

## Economic & Statistical Toolbox

Fourth Quarter 2020

### In this issue:

- European and global manufacturing continued its recovery in the 4th quarter of 2020 but there is still a long way to go to get back to pre-pandemic levels of activity.
- CECIMO orders picked up strongly at the end of 2020 with the domestic market out-performing export demand.
- Investment and capacity utilisation also improved at the end of the year but, like most measures, were below the levels of a year ago.
- The Euro appreciated against most currencies during 2020 and, in most cases, ended the year at a strong level.



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# Introduction

This edition of the CECIMO Toolbox takes a look at both the data for the 4th quarter of 2020 and, in many cases, for the year as a whole. It reflects, of course, a difficult year for the whole world as the impact of the Coronavirus outbreak, which started in China at the end of 2019, caused a short but very strong recession in most countries. While a handful managed to avoid a recession by having a small amount of growth in the 1st quarter of the year (and so only one negative quarter), the 2nd/3rd wave of infections that we are seeing at the moment is likely to lead to a second phase of the recession; this means that we are still in a period of economic uncertainty across Europe.

We also need to mention that many of the indicators for the European Union have now been recalculated to reflect the completion of the United Kingdom's exit from this group; as a result, the new measure reflects the current composition of the European Union (EU27). On the whole, this does not have a major impact on the trends but it has led to adjustments of the long-run history. Calculations of the CECIMO8 data for orders, against which we correlate some of the economic series does, however, still include the UK.

There was a further improvement in **machine tool orders** in the 4th quarter of 2020 with the CECIMO8 group registering growth of +36% compared to the previous quarter but this still left the level -13% lower than at the end of 2019. Thanks to spectacular growth in Italy (partly at least a seasonal effect), domestic orders (+72%) grew more strongly than foreign orders (+30%) but both series were down on the level of a year earlier.

**Production of machine tools** in the CECIMO area is estimated to have fallen by about one-quarter in 2020 as a result of the pause that most economies saw early in the year in the initial reaction to the Coronavirus outbreak. This is the lowest value for production since the financial crisis but, assuming a recovery occurs in 2021, it will be both a shorter and shallower downturn than in 2009/10.

The **Industrial Production Index** for the European Union (27 countries) continued its recovery in the final quarter of 2020 and although it is not quite back to its pre-crisis level, this recovery has been both quicker and more complete than the recovery from the impact of the financial crisis in 2008-2010. For the year as a whole, output of the investment goods industries has been hit more significantly than for the overall IPI in both the EU and the EZ. The overall IPI fell by -7.9% in the EU (-8.5% for the EZ), while output of the investment goods industries fell by -12.5% (-12.8% for the EZ).

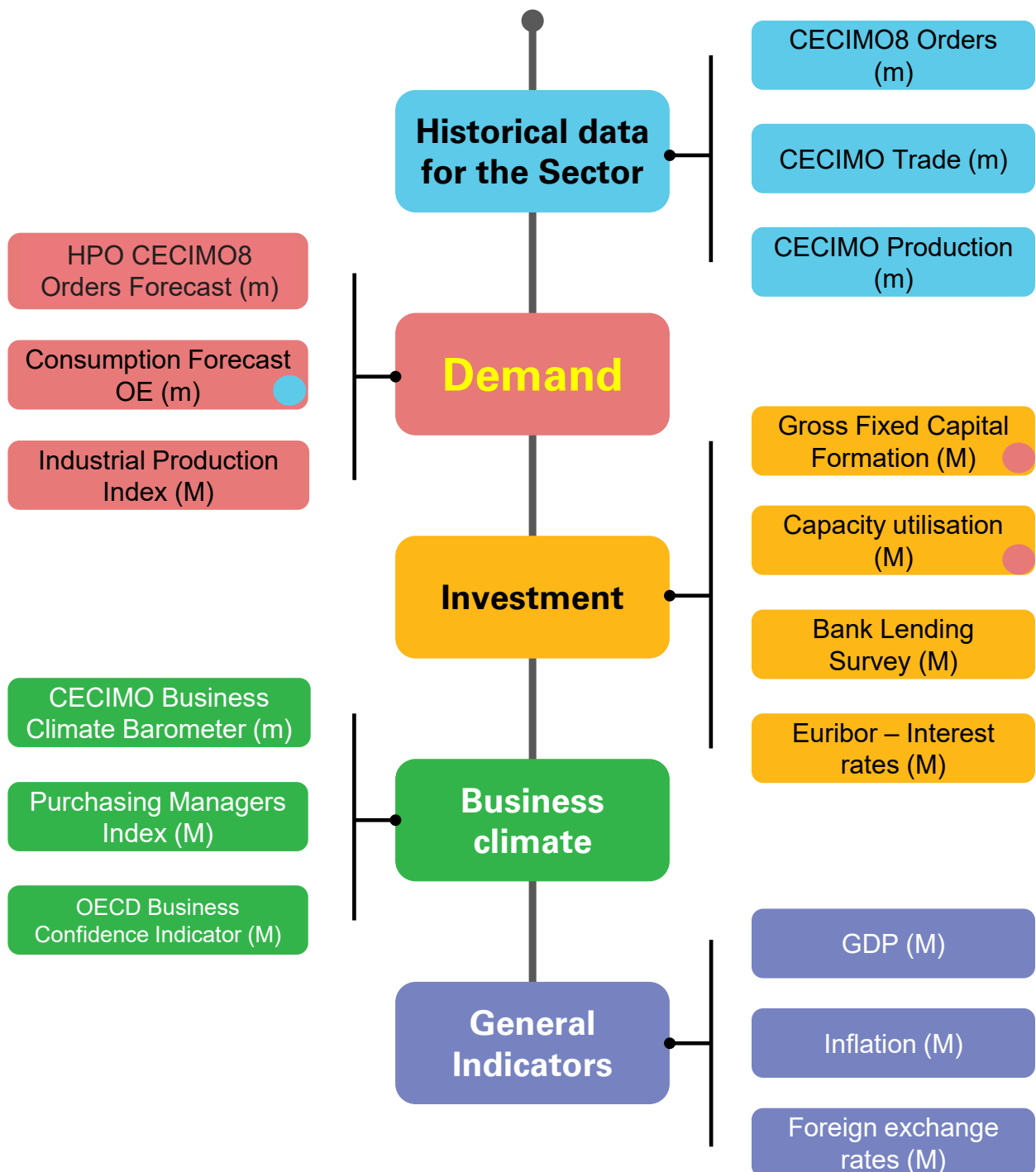
We have not covered **MT consumption** in this edition of the Toolbox as it comes just ahead of the new Global MT forecast from Oxford Economics. If time permits, a revised edition of this document will be compiled covering the new forecasts. However, it seems certain – or as certain as forecasts can ever be – that 2021 will see an increase compared to the pandemic hit 2020 figures but that it is unlikely to have completely reversed the impact of the Coronavirus outbreak on demand for machine tools.

**Gross fixed capital formation** continued to recover in the 4th quarter with investment +11% higher than in the previous quarter but still -7% lower than in the final period of 2019. **Capacity utilization** also improved from the low point at the start of the Coronavirus outbreak to stand at 78.6 in the survey covering the end of the 4th quarter of 2020. This improvement is reflected generally across the European Union but it is still well below the average levels that we saw in the 2011 to 2019 period. According to the European Central Bank (ECB)'s **Bank Lending Survey**, both credit standards and overall terms and conditions of new loans tightened significantly at the end of 2020 - this tightening was stronger for SMEs than for large firms. The **ECB's monetary policy** remains unchanged, still focused on supporting lending to firms and household.

The **Global manufacturing PMI** in February was generally positive, albeit with some exceptions. Most European counties saw an increase in the index compared to January and among the exceptions, Sweden and the Czech Republic both still had a strongly positive reading and Turkey was also above the crucial 50 level. The **OECD's Business Climate Indicator**, while improving is still just very slightly below the 100-threshold on the quarterly measure for the end of 2020. This matches the level we saw in the 2nd quarter of 2019 – this fact highlights that the BCI was already falling before the Coronavirus outbreak.

The final section of the Toolbox reflects the declines in **GDP** that most of the world experienced in 2020; the exception was China where thanks to a combination of the earlier timing of the Coronavirus outbreak and the government's stimulus policies, they still had GDP growth in 2020, although at a much slower pace than in previous years. The **exchange** rate movements for the Euro against most of the currencies that we track were similar, suggesting that during 2020 these movements were being driven largely by news about the European economy.

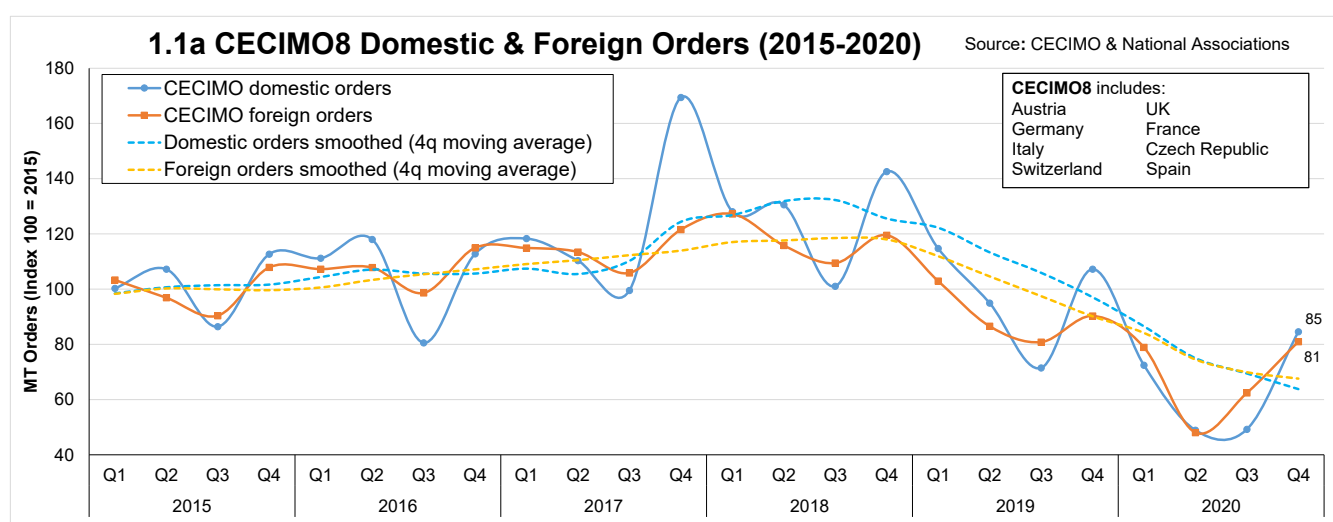
# Toolbox Mind Map



# 1. Historical Data for the Sector

## 1.1 CECIMO8 Orders (m)

After 2 quarters at their lowest level since the financial crisis in 2009 in the middle of the year, CECIMO8 domestic orders have recovered in the final period of the year with quarter-on-quarter growth of +72%. Foreign orders for the CECIMO8 manufacturers had already picked up in the 3rd quarter and registered another +30% growth in the 4th quarter. As a result, total orders for the CECIMO8 increased by +36% at the end of 2020, although they were still -13% lower than a year earlier. After the initial impact of the Coronavirus pandemic which saw a collapse in orders in the 2nd quarter, there has been a good but incomplete level of recovery in the 2nd half of the year, despite further lockdowns of various magnitudes across Europe.

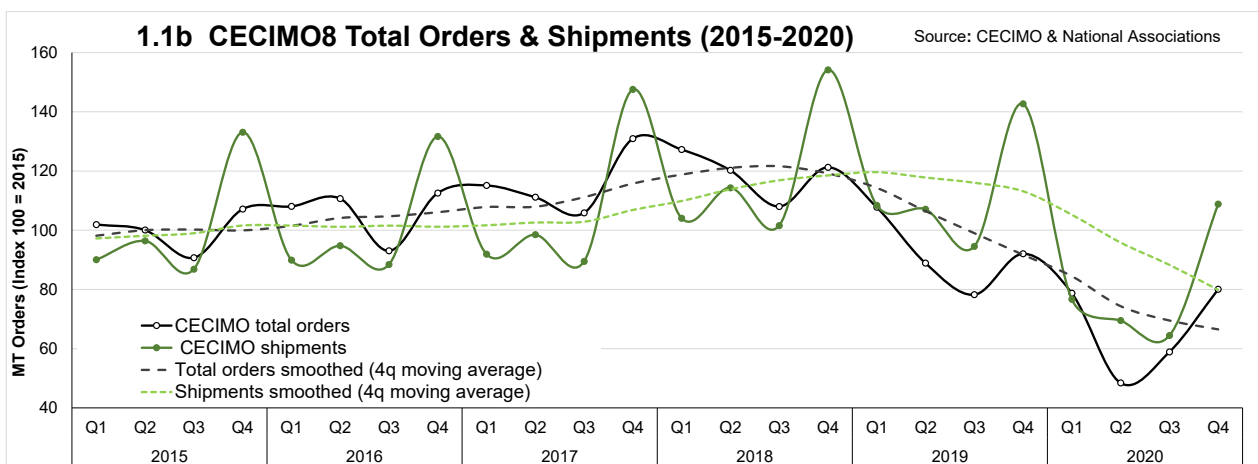


## Domestic orders:

- Italy was unusual in seeing a sharp contraction in domestic orders in the 3rd quarter but this is likely to relate more to holidays than any impact of the Coronavirus. This helped generate a very strong recovery in Q4-20 but despite quarter-on-quarter growth of +347%, the level was still -28% lower than a year earlier.
- Austrian domestic orders almost doubled in Q4-20 and reached their highest level for 3 years, although there is likely to be an element of "bounce" in this trend.
- Switzerland (+67%), Spain (+59%) and the UK (+58%) all saw significant growth in domestic orders in the final quarter; in part this was because they all saw a modest fall in domestic orders in Q3. All of these countries remain below the level at the end of 2019.
- There was more modest quarter-on-quarter growth in Czechia (+20%) and Germany (+10%), although in the latter case, this followed a 24% increase in domestic orders in the 3rd quarter.

## Foreign orders:

- Foreign orders increased for all the CECIMO8 countries for whom we have the data in the 4th quarter of 2020, but only Spain (which had the strongest quarter-on-quarter growth in Q4-20 at +125%) was above level that was higher than in the final period of 2019.
- There was also significant growth in foreign orders compared to the 3rd period of the year in Switzerland (+49%), Czechia (+45%), Germany (+36%) and the UK (+33%).
- There was a more modest improvement in foreign orders in both Austria and Italy (both +5%) but both had seen a significant positive trend in the 3rd quarter.

