

Electronics and Machinery Sector Report

This report covers Electronics and Machinery and equipment.

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. This report covers both the Parts and Machinery sector and the Electronics and Electrical Sector. As defined these sectors combined contribute c. £28bn to UK GVA (1.6 per cent).¹

Parts and machinery

5. 'Parts and Machinery' is used to describe a discrete subset of UK manufacturing (the manufacture, installation and repair of machinery and equipment). This collective does not operate as a single sector and Government has not traditionally engaged with the entirety of this defined group.²
6. Most of the subsector is characterised by a large number of small firms and fewer larger operators. Exceptions to this are the manufacture of mining, quarrying and construction equipment, in which JCB and Caterpillar account for a large part of the market, and agricultural and forestry equipment in which CNH Industrial NV has a significant market share.

¹ ONS, GDP(O) Low Level Aggregates National Accounts ONS, 2016 (combined figure)

² This group is defined as a subset covered by Standard Industry Classification (SIC) Codes 28 and 33 (excluding repairs to transport equipment which are picked up by other sector assessments).

7. Examples of companies manufacturing in the UK under these SIC codes range from moving equipment manufacturers to machine tool providers, engineering companies and manufacturers of elements such as valves, gearboxes, pumps, and engines. This includes companies such as JCB, 600 Group, Yamazaki Mazak, Doosan Babcock, Rotork, Goodwin and Perkins (Caterpillar).
8. There has been some consolidation of global machinery providers and a number of the larger firms operating in the UK are now subsidiaries of global organisations. Larger UK based/ owned machinery players are also global players often opening manufacturing facilities in Europe, the Americas and Asia reflecting the relative strength and growth potential of those markets. Exporting machinery companies tend to operate globally from the UK rather than having an over-reliance on the single trading relationship with the EU.

Trade

| Key statistics on sector: Parts and Machinery | | | |
|---|---------------------------------|------------------------|--|
| UK Size: £49.5 billion turnover ³ | GVA: £15.1 billion ⁴ | 0.9 per cent of UK GVA | SMEs: 76 per cent (sector turnover) ⁵ |

9. The sector is characterised by a large degree of international trade. Most UK production is for export and most domestic consumption is satisfied by imports. The UK industry relies on imported inputs to its production.
10. Maintenance and repair activities are less open to international trade as the activity often has to occur at or close to the customers (a piece of machinery is more likely to be bought from abroad than sent abroad to be serviced or repaired). This also leads to a large number of geographically dispersed small operators serving local markets.
11. The UK is a net importer of machinery. Imports will include high value components for UK products where there is no domestic competence and will also reflect multinational ownership of many companies in the sector, which will include imports from other global manufacturing centres.
12. Exports: Parts and machinery accounted for approx. £26.9 billion (9 per cent) of the UK's exports of goods; £11.5 billion (43 per cent) of which was exported to the EU.⁶ The top three trading partners by value are: the US (16 per cent of exports); Germany (9 per cent); and France (6 per cent).⁷ Based on 2015 commodity codes data, the largest exports (EU and globally) from this sector were "Appliances for pipes, boiler shells, tanks and vats". The second and third largest global exports were

³ ONS, 2016 Annual Business Survey.

⁴ ONS, GDP(O) Low Level Aggregates National Accounts ONS, 2016.

⁵ BEIS, Business Population Estimates 2016.

⁶ ONS Trade in Goods classified by CPA, ONS Pink Book Table 9.11, DCMS Economic Estimates.

⁷ ITC Trade map. Data made consistent with market access sector SIC code definitions.

“general machines and mechanical appliances” and “self-propelled mechanical shovels, excavators and loaders”.⁸

13. Imports: £30.1 billion of total UK imports (7 per cent) were associated with the parts and machinery sector, with £18.5 billion by value (62 per cent) imported from the EU.⁹ The top three trading partners in this sector are: Germany (22 per cent of imports); the United States (12 per cent); and China (9 per cent). The largest imports from this sector were “Appliances for pipes, boiler shells, tanks and vats”, “air pumps and air compressors” and “self-propelled mechanical shovels”.
14. The global markets for Machinery and Electronics imports, excluding the UK, were worth around £1,274 billion and £1,921 billion respectively in 2016. Countries besides the 27 other EU Member States accounted for £919 billion (72 per cent) and £1,516 billion (79 per cent), of these global markets.¹⁰
15. The sector accounted for 284,000 direct jobs in 2016,¹¹ (0.8 per cent of total UK employment and c.10 per cent of UK manufacturing) and supports a further 223,000 indirect jobs.¹² 94 per cent of the directly employed workforce in the UK is estimated to be UK nationals; 4 per cent are from the EFTA; and 2 per cent from outside the EFTA.¹³ While the number of EEA/EFTA nationals may appear low, this may include specialists and staff with scarce skills.
16. 14% of the sector, by employment, is located in the West Midlands; however there is no central hub or area where manufacturing in parts and machinery is especially concentrated. The geographical distribution of GVA and employment is set out in the tables below.

