



THE MANUFACTURING TECHNOLOGIES  
ASSOCIATION




# The Manufacturing Technologies Association

Basic Facts 2021

[www.mta.org.uk](http://www.mta.org.uk)





# Introduction to Manufacturing Technologies

Manufacturing technology is vital for the creation of all modern products, either directly or at some point in the manufacturing process. Machine tools and the directly associated cutting tools and work-holding equipment are used across engineering (including aerospace, automotive, defence, railways, medical equipment, construction equipment, agricultural machinery, oil & gas and consumer durables) and indirectly by almost every part of the manufacturing sector.

Other aspects of manufacturing technology such as metrology (measuring) equipment and computer aided design and manufacturing systems (CAD/CAM) combine with the machines, tooling and work-holding equipment to make up complete systems that are part of our daily lives, making the sector fundamental the nation's economy, despite its relatively small size.

Manufacturing technology underpins much of the Engineering industry; a study for MTA by Oxford Economics showed that allowing for direct, indirect and induced effects, the Engineering industry supports just over 3 million jobs (about 9% of total employment) and £188 billion (about 10%) of UK GDP (in 2016 although the proportions will be similar).

## DEFINITION OF MACHINE TOOLS

**A metalworking machine tool is a power driven machine, not portable by hand when in operation, which works metal by cutting, forming, physico-chemical (or non-contact) machining (e.g. lasers or electrical erosion machines), or a combination of these techniques. Modern machine tools are controlled by sophisticated computers and these are referred to as CNC (computer numerically controlled) machine tools.**

## THE UK MANUFACTURING TECHNOLOGY SECTOR

We estimate that turnover for the manufacturing technology sector in the UK in 2020 was about £1.9 billion, of which about 90% was exported.

Data on the output of machine tools, cutting tools and tool/work-holding equipment gives a total of around £765 million, of which about 75% was exported. Our calculations for the metrology sector are complicated because it is less well defined than the other elements which makes it difficult to identify the elements that are relevant to our sector; output in 2020 was worth in the region of £940 million with a very high direct export ratio. Estimates for other aspects of the manufacturing technology industry such as software is even more problematic, but we estimate output here to be worth around £200 million.

## THE UK MANUFACTURING TECHNOLOGY MARKET

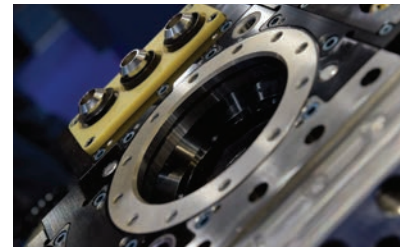
As MTA represents both manufacturers and importers, the size of the UK market is also relevant. Estimates of the UK market can be made using the formula "production minus exports plus imports".

As the data tables for machine tools, cutting tools and tool/work-holding equipment show, there was a trade deficit of £141 million for the UK, but a surplus of £325 million for metrology products (although the situation here is also confused by indirect exports and imports of equipment which is fitted to machinery when it is traded). After making an allowance for other aspects of the sector, we estimate that the UK market for manufacturing technology equipment was about £1.7 billion in 2020.

## LOCATION & EMPLOYMENT

Machine tool manufacturers are located across the UK, with concentrations in the Midlands and West Yorkshire. Companies in the cutting tool sector are mainly based in the West Midlands and around Sheffield, but again, there is wide geographical spread. There are no significant concentrations of companies in other areas of the sector.

We estimate that the manufacturing technology sector in the UK employs about 10,000 people across both the manufacturing and distribution parts of the sector.





## BUSINESS CYCLE

The customers of the manufacturing technology suppliers are concentrated, although not exclusively, in the automotive, aerospace and other transport equipment, metal goods and machinery sectors. This means that those who supply capital goods (i.e. machine tools and some aspects of the metrology industry) suffer more than most from cycles of demand in the economy.

Being dependent on investment (see table 16) means that confidence, finance and capacity utilisation are the principal drivers of demand, with indicators of investment intentions also important to the outlook. In addition, there is often a time lag between the cycles for demand and investment, as well as one between orders and shipments within the industry. This makes large parts of the manufacturing technology sector highly cyclical and, therefore, significant percentage changes in business from year to year are common, even under “normal” business conditions.

