP' leaflet is at <u>www.WLTPfacts.eu</u> (soon to be complemented by a question-driven website for consumers).

### Toyota announces New Substrate Design for Three-Way Catalysts

On 22 February 2017 Toyota Motor Corporation announced the commercial availability of a new substrate design that allows reducing three-way catalyst precious metal usage by 20% in approximately 20% less volume, while maintaining the same emissions control performance.



Toyota and Denso Corporation have developed a new Flow Adjustable Design Cell (FLAD®) substrate to improve the uniformity of the

exhaust gas flow. While conventional substrates have a uniform cell cross-sectional area, the newly developed FLAD<sup>®</sup> substrate has a structure with a different cell cross-sectional area at the inner portion compared to that at the outer portion. Toyota said it has succeeded in mass producing this substrate with the world's first design and manufacturing technology that is able to integrally mold the catalyst.

The Toyota press release is at <a href="http://newsroom.toyota.co.ip/en/detail/mail/15121501">http://newsroom.toyota.co.ip/en/detail/mail/15121501</a>.

### ICCT Briefing on US EPA Recall Program for Light-Duty Vehicles

On 8 February 2017 the International Council on Clean Transportation (ICCT) released a briefing reviewing the structure of the US Environmental Protection Agency (EPA)'s recall program for light-duty vehicles and light-duty trucks and its effectiveness over time.

The goal is to explain the recall authority, procedures, and coordination among offices in the EPA recall program.

According to the ICCT, an effectively implemented recall program, backed by credible and defensible in-use testing and data acquisition programs, provides manufacturers with the incentive to ensure that vehicles are truly designed and built to conform with emissions standards in actual consumer use.

The ICCT briefing is at www.theicct.org/sites/default/files/publications/EPA%20Recall%20L DV%20Briefing\_ICCT\_vF\_08022017.pdf.

#### Assessment of EU Member States' Positions on Type-Approval Framework

On 16 February 2017 the European Consumer Organisation (BEUC) released an assessment of Member States' positions on the vehicles type-approval framework reform.

The report titled "Member States' dirty Dieselgate secrets" assesses the unpublished responses given by Member States to a questionnaire conducted by the EU



Council secretariat near the end of 2016 on the Commission's proposal on type-approval and market surveillance of motor vehicles.

BEUC ranked the Member States according to the way they supported or rejected four key measures:

- Strengthening EU oversight: ensuring the European Commission has a strong role in overseeing vehicle testing and can independently test cars;
- More market surveillance: ensuring that there are minimum quantifiable market surveillance targets shared across Europe;
- Auditing Member States: ensuring that regular and robust checks are conducted on Member State authorities and technical services;
- Avoiding conflicts of interest: ensuring there are no conflicts with regard the financial relationships between car makers, technical services and national authorities.

According to BEUC, Germany, Italy, the UK, Bulgaria, Cyprus, the Czech Republic, Hungary, Latvia, Lithuania, Portugal, Romania and Sweden are opposed to stronger EU oversight of the type-approval of motor vehicles, including a role for the Commission to test cars independently from Member States.



The BEUC assessment is at <u>www.beuc.eu/publications/beuc-x-</u> 2017-013\_member\_states\_dirty\_dieselgate\_secrets.pdf.

#### Health Effects Institute's State of Global Air Report

On 14 February 2017 the Health Effects Institute (HEI) published its first annual "State of Global Air" report and interactive website.

These report and website provide information on air pollution levels (PM<sub>2.5</sub> and ozone) and their health impacts throughout the world and allow for detailed comparisons between countries and over time. It builds on the Global Burden of Disease (GBD) project led by the Institute for Health Metrics and Evaluation (IHME).

From the most recent (2015) analysis of the GBD, exposure to  $PM_{2.5}$  was the 5<sup>th</sup> highest ranking risk factor for death, responsible for 4.2 million deaths from heart disease and stroke, lung cancer, chronic lung disease, and respiratory infections. An additional 254 000 deaths were

attributable to exposure to ozone and its impact on chronic lung disease.

Over 90% of the world's population lived in areas with unhealthy air in 2015. The highest concentrations of  $PM_{2.5}$  in 2015 related to combustion sources were in South and Southeast Asia, China, and Central and Western sub-Saharan Africa. Global population-weighted  $PM_{2.5}$  concentrations increased by 11.2% from 1990 (39.7 µg/m<sup>3</sup>) to 2015 (44.2 µg/m<sup>3</sup>). Among the 10 most populous countries and the EU, Bangladesh and India now have the highest exposures to  $PM_{2.5}$ , having experienced the steepest increases since 2010.