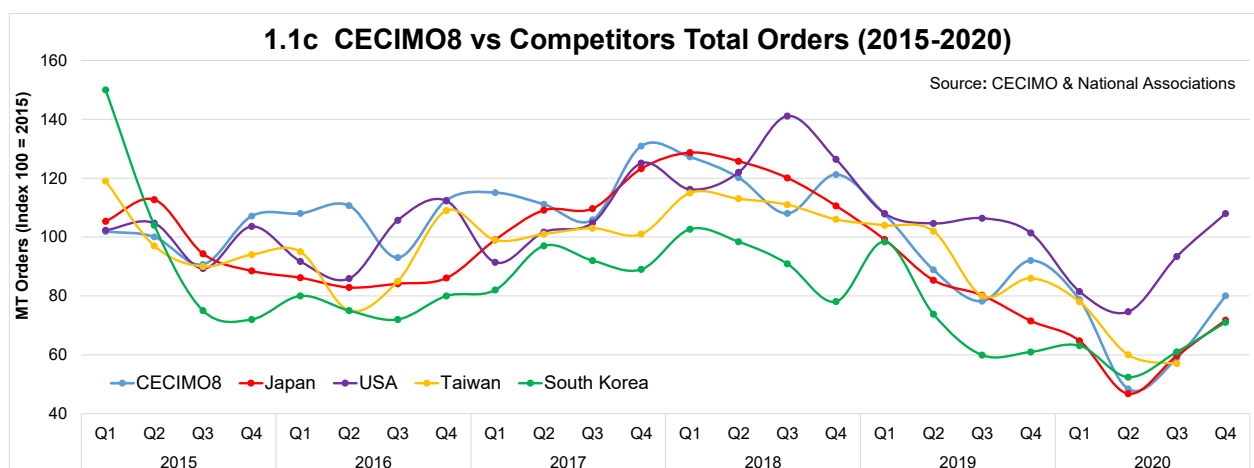


## Total orders:

- All of the CECIMO8 countries for whom we have the data saw an increase in total orders at the end of 2020, with Spain seeing the strongest growth at +115%; in part this may reflect the broadly flat trend seen there in the 3rd quarter.
- Switzerland had the next strongest trend at +52% but they were the only country to report a quarter-on-quarter fall in total orders in the 3rd period of 2020.
- Significant increases were also registered in Italy (+42%), the UK (39%) and Czechia (+36%).
- Growth was more modest in Germany (+28%) and Austria (+13%).

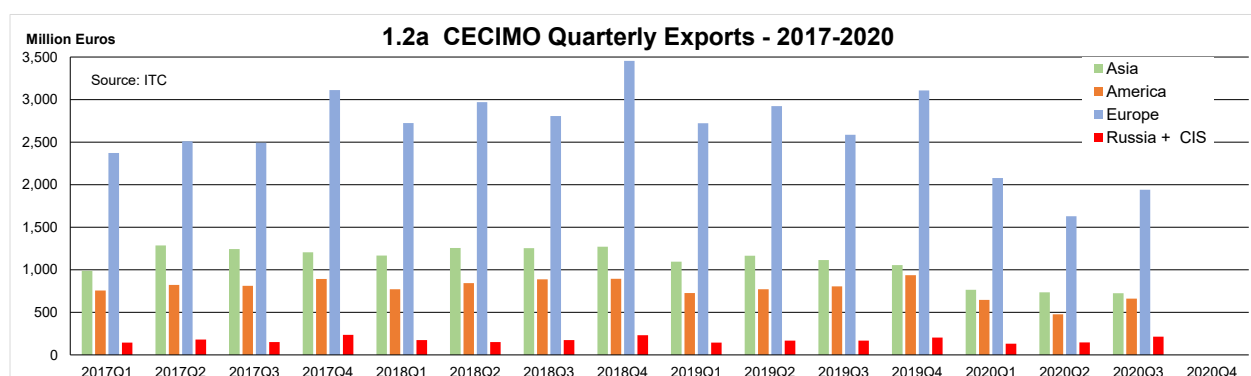
## CECIMO competitors:

- Having seen the same rate of growth in the 3rd quarter (+28%), the metal cutting companies in Japan pulled ahead of their colleagues in the metal forming sector in Q4 with growth in total orders of +22% and +10% respectively. The metal cutting companies saw both domestic and foreign orders improve while for the metal forming manufacturers there was a fall in domestic business that was more than balanced by strong growth in foreign orders.
- Overall, Japanese orders at the end of 2020 were at the same level as a year earlier with a small improvement for the metal cutting companies balancing a larger decrease in the smaller metal forming category.
- Korean machine tool manufacturers only saw a modest fall in total orders at the height of the Coronavirus pandemic in the 2nd quarter and a second successive quarter of growth means that total order levels are +16% higher than a year earlier.
- We only have domestic orders data for the USA; they saw orders fall in both parts of the first half of 2020 but growth in the 3rd and 4th quarters of the year means that they ended the year +7% higher than in the 4th quarter of 2019.



## 1.2 CECIMO Trade (m)

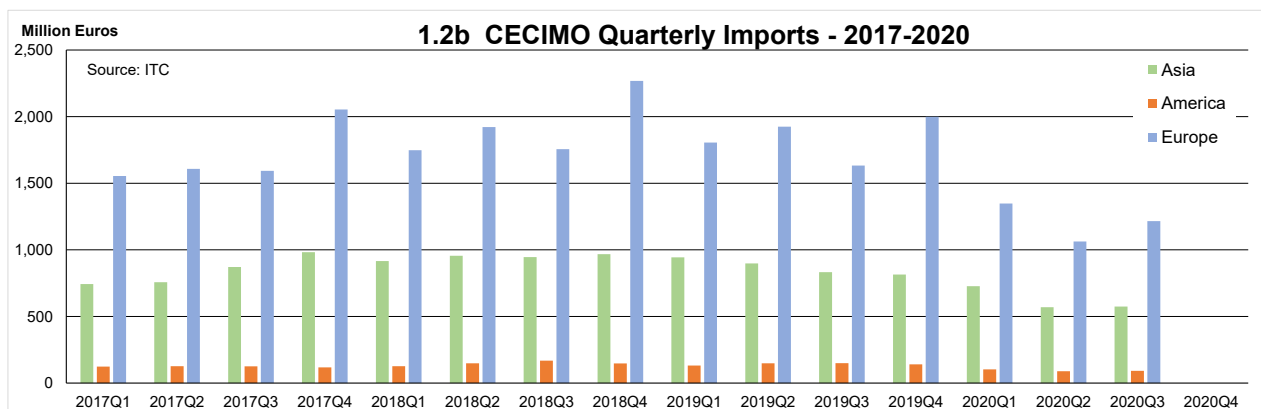
**\*Note:** The following analysis refers to Q3 2020 machine tool trade figures. ITC Q4 2020 data is not fully available by the time this report was written.





## Q3 2020 exports trends

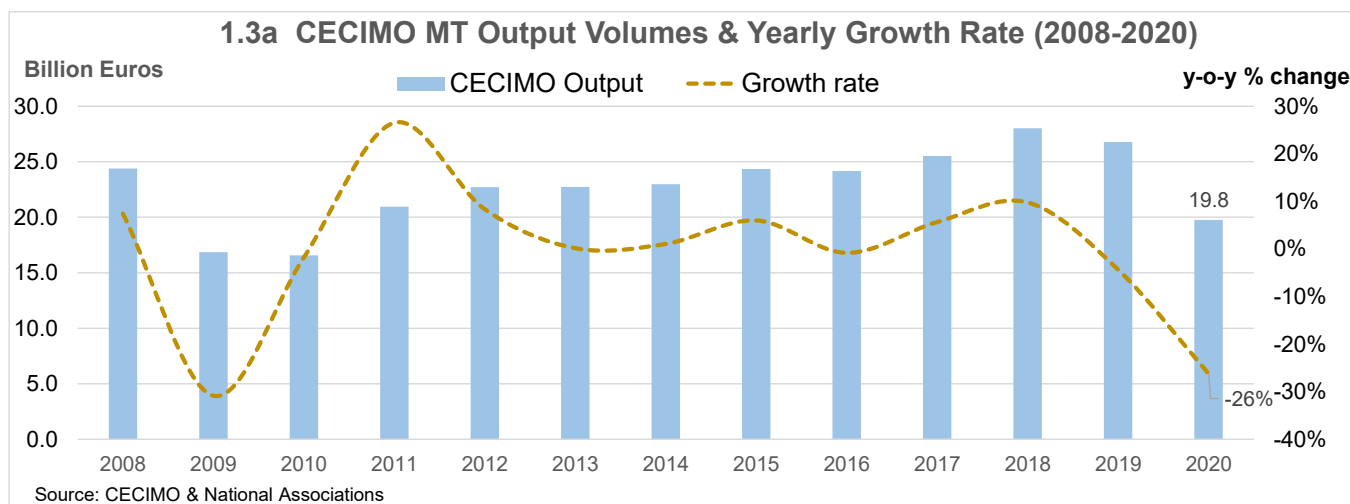
- As the global economy emerged from the initial impact of the Coronavirus pandemic, exports of machine tools from the CECIMO area increased compared to the 2nd quarter of the year by +19% but as this follows two quarters of sharp decline, the level was still -24% lower than in the 3rd period of 2019.
- It is worth noting at this point that the largest quarter-on-quarter fall in exports of machine tools actually occurred in the 1st quarter of 2020 with a decline of -31% compared to the previous quarter with the 2nd period of the year only seeing a further -18% reduction.
- The recovery in Q3 was repeated in most of the regions of the world with the notable exception of Asia where CECIMO exports of machine tools were -1% lower than in the 2nd quarter.
- However, in all cases, the level remained below that of a year earlier with Q/Q-4 declines of -35% for Asia, -18% for the Americas and -25% for Europe.
- Among the major export destinations, the strongest quarterly recovery was in the Americas where exports grew by +39% compared to the 2nd period of 2020. Europe, the largest exports market for the CECIMO countries lay between this strong growth and the marginal decline in Asia with quarter-on-quarter growth of +19% which left the level -25% lower than a year earlier.



## Q3 2020 imports trends

- In the 3rd quarter of 2020, CECIMO total machine tool imports were -28% lower than a year but were +9% higher than in the 2nd quarter of the year. This is the sixth consecutive quarter when imports were lower than 4 quarters earlier, highlighting the fact that imports were falling before the effects of the pandemic were being reflected in the data.
- Total imports of machine tools to the CECIMO area were worth €1.9 billion euros in Q3-20; with exports valued at €3.7 billion, the CECIMO trade surplus increased for the first time this year but, at +€1.8 billion, it remains -10% lower than a year ago. This generates a trade surplus in machine tools of €724 million.
- Imports from Asia only increased by +1% compared to the previous quarter and, at €0.6 billion, accounted for 30% of total machine tools imports in Q3-20. CECIMO has a trade surplus with Asia for machine tools of €151 million in Q3-20.
- The Americas is only of marginal interest as it only accounts for 5% of machine tool imports into the CECIMO area and imports only grew by +3% compared to Q2-20. The trade surplus with the Americas for the latest period was €570 million.

## 1.3 Production (m)



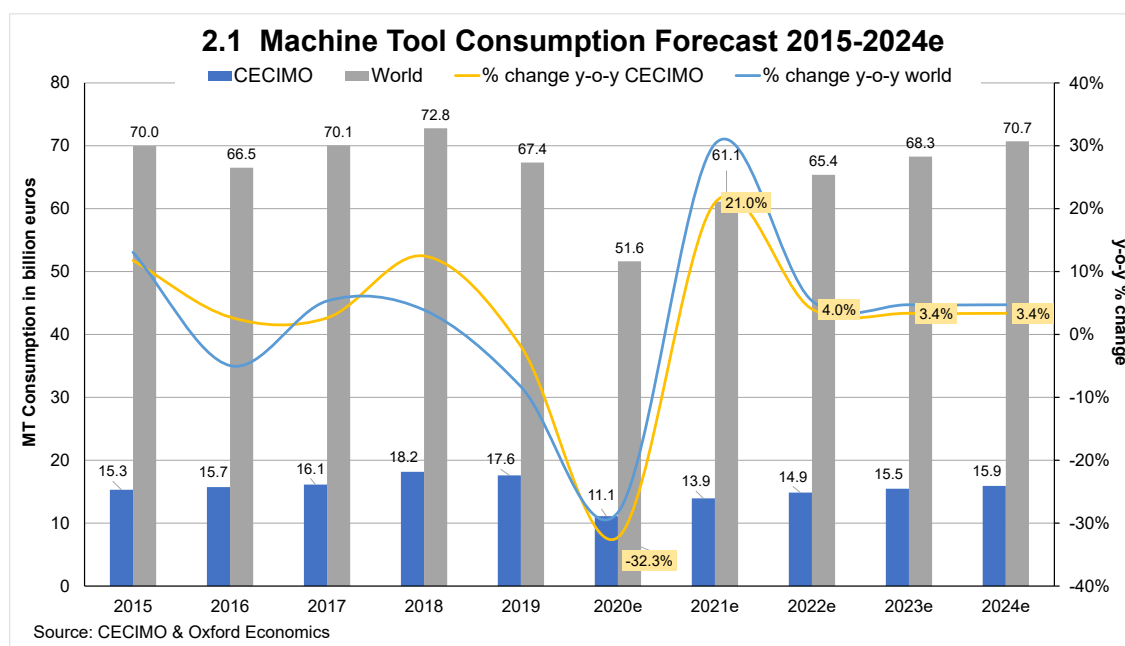
As part of the input to the Gardner World Machine Tool Survey, we have updated the estimates for production in most of the CECIMO countries (in some cases, the latest data available was from the exchange at the time of the General Assembly in December 2020).

We estimate that production of machine tools in the CECIMO area fell by -26% in 2020 to €19.8 billion; however, this is higher than was estimated at the time of the last General Assembly. This is the lowest total since 2010 which was the low point of the financial crisis but it should also be noted that this represents a smaller fall than was recorded between 2008 and 2009.

In part, this reflects a different timing in the cycle - in the financial crisis, 2008 was the peak year of the machine tool production cycle while the pre-pandemic peak was in 2018 and we had already seen production fall by -4% in 2019. The other factor is the nature of the current crisis; it is a public health emergency and the balance of impacts across the economies is being felt more strongly in the consumer-facing parts of the service sector. This is not to say that manufacturing is unaffected, but the balance of impacts across the economy is less concentrated in the machine tool purchasing industries.