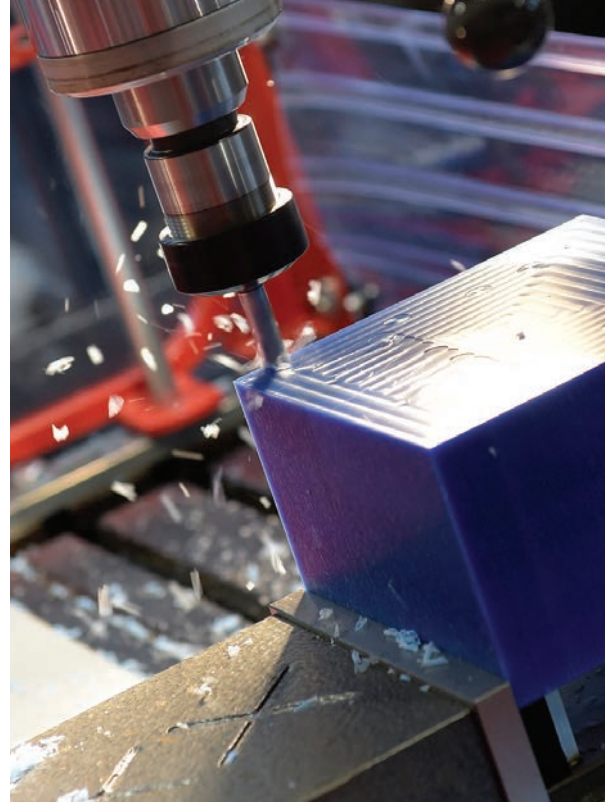
Demand for cutting tools and some other “consumable” items within the sector are more closely related to the output levels of the user industries, although investment also influences overall demand for these products.

## MACHINE TOOL EXPORTS/IMPORTS

Given the global economic situation, it was inevitable that the manufacturing technology sector would be heavily affected by the fall in investment. In 2020, machine tool exports were worth just under £400 million which represents a fall of -25% compared to the high level reached the previous year. There was an exception to this trend with a large shipment to the USA which meant that exports there increased by more than +50% making it the top export market for the first time since 2016. Deliveries to the European Union (EU) were -35% lower than in 2019.

Imports of machine tools into the UK were -29% lower than in 2019 and, at £418 million, were at their lowest level since 2010 as we emerged from the financial crisis. The balance was more even with arrivals from the EU falling by -30% and those from the rest of the world by -28%. Outside of the EU, the most significant reductions in percentage terms were from Switzerland (-45%) and Taiwan (-42%) with imports from the USA “only” -23% lower and a fall of -21% for Japan.

Given that the UK was still in the transition period for the end of the Brexit process, it is too early to judge the impact on our sector. However, it is worth noting that among the major trading partners for machine tools, the UK had a trade surplus with the USA, India and Brazil but deficits against the European Union, Japan, Taiwan, South Korea and Switzerland.



## WORLD STANDING

Early estimates compiled by Gardner Intelligence, a division of Gardner Business Media, suggest that in 2020 the UK was 17th in the league table for production of machine tools by value, sitting between Canada and the Czech Republic.

The UK was ranked 14th for machine tool exports and 20th for imports, while it had the 22nd largest machine tool market in the world, just behind Spain. The top 5 machine tools markets were China, USA, Germany, Japan and Italy. All of these are based on data in US\$ and are, therefore, affected by changes in exchange rates as well as different experiences during the pandemic.

Data on the UK's position in the world is not available for any of the other sectors of manufacturing technology.



## OTHER MANUFACTURING TECHNOLOGY SECTORS

For the other elements of the manufacturing technology sector which we cover in Basic Facts, a similar analysis is available for cutting tools, tool/work-holding equipment and metrology equipment where we have data on the sector. Production data for 2020 is not yet available (all of the production data for 2020 has been estimated based on the trend for exports).