From 1990 to 2015, population-weighted ozone concentrations increased by about 7% globally. This trend reflects a combination of factors, including increased emissions of ozone precursors such as nitrogen oxides, coupled with warmer temperatures, especially at midlatitudes in rapidly developing economies, the report says. Among the world's 10 most populous countries and the EU, the largest increases (14% to 25%) in seasonal average population-weighted concentrations of ozone over the last 25 years were experienced in China, India, Pakistan, Bangladesh, and Brazil.



The HEI report and interactive website are at <u>www.stateofglobalair.org</u>.



### IRU Report on Commercial Vehicle of the Future

On 14 February 2017 IRU, the global industry association for road transport, released a report titled "Commercial vehicle of the future: A roadmap towards fully sustainable truck operations" prepared by Transport & Mobility Leuven.

This report's aim is to take stock of how evolving technologies and trends could shape the use of commercial vehicles in the future, how they might help the sector meet the EU's ambitious  $CO_2$  emissions reduction goals for 2030 (-30% compared to 2007) and 2050 (-60% compared to 1990) and how these measures might have positive cross-over benefits for improving road safety and operational efficiency.



The report assumes that in 2050, freight will still be carried by the vehicle types recognisable today.

A wide variety of measures is examined which could contribute to reducing emissions and further increasing road safety and operational efficiency. The non-exhaustive list is because the development of some measures, such hydrogen fuel cell as technology, is not

advanced enough to give an accurate picture of their potential contribution. These measures include a number of propulsion systems and energy carriers, such as further technological improvements to internal combustion engines (ICEs) running on diesel, the use of natural, bioand synthetic gas or advanced biofuels and different technologies for electrification. Other vehicle-related aspects are also examined including aerodynamics, tyres and light-weighting. Vehicle driving, including the use of Advanced Driver Assistance Systems, driver training and awareness raising are examined. The impact of a greater use of Intelligent Transport Systems is considered, as are increased connectivity between vehicles and between vehicles and infrastructure.

The contributions of the different measures for reducing  $CO_2$  emissions are summarised in tables for long-haul and regional delivery cycles and are described for the urban delivery cycle.

The report shows that targets can only be met using a combination of measures. Although the 2030 targets are within reach if a wide variety of measures relating to legislation, vehicles, fuels (including alternative fuels) and operations are rolled out, it will be very difficult to reach the 2050 targets without fundamental changes. These would have to include the largescale use of renewable energy

sources	and	the	development	of	different	ways	to	carry
freight b	y roa	ıd.						

Long haul	Potential 2030	Potential 2050	Comment	Cumulative reduction 2030	Cumulative reduction 2050	
Powertrain efficiency (diesel)	10%	15%	Includes engine, transmission, auxiliaries,	10.0%	15.0%	
Gas vehicles	2%	4%	Methane emissions should be minimised	11.8%	18.4%	
Renewable fuels (gas & liquid)	2%	24%	IEA general target, large increase in 2nd generation biofuels needed; includes biogas	aral target, large increase eneration biofuels needed; 13.6% biogas		
Driver training and ADAS	6%	8%	Includes ACC, PCC,	18.8%	43.2%	
Reduced max. speed	2%	2%	To 80 km/h	20.4%	62.8%	
ITS & communications	1%	4%	Platooning	21.2%	46.5%	
Aerodynamics	6%	10%	Important contribution expected from trailers and semi-trailers, including solutions developed in the TRANSFORMERS Project	25.9%	51.3%	
Tyres	7.5%	12.5%	Includes super singles	31.5%	57.4%	
Lightweighting	0%	0%	Compensated by increased weight from other measures	31.5%	57.4%	
Pavement	3%	3%	Improved rolling resistance (maintenance or new pavement)	33.5%	58.7%	
Logistical efficiency improvements, including digitalisation, collaboration on reducing empty running & improve load factors	2%	10%	Rollout of coordinated system needed	34.8%	62.8%	
More flexibility in weights and dimensions (including LHV)	3.5%	7.5%	LHVs permitted to carry out cross border transport within the EU	37.1%	65.6%	
Hybridisation (2030)/ electrification (2050)	3%	37%	For 2050, most from full electrification	39.0%	78.2%	

A roadmap has been developed for the immediate situation (2016–2020), decisions and preparations (2020–2030), time for major action (2030–2040), and rolling towards the goal (2040–2050).

