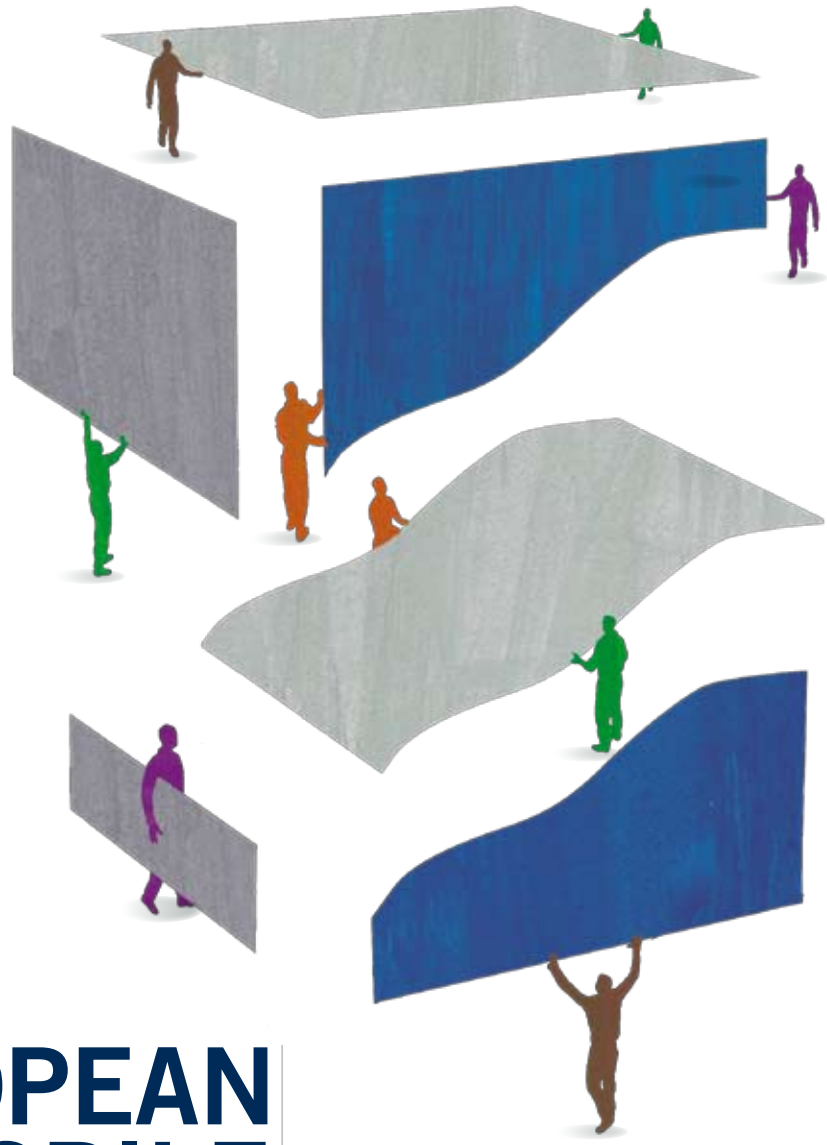

EUROPEAN AUTOMOBILE INDUSTRY REPORT

09/10

ACEA

EUROPEAN AUTOMOBILE
MANUFACTURERS ASSOCIATION

THE AUTOMOBILE INDUSTRY IN EUROPE

Fifteen international players:
BMW Group, DAF Trucks , Daimler, FIAT Group, Ford of Europe, General Motors Europe, Jaguar Land Rover, MAN Nutzfahrzeuge, Porsche, PSA Peugeot Citroën, Renault, Scania, Toyota Motor Europe, Volkswagen and Volvo Group

The backbone of Europe's manufacturing base
Over 250 plants in 18 EU countries
A supply chain involving metals, plastics, chemicals, textiles and electric & electronic systems

A key source of skilled employment
12 million direct and indirect jobs

A leading force of innovation
Yearly investments of €20 billion in R&D

A formidable export sector
The world's largest vehicle producer
Over €40 billion in net trade contribution

A major source of government income
Vehicle taxes generate more than €400 billion in government revenues

EUROPEAN AUTOMOBILE INDUSTRY REPORT

09/10

EUROPEAN AUTOMOBILE
MANUFACTURERS ASSOCIATION

FOREWORD

Towards 2010 and beyond – a challenge on two fronts and an opportunity to move forward

As this report goes to print, the world economy is still coming to terms with a gripping and damaging recession. The global automobile industry was one of the first and hardest to be hit. European manufacturers have been shaken by the speed and magnitude of the downturn.

The fall-out from the financial crisis has put viable businesses at risk. Industry and EU leaders have been forced to respond in an extraordinary manner.

However, from an early stage, it was clear that the crisis threatened more than merely jobs and growth. The deep, unsettling turmoil also raised questions about momentum and continued progress towards sustainable mobility goals. This challenge, presenting itself on two fronts, raises issues for industry chiefs and policy leaders alike.

European auto makers are ready to confront this double challenge head-on. The ACEA European Automobile Industry Report 2009-2010 presents a clear insight into the track record of our industry, the policy fields we are dealing with in the European capital, Brussels, and the priorities we see for Europe in the years ahead.

The commitment to solutions that tackle issues like climate change and road safety remains at the heart of all manufacturers' strategies.

However, innovation relies on a vibrant and competitive sector. A supportive EU policy framework, in crisis and in more normal times, boosts an industry that is vital to Europe's economic well-being.

A 'new deal' for sustainable mobility means accepting a thriving economy as the foundation to underpin a more healthy environment tomorrow.

That's more than a challenge; it's an opportunity.

CARLOS GHOSN
President of ACEA and Chairman & CEO of Renault

IVAN HODAC
Secretary General of ACEA

ACEA IN BRIEF

EUROPEAN AUTOMOBILE
MANUFACTURERS ASSOCIATION

- ACEA means “Association des Constructeurs Européens d’Automobiles” or European Automobile Manufacturers’ Association. ACEA is an **industry association** and, as such, one of many interest groups that contribute to an informed decision-making process in the EU.
- ACEA has **fifteen members**: BMW Group, DAF Trucks, Daimler, FIAT Group, Ford of Europe, General Motors Europe, Jaguar Land Rover, MAN Nutzfahrzeuge, Porsche, PSA Peugeot Citroën, Renault, Scania, Toyota Motor Europe, Volkswagen and Volvo Group.
- ACEA, **established in 1991**, is based in Brussels with representations in Tokyo and Beijing. The Board of Directors is composed of the **Chief Executive Officers** (CEOs) of its 15 members. ACEA maintains close relationships with the 29 national automobile manufacturers’ associations in Europe.
- ACEA is the first source of information concerning **vehicle-related regulation**, with over 80 EU Directives and more than 115 UNECE regulatory requirements in place today, that are often very technical in nature.
- ACEA is the main portal to clear and **factual information** on the European automobile industry, encouraging understanding of the sector’s importance, its complexity and its contributions to society.

ACEA MEMBERS

BMW Group · DAF · DAIMLER · FIAT GROUP · Ford · GM · JAGUAR · LAND ROVER · MAN · PORSCHE · PSA PEUGEOT CITROËN · RENAULT · SCANIA · TOYOTA · VOLKSWAGEN AKTIENGESELLSCHAFT · VOLVO

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INTRODUCTION

The automobile industry in Europe – an industry with strength and breadth

The auto sector is often credited as the engine room of Europe. The European Union is the homeland to a competitive and innovative automotive industry that generates activity throughout the economy – from materials and parts supply, to R&D and manufacturing, to sales and after-sales services.

Manufacturers have trained and developed a highly-skilled workforce, producing quality products for home and international markets. Vehicle manufacturing supports over 2 million European jobs with an additional 10 million citizens employed in associated industries. Exports are valued at over €70 billion annually.

The automotive industry has also established itself as a partner in sustainability. Technological advances have brought real solutions, driving down harmful emissions from industry products and production sites. Manufacturers have spearheaded significant improvements in vehicle safety and embraced social responsibility goals. Annually, the industry invests €20 billion in R&D, more than any other private sector. Its drive towards sustainable mobility remains an ongoing commitment.

ECONOMIC DOWNTURN

In the second half of 2008, against the backdrop of fierce competitiveness and progress on sustainability, the economic downturn hit the industry. The banking crisis stalled economies; consumers and businesses struggled to access credit. Private individuals held off purchasing new cars and businesses began to fight for survival.

Twelve million Europeans rely on vehicle manufacturing to support their families

In the first six months of 2008, demand for new cars across Europe had dipped a merely 2%, with commercial vehicle sales down by just 0.4%. By the end of the year, markets for all types of vehicles crashed. In the final quarter, car sales fell 19.3%: some member states reported a decline of more than 50% in December alone. Demand for new commercial vehicles across Europe decreased by 24%.

Commercial vehicles continued their sharp downturn in the first quarter of 2009. The drop in passenger car registrations recovered somewhat to a still formidable minus 15%, supported by the introduction of fleet renewal incentives in a number of EU member states.

Vehicle production, which fell by 20% in the last three months of 2008, is expected to fall a further 25% in 2009 compared to 2007 levels, with commercial vehicles production expected to decline even more. Reduced employment levels, production shut-downs and strains on budgets; these are an inevitable consequence of the sudden decline in demand.

Market incentives will be key to soften the impact of the recession

The auto industry urged policy makers to recognise the unprecedented scale of the crisis. It called for urgent steps to support an industry upon which so much of what we take for granted relies.

The economic consequences of failing to act would be serious. Millions of Europeans rely on vehicle manufacturing – and the associated supply chain - to support their families. Production facilities could close and billions of euros in revenue are threatened by the slowdown.

But the crisis threatens more than just economic goals. It could also affect progress towards sustainable mobility. As demand for new cars weakens, fleet renewal slows. While haulage companies struggle to access credit, they are less likely to purchase and run the latest, cleanest generation of commercial vehicles. Pressure on manufacturing budgets, including investments in R&D, is mounting.

A STRONG INDUSTRY INNOVATES

The industry has come a long way on all sustainability criteria, and sustainable mobility remains a key part of manufacturers' long-term plans.

During the last ten years of relative economic stability, manufacturers delivered fifty new CO_2 reduction technologies to market. Improved engine design, the use of lightweight new materials, development of alternatively-fuelled vehicles and in-vehicle driver aids, these examples have helped slash average new car CO_2 by almost 20% in just thirteen years.

Emissions are a fraction of what they once were too, thanks to industry innovation. Particulates and other pollutants have come down over 95% compared to 1990 levels.

Truck and bus makers have set a benchmark in efficiency too. Today's 40-tonne trucks burn around a third less fuel than equivalents thirty years ago, while exhaust technologies are trapping more harmful emissions improving air quality in our towns and cities. Investment in logistics, tracking, driver training and intelligent transport systems ensure modern trucks work smarter as well as harder for their operators.

On safety, vehicle technology has helped halve the number of deaths on Europe's roads in the last thirty years, despite a three-fold increase in traffic volumes.

IMMEDIATE SUPPORT

Policy makers have a responsibility to protect the interests of citizens and safeguard the natural environment. But they are also responsible for creating an environment in which businesses thrive. The interdependent nature of both objectives is today perhaps more evident than ever.

Auto makers have called for urgent and drastic measures to prevent a prolonged period of recession, to support manufacturing and continue to drive forward the environmental goals that are shared by policy makers and manufacturers. In the short term, broader and quicker access to financial support is necessary. Vehicle manufacturers have requested access to €40 billion in low-interest loans, if necessary backed by state guarantees.

€15 billion of this may be needed already in 2009. Legislators must be prepared simplifying procedures for access to funds and shortening timeframes from application to delivery.

Market incentives will be key to soften the impact of the recession, encouraging fleet renewal. But these must be coordinated to avoid distortions across the single market. Many countries have already taken a lead in introducing incentives like scrappage schemes and fiscal incentives. ACEA members have called for a coordinated European policy to ensure fairness and respect for competition rules, promoting greater efficiency in a single, European market while achieving the aim of increasing sales of the cleanest new vehicles.

FURTHER MEASURES

Some of the steps sought by industry are as relevant in periods of economic prosperity as they are in a recession. The industry has long urged better regulation principles, for example, and the development of a more sympathetic regulatory framework.

In December, while coming to terms with the worst economic crisis in decades, car makers were presented with the new car CO_2 regulation, a hugely challenging framework and the latest in a line of over 80 European Directives and 115 UNECE pieces of legislation concerning motor vehicles.

Industry believes regulators must apply the lessons learned in the last ten years to these leaner times. Time and again, the focus of regulations like new car CO_2 rules has been on vehicle technology improvements, when impact assessments have consistently shown that an integrated approach brings the most cost-effective benefits to society.

Now is the right time to accept this logic and safeguard industry competitiveness by postponing costly new regulation. It is the time to ensure that thorough impact assessments of technical, economic and environmental effects are at the core of any new proposals, not merely an after-thought.

It is also the time to review one-sided international trade agreements. Deals that bring advantages for importers that deliver little in the way of reciprocal benefits for EU manufacturers in export markets are unacceptable. The deal proposed with South Korea, for example, piles unnecessary pressure on European-based manufacturers at this difficult period, and must be dismissed.

THE FUTURE

Vehicle manufacturers are taking all measures within their reach to emerge from the economic crisis. Fewer temporary contracts, lower vehicle output and shorter working hours are some of the painful steps that will nevertheless help retain a high-skilled workforce prepared for the future.

Demand will pick up but it is difficult to predict when. The degree to which the sector will be prepared for future growth will depend in large part on the decisions taken by legislators during the difficult months of 2009.

These are hugely challenging times for us all. But the automotive sector is an industry with strength and breadth. With the right support, it will come through the current crisis and continue to deliver economic benefits to the European economy, social mobility for millions and the products that will take road transport on a journey to a more sustainable future.

ENVIRONMENT

The automobile industry has embraced its responsibility to deliver sustainable products as part of an integrated approach. Innovation and investments in R&D continue to deliver progress. To maintain momentum, both must be supported through the economic downturn.

REDUCING CO_2 EMISSIONS

- The industry is committed to driving down CO_2 from cars and commercial vehicles, and to increase efficiency across its European production sites.
- Average CO_2 from new cars has come down by close to 20% in 13 years, thanks primarily to technology measures. Modern trucks use 30% less fuel than comparable models from the 1970s.
- Technology cannot bring solutions on its own. Policy makers must adopt a comprehensive strategy involving technologies as well as market incentives, infrastructure adjustments and changes in driving habits. Future legislation must be drafted accordingly.
- Adopting an integrated approach - involving industry, fuel companies, governments and consumers – is a cost-effective and efficient means to drive down CO_2 from road transport.

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IMPROVING AIR QUALITY

- Thanks to industry innovation, pollutant emissions from vehicles are a fraction of what they once were.
- Measures to support the replacement of older vehicles with those meeting current emission limits would contribute more to improving air quality than imposing ever-tighter emission targets on manufacturers.
- Transparent impact assessment, based on realistic cost assumptions, must form the basis for any technology-led targets for vehicle manufacturers.

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FUELLING THE FUTURE

- Auto makers support targets for fuel suppliers to reduce life-cycle greenhouse gas emissions.
- The development of clean alternative and renewable fuels like CNG, hydrogen and biofuels complements industry investment in greener vehicles.
- Quality is central to the development of current and future fuels. Standards must be applied in a uniform way across the internal market.
- Potentially harmful additives in biofuels, like metallic compounds, risk damaging vehicles.

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VEHICLE PRODUCTION AND RECYCLING

- Car manufacturers have reduced the environmental impact of vehicle production, and are committed to continue to do so.
- End-of-Life vehicle recycling is an integral part of car manufacturers' product policy. New products can meet very high reusability and recovery rates.
- Manufacturers have set up scrap-car networks across Europe, offering consumers free take-back and dismantler guidance on de-pollution and recycling.
- The End-of-Life Vehicle Directive is complex and unwieldy; it presents a clear case for the application of better regulation principles.

REDUCING CO_2 EMISSIONS

Progress and constraints – the industry's commitment to this global challenge

Reducing man-made CO_2 emissions is a complex issue. There are no simple solutions and no national boundaries. Every industry and individual must accept responsibility and embrace collective action.

The automotive industry fully accepts the part it must play in finding technology solutions that continue to drive down CO_2 and other climate change emissions. It is actively working to reduce CO_2 emissions from cars and commercial vehicles in-use, but also from its production sites, logistics and transport operations.

Cars are often cited as the most significant contributor to man-made CO_2 emissions. In fact, they contribute around 12% of total CO_2 emissions in Europe; with overall transport producing 26%. While a major challenge, it is clear that vehicle emissions are part of a much larger jigsaw.

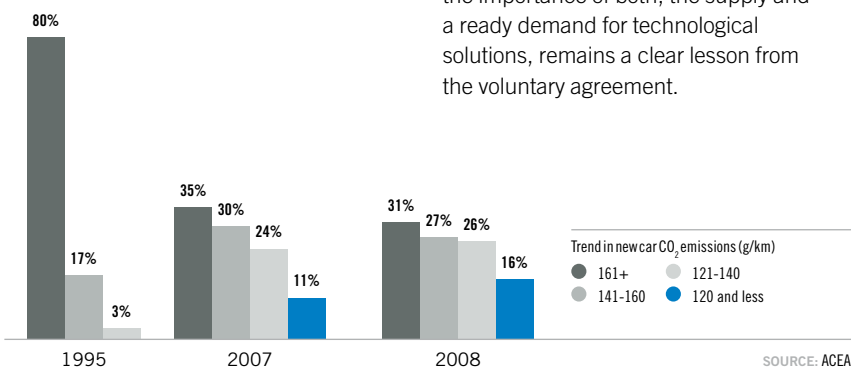
SIGNIFICANT CUTS IN CO_2 EMISSIONS

Average new car CO_2 emissions has fallen sharply over the past decade. Progress has been driven primarily through technology, a responsibility the industry embraced under its part of a voluntary commitment to cut CO_2 emissions. This agreement was brokered by ACEA and the European Commission in 1998 and covered the years 1995 to 2008.

Though progress was countered by developments such as the parallel introduction of conflicting regulatory requirements, preliminary figures suggest that new car CO_2 emissions have fallen by close to 20% (with average CO_2 emissions of around 154 g/km in 2008). Drivers have, more recently, started to value fuel-efficient technologies alongside the more traditional favourites such as comfort, safety and design. CO_2-related taxation introduced by various member states has also helped trigger a shift in consumer demand.

The industry will continue to drive down CO_2 emissions from its products; however the importance of both, the supply and a ready demand for technological solutions, remains a clear lesson from the voluntary agreement.

IMPORTANT PROGRESS IN FUEL EFFICIENCY



SOURCE: ACEA

IN BRIEF

Climate change is a global challenge which demands collective action and international cooperation. The automotive sector is playing a leading role, embracing its responsibility to reduce CO_2 emissions from products in-use and production sites. Its commitment is reflected in investments in technology solutions that have brought significant cuts in CO_2 emissions to cars and commercial vehicles, and in energy-efficiency improvements at plants across Europe.

The industry continues to stress the importance of joint action by all stakeholders. Vehicle makers, fuel companies, governments, transport operators and consumers must all play their part in this integrated approach necessary to reduce CO_2 emissions efficiently.

Concerns remain over CO_2 emission regulation which continues to point to vehicle technology as the principal means by which cuts can be delivered. Technology, however, is only one piece in a larger puzzle. It is also an expensive approach and particularly unwelcome at this time of unprecedented economic pressure on R&D budgets, jobs and production.

Investment in R&D, the development of new CO_2-reduction technologies and fleet renewal are all jeopardised by an approach that continues to downplay the role of collective action.

THE AUTOMOBILE INDUSTRY AND CLIMATE CHANGE
A LONG-TERM PERSPECTIVE

- **Protecting the natural environment**, using limited resources responsibly and mitigating the effects of man-made climate change; this is the sustainability challenge that industrial society cannot ignore.
- Vehicle makers are **integral to modern society**. They have embraced the challenge, delivering significant environmental progress to date. Manufacturers will continue to play a pivotal role within the context of sustainable growth.
- European manufacturers are **technology leaders**. Innovation is driving forward cleaner, 'greener' and affordable transport. Further progress on CO_2 reduction will come from improved powertrains and the development of more renewable energy sources.
- Low-emission vehicles offer the most **convincing solution** on the road to sustainable mobility. A commitment to robust R&D, infrastructure improvements, energy use and market demand will be needed to accelerate progress.
- CO_2 savings will be maximised if **well-to-wheel impact** is clearly addressed at all stages of the fuel and energy chain.
- All **stakeholders must work together** to deliver the greatest benefits to society: vehicle manufacturers; fuel and energy producers; architects of urban and national infrastructures; traffic management and logistics providers, and their users; politicians and legislators; consumers, customers and drivers.
- Climate change is a **global challenge** that affects us all. Solutions must be framed around a global, holistic approach.
- The automobile industry **invests heavily** in new technologies to tackle the complex questions raised by climate change and other environmental aspects. **Active dialogue** with all stakeholders is central to its commitment.
- Vehicle makers **are determined to** reduce their environmental footprint today and to protect the planet for society tomorrow.

CO_2 LEGISLATION

In December 2008, the European Parliament and Council approved new CO_2 emission rules for passenger cars, establishing the most demanding piece of environmental legislation the automotive industry has ever faced.

The legislation mandates a reduction in tailpipe CO_2 to an average of 130 g/km (by 2012 for 65% of newly registered cars, increasing to 100% by 2015) through technology measures. The auto industry is characterised by long development and production cycles. It is therefore encouraging that the new car CO_2 regulation provides some flexibility in implementation.