For cutting tools (see tables 5, 7 & 8), the trade deficit contracted in 2020 as both exports and imports were lower than in 2019; while imports fell by -22% to £225 million, exports of cutting tools were only -10% lower than in 2019 at £130 million. The leading export market was the USA, followed by Germany, Netherlands, the Irish Republic and Italy. Warehousing activities in Europe are part of the of the reason why Germany and to a greater extent the Netherlands are the top two sources of imports of cutting tools; they are now followed by China, Belgium (which have swapped places compared to 2019) and the USA.

For tool/work-holding equipment (see tables 6, 10 & 11) there has been a small trade deficit in each of the last three years and although the volume of trade fell in 2020, the deficit was broadly unchanged. Although exports were -24% lower than in 2019 at £58 million, shipments to China actually increased and made this the top export market for this group of products; the USA and Germany made up the top three destinations. Imports fell by -17% to £79 million; in this case, it was arrivals from Japan that increased making that country the top source of tool/work-holding imports, followed by the more traditional sources of Germany and the USA.

The final element of the manufacturing technology sector is metrology equipment (see tables 12 to 14); this is a wide ranging industry with relatively little detail in the statistics – for example, the value of exports is more than twice that for machine tools but is spread across only 7 headings while machine tools have nearly 90. For our analysis we have selected those headings which contain equipment of relevance to our sector, although they also cover a range of other items which distorts the trends – this is illustrated by the fact that the value of exports exceeds that for production.

As with the other categories, 2020 saw the value of trade in both directions fall; exports were -12% lower than in 2019 at £1,020 million while imports fell by -21% to £695 million – this had the effect of widening the already significant trade surplus for metrology equipment. The EU only accounted for 29% of metrology exports in 2020 – this is the lowest percentage across the four groups – with the USA and Hong Kong the two largest export markets. For imports, the EU accounts for just under half of the total with Germany, the USA and Japan the top three sources in this category.

## TRENDS FOR MANUFACTURING TECHNOLOGY IN THE UK 2009-2018

The following tables give an overview of the key statistics relating to the manufacturing technology sector. They cover machine tools, cutting tools, work/tool holding equipment and metrology equipment. Other aspects of manufacturing technology such as CAD/CAM systems are not well defined in official statistics, making it impossible to compile meaningful data.

For machine tools (see table 1), evidence from our own surveys (which cannot be used to replace the National Statistics because they measure different factors) suggests that there are a range of reasons why the export ratio is 100% or more in 2019 and 2020:

- Output data may be under recorded (this is impossible to estimate);
- Machines manufactured abroad, imported into the UK for additional work and then being re-exported but which don't appear in the production data; the value of this is also hard to estimate but may be up to about £25 million per annum in the export data;
- Exports of second-hand goods (which cannot be identified from new machines) don't, of course, appear in the production figures;
- A significant proportion of exports are identified as "low value items" and at least some of these may be second-hand equipment (see above); for example, in 2019 this was worth about £42 million (or 8% of the total value of exports);

In the tables for exports and imports, care is needed in identifying trade with countries which are members of the European Union. This data is measured on a country of destination (exports) or dispatch (imports) basis and, coupled with the presence of warehousing operations in countries such as Belgium and the Netherlands, can lead to a distortion in the true partner country.

Data on production is collected by the Office for National Statistics (ONS) under the PRODCOM system; the most recent year for which data has been published is 2019. Data on exports and imports is collected by HM Revenue & Customs (HMRC). Both of these systems are product based, but calculations of the size of those parts of the sector where these different classifications do not coincide is hard to achieve with any degree of accuracy.

## TABLE 1 – TRENDS FOR MACHINE TOOLS IN THE UK 2011 – 2020

(Values in £ million at current prices)

YEAR	SALES OF UK GOODS	EXPORTS	AS A % OF PRODUCTION	IMPORTS	AS A % OF CONSUMPTION	IMPLIED CONSUMPTION	CRUDE TRADE BALANCE
2011	458	464	101% *	472	101% *	467	-9
2012	570	518	91%	611	92%	664	-94
2013	575	505	88%	548	89%	618	-43
2014	550	498	91%	602	92%	653	-104
2015	476	432	91%	514	92%	558	-82
2016	461	436	94%	537	95%	563	-101
2017	497	451	91%	537	92%	582	-86
2018	564	498	88%	591	90%	657	-93
2019	462	526	114% *	591	112% *	528	-65
2020	373 e	392	105% e*	418	105% e*	397 e	-24

Sources: Office for National Statistics, HM Revenue & Customs and MTA calculations  
Estimates (e) are shown in italics (and see introduction text) \* see introduction text

Sales of UK Goods are for principal products of the metalworking machine tool industry manufactured in the UK. This excludes parts and accessories and is grossed-up to account for small firms not sampled by the survey.

