Automotive Sector Report

1. This is a report for the House of Commons Committee on Exiting the European Union following the motion passed at the Opposition Day debate on 1 November, which called on the Government to provide the Committee with impact assessments arising from the sectoral analysis it has conducted with regards to the list of 58 sectors referred to in the answer of 26 June 2017 to Question 239.

2. As the Government has already made clear, it is not the case that 58 sectoral impact assessments exist. The Government’s sectoral analysis is a wide mix of qualitative and quantitative analysis contained in a range of documents developed at different times since the referendum. This report brings together information about the sector in a way that is accessible and informative. Some reports aggregate some sectors in order to either avoid repetition of information or because of the strong interlinkages between some of these sectors.

3. This report covers: a description of the sector, the current EU regulatory regime, existing frameworks for how trade is facilitated between countries in this sector, and sector views. It does not contain commercially-, market-, or negotiation-sensitive information.

Description of Sector

4. All major global vehicle manufacturers with plants in the UK are foreign owned. In general, the business model for volume vehicle producers is to use UK sites to supply the European market (with alternative sites in Asia and the Americas supplying those markets).

5. Investment decisions and sourcing choices are often made from European or Global headquarters. Investment decisions are made against a wide range of key performance indicators (set out in the Automotive Council International Competitiveness report, 2015).

6. The UK automotive industry performs well on: labour productivity, the flexible labour market, and university industry collaboration. The dialogue and cooperation through the Automotive Council, coupled with the end-to-end research and development, and innovation ecosystem are viewed positively by the industry. There are also areas where the UK is viewed as being less competitive, for example: labour costs, skills (particularly the availability of engineers), strength-in-depth of the supply chain, and government investment in research and development.
Automotive sector key statistics

7. The UK automotive sector is central to the UK economy and a key part of our industrial strategy. It created £14.5 billion in Gross Value Added (GVA) in 2016 (0.8 per cent of total UK GVA).¹

8. The UK automotive sector is diverse. This includes: volume car production, niche and luxury vehicles, construction equipment, motorsport, commercial vehicles, and motorcycles.

9. In 2016, the sector directly employed 159,000 people² with a further 238,000 in the wider supply chain.³ There are regional concentrations in the West Midlands, North West, & North East.

10. The sector is extremely export intensive; it generated £40.1 billion in exports in 2016 (£18.3 billion to the EU).⁴

11. In 2016, UK automotive industry productivity was 40 per cent higher than other manufacturing sectors and 80 per cent higher than the economy as a whole.⁵

12. In 2016, business investment stood at £3.6 billion, or 1.1 per cent of the UK total.⁶ In 2016, the sector carried out £3.4 billion of research and development.⁷

Automotive sector key components

13. Car and Engine production: The UK automotive sector is diverse. Volume vehicle production in the UK starts at the mid-range section (e.g. Nissan Qashqai, Vauxhall Astra), expands through the burgeoning premium section (e.g. Jaguar Land Rover), and includes low volume luxury vehicle makers (e.g. Aston Martin, Bentley, and Rolls Royce). There are over 40 specialist and niche vehicle makers, including well-known names such as Lotus and Morgan. The UK is a global centre of excellence in engine design (e.g. Ford), with 2.5 million engines produced in 2016.⁸ The UK is also a major producer of heavy and off-road vehicles.

14. Motorsport: The UK is the global home to Formula 1; six out of the ten teams have their headquarters here, and a further two have a base here. The UK is also the global base for the fast-growing Formula E (electric) race series. Figures for 2013 from the Motorsport Industry Association (MIA) report that the sector had a turnover of £9 billion.

¹ Document available here: UK GDP(O) low level aggregates National Accounts, ONS, June 2017.
³ BEIS Estimates based on 2010 Analytical Supply Use Table Multipliers, 2013.
⁵ BEIS estimates from National Accounts constant price GVA and Workforce Jobs; Manufacturing & Whole economy ONS Productivity release.
⁶ Gross fixed capital formation - industry by asset, ONS Business Investment release, September 2017.
⁷ Business Enterprises Research and Development (ONS), November 2016.
15. There is cooperation between the motorsport sector and mainstream automotive sector, in part managed by the Automotive Council (Industrial Strategy sector council). Technology developed in F1, such as flywheels that harvest energy from braking that is then used to accelerate a vehicle, thus reducing energy consumption and emissions, is now in buses on the streets of London. The motorsport sector also co-operates with companies and organisations across the defence, aerospace, and medical sectors.