# 2. Demand

## 2.1 CECIMO Consumption (m)

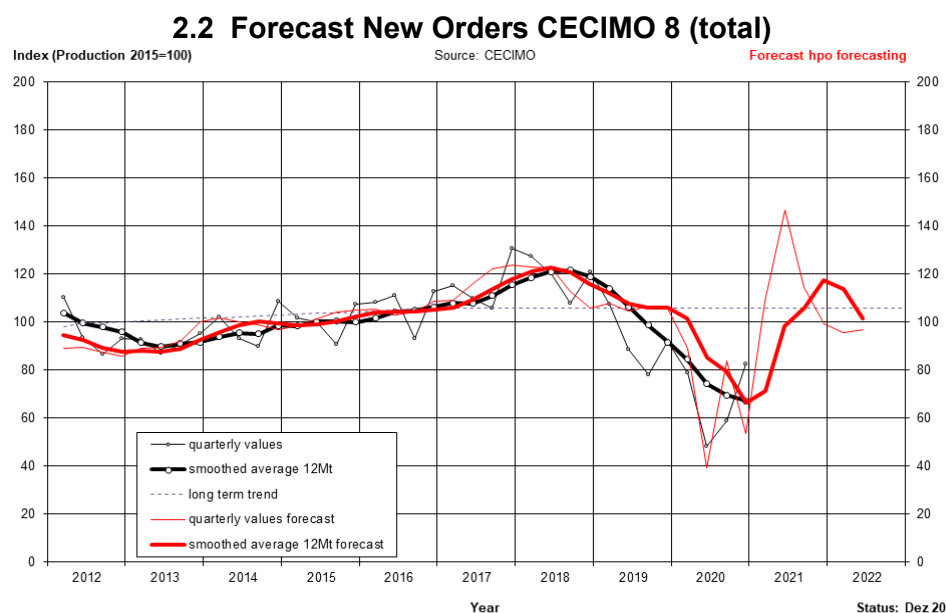


This edition of the Toolbox is published just ahead of the release of the Spring edition of the Global Machine Tool Forecast by Oxford Economics. The chart shown above is the summary of the forecast from October 2020 and is shown for ease of reference only.

As we remain in a fast moving economic situation, the forecasts contained in the chart and the commentary related to those forecasts is now out of date and an updated edition of the toolbox will be published as soon as possible after the release of the new forecasts.

For the commentary on the October 2020 forecasts, please refer to the Toolbox for the 3rd Quarter.

## 2.2 HPO CECIMO8 Orders Forecast (m)



In their latest analysis, HPO use the example of the USA to illustrate the unique impact of the Coronavirus pandemic on the pattern of consumption and why, despite a rise in unemployment and a fall in total consumption, there has been an increase in the savings ratio (largely involuntary) and an increase in spending on consumer durables (partly an increase in electronic goods to facilitate communication during the lockdown). Similar impacts can be seen in Europe and Asia, although on a lesser scale because of the mechanisms used to support the economy.

HPO forecasting believes that long-term economic cycles are the dominant factors for order development in manufacturing and capital goods, even in times of a pandemic (although this can have short-term effects on the cycle). The latest data seem to support this view for the most part, even if it is still too early to make a final assessment. The lockdown measures have led to considerable shifts in consumption within a very short time and while individual industries have plummeted, others are benefiting from record-high orders. The overall result is extraordinary volatility in demand for capital goods, which will continue in the coming quarters and they expect short boom phases in several sectors over the next few months, mainly due to catch-up effects.

### Quarterly analysis:

The underlying data showed an improvement in new orders to 82 in Q4-2020 and this is less volatile than had been expected. However, the 4-quarter moving average still fell slightly but hpo forecasting think that the floor has now been reached, although the impact of the 3rd wave of lockdowns remains to be seen.

The new economic indicators will raise the smoothed forecast above the long-term trend by the 2nd half of 2021. Thanks to the catch-up effect, a pre-crisis level is not out of the question, the effect of this "bounce" is not expected to be sustainable, resulting in the 4-quarter average falling back below the long-term trend in 2022.

In their analysis of the implications for manufacturers of capital goods (e.g., mechanical engineering), and consumer durables, they suggest that the main question is how sustainable these substitution effects will be? They paint two scenarios:

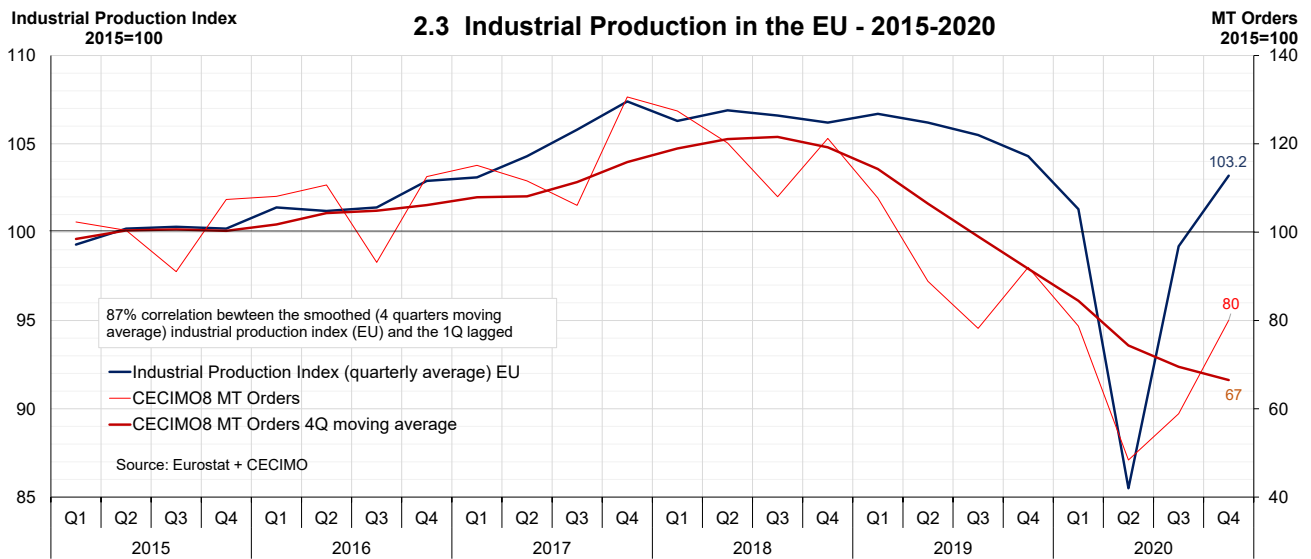
**Scenario 1:** If the substitution effects have a longer impact (several years), they will change the long-term trend growth in individual sectors.

**Scenario 2:** If the substitution effects only have a short-term impact until we hopefully get the pandemic under control around summer/fall 2021, there is a great risk of excesses. Industries that are now benefiting from the substitution effects may fall into an ordering hole in the second half of the year. Industry sectors that are now particularly suffering from the disruptions could benefit in the short-term until the development returns to the longer-term path.

Since people value their habits and the changes in behavior were imposed temporarily, there is much to suggest that most of the substitution effects are of a temporary nature (Scenario 2). Individual effects, such as the increased demand for the own living situation, could also mean longer-term changes in consumer habits.

The real economic cycles analyzed by hpo forecasting indicate that - following a long boom phase until 2018/2019 - we are now experiencing the start of a longer phase of rather subdued economic development. Only industries with very robust trend growth will be able to sustainably counter this in the long term. Even if Scenario 1 with sustained substitution effects in consumption actually occurs in individual sectors, this effect will be overshadowed by the general economic influence. Short-term excesses and subsequent compensation effects are likely to remain observable (keyword: high volatility).

## 2.3 Industrial Production Index (M)



The total industrial production index (IPI) showed a further recovery in the 4th quarter of 2020 in both the European Union (EU) and the Euro-zone (EZ) countries. Note that we have adjusted this data to reflect the current composition of both areas with the EU consisting of 27 countries (excluding the UK) and the EZ of 19 countries for the whole of the time series back to 1995 (for the calculation of the correlation).

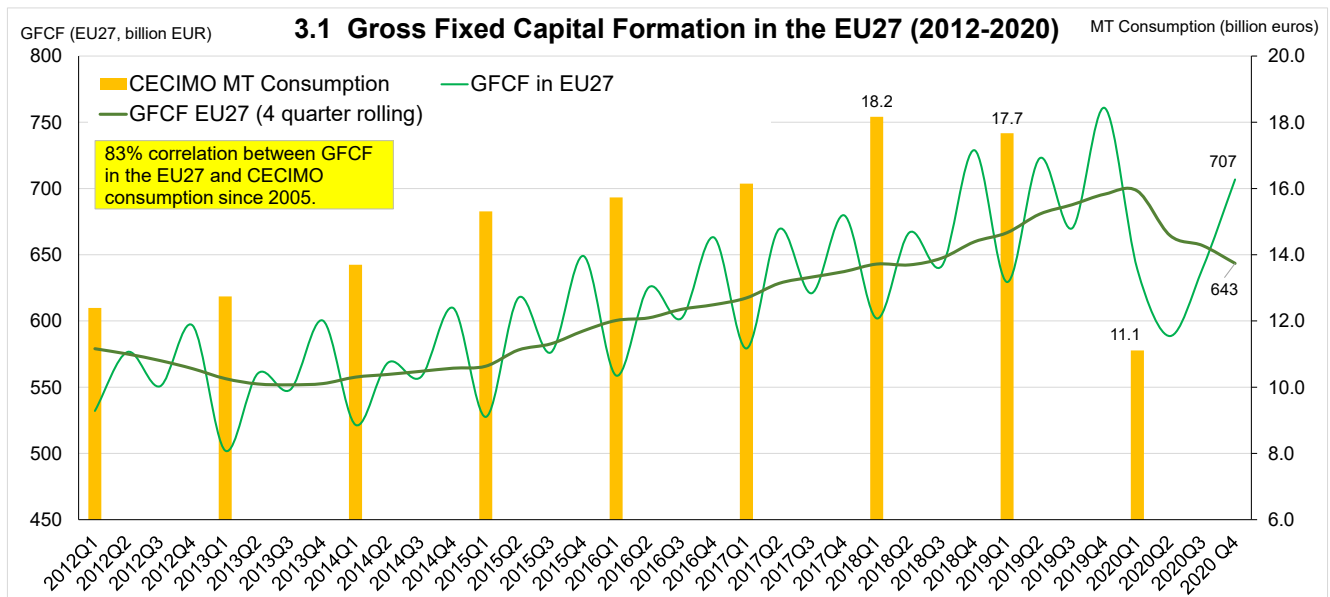
The IPI in both the EU and the EZ fell by -16% in the 2nd quarter and recovered by +16% in the 3rd period of 2020 but, of course, the base effect meant that the level had not made a complete recovery. Even with the growth of +4% in both regions in the 4th quarter, which took the levels to their highest of the year, the IPI is not yet back to the pre-pandemic levels that we saw at the end of 2019.

The impact of the crisis has clearly distorted the annual trends for 2020 but it is interesting to note that the EZ appears to have been affected a little more than the EU with declines of -8.5% and -7.9% respectively in the two areas compared to 2019. Indeed, going back to 2016, each year has seen the EZ performance weaker (either growing less strongly or falling faster) than that for the EU as a whole.

Although we don't show this on the chart, it is worth noting that while the peak to trough fall in the IPI in the current crisis is similar to that experienced in the financial crisis (-22% and -23% respectively), we have seen a different pattern of recovery. In part this depends on what you regard as the pre-crisis peak – we have taken Q4-2019 in the current event but the IPI had been falling gradually since the start of 2018 – but we have seen both a sharper cycle and a more complete recovery in the Coronavirus pandemic. In the financial crisis of 2008-10, the peak to peak period was 12 quarters, with the post-crisis level only 92% of the pre-crisis peak; for the current cycle, the duration of the cycle is 4 quarters (so far) and the IPI is back to 99% of its pre-crisis level.

# 3. Investment

## 3.1 Gross Fixed Capital Formation (M)



Gross Fixed Capital Formation for the current 27 Members States of the European Union continued its recovery from the low point in the 2nd quarter of 2020 but there is still some way to go before we get back to pre-pandemic levels. Investment in the final quarter of 2020 was +11% higher than in the previous quarter but -7% lower than at the end of 2019.

This is a very volatile series, especially as we use the non-seasonally adjusted data in the chart (this gives the best correlation with the CECIMO consumption data) and the 4-quarter moving average is still falling, although we expect this to reverse as we go into 2021.

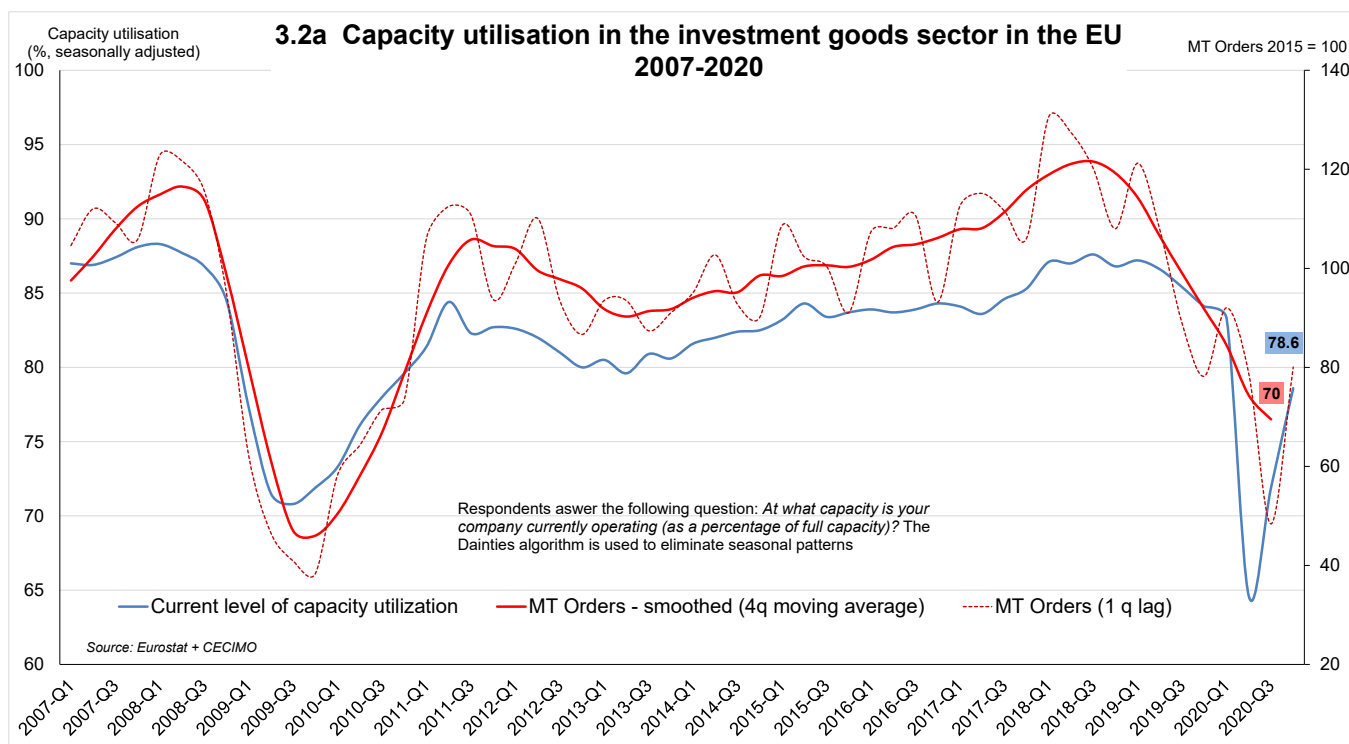
For 2020 as a whole, gross fixed capital investment in the EU27 fell by -7.5% to €2.57 billion; this is its lowest level since 2017.

## 3.2 Capacity Utilisation and Production

### Capacity (M)

**Methodological Note:** The dates in this section refers to when the results were published; so, the Q1-2021 figures were published in January 2021 but reflect the position at the end of the previous quarter when the data collection took place. We will refer to the date of publication in this section but please bear in mind this adjustment.