## TABLE 2 – LEADING EXPORT MARKETS FOR MACHINE TOOLS 2018-2020

(by country of destination, values in £ million at current prices)

2018		2019		2020	
COUNTRIES	VALUE	COUNTRIES	VALUE	COUNTRIES	VALUE
All Countries	497.9	All Countries	525.7	All Countries	393.2
European Union	267.0	European Union	267.5	European Union	173.5
1 Belgium	81.0	1 Belgium	92.5	1 U S A	92.8
2 U S A	69.4	2 U S A	61.0	2 Belgium	47.6
3 China	40.1	3 China	57.6	3 Irish Republic	36.8
4 Germany	39.4	4 Germany	40.6	4 China	27.0
5 Irish Republic	34.8	5 Irish Republic	33.9	5 Germany	21.9
6 Spain	29.7	6 France	25.3	6 France	13.4
7 India	24.7	7 Spain	15.4	7 Brazil	11.0
8 France	17.6	8 Mexico	14.2	8 India	9.9
9 Italy	15.8	9 Thailand	13.4	9 Netherlands	7.1
10 Poland	10.5	10 Canada	13.1	10 Italy	6.5

Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)

Figures include export of new and used machines

## TABLE 3 – LEADING IMPORT SOURCES FOR MACHINE TOOLS 2018-2020

(by country of origin, values in £ million at current prices)

2018		2019		2020	
COUNTRIES	VALUE	COUNTRIES	VALUE	COUNTRIES	VALUE
All Countries	590.8	All Countries	591.1	All Countries	417.6
European Union	323.1	European Union	324.3	European Union	226.2
1 Germany	163.0	1 Germany	163.7	1 Germany	94.5
2 U S A	47.3	2 Japan	54.4	2 Japan	42.9
3 Taiwan	47.2	3 China	47.9	3 China	35.4
4 Japan	46.4	4 U S A	41.6	4 U S A	32.2
5 Belgium	40.0	5 Taiwan	39.7	5 Italy	29.9
6 China	38.3	6 Belgium	34.0	6 Belgium	29.4
7 South Korea	34.0	7 France	31.7	7 France	27.4
8 Italy	32.1	8 South Korea	31.4	8 Taiwan	23.1
9 Netherlands	30.4	9 Netherlands	29.9	9 South Korea	20.7
10 Switzerland	23.2	10 Italy	27.3	10 Netherlands	16.3

Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)

Figures include export of new and used machines

Import figures from countries of the European Union based on data on country of consignment.



TABLE 4A – UK EXPORTS OF MACHINE TOOLS BY PRODUCT TYPE IN 2020

**UK MACHINE TOOL EXPORTS**

by product type, 2020 (£393.2 million)



Physico-Chemical	14.6%
Machining Centres	16.6%
Lathes	14.1%
Milling, Drilling and Boring	6.2%
Grinding and Finishing	11.2%
Other Metal Cutting	4.2%
Bending	4.9%
Presses	23.5%
Other Metal Forming	4.8%

Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)  
Calculated by MTA



TABLE 4B – UK IMPORTS OF MACHINE TOOLS BY PRODUCT TYPE IN 2020

**UK MACHINE TOOL IMPORTS**

by product type, 2020 (£417.6 million)



Physico-Chemical	22.0%
Machining Centres	20.5%
Lathes	16.6%
Milling, Drilling and Boring	13.1%
Grinding and Finishing	7.3%
Other Metal Cutting	5.0%
Bending	6.6%
Presses	2.9%
Other Metal Forming	6.0%

Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)  
Calculated by MTA



TABLE 5 – TRENDS FOR CUTTING TOOLS IN THE UK 2011-2020

(Values in £ million at current prices)

YEAR	SALES OF UK GOODS	EXPORTS	AS A % OF PRODUCTION	IMPORTS	AS A % OF CONSUMPTION	IMPLIED CONSUMPTION	CRUDE TRADE BALANCE
2011	184	182	99%	249	99%	251	-67
2012	196	201	103%	272	102%	266	-71
2013	232	178	77%	264	83%	317	-86
2014	216	172	80%	281	87%	324	-108
2015	161	139	86%	232	91%	254	-92
2016	162	131	81%	228	88%	259	-97
2017	200	151	76%	255	84%	304	-104
2018	218	157	72%	287	83%	347	-130
2019	222	144	65%	287	79%	366	-143
2020	201 e	130	65% e	225	76% e	296 e	-95

Sources: Office for National Statistics, HM Revenue & Customs and MTA calculations  
Estimates (e) are shown in italics (and see introduction text)

Sales of UK Goods are for products manufactured in the UK. This excludes parts and accessories and is grossed-up to account for small firms not sampled by the survey.

TABLE 6 – TRENDS FOR TOOL/WORK-HOLDING EQUIPMENT IN THE UK 2011-2020

(Values in £ million at current prices)

YEAR	SALES OF UK GOODS	EXPORTS	AS A % OF PRODUCTION	IMPORTS	AS A % OF CONSUMPTION	IMPLIED CONSUMPTION	CRUDE TRADE BALANCE
2011	256	100	39%	100	39%	256	0
2012	299	116	39%	98	35%	281	+18
2013	254	87	34%	99	37%	266	-11
2014	266	76	29%	108	36%	298	-32
2015	228	67	29%	74	32%	235	-8
2016	245	61	25%	81	31%	265	-20
2017	212	82	39%	74	36%	203	+9
2018	241	82	34%	102	39%	261	-20
2019	245	76	31%	96	36%	266	-20
2020	188 e	58	31% e	79	38% e	209 e	-21

Sources: Office for National Statistics, HM Revenue & Customs and MTA calculations  
Estimates (e) are shown in italics

Sales of UK Goods are for products manufactured in the UK.  
This excludes parts and accessories and is grossed-up to account for small firms not sampled by the survey.



**TABLE 7 – LEADING EXPORT MARKETS FOR CUTTING TOOLS 2018-2020**

(by country of destination, values in £ million at current prices)

2018		2019		2020	
COUNTRIES	VALUE	COUNTRIES	VALUE	COUNTRIES	VALUE
All Countries	157.1	All Countries	144.0	All Countries	130.2
European Union	96.1	European Union	82.8	European Union	74.4
1 U S A	25.7	1 U S A	28.6	1 U S A	24.6
2 Germany	23.8	2 Germany	20.8	2 Germany	21.4
3 Netherlands	17.9	3 Netherlands	13.8	3 Netherlands	11.8
4 Italy	13.7	4 Italy	8.8	4 Irish Republic	9.3
5 China	10.9	5 Irish Republic	7.7	5 Italy	7.1

Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)

Figures include export of new and used machines

**TABLE 8 – LEADING IMPORT SOURCES FOR CUTTING TOOLS 2018-2020**

(by country of origin, values in £ million)

2018		2019		2020	
COUNTRIES	VALUE	COUNTRIES	VALUE	COUNTRIES	VALUE
All Countries	286.6	All Countries	287.4	All Countries	225.4
European Union	209.7	European Union	211.2	European Union	158.9
1 Germany	75.8	1 Germany	85.7	1 Germany	67.8
2 Netherlands	56.1	2 Netherlands	62.2	2 Netherlands	39.1
3 Belgium	39.3	3 Belgium	40.0	3 China	33.9
4 China	33.7	4 China	34.3	4 Belgium	30.2
5 U S A	24.0	5 U S A	23.0	5 U S A	16.9