16. Construction Equipment: The UK is the largest producer of construction equipment in Europe and the fifth largest globally. Construction equipment is intended for heavy work such as: earthmoving, lifting containers or materials, drilling holes in earth or rock, or concrete and paving application. The UK is home to JCB (UK owned), with major foreign owned manufacturers Caterpillar, Komatsu, Mecalac and Volvo having UK operations. Figures for 2014 provided by the CEA (industry trade body) state that 50,000 units were produced, of which 60 per cent were exported and rising to 95 per cent for certain niche products. Turnover of £11 billion was reported, creating £2 billion GVA.  

17. Supply Chain: UK based vehicle makers operate a sophisticated, globally integrated supply chain, to support their “just in time” production models.

*Figure 1: Example of automotive supply chain*

18. There are nearly 3,000 businesses operating in the UK automotive manufacturing sector with the vast majority being small and medium sized enterprises at the Tier-2

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and Tier-3 level.\textsuperscript{10} They are predominantly focused on meeting demand from UK plants.

\textit{Table 1: Numbers of registered businesses by size, in the UK, operating in the automotive manufacturing sector}\textsuperscript{11}

\begin{center}
\begin{tabular}{|c|c|c|c|c|}
\hline
Micro & Small & Medium & Large & Total \\
\hline
2,240 & 410 & 240 & 90 & 2,980 \\
\hline
\end{tabular}
\end{center}

19. In addition to overall vehicle production, the quantity of domestic sourcing is a key measure of success, with the majority of the automotive sector’s key profit margins relating to the efficiency of the supply chain. In 2017, UK vehicle makers sourced 44 per cent of the value of their parts from domestic suppliers, rising from 36 per cent in 2011.\textsuperscript{12} The aim is to raise local content levels in the medium term to 50 per cent and above, which are the levels reported in France and Germany.

20. UK content in parts produced by suppliers below Tier 1 is considerably lower: Tier 1 assemblies rely heavily on imported inputs. Building UK automotive supply chain capacity, principally by increasing the UK Tier 1 footprint (which increases opportunities for lower tier suppliers) and building the capability of existing suppliers, is a key priority for the sector.

21. Suppliers need to build deeper collaboration with vehicle makers and other component makers if they are to win contracts for new models. The requirement for greater collaboration is driven by the introduction of increasingly complex models whose subsystems demand the input of many parties. The increasing personalisation of vehicles and shorter lifecycles are also intensifying the need for closer cooperation.

22. Vehicle Engineering Consultancies: The UK has global leading consultancy and product testing facilities, which are an integral part of the UK’s attractiveness as an investment location for research and development, and manufacturing. This includes Ricardo, Millbrook Proving Ground, and Horiba Mira Ltd.

\textsuperscript{10} A tier 1 is a supply chain company supplying components or parts directly to the producer. A tier 2 supplies to a tier 1.

\textsuperscript{11} Business Activity, Size and Location, ONS, October 2016.

\textsuperscript{12} UK Local Sourcing Content Research 2017, Automotive Council, June 2017.
Table: Key UK manufacturing sites

