

# ECONOMIC AND STATISTICAL TOOLBOX



- The EU Industrial Production Index remains well above the historical average, indicating steady growth in the EU manufacturing sector in the last period of 2021.
- CECIMO8's total orders were up 17% from the previous quarter, and 44% higher than in the fourth quarter of 2020.
- The latest update shows that CECIMO MT production is estimated at over €22.6 billion in 2021.
- The production capacity in the industrial goods sector reached a negative level of -2%, for the first time since the second quarter of 2018.

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# INTRODUCTION

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The last quarter's CECIMO economic and statistical toolbox shows new positive trends in the recovery of the European MT sector and European manufacturing as a whole. Following the recovery of EU industry in the first three quarters, the EU industrial production index reached high 106.2 points during the final period of 2021. Although supply-side issues appear to be easing, inflationary pressures and higher energy prices continue to strongly influence inputs and production costs over the last quarter of 2021. Concerning the evolution of the pandemic in the recent period, the Omicron variant has resulted in new restrictions in some CECIMO countries but is not expected to have a significant impact on the MT industry in the beginning of 2022.

However, recent developments in the Russo-Ukrainian war suggest that higher energy prices, supply chain issues related to lack of materials and their price increases are expected to last longer. Please note that this Economic and Statistical Toolbox focuses on the last period of 2021, but some of the indicators available will refer to the most recent period as well.

In terms of the performance of the European Machine Tool Industry, new orders in Q4 showed impressive improvement over the previous period and over the same period of the previous year. Compared with the same quarter of the previous year, CECIMO8 **foreign orders** increased by 37%, while **domestic orders** increased by 67%.

Due to the increase in both, domestic and foreign orders, CECIMO8's total orders were up 17% from the previous quarter, and 44% higher than in the fourth quarter of 2020. It is important to note that historically, Q4 orders continue to experience very strong cyclical growth before declining in the first quarter. However, the level of Q4 2021 orders, reached a level close to 2018 levels, which is a strong sign of recovery in the European MT orders books.

According to the latest data update (March 2022), we revised the production expectations for 2021. CECIMO's **MT production** is now expected to grow by approximately 11.6% to over EUR 22.6 billion in 2021. The latest Oxford Economic forecast (October 2021) shows that after a forecasted growth of 10.5% in 2021, 15.2% in 2022 and 6.1% in 2023, CECIMO **MT Consumption** is expected to be near 2019 levels by 2023.

By measuring investment levels, **Gross Fixed Capital Formation** increased by 11.4% in the fourth quarter of 2021 compared to the third quarter of 2021 and recorded a 3.4% higher level compared to the same period of the previous year. The latest data for **capacity utilization** in the investment goods sector European Union, records small improvement in first quarter of 2022 and at 83.8 points, stands above the historical levels. The EU's **spare production capacity** reached a negative level of -2%, for the first time since the second quarter of 2018.

Euro area banks reported a very slight net tightening of credit standards for loans or credit lines to enterprises in the last period of 2021. Banks' **overall terms and conditions** for new firms' loans eased again and a significant increase in **firms' demand for loans** or credit lines was reported by the euro banks.

According to the **Q4 CECIMO Business Climate Barometer** survey results, the general business climate among CECIMO member companies remained very high with a positive balance of 30%. Compared to the results of the previous survey, managers expressed higher expectations regarding exports, output and employment in the first quarter of 2022. However, following the Russo-Ukrainian conflict, business expectations are likely to worsen in the next survey cycle.

Following the slight decline in the **Global Manufacturing PMI** in the fourth quarter of 2021, the most recent data for February, at 53.6, shows the 20th consecutive month of global manufacturing growth. All major regions, including the US, Europe, South Korea, Japan and China, were above the 50 no-change mark.

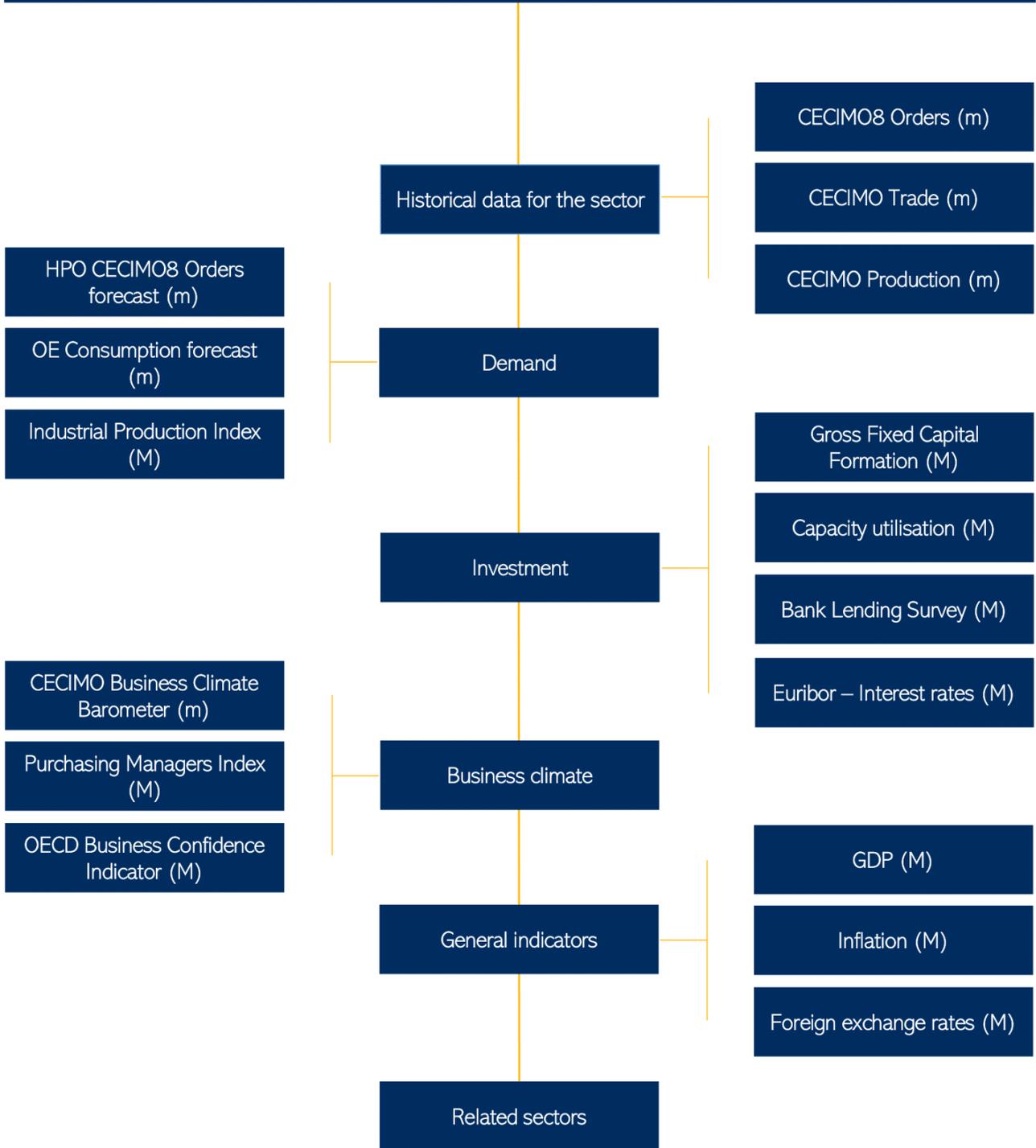
The **OECD Business Confidence Index for Europe** continued to grow in the fourth quarter of 2021, reaching a historic high of 102.9 points.

The **European Union GDP** grew by 4.6% in the fourth quarter of 2021 compared to the same period a year earlier. Regarding the annual data, following a strong recovery by 5.3% in 2021, the EU economy is now forecast to grow by 4.0% in 2022 and by 2.8 in 2023.

**Related sectors** - All major regions (China, EU, US, Japan) saw their new vehicle sales (registrations) decrease in the fourth quarter over the same period last year as the supply-side issues continued to have a negative impact on the automotive sector. The aerospace sector experienced a significant improvement in Q4 2021 and reached the 2019 deliveries level. This issue of the Toolbox presents new figures on energy and metal prices and now includes data from the World Bank and an overview of LME prices as before. The most recent figures show a significant impact of the Russo-Ukrainian war on energy and commodity prices.



# Toolbox Mind Map



# 1. HISTORICAL DATA FOR THE SECTOR

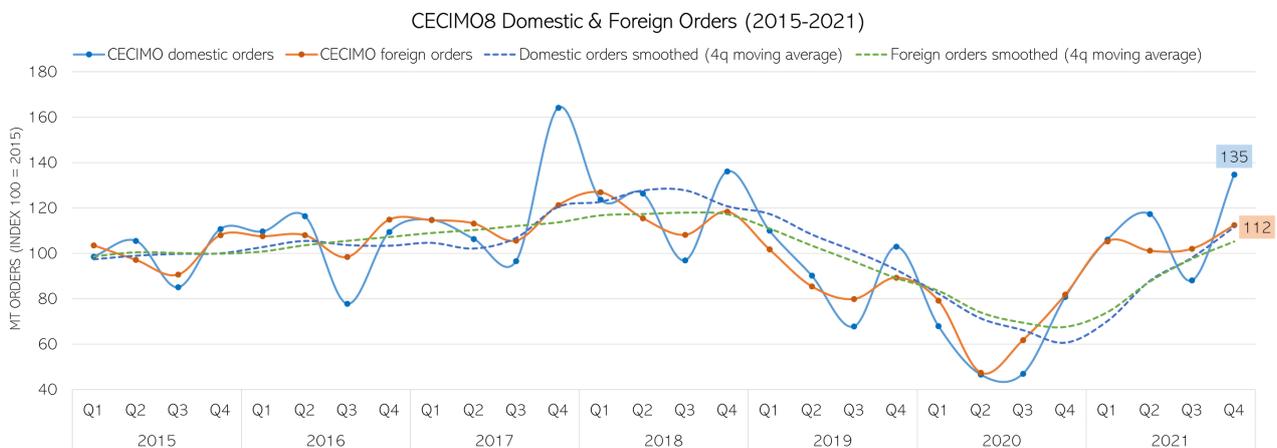
## 1.1 CECIMO 8 ORDERS (M)

Following the slight slowdown in domestic orders in the third quarter of 2021, CECIMO8 domestic orders index showed a sharp increase in the last quarter.

Most CECIMO8 countries recorded higher domestic orders, with very strong growth compared to the previous quarter in Italy and Spain. Only the Czech Republic recorded a slight decline in domestic orders compared to the previous quarter. As a result, the CECIMO8 domestic order index with quarterly growth of 53% and 67% over the same period last year reached the highest level since the last quarter of 2018. Moreover, foreign orders index from CECIMO8 producers recorded 10% higher level over the previous quarter and 37% over the same period last year. Spanish and German foreign orders posted the highest quarter-on-quarter growth among the other CECIMO8 countries.

As a result of positive trend in domestic and foreign orders index, CECIMO8 total orders has increased by 17% in Q4 2021 compared to the previous quarter. This level of the index is a 44% higher than in the same period last year. Historically, order levels in Q4 are generally the highest on an annual basis, but reaching a level near 2018 levels is a strong sign of recovery in the European MT orders' books.

Challenges associated with new supply chain disruptions facing European manufacturers, higher energy and materials prices because of the Russo-Ukrainian conflict will definitely affect the future path of the CECIMO8 orders. This could of course have a more significant impact on foreign orders in countries that exported more to Russia (such as Austria, Turkey and the Czech Republic). However, with positive expectations for MT demand in 2022, especially in Europe, and not an important Russian market for Europe's MT industry as a whole, orders should remain stable in 2022.

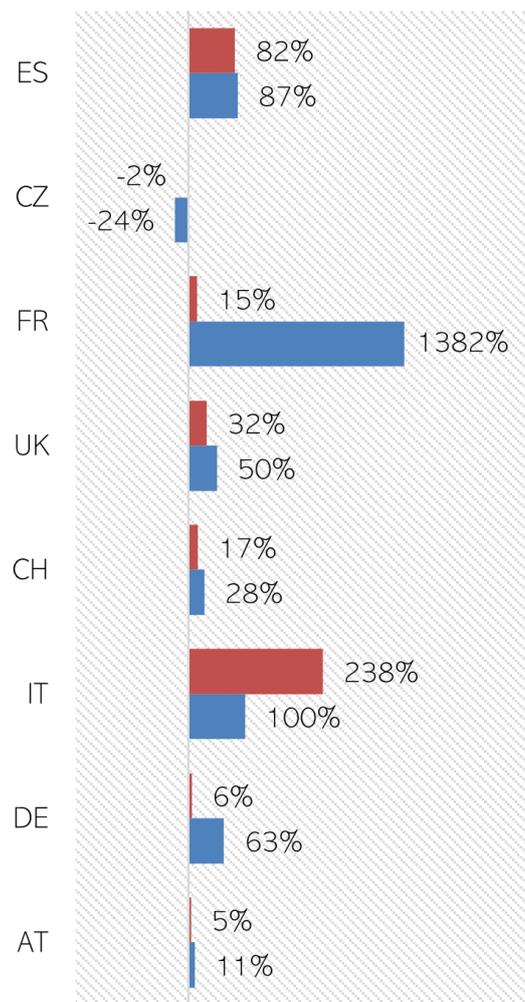


Source: CECIMO & National Associations

CECIMO8 includes: Austria, UK, Germany, France, Italy, Czech Republic, Switzerland and Spain

## Domestic Orders

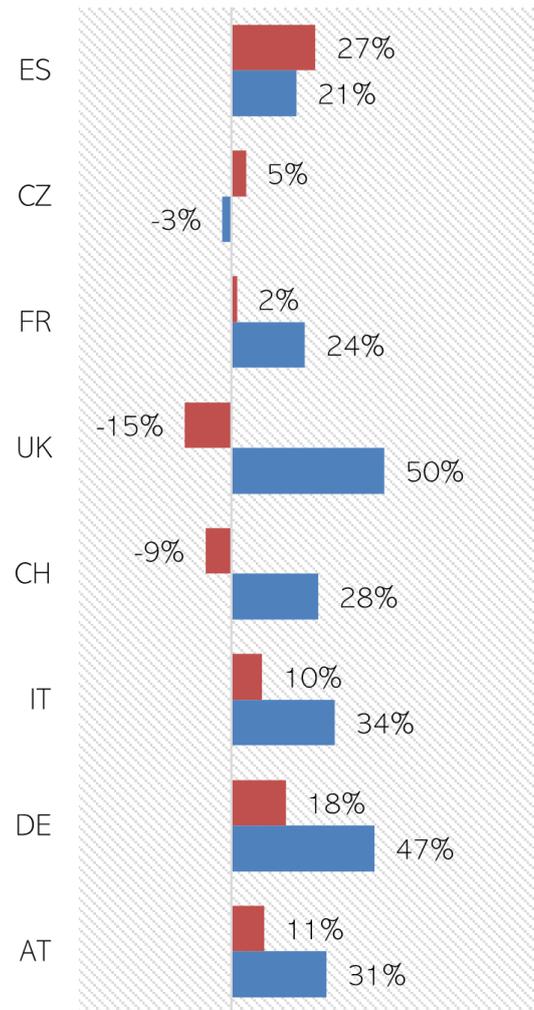
- After a decline in the third quarter, Italy recorded a record high level of domestic orders with a quarterly increase of 238% in the fourth quarter of 2021. The level of the index was 100% higher than at the same time last year. Spain's domestic orders followed the similar path, recording an increase 82% on a quarterly basis, and 87% more than in the same period last year.
- Switzerland domestic orders index continues its growth in the Q4 2021. With a quarter-on-quarter increase of 17%, the domestic order index has reached its highest level since the second quarter of 2019. Moreover, Switzerland's fourth quarter order book outperformed the same period last year by 28%. Compared to the previous quarter, German producers recorded an increase in the domestic orders index of 6% and compared to the same period last year, this level is 63% higher.
- The UK producers recorded a significant quarterly growth rate of 32%. At its highest level since the Q2 2018, the domestic order index also reflects a 50% increase over the same period last year.
- After a decrease in the third quarter of 2021, domestic orders in Austria improved by 5% on a quarterly basis in the fourth quarter of 2021. This level of the index reflects an 11% higher level than in the same quarter of the previous year.
- Following a decline in the second quarter of 2021 and the same level in the third quarter of 2021, MT domestic orders in the Czech Republic fell again by 2% on a quarterly basis and this level was 24% lower compared to the same period in 2020.
- French domestic orders, after a strong rebound in the first half of 2021, posted significant growth in the fourth quarter. With a 15% increase over the previous quarter, French domestic orders reached their highest level since Q1 2017.