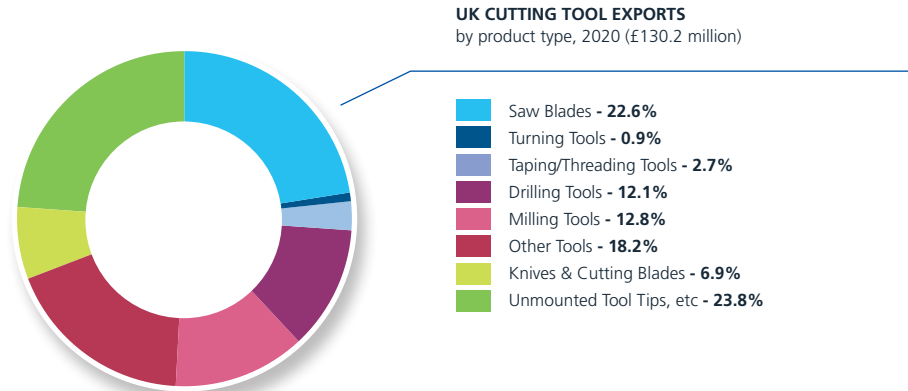
Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)

Figures include import of new and used equipment

Import figures from countries of the European Union based on data on country of consignment.



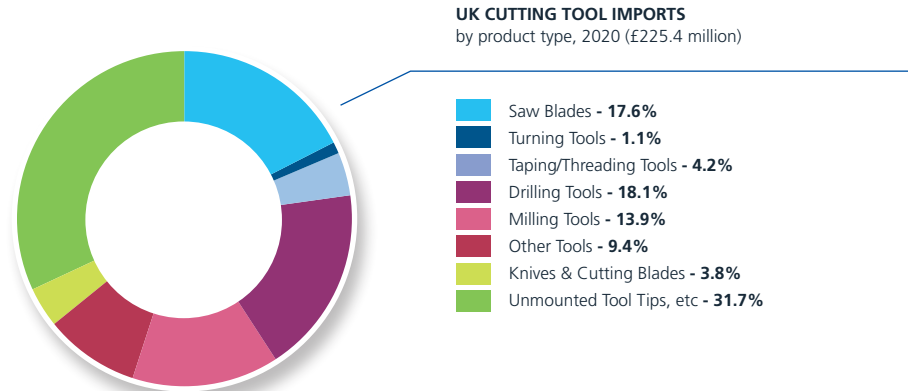
TABLE 9A – UK EXPORTS OF CUTTING TOOLS BY PRODUCT TYPE IN 2020



Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)  
Calculated by MTA



TABLE 9B – UK IMPORTS OF CUTTING TOOLS BY PRODUCT TYPE IN 2020



Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)  
Calculated by MTA

TABLE 10 – LEADING EXPORT MARKETS FOR TOOL/WORK-HOLDING EQUIPMENT 2018-2020

(by country of destination, values in £ million at current prices)

2018		2019		2020	
COUNTRIES	VALUE	COUNTRIES	VALUE	COUNTRIES	VALUE
All Countries	82.0	All Countries	75.8	All Countries	58.0
European Union	30.9	European Union	32.2	European Union	22.6
1 U S A	14.5	1 U S A	14.2	1 China	11.7
2 Germany	8.0	2 Germany	9.2	2 U S A	10.3
3 China	7.2	3 China	6.8	3 Germany	6.5
4 Myanmar	5.8	4 Japan	6.0	4 Italy	3.5
5 France	3.6	5 France	4.5	5 Irish Republic	2.1

Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)

Figures include export of new and used equipment

TABLE 11 – LEADING IMPORT SOURCES FOR TOOL/WORK HOLDING EQUIPMENT 2018-2020

(by country of origin, values in £ million)

2018		2019		2020	
COUNTRIES	VALUE	COUNTRIES	VALUE	COUNTRIES	VALUE
All Countries	101.7	All Countries	96.0	All Countries	79.3
European Union	41.2	European Union	44.5	European Union	31.5
1 Japan	26.5	1 Germany	23.5	1 Japan	21.9
2 Germany	21.9	2 U S A	14.4	2 Germany	15.9
3 U S A	11.3	3 Japan	13.7	3 U S A	12.1
4 Belgium	7.0	4 China	10.6	4 China	6.1
5 Netherlands	5.7	5 Belgium	8.0	5 Belgium	5.5

Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)

Figures include import of new and used equipment

Import figures from countries of the European Union based on data on country of consignment.