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Location</th>
<th>Sector</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander Dennis</td>
<td>Falkirk and Guildford</td>
<td>Bus and coach</td>
<td>Enviro bus range</td>
</tr>
<tr>
<td>Aston Martin</td>
<td>Gaydon</td>
<td>Car</td>
<td>Cotter, DBB, DB11, Rapide, Vantage, Vangulix.</td>
</tr>
<tr>
<td>Bentley</td>
<td>Crewe</td>
<td>Car and engine</td>
<td>Bentayga, Continental and Mulsanne</td>
</tr>
<tr>
<td>BMW</td>
<td>Hams Hall</td>
<td>Engine</td>
<td>Engine range</td>
</tr>
<tr>
<td>Caterham</td>
<td>Darford</td>
<td>Car</td>
<td>Sevan</td>
</tr>
<tr>
<td>Cummins</td>
<td>Darlington</td>
<td>Engine</td>
<td>Engine range</td>
</tr>
<tr>
<td>Dennis Eagle</td>
<td>Warwick</td>
<td>CV</td>
<td>N and W truck range</td>
</tr>
<tr>
<td>Euromotive</td>
<td>Hythe</td>
<td>Bus and coach</td>
<td>Minibus range</td>
</tr>
<tr>
<td>Ford</td>
<td>Bridgend and Dagenham</td>
<td>Engine</td>
<td>Engine range</td>
</tr>
<tr>
<td>Honda</td>
<td>Swindon</td>
<td>Car and engine</td>
<td>Civic, CR-V and Jazz</td>
</tr>
<tr>
<td>Infrinti</td>
<td>Sunderland</td>
<td>Car</td>
<td>Infrint Q30</td>
</tr>
<tr>
<td>Jaguar Land Rover</td>
<td>Castle Bromwich &amp; Warerham</td>
<td>Engine and car</td>
<td>Discovery, Discovery Sport, Range Rover, Range Rover Sport, and Evoque.</td>
</tr>
<tr>
<td>Jaguar Land Rover</td>
<td>Solihull and Hallwood</td>
<td>Car</td>
<td>Land Rover</td>
</tr>
<tr>
<td>John Dennis Coachbuilders</td>
<td>Guildford</td>
<td>Bus and coach</td>
<td>Fire vehicles</td>
</tr>
<tr>
<td>Leyland Truck</td>
<td>Leyland</td>
<td>CV</td>
<td>DAF CF, LF and XF truck range</td>
</tr>
<tr>
<td>Lotus</td>
<td>Norwich</td>
<td>Car</td>
<td>Elise, Evora and Exige</td>
</tr>
<tr>
<td>LTC</td>
<td>Coventry</td>
<td>CV</td>
<td>TX Taxi</td>
</tr>
<tr>
<td>McLaren Automotive</td>
<td>Woking</td>
<td>Car</td>
<td>560, 570, 650, 675 and 671</td>
</tr>
<tr>
<td>Meller</td>
<td>Rochdale</td>
<td>Bus and coach</td>
<td>Accessible coach range</td>
</tr>
<tr>
<td>MG Motors</td>
<td>Longbridge</td>
<td>Car</td>
<td>MG3 and MG5</td>
</tr>
<tr>
<td>MINI</td>
<td>Oxford</td>
<td>Car</td>
<td>MINI 3-Door Hatch, MINI 5-Door Hatch, MINI Convertible, MINI Clubman, MINI Coupé and MINI Roadster</td>
</tr>
<tr>
<td>Minibus Options</td>
<td>Whaley Bridge</td>
<td>Bus and coach</td>
<td>Minibus range</td>
</tr>
<tr>
<td>Morgan</td>
<td>Malvern</td>
<td>Car</td>
<td>Aero, Aero Supersport, Aero Coupe, 645 Plus, 646 Plus, 648, Roadster, 4 Seater and 4 Wheeler</td>
</tr>
<tr>
<td>Nissan</td>
<td>Sunderland</td>
<td>Car and engine</td>
<td>Juke, LEAF, Note and Qashqai, Infrint Q30</td>
</tr>
<tr>
<td>Optare</td>
<td>Leeds</td>
<td>Bus and coach</td>
<td>Salsa, Tempo and Versa bus range</td>
</tr>
<tr>
<td>Planton</td>
<td>Scarborough</td>
<td>Bus and coach</td>
<td>Chevr-ac Elite, Panther, Paragon coach bodies and Loven bus range</td>
</tr>
<tr>
<td>Rolls-Royce</td>
<td>Goodwood</td>
<td>Car</td>
<td>Ghost, Phantom and Wraith</td>
</tr>
<tr>
<td>Toyota</td>
<td>Burnaston</td>
<td>Car and engine</td>
<td>Auris and Avensis</td>
</tr>
<tr>
<td>Vauxhall</td>
<td>Ellesmere Port</td>
<td>Car and coach</td>
<td>Astra 5-Door Hatch, Astra Sports Tourer</td>
</tr>
<tr>
<td>Vauxhall</td>
<td>Luton</td>
<td>CV</td>
<td>Vivaro van</td>
</tr>
<tr>
<td>Warnerbus</td>
<td>Dunstable</td>
<td>Bus and coach</td>
<td>Minibus range</td>
</tr>
<tr>
<td>Wrightbus</td>
<td>Ballymena (NI)</td>
<td>Bus and coach</td>
<td>Bus range</td>
</tr>
</tbody>
</table>

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23. Sector’s contribution to GVA: The UK Automotive Manufacturing sector generated £14.5 billion of GVA in 2016 which is 8 per cent of UK manufacturing GVA.\textsuperscript{14} Turnover in 2016 was £74.3 billion.\textsuperscript{15} Automotive sector GVA has grown 85 per cent between 2009 and 2016.