⁸ HMRC Overseas Trade Statistics, 2015 data.

⁹ ONS Trade in Goods classified by CPA, ONS Pink Book Table 9.11, DCMS Economic Estimates.

¹⁰ 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. As a rough approximation, the Machinery & Equipment sector has here been taken to comprise HS chapter 84.

¹¹ BEIS calculations on ONS employee and self-employment 2016.

¹² BEIS estimates based on 2010 analytical supply use tables multipliers 2010.

¹³ Source: Annual Population Survey (ONS).

| GVA – Parts and Machinery¹⁴ | | | |
|---|----------------------|---|---|
| | | Machinery & Equipment GVA (per cent) | All sectors share of UK GVA (per cent) |
| Region | North East | 6 | 3 |
| | North West | 8 | 10 |
| | Yorkshire and Humber | 7 | 7 |
| | East Midlands | 10 | 6 |
| | West Midlands | 12 | 7 |
| | East of England | 11 | 8 |
| | London | 5 | 22 |
| | South East | 15 | 15 |
| | South West | 7 | 7 |
| Country | Wales | 7 | 2 |
| | Scotland | 11 | 8 |
| | Northern Ireland | 2 | 4 |
| | England | 80 | 86 |

¹⁴ Estimates based on calculations from National accounts, Regional gross Value Added and Regional Annual Business Survey

Employment – Parts and Machinery¹⁵

| | | Share of Parts and Machinery employment (per cent) | Sector share of UK employment (per cent) |
|----------------|----------------------|--|--|
| Region | North East | 5 | 4 |
| | North West | 11 | 11 |
| | Yorkshire and Humber | 11 | 8 |
| | East Midlands | 9 | 7 |
| | West Midlands | 14 | 8 |
| | East of England | 11 | 9 |
| | London | 2 | 16 |
| | South East | 11 | 14 |
| | South West | 8 | 8 |
| Country | Wales | 4 | 4 |
| | Scotland | 10 | 9 |
| | Northern Ireland | 2 | 3 |
| | England | 83 | 84 |

Electronic and electrical

17. Electronics and Electrical describes a disparate industry, covering research, design, qualification, production, manufacture, installation and maintenance.¹⁶ The industry acts as a horizontal sector, feeding into supply chains across the global economy. Innovations in other supply chains are driven by the application of electronics. The sector provides benefits to a diverse range of areas, including smart manufacturing, healthcare, low energy building, autonomous vehicles and quantum computing. While the UK has strengths in research and design, there has been a decline in electronics manufacturing in the UK as it is highly sensitive to production prices.

18. Examples of companies operating in the UK under these SIC codes range from large multi-national companies such as Siemens, Schneider, Cummins and Thales, to UK global technology companies such as Smiths Group. This SIC code includes a large number of more specialist component providers such as TT electronics, IQE and Dynex. Specialist electrical equipment providers such as Sony, Panasonic and Spectac will also fall into this category.

¹⁵ BEIS Calculations on ONS Employee and Self Employed jobs.

¹⁶ This group is defined as a subset covered by Standard Industry Classification codes 26 (manufacture of computer, electronic and optical products) and 27 (manufacture of electrical equipment). Therefore this will include Manufacture of irradiation, electromedical and electrotherapeutic equipment but exclude Manufacture of medical and dental instruments and supplies (SIC code 32).