Nevertheless, disproportionate fines, which amount to around 15 times the cost of carbon in other markets, remain a matter of concern. In the face of the current economic downturn, they represent an additional burden for an industry already battling job losses and production cuts across the EU.

SUPPORTING THE INDUSTRY

It is clear that the economic conditions in which the industry is now operating are extraordinary and fleet renewal is under pressure. Achieving CO_2 reduction targets will require renewed focus, support and collective action from all stakeholders. While the industry is fully committed to

KEY POINTS IN THE REGULATION FOR PASSENGER CARS

- A reduction in average CO_2 emissions from new cars to 120 g/km.
- Encompassing a 10 gramme reduction to come from complementary measures including greater penetration of biofuels.
- A staggered approach to implementation: 65% of new cars will comply with requirements in 2012; 75% in 2013; 80% in 2014 and 100% in 2015.
- Eco-innovations will count for up to 7 grammes of manufacturers' fleet targets.
- Super-credits for vehicles emitting less than 50 gCO_2/km.
- Provisions for niche manufacturers (10,000 to 300,000 units) to achieve fleet average reduction of 25%.
- Average new car CO_2 emissions should fall to 95 g/km in 2020, following a thorough assessment of this target's expected overall impact.
- Penalties will be imposed on a sliding scale; manufacturers exceeding their target by more than 3 g/km will pay €95 per excess gramme. Smaller charges between €5 and €25 for excesses of 1 – 3 g/km.
- In 2014, any weight increase in new cars will be studied. Following review, CO_2 targets may be adjusted in 2016, to be reviewed every three years.

fulfil the requirements, it is concerned by pending legislation concerning light commercial vehicles as well as for CO_2 targets for vehicles in the longer term.

Technological advances depend on a thriving auto industry and significant investment in R&D programmes. Each year, the industry spends more on R&D than any other private sector in Europe at €20 billion or 4% of turnover. However, weak demand for vehicles puts pressure on manufacturers to reduce all costs, forcing a review of R&D budgets.

The industry welcomed the €4 billion annual Clean Transport Facility fund (status quo January 2009) from the European Investment Bank. Clearly however, for a sector that invests five times as much annually in technologies that are helping find lower-carbon-emitting solutions for future vehicles, it alone is not sufficient.

In addition to car technology, the driver, choice of fuel and quality of infrastructure are decisive factors in achieving the best possible fuel economy and hence, lowest CO_2 emissions, and the industry has consistently urged that governments, fuel companies and consumers play their part in driving down CO_2 too.

Experience of the 1998 voluntary agreement shows that demand measures are critical to drive up sales of fuel-efficient models which may be more expensive in the showroom due to the additional production costs in their manufacture.

The establishing of comprehensive refuelling networks must also be a priority. As alternatively-fuelled cars and more all-electric vehicles are delivered to market, consumers must be confident they will have the necessary support to refuel them.

Fuel-efficient driving, or "eco-driving", can significantly reduce fuel consumption

THE GOLDEN RULES OF ECO-DRIVING

1. Shift into a higher gear early; leave in gear when braking
2. Maintain a steady speed at highest possible gear
3. Look ahead and anticipate traffic flow
4. Switch off the engine at short stops
5. Check and adjust the tyre pressure regularly
6. Make use of in-car fuel saving devices such as on-board computers and dynamic navigators to avoid traffic jams
7. Remove surplus weight and unused roof racks

Eco-driving training leads to long-term savings of up to 7% under everyday driving conditions.

THE ELECTRIFICATION OF THE AUTOMOBILE

Electric vehicles promise many benefits for our towns and cities, such as zero tailpipe emissions, and manufacturers are paving the way for the electrification of the automobile. However, significant investment by a variety of players will be necessary to ensure barriers to market acceptance are tackled and to realise all-electric motoring's potential.

Vehicle manufacturers will continue to work with battery suppliers on issues like energy density, durability and recharge times. They will also contribute actively to discussions on technical regulations such as standardisation of in-vehicle recharging points

Consumers must be confident in the availability and convenience of recharging facilities. A comprehensive recharging infrastructure is needed and points must be standardised across Europe.

Cleaner vehicles **incentives** should be technology neutral and based on clear environmental gains. CO_2-based taxation systems benefit electric vehicle owners with lower taxes. Concessions like reduced parking charges are also available in some cities.

Fact-based consumer campaigns should emphasise the financial and environmental benefits of all-electric motoring. However, they should also be clear on the technical and practical challenges ahead.

While electric vehicles emit no emissions in-use, CO_2 is generated at source. More **renewable electricity** generation will automatically improve the well-to-wheel advantages of electric vehicles.

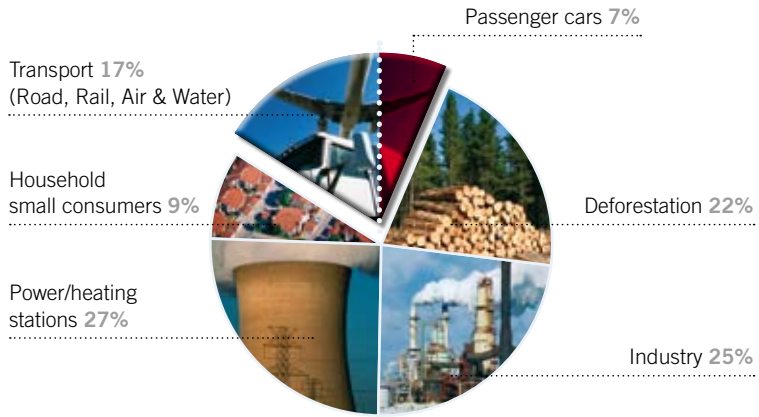
LEGISLATION FOR LIGHT COMMERCIAL VEHICLES?

Light commercial vehicles (LCVs) fulfil a variety of business functions for operators and consequently, the CO_2 emissions of LCVs may differ a lot depending on their actual use. In short, commercial vehicles cannot be simply compared to passenger cars.

Proposals to copy and paste a framework based on emission targets from passenger car legislation to LCVs are flawed and, at this difficult time, the Commission must avoid hasty deployment of new regulation. The proposed LCV CO_2 emission target of an average 175 g/km by 2012 is unrealistic. It ignores long lead-times for LCV development, as well as the damage that price increases would deliver to an already depressed market.
The European Commission estimates an average retail price increase of 10%.

Furthermore, the Commission data is not sufficiently robust to deliver a sound basis for legislation. Thorough impact assessments, enshrined in better regulation principles from the CARS 21 report, must be applied if unnecessary economic burden on industry, its customers and society is to be avoided.

OVERVIEW OF GLOBAL CO_2 EMISSIONS



SOURCE: IPCC Fourth Assessment Report, WG III, 2007. World Business Council for Sustainable Development, 2004.

COMBATING CLIMATE CHANGE – THE NEXT STEPS

The Commission has set targets for average new car CO_2 emissions of 95 g/km by 2020. Long-term targets are welcomed by manufacturers because they deliver certainty in product planning, allowing for long development cycles in the industry. However, thorough impact assessments must underpin proposals to ensure that benefits to society are delivered in the most cost-effective way.

The lessons from car CO_2 reduction targets over the last ten years must be learned. Investment in R&D, delivering new technologies as well as optimised products, remains a testament to the industry's on-going commitment. Cost-effective measures that deliver the greatest benefit to the environment must be adopted, and additional support given to a sector that will continue to innovate and invest in technology and engineering solutions.

Average car emissions below 120 g/km is possible if appropriate policy measures are put in place - and all parties are involved. A holistic and cost-effective approach that includes better infrastructure, congestion reduction measures, the supply of a sufficient infrastructure for alternative fuels and other energy sources, and a Europe-wide taxation based on use will bring great benefits to the economy, lower emissions from all road transport (not just new cars) and strength to an auto industry that continues to innovate to find technology solutions. The benefits of an integrated approach to achieve EU CO_2 reduction targets have never been in sharper focus.

WORKING TOGETHER – AN INTEGRATED APPROACH TO REDUCING CO_2 EMISSIONS

COMMERCIAL VEHICLES
THE BUSINESS OF FUEL EFFICIENCY

European manufacturers have long championed fuel efficiency, building a reputation for efficient commercial vehicles that are also safe and of the highest quality. There is a clear business case for continuous improvement, as the main operating cost for a transport company is fuel. Fuel efficiency is also key to improving the environmental performance of the vehicle.

Trucks and light commercial vehicles are crucial to the economy. They carry nearly 80% of all freight in industrialised countries and deliver around 70kg of goods to each European citizen every day. A modern truck burns around 30% less fuel than one made in the 1970s. That translates to fuel consumption of just one litre of diesel per 100 tonnekilometres, with corresponding CO_2 benefits.

CONTINUOUS INNOVATION

Innovation has delivered progress in diesel drivetrains. Now all truck makers are working on hybrid technology, which can cut fuel consumption by 15 – 20%. Many also have models capable of running on alternative fuels like bioethanol and compressed natural gas (CNG) while trials involving commercial vehicles and buses fitted with hydrogen fuel cells are taking place.

Development of telematics and fleet management bring further efficiency improvements – cutting emissions and helping boost business efficiency. Manufacturers now offer systems that can assess truck and driver performance in-use, producing reports for logistics teams back at base.

Driver training programmes, which improve skills and boost fuel efficiency, can be deployed where needed. Stop-start traffic triples fuel emissions of a truck, emphasising the environmental benefits of investment in roads and the development of an intelligent infrastructure to encourage traffic flow and prevent unnecessary hold-ups.

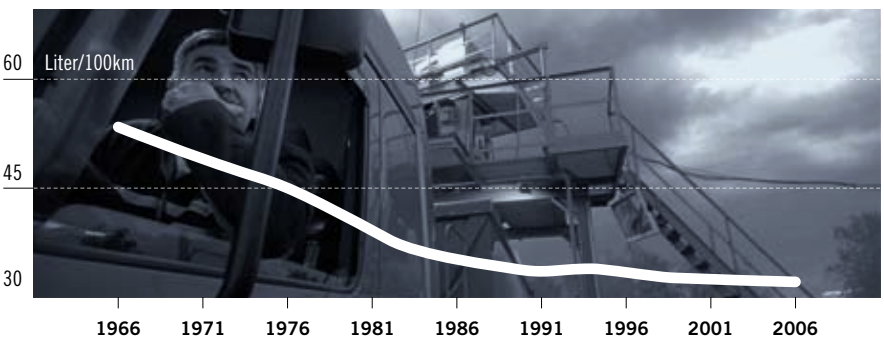
VISION 20-20

The European commercial vehicle manufacturers are striving to improve further. To underline their determination, the sector has united behind the *Vision 20-20*, announced at the Hanover motorshow in 2008. This frames technology progress with other factors and actors that will help cut CO_2.

The direct contribution from commercial vehicle manufacturers in the *Vision 20-20* is to further decrease a modern truck's fuel consumption by an average 20% per tonnekilometre by the year 2020 compared to 2005.

In addition, the industry will actively help strike a balance between mobility and environmental protection through a partnership with political leaders, the fuel industry, the hauliers, vehicle operators and, last but not least, the drivers themselves. The manufacturers' ambitious strategy fits in the EU objective to reduce overall greenhouse gas emissions by 20% towards 2020.

MODERN TRUCKS USE LESS FUEL



SOURCE: ACEA

IMPROVING AIR QUALITY

Cleaner vehicles with fewer emissions – improving air quality in towns and cities

IN BRIEF

Engine technologies and exhaust after-treatment systems have slashed pollutant emissions like particles and NOx from cars as well as busses, trucks and vans, boosting air quality in towns and cities.

Vehicle makers will continue to innovate, but demand that further exhaust emission limits be set only following a proper impact assessment that weighs the effects and costs of any new target, both for the environment and the economy. Unrealistic objectives threaten competitiveness and could have the perverse effect of damaging CO_2 reduction efforts.

More measures, like incentives for fleet renewal, should be the priority. These would result in better air quality and bring safer vehicles to Europe's roads more quickly and at overall lower cost.

Exhaust air pollutants are now a fraction of what they were two decades ago. Engine efficiency improvements and exhaust after-treatment systems have driven massive cuts in carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NOx) and particulate matter (PM) from cars and commercial vehicles.

The automobile sector supports measures to reduce road transport emissions further. However, these must be based on thorough and transparent impact assessments. The priority for regulators must be to maximise benefits to the environment, in the quickest timeframe, without damaging industry competitiveness.

EMISSION STANDARDS

Cars and commercial vehicles sold in Europe are subject to strict limits on the mass of air pollutants produced from the tailpipe. Called Euro standards, these were introduced in 1991 with Euro 0 for passenger cars and in 1992 with Euro I for commercial vehicles.

Innovation has helped meet progressively tighter targets as the rules have developed. Technologies like variable valve timing, direct fuel injection and improved engine management systems have all played a role.

So too have exhaust after-treatment systems. New diesel cars are now fitted with particulate traps to meet tough new Euro 5 standards, while many of the

INDUSTRY PROGRESS IN REDUCING EMISSIONS

- The most advanced trucks now emit 86% less NOx and 95% less particulate matter than those from the early 1990s.
- Over the past 10 years, truck exhaust emissions have reduced by 35% despite an increase in 'work done' (tonnekm) by 30%.
- It takes 100 cars produced today to emit as many polluting elements as 1 car made in the 1970s.
- Particulate matter filters can reduce particulate emissions from diesel vehicles by 99%.

Innovation has helped meet progressively higher targets

latest commercial vehicles use Selective Catalytic Reduction (SCR) in combination with a urea-based additive (one trademark is 'AdBlue') to help reduce NOx emissions.

Industry will continue to innovate and has actively participated in discussions over the latest Euro 5 and Euro 6 rules for cars and the Euro V and VI rules for commercial vehicles.

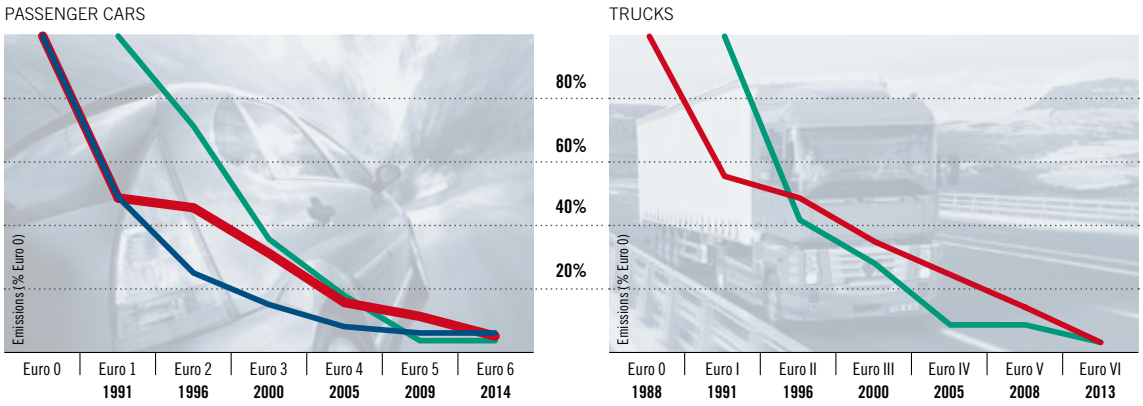
However, industry remains concerned that the Commission did not carry out proper impact assessments on the costs for industry to meet these new targets – and the price rises that new technologies would impose on vehicle buyers.

EMISSIONS AND HIGH COSTS

Auto makers believe that a lack of a robust impact assessment has led to a significant under-estimation in the costs of meeting the Euro 6 targets.
Diesel car prices, for example, are forecast to rise. In 2005, the Commission's Clean Air for Europe (CAFE) Programme suggested a €202 increase. However, an independent panel, set up by the

EVOLUTION OF EMISSION STANDARDS

SOURCE: ACEA



Many of the latest commercial vehicles use Selective Catalytic Reduction (SCR) in combination with a urea-based additive (one trademark is 'AdBlue') to help reduce NOx emissions

Commission, later forecast that the cost could be more than four times higher at €900. The Commission's figure was also based on the assumption of a fall in precious metal prices, which has already been seen to be incorrect.

The effect of a significant price increase could damage the market for fuel-efficient diesel cars and vans, particularly during the economic downturn. This could have the perverse effect of an increase in CO_2 emissions from cars and hurt the competitiveness of European manufacturers, who are technology leaders when it comes to diesel engines.

Issues like market distortion and the counter effect on European CO_2 emission targets demonstrate why a thorough and transparent impact assessment, based on realistic cost assumptions, must form the basis for any technology-led targets for vehicle manufacturers.

ENCOURAGE FLEET RENEWAL

Significant improvements in air quality will occur thanks to fleet renewal. As older cars and trucks are replaced by newer models, emissions from road transport will come down, even in the absence of the latest emission limits.

The conclusion that can be drawn is that a rapid replacement of older vehicles with newer models would contribute more to reducing emission levels than any further tightening limits. This is especially true for gasoline cars and is supported by the findings of the CAFE Programme which foresees a reduction in NOx and VOC emissions from gasoline vehicles of more than 90% by 2020, even without Euro 5. Some governments have considered imposing sales taxes for new cars. This is not the right approach. The industry believes all member states should be encouraged to take steps to accelerate fleet renewal.

Incentives to buy the latest models will drive down all emission types – CO_2 and pollutants – and bring the latest generation of safe vehicles onto European roads.

FUELLING THE FUTURE

Working together
to deliver cleaner fuels today
and future fuels tomorrow

IN BRIEF

It is essential that all fuels used in transport must be of a quality that is fit for purpose and produced in a sustainable way. Advanced ultra-clean engine and vehicle systems require compatible fuels with controlled and standard specifications to achieve their potential for low emissions, optimum performance and customer satisfaction.

Quality is a key factor. Standards for biofuel blends must be applied in a uniform way across the European internal market, as well as outside the EU. Potentially harmful additives (e.g. metallic compounds) must not be used in fuels: labelling for pumps delivering fuel that contains metallic additives is not sufficient.

Auto makers fully support European targets for fuel suppliers to reduce life-cycle greenhouse gas emissions as part of an integrated approach. They also welcome the ambitious EU target for 10% renewable energy use in road transport by 2020.

The development of clean alternative and renewable fuels, like CNG, hydrogen and biofuels, complements industry investment in greener vehicles, helping reduce CO_2 and other emissions.

In an integrated approach to reducing emissions from road transport, the supply of cleaner fuels plays an important role that complements improvements in vehicle technology. Alternative fuels help address questions that arise from finite oil reserves and security of supply.

The European automotive industry supports moves to increase the renewable energy mix and has played its part by investing heavily in technologies that deliver vehicles capable of running on cleaner fuels today.

Dual-fuel cars and commercial vehicles running on LPG (liquefied petroleum gas) or CNG (compressed natural gas) are common, as are hybrid models. Investment has also focused on flex-fuel cars that can use normal petrol or higher-blend biofuels like E85 (a mix of 85% ethanol and 15% petrol).

Manufacturer programmes to deliver electric cars have accelerated, while cars and trucks capable of running on hydrogen produced from renewable sources - emitting no CO_2 emissions from the tailpipe - are already being trialed on European roads.

Auto makers have embraced their responsibility to bring vehicles to market that run on cleaner, alternative fuels. Issues like sustainable fuel production, quality and the development of comprehensive re-fuelling infrastructure remain key to encouraging wider take-up of these vehicles.

BIOFUELS

The automotive industry is committed to the development of sustainable biofuels as part of the renewable energy mix. From 2010, all new petrol vehicles will be compatible with fuels containing a maximum 10% blend of bioethanol, while diesel vehicles will be compatible with blends containing a maximum of 7% FAME (Fatty Acid Methyl Ester). The auto industry does not support the use in its vehicles of a standard market diesel containing more than 7% FAME.

Blends of quality biofuels up to these limits, produced to international standards, have the potential to cut CO_2 emissions significantly while matching the needs and capabilities of engine and vehicle technologies. This is particularly important as manufacturers work towards ultra-clean emission standards Euro 5 and Euro 6.

BIOFUEL QUALITY

ACEA is a member of the Worldwide Fuel Charter, along with representatives of American and Japanese auto makers and global engine manufacturers. Set up in 1998, the group promotes greater understanding of the impact of fuel quality on engines, emissions and performance, and recently issued guidelines for blenders.

A prerequisite for the use of these technologies are fuels that remain free of sulphur and metals and have strictly controlled levels of other key fuel attributes like octane/cetane, volatility, stability and oxidant levels.

Hydrogen vehicles are being trialed on European roads

The industry is therefore concerned by parts of the recently adopted Fuel Quality Directive which could damage consumer acceptance of biofuels, harming biofuel quality, but which could also fragment the internal market.

The issues:

- The permitted use of metallic additives, in particular a manganese-based additive called MMT, which will cause sensitive parts like catalysts, sensors and spark plugs to fail prematurely.

- The European Parliament has agreed that diesel shall include a maximum 7% FAME content. However, member states will still be allowed to market diesel products with a FAME content greater than 7%, distorting the internal market with the potential for inconsistent fuel quality across the EU.

- Fuel pump labelling indicating the proportion of biofuel blends in petrol and diesel will not be mandatory. Auto makers fear this risks consumer confusion and loss of confidence if incorrect fuels are used in vehicles for which they are not compatible.

FOR CONSUMERS

Support for cleaner fuel development by government and the fuel industry helps drive manufacturer investment programmes. However, it is clear that consumers too must be confident in the cleaner fuels for their vehicles.

The auto sector maintains that cleaner fuels must provide a performance that consumers expect, while helping reduce emissions. Engines must continue to run cleanly and not be susceptible to premature component failures. Convenience is also key. Standard fuels must be widely available across filling stations in the EU and be clearly labelled at the pump as manufactured to strict quality standards, and suitable for their vehicles.