\textit{Investment in research and development, and innovation}

24. The sector is also increasingly investing in research and development (R&D) to keep the UK at the forefront of innovation. In 2016 the automotive sector invested £3.4bn, almost 15 per cent of the total UK R&D. In real terms R&D spending in the automotive industry increased by 20 per cent since 2015.\textsuperscript{16}

25. The government has strengthened the research and development framework. £500 million has been committed over 10 years (first competitions in fiscal year 2014/15) to the Advanced Propulsion Centre (APC) to accelerate the development of affordable low-carbon, clean-air vehicle technologies, with a further £200 million through the Office for Low Emissions Vehicles. £200 million has been provided to support the UK’s objective of being a global leader in the development and testing of connected and automotive vehicles (CAV). Industry is providing matching funding in all cases.

26. Most recently, £246 million of funding from the Industrial Strategy Challenge Fund\textsuperscript{17} has been committed to the “Faraday Challenge” to develop world leading batteries, designed and manufactured in the UK, to fully exploit the industrial opportunity of vehicle electrification.

\textit{Sector employment}

27. In 2016, the sector directly employed 159,000\textsuperscript{18} people with a further 238,000 in the wider supply chain.\textsuperscript{19} The 159,000 direct jobs are based on the ONS classification (Standard Industrial Classification: 29) which is internationally agreed. It covers all automotive related manufacturing including engines. Employment is distributed across the UK, with high regional concentrations in the West Midlands and the North West.

\textsuperscript{14} UK GDP(O) low level aggregates National Accounts, ONS June 2017.
\textsuperscript{15} Annual Business Survey, ONS, Nov 2017.
\textsuperscript{16} Business Enterprise research and development, ONS 2016.
\textsuperscript{17}https://www.gov.uk/government/news/business-secretary-announces-industrial-strategy-challenge-fund-investments
\textsuperscript{18} Workforce jobs (4 quarter average of employee jobs & self-employment), ONS March 2017.
\textsuperscript{19} BEIS Estimates based on 2010 Analytical Supply Use Table Multipliers 2013.
Table 2: Estimated Employment (% of total industry employment)\textsuperscript{20}

<table>
<thead>
<tr>
<th>UK</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North East</td>
<td>9%</td>
</tr>
<tr>
<td>North West</td>
<td>12%</td>
</tr>
<tr>
<td>Yorkshire and The Humber</td>
<td>8%</td>
</tr>
<tr>
<td>East Midlands</td>
<td>6%</td>
</tr>
<tr>
<td>West Midlands</td>
<td>34%</td>
</tr>
<tr>
<td>East of England</td>
<td>4%</td>
</tr>
<tr>
<td>London</td>
<td>3%</td>
</tr>
<tr>
<td>South East</td>
<td>9%</td>
</tr>
<tr>
<td>South West</td>
<td>5%</td>
</tr>
<tr>
<td>Wales</td>
<td>6%</td>
</tr>
<tr>
<td>Scotland</td>
<td>2%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>3%</td>
</tr>
</tbody>
</table>

28. Nearly 7 per cent of the total workforce in automotive manufacturing comprises European Free Trade Association (EFTA) nationals, higher than the economy average of 5 per cent.\textsuperscript{21} EU nationals are employed across all levels from production staff, to skilled engineers, and into senior management.

29. The sector is also leading the way on developing a talent pipeline. The Department for Education is reforming the post-16 education system to ensure that it can meet the needs of the labour market, both now and in the future. A key principle of the reform agenda is to put employers in the driving seat of the skills system, as employers are best placed to determine the skills businesses need, and this should drive the skills offer.