Trade

Key statistics on sector: Electronics and Electrical

| | | | |
|---|--|------------------------|---|
| UK Size: £34.185 billion Turnover ¹⁷ | GVA £12.845 billion ¹⁸ (8 per cent of total UK manufacturing) ¹⁹ | 0.7 per cent of UK GVA | SMEs: 51 per cent (Sector Turnover) ²⁰ |
|---|--|------------------------|---|

19. Exports: Electronics accounts for £35 billion (12 per cent) of the UK's exports of goods; £16 billion (47 per cent) of which is exported to the EU.²¹ The top three export destinations are: the United States (14 per cent), Germany (11 per cent) and Ireland (6 per cent).²² The biggest exported product by total value of exports is telecommunications equipment HS 851762 (Machines for the reception, conversion and transmission or regeneration of voice, images or other data) at £1.7bn.²³
20. Imports: Electronics accounts for £66 billion (15 per cent) of total UK imports of goods; £31 billion (47 per cent) of which is imported from the EU.²⁴ The top three origins for imports are: China (26 per cent), Netherlands (12 per cent) and Germany (11 per cent). The biggest imported product by total value of imports is HS 851712 (Telephones for cellular networks "mobile telephones" or other wireless networks) at £6.5 billion.^{25 26}
21. The sector accounts for 207,000 direct jobs (0.6 per cent of total UK employment) and supports a further 155,000 indirect jobs.²⁷ A significant proportion of the employment within the sector is held within the larger firms, as many of the enterprises in the sector are microbusinesses.
22. The majority of sector employment is located in the South East and South West (combined 32%) and the East of England (11 per cent). There are significant clusters in Cambridge, around Bristol and along the M4 corridor. According to independent

¹⁷ ONS 2016 Annual Business Survey.

¹⁸ GDP(O) Low Level Aggregates National Accounts ONS.

¹⁹ UK Government's valuation of the UK electronics manufacturing sector is based on Standard Industrial Classification (SIC) codes 26 and 27. The ElecTech Council – formerly known as the Electronic Systems Community (ESCO) – undertook significant work in 2012-2013 to define the electronics community more broadly (including system-integrators), stating that activity suggests around 858,000 people in 40,000 companies are employed in electronics including embedded electronic systems activity in non-electronic systems businesses.

²⁰ BEIS Business Population Estimates 2016.

²¹ ONS Trade in Goods classified by CPA, ONS Pink Book Table 9.11, DCMS Economic Estimates.

²² ITC Trade Map.

²³ Data for 2016 Exports from ITC Trade Map Statistics.

²⁴ ONS Trade in Goods classified by CPA, ONS Pink Book Table 9.11, DCMS Economic Estimates.

²⁵ ONS Data for 2015 imports.

²⁶ Trade statistics do not capture the value of licensed manufacture of UK Intellectual Property (IP), or capture the value of electronics embedded in other exports – Aerospace, Automotive, computers and consumer equipment.

²⁷ BEIS Calculations on ONS Employee and Self Employed jobs.

reports, the South East is a key area for electronic component manufacturing, with many R&D centres and fabless manufacturers.²⁸ The East of England is notable for distribution networks for exporting. A breakdown of the sector's share of regional presence is below.

| GVA – Electronics and Electrical²⁹ | | | |
|--|-----------------------------|---|--|
| | | Share of Electronics and Electrical GVA (per cent) | Sector share of total UK GVA (per cent) |
| Region | North East | 3 | 1 |
| | North West | 7 | 1 |
| | Yorkshire and Humber | 6 | 1 |
| | East Midlands | 7 | 1 |
| | West Midlands | 7 | 1 |
| | East of England | 12 | 1 |
| | London | 4 | 0 |
| | South East | 24 | 1 |
| | South West | 12 | 1 |
| Country | Wales | 5 | 1 |
| | Scotland | 8 | 1 |
| | Northern Ireland | 4 | 2 |
| | England | 82 | 1 |

²⁸ IBISWorld Industry Report C26.110 Electronic Component Manufacturing in the UK, May 2017 (<https://www.ibisworld.co.uk/industry-trends/market-research-reports/manufacturing/manufacture-of-computer-electronic-optical-products/electronic-component-manufacturing.html>).

²⁹ Estimates based on calculations from National accounts, Regional gross Value Added and Regional Annual Business Survey.

| Employment – Electronics and Electrical³⁰ | | | |
|---|-----------------------------|---|---|
| | | Share of Electronics and Electrical employment percentage (per cent) | Sector share of total UK employment (per cent) |
| Region | North East | 4 | 1 |
| | North West | 8 | 1 |
| | Yorkshire and Humber | 5 | 0 |
| | East Midlands | 7 | 1 |
| | West Midlands | 8 | 1 |
| | East of England | 11 | 1 |
| | London | 4 | 0 |
| | South East | 21 | 1 |
| | South West | 11 | 1 |
| Country | Wales | 9 | 1 |
| | Scotland | 8 | 1 |
| | Northern Ireland | 3 | 1 |
| | England | 80 | 1 |

23. The employment share in Wales is 9 per cent and GVA share is 5 per cent. The world's first compound-semiconductor cluster is being established in South East Wales and it was announced last year that the new Compound Semiconductor Applications Catapult will be based in Wales.³¹