The latest data for capacity utilization in the European Union also reflects a continuation of the recovery from the low point at the start of the Coronavirus crisis to stand at 78.6. however, between 2011 and 2019, the capacity utilisation rate average 83.6 so there remains a gap to close on the "normal" level for this indicator.



At the national level, we see similar trends with the low point in the Q2-2020 data, except for Spain where it came one period later. Similarly, there has been a recovery from that low point in most countries, with Germany the exception in this case in having a slight dip in the capacity utilisation rate in the latest data. In no case is the utilisation rate back to the levels that we saw in 2019.

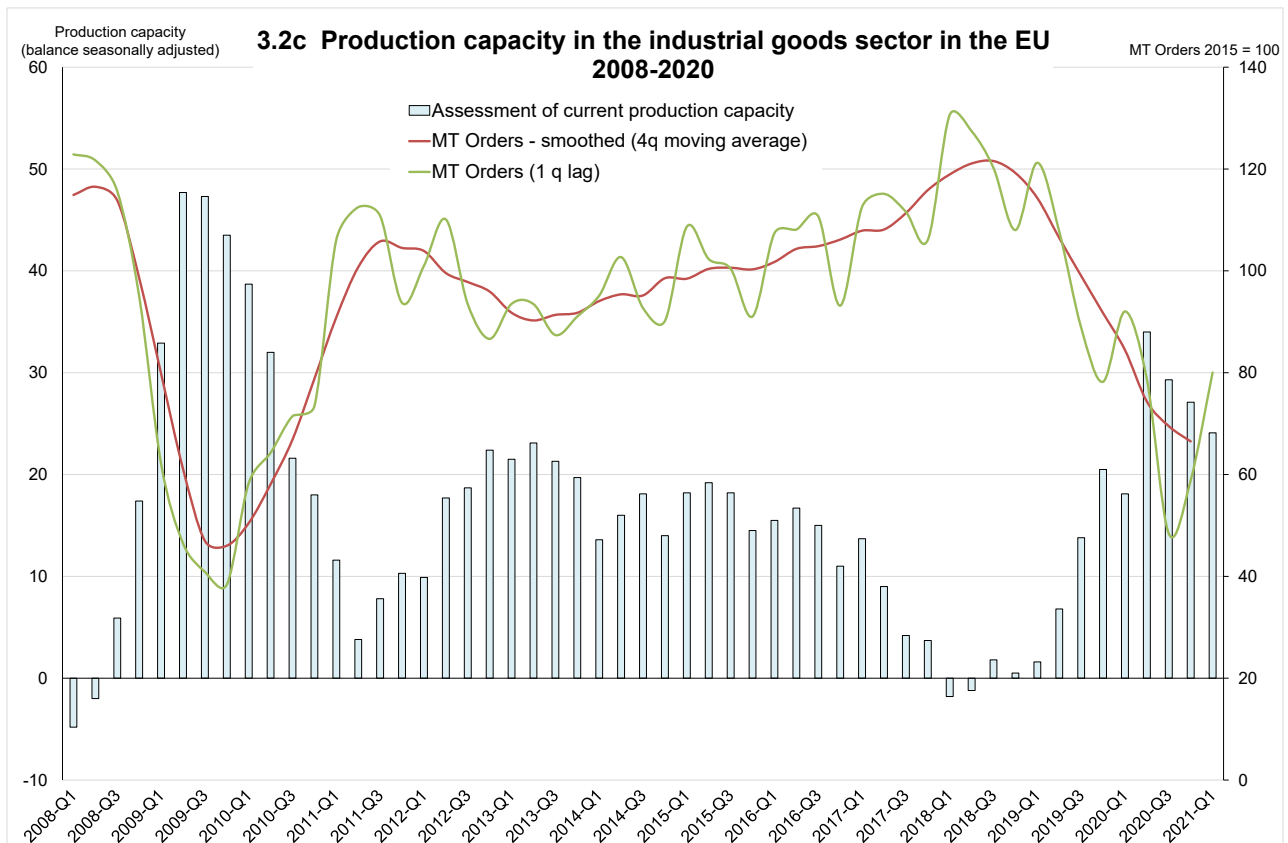
#### 3.2b Capacity Utilisation (% of total capacity)

	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
Austria	87.8	87.3	86.2	85.4	74.2	76.0	79.2	82.0
Czech Republic	85.5	85.4	86.9	86.9	47.7	74.8	80.5	82.2
France	88.3	87.3	85.7	84.0	62.0	70.9	75.1	77.3
Germany	89.5	87.9	85.5	85.5	65.9	72.7	81.1	79.2
Italy	78.7	77.8	77.9	76.9	NA	65.7	73.0	75.5
Spain	87.5	87.5	87.9	85.4	81.8	78.5	80.0	81.0
United Kingdom	81.2	80.0	82.9	82.9	57.5	65.7	68.1	NA



To track production capacity, business managers are asked to assess their current levels of production as sufficient or not, considering the changes in the orderbook and demand of capital goods. Given the inverse relationship with capacity utilisation, this peaked for the European Union in the Q2-2020 data and has fallen back in the following three periods.

It is worth noting that this measure never reached the high levels of spare capacity that we saw in the financial crisis in 2009, although it is still above the levels that we saw in the 2012-2013 period (the euro crisis).

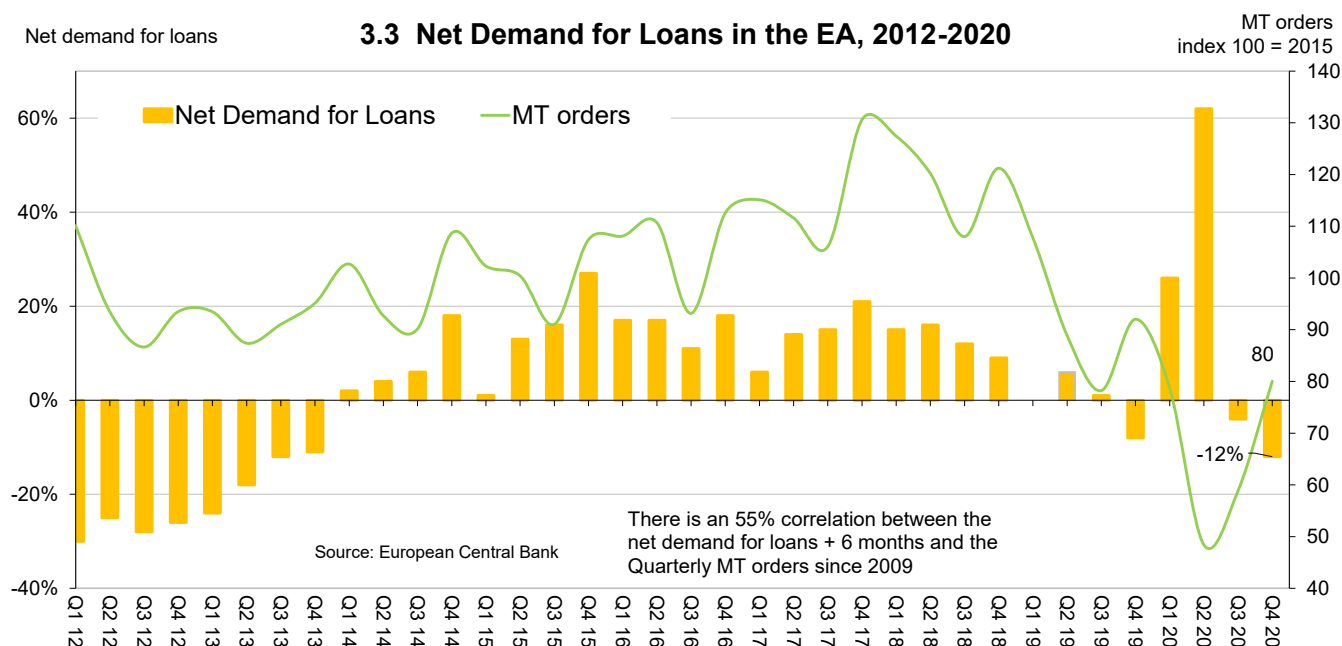


There is more variation in the national level data; In Germany, the level of spare capacity peaked in Q2 and Q3 while in Italy it has not moved significantly since the middle of 2019 (before the pandemic). The Czech Republic also has an unusual pattern with spare capacity rising up to Q1-2020 (actually the end of 2019 - see above) and then going through another cycle over the following 4 quarters.

### 3.2d Production Capacity (balance in %)

	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
Austria	6.1	11.7	22.5	18.7	35.8	42.7	41.9	27.6
Czech Republic	27.4	27.0	28.9	33.5	19.2	25.4	21.3	13.3
France	-11.4	-4.7	-4.0	-1.1	15.8	2.2	21.5	16.4
Germany	9.6	22.1	33.0	25.7	46.5	44.4	35.6	36.4
Italy	20.7	24.6	25.5	27.6	NA	28.7	26.6	27.5
Spain	0.4	-2.1	13.2	7.8	13.7	26.5	9.3	4.5
United Kingdom	14.0	25.7	41.2	0.3	47.1	37.8	20.3	NA

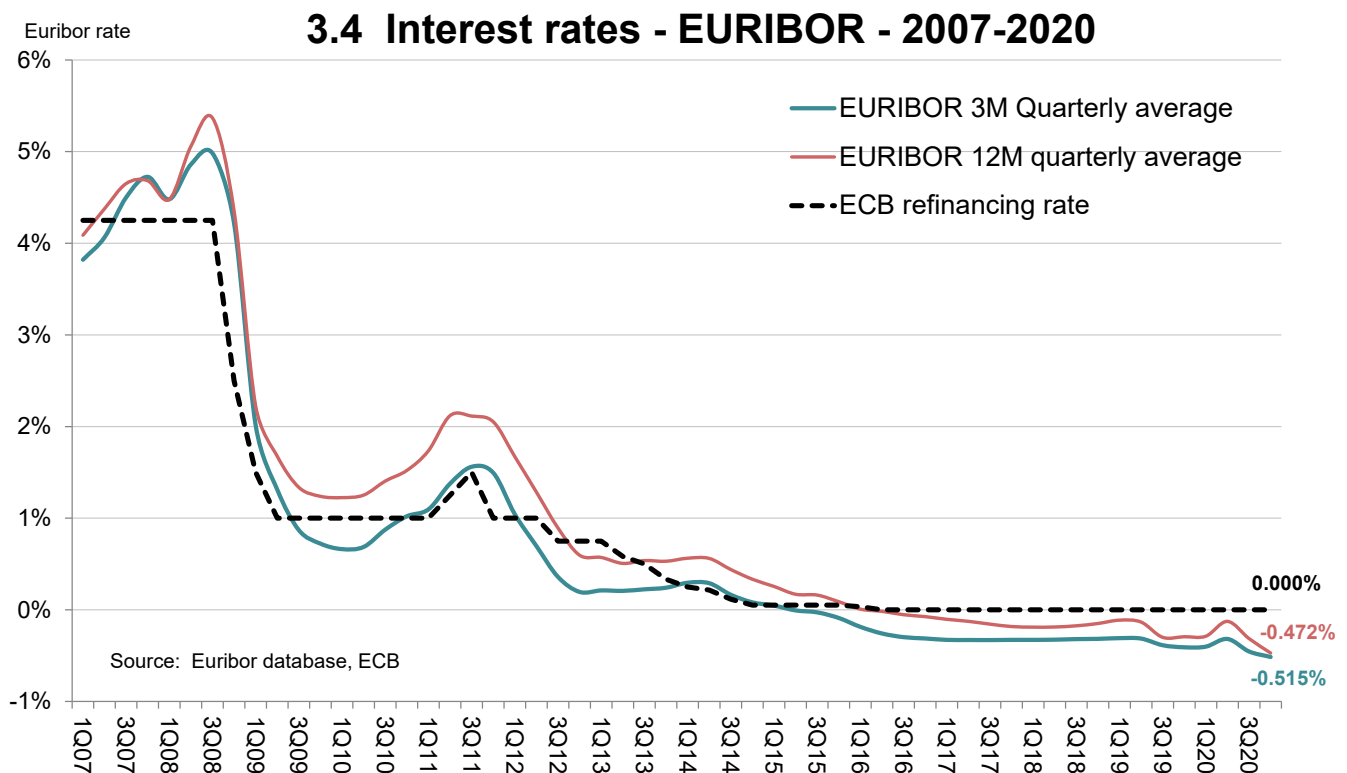
## 3.3 Bank Lending Survey (M)



- **Credit standards** - banks' internal guidelines or loan approval criteria - tightened further in the 4th quarter of 2020 with a net percentage of 25% (19% in Q3-2020). This is above expectations in the previous survey round. Banks reported a stronger net tightening of credit standards for loans to SMEs (25%) than for large enterprises (16%), as well as a stronger tightening for long-term loans (26% vs. 19% for short-term loans).
- While the tightening was above the historical average (8%), it remained below the peaks observed during both the financial crisis and the Euro sovereign debt crisis (average tightening of 52% from the fourth quarter of 2007 to the first quarter of 2009; peak of 30% in the fourth quarter of 2011). Notably, banks reported a significant easing of credit standards on loans with COVID-19-related government guarantees in 2020 (see Section 3.5). The stronger net tightening in the last two quarters of the year is also consistent with the observed decline in the actual take-up of guaranteed loans and the moderation of overall loan flows to non-financial corporations.
- Across the largest euro area countries, credit standards on loans to enterprises tightened in Germany, Spain and France, while they remained unchanged in Italy in the 4th quarter of 2020. This is consistent with the continued increase in realised loan flows to Italian firms in the autumn of 2020 while banks in Germany, Spain and France referred to the heightened perception of risk as the main factor contributing to the tightening. The impact of risk perceptions was particularly strong in France, possibly reflecting banks' concerns about the indebtedness of French firms and banks' lower risk tolerance only contributed to a tightening in France.
- Looking forward, Euro area banks expect a continued net tightening of credit standards on loans to firms (net percentage of 20%) in the first quarter of 2021, reflecting the continued uncertainties around the further development of the pandemic and its effects on borrowers' credit risk.

- Banks' **overall terms and conditions of new loan contracts** (i.e. banks' actual terms and conditions agreed in the loan contract) for new loans to enterprises continued to tighten in the 4th quarter of 2020 (net percentage of 14%, after 8% in Q3). Collateral requirements continued to tighten significantly, reaching the highest value since the 3rd quarter of 2009. Margins on average loans to firms tightened moderately, while margins on riskier loans continued to tighten more strongly but, the widening of margins on both average and riskier loans in recent quarters remained limited compared to previous crises.
- The **rejection rate for loans** to euro area enterprises in the 4th quarter of 2020 continued to increase slightly with the net percentage of banks reporting an increase standing at 2%, after 3% in the 3rd quarter. However, this followed a considerable decline in the 2nd quarter of 2020 and was still lower than the increases observed in the quarters prior to the coronavirus pandemic
- Banks reported a continued net decline in **firms' demand for loans** in Q4-2020 (net percentage of banks reporting an increase in loan demand of -12%, after -4% in Q3) but, the dispersion of banks' responses remained elevated, which is also reflected in differences across countries and different maturities. Banks reported that demand to support inventories and working capital continued to contribute positively to net demand for loans, while, demand for fixed investment contributed negatively to firms' loan demand for the fourth consecutive quarter.
- Across the largest euro area countries, banks reported a net increase in demand for loans to firms in Germany and Italy, while they reported a net decline in France and Spain. Demand for fixed investment contributed negatively in all countries, while demand for inventories and working capital had a positive impact in all countries apart from Spain. In Italy, other financing needs (mainly debt refinancing and renegotiation) also contributed strongly to the net increase in loan demand.
- In the 1st quarter of 2021, banks expect a moderate net increase in demand for loans to firms (net percentage of 5%); the increase is expected to be larger for short-term loans (13%) and for SMEs (5%).