TABLE 12 – TRENDS FOR METROLOGY EQUIPMENT IN THE UK 2011-2020

(Values in £ million at current prices)

YEAR	SALES OF UK GOODS	EXPORTS	AS A % OF PRODUCTION	IMPORTS	AS A % OF CONSUMPTION	IMPLIED CONSUMPTION	CRUDE TRADE BALANCE
2011	872	878	101%	550	101%	545	+327
2012	989	919	93%	584	89%	654	+335
2013	1020	969	95%	631	93%	682	+338
2014	1157	1026	89%	719	85%	850	+307
2015	1251	1108	89%	690	83%	834	+417
2016	1308	1100	84%	771	79%	980	+328
2017	1043	1236	119%	777	133%	584	+458
2018	1037	1212	117%	805	128%	631	+406
2019	1076	1166	108%	877	111%	787	+289
2020	<i>941 e</i>	1020	<i>108% e</i>	695	<i>113% e</i>	<i>616 e</i>	+325

Sources: Office for National Statistics, HM Revenue & Customs and MTA calculations  
Estimates (e) are shown in italics (and see introduction text)

Sales of UK Goods are for metrology products manufactured in the UK.  
This includes parts and accessories and is grossed-up to account for small firms not sampled by the survey.

TABLE 13 – LEADING EXPORT MARKETS FOR METROLOGY EQUIPMENT 2018-2020

(by country of destination, values in £ million at current prices)

2018		2019		2020	
COUNTRIES	VALUE	COUNTRIES	VALUE	COUNTRIES	VALUE
All Countries	1211.8	All Countries	1165.8	All Countries	1020.1
European Union	398.0	European Union	394.5	European Union	299.4
1 U S A	229.4	1 U S A	223.5	1 U S A	189.6
2 Hong Kong	129.2	2 Germany	107.0	2 Hong Kong	108.7
3 Germany	94.8	3 Hong Kong	91.0	3 Germany	77.7
4 Irish Republic	63.5	4 Japan	66.5	4 Saudi Arabia	59.8
5 China	62.6	5 China	59.0	5 China	55.3

Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)  
Figures include export of new and used equipment

TABLE 14 – LEADING IMPORT SOURCES FOR METROLOGY EQUIPMENT 2018-2020

(by country of origin, values in £ million)

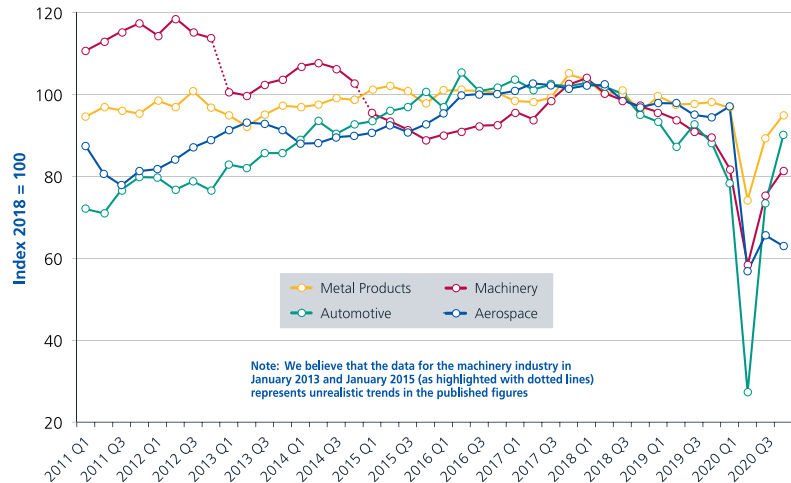
2018		2019		2020	
COUNTRIES	VALUE	COUNTRIES	VALUE	COUNTRIES	VALUE
All Countries	805.5	All Countries	877.0	All Countries	694.6
European Union	396.4	European Union	398.6	European Union	338.6
1 Germany	180.7	1 Germany	171.8	1 Germany	125.4
2 U S A	109.4	2 U S A	124.6	2 U S A	93.6
3 Mexico	47.8	3 Japan	52.8	3 Japan	49.4
4 Japan	46.9	4 China	52.5	4 Austria	43.9
5 China	43.5	5 Mexico	44.6	5 China	37.7

Source: HM Revenue & Customs via [www.uktradeinfo.co.uk](http://www.uktradeinfo.co.uk)

Figures include import of new and used equipment

Import figures from countries of the European Union based on data on country of consignment.