24. The employment share in Scotland is 8 per cent and GVA share is 8 per cent. The Silicon Glen (triangle between Dundee, Inverclyde and Edinburgh) is an area associated with high-tech electronic component manufacturing. There is a Photonics cluster in Scotland, including the Fraunhofer Centre for Applied Photonics at the University of Strathclyde – a world-leading centre in applied laser research and development.³²

25. The employment share in Northern Ireland is 3 per cent and GVA share is 4 per cent. One of the UK's bigger electronic component manufacturers, Seagate technology (a US data storage technologies business), is based in Springtown and is one of Northern Ireland's largest private sector employers, averaging 1,404 people in 2016.

³⁰ BEIS Calculations on ONS Employee and Self-Employed jobs.

³¹ The Catapults are a network of world-leading centres designed to transform the UK's capability for innovation in specific areas and drive economic growth.

³² The Fraunhofer CAP is a world-leading centre in the field of applied laser research and development, which is involved in a wide range of photonics applications including energy, security, environmental, sensing, space, life sciences and quantum technologies.

26. There are 9,155 registered companies in this sector, which has been characterized by a history of mergers and acquisitions of UK firms by global companies recently, both larger established companies and innovative smaller UK businesses.
27. SMEs make up 63 per cent of employment and 51 per cent of turnover in the sector. This includes small businesses (1-50 employees) which make up 29 per cent of employment and 21 per cent of turnover.³³ SME ownership and management is split between UK, European and global entities. Many companies export worldwide and have moved some of their manufacturing activity overseas to get closer to local markets.
28. The sector contains a small number of large firms, many of which are foreign-owned or subsidiaries of global companies – particularly companies in the United States, France and Germany. Some companies only manufacture for the UK market.
29. Business expenditure on R&D in the sector in 2015 was £2.4 billion, 12 per cent of total UK business R&D.³⁴ According to independent reports, as the rate of technological change in the sector is high, significant capital investment is required (a new semiconductor manufacturing facility can cost £2 billion).³⁵ In addition, the miniaturization of electronic components has meant capital intensive automated equipment is required. Whilst some larger companies have chosen to invest in capital machinery, many outsource to contract manufacturing companies abroad.³⁶
30. UK electronics operate through a complex global network of supply chains as materials, components and products are all imported and exported multiple times. Components and subsystems are all subjects of research, design and manufacture and the geographic basis is globally diverse. Many companies operate a 'just-in-time' model working across UK factories and facilities – using pre-clearance procedures for some countries outside the EU customs union.
31. Around 5 per cent of total UK electronics workers are EFTA nationals and another 3 per cent of employees are from Rest of the world (RoW).³⁷ EU and RoW workers tend to be highly skilled, for example electronics engineers and computer scientists.
32. European Structural Funds can contribute indirectly at the business level to electronics – in particular, the range of EU grants and loans for SMEs and the European Regional Development Fund allocation towards research and innovation. Competitiveness of Small and Medium-sized Enterprises (COSME) is another programme of EU support for SMEs, running from 2014 to 2020 with a budget of €2.3

³³ BEIS Business Population estimates.

³⁴ Business Enterprises Research and Development (ONS).

³⁵ IBISWorld Industry Report C26.110 Electronic Component Manufacturing in the UK, May 2017 (<https://www.ibisworld.co.uk/industry-trends/market-research-reports/manufacturing/manufacture-of-computer-electronic-optical-products/electronic-component-manufacturing.html>).

³⁶ ESCO Electronic Systems Challenges & Opportunities – Work stream 4: Manufacturing, 2013 (<http://www.esco.org.uk/manufacturing/>).

³⁷ Annual Population Survey (ONS).

billion. In the UK, there are only two financial intermediaries both under loan guarantee facilities, with funding allocated on a competitive basis and is therefore demand driven. There is minimal or no participation of UK electronics companies in ECSEL (Electronic Components and Systems for European Leadership) and AENEAS (Association for European NanoElectronics Activities).

The current EU regulatory regime

33. The majority of products in these sectors are covered by harmonisation legislation that set out the 'essential safety requirements' for the product. The legislation also sets out the conformity assessment process (pre-market testing requirements) and various administrative obligations, including documentation, labelling and use of the 'CE mark' required to be undertaken to demonstrate compliance with the legislation. Conformity assessment ranges from declaration by the manufacturer or importer supported by documentary evidence, through to mandatory use of test laboratories appointed by an EU Member State.
34. For products (or aspects of products) not covered by harmonisation legislation, Member States may maintain their own domestic technical regulations (a small group for these sectors). There is also the principle of mutual recognition, which states that (subject to various caveats) a product which is legally marketed in one Member State is entitled to free circulation throughout the rest of the EU.