■ Q4 2021 / Q3 2021  
 ■ Q4 2021 / Q4 2020

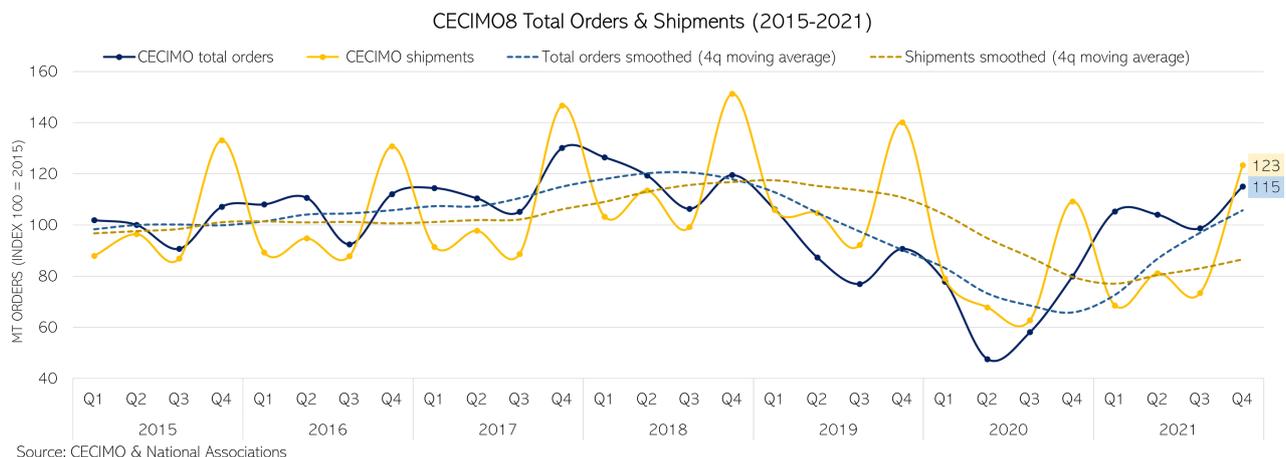
## Foreign Orders

- Spain recorded the strongest quarter on quarter growth in foreign orders among CECIMO8 countries. With quarterly growth of 27%, the Spain foreign orders index registered the highest level since the Q4 2016. Moreover, the level of the foreign orders index in the fourth quarter of 2021 was 21% higher than in the same period last year.
- Germany also recorded significant growth in foreign orders, up 18% compared to the previous quarter and 47% compared to the same period last year. This great performance shows the signals of the recovery of MT demand on the foreign market and reflects the highest index level since Q4 2018.
- After a significant quarterly increase in the previous period, UK foreign orders fell by 15% in the final quarter. However, if we compare historical Q4 levels, it is worth noting that this is the highest level of foreign orders in Q4 since Q4 2010.
- Similar to the UK, Switzerland's foreign orders in the last quarter of 2021 decreased by 9% compared to the third quarter of 2021. However, this still reflects a high level of orders, an increase of 28% compared to the same period last year.
- Austria (+11%) and Italy (+10%) registered a more moderate growth in foreign orders, while France (+2%) and the Czech Republic (+5%) registered slower quarterly growth. Apart from the Czech Republic, other countries reported higher order levels compared to the same period in 2020.

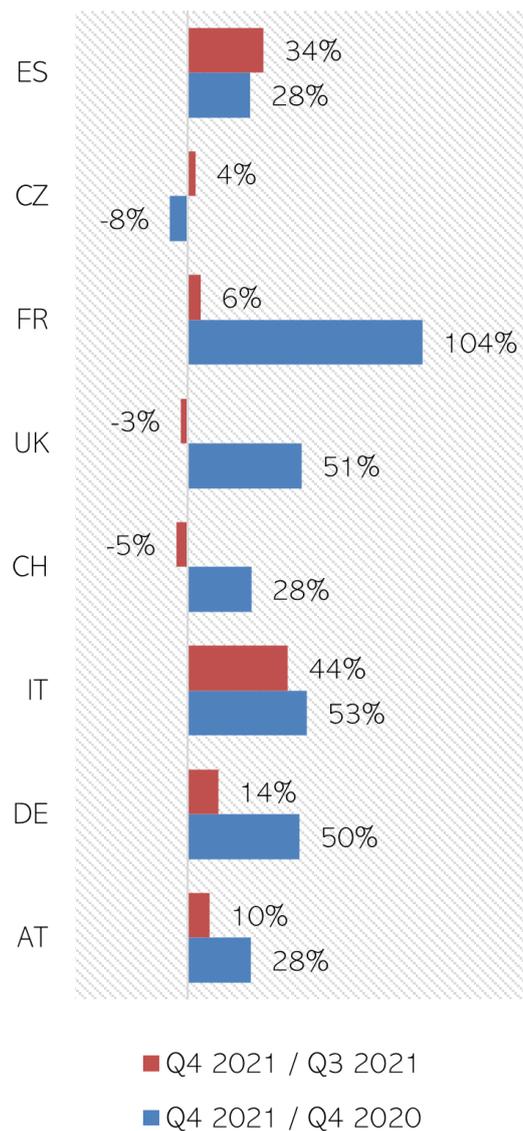


■ Q4 2021 / Q3 2021  
 ■ Q4 2021 / Q4 2020

## Total Orders



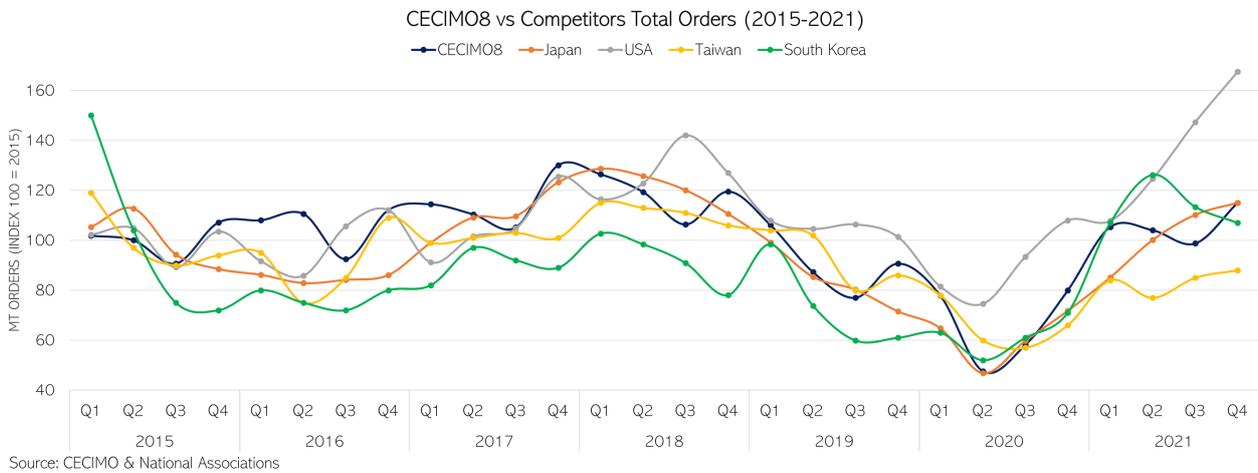
- Thanks to the strong domestic orders, Italy registered the strongest quarter-on-quarter total orders growth (+44%), followed by Spain which also registered a significant quarterly growth of 34%.
- Compared to the previous quarter, thanks to the increase in domestic orders and especially foreign orders, German producers recorded an increase of 14% in the total orders (over the same period last year, that level is 50% higher).
- The total orders index in France rose by 6% on a quarterly basis and, compared to the same period of the previous year, it rose by 104%.
- Due to a significant decrease in foreign orders on a quarterly basis, total Swiss orders fell by 5% in the fourth quarter of 2021. A similar pattern can be observed in the United Kingdom, where total orders fell by 3% on a quarterly basis. Nevertheless, for both countries, the level of the total index remained higher than in the same period last year.
- The quarter-on-quarter increase was recorded in Austria (+10%) and Czech Republic (+4%). However, it is important to note that Austria recorded an increase of 28% over the same quarter last year, while the Czech Republic recorded an 8% decline.



## CECIMO Competitors

- Following the growth of foreign orders in Japanese metal cutting companies, Japan's total MT orders recorded a 4% quarterly growth in the fourth quarter of 2021. While metal cutting companies recorded a quarterly growth rate of 6% in the fourth quarter 2021, the metal forming sector experienced an 8% decrease.
- However, both Japanese sectors registered significantly higher levels than in the same period last year. As a result, Japan's total orders during the last quarter of 2021 posted a 60% year-over-year growth rate, reaching the highest level since the third quarter of 2018.
- MT orders in Taiwan show a continuous recovery during the final period of 2021. Taiwan recorded a further increase in the domestic and foreign orders index (q/q-1), resulting in a 4% increase in total orders in the fourth quarter of 2021. As a result, the Taiwanese sector reached its pre-pandemic level of total orders, the highest level since the second quarter of 2019.
- The US MT sector continued to grow over the last period of the year, with orders reaching record levels. Domestic orders in Q4 2021 increased 14% over the previous quarter and 55% over the same period last year.

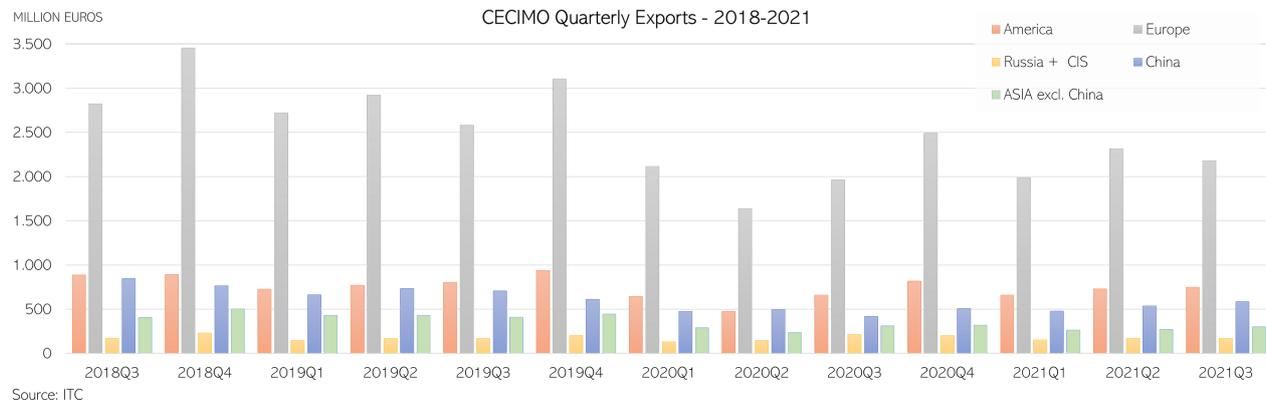
- South Korea's total order index decreased by 6% on a quarterly basis during the fourth quarter. Both domestic (-5%) and foreign (-7%) orders were lower than in the previous quarter. However, it is important to note that the level is still well above the 2018-2019 average and both indicators showed higher values compared to the same quarter last year.



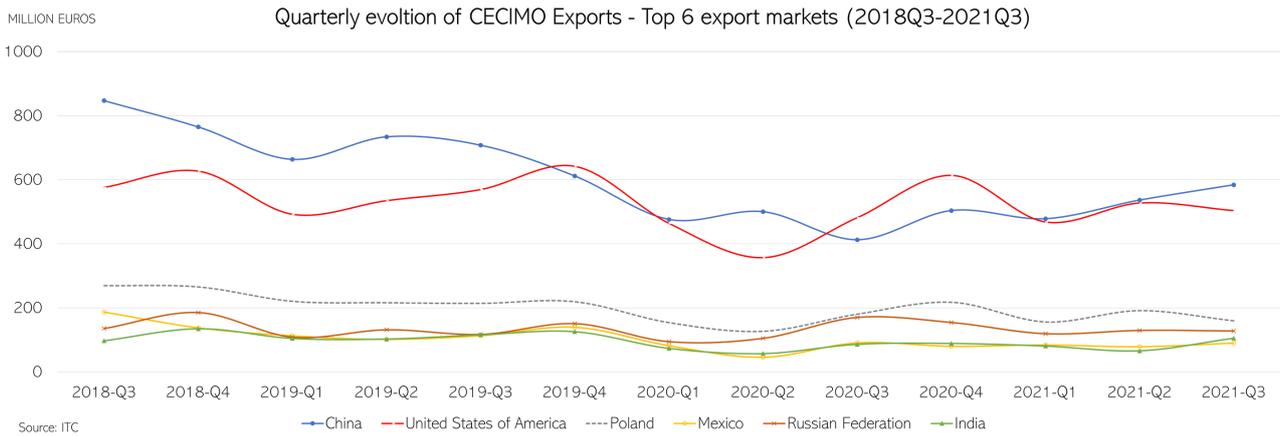
## 1.2 CECIMO TRADE (M)

Note: The following analysis refers to Q3 2021 machine tool trade figures. ITC Q4 2021 data is not available by the time this report was written.