TOWARDS SECOND-GENERATION BIOFUELS

The auto industry supports the sustainable production of biofuels. There are many considerations in sustainable biofuel production. However, it is clear that reduced greenhouse gas emissions from production and use cycle must be achieved.

European auto makers conduct research on all alternative fuels, including second-generation biofuels, both individually and through their European Research Council EUCAR. EUCAR has established a working group on fuels, and contributed to the well-to-wheel analysis of biofuels, assessing overall emissions including production and consumption.

Second-generation biofuels, for example BTL (biomass to liquid) or HVOs (hydrogenated vegetable oils), can further reduce CO_2 emissions. They are refined to essentially be hydrocarbons, similar in nature to oil-based hydrocarbons (petrol and diesel) but produced mainly from non-food crops, wood and agricultural waste.

They are expected to be more compatible with all engines and to result in higher greenhouse gas savings. When produced from agricultural waste, second-generation biofuels avoid the need for additional land and potential clearing of CO_2-absorbing forests or wetlands. Issues concerning the production and use of fertilisers to support crop growth are also avoided.

Research on new future fuels is crucial. However, first-generation biofuels need not be ruled out if the right sustainability criteria and robust technical standards are applied. These fuels serve as stepping stone towards newer generations, and will help ensure the coming about of the necessary fuel infrastructure as well as a sufficiently large market place.

VEHICLE PRODUCTION AND RECYCLING

A prime example of industry progress

Recycling is a priority for both the EU and automotive industry. As producers, car makers acknowledge their responsibility to deliver sustainable products from cradle-to-grave and are proud to report major progress towards this goal.

Estimates suggest between 2 and 5% of total car CO_2 emissions are generated during the recycling phase of a car's life. Only a very limited amount of waste to landfill still comes from the automotive sector, although around 8 million vehicles reach the end of their lives each year.

Through a combination of innovation in recycling and recovery technology, material management and information systems that are unique among manufacturing industries, the industry can demonstrate reusability and recovery rates requested by legislation, leading to reduced waste-to-landfill and improved car recyclability.

Manufacturers have cut content for the four heavy metals - mercury, cadmium, chromium (VI), and lead. Chromium (VI) and cadmium have been eliminated entirely; remaining mercury amounts - which are due to be phased-out - are already negligible. Lead applications like solder, for which there is no technical alternative, amount to just a few grammes in each vehicle.

END-OF-LIFE VEHICLE RULES

The End-of-Life Vehicle Directive and Directive on Reusability, Recyclability and Recoverability of motor vehicles set new requirements for vehicle recycling. Today, new vehicles must demonstrate reusability and/or recyclability of at least 85%, and reusability and/or recoverability of at least 95% by weight, if measured against the international standard ISO 22620.

Auto makers support the principle of producer responsibility, but also their role in helping consumers recycle end-of-life vehicles.

However, recycling remains an issue for which the contributions of all stakeholders should be considered. Product is the industry's core competence; an integrated approach, working with the recycling industry, legislators, and customers, is the best way to ensure continued progress in vehicle recycling.

A CASE FOR SIMPLIFICATION

Car manufacturers face a major challenge, balancing goals in recyclability with targets in other areas including CO_2 reduction, improved safety and reliability, while making sure vehicles remain affordable for the customer.

IN BRIEF

Responsible manufacturers take a holistic view when considering opportunities to recycle and recover material at the end of a product's life. This forms part of a sustainable manufacturing strategy and the car sector has embraced this cradle-to-grave approach.

The automotive industry has invested in the development and use of innovative, sustainable materials in vehicle manufacturing. It has cut down on harmful material content and the use of heavy metals: it has increased what can be recovered and recycled at the end of a vehicle's life and reduced waste to landfill.

In partnership with the recycling industry, car makers have also set up national networks in European member states and guided dismantlers in de-pollution and recycling procedures. These now provide consumers with a convenient and cost-free means to return their vehicles.

However, the rules governing car recycling have proved complex and inflexible. The End-of-Life Vehicle Directive is a clear test case where better regulation principles, espoused by the High Level CARS 21 group, should be applied. Simplification and harmonisation with other legislation must be the goal.

Based on past experience, car manufacturers stress that the End-of-Life Vehicle Directive is not a positive example of regulation. The auto industry believes it should be used as a test case for better regulation.

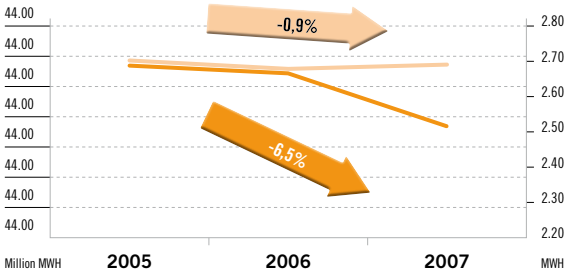
The current rules are sector-specific, inflexible, partly contradictory, and overlap with other regulations. Regulatory targets that do not generate cost-effective environmental gains must be reviewed. Sector specific material restrictions are also unacceptable. Finally, the industry stresses that product-focused rules should be identical across the EU to maintain the integrity of the single market.

PRODUCTION: CAR MAKERS REDUCE ENVIRONMENTAL IMPACT

European auto manufacturers have significantly reduced the environmental impact of vehicle production in recent years. Per unit produced, energy consumption, CO_2 emissions, waste, water use and VOC emissions have all decreased. At industry level, results are also influenced by the number of vehicles produced. In most cases, however, thanks to increased environmental efficiency, the rise in vehicle production from 2005 to 2007 was accompanied by a reduction of absolute emissions and consumption at the industry level, too. The figures concern passenger car manufacturing at production sites in the EU27.

ENERGY CONSUMPTION

SOURCE: ACEA

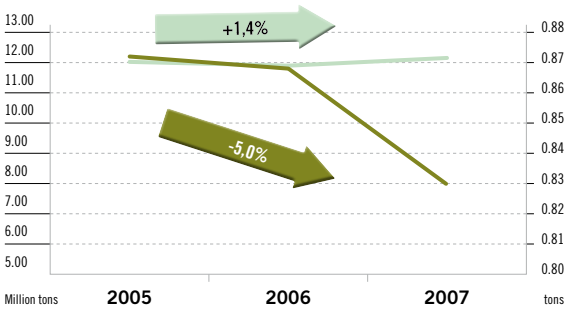


As cars are equipped with more and more features to make them safer and more environmentally-friendly, the complexity of production increases as well, with negative effects on energy demand. However, manufacturers constantly work on improving energy efficiency. As a result, energy consumption per vehicle produced has decreased by 6.5%.

NOTE The figures include direct and indirect energy consumption, i.e. from on-site and external energy suppliers.

CO_2 EMISSIONS

SOURCE: ACEA

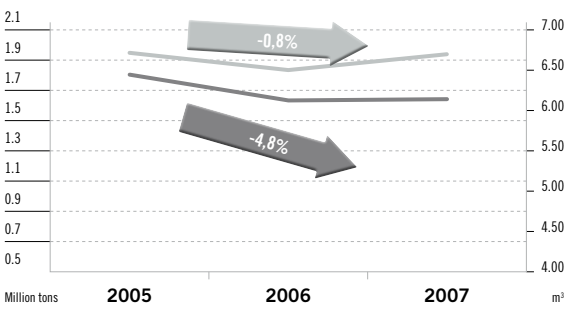


CO_2 emissions per vehicle produced decreased by 5%, mostly through efficiency increases, and somewhat helped by a warm winter in 2007. Differences in the trends on energy consumption (previous graph) and CO_2 emissions have to do with changes in the energy mix available at the different production sites.

NOTE As for energy, the figures include direct and indirect emissions, i.e. from on-site and external energy suppliers.

WASTE (excluding scrap metal)

SOURCE: ACEA



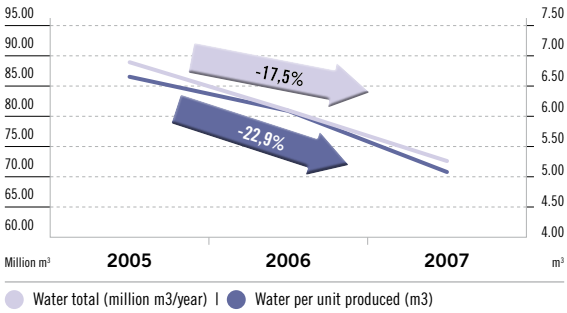
The amount of waste per vehicle went down 4.8%, thanks to efforts by the manufacturers to reduce waste.

NOTE Scrap metal, which is recycled and then used as a secondary raw material, is not included.

European auto manufacturers have significantly reduced the environmental impact of vehicle production in recent years

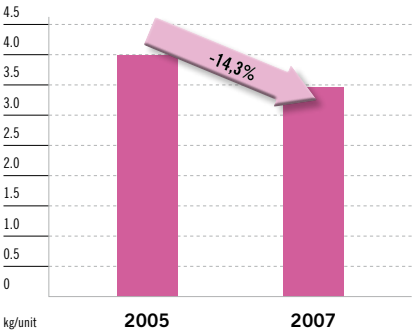
WATER USED

SOURCE: ACEA



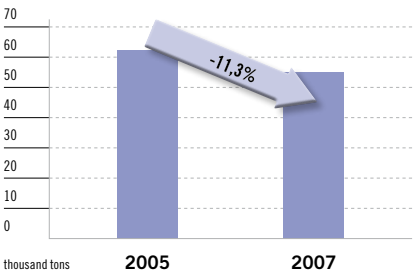
Long-term strategies to reduce water consumption have made it possible to reduce the water use per car produced by almost 23%. This includes the increasing use of re-circulation technologies, which allows the reuse of water.

VOC EMISSIONS PER VEHICLE PRODUCED



ABSOLUTE VOC EMISSIONS

SOURCE: ACEA



Volatile Organic Compounds (VOC) are organic solvents mainly emitted from paintshops. The graph shows the VOC emissions per car produced and the emissions of all passenger car manufacturers taken together. With new technologies such as water-based paints that replace solvent-based paints, manufacturers have been able to reduce emissions by 14.3% per vehicle.

MOBILITY

Cars and commercial vehicles fuel the economy and support modern lifestyles. They provide unprecedented personal mobility and deliver the goods and services we take for granted in our homes, offices and schools. Driving economic prosperity through a framework of cleaner, safer transport is possible. However partnership is key; all stakeholders must be prepared to embrace the challenge and work together to find cost-effective solutions.

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SUSTAINABLE MOBILITY

- Mobility and transport are the lifeblood of modern society.
- Sustainable mobility means moving people and goods in the most efficient and safe way, with limited impact on the environment.
- Improved road traffic flow, inter-connected transport networks, cleaner vehicles and fuels, and educated operators and consumers are all pieces in the sustainable mobility jigsaw puzzle.

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ROAD SAFETY

- Over the last 30 years, passive safety measures and new active vehicle technologies have helped halve the number of deaths on European roads, despite a three-fold increase in traffic.
- Further technological progress with complementary Intelligent Transport Systems (ITS) measures, improved driver training, better road design and enforcement of existing traffic regulations promise safer roads for all.
- Road safety policy must take account of rigorous impact assessments in delivering cost-effective accident reduction targets.
- As part of an integrated approach, the EuroRAP road assessment programme and the “Choose ESC” awareness campaigns are supported by the industry.

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EUROPEAN TRANSPORT POLICY

- Four in every five land journeys in Europe are made by car; over 70% of freight is moved by trucks and light commercial vehicles.
- Roads are the veins of Europe through which economic prosperity flows. The EU needs a transport policy that enshrines road transport in a comprehensive approach to sustainable growth.
- Vehicles generate €378 billion in tax revenues each year or 4.1% of EU GDP; investment in road infrastructure, however, has fallen from 1.5% of GDP in the 1980s to less than 1% today.
- Intelligent Transport Systems (ITS) offer great potential for the future; but only collective action from all stakeholders will address issues like costs, development of an infrastructure, behavioural measures and customer acceptance.

SUSTAINABLE MOBILITY

Ensuring cleaner, safer and inter-connected transport systems

Motor vehicles deliver what we take for granted in modern society. Today, four in every five land journeys are made by car. In industrialised countries, 71% of freight is moved by trucks and light commercial vehicles bringing us the things we rely on daily, from food and clothes to fuel and office supplies.

Despite the economic downturn, demand for personal mobility and transport of goods will grow globally. That presents opportunities for European auto makers. However, as traffic grows here and outside the EU, it also brings into sharp focus a set of challenges.

Further urbanisation, environment protection, road safety and responsible use of resources; these are just some of the issues that must be tackled as we move into the second decade of the 21st century and beyond.

SUSTAINABLE MOBILITY

The auto sector is committed to a model of sustainable mobility. Investments in cleaner, safer vehicles and production processes have already delivered progress. But in the years ahead, a more collaborative approach will be necessary to build on the industry's lead.

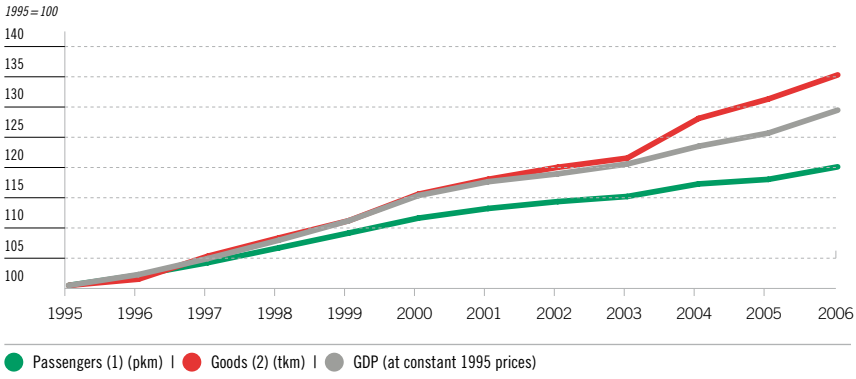
Thanks to initiatives like CARS 21, more stakeholders are aware that sustainable mobility is not just a question of regulating the automotive industry. It's a model in which multiple players have a role, and all must work together to bring solutions that deliver maximum benefits to society, but protect European jobs by imposing minimum costs on industry.

A cleaner environment, better safety and improved social responsibility are possible in this vision for the future. However, like a jigsaw, a complete picture cannot emerge unless all the pieces are present and joined together properly.

TRANSPORT GENERATES ECONOMIC GROWTH AND VICE VERSA

SOURCE: DGTREN

Passengers, Goods, GDP



IN BRIEF

Sustainable mobility is a goal for European auto makers, not just an aspiration. However, it is clear that a model of sustainable mobility cannot emerge from technology alone. A little like a jigsaw, there are many pieces that must be joined together to form a complete picture.

The automotive sector recognises its role. Investments in vehicle technology, intelligent transport systems and cleaner production processes have already played a significant part in cutting emissions and improving safety.

However, it is clear that the interdependent challenges of matching economic growth with environmental improvements and improved social responsibility can only be fully realised through a more collaborative approach.

Governments, fuel companies, associated industries and end users must also play their part. Working together, we can continue to enjoy the benefits of personal mobility and the economic prosperity that vehicles bring, while pursuing solutions that minimise the cost of motoring to society and the environment.

WHAT ARE THE CHALLENGES?

- Sustainable mobility is about moving people and goods across Europe in the most efficient way, cutting emissions and saving fuel. That means access to the most appropriate transport mode or modes and investing in the technology, infrastructure and management systems that encourage free movement.
- It means improving road safety by building on investment in vehicle technology, focusing on better road design, improved driver education and strong enforcement by the authorities.
- Sustainable mobility is about ensuring consumers have real choices, but also encouraging them to buy the most suitable vehicle for their needs and educating them in eco-driving techniques to cut unnecessary pollution and save money.
- In the manufacture of vehicles, it means finding more sustainable materials in vehicle manufacturing, improving logistics in the supply chain to cut unnecessary waste, and designing more parts to be recycled at the end of their lives rather than being sent to landfill.
- Crucially, during these times of economic recession, sustainable mobility means designing a regulatory framework that allows Europe's vibrant auto industry to go on innovating and delivering the technologies and low-emission vehicles for a sustainable future.

AN INTERDEPENDENT MODEL

The motor industry has a key role to play in the sustainable mobility model. It invests €20 billion in R&D each year to deliver technology, production processes and the responsible working practices that society demands.

However, sustainable mobility cannot be about assigning responsibility to one party alone. Multiple players are involved in this vision for the future.

Government has a key role to play. Tax breaks will help consumers choose the cleanest new vehicles, facilitating fleet renewal. CO_2-based taxes will encourage responsible use.

Outside the auto sector, governments must work with the energy industry to bring the cleanest fuels to market. That includes sustainable biofuels, LPG and CNG, and new technologies like GTL (gas to liquids).

Crucially, it also means ensuring quality standards are not compromised.

Freely flowing traffic is one of the most important measures to cut unnecessary road transport emissions. Investment in infrastructure is therefore paramount. Well-designed roads and traffic management systems help cut accidents and lower CO_2 and other harmful pollutants.

Finally, the individual has an important role to play, both private motorists and commercial vehicle drivers. Their responsibility is everyone's responsibility.

A joined-up approach, in which the role of others is neither ignored nor underplayed and in which the motor industry recognises its key role, can deliver a model of sustainable mobility for the future. The European auto industry is committed to this goal.

ROAD SAFETY

Delivering vehicles, policy goals and partnerships to make roads safer for all

IN BRIEF

In the last 30 years, Europe's roads have become far safer despite a three-fold increase in traffic. Huge investment in vehicle design and technology has driven down fatalities, and safety remains central to automotive product development plans. Making sure older vehicles are replaced with the latest generation of safer, more efficient models, is one way to deliver further progress.

Vehicle occupant and pedestrian protection is already of an extremely high standard. Crash mitigation technologies are at a mature level and accident avoidance/mitigation systems can make a further contribution to the reduction of severe accidents on European roads.

Manufacturers are currently investigating technologies that allow vehicles to communicate with each other and their surrounding infrastructure. Intelligent information and Communication Technologies (ICT) and Intelligent Transport Systems (ITS) will be key to the realisation of what is sometimes called full traveller connectivity.

Industry will work to ensure that applications and services are delivered on complementary platforms, a goal that will require close cooperation between the automobile industry, governments and other stakeholders.

This type of integrated approach, in which all stakeholders play their part, should be reflected in wider policy on road safety. As the High Level CARS 21 group reported, technology, driver education, road traffic law enforcement and improved infrastructure are equally important areas for focus.

The industry will continue to make the case for an integrated approach in consultation with the Commission on its fourth Road Safety Action Plan.

Reducing fatalities and injuries on Europe's roads is part of any sustainable mobility model. Thanks to investment by auto makers and other stakeholders, significant progress has been achieved. In the last 30 years, vehicle technology has helped halve the number of deaths, despite a three-fold increase in traffic volumes on European roads. A commitment to road safety remains central to all vehicle makers' development plans.

However, safety is a shared societal responsibility underlined by the fact that 95% of all accidents are caused by driver error, such as poor anticipation, inappropriate reaction to a hazard and violation of road traffic laws. Combining further improvements in vehicle technology with complementary ITS measures, improved driver training, better road design and enforcement of existing traffic regulations promise the greatest benefits to society.

The industry will continue to call for an integrated approach to road safety in its consultation on the Commission's Fourth[th] Road Safety Action Plan. This will set a ten-year policy framework, commencing 2010.

A mutual concern for the industry and the Commission is a trend towards rising fatalities in new member states. Measures to drive fleet renewal, like scrap schemes, are to be encouraged since the average

THE SAFETY TRIANGLE

age of cars in some countries can be up to 14 years. Replacing less safe older cars from the fleet will help.
So too will improvements in infrastructure, enforcement and driver education.

AUTO MAKERS' JOURNEY

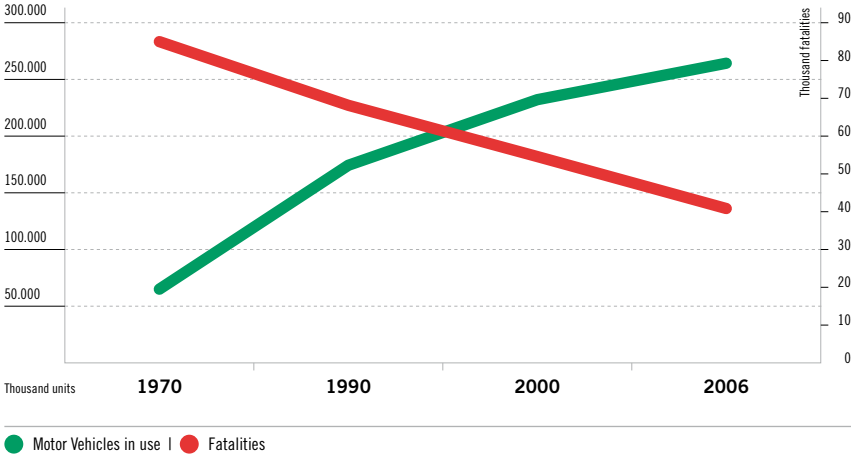
Passive safety systems have played a major role in casualty reduction. Technologies and design measures that limit the effect of a crash may be taken for granted today, but without improvements, like pre-tensioned seatbelts, airbags and curtains, and energy-absorbing crumple zones, the death toll on roads would be far greater.
Most vehicles now gain a maximum 5-star rating on EuroNCAP crash tests and passive safety is reaching a level of maturity. More recently, attention has turned from occupants to vulnerable road users like pedestrians and cyclists, with improvements in front-end design such as softer bonnets or collapsible mirrors.
Research and development in active safety has also increased. Technologies designed to prevent an accident taking place, rather than mitigating its effect, like ABS, ESC and seatbelt reminders, are widely fitted as standard to today's cars and commercial vehicles.