Safety-related legislation

35. All machinery, electronic and electrical products are regulated for safety under EU law to ensure a common requirement across the internal market. Examples of legislation in this area include:
36. The Machinery Directive: Manufacturers of new machinery³⁸ (and other products in scope³⁹) to be placed onto the European Economic Area (EEA⁴⁰) market must design, construct and supply products that comply with the Machinery Directive. In particular, they must be designed and built to meet the relevant essential health and safety requirements.⁴¹ These requirements have been implemented in the UK by the Supply of Machinery (Safety) Regulations 2008, as amended by the Supply of Machinery (Safety) (Amendment) Regulations.⁴²
37. Radio Equipment Directive: Some electronics products will be subject to the Radio Equipment Directive, which requires that radio equipment products placed on the market are safe (in terms of the health and safety of persons and domestic animals

³⁸ <http://www.hse.gov.uk/work-equipment-machinery/machinery-directive-definition.htm>

³⁹ <http://www.hse.gov.uk/work-equipment-machinery/machinery-directive-definition.htm#what-else>

⁴⁰ <http://www.hse.gov.uk/work-equipment-machinery/glossary.htm#eea>

⁴¹ <http://www.hse.gov.uk/work-equipment-machinery/machinery-directive-essential-requirements.htm>

⁴² Note that some products, such as pressure related products and equipment for explosive atmospheres, are covered by other sector specific pieces of legislation that include additional safety requirements

and the protection of property) and do not interfere with the radio spectrum. It also requires an adequate level of electromagnetic compatibility and efficient use of the radio spectrum.

38. The Low Voltage Directive⁴³ : This directive ensures that electrical equipment within certain voltage limits provides a high level of protection for European citizens, and benefits fully from the Single Market. Electrical equipment under this directive covers a wide range of consumer and professional products e.g. household appliances, cables, power supply units, laser equipment and some components such as fuses.
39. Product safety legislation is enforced by national Market Surveillance Authorities (MSAs). For the UK, safety legislation is usually enforced by Trading Standards or HSE although some measures are enforced by other agencies (e.g. Environment Agency, BEIS RDD, and Ofcom). The procedures followed by MSAs are designed to ensure that only compliant products are allowed access to the Single Market, and unsafe or non-compliant products are identified and removed from the market.

Environmental-related legislation

40. Machinery, electronic and electrical products are also subject to a number of environmental regulations. Examples of legislation in this area include:
41. Waste Electrical and Electronic Equipment Directive (WEEE): This covers the appropriate disposal of these items to avoid significant environmental and health impacts and to encourage resource efficiency, given that the production of electronics and electrical machinery relies on the use of scarce resources (e.g. rare earths). This includes collection schemes which place burdens on the manufacturers and retailers of electronic goods.
42. Restrictions on Hazardous Substances Directive (RoHS): This restricts the use of hazardous substances in electrical and electronic equipment. The legislation requires heavy metals (e.g. lead, mercury, cadmium), and other materials such as flame retardants, to be substituted for safer alternatives.
43. Registration, Evaluation, Authorisation of Chemicals (REACH) Regulation: Chemicals produced in or imported by the EU are subject to the EU REACH⁴⁴ regime. Chemicals are a prime input material for many electronic component manufacturers.
44. Ecodesign Directive:: This establishes a framework to set requirements for energy-using and energy-related products sold in the EU. Many electronic devices are therefore in scope. The Directive itself only sets the framework – the minimum

⁴³ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0035&locale=en>

⁴⁴ To provide a high level of protection to human health and the environment; make producers (manufacturers and importers) responsible for understanding and managing the risks associated with their usage; allow the free movement of substances on the EU market; enhance innovation in and the competitiveness of the EU chemicals industry; and promote the use of alternative methods for the assessment of the hazardous properties of substances.

ecological requirements are adopted through specific implementing measures for each group of products, so its effective scope will increase over time.