### Q3 2021 Exports

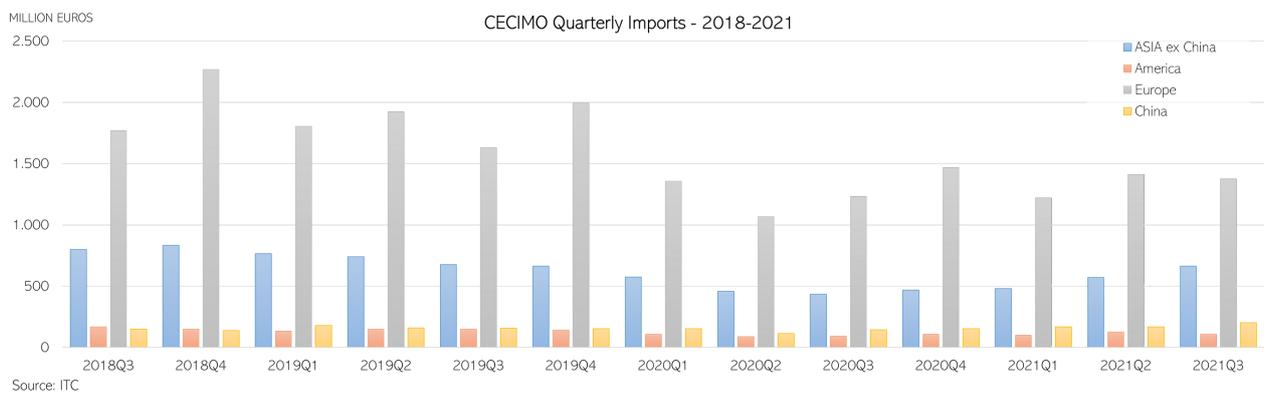


- CECIMO's Machine Tool exports in the third quarter of 2021 recorded 12% higher level compared to the same period last year. After a quarter-on-quarter increase in previous reporting period, CECIMO Total exports remained on almost the same level (-1%) in Q3 2021 compared to the Q2 2021 level.
- The increase in exports in the third quarter was seen in most regions outside Europe. The biggest increase in exports occurred in the Africa region (25%), followed by the Asia region (9%). Exports to the Americas region increased by 2%, while exports to Russia (CIS) remained about the same compared to the previous quarter.
- While exports to China increased by 9% compared to the previous quarter, exports to other Asian countries increased by 11%.
- Exports within the EU fell by 6% in the third quarter of 2021, while in the CECIMO countries the decline is slightly lower, registering -4%.

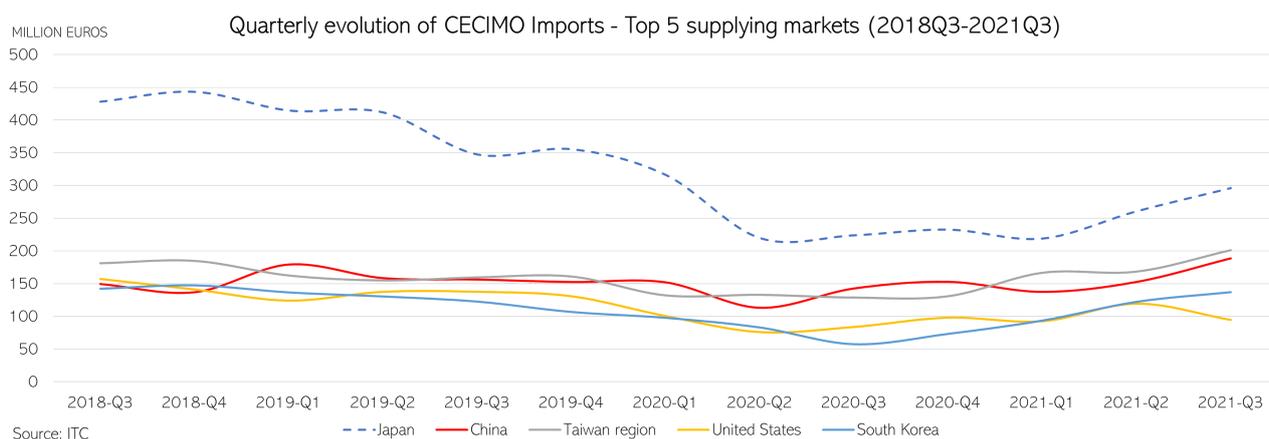


- Among the top export destinations outside of CECIMO, China remains the top destination, closely followed by the United States in Q3 2021.

### Q3 2021 Imports



- In the third quarter of 2021, CECIMO Total MT imports continued positive trend and were 24% higher than a year before. In addition, the value of imports was 3% higher than in the previous quarter.
- Compared to the second quarter of 2021, CECIMO's total imports from the Asian region increased by 17% in the third quarter, up 50% from the same period last year. It is important to note that during this quarter, MT imports from China have risen significantly (+20%) to their highest level since the first quarter of 2019.
- While imports from the European region decreased by 3%, imports from Russia were slightly higher than in the previous quarter (+3%). Imports (q/q-1) from other regions experienced a decline, mainly from the Americas (-15%) and Africa (-16%).
- Total imports of machine tools within the CECIMO area were worth €2.4 billion euros in Q3 2021; with exports valued at €4.2 billion, the CECIMO positive trade balance was around €1.8 billion euros in this quarter.



- Among the top CECIMO supplying markets, Japan is still on the first place, followed by Taiwan region and China

CECIMO Trade Balance (Billion EUR)

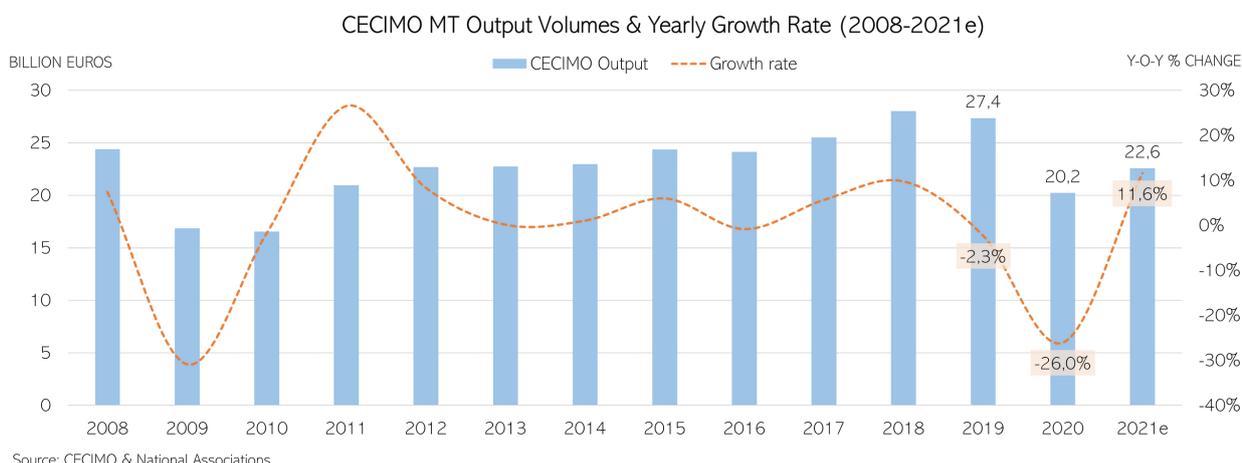
	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021
CECIMO Total Exports	4,9	5,5	3,8	3,1	3,7	4,4	3,7	4,2	4,2
CECIMO Total Imports	2,6	3,0	2,2	1,7	1,9	2,2	2,0	2,3	2,4
CECIMO Trade Balance	2,2	2,5	1,6	1,4	1,8	2,2	1,7	1,9	1,8

- The CECIMO region continues to record a significant positive trade balance with a positive result of about €1.8 billion in Q3 2021.

## 1.3 PRODUCTION

During the month of March, we updated production data for CECIMO in 2021 and we currently have new estimates for CECIMO production levels in the previous year. However, please note that this is still an estimate and more specific MT production levels in CECIMO level and globally will be available in the next Economic and Statistical Toolbox (June 2022).

Based on recent updates from National associations (mid-March), our forecasts have been slightly revised upwards. The Machine Tool production of CECIMO countries in 2021 is expected to reach approximately 22.6 billion euros with an annual growth of about 11.6%. However, growth rates should be different across countries. Among the three major CECIMO producers, the highest production growth is expected in Italy (+22%), while Switzerland (+15%) expects more moderate growth. Germany's MT production level remained almost unchanged from 2020, although it increased by 0.6% in 2021.



Compared to the sector's recovery during the 2008 financial crisis, we can see that the impact of the COVID-19 pandemic on the machine tool sector was less strong. Of course, it is important to note that the COVID-19 pandemic was by nature a different crisis which caused the short-term recession. As a result, CECIMO MT production levels fell by 26% in 2020, while preliminary estimates show that production levels were already recovering in 2021. However, the European machine tool sector is expected to experience a lower level of growth than world MT production due to the significant supply-side challenges facing European MT purchasing sectors in 2021.

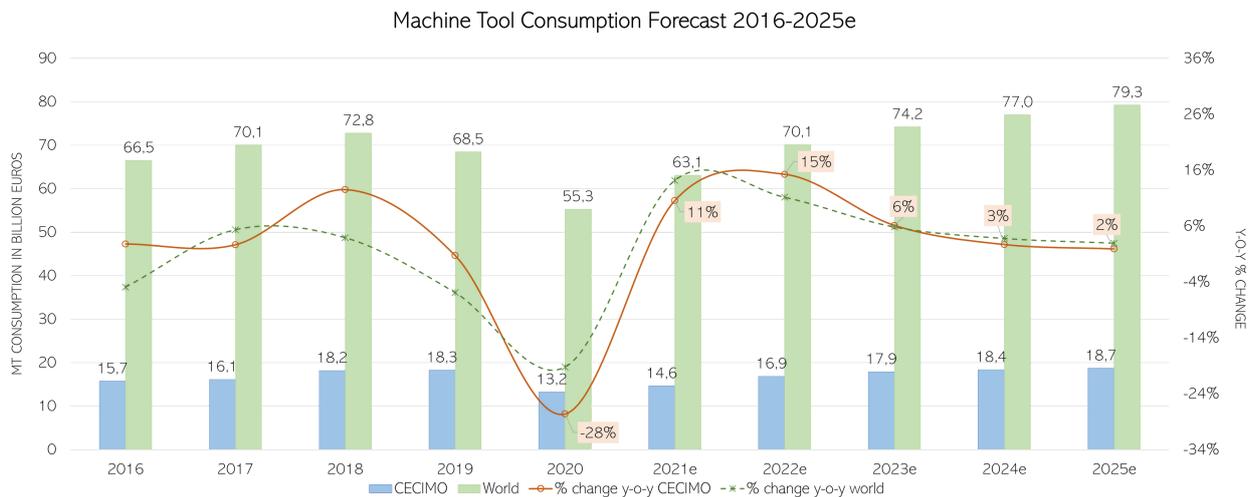
Given recent developments and the Russo-Ukrainian war, it is not expected that this will have a significant impact on the CECIMO production levels in total. However, some countries with higher export shares to Russia could face lost orders from this market. Furthermore, rising energy prices, the lack of materials used in European industries (and their price increases) may slow the pace of the recovery.



## 2. DEMAND

### 2.1 CECIMO CONSUMPTION (M)

According to the latest forecasts from Oxford Economics (October 2021), MT consumption in CECIMO countries is expected to reach 14.4 billion euro in 2021 and 16.6 billion euro in 2022. After a forecasted growth of 11% in 2021, 15% in 2022 and 6% in 2023, CECIMO MT Consumption is expected to reach 2019 levels in 2024.

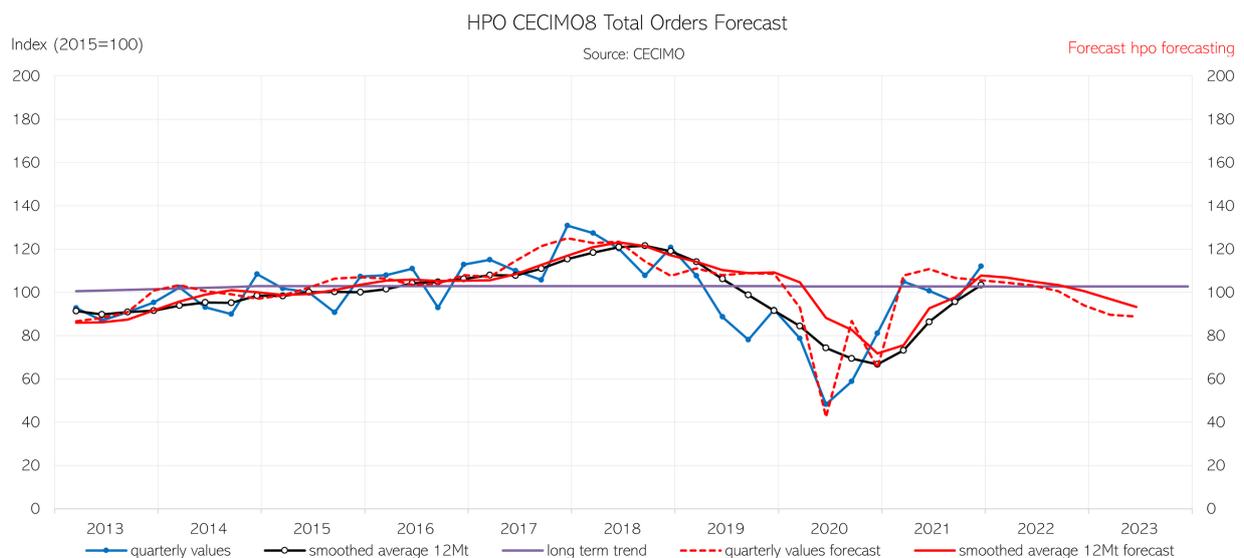


Source: CECIMO & Oxford Economics (October 2021)

2021-2025 estimates are based on OE consumption estimates for Germany, Italy, Switzerland, Austria, Spain, Czech Republic, France, UK and Turkey

Oxford Economics Spring 2022 forecast will be available in the upcoming Q1 2022 Economic and Statistical Toolbox (June 2022).

### 2.2 HPO CECIMO8 ORDERS FORECAST (M)



In recent hpo's economic commentaries, they showed how the pandemic has massively changed the usual consumption patterns. Specifically, lockdown has led to a decline in household spending on services, particularly in Europe. However, despite a strong recovery in the 2nd and 3rd quarters of 2021, this spending in Europe was still below the pre-crisis level of the 4th quarter of 2019 in real terms.

Thanks to the increased savings rate in the pandemic, consumers have accumulated comparatively high savings. According to hpo, with the limited data available for the 4th quarter of 2021, these savings are being spent mainly on consumer goods and especially on consumer durables.

As a result, in their latest forecasts, they highlighted that in the fourth quarter of 2021, new orders in many segments of the capital goods industry (in line with CECIMO8 orders intake) stabilised at a high level.