30. Under the direction of the Automotive Council and with some initial government funding, the industry has established the Automotive Industrial Partnership for Skills (AIP). A skills roadmap was collectively developed by the sector and is being implemented to tackle critical workforce skills shortages as the sector grows and evolves. The automotive sector has been at the forefront of apprenticeship reforms, leading the development and piloting of the new Trailblazer standards, and setting up the Apprenticeship Matching Service.

\textsuperscript{20} Business Registers and Employment Data, ONS 2014.
\textsuperscript{21} Annual Population Survey, ONS.
Table 3: Pattern of trade

<table>
<thead>
<tr>
<th></th>
<th>Total (£bn)</th>
<th>EU (bn)</th>
<th>Rest of World (bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exports</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIC 29: motor</td>
<td>40.1</td>
<td>18.3 (46%)</td>
<td>21.8 (54%)</td>
</tr>
<tr>
<td>vehicles, trailers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and semi-trailers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Imports</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIC 29: motor</td>
<td>56.6</td>
<td>47.7 (84%)</td>
<td>8.8 (16%)</td>
</tr>
<tr>
<td>vehicles, trailers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and semi-trailers</td>
<td></td>
<td></td>
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</tbody>
</table>

31. In volume terms, approximately 80 per cent of the total number of cars produced in the UK is exported, where the EU accounts for 56 per cent of the UK’s car exports.\(^{23}\)

32. In 2016, the sector generated £40.1 billion in exports.\(^{24}\) The EU is the UK’s largest export market, accounting for 46 per cent of automotive export value.

33. Just over half of the total value added embodied in the gross exports of the UK automotive industry reflects value added generated in the UK (either by the exporting industry itself or by upstream domestic suppliers or re-imports).\(^{25}\) The other half reflects the value added generated abroad, of which 24 per cent is from within the EU and 21 per cent is Non-EU. This is contrary to almost all other UK exporting industries that appeared more dependent on sourcing inputs from non-EU countries.

34. 9.7 per cent of total UK imports (£56.6 billion) was linked to the automotive industry with 85 per cent, by value, (£47.7 billion) imported from the EU. Around six out of ten (59 per cent) of industry imports are from three EU countries: Germany, Belgium, and Spain.\(^{26}\)

35. The global market for vehicles (other than rail) imports, excluding the UK, was worth around £812 billion in 2016. Countries besides the 27 other EU member states accounted for £543 billion, or 67 per cent, of this global market.\(^{27}\)

\(^{22}\) Trade in Goods by Industry, ONS March 2017.
\(^{24}\) ONS Input-Output Tables.
\(^{26}\) ITC Trademap Data made consistent with market access sector SIC code definitions.
\(^{27}\) Data obtained from ITC, which is based on UN COMTRADE statistics. The value of the global market is defined as the sum of every country’s imports for whom data was available, minus the value of the UK imports. Vehicles other than rail comprise HS chapter 87.
Historical trends and future prospects

36. Mass vehicle production in the 1950s was dominated by US (Ford and General Motors) and European vehicle makers. The UK (Austin Morris, Jaguar, Rover, and Triumph, which were later joined together to form British Leyland) was second only to the USA in vehicle production, making twice the number of vehicles of Germany. Japanese vehicle makers became globally competitive in the 1960s and 70s, gaining substantial market share in both established and emerging markets.

37. Ownership of UK vehicle makers has changed considerably. The Rover Group, formerly British Leyland, was sold by its owner British Aerospace to BMW in 1994 (which retained production of the Mini at Cowley). MG Rover at Longbridge was sold to Pheonix Venture Holdings in the Midlands but ultimately went bankrupt in 2005, and was bought by Nanjing Automobile Group (later SAIC). Jaguar was bought by Ford in 1990, followed by Land Rover in 2000. Ford subsequently sold Jaguar and Land Rover to Tata. This period was characterised by multi-billion-pound inward investment, in particular from Japan, with Honda, Nissan, and Toyota establishing vehicle and engine production plants in the UK.

38. The economic downturn in 2008 had a severe effect on sales and production in the UK, but there has been a strong bounce back for UK built vehicles, largely due to the growth of Jaguar Land Rover, the continued success of the Nissan Qashqai, and UK engine manufacturing strength.