Systems referred to as ADAS (Advanced Driver Assistant Systems) are also increasingly common. These use sensors, radar and video imaging to monitor the surroundings of the vehicle; blind spot monitoring, ACC (active cruise control) and lane departure warnings are examples in-use today.

Wearing seatbelts remains a most important habit to adopt

ON THE WAY TO ROAD SAFETY

SOURCE: International Transport Forum



ALERT WITH ECALL
A JOINED-UP APPROACH TO SAFETY

Auto makers were among the very first to sign the Memorandum of Understanding for eCall, the system where a vehicle automatically alerts emergency services to the location of an accident.

eCall is a clear example of how different stakeholders must work towards the same objective in a coordinated way. It makes no sense, for example, to have eCall functionality in a vehicle when there is no infrastructure available to answer a distress call.

From the outset, auto makers have stressed the active role that member states, emergency service providers and other stakeholders, like mobile network providers, play.

It is also important that industry gets a lead-time of at least three years after standards have been fixed, as developing new vehicles takes many years to accomplish. Only then, eCall functionality can be offered for all new type-approved vehicles.

Delays outside control of the industry mean that standardisation will probably only be finalised by the end of 2009. It will then be up to member states to start the process of upgrading the necessary emergency service infrastructure to deliver the eCall concept.

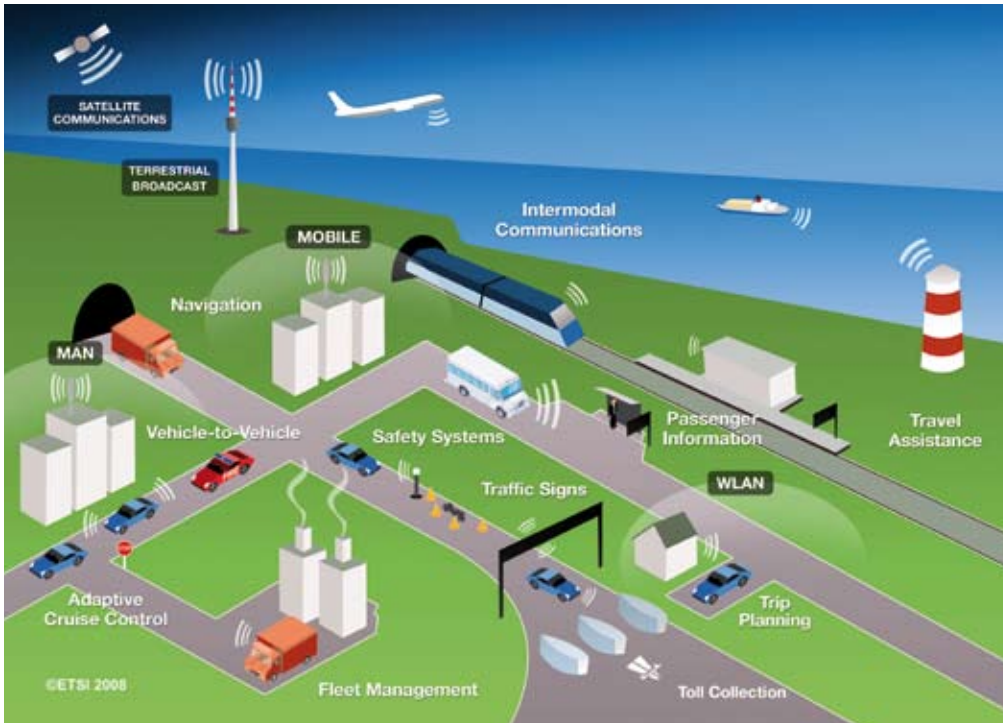
THE ROAD AHEAD - ICT AND ITS

In the years ahead, further technological breakthrough will come through interaction between driver, vehicle and the environment. Successfully implementing these Intelligent Communication Technologies (ICT) will play a major role in driving casualties down further, and the automobile industry is working to make this happen.

However, a collaborative approach is necessary to support an interface with in-vehicle safety systems to exchange information and reinforce operational strategies. ACEA will actively contribute to the Commission's ITS Action Plan and will work to address issues such as the need for a user-friendly human-machine interface (HMI), as well as matters relating to privacy and driver liability. Innovation, creativity and competition will deliver progress in ICT and ITS. Manufacturers support standardisation where it makes sense and where products and service are mature enough to generate a larger market. However, regulations must be considered on a case-by-case basis and subject to rigorous impact assessments.

INTELLIGENT TRANSPORT IS A KEY DEVELOPMENT

SOURCE: European Telecommunications Standards Institute



EDUCATION AND ENFORCEMENT

Since the 1960s, commercial vehicle makers have offered courses that encourage eco-friendly, safe driving. Today, manufacturers deliver a wide range of training programmes promoting best practice such as anticipatory driving style and the importance of vehicle maintenance. Commercial vehicle operators are also required to undergo professional competence assessments every five years.

For many car owners however, learning to drive may be their only training in a lifetime of motoring. Inappropriate speed, alcohol and drug misuse, driving while tired and not wearing seatbelts might be some of the dangerous habits motorists adopt with insufficient targeting on education, training and enforcement.

ACEA welcomes the fact that more employers are embracing their responsibilities to encourage on-going driver training.

CONSUMER CAMPAIGNS

The industry is an active participant in the "Choose ESC" campaign, which creates awareness and understanding of the benefits of specifying the skid-prevention technology. More than 50% of new cars now come fitted with ESC as standard, and that number will continue to rise at steady pace.

Affordability is particularly important for consumers facing economic pressures at home, and additional electronic safety equipment often competes with comfort features for limited budgets.

It is important that buyers consider all the features of a car that best protect their families. The industry has therefore welcomed steps by the European safety consortium EuroNCAP to include ESC fitment in safety ratings for new cars, the first active safety system to be measured by the group.

ROAD INFRASTRUCTURE

ACEA is a strong supporter of the EuroRAP road assessment programme. As part of an integrated approach to accident reduction, improvements in design, construction and maintenance of roads are key.

Issues like bottlenecks, blind corners, inappropriate speed limits and poor lighting, all affect safety. Unfortunately, in previous road safety strategy, the European Commission has tended to overlook essential infrastructure measures such as audits, impact assessments and safety mappings.

Manufacturers also point to the wealth of information available at local level, which urgently needs to be shared with digital map providers to fast improve the road safety database. On and off-board navigation systems, for example, could then include more reliable geo-referenced road speed data for drivers.

EUROPEAN TRANSPORT POLICY

Roads continue to deliver – policy objectives must credit economic growth, social welfare as well as environmental protection

The automobile industry is giving active input to the new revision of Europe's Transport Policy, expected to be defined in the next Commission's term. Manufacturers welcome that the Commission has timely started the preparation of this review, ahead of the expiring of the ten-year scope of the 2001 White Paper.

One of the fundamental tenets of the 2001 Transport White Paper was the concept of modal shift, the idea that modes other than road transport should be encouraged for the sake of the environment. It also promoted de-coupling road transport from economic growth. Both concepts turned out to be insufficient as a basis for a workable transport policy.

IN BRIEF

The road transport sector is both the lifeblood of and a major contributor to the European economy. Road transport fulfils the overwhelming majority of transport needs for companies and individuals, delivering the goods we take for granted in our homes and workplaces, and the services upon which the business community relies.

Transport Policy concerns the regulatory frameworks that affect the use of transport modes, be they road, sea, air or rail, rather than rules that prescribe product design or technology. European Transport Policy was developed as a consequence of the emergence of a single market in the 1990s and framed around the three pillars of sustainability: economic growth, social welfare and environmental protection.

However, from the outset goals of economic growth and competitiveness – foundations of the Lisbon Strategy – were taken too much for granted, as if not in need for further development and improvement. It remains important to redress the imbalance. At this challenging time, auto makers continue to reiterate the imperative of economic growth and social development when framing new Transport Policy proposals.

Europe's roads are like veins through which economic activity flows. Yet, in the past, policy makers have been neglecting the health of this vital network. Congestion, bottlenecks and massive underinvestment in road transport infrastructure have conspired to hinder competitiveness, while undermining progress towards wider environmental goals and safety objectives.

IMPROVING EFFICIENCY

The Commission's mid-term review, presented in 2006, served the development of a better basis for Europe's Transport Policy. In particular, it acknowledged that transport must be considered within an overarching framework of sustainable economic growth, and that all transport modes must improve efficiency as well as working together.

It presented co-modality, a more positive basis for future policy than modal shift, and revised the concept of de-coupling transport from economic growth. This represented a step in the right direction, acknowledging the importance of road transport to Europe's economic prosperity. ACEA is now closely monitoring the implementation of more specific policy measures, in particular the Commission's Greening Transport Package adopted in July 2008.

ACEA encourages underpinning future policy objectives on sound assessments of their possible impact, and to base scenarios and assumptions on scientific data. The auto industry also urges the early consultation with all relevant stakeholders involved and to make use of their expert knowledge.

THE ROAD AHEAD

In its 2006 revision and in the upcoming review of the White Paper, the Commission has clearly opened the way for a more realistic approach to transport policy. However, the EU must now decisively move towards a transport policy based on efficiency rather than modes.

The industry remains concerned by the often implicit but persistent preconceptions about road transport, which can lead to unrealistic and ineffective policy objectives and measures. One example is the widespread belief that some modes are by default better from an environmental point of view than others.

The reality is different, as this depends to a great extent on the utilisation of a mode's maximum capacity. This, in turn, depends on the volume and the weight of transported goods, the need for loading and unloading, the density of its network, the source of energy, the energy need from a loaded vehicle compared with when unloaded and specific needs of the commodity to be transported.

MODES AND MEANS OF TRANSPORT COMPLEMENT EACH OTHER

Another common perception is that all modes of transport compete with each other. Fact is that some modes are in competition for transport of certain commodities but that, in general, modes serve the economy in a complementary way.

One way of identifying which modes compete, is to look at the value of the goods that are transported by the different modes. Existing analyses of transport within the EU demonstrate that the value of the goods is an important criteria for the selection of the mode to be used by the customer.

Europe must modernise its infrastructure

A closer look at passenger transport, furthermore, shows that individual and collective transport offer different services and therefore fulfil different needs. They are not, as too often assumed, communicating vessels. Public transport plays without any doubt a crucial supportive role, mainly on mainstream routes. Its role can be enhanced if its service is further adapted to the needs of its users (comfort, flexibility, modal integration, etc.).

A forced modal shift policy based on traffic restrictions and increased costs for individual transport will lead to a high loss of welfare without the expected benefits for mobility and quality of life. Regarding public transport, the European Commission should investigate the various market obstacles, promote full and open access to operators and press for competition in the sector.

NEED FOR INVESTMENTS

In addition, the decline in investment in infrastructure, which has fallen from 1.5% of GDP in the 1980s to less than 1% today, must be reversed. The auto sector generates more than €378 billion in tax revenues each year. Europe should be funding key transport projects that will not only modernise Europe's infrastructure, but will also help reduce negative environmental impacts and will create millions of jobs by improving existing and developing smarter new infrastructure, especially roads.

Europe should not be lagging behind other leading economies: it needs more Community funding for key transport projects.

PROFILE OF THE ROAD TRANSPORT SECTOR

- 580,000 haulage companies
- 95% with fewer than 10 employees
- Cabotage – 1.2% of total national road transport
- 280,000 passenger transport companies
- 500 billion passenger-km by bus and coach annually

IN THE SPOTLIGHT

1

CHARGING

Part of the Greening Transport Package included a communication on the Strategy for Internalisation of External Costs. This introduced the concept of charging as an effective means of regulating traffic flow and influencing modal spread. Auto makers have questioned evidence that road pricing would improve European competitiveness and auto makers believe the methodology used to calculate costs that would apply to users is highly insufficient.

The proposal continues to place a disproportionate burden on road transport and does not include a cost-benefit analysis comparing internalisation of external costs with other strategies.

The auto sector believes that, if charging is to be considered as part of long-term Transport Policy, it must be applied to all transport modes. Double charging must be avoided. Fairness and transparency are basic principles to be respected. Charging systems must also be simple and revenue neutral with funds hypothecated to reduce the external cost for which the charge has been applied. Cross-subsidisation, where revenues from road transport are used to support other transport modes, is unacceptable.

2

LOGISTICS

The development of transport logistics is broadly a matter for industry which strives to reduce costs and improve efficiency. Commercial, technical, operational and institutional problems must be addressed within the context of different markets.

However, ACEA members argue that some steps can be taken by the Commission to promote better logistics and cut unnecessary emissions, including thorough impact assessments of the potential for measures.

Further promotion of the modular concept – which would involve increasing permitted goods' vehicle weights and dimensions - would have an immediate positive effect on transport efficiency, road safety and the environment. It would also move Europe closer toward inter-modal road-rail transport solutions.

TRANSPORT EFFICIENCY IS ALSO: PICKING THE MOST APPROPRIATE VEHICLE FOR THE JOB

SOURCE: VOLVO

GCW/GVW* tonne	Load Capacity tonne	Distance km	Fuel Consumption l/100km	tonnekm	l/1000tonnekm at 100% utilisation	normal utilisation	l/1000tonnekm considering normal utilisation
LONG DISTANCE							
26	17	100	25	1700	14.7	70%	21.0
40	25	100	32	2500	12.8	70%	18.3
60	40	100	43	4000	10.8	70%	15.4
URBAN DISTRIBUTION							
3.5	1.5	100	12	150	80.0	45%	177.8
7.5	4	100	15	400	37.5	45%	83.3
12	7.2	100	19	720	26.4	45%	58.6
18	11	100	22	1100	20.0	45%	44.4

*Gross Combination Weight (Long Distance) / Gross Vehicle Weight (Urban Distribution)

3

INTELLIGENT TRANSPORT SYSTEMS (ITS)

ACEA members will actively contribute to the policy objectives behind the Intelligent Transport Systems Action Plan which was approved by the Commission in December 2008. It aims to accelerate and coordinate the deployment of ITS in road transport, including interfaces with other transport modes.

Intelligent Information and Communication Technologies form the basis for both intelligent infrastructure and intelligent vehicles, and have the potential to make road transport cleaner, smarter and safer. An integrated approach, that involves all stakeholders, is key since full connectivity will rely on networked systems and partnerships.

The ITS Action Plan highlighted a number of important applications including better travel and traffic information, optimisation of commercial freight and better fleet management, road safety and security, cooperative systems like vehicle-to-vehicle and vehicle-to-infrastructure. ACEA members will play a major role in bringing such projects forward and participating in the ITS Advisory Group.

In each of these areas, the industry will pursue basic principles of competitiveness. Progress will depend upon political will and collective effort from all stakeholders.

Market penetration of new systems is low and questions, like investment in set-up costs and technological deployment across the vehicle fleet, will have to be addressed. Legal issues, data protection and public acceptance must also be considered.

The industry supports the European Statement of Principles (ESOP) for safe integration as a voluntary approach but does not see the need for a regulatory framework on a safe on-board Human-Machine-Interface (HMI). Market driven, technology-leading systems, like ESC and ACC, have already been introduced and deliver competitive advantage without the need for regulation.

Efforts to fast-track new regulation in the field of ITS are particularly unwelcome at this challenging time, raising the spectre of unnecessary costs for industry and price increases for consumers.

4

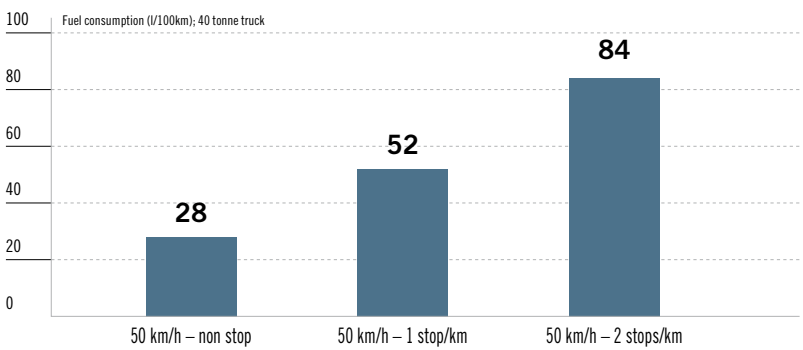
URBAN TRANSPORT

Answers to urban transport questions are local not national responsibilities, due to the diversity of policy responsibility, administrative structures and financial responsibilities. The industry is not clear that policy focus at European level adds value, and the Commission must recognise the issue of subsidiarity.

While currently awaiting a Commission Action Plan, ACEA members argue that traffic measures can be applied to local issues without resort to complicated and expensive access restriction measures and congestion charging. These can damage businesses and affect quality of life for residents. Vehicles are least efficient when stuck in a traffic jam or when stand unnecessarily at a red light, and the priority should be the optimisation of traffic flows.

TRAFFIC CONGESTION INCREASES FUEL CONSUMPTION

SOURCE: VDA



COMPETITIVENESS

The automotive sector in Europe is highly competitive, supporting 12 million jobs, contributing significantly to economic prosperity. It supplies quality products worldwide and invests more in R&D than any other sector. Steps must be taken to ensure it emerges with strength from the economic downturn, ready to take advantage of market growth.

48

MARKET AND ECONOMY

- The automobile industry supports over 2 million jobs directly in vehicle manufacturing and component supply; 10 million more are employed in the wider supply chain and areas like insurance, marketing, service and repair.
- Manufacturers invest €20 billion annually in R&D, working to bring cleaner, safer vehicles to global markets.
- The economic downturn has severely damaged vehicle demand and access to finance. Jobs in Europe have been lost, production bases threatened and budgets constrained.
- Supporting automotive through the crisis is essential for economic prosperity, but also to sustain the development of innovative environmental and safety technologies.

53

INNOVATION, RESEARCH & DEVELOPMENT

- The automotive sector is Europe's largest private investor in R&D. Each year, €20 billion is invested by the industry, or 4% of its turnover.
- R&D delivers the technologies that are driving down road casualties and improving vehicle and environmental performance.
- It takes ample time for R&D potential to become production reality; bringing ready technologies to market is yet another step.
- The recession has placed enormous pressure on R&D budgets. Support is needed to ensure that the safety and environmental technologies of tomorrow are not delayed by financial shortfalls today.

58

INTERNATIONAL TRADE

- The automotive sector generates exports with a €42.8 billion net trade contribution to the European economy.
- Opportunities to develop trade opportunities abroad should be pursued. Manufacturers support steps to remove import tariffs and non-tariff barriers.
- In the absence of global trade agreements, it is important that the EU pursues bilateral and regional agreements.
- Thorough impact assessments must underpin any deal. Agreements that bring opportunities to importers but little benefit to EU manufacturers cannot be allowed.

MARKET AND ECONOMY

A rapid dowturn in 2008 and 2009 – upswing in 2010?

Europe relies on a strong automotive sector. Further financial and economic pressure on the sector will affect the European economy as a whole; 2.2 million people are employed directly in automotive manufacturing; an additional 9.8 million rely on it for their jobs in closely related sectors.

The real multiplier, in terms of employment in the wider economy, is still higher. ACEA members generate a turnover of €551 billion, and total industry exports are worth €77 billion. Around €378 billion in taxes come from vehicles, reinforcing the sector's reputation as the engine room of Europe.

VEHICLE PRODUCTION

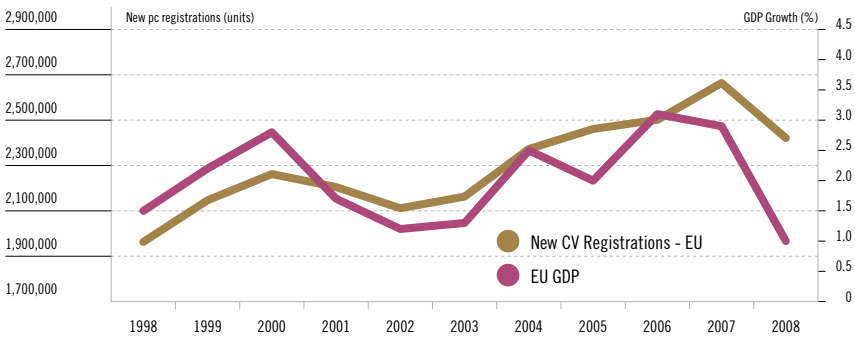
In 2008, 18.4 million vehicles were made in Europe, 7% fewer than the 19.7 million produced in 2007. Of the five major vehicle producing countries, Italy reported the worst decline (-20.3%), followed by France (-14.9%), Spain (-12%), the UK (-5.8%) and Germany (-2.8%).

Car production fell 7%, from 17.1 to 15.9 million units. Output in Austria fell most dramatically (-37.3%), followed by Italy (-27.6%) and Finland (-25%). New member states, which account for 18% of EU production fared better; Poland and Hungary reported output increases of 20.9% and 18.9% respectively.

Van and truck production reflected a dramatic decline in the economy in the final quarter. From January to June 2008, light commercial vehicle production had risen 6.5%; by quarter four, it crashed 7% or 138,481 units. Heavy truck production also rose in quarter two by 15%, only to fall 20% from September to December. Bus and coach production reported growth in output last year, rising 7%, however markets showed signs of faltering by December.

NEW COMMERCIAL VEHICLE REGISTRATIONS AND GDP GROWTH IN THE EU | 1998 - 2008

SOURCE: Eurostat / ACEA / AAA



IN BRIEF

ACEA data covering 2008 reveal a heavy impact of the financial and economic crisis on Europe's passenger car and commercial vehicle manufacturers.