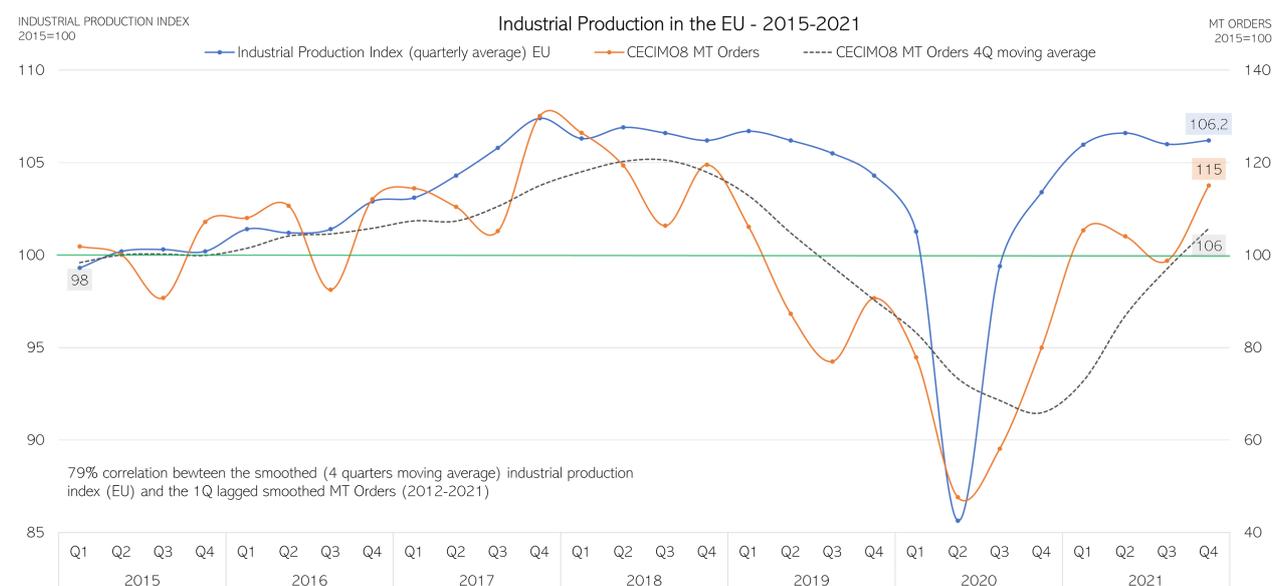
## CECIMO8 Orders Forecast

According to the most recent HPO CECIMO8 orders forecast (February 2022), new orders increased by 17% compared to the previous quarter to 112 index points. The 12mt average gained 8% and climbed to 103 index points. Year-on-year, the 12mt average increased by 55%.

The latest data shows that the 12-month average continued its upward trend and in the last quarter of the 2021 ended just slightly below expectations.

However, the new indicators do not change the outlook. New orders are projected to peak at the beginning of 2022, followed by a sustained decrease. In late 2022, new orders are expected to return to 95 index points. But, according to recent forecasts, after a sustained decline in the coming period, the decline is expected to end in mid-2023.

## 2.3 INDUSTRIAL PRODUCTION INDEX (M)

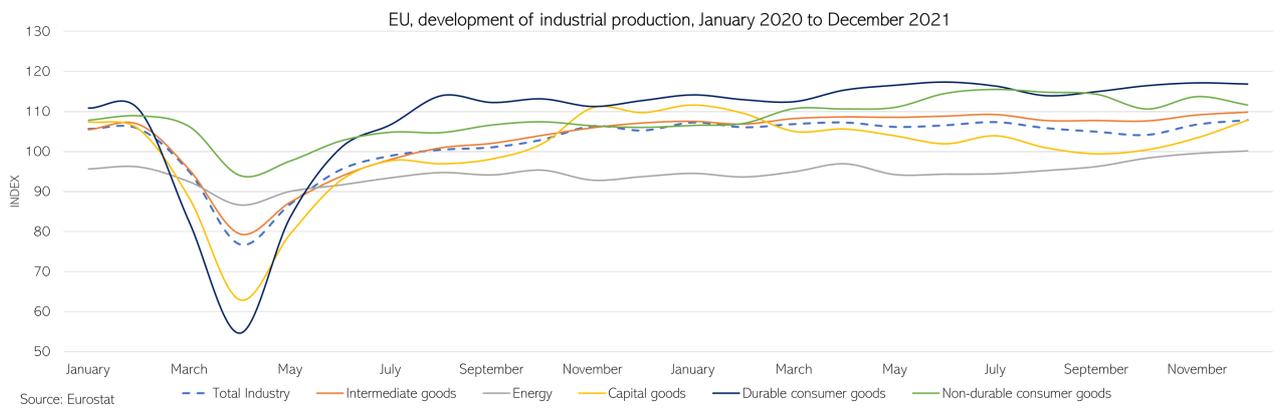


Source: Eurostat + CECIMO

Following the improvement since the third quarter of 2020, with a slight slowdown in the third quarter of 2021, the total industrial production index (IPI) shows a slight improvement in Q4 2021 in the European Union (EU) and no change in the eurozone. The higher than the historical average level of the EU industrial production index in 2021 shows a rapid and strong rebound in European industry after a very difficult pandemic year.

With no change compared to the previous quarter, the 4Q moving average for the eurozone remains at its highest level since the second quarter of 2019. The current rating (Q4 2021) of the EU industrial production index (106.2) shows a steady recovery in European industry. Also, it is important to note that it is a 3% higher index than in the fourth quarter of 2020.

Please keep in mind that current geopolitical circumstances will undoubtedly negatively affect the industry globally. Newer disruptions in the supply chain, higher material and energy prices will affect industrial production in the EU and globally. As a result, the Industrial Production Index of the EU and eurozone could experience lower levels in the coming quarters.

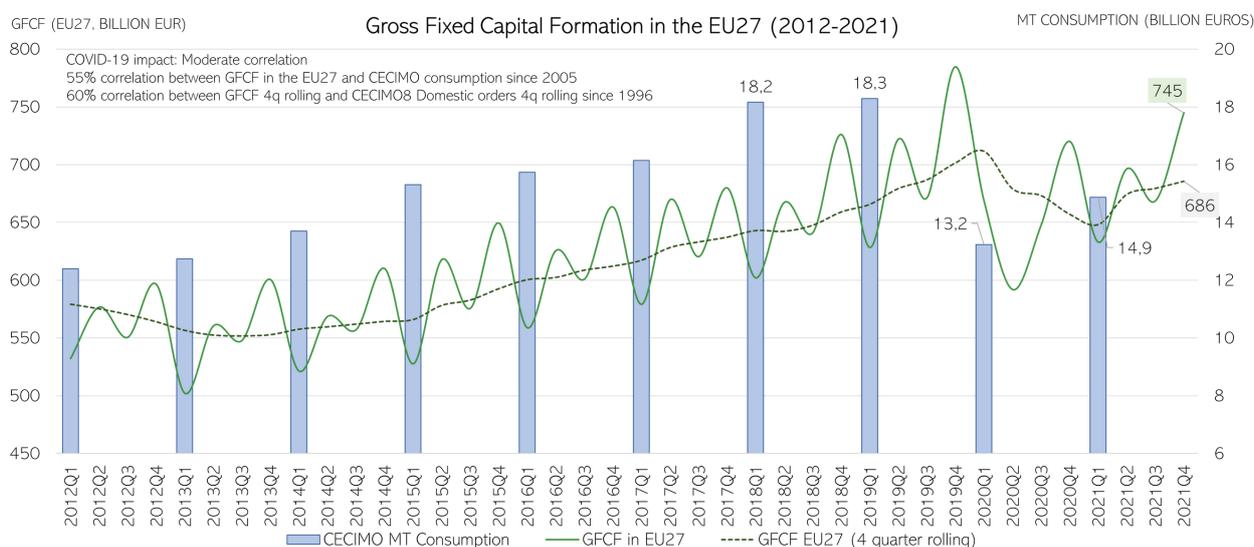


In sectoral terms, the strong recovery in the fourth quarter 2021 was recorded in the Energy sector. Excluding consumer non-durables (-3%), intermediate goods (+1%), capital goods (+2%) and consumer durables (+2%) improved compared with the level of production in the third quarter.



## 3. INVESTMENT

### 3.1 GROSS FIXED CAPITAL FORMATION (M)



Considering the latest EU27 figures, Gross Fixed Capital Formation increased by 11.4% in Q4 2021 against Q3 2021. Also, the new level is 3.4% higher compared to the same period last year. In absolute terms, investment in the fourth quarter of 2021 amounted to 744.9 billion euros, a bit higher figure if we consider the 720.1 billion euros registered in the same period previous year.

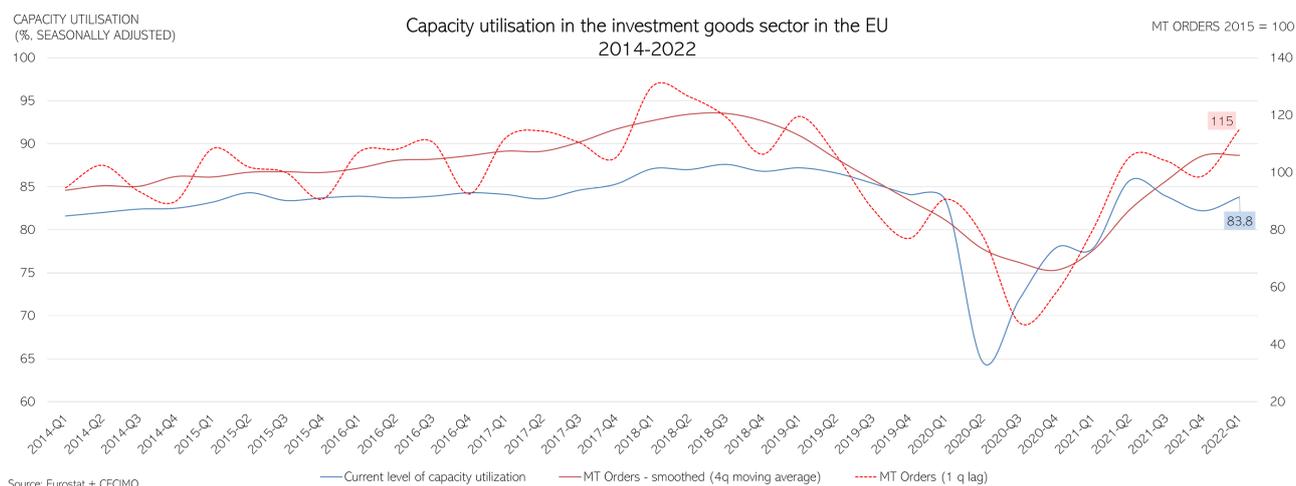
The quarterly change in trend (+11.4% in Q4 2021) shows similar cyclical movements as in previous last quarters. As predicted in previous reporting period and following the historical trend, after a small decline in the third quarter, GFCF recorded the highest quarterly values in the final quarter. This is consistent with the trend of CECIMO8 Domestic orders. If we look at 4 quarter moving values, we can see a slight increase compared to the last 4 quarter moving values.

If the figures are taken on an annual basis, there is a noticeable improvement in the investments measured by GFCF in the EU area. With a 6.3% decline in 2020, the 4.4% increase in 2021 means that GFCF has still not reached the pre-pandemic level (2019). However, it is important to note that this level is higher than the level for 2018.

### 3.2 CAPACITY UTILISATION AND PRODUCTION CAPACITY (M)

Methodological Note: The dates in this section refers to when the results were published; so, the Q1-2022 figures were published in Q1-2022 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 most recent data for capacity utilisation in the European Union's investment goods sector following a slight q/q decline (-2%), along with the improvement of the CECIMO8 total orders index, capacity utilisation records improvement in the Q1 2022 by 2%. Currently, this indicator stands at 83.8 points, slightly above the EU average levels between 2011 and 2019.



At the national level, as shown in the table below, the level of capacity utilization increased in the first quarter of 2022 over the previous quarter in almost all CECIMO8 countries. After the largest decrease in capacity utilisation in the previous period, the Czech Republic registered the largest increase in capacity utilisation (14,5 %). Only Spain recorded a decline, while other monitored countries recorded a slight increase of this indicator.

Capacity Utilisation (% of total capacity)

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022
Austria	85,4	74,2	76,0	79,2	82,0	86,9	90,1	87,8	87,8
Czech Republic	86,9	47,7	74,8	80,5	82,2	91,5	90,2	67,1	76,8
France	84,0	62,0	70,9	75,1	74,4	81,9	79,8	78,7	79,8
Germany	85,5	65,9	72,7	81,1	79,2	90,3	85,9	84,2	88,0
Italy	76,9	NA	65,7	73,0	75,5	79,3	82,5	79,2	79,6
Spain	85,4	81,8	78,5	80,0	81,0	80,9	82,4	82,1	80,1
Switzerland	83,0	83,6	80,9	77,0	78,3	81,7	85,6	87,2	89,8
United Kingdom	79,0	55,0	64,0	74,0	75,0	79,0	82,0	81,0	83,0

Source: Eurostat, MTA, SWISSMEM

To track production capacity, business managers are asked to assess their current levels of production as sufficient or not, considering the changes in the order book and demand of capital goods. In Q1 2022, there is a further decrease in spare capacity compared to the previous reporting period. The EU currently has a spare production capacity of -2%. As mentioned in the previous reporting period, negative spare capacity is expected to have a positive impact on future machine tool order inflows.



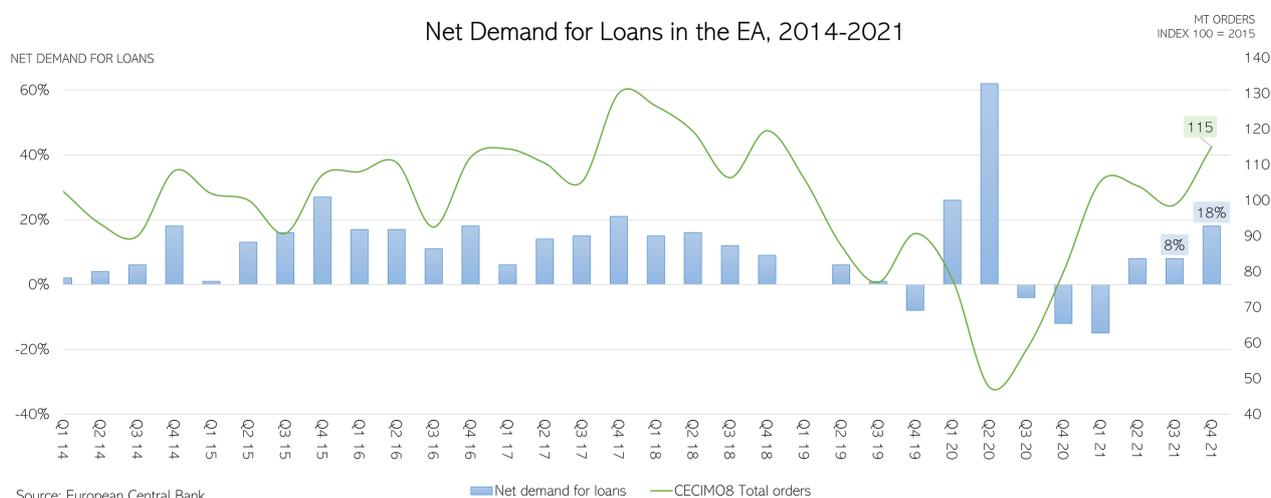
As shown in the chart below, there is a visible decrease in spare capacity in the first quarter of 2022 in Czech Republic, France, Italy and Spain. Germany and Austria remained in a negative area, suggesting strong orders and insufficient production capacity. The biggest change was registered in Spain, reaching -12.7%, while in France the percentage balance also decreased significantly to 2.2%.