Standards

45. EU regulations on machinery and electronics are supported by voluntary European standards which provide a technical route to compliance. These standards are developed by European Standards Organisations⁴⁵ following a direct request from the European Commission. Though not mandatory, compliance with these standards offers a simple way to demonstrate compliance with the essential requirements of applicable EU legislation. In the majority of cases these European Standards are drawn from international standards, developed through the International Electrotechnical Commission (IEC) and the International Organization for Standardization (ISO). Industry stakeholders look to a common global approach where possible and therefore work through national standards bodies, such as the British Standards Institution (BSI) in the UK, to minimise any deviation between the international standard and 'regional' (e.g. European or Australian) standards.

Intellectual property

46. Intellectual Property frameworks are highly relevant to the electronics sector. Sampled information from the Intellectual Property Office suggests that, in 2014, around 11% of companies in this sector had trademarks in force, with around 11% of companies classed within 'manufacture of computer, electronic and optical products' and 2% of companies classed within 'manufacture of electrical equipment' had patents in force. This is in comparison to the 0.3% of the IPO's total sample of over 2.5m companies that had patents in force in the same year.⁴⁶

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

47. 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.

48. Manufacturers from outside of the EU wishing to export manufactured goods to the EU need to meet the requirements set out in any applicable EU legislation. An

⁴⁵ The UK is represented through BSI in the standard making activities at the European Committee for Standardization (CEN) and European Committee for Electrotechnical Standardization (CENELEC)

⁴⁶ Caveats on data: The IPO's dataset does not represent all patenting / trademarking entities, but only those matched to data in the FAME UK business database. This only counts companies that reported IP assets that can be matched to patent data; ergo no universities or individuals. Trade Mark data does not include international or EU IPO registrations. Patent data includes both GB patents and EU patents (with GB coverage).

important part of this process for many goods in this sector is conformity assessment by an independent notified body before a product can be placed on the market.

49. Importers and distributors of machinery and electronics from manufacturers based in third countries must satisfy themselves that the products comply with EU legislation including conformity assessment where required. These manufacturers would also need to comply with legislative requirements in their home country, and any other countries, where they intend to market products.
50. Countries can use bilateral Mutual Recognition Agreements which allow conformity assessment bodies in either market to carry out product testing and certification to each other's legislative requirements. The authorities in both parties agree to accept conformity assessment decisions issued by bodies recognised in one another's markets. Manufacturers still need to ensure that products meet the requirements set out in the legislation where they plan to market the product. For example, the US has signed MRAs for telecommunications equipment with Israel, Japan and Mexico.⁴⁷
51. The EU has concluded MRAs with seven countries, covering a variety of sectors. Some of the EU's bilateral MRAs have been integrated into FTAs. One example is CETA, where mutual recognition of conformity assessment covers eleven sectors, including electrical and electronic equipment; radio and telecommunications terminal equipment and machinery. CETA also contains provisions for voluntary cooperation on data exchange to support market surveillance activity and exchange of information about the development of technical regulations.
52. Other existing agreements, such as the EU-Swiss agreements and the EEA Agreement, provide for further mutual recognition. For example the EU-Swiss MRAs provide mutual recognition across around twenty product types, including those covered in CETA and measuring instruments, and are linked to an agreement that recognises Swiss legislation as equivalent. Where legislation is deemed equivalent, notified bodies' certificates of conformity with the product rules in the EU will be recognised as proving conformity with Swiss legislation, and vice versa. They also cover cooperation on market surveillance of products already on sale.
53. In the EEA agreement, for industrialised goods, including machinery and electronics, 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.
54. Trade in manufactured goods can be facilitated through the use of international standards, such as those developed by the International Standards Organisation (ISO) and the International Electrotechnical Commission (IEC). These are voluntary agreements on best practice for a given process or product. These standards are voluntary, and the majority are developed purely for commercial purposes, such as to support the interoperability of supply chains.

⁴⁷<https://www.nist.gov/standardsgov/what-we-do/conformity-assessment/mutual-recognition-agreements-mras>

55. In some areas of electronics and machinery, 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 International Organization of Legal Metrology is an intergovernmental treaty organisation that makes model regulations for weights and measures requirements. 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

56. 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

57. 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 simple average of MFN applied duties is 1.9% for non-electrical machinery, and 2.8% for electrical machinery, and 2.6% for Manufacturing not elsewhere specified.⁴⁸

Rules of origin

58. 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 both 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.

⁴⁸ WTO, ITC and UNCTAD (2017), 'World tariff Profiles 2017', p82. In this publication product categories are described using Multilateral Trade Negotiations (MTN) categories

Sector views

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

HOUSE OF COMMONS EXITING THE EUROPEAN UNION COMMITTEE

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]

HOUSE OF COMMONS EXITING THE EUROPEAN UNION COMMITTEE