## 3.4 Euribor - Interest Rates (M)



The **ECB refinancing rate** remained unchanged at 0.0% during the 4th quarter of 2020. The EURIBOR 3-month average rate fell to -0.515%, while the 12-month average stands at -0,472%.

In its latest statement, the European Central Bank has stated that it expects purchases under the €1,3 trillion pandemic emergency purchase program (PEPP) to be conducted at a significantly higher pace over the next quarter than during the first months of 2021. They aim to purchase flexibly according to market conditions and with a view to preventing a premature tightening of financing conditions that is inconsistent with countering the downward impact of the pandemic on the projected path of inflation.

# 4. Business Climate

## 4.1 CECIMO Business Climate Barometer (m)

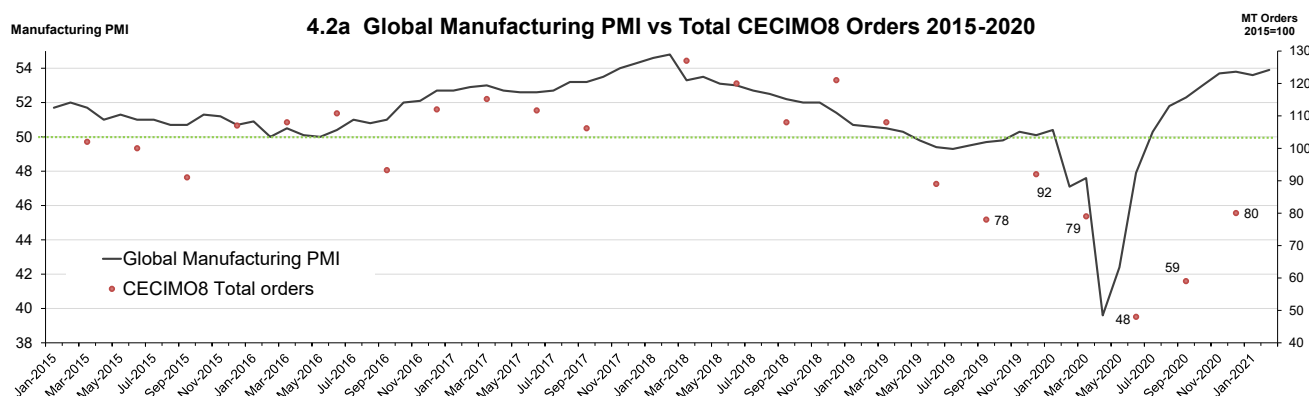
The Business Climate Barometer is a quarterly survey that assesses CECIMO-based companies' current business sentiment and expectations for the next quarter.

We are still carrying out a methodological review of this survey and the scores from the Business Climate Barometer will be covered in future editions of the Toolbox.

## 4.2 Purchasing Managers Index (M)

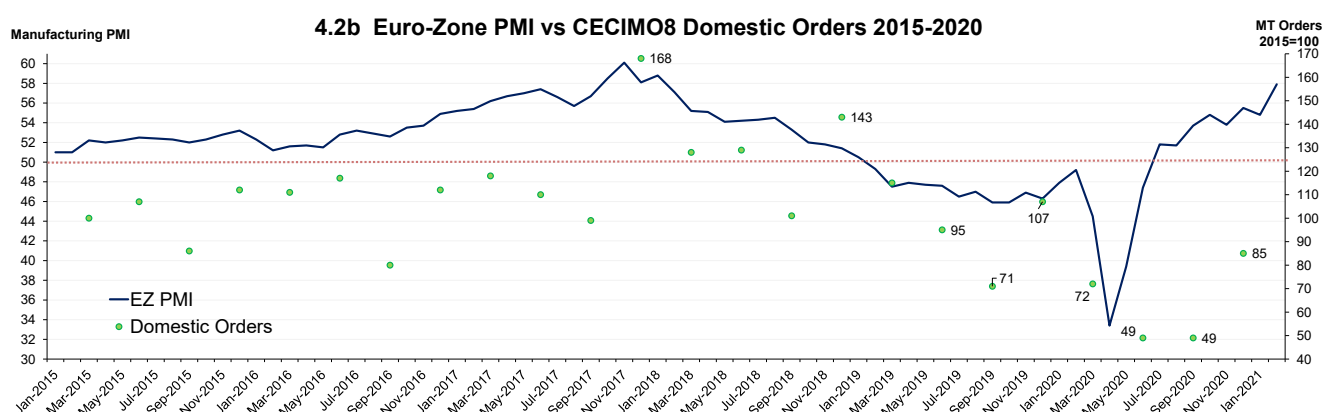
Methodological note: the Purchasing Managers' Index (PMI) is a weighted composite index made up of five factors – new orders (30%), output (25%), employment (20%), suppliers delivery times (15%) and stocks of purchases (10%). The impact of suppliers delivery times is inverted because, longer (deteriorating) delivery times are taken as an indicator of high levels of activity; in normal times, this assumption is valid but during the pandemic this is actually a negative sign. As a result, the manufacturing PMI in many countries/regions is distorted upwards from the “true” reading. In the notes below, we note where this has been mentioned in the PMI reports.

### Global Manufacturing PMI

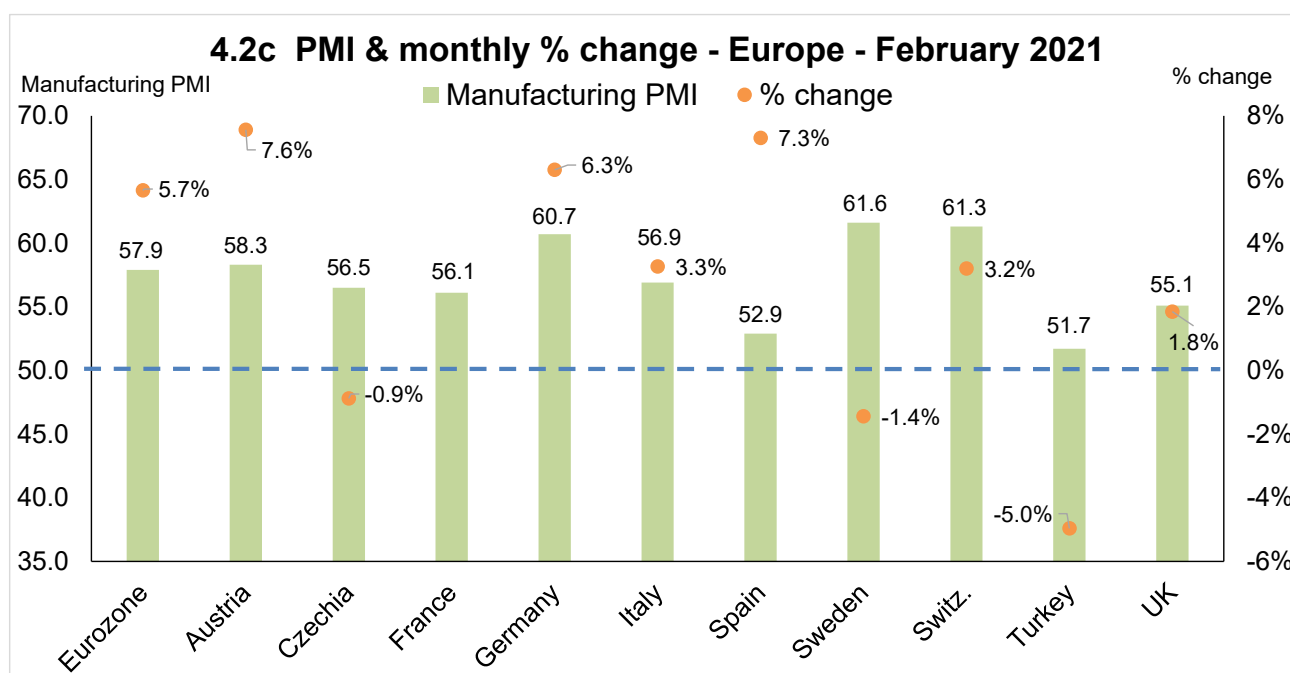


There was a small acceleration in the global manufacturing PMI in February; this continues to run at or close to the peak levels we saw in 2018 and, before that, in 2011. This series has signalled expansion (the PMI above 50) for eight consecutive months with the latest reading of 53.9. The latest month saw a small acceleration in output although there is a warning sign for the future with the pace of growth in new order intake easing to a 5-month low (but still growing). Globally, among the sub-sectors of manufacturing, the investment goods industries saw the fastest rate of expansion in production.

## Eurozone Manufacturing PMI



The manufacturing PMI for the Euro-zone improved strongly to 57.9 in February 2021 (54.8 in January) and, like the global index, above the threshold for the 8 month running. The EZ PMI is at its highest level since February 2018. While all three of the sub-sectors improved, investment goods producers registered the strongest growth – the best since January 2018 – as the recovery in this sub-sector continues. This improvement was driven by gains in both output and new orders, with the latter driven mainly by export demand, although there was also the 2nd greatest deterioration in delivery times in the 24-year history of the survey.



### Austria

Austrian Manufacturing PMI increased significantly from 54.2 in January to 58.3 in February, its highest level for three years. Both output and new orders improved, as did employment which grew at its fastest rate for two years as companies look to restore or expand capacity. Inventories, both pre-production and of finished goods, fell as companies react to the higher level of demand. A lack of transport capacity (mostly containers) was also reported as a factor behind the longer lead times.



## Czech Republic

The manufacturing PMI for the Czech Republic eased to 56.5 in February from its peak of 57.0 the previous month as increases in input prices combined with a slight easing of the pace in growth for orders and output led to the PMI edging down. However, the index remains at an historically high level, although with the distortion from lengthening lead times also mentioned as a factor in this trend.



## Germany

Germany also saw a significant improvement in the manufacturing PMI with the February reading of 60.7 (January 57.1) representing a 37 month high. New orders, which had eased in January, accelerated again in February with widespread reports of higher demand from Asia (especially China), the USA and across Europe. This led to production being increased, most notably in the investment goods category and with order backlogs being extended, this trend should continue. Delivery times are also growing with shortages of key inputs such as steel, plastics and electronic components.



## Spain

The manufacturing PMI in Spain dipped into negative territory in January (49.3) but a strong improvement in February saw it back above the crucial 50 level at 52.9. This was driven by improved market demand, both domestic and export, but was again helped upwards by lengthening delivery times. Perhaps reflecting the weakness at the start of the year, manufacturing employment fell for the 4th consecutive month despite evidence of increased optimism.



## France

France was another country where there was a sharp improvement in the manufacturing PMI between January (51.6) and February (56.1), reaching its highest level since January 2018. Like other countries there was an acceleration in growth of orders (both from both home and overseas) and output but in France this was accompanied by the strongest increase in employment since November 2019. The PMI reading was helped by lengthening supply chains for which the most reported cause was shortages of raw materials at suppliers.



## Italy

The increase in the manufacturing PMI in Italy was more modest than some of the other countries; having seen a stronger increase in January when the reading was 55.1, it improved further to 56.9 in February. Output and orders grew at their fastest rate for three years which led to employment rising strongly as well. Respondents to the survey in Italy pointed to looser Coronavirus restrictions which allowed pent-up demand to be released, generating a surge in demand from both home and abroad.



## Netherlands

Like Italy, the relatively modest improvement in the manufacturing PMI to 59.6 in February (58.8 in January) was building on what was already a strong position. However, while both new orders and output were growing strongly, this was at a slightly slower pace than in January and the increase in the index was driven by lengthening delivery times.



## Sweden

Sweden was one of the few countries to report a decrease in their PMI between January (62.5) and February (61.6) but the high numbers - the highest of those that we report on - still point to a significant rate of expansion in the manufacturing sector. New orders was notable for growing more slowly in February but employment and delivery times (the latter with its perverse impact on the calculation) both accelerated.



## Switzerland

Switzerland reported an increase in the manufacturing PMI for the 4th consecutive month and the February reading of 61.3 is the highest level since August 2018. Unlike the first wave of the pandemic, the Swiss manufacturing industry does not appear to have been hit as hard as the service sector and orders growth was particularly strong.



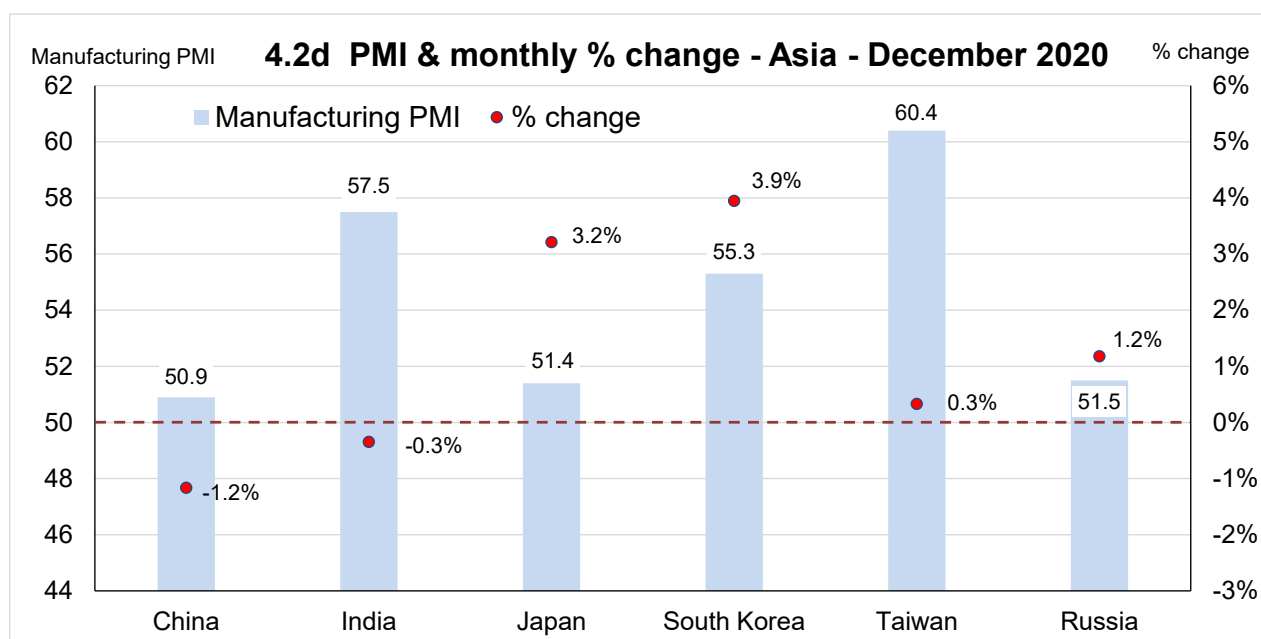
## Turkey

Turkey saw the largest fall in the manufacturing PMI in February but, at 51.7 (54.4 in January), the February figure still points to growth in activity in the sector. This slower overall growth was mainly due to a small fall in orders amid the on-going impact of the pandemic, although new export orders grew for the 2nd month in a row. Both output and employment in manufacturing increased in February



## United Kingdom

The improvement in the manufacturing PMI in the UK came on the back of the reversal of a small fall in new orders in January and, with output growing at its slowest rate in what is currently a 9-month run of growth, the strength of the index reading comes mainly from the extended delivery times (see the methodological note at the start of this section). Companies



## China

The latest data from China shows that the manufacturing PMI slipped from 51.5 in January to 50.9 in February. There were slower increases in both orders and output for the 3rd month running with firms commenting that the pandemic had held back demand and impacted business operations in the latest period. New orders grew at the weakest rate for 9 months, constrained by the 2nd consecutive fall in export orders. Employment in the manufacturing sector also fell modestly in February.