Production and demand for vehicles, which had grown in 2007, began to dip in the first half of 2008, at first because of a rise in oil prices, then as a consequence of a more general slowdown. By the beginning of the third quarter, as the credit crunch hit internationally and the European economy slipped into reverse, a steeper decline began. This accelerated in a turbulent final three months.

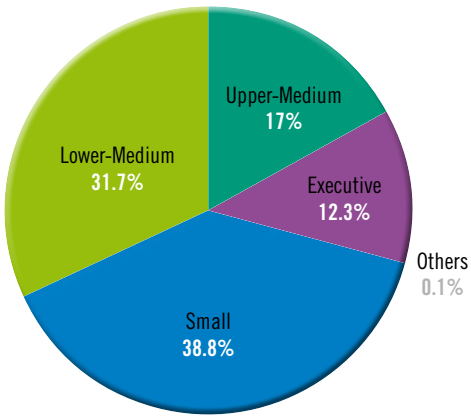
Overall in 2008, 18.4 million vehicles were produced, down 7% on 2007. Passenger car output fell 7% (25% in the final quarter), while commercial vehicle production fell 5% (33% in the final quarter).

Markets across Europe suffered; demand for cars ended the year down 7.8% while commercial vehicle registrations fell 9%; these were the sharpest drops since 1993.

Prospects for 2009 and 2010 are still unclear, but signs are not positive. More than 1,000 plant stoppage days had been planned for the first quarter of 2009 and pressure on employment is mounting. Overall, 2009 vehicle production may drop by as much as a quarter and commercial vehicle production by at least 50%.

THE CAR MARKET IN SEGMENTS | 2008

BASED ON Global Insight Data



MARKET DEMAND

In Western Europe, only five countries posted new car growth, Finland (+11.2%), Portugal (+5.7%), Belgium (+2.1%), Luxembourg (+2.0%) and Switzerland (+1.0%). Among the five major markets, Spain reported the steepest fall in demand in its history (-28.1%), while Italy (-13.4%) and the UK (-11.3%) fell by more than 10%. Across Europe, new car demand fell 7.8% to 14.7 million units. In the final quarter it crashed 19.3%.

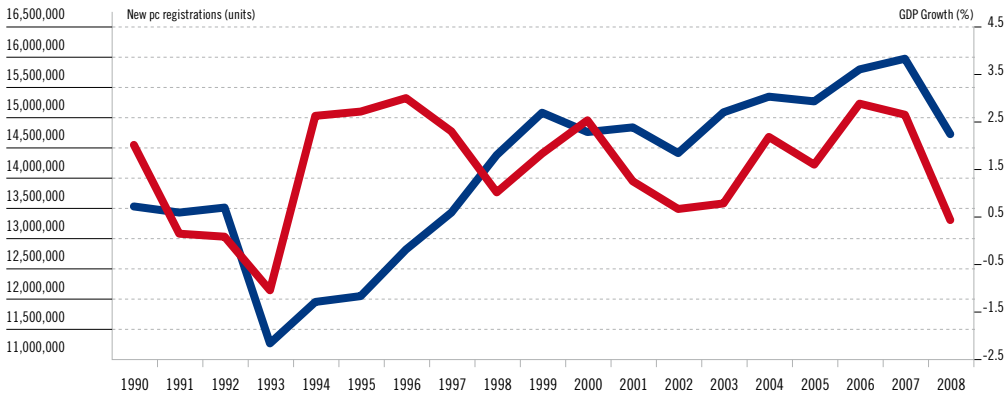
Consumer choices reflected concerns about the economy. Market penetration of small cars was the highest ever at 38.8%; SUVs penetration which had peaked in 2007 at 9.9.% fell back to 9%, with the most dramatic fall in France from 7.2 to 4.6%. Average engine size fell to 1706cc, from 1740cc a year earlier, while average power output, which had risen steadily since 1990, fell to 86 from 87 KW. More than half of all new cars sold were diesel models (52.7%).

Commercial vehicle registrations were down 9% across Europe, the sharpest downturn since 1993. Truck registrations, down 4% overall, suffered most in new member states (-21.1%). Light commercial vehicle demand (LCVs), up 5.1% in new member states, was dragged down by performance in Western Europe (-12%) to end 10.4% down overall. Bus and coach registrations rose 12.1% over the year, but in December they fell 7.5%.

By March 2009, government fleet renewal schemes had been introduced in 11 countries to boost flagging markets and help sustain the transition to 'greener' cars. In Germany, new car sales rose by an encouraging 21.5% in February. Effects were also notable in other markets, such as France, Italy and Slovakia.

NEW PASSENGER CAR REGISTRATIONS AND GDP GROWTH IN THE EU | 1990 – 2008

SOURCE: Eurostat / ACEA / AAA



VEHICLES IN USE

According to the latest ANFAC (Spanish automobile association) report, there were 251.5 million vehicles on the roads in the enlarged EU at the end of 2007. Of these, almost 220 million (87%) were cars. That reflected a 0.5% drop on 2006 figures, primarily due to an 11.6% decrease in the German fleet from 46.6 to 41.2 million cars.

The European car fleet is concentrated in five main markets (Germany, Italy, France, UK and Spain) in which diesel penetration is now around 30%. Across the enlarged EU, there is a high proportion of older cars on Europe's roads. According to ANFAC, 30% of cars are older than 10 years. In some new member states, the average age of a car is up to 14 years, emphasising the importance - economic, environmental and safety – of strong measures to encourage fleet renewal.

ECONOMIC BACKGROUND

GDP Growth Forecasts

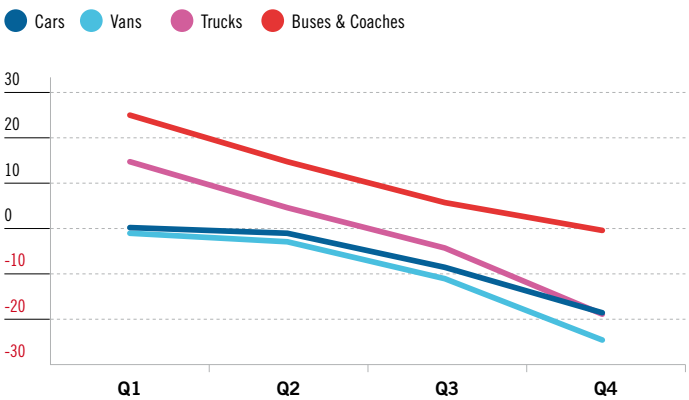
	2009	2010
eurozone	-1.9%	0.4%
EU27	-1.8%	0.5%
US	-1.8%	2.3%
Japan	-1.7%	1.1%

The Eurozone is now officially in recession following two successive quarters of negative growth. The trade deficit is rising and positive employment trends are not reflected in auto manufacturing which has started to report significant job losses. The overall situation in financial markets remains uncertain, despite massive injections of liquidity from governments and central banks.

Endorsed in November, the Commission's European Economic Recovery Plan aims to prevent a downward spiral. However, economic forecasts for 2009 have been revised downwards with GDP expected to drop in the Eurozone by 1.9% and in the EU27 by 1.8%. Modest growth of 0.4% and 0.5% is expected in 2010.

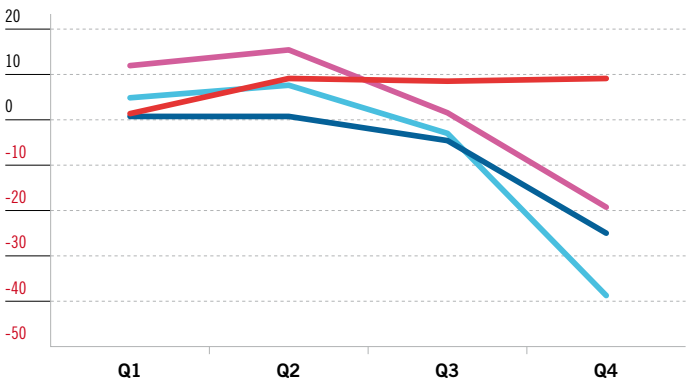
Despite interest rate cuts, falling oil prices ($146 a barrel in July 2008 to $44.5 in January 2009) lower commodity prices and inflation which is now 1.1% from a high of 4% in July 2008, business and consumer confidence remains low. Since mid-2007, the Commission's business and industrial confidence indicators have been falling while its December 2008 consumer confidence indicator was the lowest it had been since reporting began in 1985.

% CHANGE IN VEHICLE REGISTRATIONS I 2008/2007



% CHANGE IN VEHICLE PRODUCTION I 2008/2007

SOURCE: ACEA



FORECASTS

Production and sales figures from the final quarter of 2008 reveal the scale and speed with which the industry has been affected by the economic downturn. Markets across Europe suffered, forcing a slowdown in production and job losses at vehicle manufacturing plants and across the component supply chain.

Forecasts in this uncertain time are very difficult, albeit both consumer and business confidence is low. Most manufacturers do not expect the situation to improve until 2010. If trends seen in the final quarter of 2008 and into the first few months of 2009 continue, passenger car production could decline by a quarter and commercial vehicle production by at least 50%, reflecting a dramatic drop in orders from business customers.

AUTOMOBILE SECTOR: DIRECT AND INDIRECT* EMPLOYMENT I 2007

SOURCE: Eurostat

AUTOMOTIVE INDUSTRY (PRODUCTION OPERATIONS) — 2.2 Mn Jobs
- Automobile manufacturing
- Equipment and accessories
- Bodywork, trailers, caravans

OTHER MANUFACTURING ACTIVITIES
- Manufacture, retreading and rebuilding of rubber tyres and tubes
- Manufacture of bearings, gears, gearing and driving elements
- Manufacture of cooling and ventilation equipment
- Manufacture of computers and other information processing equipment
- Manufacture of electric motors, generators and transformers
- Manufacture of electrical equipment for engines and vehicles (not elsewhere reported)

AUTOMOBILE USE — 9.8 Mn Jobs
- Sale and distribution of motor vehicles
- Maintenance and repair of motor vehicles
- Sale of motor vehicle parts and accessories
- Sale of motor fuels
- Renting of automobiles

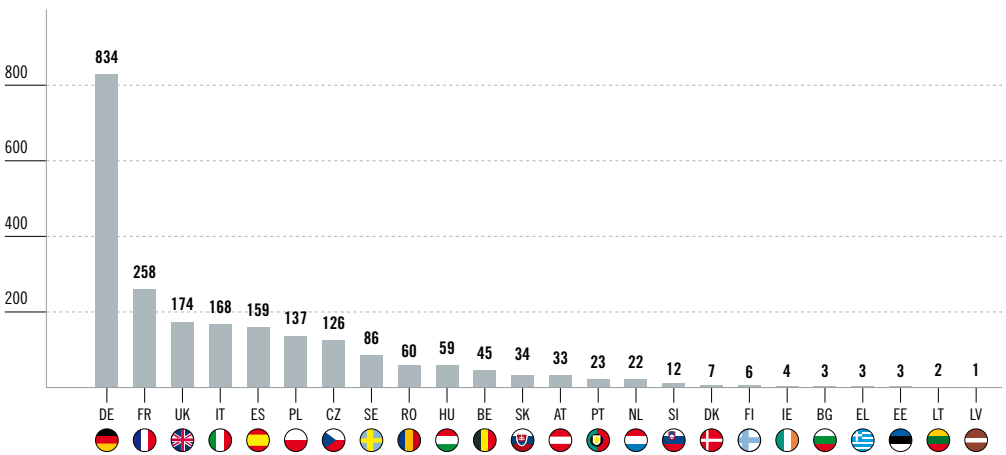
TRANSPORT
- Road transport (passengers and freight)

12.1 Mn Jobs

* Indirect employment data does not report employment in raw material sector (e.g. steel, aluminum, glass, etc.), textile, driving schools, licensing activities, vehicle testing, vehicle insurance and financing, etc.

DIRECT AUTOMOTIVE EMPLOYMENT BY COUNTRY (in thousands) I 2007

SOURCE: Eurostat / ACEA



INNOVATION, RESEARCH & DEVELOPMENT

Finding intelligent, affordable and world-leading mobility solutions

IN BRIEF

Vehicle manufacturers are a driving force for innovation in Europe, leading research and development into ever-safer, cleaner vehicles as well as improving manufacturing processes, logistics and mobility management.

They are Europe's largest private investors in R&D; each year €20 billion – 4% of turnover – supports projects aimed at delivering a more sustainable, safe and competitive sector tomorrow. The industry files around 5,900 new patents every year. Fields such as materials technology, recycling, ICT and telematics, energy and fuels, drive-train development, aerodynamics and ergonomics are all included in auto makers' diverse R&D portfolio.

Today's safer roads and cleaner, more efficient vehicles are the direct result of past investment in R&D. They are also proof of the innovation and skills that characterise a highly competitive European auto sector.

Typically, R&D is a strategic and long-term process; automotive R&D relies on significant investment and, increasingly, partnership with stakeholders. It takes time to carry out R&D and undertake thorough tests to deliver production-ready technologies. Bringing them to market is yet another step.

Transport and mobility are a prerequisite for economic prosperity and social activity, but also pose significant challenges for sustainability. In the decades to come, automotive research will focus on areas like managing transport growth, improving road safety and focusing on the environmental impact of increased mobility needs.

Historically, automotive R&D has been devoted to vehicle technology as such. Today, R&D in all important areas such as safety, energy and the environment includes the interaction between a vehicle, its driver and the surroundings.

Of course, enhanced communication, interaction and cooperation present many challenges, and these will require an intelligent and collective approach from a variety of stakeholders. The industry realises the need for a comprehensive strategy and is actively pushing for forward-thinking dialogue.

IMPRESSIVE TRACK RECORD

Modern vehicles are the direct result of past investment and achievements in R&D. Manufacturers have a track record of innovative and affordable solutions, and remain committed to making vehicles even safer, cleaner, quieter, more economical and secure.

Tangible results have come in areas such as vehicle safety and emission reduction. Active and passive safety systems have

significantly cut deaths and injury on Europe's roads, despite an increase in traffic volumes.

Commercial vehicles and passenger cars are now close to emitting only trace levels of air pollutants. A modern truck uses up to 30% less fuel than one 30 years ago, while it takes twelve to produce the same noise level as one vehicle 35 years ago.

Average car fuel consumption and CO_2 emissions has been cut by almost 20% thanks primarily to technology measures. That's despite an average weight increase over the last 15 years, due to challenging regulations on safety, as well as consumer demand for larger vehicles with improved levels of comfort.

More recently, alternative drive concepts have been developed. Several car and van makers have hybrid vehicles in series production and the first hybrid trucks - suitable for local and regional distribution - are now entering the market.

Alternative fuels offer great potential as well, although well-to-wheel analyses raise questions about sustainable and secure supply. Over the longer term, vehicles incorporating fuel cell technology and vehicles fuelled by hydrogen will come to our roads.

Time is a key factor in successfully bringing technologies to market. R&D efforts can deliver but only after a sufficient period of development, industrial integration and comprehensive testing. A perception of urgency or new legislation that does not respect time-scales will not accelerate progress. Groundbreaking technologies, particularly in-vehicle ITS systems that depend on action from a variety of stakeholders, will require time and resources to develop fully.

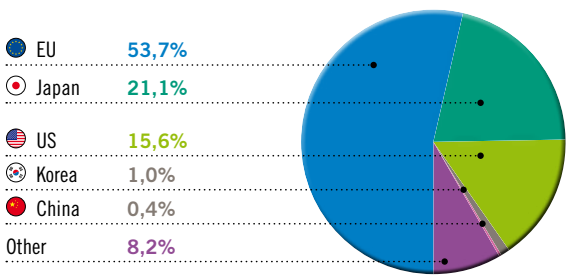
THE ROAD AHEAD

Finding new energy sources, respecting the earth's limited resources and the protection of the environment will form the cornerstone of tomorrow's mobility and transport plans. As we look ahead, the industry knows that an important element of sustainability is affordability, including the costs of vehicle operation and maintenance.

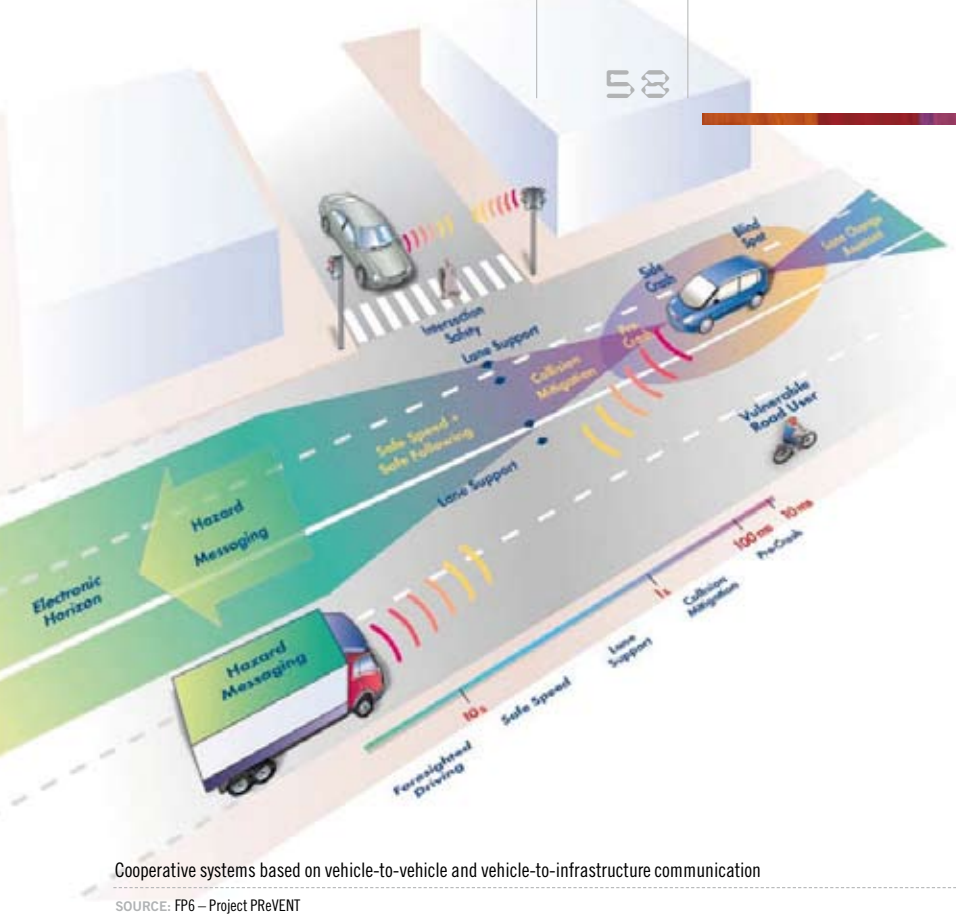
In a world of ever-increasing globalisation and international competition, the automotive industry will work to keep costs down, to retain R&D facilities and production in Europe, and to safeguard the quality of its products. In this context, competitive strength is key.

PATENTS FILED BY THE AUTO SECTOR | 2007

SOURCE: EPO (European Patent Office)



Out of the 68,147 European applications filed in 2007, 5,881 concerned the auto sector in Europe, or 8.6%



Cooperative systems based on vehicle-to-vehicle and vehicle-to-infrastructure communication

SOURCE: FP6 – Project PReVENT

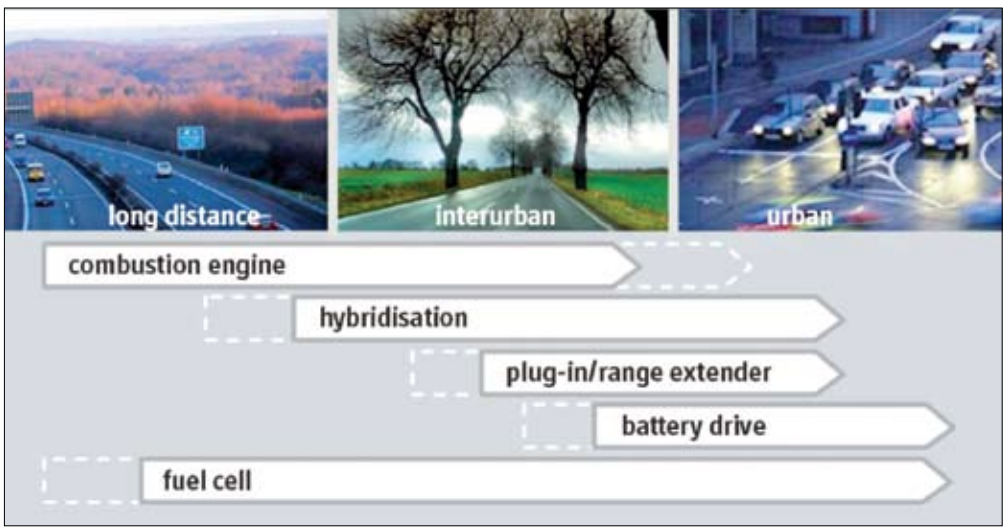
R&D IN SAFETY SYSTEMS

TODAY

- Airbags, air curtains, and airbag deployable front bonnets
- Improved front-end design to protect vulnerable road users
- ESP
- Active seat belts and pre-crash protection systems
- Lane departure warnings
- Night vision systems

TOMORROW

- In-vehicle ICT/ITS systems, for vehicle-to-vehicle and vehicle to infrastructure communication
- Advanced driver assistance system
- Semi-autonomous vehicle functions



Application areas of conventional and future propulsion systems

SOURCE: Daimler

R&D IN ENERGY AND ENVIRONMENT

TODAY

- Diesel particulate traps
- Direct injection and exhaust gas recirculation
- Efficient gearing
- Electronic motor and transmission management
- Biofuel compliant vehicles
- Hybrid cars and trucks

TOMORROW

- Full-electric drivetrains
- Hydrogen and fuel cell propulsion
- Advanced driver information systems

COLLECTIVE ACTION

Demand for transport is expected to increase and vehicle technology will play an important role in moving people and goods efficiently. But ultimately, solutions which are truly effective and sustainable will require more than things like drive concepts, better aerodynamics, telematics solutions and advanced electronics.