The IRU report is at <u>www.iru.org/sites/default/files/2017-</u>02/iru-report-commercial-vehicle-of-the-future-en.pdf.

#### Joint Declaration for an Ambitious EU Industrial Strategy

On 17 February 2017 92 associations signed a joint declaration calling on the European Commission to support an ambitious EU industrial strategy. ACEA, CLEPA, CEFIC, ACEM, CECE, and CEMA are amongst the signatories.

Between 2000 and 2014, the share of manufacturing in total EU output fell from 18.8% to 15.3%, while 3.5 million manufacturing jobs were lost between 2008 and 2014. Meanwhile, countries around the world are putting industry at the very top of their political agendas. The "Make in India" strategy aims to ensure India is "the next manufacturing destination" and "Made in China 2025" seeks to turn China into the "leading manufacturing power". The recent US shift towards "America First" will inevitably have a strong impact on their industrial policy, the joint declaration says.





In that context, the signatories from the European manufacturing industry call on the European Commission to:

- reaffirm its commitment to reaching the target of 20% of GDP from industry, with an ambitious and realistic timeline;
- adopt an Action Plan to tackle the challenges that the industrial sectors are facing, in the framework of a Communication that would include concrete steps and milestones; and
- commit to implement this Action Plan in a timely manner and regularly report on progress.

The joint declaration is at

www.acea.be/uploads/news\_documents/Declaration\_on\_EU\_ industrial\_strategy\_2017.pdf.

#### **RESEARCH SUMMARY**

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FEBRUARY 2017

#### FORTHCOMING CONFERENCES

#### SAE 2017 On-Board Diagnostics Symposium – Europe

27 February - 1 March 2017, Turin, Italy www.sae.org/events/obd-eu

The conference will discuss the latest CARB, US EPA, and EC requirements and regulations, as well as details of the associated SAE standards regarding light- and heavy-duty emissions controls.

#### 12<sup>th</sup> CONCAWE Symposium

20-21 March 2017, Antwerp, Belgium

www.concawe.eu/calendar/24/17/Save-the-Date-12th-Concawe-Symposium

The symposium will explore scientific and technical challenges for the production and use of petroleum refined products in the EU in the 21<sup>st</sup> century.

#### NGV Global 2017 Conference

20-23 March 2017, Rotterdam, Netherlands <a href="http://www.ngv2017.com">www.ngv2017.com</a>

#### Von CO<sub>2</sub>-Grenzwerten bis zur Oberleitung: Wohin steuert der klimafreundliche Lkw?

23 March 2017, Berlin, Germany

www.nabu.de/wir-ueber-uns/veranstaltungen/21982.html

The conference is jointly organized by NABU and Transport & Environment to discuss a viable solution for road transport in the future.

#### 27th CRC Real World Emissions Workshop

26-29 March 2017, Long Beach (CA), USA

https://crcao.org/workshops/27th\_RWE\_Workshop/Index.html

The main topics of interest of the workshop are emissions modelling, improving the emissions inventory, Particulate Matter emissions, measurement methods (improvements and new techniques), unregulated emissions, Inspection/Maintenance (I/M) and OBD, fuel effects on exhaust emissions, Off-Road/ Non-Road emissions.

#### 7<sup>th</sup> International PEMS Conference & Workshop

30-31 March 2017, Riverside (CA), USA

www.cert.ucr.edu/events/pems

Discussion topics will include: How will the regulatory environment evolve internationally to address real-world and off-cycle emissions? How might this differ for light-duty and heavy-duty vehicle technologies? What are the most recent developments in PEMS technology for the measurements of gas-phase and particle mass and number emissions? How might the development of low cost or micro PEMS/sensors or remote sensing techniques provide for greater opportunities for monitoring the in-use fleet? As the level of data for PEMS and activity measurements continues to expand, how can this data be managed to provide greater access to a wider range of stakeholders?

SAE 2017 High Efficiency IC Engine Symposium

2-3 April 2017, Detroit, USA www.sae.org/events/hee

#### WCX17: SAE World Congress Experience

4-6 April 2017, Detroit, USA <u>www.wcx17.org</u> **AECC** will present a joint paper with Ricardo and Concawe "Real-World Emissions Measurements of a Gasoline Direct Injection Vehicle without and with a Gasoline Particulate Filter"

#### 2<sup>nd</sup> Integer Emissions Summit & AdBlue® Forum Asia Pacific 2017

5-6 April 2017, Seoul, South Korea

#### www.integer-research.com/conferences/ies-apac-2017

Topics of discussion will include the challenges that lie ahead for the heavy-duty commercial vehicle manufacturers in Asia Pacific, the key issues affecting the AdBlue<sup>®</sup> business in Korea, updates on the passenger car market in Asia Pacific, developments in Asia Pacific's leadership of the marine emissions technology market, the future of off-highway emissions regulations and how it will impact the Asia Pacific market, and emissions control regulations and technology innovations that shape the on- and non-road industries.