## India

India's manufacturing PMI was broadly similar in January (57.7) and February (57.5); this results from a balance between strong growth in both orders and output which is somewhat balanced by a further fall in employment (where Coronavirus related restrictions are impacting on shift work) and an increase in input prices as a result of supply shortages.



## Japan

The manufacturing PMI in Japan moved above the crucial 50 level for the first time since April 2019 to stand at 51.4 in February. This was supported by modest expansions in both new orders and output, although supply chain disruptions have also led to increases in input prices. With a gradual recovery in demand leading to increased orders, output volumes increased for the first time since December 2018 (long before the current crisis started). The increase in orders was linked to both new products being launched and to an increase in exports, most notably from China.



## South Korea

South Korean manufacturing PMI rose from 53.2 in January to 55.3 in February, signalling an improvement in the sector. Output rose at its fastest pace since April 2010 and there was also an acceleration in new orders as panellists commented that domestic demand conditions had improved although there was only a marginal improvement in international demand with the South East Asian region the main driver of that trend. Employment stabilised in the sector with a reversal of the modest fall that was recorded in January.



## Taiwan

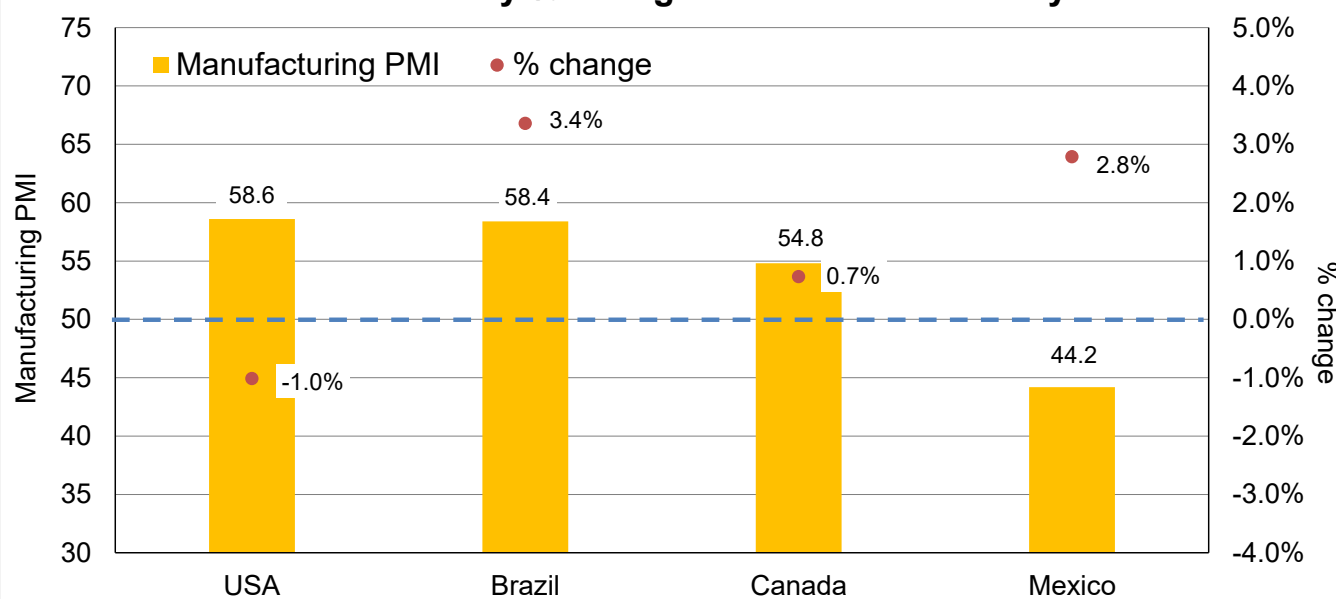
The manufacturing PMI for Taiwan continues to be one of the strongest that we track with a marginal improvement from the 60.2 in January to 60.4 in February. There was a substantial rise in new orders supported by expansions of output, employment and, as noted above, extended delivery times. Total and export new orders both expanded at the 2nd fastest pace since January 2011 and firms mentioned improved demand across mainland China, Europe and the USA.



## Russia

Russia recorded its second consecutive positive balance in February (51.5) and only the third since April 2019. The move from the 50.9 recorded in January was supported by faster growth in orders and output and by the strongest rise in employment for 2 years as well as the now familiar lengthening of delivery times; however, export demand fell due to challenging external demand conditions.

#### 4.2e PMI & monthly % change - Americas - February 2021



#### United States

The manufacturing PMI in the USA increased at its 2nd fastest pace since April 2010 in February (58.6) behind only the figure from the previous month (59.2). There was a sharp increase in both orders and output (although both were slightly down on the January figure) and employment in the sector grew at the fastest rate since September 2014 as confidence improved, although the absence of any support to retain jobs in US companies during the pandemic may also have influenced this trend.



#### Canada

Canada's manufacturing PMI improved slightly to 54.8 in February thanks to a robust expansion in new orders which, accompanied by a rise in backlogs, encouraged an increase in employment in the manufacturing sector. Like other countries, however, lengthening delivery times are keeping the PMI reading artificially high. The improvement in orders was concentrated on the domestic market with foreign demand for Canadian produced goods only slightly higher as the pandemic continues to hinder exports.



#### Mexico

The Mexican manufacturing sector remains firmly stuck in contraction despite some improvement in the PMI reading from the low point last April; the February reading of 44.2 (January 43.0) was the "best" since March 2020. In contrast to most other countries, output and orders continue to fall and employment is decreasing although there are tentative signs that the roll-out of the Coronavirus vaccine may lead to an improvement in the coming months.

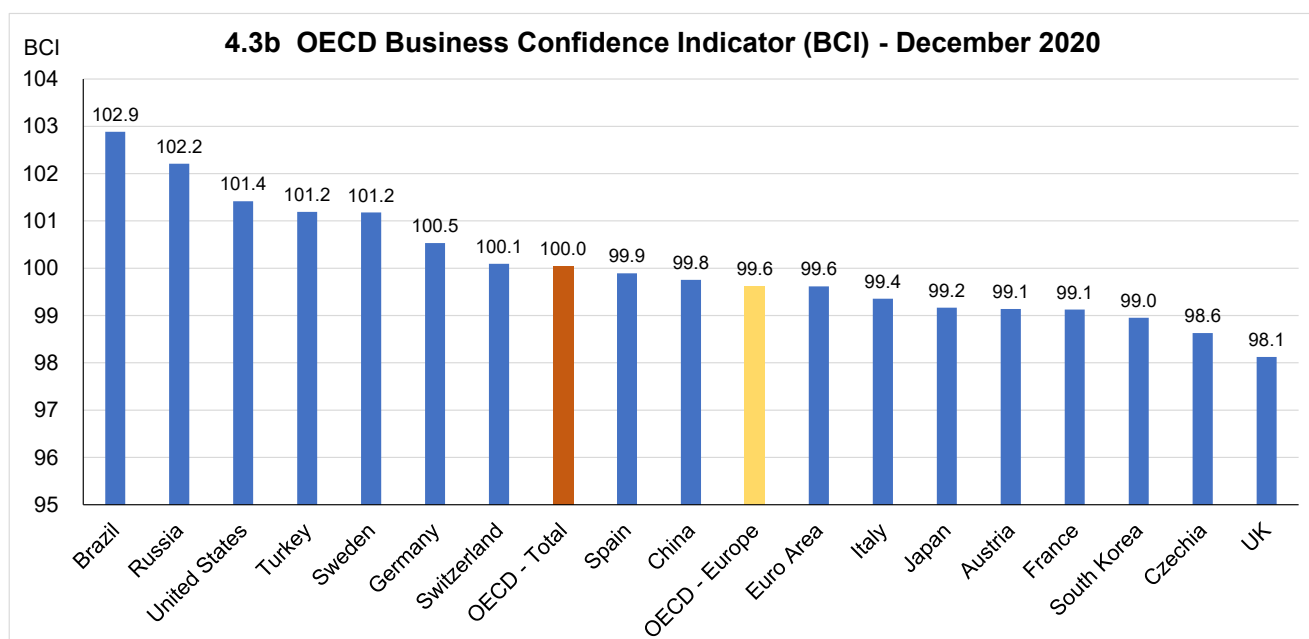
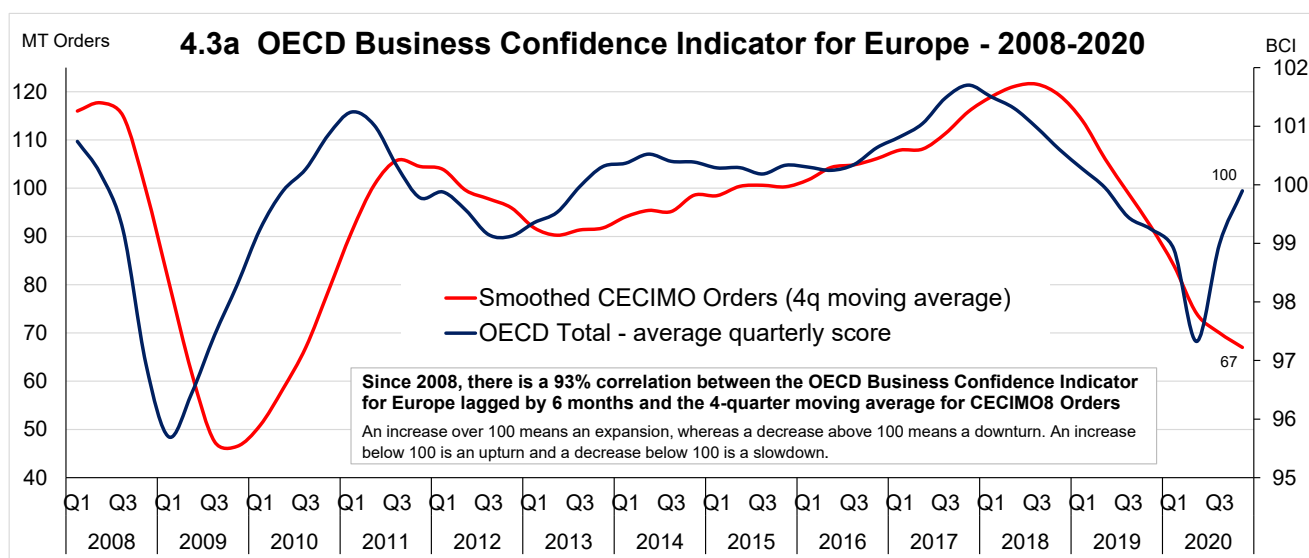


#### Brazil

The manufacturing PMI in Brazil improved to 58.4 in February (56.5 in January), although it is lower than its most recent peak of 66.7 that was recorded in October 2020. This is a typical story of strong growth in orders and output driving a pick up in employment growth but with the index also boosted by supply chain pressures caused by disruption to international shipping from the Coronavirus pandemic. Investment goods producers reported the fastest rise in output while consumer goods was the weakest sub-sector.

## 4.3 OECD Business Confidence Indicator (M)

The Business Climate Index (BCI) for the OECD countries got back to 99.9 at the end of 2020 - this matches the level that was recorded in the 2nd quarter of 2019. While the Coronavirus outbreak had a significant negative impact on the BCI, it is worth noting that this was already falling from its peak at the end of 2017. The chart also shows that the impact was not as large as in the financial crisis, although the fact the index was falling before the crisis started makes it more difficult to compare the time period between these two cycles.

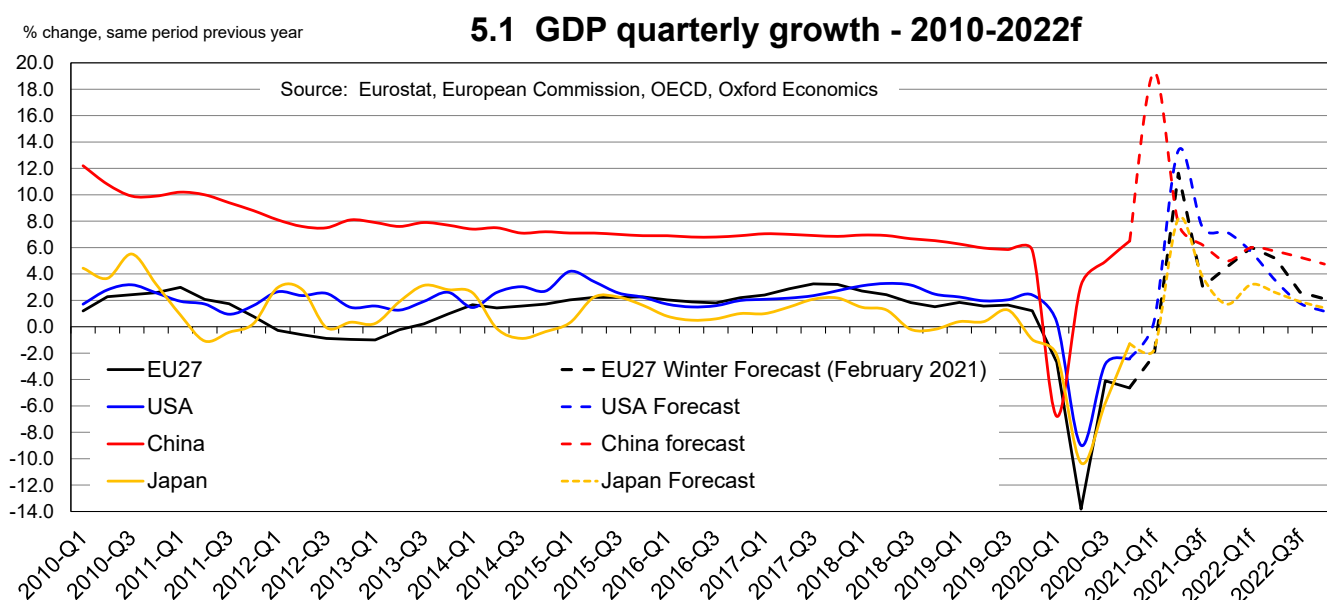


The December 2020 (note that chart 4.3a refers to the quarterly averages) country-specific BCI readings show.