Production Capacity (balance in %)

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022
Austria	18,7	35,8	42,7	41,9	27,6	15,4	-5,1	-6,3	-5
Czech Republic	33,5	19,2	25,4	21,3	13,3	8,5	6,8	11,5	9
France	-1,1	28,2	1,4	21,5	31,3	29,9	27	22,2	2,2
Germany	25,7	46,5	44,4	35,6	36,4	7,8	2,1	-8,6	-7,7
Italy	27,6	NA	28,7	26,6	27,5	25,2	19,9	16,9	15,4
Spain	7,8	13,7	26,5	9,3	4,5	13,4	-12,1	8,7	-12,7

Source: Eurostat

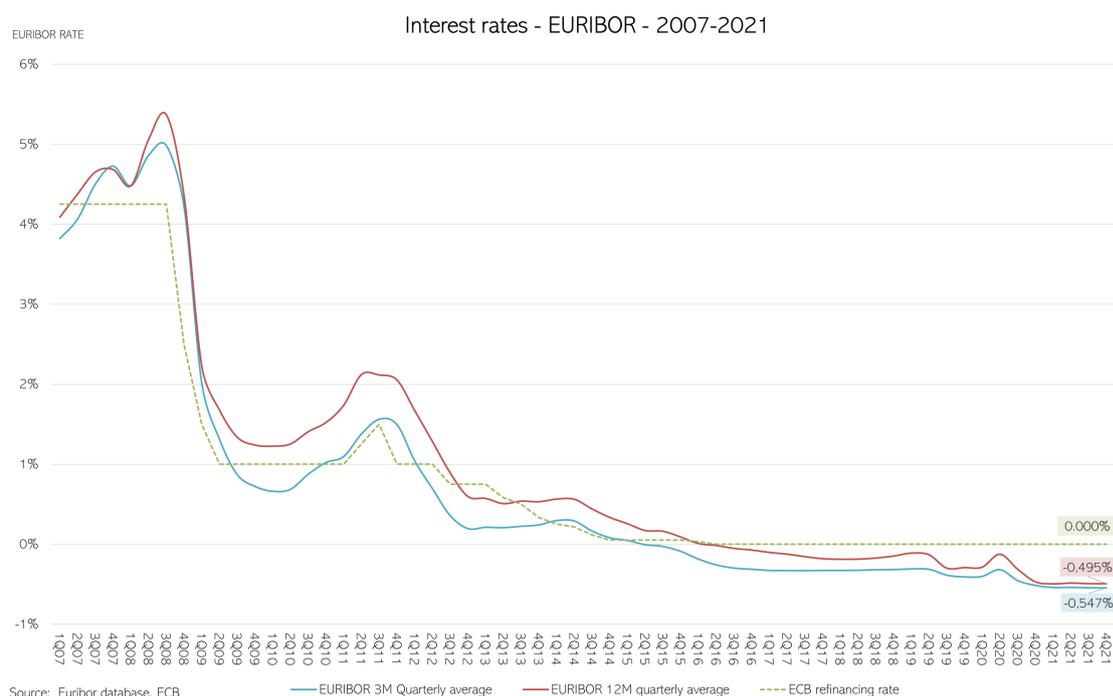
### 3.3 BANK LENDING SURVEY (M)



- **Credit standards** – euro area banks reported a very slight net tightening of credit standards (i.e. banks' internal guidelines or loan approval criteria) for loans or credit lines to enterprises in the fourth quarter of 2021 (with the net percentage of banks reporting a 2%, after 1% in the third quarter of 2021). According to ECB tightened slightly for small and medium-sized enterprises (SMEs) and eased slightly for large firms. Furthermore, credit standards remained unchanged for both short-term loans and for long-term loans.
- **Banks' overall terms and conditions** (i.e. the actual terms and conditions agreed in the loan contract) for new loans to enterprises eased again in the fourth quarter of 2021 (net percentage of 0%, after -2%). According to ECB survey results, margins on average loans narrowed in net terms, whereas margins on riskier loans widened moderately. Again, banks indicated competition as an easing factor in their overall terms and conditions.
- Looking at the largest euro area countries, overall terms and conditions on loans or credit lines to enterprises eased in Germany, remained unchanged in Spain and France, and tightened in Italy.
- Banks reported, a significant **increase in firms' demand for loans** or credit lines in the fourth quarter of 2021 (net percentage of banks at 18%, after 8% - revised in the third quarter of 2021). Loan demand increased on balance for short-term loans (12%) and for long-term loans (15%). In addition, loan demand picked up for both SMEs (16%) and large firms (20%).

- It is important to note that banks reported that loan demand was mainly driven by **firms' financing needs for working capital**, but also for fixed investment, which picked up significantly
- Looking at the largest euro area countries, in the fourth quarter of 2021 banks reported a net increase in firms' demand for loans in Germany, France and Italy, while loan demand remained unchanged in Spain.
- Concerning the expectations for **the first quarter of 2022**, euro area banks expect a continued increase in demand for loans to firms, with a somewhat larger increase in demand from SMEs (net percentage of 10%, compared with 6% for loans to large firms).

### 3.4 EURIBOR (M)



The ECB refinancing rate remained unchanged at 0.0% during the fourth quarter of 2021. The EURIBOR 3-month average rate stands at -0.547%, while the 12-month average stands at -0.495%.

According to recent ECB statements, recent statements and decisions (10 March, 2022), the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 0.00%, 0.25% and -0.50% respectively.

Concerning the Asset purchase program, based on its updated assessment and taking into account the uncertain environment, the ECB revised the purchase schedule for its APP in the coming months. Upcoming monthly net purchases under the APP will amount to €40 billion in April, €30 billion in May and €20 billion in June.

The ECB will make net asset purchases under the PEPP (Pandemic Emergency Purchase Programme) at a slower pace than in the previous quarter. The plan is to end net asset purchases as part of the PEPP by the end of March 2022.

Concerning the inflation, in view of the highly uncertain environment caused by the Russo-Ukrainian conflict, rising energy and material prices, the ECB announced that will adjust all of its instruments, as appropriate, to ensure that inflation stabilises at its 2% target over the medium term.

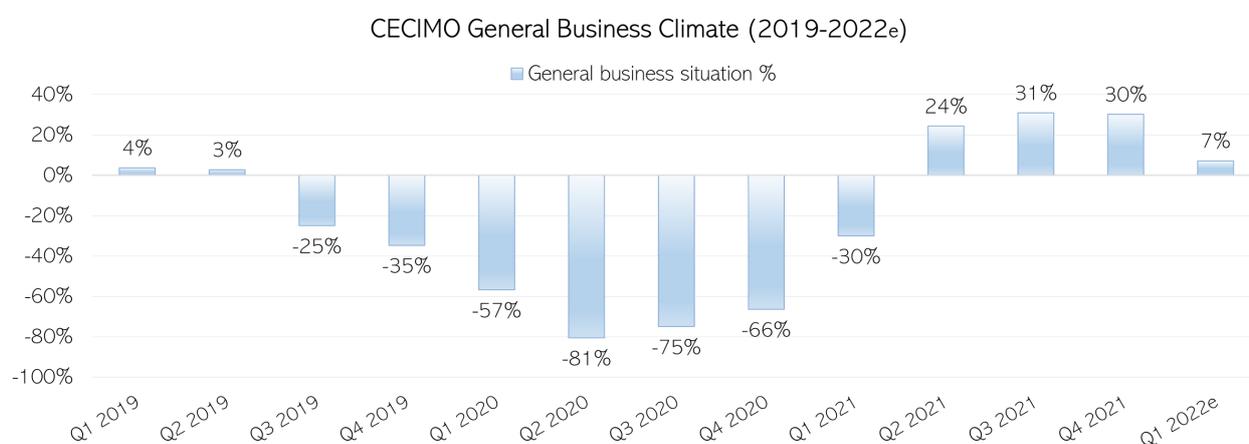
## 4. BUSINESS CLIMATE

### 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.

Methodology: CECIMO & National association surveyed individual companies and assessed their current business climate and their expectations (next q) in relation to demand, domestic production, export sales and employment. The responses of the CECIMO Business Climate Barometer are analysed as the difference (net percentage) between the share of companies reporting an increase/decrease in their business activities. The results were weighted by the share of national production in 2015 among participating CECIMO countries.

Note: The results for the fourth quarter are based on responses from the following CECIMO countries: Germany, Austria, Switzerland, France, United Kingdom and Italy.



Source: CECIMO & National associations | e - expectatoinis

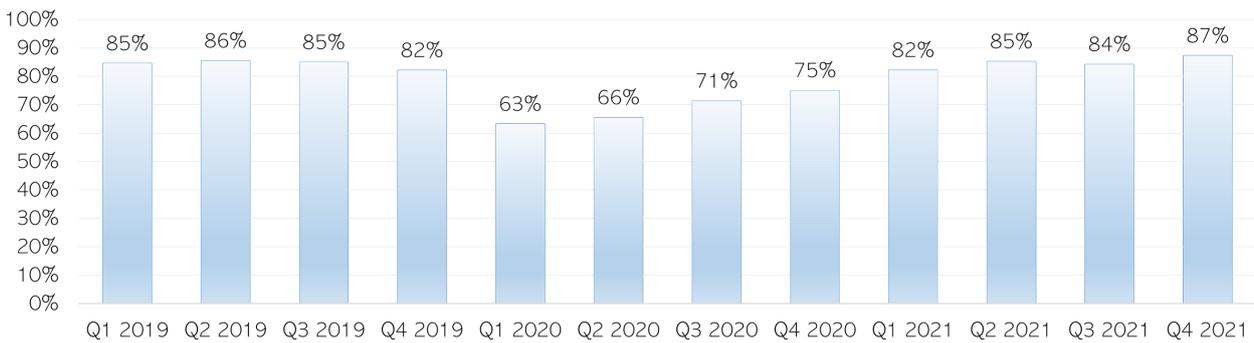
% = weighted average of the national balances (increase-decrease), in %

The general business climate among CECIMO member companies, following very positive indications in the third quarter, continued to be very positive in the last quarter of 2021. According to the last results of the CECIMO BCB survey (January 2022), in line with the expectations of the previous survey results, managers expressed a very positive assessment of the business situation, reaching a positive percentage of 30%.

Considering all factors that affect business activity, such as skill shortages, shortages of materials, and delivery constraints, Machine tool manufacturers during this survey round expected that the overall business climate would be lower, but still stable in the first quarter of 2022 (+7%).

In line with EU capacity utilization levels, in the last quarter of 2021, the average operating ratio of CECIMO companies was stable and above the pre-pandemic levels. According to the survey, CECIMO's average operating rate reached 87%, an increase of 3% compared with the previous reporting period.

CECIMO Average rate of operation (2019-2021)

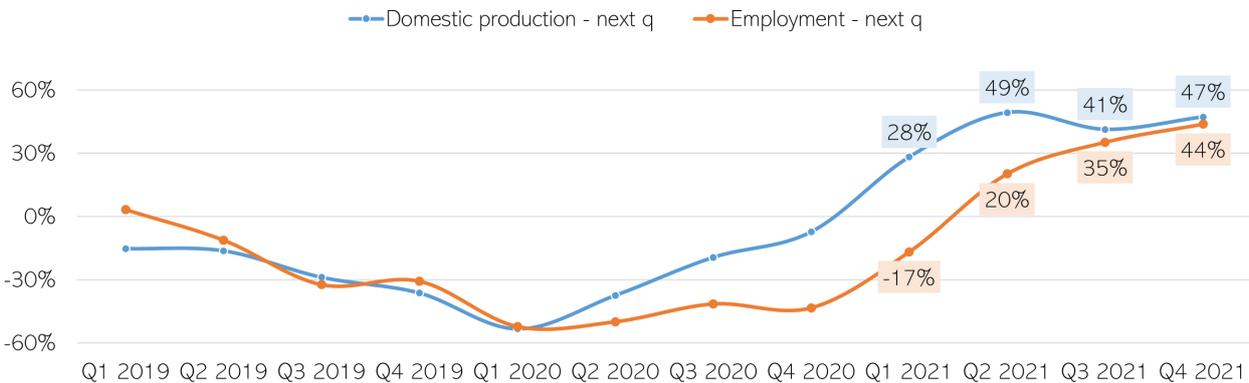


Source: CECIMO & National associations

Survey results indicate that managers expressed a more positive demand for products (percentage balance +28%) compared with the third quarter (+21%). This is consistent with the increase in new orders in the fourth quarter and in line with the historical order cycles.

Over the next three months (Q1 2022), managers' expectations for domestic production (+47%) are very positive (up) and more moderately positive for exports (+18%). The employment outlook is also very positive, posting a strongly positive percentage balance (+44%) as shown in the following chart.

Expectation in the next quarter: Domestic production, Employment



Source: CECIMO & National associations | e - expectatoinis

% = weighted average of the national balances (increase-decrease), in %

Please note the survey was closed before the recent developments regarding the Russo-Ukrainian war. Based on a recent study, our MV manufacturers have already raised concerns about the impact of sanctions on their trade with Russia. Moreover, they expressed concerns about rising energy and materials prices and other supply-side issues. Although Russia is not an important destination for exports from the European MT sector as a whole, there is no doubt that recent developments will have a negative impact on regular business activities.

## 4.2 PURCHASING MANAGERS INDEX (M)

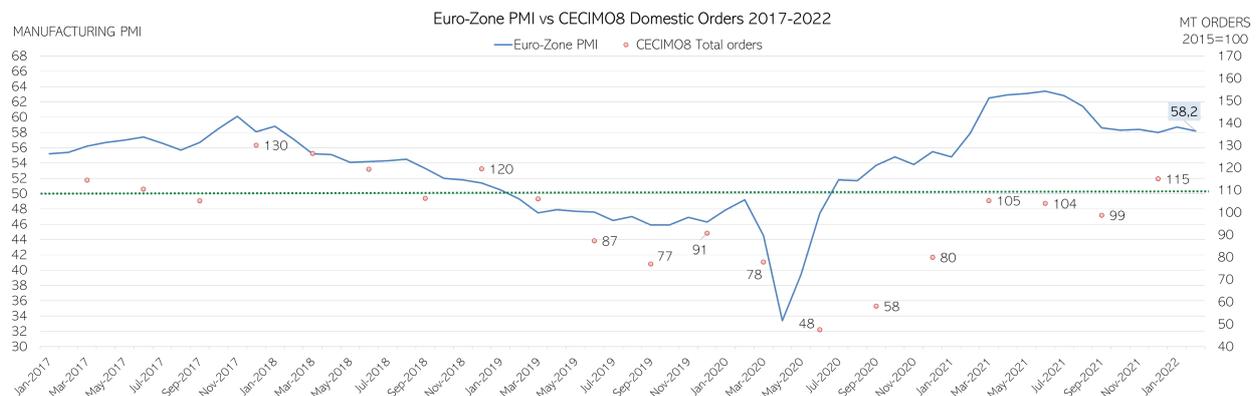
The IHS Markit PMI® is compiled by IHS Markit from responses to questionnaires sent to purchasing managers in a panel of around 300 manufacturers Global Manufacturing PMI.

Note: The latest data (February) were collected between February 10 and 22, 2022.



The J.P. Morgan Global Manufacturing Purchasing Managers' Index (PMI) recorded a slight decline in the last quarter of 2021. However, it remains in expansion territory above the 50.0 mark, indicating improving operating conditions. While the indicator decreased slightly in November, December and January, the most recent figures for February show an improvement in the PMI. At 53.6, February data mirrored the 20th consecutive month of global manufacturing growth. According to IHS Markit, growth in February was led by Europe (largely driven by growth in the Netherlands, Germany, Austria, Italy, the United Kingdom, Ireland and Greece). The US was in eighth position overall. The PMIs for China and Japan signalled expansions, but were below the global average. Russia, Mexico and Myanmar were the only nations to see contractions.