6<sup>th</sup> Southeast Asia Diesel Engine Summit 2017

11-12 April 2017, Singapore



#### www.borscon.com/2017apde/en/index.asp

The summit will focus on the actual situation of the diesel engine industry in Southeast Asia, discuss energy conservation and emission reduction policies and regulations that insiders are concerned about, fuel consumption standards, latest technology trends and future development trends, and share business model innovation hot spots.

#### **Real Driving Emissions**

19-20 April 2017, Amsterdam, Netherlands www.bisgrp.com/portfolio/conferences/automotive/real-driving-emissions

#### 38<sup>th</sup> International Vienna Motor Symposium

27-28 April 2017, Vienna, Austria https://wiener-motorensymposium.at/en/home/ Topics for the symposium include latest findings in engine development, on new engines, fuel cells, hybrid technology, exhaust gas treatment and Real-Driving Emissions (RDE).

#### Health Effects Institute 2017 Annual Conference

30 April - 2 May 2017, Alexandria (VA), USA www.healtheffects.org/annual-conference

#### 9<sup>th</sup> AVL International Commercial Powertrain Conference 2017

10-11 May 2017, Graz, Austria <u>www.avl.com/-/9th-international-commercial-powertrain-conference-2017</u> The 2017 ICPC conference is entirely dedicated to CO<sub>2</sub> reduction and innovations improving operating efficiency.

#### NOx and Particulate Real Drive Emissions (RDE)

15-19 May 2017, Leeds, UK <u>https://engineering.leeds.ac.uk/short-course/20</u> *This course concentrates on engine technology for low emissions, fuel requirements and aftertreatment techniques.* 

#### 10th Integer Emissions Summit & AdBlue® Forum China 2017

16-18 May 2017, Beijing, China www.integer-research.com/conferences/ies-china-2017 The conference will address China's emissions control challenges and examine cost-effective, regulation compliant emissions reduction strategies.

#### 29th International AVL Conference "Engine & Environment"

1-2 June 2017, Graz, Austria <u>www.avl.com/engine-environment-2017</u> *Competition of powertrain systems to reduce CO*<sub>2</sub> and emissions 2020/2025.

#### **CITA** International Conference

6-8 June 2017, Zagreb, Croatia http://cita2017.citainsp.org This edition's theme is "Partnering to Improve Road Safety and the Environment" and the programme aims to highlight the role of whole-life vehicles' roadworthiness in comprehensive road safety and transport environmental protection strategies.

#### International Conference SIA Powertrain

7-8 June 2017, Versailles, France <u>www.sia.fr/evenements/66-sia-powertrain-versailles-2017</u> The conference will focus on the low CO<sub>2</sub> spark ignition engine of the future and its hybridization.

#### 21st ETH-Conference on Combustion Generated Nanoparticles

19-22 June 2017, Zürich, Switzerland www.nanoparticles.ch

The conference serves as an interdisciplinary platform for expert discussions on all aspects of nanoparticles, freshly emitted from various sources, aged in ambient air, technical mitigation aspects, impact of particles on health, environment and climate and particle legislation.

#### Deadline for abstract: 24 March 2017

#### **Engine Emissions Measurement**

19-23 June 2017, Leeds, UK

https://engineering.leeds.ac.uk/short-course/22

This course is directed at both emissions legislation compliance, and at engine and catalyst development for low emissions.



#### Cambridge Particle Meeting 2017

23 June 2017, Cambridge, UK

#### www.cambridgeparticlemeeting.org/2017

Topics of interest include combustion aerosols and their effects, aerosol-based nanotechnology, and new instrumentation. **Deadline for abstract: 1 April 2017** 

#### 13th Integer Emissions Summit & AdBlue® Forum Europe 2017

27-29 June 2017, Dresden, Germany

#### www.integer-research.com/conferences/ies-europe-2017

The conference will discuss the most challenging issues facing the industry, including how commercial vehicle and engine manufacturers will further reduce CO<sub>2</sub> emissions and improve fuel efficiency beyond Euro VI, Euro 6c for light-duty vehicles and passenger cars – what will be the likely scenario for the European car industry when RDE regulation and WLTP procedures are adopted in September 2017?, which technologies will prove to be best-suited to meeting Stage V regulations for the non-road mobile machinery sector?, and what are the optimum strategies for meeting upcoming emissions legislation in the marine sector following European and IMO efforts to tighten emission standards.