- The OECD-Total aggregate was at exactly the 100 threshold while the OECD-Europe was slightly behind this at 99.6.
- While Germany (100.5) and Switzerland (100.1) were above the OECD average, the other major European economies - including Italy (99.4), France (99.1) and the United Kingdom (98.1) - were below this level. Spain (at 99.9) was only a fraction off the total OECD score but above the European average.
- The three key Asian markets (China, Japan and South Korea) also had a BCI score below that of the OECD average, although China (99.8) was very close to this mark.
- The strongest readings in December 2020 came in Brazil (102.9), Russia (102.2) and the USA (101.4), with the European economies of Turkey and Sweden (both 101.2) not far behind.

# 5. General Indicators

## 5.1 GDP (M)



Tracking the trend for the percentage change in GDP, comparing the latest period (Q4-2020) with the same period a year earlier:

- Eurozone GDP fell by -4.9%, with a -4.6% decline for the EU27 overall. In both cases, these represent a slight weakening of the position in the 3rd quarter of the year (-4.2% and -4.1% respectively) and something of a miss-step in the recovery from the low point that was reached in the 2nd quarter. With the 1st quarter of 2021 forecast to see a quarter-on-quarter fall in GDP, this will push Europe into a double-dip recession with a 2nd period of two consecutive quarter-on-quarter declines in GDP (Q1 & Q2 2020 and Q4-20 and Q1-21), although growth should then resume both because the European economies will start to unlock and because Q2-20 was so bad.
- US GDP at the end of 2020 was -2.4% lower than at the end of 2019 but with quarter-on-quarter growth in the final period of 2020 and a different profile moving forward, they seem likely to avoid a second phase of recession in the current crisis.
- The Chinese economy only saw one period of contraction (Q1-2020 – the impact of the Covid-19 outbreak was more concentrated in this period and happened a little earlier than the rest of the world) and they saw the annualised growth rate accelerate to +6.5%.
- Looking at the comparison against a year earlier, Japan's economy started to contract in the 4th quarter of 2019 (before the impact of Coronavirus) but the latest figure of -1.3% for the final period of 2020 represents a second consecutive improvement in activity. However, the start of 2021 is expected to be weaker before growth kicks in (in part at least because of the base effect of comparing with Q2-20) in the 2nd quarter of 2021.

## European Commission's Winter Forecast (February 2021):

The latest forecast from the European Commission works from the data for the 4th quarter of 2020. As noted above, it shows that Q1-2021 is likely to see a contraction in economic activity with the various forms of lockdown that have been imposed across most European economies. Indeed, it does not pick up the latest lockdowns which might have a further negative impact on the 2nd quarter of the year, although given that this period in 2020 saw the main reductions in GDP from the initial wave of infections, growth in the same period of 2021 looks almost guaranteed.

Overall, GDP is now forecast to grow by +3.7% in 2021 and +3.9% in 2022 in the EU (+3.8% in both years in the Euro-zone). With this growth, the EU economy would reach the pre-crisis level of output earlier than anticipated in the Autumn Forecast, largely because of the stronger momentum in the second half of 2021 and in to 2022, despite a weaker near-term outlook as a result of the resurgence in infections. The speed of the recovery will, however, vary significantly across the EU; some countries have suffered more during the pandemic than others, especially those that are more dependent on sectors such as tourism, which are likely to remain weak for some time. As a result, while some Member States are expected to see economic output return to their pre-pandemic levels by the end of 2021 or early 2022, others are forecast to take longer.

This was billed as an "interim" forecast which focuses almost exclusively on the European Union so we have had to source the latest forecast data for the other major economies from other sources (the OECD and Oxford Economics), so these comments focus on the data (see also above):

- The pattern of growth in the US is most like that in Europe, although their pause around the turn of the year (Q4-20 and Q1-21) is only in the form of slower growth rather than falls in GDP that we have seen in Europe. The US has been more successful in its vaccination programme (although not on the scale of Israel or the UK) and this, coupled with the economic stimulus package promoted by President Biden, will help the US economy in its recovery and leads to the forecast of GDP growth of +7.0% in 2021, slowing to +3.0% in 2022 as the initial impact works through the economy.
- Japan, like Europe, sees its 4-quarter trend in GDP running at a negative rate into 2021 but there is a small difference in timing with the contraction in GDP coming in the 1st quarter of 2021. With the impact only in this quarter in Japan, they will also avoid a double-dip recession, although the GDP growth forecast is only +2.9% in 2021 and +2.3% in 2022.
- As we noted above, the timing of both the Coronavirus outbreak and the subsequent measures of economic activity came a little earlier in China; as a result of this impact being concentrated in the 1st quarter of 2020 and the strong growth through the rest of the year, this was one of the few economies in the world to see economic growth in 2020 (GDP +2.3%), albeit much slower than in previous years. There was also a strong initial recovery in China which meant that its 4-quarter moving total of GDP was back above pre-pandemic levels by the end of 2020 and growth is forecast to be +8.9% in 2021 before easing to +5.4% in 2022.

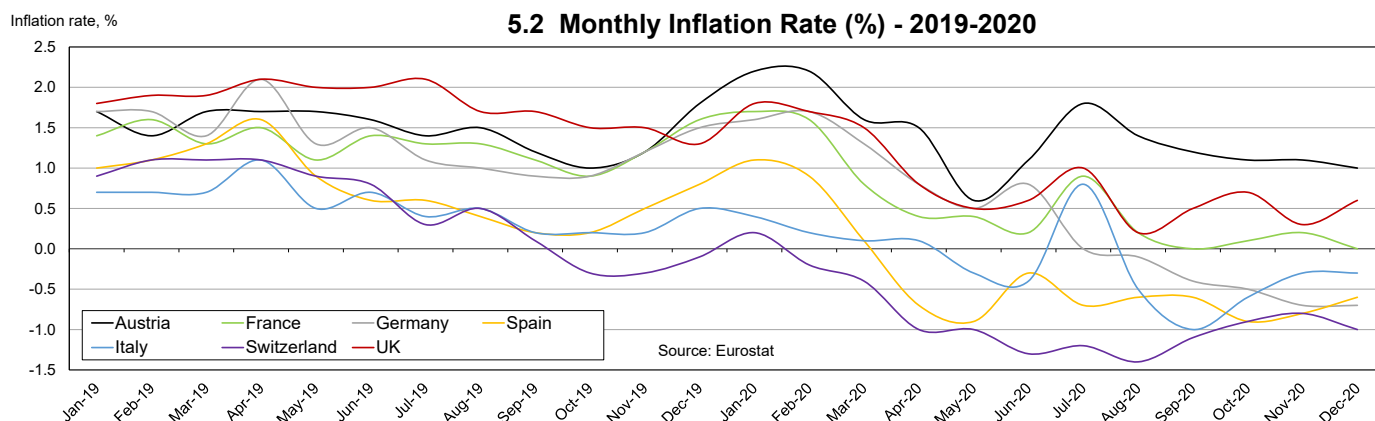
## 5.2 Inflation (M)

Q4-2020 average inflation data:

- EU27: 0.2%
- Eurozone: -0.3%
- United States: 0.9%
- China: 0.1%

We continue to see a small but significant difference between the Euro-zone countries and the EU27 as a whole; the latter has slipped into deflationary territory and although the trend of slower inflation has been seen for the EU27 as a whole, it remains positive for the larger region.

Inflation in the USA has accelerated slightly in the USA and ended the year at its fastest pace since February. The rate of inflation in China (where the data comes from the OECD) fell sharply in the final quarter of 2020 and included a negative value in November.

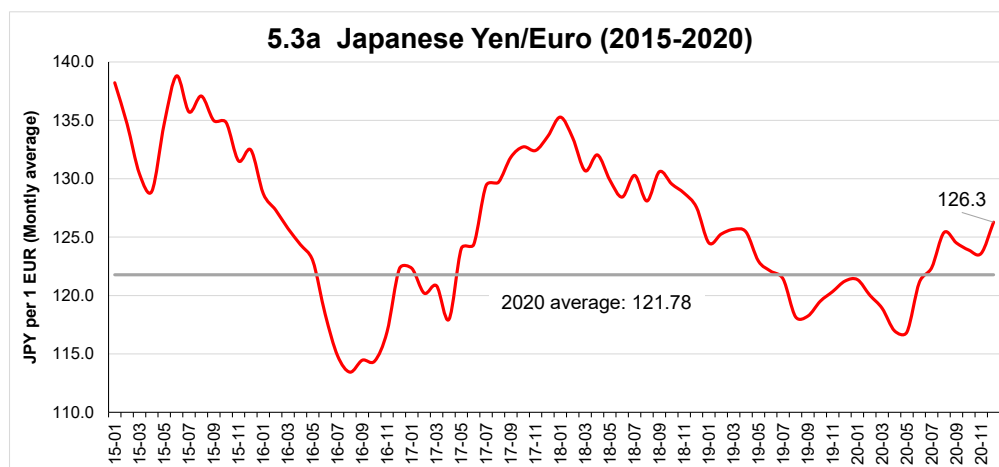


It is hard to see any consistent patterns in the inflation rates during 2020 among the largest CECIMO markets, although there is a gradual fall in inflation across the year. Four of the countries – Germany, Italy, Spain and Switzerland – have ended the year in deflationary territory, with France at zero, while inflation remains relatively high (but not by historical standards) in Austria and the UK.

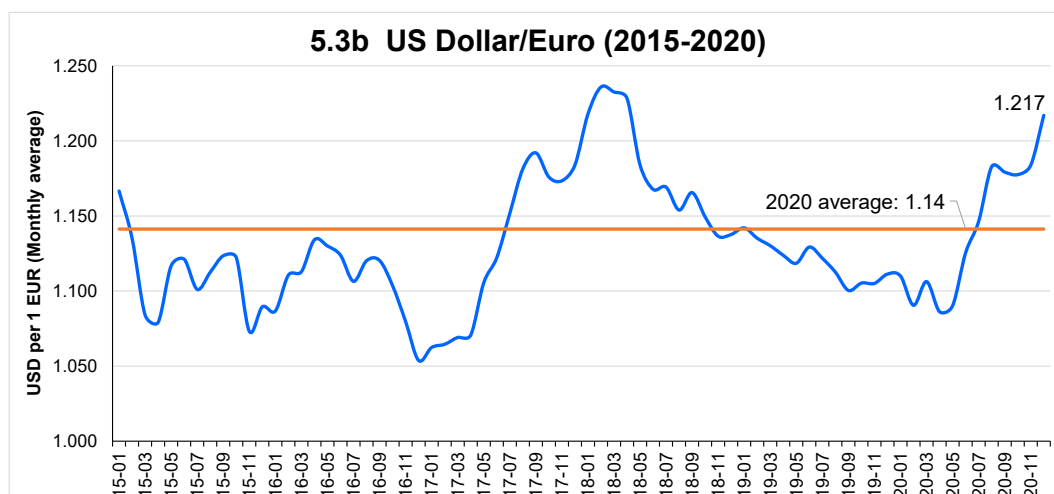
### 5.2b Inflation rates 2020 by Country

% change on a year earlier	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
Austria	2.2	2.2	1.6	1.5	0.6	1.1	1.8	1.4	1.2	1.1	1.1	1.0
France	1.7	1.6	0.8	0.4	0.4	0.2	0.9	0.2	0.0	0.1	0.2	0.0
Germany	1.6	1.7	1.3	0.8	0.5	0.8	0.0	-0.1	-0.4	-0.5	-0.7	-0.7
Italy	0.4	0.2	0.1	0.1	-0.3	-0.4	0.8	-0.5	-1.0	-0.6	-0.3	-0.3
Spain	1.1	0.9	0.1	-0.7	-0.9	-0.3	-0.7	-0.6	-0.6	-0.9	-0.8	-0.6
Switzerland	0.2	-0.2	-0.4	-1.0	-1.0	-1.3	-1.2	-1.4	-1.1	-0.9	-0.8	-1.0
United Kingdom	1.8	1.7	1.5	0.8	0.5	0.6	1.0	0.2	0.5	0.7	0.3	0.6

## 5.3 Foreign Exchange Rates (M)

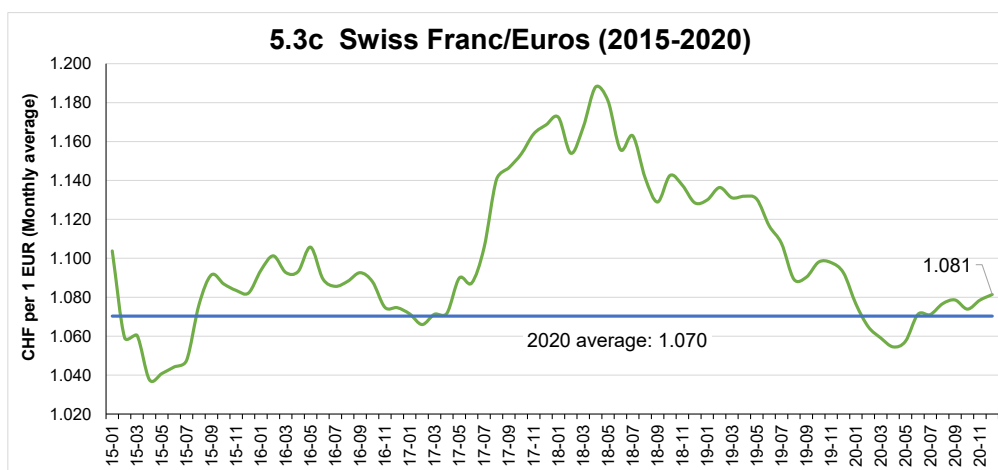


The average trading price for the Japanese Yen during 2020 was 121.8 per Euro, although the rate moved in the middle of the year as the Euro depreciated against the Yen. The Yen started the year by falling against the Euro between January and May before turning upwards until August; after that, there was another mini-cycle to November before the Yen rose against the Euro in December to stand at its highest rate since December 2018.