An effective, efficient and long-term mobility policy requires a full understanding of all relevant factors and cooperative action by all stakeholders. This will deliver a framework for future transport and a sustainable vision that can become a 21st century reality.

Key stakeholders include:

- **European Commission**, for determining priorities and for selecting the R&D activities to support for the benefit of the European Union;
- **National and regional governments**, responsible for national transport policies and strategic funding for R&D, and major road infrastructure projects as well as the programmes for general and scientific education;
- **Road authorities**, which manage traffic on the urban and interurban road network;
- **The energy supply industry and infrastructure owners**, which need to ensure there is an adequate supply and infrastructure of fuels and other energy carriers for the future that is sustainable ecologically and politically acceptable;
- **The automotive industry**, responsible for the development and manufacture of vehicles that are efficient, safe, environmentally friendly and affordable;
- **The suppliers of the automotive industry**, which are co-responsible for developing and manufacturing vehicles;
- **Vehicle users**, choice and use of vehicles has a great impact on safety, traffic, fuel usage and consumption, noise and the environment in general;
- **Telecom and ICT industries**, contributing to seamless communication, using different technologies and the development of open platforms for unimpeded information exchange between systems;
- **Road infrastructure research institutions**, that can contribute towards improved road design and road surface materials;
- **Public transport operators**, responsible for optimising the public transport systems and making the most appropriate choices, also in terms of vehicle procurement.

EUCAR
EUROPEAN COUNCIL FOR AUTOMOTIVE R&D

The European automobile industry is participating in a wide range of collaborative European research and development projects. The European Council for Automotive R&D (EUCAR) plays an important role in this context and provides the automotive manufacturers with a platform for identifying common pre-competitive European R&D.

Using this platform, the industry has defined the areas of research and development it considers to be of priority, in order to deliver competitive products and services for potential market launch in 2020, and beyond: Transport and Mobility, Energy and Environment, Safety and Security, Affordability and Competitiveness.

INTERNATIONAL TRADE

Mutual benefits
in opening markets

The European automobile industry is dynamic, competitive and operates on a global scale. High-quality products, significant investment and a highly-skilled workforce deliver exports with a €42.8 billion net trade contribution to the economy.

The global framework in which vehicle manufacturers do business is increasingly important. Export growth in emerging markets like China and Russia, investment in resources abroad and the economic downturn at home reinforce the goal of trade without barriers.

Global trade agreements that deliver free markets are most beneficial. The automotive sector fully supports the gradual dismantling of EU import duties, but this concession must be accompanied by equivalent opportunities abroad for European manufacturers.

MULTILATERAL AGREEMENTS

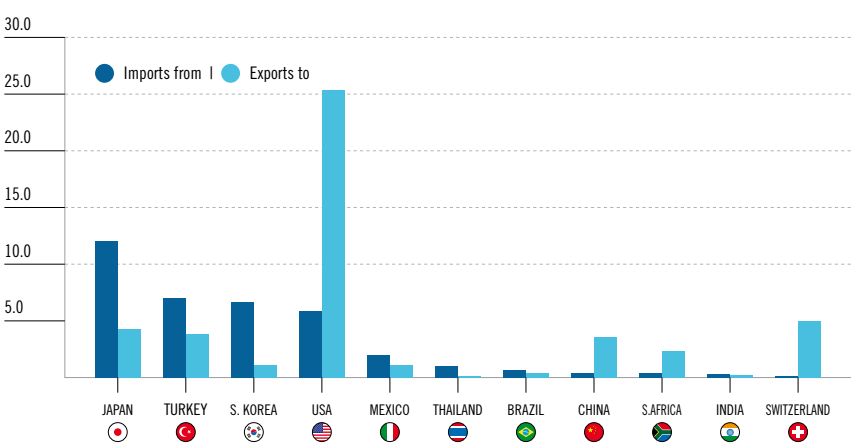
The latest round of DDA negotiations collapsed in July 2008. Overall disappointment was accompanied by auto makers' concerns about the content of a pending compromise on non-agricultural market access (NAMA). This must be reviewed when talks recommence.

Under the text, some countries would be allowed to exclude whole sectors, including automotive, from lowering peak import tariffs. The effect would be to open-up the EU market for non-European producers, while offering domestic auto makers no beneficial access to emerging markets abroad.

This contradicts original DDA goals, undermining industry competitiveness, threatening investment and employment in the EU.

EU AUTOMOTIVE TRADE I 2007 (in € Bn)

SOURCE: ACEA / CCFA



IN BRIEF

The European automotive industry has a reputation for delivering quality products around the globe. Opportunities to develop trade abroad should be pursued and manufacturers support steps to remove barriers such as unreasonable import tariffs and non-tariff barriers (NTB).

The industry supports WTO and multilateral trade and seeks a balanced and fair Doha round (DDA) that will deliver real market access to main developing economies.

The current draft text on modalities for Non-Agricultural Market Access (NAMA), remains a concern. If a DDA agreement is later reached on such basis, it would give a green light to developing countries to keep peak import tariffs on European automotive products, while opening up opportunities for imports to Europe. This must be reviewed when talks recommence.

The collapse of the Doha Round in July 2008 was disappointing, but reinforces the need to develop bilateral and regional agreements with major trading partners. These have the potential to deliver benefits for European auto makers and importers, improving access to these markets.

However, thorough impact assessments must be undertaken before any deal is signed. One-sided agreements that bring opportunities to third-country importers but little benefit to the EU and its industry must be rejected, and consequently, only balanced agreements should be signed.

The priorities for the European automotive industry are trade negotiations with ASEAN Countries and MERCOSUR

EXAMPLES OF IMPORT DUTIES (bound rates) I 2008

SOURCE: Market Access Database

	PARTS	PASSENGER CARS	LIGHT COMMERCIAL VEHICLES	TRUCKS
Korea	8%	8%	10%	10%
Thailand	30% (CKD*=30%)	80% (CKD*= 30%)	40%	40%
Malaysia	25% (CKD*=10%)	30% (CKD*= 10%)	30% (CKD*= 10%)	30%
Indonesia	15% (CKD*= 25%)	65,7 or 45% (CKD*= 20%)	40% (CKD*= 40%)	80%
India	13.5%	101%	13.5%	13.5%
Ukraine	0	10%	10%	10%
Russia	0	25%	10%	15%
Mercosur	18%	35%	35%	35%

EU BOUND TARIFFS

Cars and Light Commercial Vehicles	10%
Trucks	22%
Buses	16%

BILATERAL TRADE AGREEMENTS

In the absence of global trade agreements, it is important that the EU pursues bilateral and regional agreements. In 2005, the final report on CARS 21 recommended the European Union to complement its multilateral trade policy with a bilateral approach, helping deliver much needed improvements in export opportunities for manufacturers.

The report argued the urgency of the case, given the multitude of bilateral agreements between other regions and growth markets, particularly those in Asia. These have the potential to exclude European manufacturers.

In April 2007, the Council gave a mandate to the Commission to negotiate FTAs (Free Trade Agreements) with several countries and regions. The priorities for the European automotive industry are India and ASEAN countries, but also MERCOSUR for which negotiations started eight years ago. Low level of results and lack of perspective to conclude effective FTAs in a foreseeable future are disappointing.

The industry will continue to emphasise the importance of reciprocal trade advantages for European manufacturers in regional and bilateral FTAs. Consideration must be given to the size of the market, market access and levels of tariff and non-tariff barriers, as well as a thorough assessment of the impact on the EU sector. These criteria were included by the European Commission in the 2006 policy paper Global Europe: Competing Against the World.

In the current economic climate, it should be imperative for the EU to negotiate agreements that do not weaken the competitiveness of the European auto industry.

SOUTH KOREA – A CASE STUDY

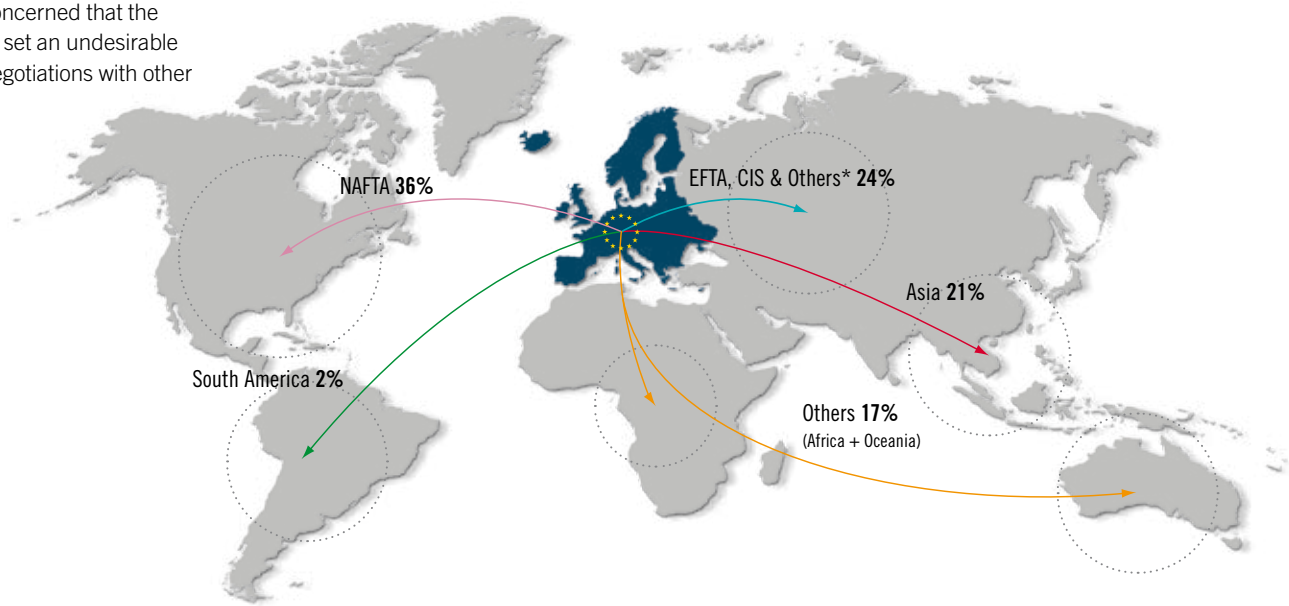
In 2007, South Korea exported around 700,000 vehicles to the EU, nearly 20% of all vehicles imported into Europe. Yet, EU exports were limited to around 28,000 vehicles in a South Korean market of 1 million.

Mutual benefit and fair market access have to be the bedrock of any bilateral trade agreement. It is therefore a concern that FTA negotiations with South Korea have not followed these principles. Auto makers have urged a thorough impact assessment.

Barriers, like Korean technical standards, changes to rules of origin and duty drawback clause concessions, as well as the inappropriately short lead-time for tariff dismantling, must be addressed. The industry is also concerned that the terms proposed could set an undesirable precedent in future negotiations with other Asian countries.

EU25 AUTOMOBILE TRADE (in € Mn)

	YEAR 2006			YEAR 2007		
	IMPORTS	EXPORTS	TRADE BALANCE	IMPORTS	EXPORTS	TRADE BALANCE
Passenger Cars	30 021	65 376	35 355	31 612	69 152	37 540
Light Commercial Vehicles	3 615	2 454	-1 161	3 955	3 092	-863
Heavy Commercial Vehicles +Buses & Coaches	1 306	9 500	8 194	1 687	11 953	10 266
TOTAL	34 942	77 330	42 388	37 255	84 197	46 942



*Croatia, Serbia, Macedonia, Bosnia Herzegovina

SOURCE: Eurostat / CCFA / OICA

CHAPTER 4

REGULATORY FRAMEWORK

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The automotive industry is one of the most regulated sectors in the EU. Over-regulation and complex or even conflicting rules can bring substantial costs. The objective to streamline regulation in the auto sector, with the help of the CARS 21 process, must be continued to reinforce the sector's competitiveness.

STREAMLINING REGULATION

- The automotive industry is one of the most regulated sectors in the EU, complying with more than 80 EU Directives and over 115 agreed within the international framework of UNECE.
- Different policy goals in areas like safety and environment have created rules that are costly, unduly complex and sometimes inconsistent.
- Better regulation principles, such as thorough impact assessments and early consultation with industry, must precede any regulatory proposals.
- Policy makers must be mindful of long industry lead-times, the importance of adopting technology-neutral measures and the effect that the cost of compliance may have on vehicle prices and therefore fleet renewal.

CARS 21

- CARS 21 was set up in 2005 to strengthen sector competitiveness and employment while enhancing progress toward safety and environmental goals.
- The multi-stakeholder group presented recommendations for policy makers including the role of better regulation and international trade in driving progress.
- On safety and the environment, CARS 21 recommended an integrated approach; collective action from the industry, governments, fuel companies and consumers will deliver the greatest rewards at the lowest cost.
- CARS 21 recommendations are more relevant than ever during the economic downturn.

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CONSISTENT TAXATION

- Clear and consistent tax signals send a strong message to consumers, industry and other stakeholders; CO_2-based taxes are part of an integrated approach to emission reduction.
- Registration taxes hinder fleet renewal and vary wildly across Europe, distorting the single market. They should be abolished.
- A harmonised CO_2-based tax regime for cars and alternative fuels should be adopted across Europe.

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HARMONISATION OF RULES AND STANDARDS

- Common standards and regulations reduce costs, improve economies of scale and boost export opportunities in a globalized market.
- Commonality ensures the cleanest, safest commercial vehicles, and cars are delivered to global markets without delay.
- UNECE rules provide the framework for global standards. Deviation without justification from facts and data is unacceptable.

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INTELLECTUAL PROPERTY

- Robust intellectual property laws, if properly enforced, promote innovation and R&D.
- The industry will continue to work with partners around the world to protect legitimate interests, driving out the counterfeiters and prosecuting trademark and design infringements.
- There will be no benefit to consumers if design protection rules for visible spare parts are abolished. Consumer safety could be compromised.

Cost-effectiveness, impact assessments and harmonisation – the key to 'better regulation'

STREAMLINING REGULATION

Approaching 2015, manufacturers face a barrage of new rules on emissions and safety. These include tighter emission limits, new car CO_2 rules and complementary measures, like tyre pressure monitoring and gearshift indicators. On safety, phase 2 of legislation on pedestrian protection will come into force and electronic stability control, advanced brake assist and daytime running lamps will become standard kit.

This means heavy investments for manufacturers. But that comes at a price. Clearly, vehicles need to remain affordable and policy makers cannot ignore the costs to consumers and the effect this may have on achieving policy goals.

WHAT IS 'BETTER REGULATION'?

The European Commission launched the Better Regulation initiative in 2002. The aim was to "ensure that the regulatory framework in the EU contributes to achieving **growth and employment**, while continuing to take into account the **social and environmental objectives,** and the benefits for citizens and national administrations." This should be achieved through **simplifying** and **improving** existing regulation and by ensuring new regulation follows **better drafting** principles.

The 'better regulation' agenda of the Barroso Commission is of great importance to auto manufacturers. In general, regulation is 'better' when it is more efficient. That means ensuring social and environmental goals are well balanced against economic objectives to support growth and jobs. It also means achieving policy goals at the lowest possible cost.

Regulations concerning the auto industry will, by nature, mostly concern technical measures. However, technical requirements can only be effective when part of a balanced and comprehensive framework of broader conditions. Technological targets can never be an objective in itself; the overall, end-result should set objectives for individuals, as part of a series of carefully-planned integrated measures. Policies must also be technology neutral.

IN BRIEF

The automotive industry is one of the most regulated sectors in the EU due to its highly complex products and the many issues that must be considered relating to vehicle use. Most rules define detailed technical prescriptions for which the specialist knowledge of automotive manufacturers is essential.

Regulation helps set common rules and standards which ensure a level playing field and fair market conditions in the EU and abroad. However, regulation can also damage the competitive strength of an industry. This is especially true if there is no common framework to detect conflicting interests of different regulations. Competitiveness can also be affected by regulation which is not properly assessed for effectiveness and where potential side-effects have not been identified. Without these checks, regulation can lead to high unnecessary costs, an unnecessary burden and competitive disadvantage for auto makers.

The European Commission has recognised the risk of over-regulation in the automotive industry and pledged to take action. With CARS 21, an important tool was established that is proving its value, and especially, in times of economic turbulence. However, despite progress, the CARS 21 principles still need to be applied much more coherently throughout European legislation.

CARS 21

A ROADMAP FOR THE FUTURE – MORE RELEVANT THAN EVER

CARS 21
Competitive Automotive Regulatory System for the 21st century

THE CARS 21 RECOMMENDATIONS IN A NUTSHELL:

CARS 21 endorses an **integrated approach** to emission reduction and road safety goals by encouraging all stakeholders, including industry, governments, fuel companies and consumers, to play their part.

It promotes **better regulation** principles and encourages multilateral and bilateral **reciprocal trade agreements**. To encourage getting the cleanest, safest cars onto roads, CARS 21 highlights the importance of **fleet renewal** and the issue of **end-costs to consumers**.

The CARS 21 mid-term review calls, in addition, for more international **harmonisation** via UNECE and for giving industry sufficient **lead-times** to implement regulatory changes. Thorough **impact assessments** and **early consultation** with the industry are key as well.

WHAT IS CARS 21?

CARS 21 is the abbreviation of 'Competitive Automotive Regulatory System for the 21st century'. Championed by the European Commission, the initiative was launched in 2005 to strengthen competitiveness and employment in the automotive sector while enhancing progress toward safety and environmental goals - at a price affordable to the consumer.

WHO TAKES PART?

Formed in January 2005, the CARS 21 High Level Group includes representatives from national governments, European Commissioners, the European Parliament, CEOs from the auto sector, environmentalists, trade unions, consumers and the oil industry.

WHAT HAS HAPPENED SO FAR?

The initial CARS 21 report, adopted in December 2005, includes a series of crucial recommendations for policy makers and a ten-year roadmap for implementation. Many of the recommendations were included in a Commission Communication in January 2007.

A mid-term review of CARS 21 was published in October 2008. Its forward-looking conclusions press for continuous improvement in coherence, predictability and cost-effectiveness of regulation to secure manufacturing in Europe in the future.

CARS 21 also proves its value as an important forum for exchanging information during the economic crisis. As such, CARS 21 is recognised by a Commission Communication, Council Conclusions and a European Parliament Resolution in early 2009.

CARS 21 will continue as a platform to address issues in the short, medium and long term, including the economic situation, the competitiveness of the industry and progress in safety and the environment.

WHY IS CARS 21 SO IMPORTANT?

CARS 21 acknowledges the damaging effects of over-regulation on the competitiveness of the auto sector. In the face of the economic downturn, this is more relevant than ever, as the industry urgently needs relief from legislation that burdens it with unnecessary costs.

CARS 21 points to ways in which the industry and society as a whole would benefit from careful policy-making that supports economic growth as well as other important societal goals.

PART OF A JIGSAW

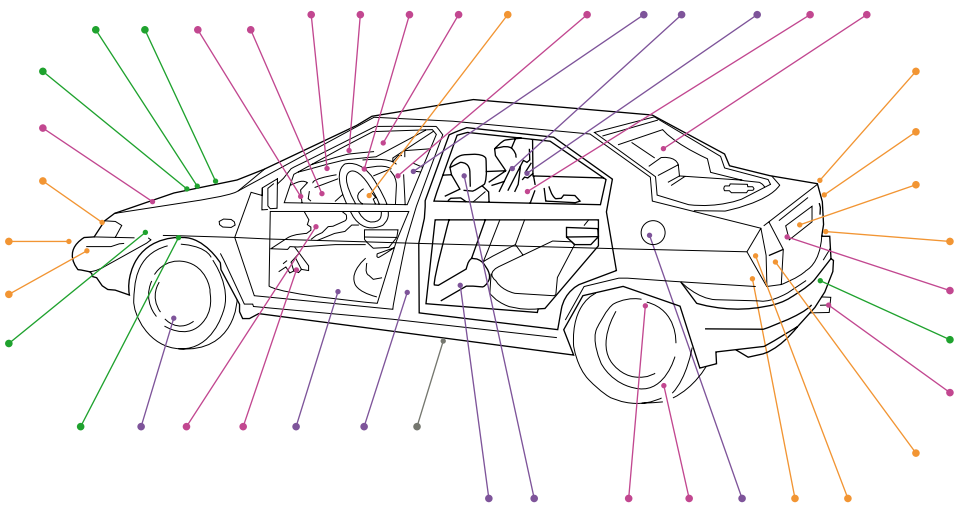
While technology continues to deliver greener, safer vehicles, it represents just one part of the jigsaw. Impact studies clearly show that the greatest benefits to the environment and safety come when all relevant stakeholders play their part in an integrated approach.

New technologies, like alternatively-fuelled cars for example, need the right quality fuels and a re-fuelling infrastructure; eco-driving techniques can significantly cut CO_2 emissions (and save owners money); fleet renewal is driven through fiscal measures, scrapping schemes and clear government support for environmentally-friendly vehicles. Investment in roads cuts congestion and supports traffic flow, while improved driver training and road traffic enforcement help save lives on European roads.

In the event that innovation comes under the spotlight, policy makers must be careful not to prescribe 'technology winners'. Strong competition and a vibrant market are the best drivers of progress.