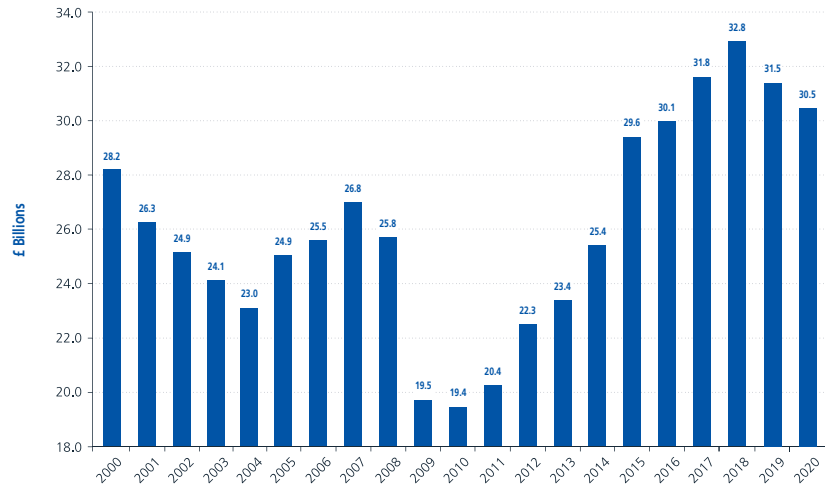
TABLE 15 – OUTPUT BY INDUSTRY SECTOR 2011-2020



Source: Office for National Statistics

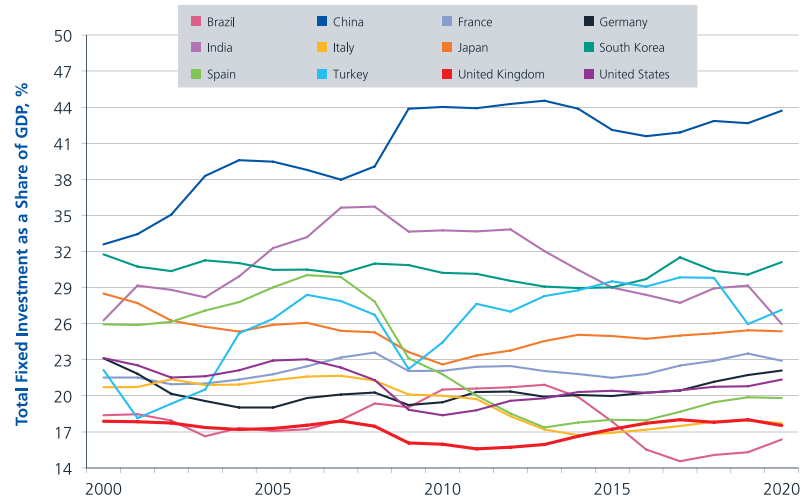
TABLE 16 – UK MANUFACTURING INVESTMENT 2000-2020

(in £ billion, at 2018 prices, including leased assets)



Source: Office for National Statistics, Statistical Bulletin (series DS4F)

TABLE 17 – COMPARISON OF INVESTMENT RATIOS 2000-2020



Source: Oxford Economics

# The Manufacturing Technologies Association



THE MANUFACTURING TECHNOLOGIES  
ASSOCIATION

[www.mta.org.uk](http://www.mta.org.uk)

The Manufacturing Technologies Association  
62 Bayswater Road London W2 3PS

T: +44 (0)20 7298 6400 | F: +44 (0)20 7298 6430  
E: [info@mta.org.uk](mailto:info@mta.org.uk)