39. There is broad consensus that the next ten years will witness greater changes in the automotive industry than in the last 100 years. Developments in digital technology will radically change driving, as new connected and autonomous vehicles replace their analogue predecessors.

40. Manufacturing will be transformed by digitalisation, machine-to-machine communication, and the increasing use of data to improve processes and products. Old business models will have to be adapted and modernised as the telecoms, technology, and automotive sectors converge, and as new disruptive challenger businesses enter the market. All this will come in parallel with the technological advances necessary to counter climate change through the development of the next generation of low and ultra-low emission vehicles.

The current EU regulatory regime

41. The arrangements described in this section are examples of existing arrangements between countries. They should not be taken to represent the options being considered by the Government for the future economic relationship between the UK and the EU. The Government has been clear that it is seeking pragmatic and innovative solutions to issues related to the future deep and special partnership that we want with the European Union.
EU Customs Union and Single Market

42. Articles 28-37 of the Treaty on the Functioning of the European Union (TFEU) set out the Treaty provisions on the free movement of goods, including the establishment of the Customs Union. This has been achieved by establishing the Customs Union within the EU and by preventing Member States imposing customs duties or formalities on goods imported from other Member States. In addition, these rules prevent Member States imposing restrictions on the quantity of imports and exports of a particular item (e.g. quotas or an import or export ban).

43. This legal framework also prevents non-tariff barriers that may restrict imports and exports in less direct ways, for example, by applying product standards and regulations that make it harder in practice for goods coming from one Member State to be sold within another. The exception is where those restrictions can be justified on certain grounds. The legal framework has been achieved by establishing a common set of product rules, underpinned in many cases by voluntary standards. For goods not covered by those rules and standards, the principle of mutual recognition has been developed (whereby once goods have been lawfully manufactured and marketed in one Member State, another Member State cannot then require it to comply with additional product rules). Finally, goods imported from other Member States must be treated in the same way as goods produced nationally.

Regulatory standards

44. Regulatory standards play a crucial role in determining the design and production costs of a vehicle affecting vehicle design, components and manufacturing processes. The harmonised regulations of the United Nations Economic Commission for Europe (UN-ECE), accepted in more than 50 markets (but not the USA), help to minimise these costs. UN-ECE standards relate predominantly to safety.

45. The UK Government implements EU legislation on harmonised vehicle standards for relating to all road vehicle manufacturing. This legislation applies across the UK but the national governments in Scotland, Wales and Northern Ireland can make separate provisions for the use of vehicles in certain circumstances.

46. Regulatory barriers are one of the industry’s most significant concerns, in relation to international trade with non-EU markets. These include differences in local testing and certification requirements, and application of technical regulations different to those agreed globally through UN-ECE. Alongside efforts to address regulatory barriers through bilateral and plurilateral agreements, the UK will continue to participate and influence UN-ECE Regulations\(^\text{28}\) at the multilateral level.

\(^{28}\) The Global Technical Regulations are developed under the 1998 international Agreement on vehicle construction to which the EU is a Contracting Party.


Type approval

47. All new vehicles and trailers sold in the UK must be type approved (whole vehicle approval) by an EU type approval authority prior to registration. This is a process that ensures vehicles irrespective of where they are produced comply with relevant environmental, safety and security standards and account for both the UN-ECE and EU led regulations. The UK type approval authority is the Vehicle Certification Agency (VCA), an executive agency of the Department for Transport.

48. Whole vehicle type approval brings together all the individual system and component approvals for a vehicle into a single legal document enabling a manufacturer to demonstrate that it complies with all the relevant technical requirements. The manufacturer can then produce subsequent vehicles in conformity with the original approval, and issue a certificate of conformity for each vehicle.

49. Member States are permitted to implement national schemes for low volume production within certain guidelines. These national schemes are lighter touch and allow deviation from the full set of EU vehicle standards.

CO2 emissions

50. EU Regulations (EC 443/2009 and EC 520/2011) deliver reductions in CO2 emissions from new cars and vans sold into the single market. In short, this works by setting fleet averaged targets for manufacturers. Significant fines for noncompliance are in place, encouraging manufacturers to invest in the development of more fuel efficient and new technologies.