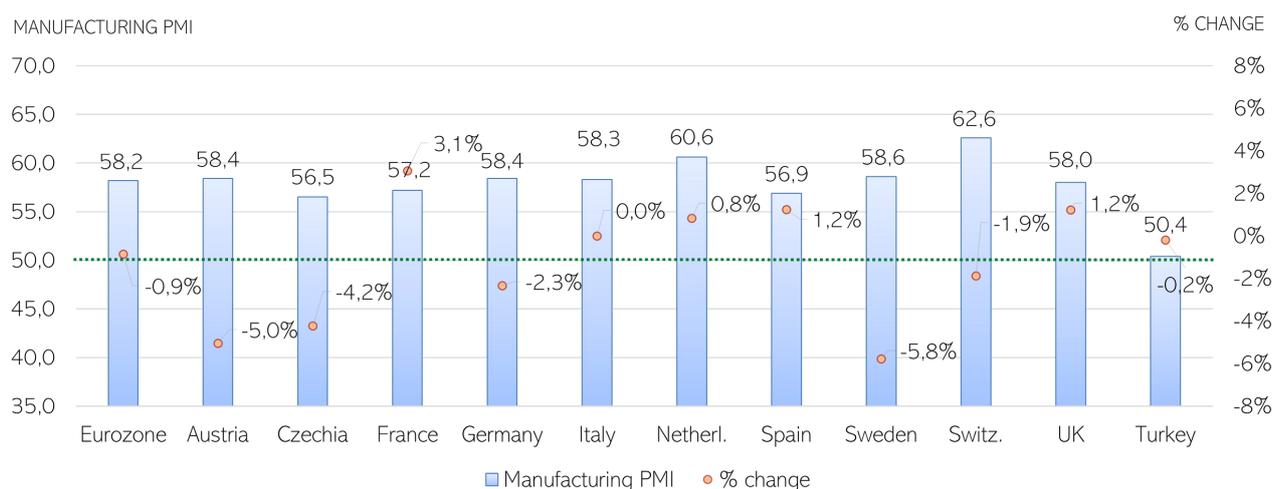
### Eurozone Manufacturing PMI



While EZ Manufacturing PMI recorded, on average, a lower level of PMI in the last quarter than in the third quarter of 2021. Although The Eurozone PMI fell to 58.2 in February (latest survey data), down from 58.7 in January, the index is well above the historical levels and reflects a very favourable business climate among EZ manufacturers. It is important to note that the index recorded a level of 58.2 points in February, 4.6 points higher than the Global PMI level.

According to IHS Markit, in line with raised employment, the latest survey data signalled a strong increase in manufacturing output across the euro area midway through the first quarter. However, Eurozone manufacturers continued to be restrained by lengthening supplier delivery times during February. The Netherlands recorded the strongest improvement in manufacturing conditions in February, followed by equally strong expansion in Germany and Austria, while Spain recorded the weakest growth of the monitored euro area countries, followed by France.

## PMI & monthly % change - Europe - February 2022



### Austria

Following a rise in December and January, the Austrian PMI index fell in February, as shown by the latest PMI survey results. However, at 58.4 points, down from 61.5 in January, the last reading was still well above the 50.0 no-change mark. In February, Austrian companies reported continued pressure on supply chains due to a combination of material and component shortages, transport problems and strong demand. However, manufacturers generally remained optimistic about growth prospects for the year ahead. On an annual basis, the average PMI was 28% higher in 2021 compared with 2020.

### Czech Republic

Thanks to the strong increase in new orders and output, supported by strong business confidence, February PMI data marked a further recovery in the Czech manufacturing sector. Although the PMI dropped to 56.5 in February, down from 59.0 in January, it is still strong above the 50.0 no-change mark. Looking ahead, Czech manufacturing companies reported strong confidence in future output level. Optimism was driven mainly by growth in order books and hopes for further easing of supply chain problems. On an annual basis, the average PMI was 26% higher in 2021 compared with 2020.

### Germany

The latest PMI data for Germany show a slight decrease in the PMI index in February 2022. After a slight increase in the PMI in January to 59.8, the last PMI stood at 58.4 (twentieth consecutive monthly improvement). According to the latest survey results, surveyed firms again reported longer lead times on inputs due to shortages of materials and components in the market, as well as pressure on transport. One of the main reasons for the decrease in the indicator, despite the continued increase in output, was staff absences related to the Omicron wave of the pandemic that limited output and added to the already stretched capacity, contributing to a significant increase in work backlogs. In February, companies were very optimistic about the outlook, although the downside risk to the sector's performance has increased due to the escalation of the situation in Ukraine. On an annual basis, the average PMI was 25% higher in 2021 compared with 2020.

### Spain

After a decrease in the index since August 2021, the Spanish PMI recorded a slight rebound in February to reach the level of 56.9 points, slightly lower than the values of November 2021. Although the Czech Republic and Spain recorded a level below the EZ average in February, it remains well above 50.0 no-change mark. Growth in February was linked to the rise in production, new orders and employment. Supply shortages were again pointed out as obstacles to increase production capacity. However, respondents expressed very positive expectations for the next 12mt, the highest of the last four years. On an annual basis, the average PMI was 20% higher in 2021 compared with 2020.

## France

The French manufacturing sector recorded significant output, new orders and employment growth in February, when the French PMI reached 57.2 points, the highest level since August 2021. Companies expressed concerns about supplier delivery times due to low stock availability among vendors, although companies expressed that the availability of certain raw materials had improved. As a result of the expansion of output and new orders, firms also expressed a higher level of confidence in the output outlook in the coming period. On an annual basis, the average PMI was 19% higher in 2021 compared with 2020.

## Italy

After reaching a peak PMI level of 62.8 in November, the Italian manufacturing sector showed a slowdown in January and remained stable at 58.3 points in February. However, as in most CECIMO countries, this indicates a consecutive 20th month improvement in the health of the Italian manufacturing sector. Supply issues continued to cause cost pressures and limited stronger increases in output. With the expectation of strong demand in the coming months, companies have expressed strong confidence over the next 12 months. On an annual basis, the average PMI was 25% higher in 2021 compared with 2020.

## Netherlands

Although the level of the index in the last few months is below last year's average, the Netherlands PMI remains at highest levels among CECIMO countries. Based on data from the February survey, the PMI went from 60.1 in January to 60.6 in February, indicating an overall improvement in business activity. The main contributor to this growth was the growth of new orders in February. Manufacturers expressed that they raised their prices, due to the sustained high rate of input price inflation. While companies have indicated that there are still supply issues, supplier delivery times have continued to decrease. On an annual basis, the average PMI was 28% higher in 2021 compared with 2020.

## Sweden

While still high above the 50.0 no-change mark, Sweden Manufacturing's PMI declined to 58.6 in February, down from 62.2 in January. This was the twentieth consecutive month of growth in manufacturing activity, the weakest since October but still well above its long-term average (54.8). The most significant negative contribution comes from the new order intake, followed by delivery times, production level and stocks. On an annual basis, the average PMI was 25% higher in 2021 compared with 2020.

## Switzerland

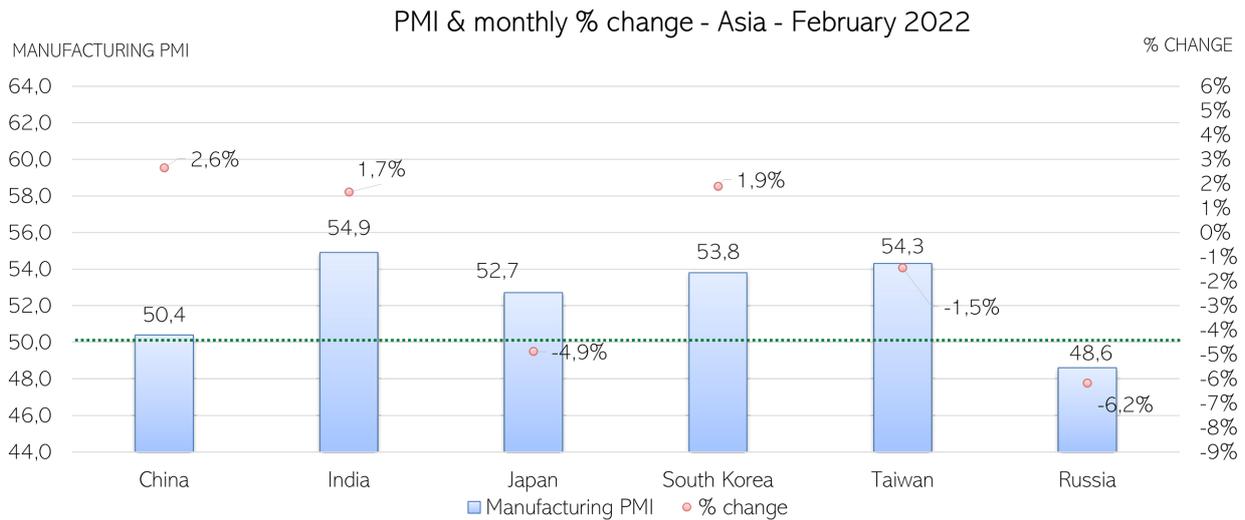
Based on the latest available data (February 2022), the Swiss PMI manufacturing index fell to 62.6 in February from 63.8 in January, the worst reading since February 2021. However, it remains the highest rate among CECIMO countries, and shows a consecutive improvement of 20 months in the health of the Swiss manufacturing sector. As output growth and new orders slowed, supply chains and delivery times subindex showed signs of stabilization. On an annual basis, the average PMI was 35% higher in 2021 compared with 2020.

## Turkey

Like the previous nine months, the headline PMI for Turkey remains above, but still very close to the 50.0 no-change mark. According to the latest survey data from the Istanbul Chamber of Industry Turkey Manufacturing PMI was down from 50.5 in January 2022 to 50.4 February. Although employment increased, lower new orders, energy shortages and continued increases in input costs also contributed to the slowdown in output in February. On an annual basis, the average PMI was only 4% higher in 2021 compared to 2020.

## United Kingdom

Following a slight drop in the UK PMI in December and January, February 2022 data shows growth and marks the twenty-first month of improvement in the UK manufacturing. The PMI reached its three-month high, reaching 58.0 points in February. Based on the survey results, UK manufacturing production accelerated high, aided by stronger demand, fewer raw material shortages and easing global supply chain pressures (although the incidence of delivery delays in February remained high). Moreover, UK manufacturers expressed positive optimism (six-months high) for production growth over the next 12 months. On an annual basis, the UK average PMI was 18% higher in 2021 compared to 2020.



## China

Chinese manufacturing PMI grew from 49.1 points in January to 50.4 points in February. While the latest PMI values show an improvement in the Chinese manufacturing sector, it is important to note that the PMI average over the past eight months stands on the 50.0 points, no-change mark. The increase in February was led mostly due to increase in output. However, companies faced significant challenges, including developments related to the COVID-19 pandemic, that continued to weigh on external demand. Supplier delivery times have been lengthened amid shipping delays and material and staff shortages. Moreover, inflationary pressures have led to a steep and accelerated rise in average input costs. Despite downside risks, firms expressed more optimistic views on the 12-month outlook (reaching an 8-month high in February). On an annual basis, China's average PMI for 2021 (50.8) remained largely unchanged from 2020 (51.0).

## India

Following very high levels in November 2021, India's manufacturing sector experienced a slowdown over the next two months. However, India's PMI registered 54.9 points in February, up from 54.0 in January, showing stronger improvement in the sector's health and well above the 50.0 no-change mark. It is worth noting that India's manufacturing PMI is the strongest among the observed Asian countries. The improvement is mainly due to higher growth rates in output and new orders. Companies expressed concern about cost pressures caused by shortages, while pandemic restrictions and supply problems have further lengthened delivery times. On an annual basis, the average PMI was 10% higher in 2021 compared to 2020.

## Japan

Due to lower production levels, caused mainly by material shortages and the surge in COVID-19 cases (Omicron variant) in February, Japan's PMI fell from 55.4 in January to 52.7 in February. As it is still above the 50.0 no-change mark, this PMI level indicated thirteenth consecutive monthly improvement in the sector. However, because of supply chain disruption, price pressures and recent pandemic developments, manufacturers' optimism decreased to a six-month low in February. On an annual basis, the average PMI was 15% higher in 2021 compared to 2020.

## South Korea

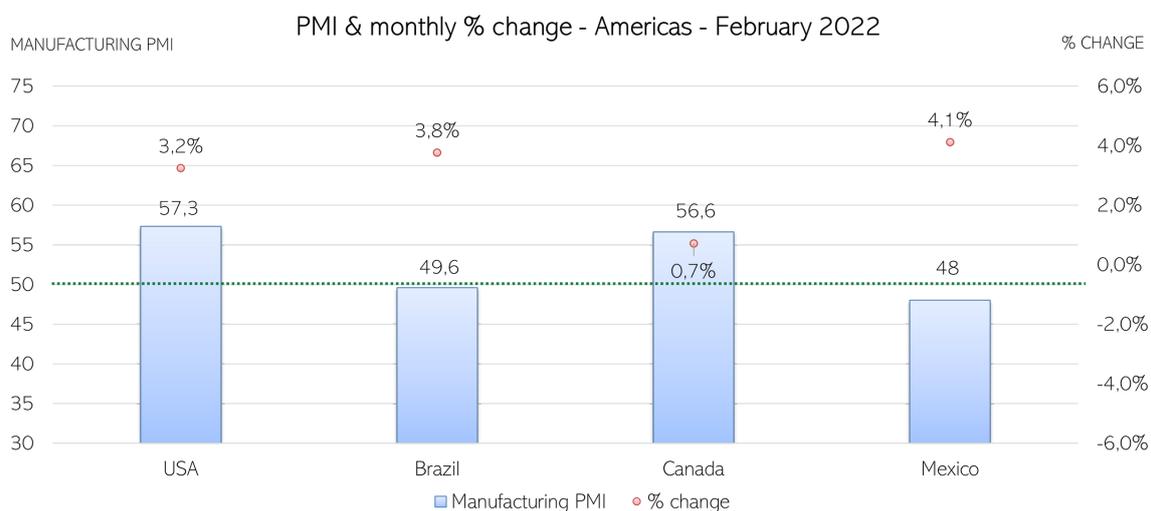
After averaging close to 50.0 points in the final quarter of 2021, the South Korean manufacturing PMI reached 53.8 points in February, the highest level since June 2021. Despite the surge in COVID-19 cases associated with the Omicron variant, new orders and production rose at the highest rates since last June and July, respectively. In February, South Korean manufacturers reported problems related to supply chain disruptions associated with shortages and rising commodity prices. However, with the hope that the risks of current shortages and disruptions will ease, business optimism rebounded in February to its highest level in the last 12mt. On an annual basis, the average PMI was 11% higher in 2021 compared to 2020.

## Taiwan

After reaching record levels in the second quarter, Taiwan's PMI fell on average in the final quarter of 2021. This trend continued in January with a level of 55.1 and in February to a level of 54.3. However, the index is still above 50.0 no-change mark, signalling slower, but still continuous improvement in the Taiwanese manufacturing sector. In February, the lower index level is largely linked to the weaker growth in output and the slower level of new orders. While the backlog accumulation softened to an 18-month old, companies expressed concerns about supply chain disruption that impacted their ability to ship items to clients. On an annual basis, Taiwan's average PMI was around 15% higher in 2021 than in 2020.