THE AUTO INDUSTRY IS HEAVILY REGULATED

Before entering the market, passenger cars have to comply with more than 45 EU Directives and Regulations



Environment | Lighting & signaling | Active safety | Passive safety | Other

The automotive sector is unique in working to long lead-times and extended product life-cycles. Developing a car from design to production takes around five years with a further seven-year on-sale. It is not realistic for policy makers to design automotive regulation that does not allow manufacturers reasonable time to prepare for change.

As well as being heavily regulated, the auto sector is often forced to deal with rules that are unduly complex with high administrative costs for compliance. Simplifying existing legislation is much needed, particularly in areas like type-approval. Where possible, the EU should seek harmonisation in an international context. An industry that devotes less time and resources to applying rules can devote more to what it is good at; developing cars, trucks and buses that are even safer and more efficient.

Policy makers must always be fully informed about the consequences of new proposals. Timely consultation and thorough impact assessments are therefore key, and must be at the heart of any new proposal. Consultation reveals the practical consequences of new policy proposals; thorough impact assessments highlight wider issues, like cost benefits and the potential for meeting objectives through alternative means.

IT TAKES AT LEAST 5 YEARS TO DEVELOP A NEW CAR

Cars are highly complex and innovative products. Their development – from the concept to the engineering phase – takes up to 5 years. Engine development can take significantly longer and so does much of the strategic R&D in powertrains and fuels, in mobility and safety systems, and in materials and manufacturing processes.

Automotive manufacturing is a hugely complicated and capital-intensive process, involving a large, very diverse supply chain that feeds into highly sophisticated production lines. Once taken into production, most car models have a manufacturing cycle of up to 7 years during which investments are recovered. Manufacturers and their suppliers plan and allocate production capacity well ahead to facilitate timely production and the regular renewal of the car portfolio.

To adjust automobiles to new legislative requirements, the auto industry needs sufficient lead-time ahead of the implementation of these new rules. The long development and production cycles must be taken into account to sustain the economics of automotive manufacturing. For models just ahead introduction or already in production, change is limited to ready-available technologies and this, within the technical and economic constraints of the car's concept.

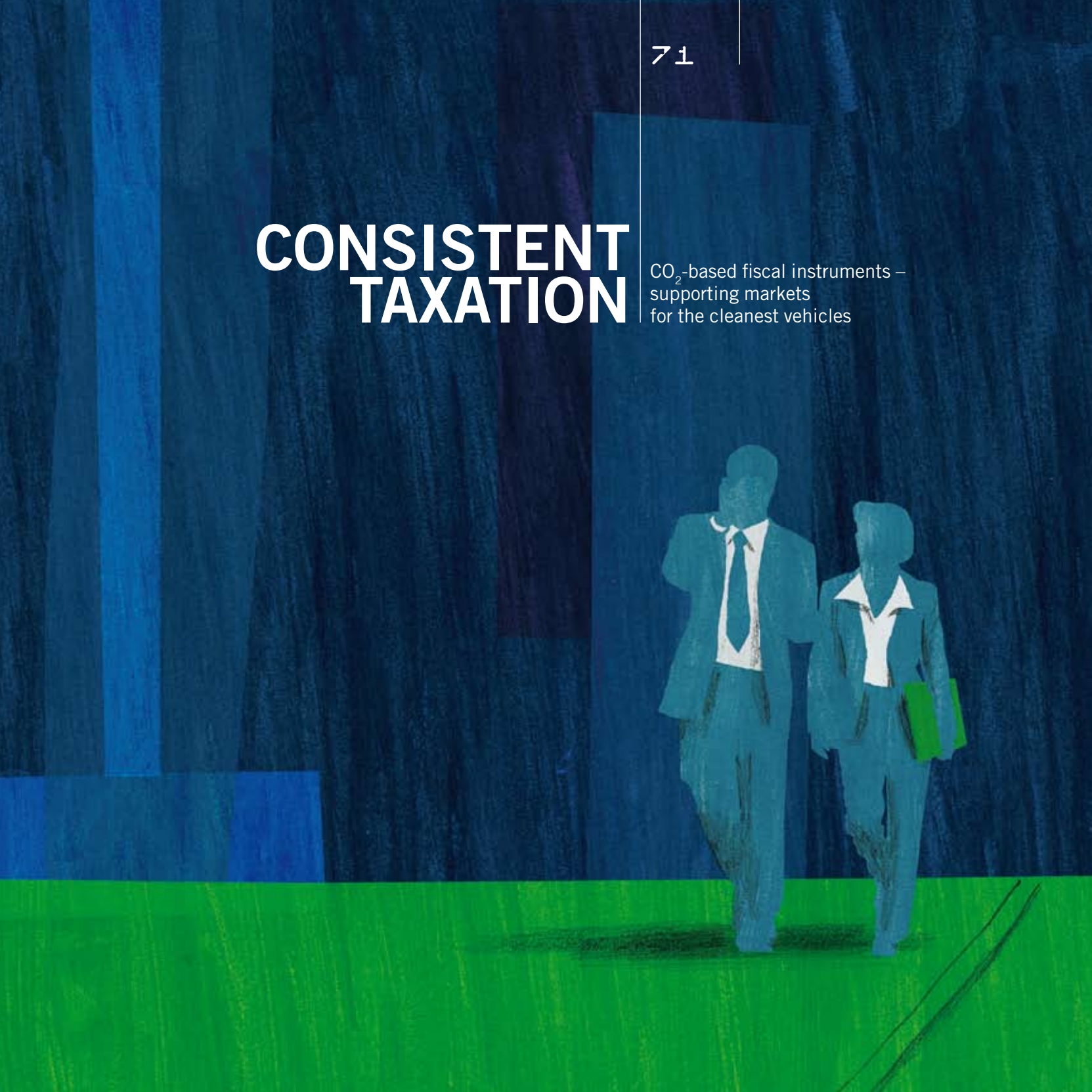
VEHICLE TYPE-APPROVAL

Before a motor vehicle can be registered and sold in the EU, it must comply with what is known as the Framework Directive for Whole Vehicle Type-Approval. This contains procedures such as safety and fuel economy tests and a long list of separate legislation that lays down the many technical requirements for motor vehicles. It also deals with individual components and the separate assemblies from which vehicles are made.

In addition, there is legislation with requirements for the use of motor vehicles. In all, more than 80 EU Directives and Regulations and an even larger number of rules in the international context, or UNECE, must be followed by auto makers.

CONSISTENT TAXATION

CO_2-based fiscal instruments – supporting markets for the cleanest vehicles



IN BRIEF

The automobile industry recognises the role vehicle taxes play in driving down CO_2 emissions from road transport. As part of an integrated approach, clear and consistent tax signals send a strong message to consumers, industry and other stakeholders.

However, the current framework across member states is not supportive with a disparate and fragmented approach. Registration taxes are a particular issue, varying widely across borders, distorting the internal market and penalising fleet renewal.

Harmonised CO_2-based taxes, based on use rather than ownership, should be the goal. This would maintain the integrity of the market while encouraging responsible use rather than penalising buyers who choose the latest generation of low-emission vehicles.

The European automobile industry recognises the role fiscal instruments play in supporting the market for cleaner vehicles and driving down CO_2 emissions from road transport.

Tax incentives encourage motorists to consider the environmental impact of vehicle choices and to use vehicles responsibly; they encourage commercial vehicle operators to specify newest models with the latest pollution abatement technology and they can drive the market for cleaner, alternative fuels.

However, the environmental benefits tax systems bring depend on clear policy and a harmonised approach. Today, there is still huge variation in both the basis for taxation and tax levels across the European Union. This damages industry competitiveness and reduces progress towards environmental goals.

For example, different member states tax cars on power, price, weight, cylinder capacity or a combination of these measures, forcing manufacturers to adapt vehicles to match tax structures in individual member states.

Economies of scale are reduced, harming competitiveness and leading to higher-priced vehicles. The internal market is inefficient and consumers face a confusing array of different tax regimes across borders.

REGISTRATION TAXES

European auto makers have called for the abolition of car registration taxes which are still widely applied in different member states. Recently, some governments have even considered introducing new registration taxes. This is an unwelcome development as, generally, registration taxes threaten fleet renewal. In most cases, they provide a disincentive to replace older, more polluting cars with those emitting less CO_2 and significantly fewer air pollutants from the tailpipe.

Auto makers support the replacement of registration taxes with a harmonised system across the EU. This should be based on vehicle use and framed around standards reflecting the impact that different types of vehicles have on the environment.

This would provide a clear signal. Private motorists and commercial vehicle operators who choose the most environmentally-friendly vehicles would be rewarded for responsible use, encouraging fleet renewal while supporting lower CO_2 goals and air quality improvement targets.

HARMONISED CAR CO_2 TAXES

The Commission has proposed to link car taxation partly to vehicles' CO_2 emissions, recognising the role this can play in reducing CO_2 from road transport. Auto makers support this approach. CO_2-based

taxes for cars provide economic incentives to which consumers, manufacturers and fuel suppliers will respond.

In the past 18 months, France, Spain, Finland, Ireland, Romania and Malta introduced CO_2-related car taxation. With Germany set to follow suit, this will bring the total number of member states with such systems to seventeen.

The European car industry welcomes the trend towards CO_2-related car taxation but has also warned that failure to harmonise tax systems weakens the environmental benefits this approach may bring. A harmonised CO_2-based tax regime for cars should be a priority. It would maximise emission reductions, support manufacturers and maintain the integrity of the single market.

KEY POINTS

- CO_2-efficiency should be made the key criteria for car taxation
- CO_2-based taxes should be linear and every gramme should count
- All taxes must be technology-neutral to allow competition to develop low-CO_2 solutions
- Tax revisions should be budget neutral

Seventeen member states levy CO_2-related taxation on cars

FISCAL INCOME FROM MOTOR VEHICLES IN THE EU* (including VAT, sales and registration taxes, excise duties on fuels) SOURCE: ACEA

	AT	BE	DE	DK	EL	ES	FI	FR	IE	IT	NL	PT	SE	UK
	2006	*2007*	*2007*	*2008*	*2007*	*2007*	*2007*	*2007*	*2005*	*2007*	*2007*	*2006*	*2008*	*2007*
Total EURO (Bn)	12.3	12.3	80.0	6.7	5.7	30.5	6.8	64.0	5.1	70.4	17.4	6.4	7.9	52.6

*other countries n.a.

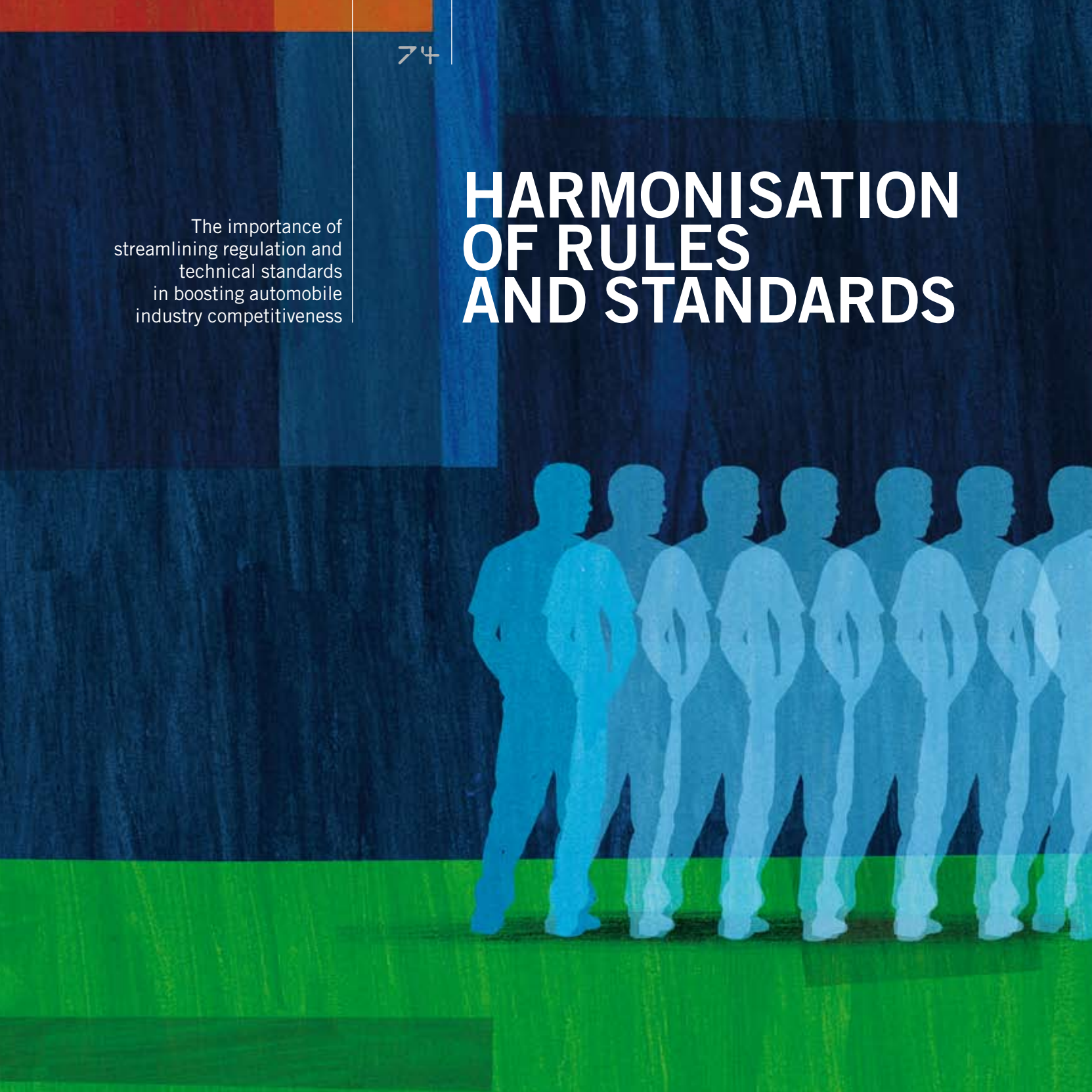
GRAND TOTAL = €378 Bn

EXCISE DUTIES ON FUELS IN €/1,000 LITRES SOURCE: European Commission

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	EU RATES MINIMUM
Unleaded Petrol	442	592	350	299	483	655	561	359	359	360	627	607	448	509	564	434	462	379	459	701	488	583	336	568	403	515	661	359
Diesel	347	318	307	245	406	470	382	330	302	302	364	428	368	368	423	330	302	330	352	413	339	364	284	446	383	481	661	302

HARMONISATION OF RULES AND STANDARDS

The importance of streamlining regulation and technical standards in boosting automobile industry competitiveness



The automotive sector is global in nature. National boundaries define production bases, but do not reflect the myriad export opportunities that exist across international borders.

Every year, automotive exports worth €77.5 billion are delivered to markets outside the EU. 40% are destined for the US. Yet to reach these different markets, car and commercial vehicle makers are often forced to adjust production programmes to comply with varying national regulations and standards in areas like emissions and safety. This barrier to market adds unnecessary costs, damaging competitiveness.

CARS 21 highlighted the importance of harmonisation. Global standards and regulations bring certainty to manufacturers, allowing them to plan and develop products for international markets in the long term, enhancing competitiveness of the European industry.

Europe has been at the forefront of international harmonisation efforts since the establishment of the 1958 Agreement of the United Nations Economic Commission for Europe (UNECE) on technical standards. In 1998, this was extended by so-called Global Agreement.

Currently, 126 Regulations have been developed under the 1958 Agreement, covering most of the safety, emission and powertrain aspects. These regulations are applied partly mandatory, partly optional by the EU, Japan, Korea and a number of other countries all over the world, including some developing markets. ACEA welcomes the decision by the EU to delete a large number of EU standards on vehicle safety (passenger cars as well as trucks) and replace them by direct reference to the UNECE regulations. This will be implemented through the general safety regulation, recently approved by the EU institutions.
At the same time, it is important to motivate as many countries as possible to adhere to the 1958 Agreement. Therefore, ACEA and the EU suggested to include many of the new technologies in the UNECE regulations on an if-fitted (optional) basis, whilst they will be mandated in the EU.
Under the 1998 Agreement, currently 9 "Global Technical Regulations" have been adopted. These GTRs are the basis for the harmonisation of national vehicle standards all over the world.

The European industry will also continue to work with counterparts in North America and Asia to pursue commonality in rules relating to road safety, emissions, fuel quality and intellectual property rights.

VEHICLE STANDARDS

In 2008, truck makers set out the case for adopting international standards on UNECE Global Technical Regulations. They argued that harmonisation would help deliver the cleanest trucks and passenger vehicles to market more quickly, benefiting the environment while enhancing industry competitiveness.

IN BRIEF

Common standards and regulations are essential to the competitiveness of the European automobile sector. They reduce costs, improve economies of scale and boost export opportunities in markets across the globe.

Harmonisation also benefits the environment and improves vehicle safety. Technologies that cut emissions and bring safer vehicles to roads can be introduced more rapidly and more cost-effectively if regulations are applied globally and test criteria agreed internationally.

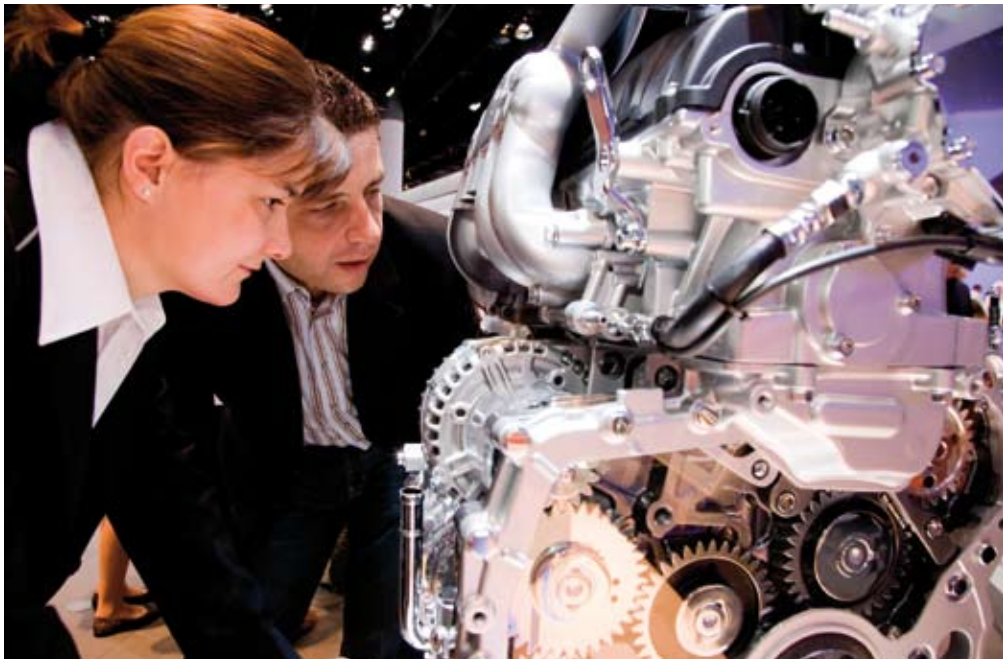
There is an urgent need to adopt fully harmonised Global Technical Regulations on emission certification testing, on-board diagnostics and off-cycle emissions. Deviation from UNECE rules without justification from facts and data is unacceptable.

International standards for fuel quality are also important. Parts of the Commission's Fuel Quality Directive on high-blend biofuels are unhelpful, threatening to fragment the market even within Europe. Highlighting a limit for metallic additives could also damage sensitive vehicle components, leading to higher emissions and premature component failure.

Governments across the globe are applying policy instruments to control road transport emissions by regulating tailpipe limits. However, the approach can vary significantly from market to market. In the US, Europe and Japan, this has led to different technical solutions for standards, test criteria and permitted emission levels. For commercial vehicle manufacturers, this has led to higher operating costs and longer lead-times in bringing the cleanest new models to market.

Harmonising technical regulations on areas like tests, emission limits and on-board diagnostics would reduce development costs and help manufacturers roll-out new technologies more quickly. This would deliver a more competitive auto sector, but also newer vehicles with lower emissions and better safety technologies in markets across the globe.

The commercial vehicle industry is moving quickly towards achieving technical harmonisation. The technical harmonisation proposals still have to be accepted at a political level. In the meantime, the automotive industry starts discussing the same initiative for passenger cars, i.e. worldwide harmonisation of passenger car emission requirements using the same arguments and claiming the same advantages. This debate is expected to take quite some time, and huge investments for testing will be needed.



FUEL QUALITY

Modern vehicles are fitted with sophisticated engines with components and assemblies designed to operate at fine tolerances. They are managed by computer to optimise performance, and complemented by exhaust treatment technologies that remove pollutants directly from the tailpipe. Together, these technology solutions help reduce emissions and deliver the performance demanded by commercial customers and private motorists.

The industry is concerned that regulators continue to prioritise vehicle technology in the drive to cut emissions. Insufficient impetus has been given to the importance of fuel quality and the need to develop global fuel regulations that complement modern vehicles.

Without quality and standardised fuels, vehicles cannot perform to their potential, generating higher emissions, with the risk of premature component failure through contamination and corrosion.

Auto makers acknowledge European targets to increase the use of renewable fuels in road transport to 10% by 2020. However, they are concerned by the Commission's Fuel Quality Directive. This sends conflicting messages about fuel quality, by permitting the use of metallic additives in fuels and by allowing member states to market diesel with a FAME content above the 7% recommended by the industry.