Air pollutants

51. European emission standards (EC 715/2007) define the limits for exhaust emissions of new vehicles sold in the EU and EEA member states. They set limits for emissions of nitrogen oxides, total hydrocarbons, non-methane hydrocarbons, carbon monoxide and particulate matter. The emission standards are set in a series of directives staging the progressive introduction of increasingly stringent emissions standards.

52. In addition to stringent emissions standards, a new Real World Driving Emissions test will be introduced as part of the European Community (EC) Type Approval process from 2017. This is to ensure that new vehicles more accurately meet the regulated emissions limits when tested in real world driving situations.

Connected and autonomous vehicles

53. The development of regulation and standards for the operation and use of connected and autonomous vehicles in the EU is emerging. Systems and networks are likely to be run by manufacturers and operators transnationally as well as access networks and systems at national and local level. Standards for systems are likely to be set at international level at UN-ECE. However, operational usage and implementation may
be affected by what is allowed under EU Type Approval. EU competency will extend
to things like connectivity and Cooperative Intelligent Transport Systems (C-ITS),
data flow and privacy, insurance, and infrastructure.

**EU funding**

54. The UK automotive sector has not been a major beneficiary of Horizon 2020 funding.
Funding of €21.4 million out of a total of €344.2 million was secured from the Green
Vehicles and Road competitions in 2014 and 2015.

55. EU funding can also contribute indirectly at the business level to the automotive
sector – in particular, the range of EU grants and loans for small and medium sized
enterprises, and the support for research and innovation, much of which come from
the European Structural and Investment Funds.

**International rules and standards**

56. The EU Member States, the Commission and the UN Governments, strive to ensure
harmonisation is maintained between the EU and UN-ECE with the EU adopting the
safety regulations developed in the UN-ECE while the environmental standards of
the EU are adopted into UN-ECE regulations. There are no harmonised international
standards for a limit on car or van CO2 emissions.

57. The UK belongs to the UN-ECE 1958 Agreement as an individual member (since
1963) and as part of the EU following the EC joining the UN-ECE in 1998, so our
membership will continue after exit. The EU has adopted most of the UN-ECE
standards, as have other territories like Japan. To sell a vehicle in the EU, the vehicle
must be checked by an EU type approval authority (e.g. the VCA). That authority will
check that the “whole vehicle” complies with up to 60 separate technical
requirements, by ensuring that there is an individual approval for each system on the
vehicle (e.g. tyres, seat belts, and lighting). Approval can be achieved through
compliance with UN-ECE regulations where the EU has adopted those regulations or
to EU specific legislation where harmonisation has not been achieved. Non-EU
countries do not have “whole vehicle” approval, but have their own systems for
demonstrating that the complete vehicle is satisfactory.

58. The UK is well respected in the UN groups and experience over recent years shows
that the UK can be influential/instrumental in creating the compromise situations that
build consensus whilst delivering UK policy objectives. This plays well to UK interests
as vehicle manufacturers favour UN approvals over EU as they provide access to
many more markets than an EU approval. The EU is required to accept, as an
alternative to an EU regulation, a vehicle that has demonstrated compliance with an
equivalent UN-ECE Regulation to which the EU is a Contracting Party.
Rules that affect how non-EU countries are able to trade with the EU

59. World Trade Organization agreements are the main source of international rules for trade between the UK/other Member States and non-EU countries. The most well-known of these agreements, the General Agreement on Tariffs and Trade and the General Agreement on Trade in Services, cover tariffs (import duties) on goods and market access for services (including those in the automotive sector). There are more than 20 WTO agreements to which the EU is a party. These agreements cover, amongst other matters, Rules of Origin, technical barriers to trade, anti-dumping, subsidies, dispute settlement and government procurement. In addition to the WTO agreements, the EU has entered into a range of agreements such as free-trade agreements, association agreements and economic partnership agreements which contain further rules governing trade between the parties to the agreement.

60. EU legislation has been adopted which implement “domestic” (i.e. within the EU) obligations and/or procedures to be followed in relation to those international agreements.

Devolved Administrations

61. The UK Government implements the harmonised EU legislation relating to vehicle construction for all new road vehicles. This legislation applies across the UK but the national governments in Scotland, Wales and Northern Ireland can make separate provisions for the use of vehicles in certain circumstances.