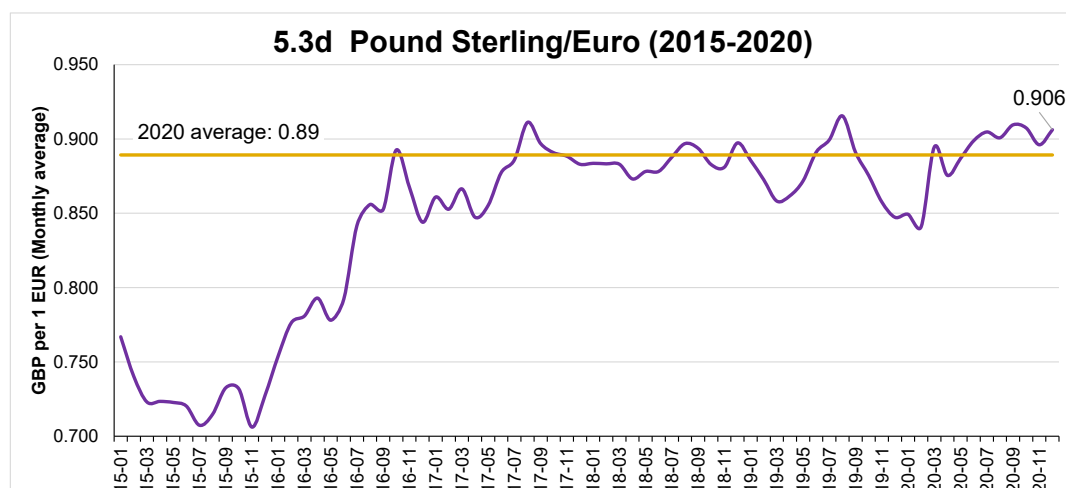


The average trading price for the US Dollar during 2020 was 1.141 per Euro. The US Dollar had been sliding against the Euro since the start of 2019 (although with some wobbles on the way) largely as a result of currency markets nervousness about the direction of the US economy under President Trump. From a modest uptick at the start of 2020 and a W-shape to the trend through to a low point in April/May, the US Dollar has appreciated strongly against the Euro. A pause in the Autumn was, like the Yen, followed by a significant depreciation of the Euro in December which left the exchange rate at the end of 2020 at its highest since April 2018.

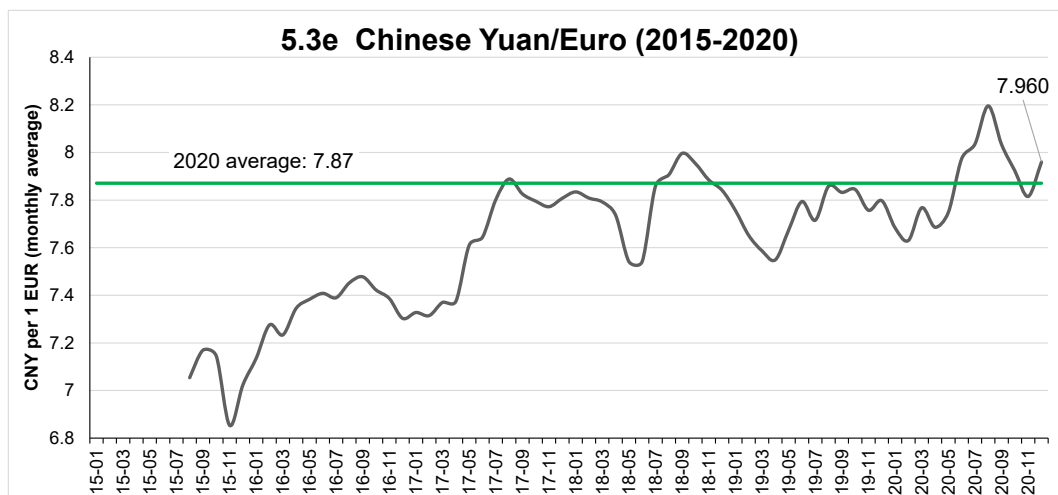




The average trading price for the Swiss Franc during 2020 was 1.070 per Euro. The pattern for the Euro against the Swiss Franc has been similar to the US\$ and Yen although the magnitude of the movement is smaller. From a peak in November 2019, the Swiss Franc fell to a low point against the Euro in April/May before picking up in June; since then, the exchange rate has not moved significantly and it ended the year with a modest increase to its highest level since December 2019.



The average trading price for the Pound Sterling during 2020 was 0.889 per Euro. Following the step-change in the Pound/Euro exchange rate through 2016 following first the announcement of the Brexit referendum and then the result of that vote, this exchange rate has been relatively stable for the past few years. However, from a peak in August 2019 the Euro weakened against the Pound in a run that ended in February 2020 before turning sharply upwards in March. Since then there have been a couple of mini-cycles and the exchange rate ended the year just below the high point for 2020 (which was in September). This exchange rate was especially volatile on a daily basis at the end of 2020 as a result of the tense negotiations over the ending of the Brexit transition period, although this is not necessarily reflected in the monthly average data in the chart.



The average trading price for the Chinese Yuan during 2020 was 7.871 per Euro. We see a different pattern in the exchange rate between the Euro and the Chinese Yuan; like the other currencies, it started the year at a relatively low level and then appreciated against the Euro, but this cycle ended in August when the rate was at a record high of 8.195; since then it has fallen back but with the same up-tick in December that we have seen with all the other currencies.

# Glossary <sup>i</sup>

## 1.1 CECIMO8 orders

This section presents the “new orders received index” showing the development of the machine tool demand as an indication of future production. An order is defined as the value of the contract linking a producer and a third party in respect of the provision by the producer of goods and services.

The CECIMO8 orders index combines the relevant indexes of Austria, the Czech Republic, France, Germany, Italy, Spain, Switzerland and the United Kingdom. The weights of the different indexes correspond to the countries shares in total production of the eight countries in 2010. The new orders received are split according to the origin of the order, based on the change of ownership. This identification is the basis for domestic and foreign new orders. The origin is determined by the residency of the third party that has made the order.

## 2.3 Industrial Production Index

The objective of the production index is to measure changes in the volume of output at close and regular intervals, normally monthly. It provides a measure of the volume trend in value added over a given reference period. The production index is a theoretical measure that must be approximated by practical measures. Value added at basic prices can be calculated from turnover (excluding VAT and other similar deductible taxes directly linked to turnover), plus capitalised production, plus other operating income plus or minus the changes in stocks, minus the purchases of goods and services, minus taxes on products which are linked to turnover but not deductible plus any subsidies on products received. Industrial production is compiled as a fixed base year Laspeyres type volume-index.

Base period: Year 2010 = 100.

Source: Eurostat.

## 3.1 Gross Fixed Capital Formation

The Gross Fixed Capital Formation (GFCF) consists of resident producers’ acquisitions, less disposals, of fixed tangible or intangible assets. This covers in particular machinery and equipment, vehicles, dwellings and other buildings. The GFCF is a key determinant of both aggregate demand and supply.

Source: Eurostat and ECB.

## 3.2 Capacity Utilisation in the Investment Goods Sector

Population: Investment goods producers. Data covered: Assessment of current production capacity, measured as a balance (seasonally adjusted); Current level of capacity utilization, measured in % (seasonally adjusted). More than 38.000 industrial firms are surveyed every month, while the biannual investment survey includes over 44.000 units. Answers obtained from the surveys are aggregated in the form of “balances”. Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The Commission calculates EU and euro-area aggregates on the basis of the national results and seasonally adjusts the balance series.

[http://ec.europa.eu/economy\\_finance/db\\_indicators/surveys/documents/userguide\\_en.pdf](http://ec.europa.eu/economy_finance/db_indicators/surveys/documents/userguide_en.pdf)

## 3.3 Bank Lending Survey

The bank lending survey is addressed to senior loan officers of a representative sample of euro area banks. Its main purpose is to enhance the understanding of bank lending behaviour in the euro area. The questions distinguish between three categories of loan: loans or credit lines to enterprises; loans to households for house purchase; and consumer credit and other lending to households. For all three categories, questions are posed on credit standards for approving loans; credit terms and conditions; and credit demand and the factors affecting it. The responses to questions related to credit standards are analysed in this report by

focusing on the difference ("net percentage") between the share of banks reporting that credit standards have been tightened and the share of banks reporting that they have been eased. A positive net percentage indicates that a larger proportion of banks have tightened credit standards ("net tightening"), whereas a negative net percentage indicates that a larger proportion of banks have eased credit standards ("net easing"). Likewise, the term "net demand" refers to the difference between the share of banks reporting an increase in loan demand and the share of banks reporting a decline. Net demand will therefore be positive if a larger proportion of banks have reported an increase in loan demand, whereas negative net demand indicates that a larger proportion of banks have reported a decline in loan demand. <http://www.ecb.eu/stats/money/surveys/lend/html/index.en.html>

### 3.4 Interest Rates - Euribor

Euribor® (EURO InterBank Offered Rate) is the rate at which euro interbank term deposits are being offered by one prime bank to another within the EMU zone. Monthly data are calculated as averages of daily values from the banks with the highest volume of business in the euro area money markets.

<http://www.euribor-ebf.eu/>

The deposit facility rate is the one the banks receive for depositing money with the central bank overnight.

The so-called main refinancing rate, minimum bid rate or rate for the main refinancing operations (MROs) is the interest rate which banks do have to pay when they borrow money from the ECB for a period of one week.

### 4.2 Purchasing Managers' Index (PMI)

The Global Report on Manufacturing is compiled by IHS Markit and J.P. Morgan in association with ISM and IFPSM based on the results of surveys covering 9.000 purchasing executives in 30 countries. Together these countries account for an estimated 86% of global manufacturing output. Questions are asked about real events and are not opinion based. Data are presented in the form of diffusion indices, where an index reading above 50,0 indicates an increase in the variable since the previous month, below 50,0 a decrease and equal to 50.0 means no change on prior month. All the indices are seasonally adjusted at the national sector level.

<http://www.markiteconomics.com/Survey/Page.mvc/AboutPMIData>

### 4.3 OECD Business Confidence Indicator (BCI) for Europe

The Composite leading indicators (CLI), which BCI is part of, comprises a set of component series selected from a wide range of key short-term economic indicators to ensure that the indicators will still be suitable when changes in economic structures occur in future. CLIs are calculated for 33 OECD countries (Iceland is not included) and several regional aggregates, based on enterprises' assessment of production, orders and stocks, together with its current position and expectations for the near future.

These indexes are designed to anticipate turning points in economic activity relative to trend, on average 6 to 9 months before they happen. While theory says that a turning point in the CLI signals a turning point in the reference series, such turning points, in reality, are determined by a complicated process. Turning points in the detrended reference series are usually found about 4 to 8 months in advance. Therefore, one often needs to wait for several periods to draw a more definite conclusion. A useful way to exploit the information in CLIs is to take their year-on-year growth rate.

Typical indicators in the CLI include orders and inventories changes, financial market indicators, business confidence surveys and data on key sectors and trend in the main trade partners.

The standardised BCIs represent only the manufacturing sector. It is based on companies' assessment of production, orders, stocks and its current position and expectations. BCI shows a long-term trend in industrial production (with a 6-month time-lag). An increase over 100 means expansion; a decrease above 100 means a downturn; an increase below 100 is an upturn and a decrease below 100 is a slowdown. <http://stats.oecd.org/mei/default.asp?lang=e&subject=5>

# Geographical Information

## **CECIMO countries**

The European Association of the Machine Tool Industries and related Manufacturing Technologies brings together 15 national associations of machine tool builders from the following countries: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Italy, the Netherlands, Portugal, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Euro area (EA) / Eurozone (EZ)**

The euro area (EA19), also called the Eurozone, consists of Member States of the European Union that have adopted the euro as their currency. It includes Belgium, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Slovakia and Finland.

## **European Union (EU)**

The European Union (EU27) includes Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain, Sweden.

# Other Symbols and Acronyms

## **M / m (Toolbox headings)**

M = Macro-economic. non-caps (m) = microeconomic.

## **GDP**

Gross Domestic Product

## **Billion**

Billion means one thousand million

## **US**

United States

## **Q1, Q2, Q3, Q4**

1st quarter, 2nd quarter, 3rd quarter, 4th quarter

## **EUR / €**

Euros

## **USD / \$**

United States Dollar(s)

## **CHF**

Swiss Franc(s)

## **ECB**

European Central Bank

## **Fed**

Federal Reserve (System), the US Central Bank

## **GBP**

Great Britain Pound(s), the Pound Sterling

## **IMF**

International Monetary Fund

## **WB**

World Bank

## **MT**

Machine tools

## **CECIMO countries**

Countries whose machine tool sector is represented by CECIMO



# cecimo

European Association of the Machine Tool Industries  
and related Manufacturing Technologies

## CREDITS

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EMO® is a registered trade-  
mark of CECIMO

## Member Associations

Austria: Metaltechnology Austria  
Association of Metaltechnology  
Industries  
[www.metalltechnischeindustrie.at](http://www.metalltechnischeindustrie.at)

Belgium: AGORIA  
Federatie van de Technologische  
Industrie  
[www.agoria.be](http://www.agoria.be)

Czech Republic: SST  
Svazu Strojírenské Technologie  
[www.sst.cz](http://www.sst.cz)

Danish Manufacturing Industries  
Cooperation  
A part of the Confederation of Danish  
Industry  
[www.isa.di.dk](http://www.isa.di.dk)

Finland: Technology Industries of  
Finland  
[www.teknologiateollisuus.fi](http://www.teknologiateollisuus.fi)

France: SYMOP  
Syndicat des Entreprises de  
Technologies de Production  
[www.symop.com/fr](http://www.symop.com/fr)

Germany: VDW  
Verein Deutscher  
Werkzeugmaschinenfabriken e.V.  
[www.vdw.de](http://www.vdw.de)

Italy: UCIMU  
Associazione dei costruttori Italiani di  
macchine utensili robot e automazione  
[www.ucimu.it](http://www.ucimu.it)

Netherlands: FPT-VIMAG  
Federatie Productie Technologie / Sectie  
VIMAG  
[www.fpt-vimag.nl](http://www.fpt-vimag.nl)

Portugal: AIMMAP  
Associação dos Industriais Metalúrgicos,  
Metalomecânicos e Afins de Portugal  
[www.aimmap.pt](http://www.aimmap.pt)

Spain: AFM - Advanced Manufacturing  
Technologies  
Asociación española de fabricantes  
de máquinas-herramienta, accesorios,  
componentes y herramientas  
[www.afm.es](http://www.afm.es)

Sweden: SVMF  
Machine and Tool Association of  
Sweden  
[www.svmf.se](http://www.svmf.se)

Switzerland: SWISSMEM  
Die Schweizer Maschinen-, Elektro- und  
Metall-Industrie  
[www.swissmem.ch](http://www.swissmem.ch)

Turkey: MIB  
Makina Imalatçileri Birliği  
[www.mib.org.tr](http://www.mib.org.tr)

United Kingdom: MTA  
The Manufacturing Technologies  
Association  
[www.mta.org.uk](http://www.mta.org.uk)

# cecimo

is the European Association representing the common interests of the Machine Tool Industries and related Manufacturing Technologies globally and at EU level. We bring together 15 National Associations of machine tool builders, which represent approximately 1500 industrial enterprises in Europe (EU + UK + EFTA + Turkey), over 80% of which are SMEs. CECIMO covers 98% of the total machine tool production in Europe and about 35% worldwide. It accounts for more than 150,000 employees and a turnover of approximately 17 billion euros in 2020. More than three quarters of CECIMO production is shipped abroad, whereas half of it is exported outside Europe. CECIMO assumes a key role in determining the strategic direction of the European machine tool industry and promotes the development of the sector in the fields of economy, technology and science.