## Russia

After reaching a level above 50.0 in October 2021, the Russian PMI index remained above the unchanged mark in January. However, during February the index fell again to 48.6, reflecting the worsening situation in Russian manufacturing. Firms expressed demand weakness, inflationary pressures and ongoing pandemic issues as one of the main reasons for lower production and employment levels in February. It is important to note that the February data were collected between February 10 and 22, and therefore does not reflect the situation after the beginning of the Russo-Ukrainian war and the sanctions that Russian manufacturers will have to deal with in the future. On a yearly basis, the Russian PMI recorded an average increase of 9% in 2021 compared to 2020.



## United States

US manufacturing PMI declined again in December last year and January, while February saw an improvement. As a result, the PMI posted 57.3 in February (up from 55.5 in January), signalling a stronger recovery in the US manufacturing sector, and the highest among Americas countries observed. This improvement is largely a result of increased production and new orders. Companies expressed fewer supply disruptions, which also resulted in slower increases in input prices. Growth in new orders stimulated optimism in February and the production outlook for the year ahead was strongest since November 2020. On an annual basis, the US PMI recorded an average increase of 20% in 2021 compared to 2020.

## Canada

Like in the United States, Canada also recorded strong PMI values in the last quarter of 2021. Moreover, the situation remains positive in early 2022, with Canada's PMI reaches 56.6 in February, up from 56.2 in January. Production growth, higher new orders, employment growth and easing of COVID-19 restrictions were the primary drivers of the last improvement in February. However, Canadian manufacturers reported higher than US supply-side issues linked to sharp price pressures continued with input price inflation accelerating in February. On a yearly basis, the average PMI in Canada was 13% higher in 2021 than in 2020.

## Mexico

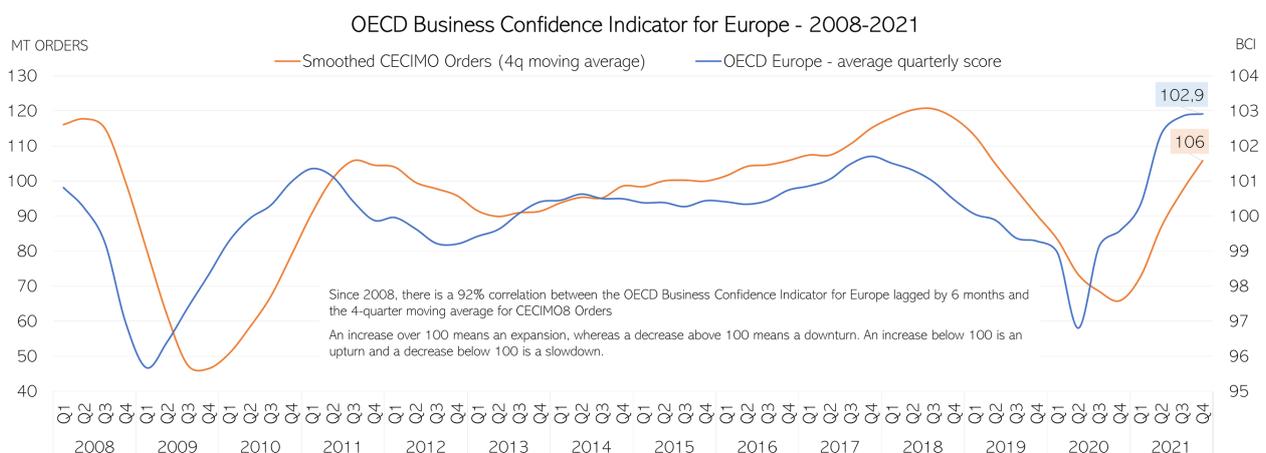
Based on the latest data, Mexican PMI remains below 50.0, but rises from 46.1 to 48.0 in February. According to the IHS Markit analysis, the two largest components of the PMI index, production and new orders, remained in contraction territory in February. Although input costs increased more slowly, due to global raw material shortages, inflation was still at one of the highest rates in last four years. It is important to note that manufacturers reported further deterioration in vendor performance while labour shortages due to COVID-19 contamination, contributed to the lower output growth. On an average annual basis, the Mexican PMI was 11% higher in 2021 compared to 2020.

## Brazil

The Brazilian manufacturing industry has remained in a contraction zone since November 2021. The PMI rose to 49.6 in February, rising from 47.8 in January which had marked the lowest level in 20 months. In February, companies reported signs of improved demand, production growth and employment. In addition, they also expressed signals of normalizing supply chains and inflationary pressures. As a result, firms have expressed more optimistic expectations about output over the coming year. On an average annual basis, the Brazil PMI was 2% lower in 2021 compared to 2020.

### 4.3 OECD BUSINESS CLIMATE INDICATOR (M)

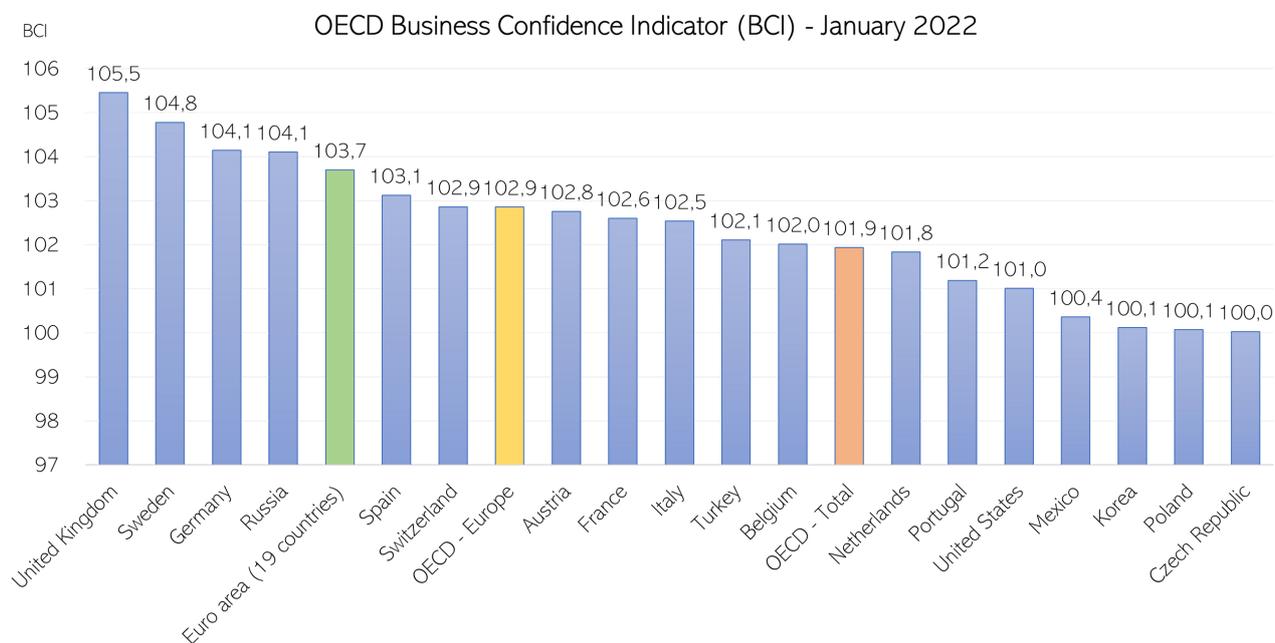
The Business Confidence Indicator (BCI) can be used to monitor output growth and predict turning points for economic activity. Numbers above 100 suggest an increased confidence in near future business performance, and numbers below 100 indicate pessimism towards future performance.



After reaching very high levels in recent months, the BCI for Europe continues to reflect improved short-term confidence. The revised data for Europe shows that BCI continued to grow in the last period of 2021 and reached level of 102.9. It is important to note that the euro area business confidence indicator is even slightly higher, reaching 103.7 points in the fourth quarter.

The latest figures for January 2021 show that the BCI index for Europe stabilised at 102.9 points, indicating a favourable outlook for the business climate in Europe in the first quarter of 2022.

The OECD business climate index (Total) also improved to 102.2 at the end of Q4 2021. The January 2022 data (note that the previous graph refers to quarterly averages) show a slight decline in the index where the OECD-Total aggregate fell back to the 2021 Q3 level (101.9 points).



Country-specific BCI readings for January (latest available data) show:

- European markets such as the UK (105.5), Sweden (104.8) and Germany (104.1) reached BCI levels above the EU and euro area average. Spain (103.1), Switzerland (102.9), Austria (102.8), France (102.6), Italy (102.5), Turkey (102.1) and Belgium (102.0) were above the OECD Total BCI.
- Other European countries such as the Netherlands, Portugal, Poland and the Czech Republic recorded BCI levels in January below the OECD average, but still above the 100-point level.
- Between Asian markets, the latest data for China (November 2021) show that China remained in the unfavourable zone in the last quarter of 2021, while South Korea had a BCI lower than the OECD average, but above the 100-point level
- Russia (104.1) was above the OECD average, while the US (101.0) and Mexico (100.4) were below the average, but still above the level of 100 points.
- The United Kingdom, Sweden, Germany and Russia recorded the highest BCI levels in January 2022, with Spain and Switzerland not far behind.

## 5. GENERAL INDICATORS

### 5.1 GDP (M)



Tracking the trend of the percentage change in GDP, comparing the latest period (Q4-2021) with the same period a year earlier:

- EU GDP increased by +4.6% in the Q4 2021 compared to the same period of the previous year. Compared with the previous quarter, both rates of European GDP show a continuous recovery in the second quarter +0.3% in the euro area and +0.4% in the European Union. Regarding the annual data, following a strong recovery by 5.3% in 2021, the EU economy is now forecast to grow by 4.0% in 2022, as in the euro area, and by 2.8% in 2023 (2.7% in the euro area).
- China's economy registered a 4.0% increase in the fourth quarter of 2021 compared to the same period in 2020, and an increase of about 0.9% compared to the previous quarter. As for annual figures, China's economy grew by 8.8% in 2021. According to the OECD forecast, it is expected to grow by 5% in 2022 and 5.2% in 2023.
- United States GDP in the fourth quarter of 2021 was 5.6% higher than in the fourth quarter of 2020, growing 1.4% compared to the third quarter of 2021. Following an annual growth of 5.8%, the US economy is expected to grow by 3.7% in 2022 and 2.5% in 2023 (OECD).
- The Japanese economy in the fourth quarter of 2021 recorded GDP growth of 0.2% compared to the same quarter of 2020, with positive quarter-on-quarter growth of +1.5%. After slightly slower annual growth in 2021 (+1.8%), Japan's economy is expected to grow by 3.4% in 2022 and 1.1% in 2023 (OECD).

Please note that these predictions were made before the Russo-Ukrainian war, so it is expected that following forecast will be revised, especially for 2022. Recent developments will probably have the significant, but not dramatic impact on EU growth, but the consequences will be visible at the global level as well.

## European Commission's Autumn Forecast (February 2022):

The European Commission's new forecasts assume that the economic impact of the Omicron outbreak is not expected to be long-term. Due to stronger than expected growth in Q4 2021, EU GDP growth in 2021 reached 5.3%. According to the latest forecasts for 2022, EU GDP is expected to increase by 4% (down from Autumn 2021 forecast when it was expected to grow by 4.3%) and for 2023, the European Commission has revised the numbers upward and it is now expected that growth will be around 2.8%.

In latest forecast supply bottlenecks are expected to fade in the course of the year, while inflation projections have been revised up, as energy prices are now set to remain high for longer. Concerning the risk related to the outlook, the Forecasts highlights the possibility that Omicron wave of infections could have a longer lasting economic impact than assumed. Moreover, in this forecast, the European Commission highlighted the possible implication of the geopolitical tensions in Eastern Europe on the growth and inflation outlook.

Looking at the global economic outlook, the latest forecasts show that the global outlook has improved significantly, but the recovery is expected to be uneven across regions. Global GDP (excl. the EU) is expected to grow by 5.9% in 2021 and by 4.2% in 2022. While the US and China economy are on a growth path, many emerging economies are in a more challenging situation due to difficult access to vaccines and limited policy measures.

Please note that this forecast was published before the Russo-Ukrainian war. There is no doubt that the impact will slow down EU growth in 2022, while new supply-related issues will also affect inflation levels. Therefore, the more precise impact of the war on EU growth will be available in the upcoming - Spring forecast, which is scheduled for May 2022.

However, it is important to note that, based on the survey results, this European Commission forecast shows an increase in investment across some industrial sectors in Europe. In particular, the motor vehicle sector shows a strong rebound in the balance of managers' answers for 2022. This suggests a particularly strong investment growth in this sector in 2022. According to Forecast, the explanation could be the current transformation from combustion engines to electric vehicles, which requires huge investment that was probably suspended in 2020/2021 due to the pandemic and the supply bottlenecks of raw materials (e.g. metal) and semi-conductors.

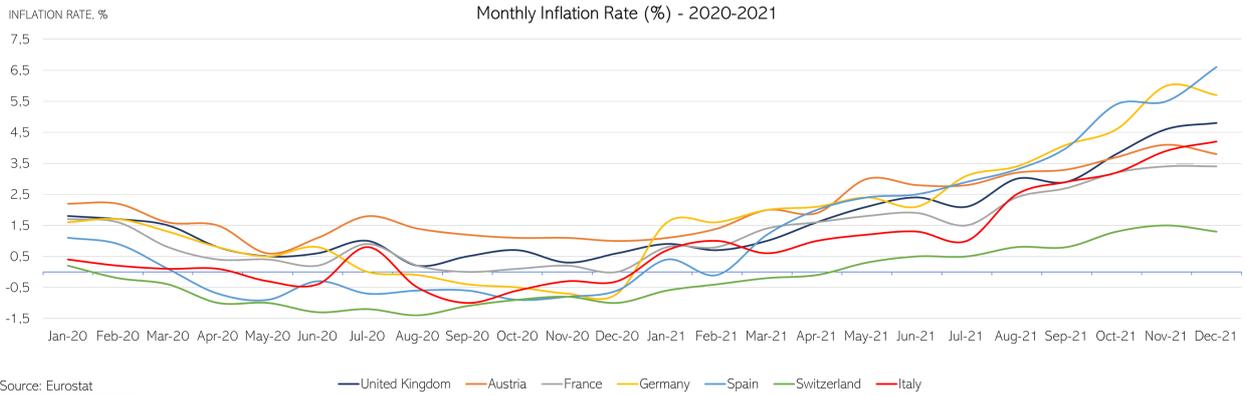
## 5.2 INFLATION (M)

Q4-2021 average inflation data:

- EU27: 4.97%
- Eurozone: 4.67%
- United States: 7.77%
- China: 1.77%

In the last quarter of 2021, Eurozone inflation continues to rise, averaging 4.67% year-on-year (y/y), up from 2.87% y/y in the third quarter of 2021. EU27 inflation follows a similar path, averaging 4.97% y/y, compared to the 3.10% y/y in the third quarter 2021. Like in previous quarter, continued inflation growth in 2021 can be attributed to supply-side issues (lack of raw materials, higher input prices, transportation issues) and rising energy prices.

Inflation in the U.S. also rose further, averaging 7.77% y/y in the third quarter, up from 6.20% y/y in the third quarter. The rate of inflation in China, where the data comes from the OECD, after the quarterly value was, on average 0.83% in the third quarter of 2021, increased in the third quarter, averaging 1.77% annually.