Existing frameworks for how trade is facilitated between countries in this sector

62. The arrangements described in this section are examples of existing arrangements between countries. They should not be taken to represent the options being considered by the Government for the future economic relationship between the UK and the EU. The Government has been clear that it is seeking pragmatic and innovative solutions to issues related to the future deep and special partnership that we want with the EU.

63. Manufacturers from outside of the EU wishing to export automotive products to the EU need to meet the requirements set out in any applicable EU legislation, in particular vehicle standards legislation. Importers and distributors of automotive products from manufacturers based in third countries must satisfy themselves that the products comply with EU legislation, including type approvals from a type approval authority. These manufacturers would also need to comply with legislative requirements in their home country, and any other countries where they intend to market automotive products.

64. Countries can use bilateral agreements to reduce the regulatory barriers to operating in different regimes. In the case of vehicle standards, these agreements have been
typically integrated into free trade agreements (FTA). One example is the EU-South Korea FTA, which includes a provision on the mutual recognition of vehicle type approvals. The provision establishes that a type approval issued by one party’s “competent authority”, confirming conformity with the relevant UN ECE Regulations, must be accepted by the other party as providing proof of conformity. Both EU and South Korea committed to harmonising their own regulations to UN-ECE regulations or Global Tech regulations within five years.

65. Other existing agreements, such as the EU-Swiss agreements and the EEA Agreement, provide for further mutual recognition. For example the EU-Swiss mutual recognition agreements includes a chapter on motor vehicles, which allows for mutual recognition of vehicle type approvals, and is linked to an agreement that recognises Swiss legislation as equivalent. Where legislation is deemed equivalent, EU type approvals will be recognised as proving conformity with Swiss legislation, and vice versa. They also cover cooperation on market surveillance of products already on sale.

66. In the EEA agreement, for industrialised goods (including construction products / machinery and electronics / consumer goods), EEA countries adopt EU product legislation into their domestic legislation, and goods that originate from these countries are treated as products from Member States. The agreement also includes a system of surveillance and enforcement.

67. In the automotive sector, product regulations are informed by international organisations which facilitate the development of common approaches across countries, drawing on best practice. These organisations bring together national regulators. For example, the United Nations Economic Commission for Europe established provisions related to safety and environmental aspects of vehicle standards. They include performance-oriented test requirements and administrative procedures which address, for example, the type approval (of vehicle systems, parts and equipment), production conformity and the mutual recognition of the type approvals granted by signatories. The work of these organisations can facilitate similar regulatory approaches across a number of countries, which in turn can help business in operating in a number of countries.

Customs

68. There are many customs facilitation arrangements in international agreements. These include the EU’s agreements with a number of third countries, such as Canada, Korea, and Switzerland. These agreements differ in the depth and scope of customs facilitation offered. Examples of customs facilitations include: simplifying customs procedures, advance electronic submission and processing of information before physical arrival of goods, and mutual recognition of inspections and documents certifying compliance with the other parties’ rules.
**Tariffs**

69. In the absence of a preferential trade agreement, goods imported into the EU from non-EU countries must pay a tariff. Tariffs are custom duties levied on imported goods. Under WTO Most Favoured Nation (MFN), a country’s tariff schedule must be consistent for all countries it trades with, except those where a preferential trade agreement exists. EU MFN tariff rates vary depending on the good. The EU’s external tariff on finished cars is 10 per cent whilst tariffs on car components range from 2.5–4.5 per cent.

**Rules of Origin**

70. The EU includes rules of origin in all of its FTAs, which are restrictions on the originating content of products that exporters must comply with to gain tariff preferences. These rules typically reflect the supply chains of both the EU and its FTA partner. Many of the EU’s rules of origin arrangements are based on the Regional Convention on Pan-Euro-Mediterranean Preferential Rules of Origin, which includes provisions that allow producers to treat content from some third countries as if it comes from their own country. Several arrangements aim to reduce the administrative requirements associated with origin certification, including the EU’s Registered Exporter (REX) system, which lets businesses register for self-certification of origin using an online system, avoiding paper certificates.

**Sector views**

[This information was provided by the Government to the Committee, but the Committee has decided not to publish this section]
Annex: Stakeholder Engagement on European Union Exit (EU Exit) in the Department for Business, Energy and Industrial Strategy

[This information was provided by the Government to the Committee, but the Committee has decided not to publish this section]