#### VII International Congress on Combustion Engines

#### 27-29 June 2017, Poznan, Poland

www.congress.ptnss.pl/

The congress is organized by the Polish Scientific Society of Combustion Engines (PTNSS). The main topics of the congress include fuel injection systems and mixture formation; combustion processes control in SI and CI engines; emissions measurements and aftertreatment; engine testing, durability, reliability and diagnostics; and global trends in engine technology.

#### 4<sup>th</sup> International Conference: Sensors for Exhaust Gas Aftertreatment and CO<sub>2</sub> Reduction

27-29 June 2017, Augsburg, Germany

www.sv-veranstaltungen.de/fachbereiche/conference-sensors-for-exhaust-gas/?lang=en

The conference will discuss sensors for emissions control and engine management such as temperature sensors, differential pressure sensors, soot sensors, NOx sensors, and many more.

#### 13<sup>th</sup> International CTI Conference: SCR Systems/Off-Highway Applications

5-7 July 2017, Stuttgart, Germany http://cti.euroforum.de/en/events/scr\_systems\_2017

#### Diesel Powertrains 3.0

11-12 July 2017, Ludwigsburg, Germany <u>www.fev.com/fev-conferences/fev-conference-diesel-powertrains-30.html</u> The international conference will highlight current developments in the Light-Duty Diesel Powertrain segment with a widespread list of topics, offering multiple interesting paths for best compliance with upcoming demands.

#### 13th International Conference on Engines & Vehicles (ICE2017)

10-14 September 2017, Capri, Italy

www.sae-na.it/index.php/en/2016-03-19-14-13-16/2016-03-19-14-14-16/welcome

Topics to be addressed include engine modelling and diagnostics; engine combustion; new engines, components, actuators & sensors; hybrid and electric powertrains; fuels and lubricants; and exhaust aftertreatment and emissions.

#### Emissions 2017

12-13 September 2017, Frankfurt, Germany https://gamcinc.com/conferences/emissions/?id=1

The forum will address advances in emission technology and management systems related to OEMs, suppliers (all tiers), component manufacturers, governmental and non-governmental agencies.

#### 10<sup>th</sup> Integer DEF Forum USA 2017

26-28 September 2017, San Antonio, USA www.integer-research.com/conferences/def-forum-usa-2017

#### 2017 Aachen Colloquium Automobile and Engine Technology

9-11 October 2017, Aachen, Germany

www.aachener-kolloquium.de

The congress provides a wide range of technical presentations addressing current challenges of the vehicle and engine industry.



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#### 7<sup>th</sup> Integer Emissions Summit & AdBlue® Forum India 2017

11-12 October 2017, New Delhi, India

https://www.integer-research.com/conferences/ies-india-2017/

The conference will examine the progress made towards Bharat VI a year on from the government's announcement regarding plans to implement the stringent emissions standards by 2020.

#### SAE 2017 International Powertrains, Fuels and Lubricants Meeting

16-19 October 2017, Beijing, China www.sae.org/events/pfl

#### G.STIC 2017 – Global Science Technology & Innovation Conference

23-25 October 2017, Brussels, Belgium www.gstic.org The objective of this conference is to underpin the technological discussions in the UN and other international forums as they relate to the Sustainable Development Goals, the climate goals and Means of Implementation.

10<sup>th</sup> Integer Emissions Summit USA 2017

7-8 November 2017, Pittsburgh, USA www.integer-research.com/conferences/ies-usa-2017

15<sup>th</sup> FAD-Conference 8-9 November 2017, location tbd www.fad-diesel.de/news/15th\_FAD\_Conference

10<sup>th</sup> International AVL Exhaust Gas and Particulate Emissions Forum 20-21 February 2018, Ludwigsburg, Germany www.avl.com/web/guest/-/10th-avl-international-exhaust-gas-and-particulate-emissions-forum

8<sup>th</sup> AVL Large Engines TechDays 11-12 April 2018, Graz, Austria www.avl.com/-/8th-avl-large-engines-techdays