At a time when the industry has been working to develop global standards for biofuels through membership of the Worldwide Fuel Charter, this is a retrograde step. It sends out entirely the wrong message and must be reviewed.

INTELLECTUAL PROPERTY RIGHTS

The European auto sector has fought hard to establish consistent intellectual property rules in international markets. Counterfeiting is a growing problem and emerging markets, like China, need to do more to ensure the interests of those investing in legitimate development programmes are protected through robust rules and enforcement regimes.

ACEA and counterparts in North America and Japan are working together to share information and encourage the development of consistent anti-counterfeiting measures and robust intellectual property laws.

SAFETY

Like climate change, road safety is an international issue which should be tackled through a collaborative effort from all stakeholders. Manufacturers have a responsibility to bring safety technologies to market, and innovation has delivered huge advances in occupant protection, pedestrian-friendly design and active technologies that help avoid a crash. Road users, planners, governments and enforcement authorities must also accept their role in cutting the unacceptable death toll on roads.

Here too, an integrated approach must be applied. Safety regulations that vary from market to market have the same effect as those applied to emissions and fuel standards. They create barriers that can delay the introduction of new technologies.

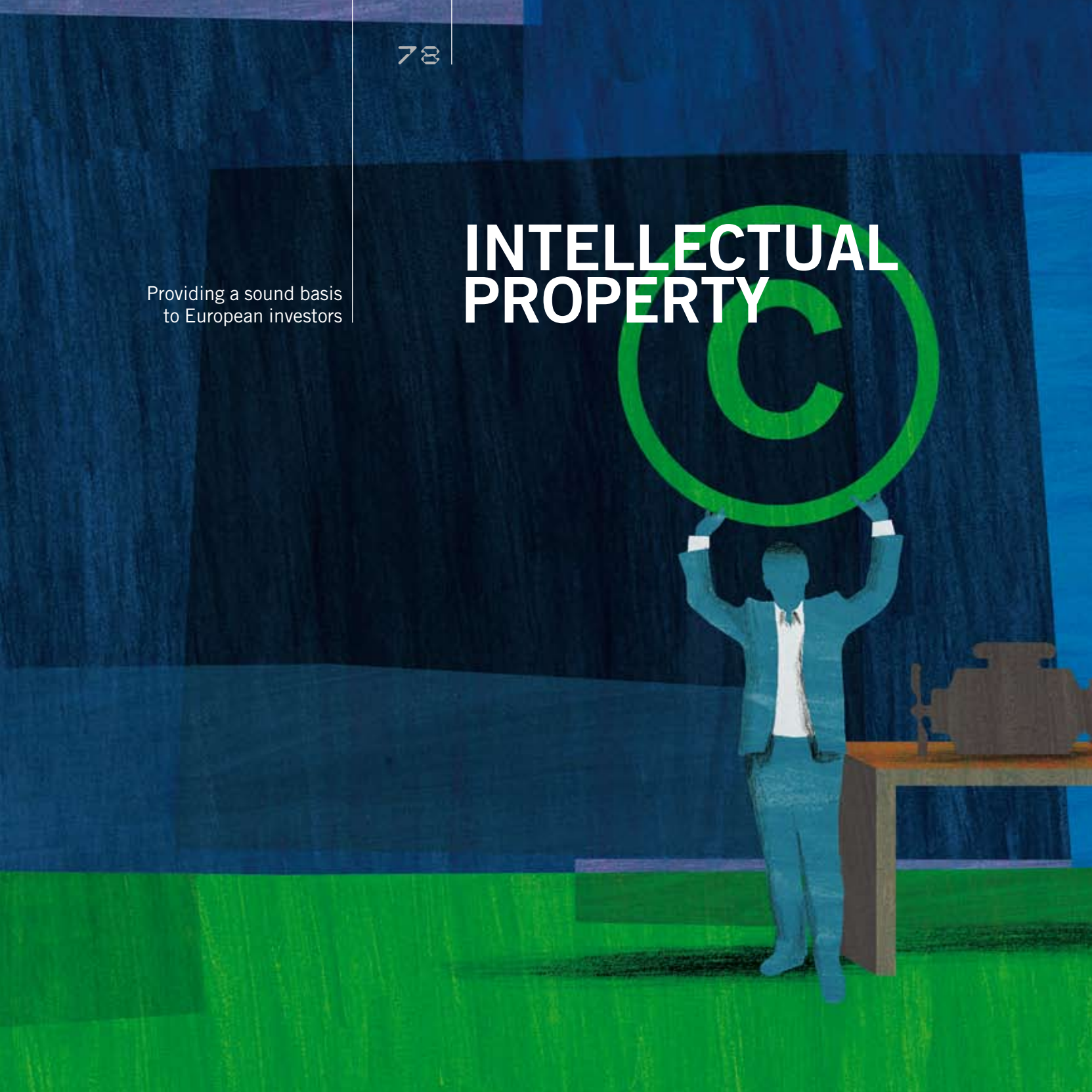
GLOBAL ROAD SAFETY PARTNERSHIP

Manufacturers are actively involved in the Global Road Safety Partnership (GRSP), which brings together regulators, industry and civil society in the poorest countries, to deliver an integrated approach on a global level.

Voluntary measures have also been taken, such as the introduction of seat belts as standard in all vehicles sold anywhere in the world. All European cars are now fitted with ABS as standard, while more recently, the industry has become an active participant in the "Choose ESC" campaign to increase consumer awareness of the benefits of Electronic Stability Control.

INTELLECTUAL PROPERTY

Providing a sound basis
to European investors



Counterfeiting is a multi-billion euro problem that affects all sectors of the motor industry, from parts and accessories suppliers to packaging and even entire vehicles. It harms the industry by delivering an unfair advantage to the supplier, devaluing legitimate investment in R&D and threatening jobs and prosperity in Europe.

In the auto sector, counterfeiting presents particular risks to consumers. It opens the door to poorer quality products and poses unnecessary safety risks for motorists and other road users.

AN INTERNATIONAL PROBLEM

Trademark and design infringements are particularly prevalent in regions outside the EU, mainly in Asia (particularly China), the Middle East and South America.

However, some counterfeiting also takes place in southern and eastern Europe.

The European automotive industry is committed to safeguarding its interests. Together with counterparts in the US and Japan, auto makers continue to urge the World Trade Organisation to fulfil its obligations to uphold intellectual property rights.

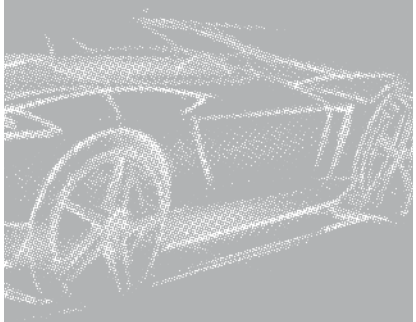
Active steps have already been taken by the sector and the EU to limit the supply of counterfeit automotive goods. In China, the government has finally issued regulations on better enforcement of IP protection for automotive products; the industry will continue to urge for their proper implementation, and European manufacturers have set up a group of experts to exchange information and promote a collaborative approach to tackle the issue.

IN BRIEF

Robust intellectual property (IP) laws encourage companies to innovate and support investment in R&D. The automotive sector therefore welcomes measures to protect legitimate manufacturing interests and moves to drive out the counterfeiters.

It is therefore hard to understand why the Commission would push ahead with plans to abolish design protection for visible spare parts. They expect no price benefit for consumers; there are also genuine safety concerns as well as serious implications for investment and jobs in Europe.

Abolish design protection would also send entirely the wrong message to countries, like China, which are being urged to do more to prevent vehicle and parts counterfeiting and fight intellectual property rights (IPR) infringements.



DESIGN PROTECTION IS ESSENTIAL

SAFETY ASPECT

In 2007, the UK's independent testing house MIRA carried out comparative tests on an original Ford Fiesta bonnet and various copies. MIRA concluded that "unless the copy bonnet has been developed and tested for pedestrian protection it is unlikely to offer the same levels of protection, as the original bonnet."

JOB LOSSES IN EUROPE

Scrapping design protection for visible spare parts could cost the European automotive industry up to 50,000 jobs and €2 billion a year. The two largest companies copying visible spare parts in Taiwan already have a turnover higher than the combined turnover of all independent body parts producers in Europe, and have taken steps to increase their presence in Europe. The United States, which have no design protection rules, show what could lie ahead; Asian body parts makers hold an 80% market share.

DESIGN PROTECTION

The EU recognises the importance of intellectual property rights for competitiveness, encouraging better protection in countries where it is weak. In Europe, harmonised trademarks and patents, and strong enforcement have helped deliver on this objective.

In this climate of robust protection, it is hard to understand the rationale behind the proposal to abolish European design protection rules for visible spare parts. These include bumpers, fenders, bonnets, radiator grills and headlights. If implemented, the move risks up to 50,000 European jobs as well as investment in R&D which depends on strong IPR rules.

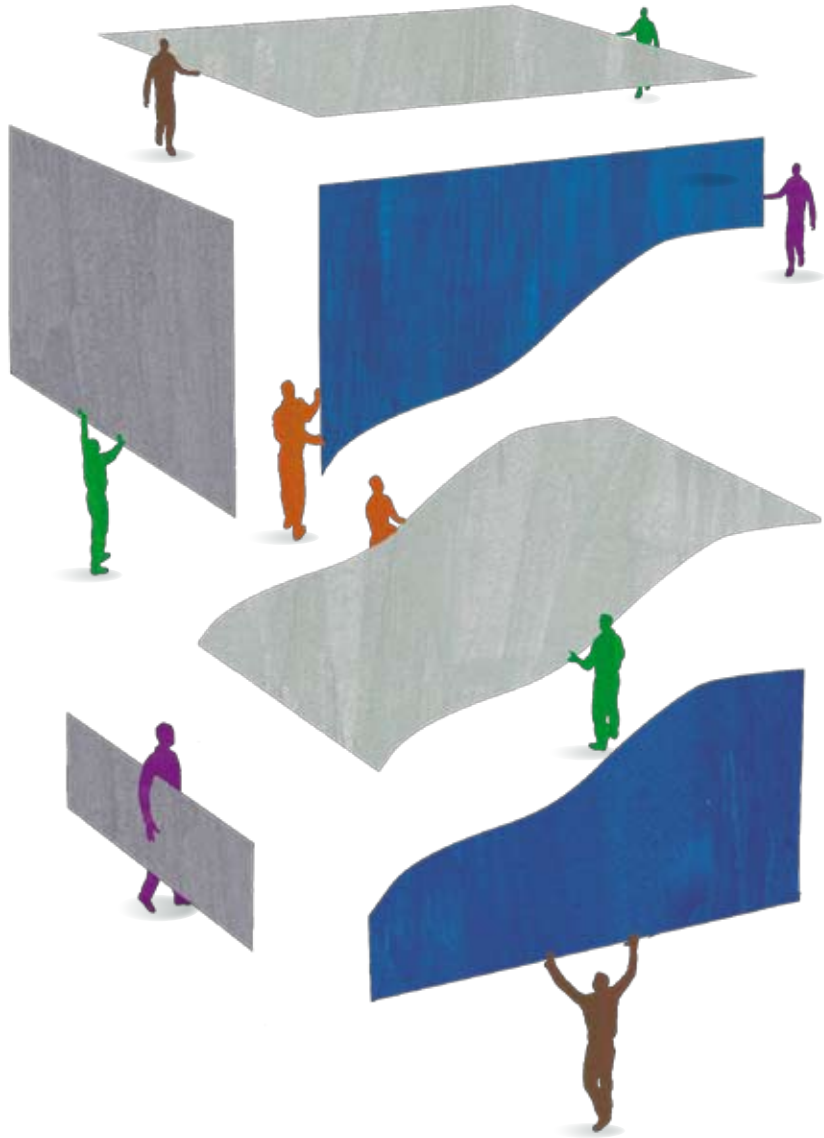
CONTRADICTORY MESSAGES

The proposal does not sit well with either the Lisbon Agenda which aims to promote growth and high-skills investment in Europe, or the Directive on Pedestrian Protection, a set of design rules which have helped drive down casualties on European roads.

Both could be compromised. The move would also present mixed messages to overseas governments and industry stakeholders. The result could be a serious loss of credibility, at a time when the European automotive industry and regulators alike are trying to take a lead in tackling a growing international problem.

NO CONSUMER BENEFIT

Scrapping design protection would not necessarily lower prices paid by the consumer. That was the conclusion of the Commission's own consultants, Technopolis. Their report assumed that, even when copied parts could be produced more cheaply than originals, the savings would not necessarily be passed on to consumers. Instead, they expected them to benefit parts' traders, repairers and insurance companies.



ABOUT ACEA

EUROPEAN AUTOMOBILE
MANUFACTURERS ASSOCIATION

HOW DOES ACEA WORK?

The ACEA staff, led by a secretary general, cover issues and technical requirements in policy fields such as fuels, emissions, road safety, trade, taxation and transport. Through its specialist working groups and an extensive network within the vehicle industry, ACEA has access to a wealth of expertise and applied technical experience.

ACEA activities include, but are not limited to:

- **Dialogue** with the European Union at all levels, and with all others concerned by the automobile industry, including the European public;
- **Cooperation** with policy makers and related industries, to advance mutual understanding of industry-related issues and contribute to realistic and effective legislation, bearing in mind the interests of European society and its economy;
- **Research and study** of relevant developments and trends in automotive-related issues and policy fields;
- **Strategic reflection** on the increasingly global challenges of competition and social responsibility, drawing on the strengths and expertise of its members;
- **Communication** of the role and importance of the industry, of its common views, and of reliable data and information;
- **Monitoring** of all activities that influence the automobile industry, responding to and cooperating with the actors involved.

THE AUTOMOBILE INDUSTRY'S SEVEN PRIORITY FIELDS

The European automotive industry has **seven priority topics** it discusses with the EU institutions and other stakeholders:

- A real completion of the **Internal Market** which will not be achieved without fiscal harmonisation of motor vehicle and fuel taxes. In light of the CO_2 challenge, taxation schemes should be based on the CO_2 emissions of cars and the use of alternative fuels, to increase demand for fuel-efficiency;
- Reducing over-regulation and conflicting objectives of **legislation** via adequate and independent impact assessment studies, and reasonable lead-time periods for implementation;
- Better promotion of **R&D** efforts and innovation policy instruments; Global **harmonisation** of technical regulations and standards for motor vehicles;
- Continuous development of efficient road **infrastructure**, while ensuring the promotion of competitive access to basic infrastructure networks (road, energy, transport, telecommunications);
- Better **market access** for European automotive products via the completion of the WTO's Doha Round, together with bilateral/regional free trade agreements;
- Adoption of an **integrated approach** to important societal issues, such as road safety and the reduction of CO_2 emissions, involving all relevant actors and factors.

CORPORATE CITIZENSHIP

The ACEA members invest heavily in **corporate social responsibility initiatives** to the benefit of their employees and society-at-large. The industry's products, furthermore, meet the highest **environmental and safety standards**. This is the result of a long-standing tradition of innovation and investments.
For example:

- It takes 100 of today's cars to match the average emissions of a car built in the 1970s;
- Noise levels of vehicles have been reduced by 90% over the same period;
- Reducing fuel consumption is, and has long been, a matter of top-priority;
- On the safety front, the introduction of seatbelts, anti-lock braking systems and airbags has cut fatalities and serious injuries to vehicle passengers by 80%.

Acting as a responsible corporate citizen is not only desirable in itself; it also helps build a relationship based on trust and loyalty between companies and their customers.

ACEA CO-OPERATION & PARTNERSHIPS

ACEA has permanent and close co-operation with the European Council for Automotive R&D (EUCAR) which was established in 1994 as the research arm of the industry. EUCAR's purpose is to strengthen the competitiveness of the European automotive industry by promoting and carrying out co-operative research and development of products, processes and systems.

ACEA maintains close relationships with a number of organisations having interests related to the automobile industry. These include the European Association of Automotive Suppliers (CLEPA), Intelligent Transport Systems - Europe (ERTICO), the European Committee for Motor Trades and Repairs (CECRA), the European Road Safety Federation (ERSF), the Fédération Internationale de l'Automobile (FIA) and the Union of Industrial Employers' Confederation of Europe (UNICE).

ACEA also maintains a dialogue on international issues with automobile associations around the world (JAMA, KAMA, AAM, ATPC, OICA).

THE ACEA MEMBERS

BMW Group
BMW GROUP
www.bmwgroup.com

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www.daimler.com

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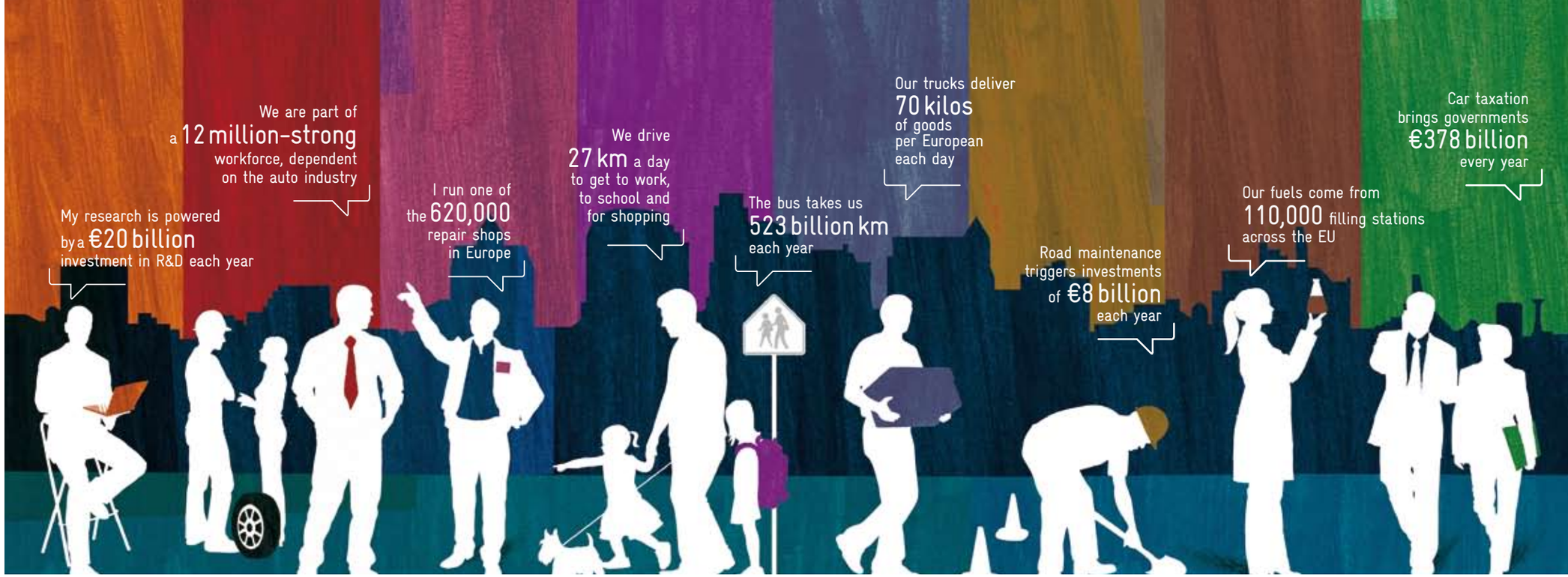
THE AUTOMOBILE INDUSTRY IN EUROPE

The European automobile industry plays a pivotal role in Europe's economy, driving wide-scale industrial activity, boosting investment and innovation, bolstering economic growth.

09/10

ACEA

EUROPEAN AUTOMOBILE
MANUFACTURERS ASSOCIATION



INNOVATION & EDUCATION

Automotive is the leading force of innovation

- 10,000 new patents per year
- State of the art technology and design centres
- A high-skilled workforce
- In-house education & training
- Major regional research clusters
- Vehicle testing & motor sports

MANUFACTURING & EMPLOYMENT

Automotive is the engine of manufacturing in Europe

- 2.3 million direct jobs, 10 million indirect
- 250 vehicle plants in 18 EU countries
- More than 8,000 equipment manufacturers
- Over €780 billion turnover
- Supplying industries: steel, aluminium, chemicals, textiles, glass, plastics, rubbers, electronics, information technology

SALES & SERVICES

Cars and commercial vehicles generate a wide variety of services

- 188,000 vehicle dealerships
- Leasing and financial services
- Insurance & roadside assistance
- Rental services & driving schools
- Advertising, a €5 billion market
- Recycling, 8 million vehicles each year

DRIVING & MOBILITY

Automobiles have unlocked an unprecedented level of mobility

- Commuting to work and school
- Connecting cities, suburbs, country side
- Social life and holidays
- Leisure, hobbies & sports
- Average car mileage 16,000 km per year

TRANSPORT & COMMERCE

Moving people and goods spurs economic activity and public services

- Road transport carries 75% of all freight
- Distribution & logistics
- Crafts & salesmen services
- Public transport, taxis
- Postal & courier services
- Police & emergency services
- Garbage collection

ROADS & INFRASTRUCTURE

Infrastructure connects people, businesses, countries and cultures

- A 6 million km road network
- A €118 billion turnover sector
- Maintenance & roadside services
- Traffic management
- Parking facilities
- Toll companies

FUELS & ELECTRICITY

Transport and energy demand are closely intertwined

- 116 oil refineries in Europe
- Fuel infrastructure and distribution
- Filling stations turnover €250 billion
- Power plants and renewables
- Electricity storage, charging and distribution

TAXES & REVENUES

Automotive and mobility are a major source of income for governments

- Car taxes, 4.1% of EU GDP
- Fuel taxes, up to 60% of the price
- Company taxation
- Income tax
- Driving licenses
- Parking fees
- Road and urban charges

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