With the increase in demand, which can be confirmed also in CECIMO MT orders' growth, European industry is still facing supply-side issues and rising energy prices. These developments continue to result in higher inflation levels in the fourth quarter of 2021 among the largest CECIMO markets.

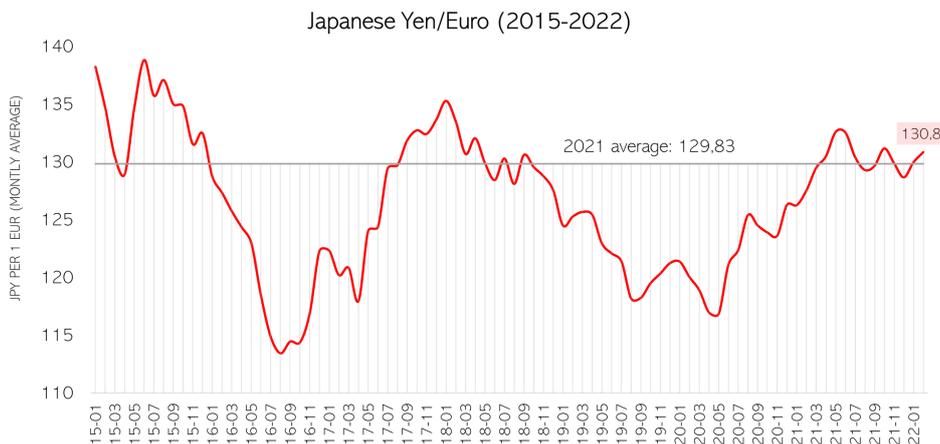
According to latest European Commission forecasts (February), Inflation in the euro area is expected to peak in the first quarter of 2022 and remain above 3% until the third quarter of the year. Overall, inflation in the euro area is forecast to increase from 2.6% in 2021 (2.9% in the EU) to 3.5% (3.9% EU) in 2022, before declining to 1.7% (1.9% EU) in 2023. However, please note that recent developments concerning the Russo-Ukrainian war will definitely raise inflation levels among EU countries even higher. The most recent data for February indicates that inflationary pressures will be strong in the first quarter of 2022, largely driven by rising energy and materials prices.

Inflation rates by Country (Dec 2020 - Dec 2021)

% change on a year earlier	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
Austria	1,0	1,1	1,4	2,0	1,9	3,0	2,8	2,8	3,2	3,3	3,7	4,1	3,8
France	0,0	0,8	0,8	1,4	1,6	1,8	1,9	1,5	2,4	2,7	3,2	3,4	3,4
Germany	-0,7	1,6	1,6	2,0	2,1	2,4	2,1	3,1	3,4	4,1	4,6	6,0	5,7
Italy	-0,3	0,7	1,0	0,6	1,0	1,2	1,3	1,0	2,5	2,9	3,2	3,9	4,2
Spain	-0,6	0,4	-0,1	1,2	2,0	2,4	2,5	2,9	3,3	4,0	5,4	5,5	6,6
Switzerland	-1,0	-0,6	-0,4	-0,2	-0,1	0,3	0,5	0,5	0,8	0,8	1,3	1,5	1,3
United Kingdom	0,6	0,9	0,7	1,0	1,6	2,1	2,4	2,1	3,0	2,9	3,8	4,6	4,8

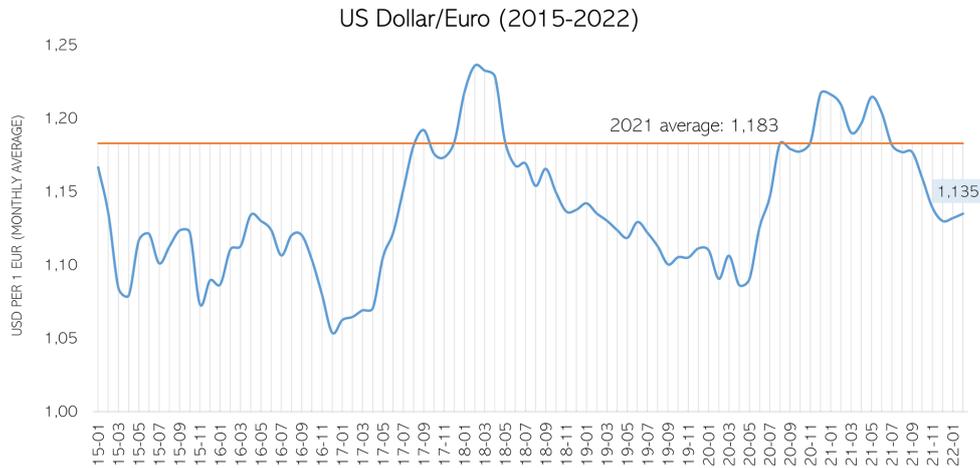
In Germany, in the last quarter of 2021, annual inflation stood at an average of 5.4%. Switzerland (1.4%), the United Kingdom (4.4%), France (3.3%), Spain (5.8%) and Italy (3.8%) also registered growth in quarterly inflation average (y/y) in the third quarter.

### 5.3 FOREIGN EXCHANGE RATES (M)

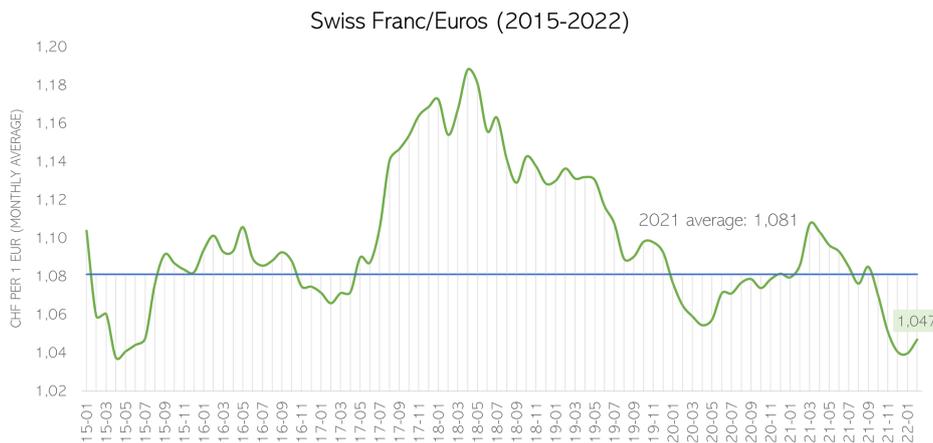




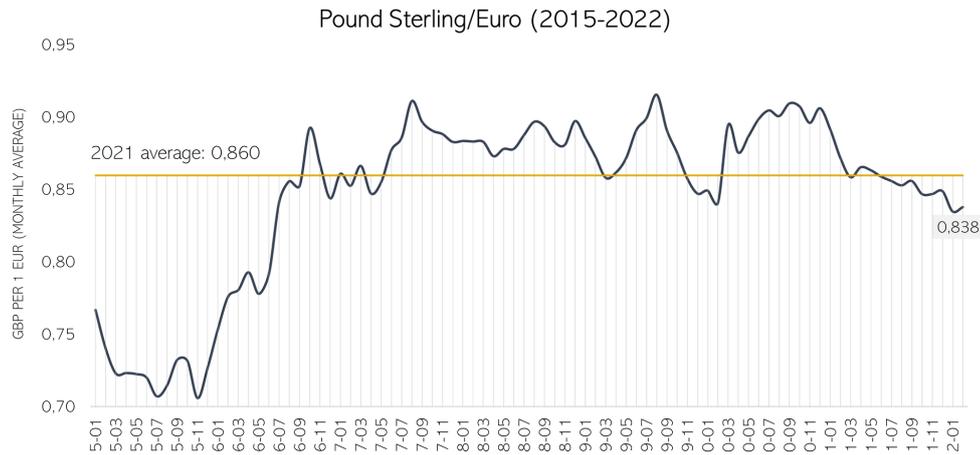
The average Q4 2021 Japanese trading prices against the euro was 129.9, indicating almost the same exchange rate, which was trading at 129.8 units per euro in the previous quarter. The average Japanese yen exchange rate for 2021 was 129.83. After a slight strengthening of the Japanese yen compared to the euro in November and December, January and February show a reverse trend. The February exchange rate was 130.8.



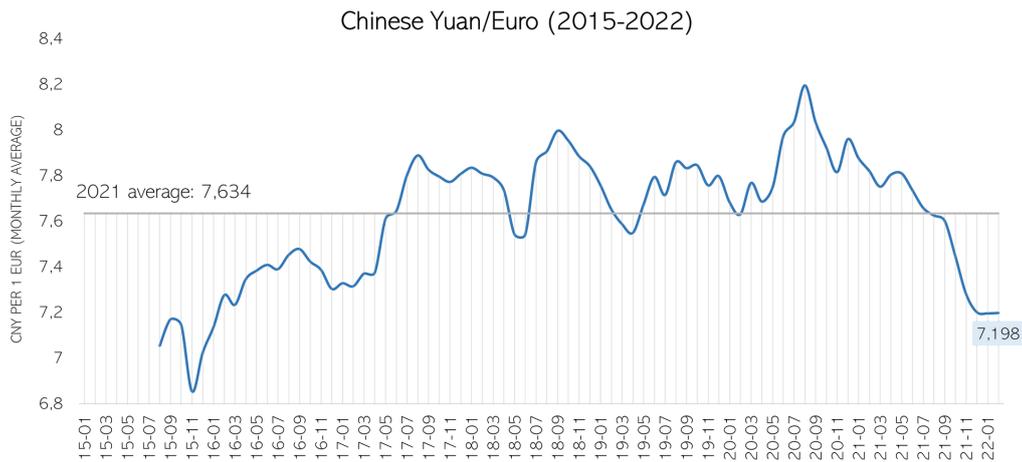
The average trading price of the US Dollar during 2021 was 1.183 per Euro, above the average level that was in 2020. Following a significant appreciation of the US dollar in the third and fourth quarters of 2021, there was a slight depreciation in January and February. The February exchange rate was 1.135.



The average price of the Swiss franc in 2020 was 1,070 per euro, whereas the average price in 2021 was 1,081. Following a modest depreciation of the Swiss Franc in September, the appreciation was recorded over the next four months. The Swiss Franc depreciated slightly in February, reaching a level of 1,047.



The average trading price for the Pound Sterling during 2021 was 0.860 per Euro. The monthly indicators of recent months show that the euro weakened against the pound sterling in January and strengthened slightly in February to 0.838. It is important to point out that these rates are lower than the 2021 and 2020 averages.



The average trading price of the Chinese Yuan during 2021 was 7.634 per Euro, signalling the slight weakening of the Euro compared to the previous year's average (7,871). Following a small depreciation of the Chinese Yuan in April and May, the euro weakened against the CNY in the third and fourth quarters of 2021 and showed a slight strengthening in February 2022. The last rate available - February was CNY 7.198 per euro.

## 6. RELATED SECTORS

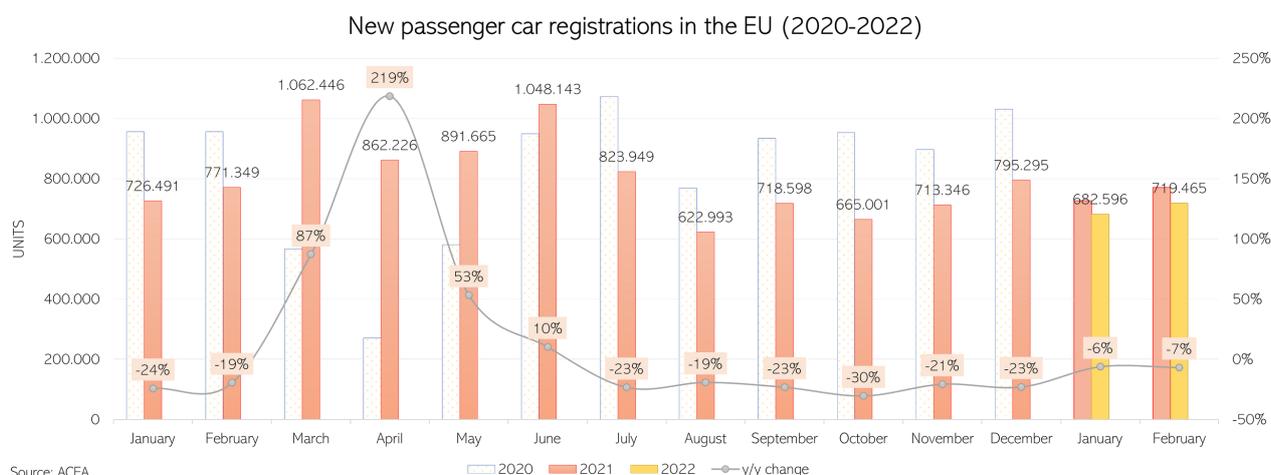
The Related Sectors section provides a brief overview of the automotive and aerospace sectors, major MT buying sectors. Moreover, the last section presents recent trends in commodity prices used in the MT industry.

### 6.1 AUTOMOTIVE

Supply chain disruptions, such as the shortage of semiconductors, continued to affect vehicle production capacity in the last quarter of 2021. Recent IHS Markit reports show that the microprocessor shortage continues to have an impact on vehicle production, while inventory shortages have hampered sales for almost all global brands. September and November were among the lowest for new car registrations in 2021, with 17 of the top 20 global brands experiencing lower new registrations.

IHS Markit expects the automotive semiconductor shortage will likely ease in 2022 and the first half of 2023. However, they also expect the pressure is likely to rise again by the end of 2023 or the beginning of 2024. According to IHS Markit's analysis, there are emerging concerns about the supply of analog chips used in vehicle production, which are also used in numerous other industries like smartphone and consumer electronics industries.

The following charts show the latest available data – February 2022. However, it is important to note that the conflict between Russia and Ukraine could lead to other unplanned disruptions in March and beyond due to a possible lack of materials normally imported from Russia and Ukraine.



According to ACEA (European Automobile Manufacturers' Association), in February 2022 (latest data available), the new passenger car registration in the European Union contracted further (-6.7%) compared to the same period last year. With 719,465 units sold across the EU, this was the weakest result in terms of volumes for the month of February since records began. Comparing the main EU markets, Italy and France recorded double-digit losses (-22.6% and -13.0%, respectively), while Spain and Germany showed growth (6.6% and 3.2% respectively).

Total and EV new Passenger Car registrations in the EU

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021
Total new PC registrations	2.480.130	1.801.613	2.776.425	2.882.377	2.560.286	2.802.034	2.165.540	2.173.642
Total (Q/Q-4)					3%	56%	-22%	-25%
EV new PC registrations	167.646	129.674	274.043	475.282	354.574	446.028	409.882	532.721
EV % of Total	7%	7%	10%	16%	14%	16%	19%	25%
EV (Q/Q-4)					112%	244%	50%	12%

EV = Electric Vehicles including BEV and PHEVs

Note: We have revised the EV figures for 2020.

Following the quarterly figures, after the higher level in the Q1 and Q2, the total number of new passenger car registrations in the EU decreased by 25% in the Q4 2021 compared to the same period last year. The share of new passenger electric vehicle registrations in the fourth quarter of 2021 was 25%. Additionally, it is important to note that this group (EV), shows a new increase in Q4 2021 (+12%) compared to the same period last year



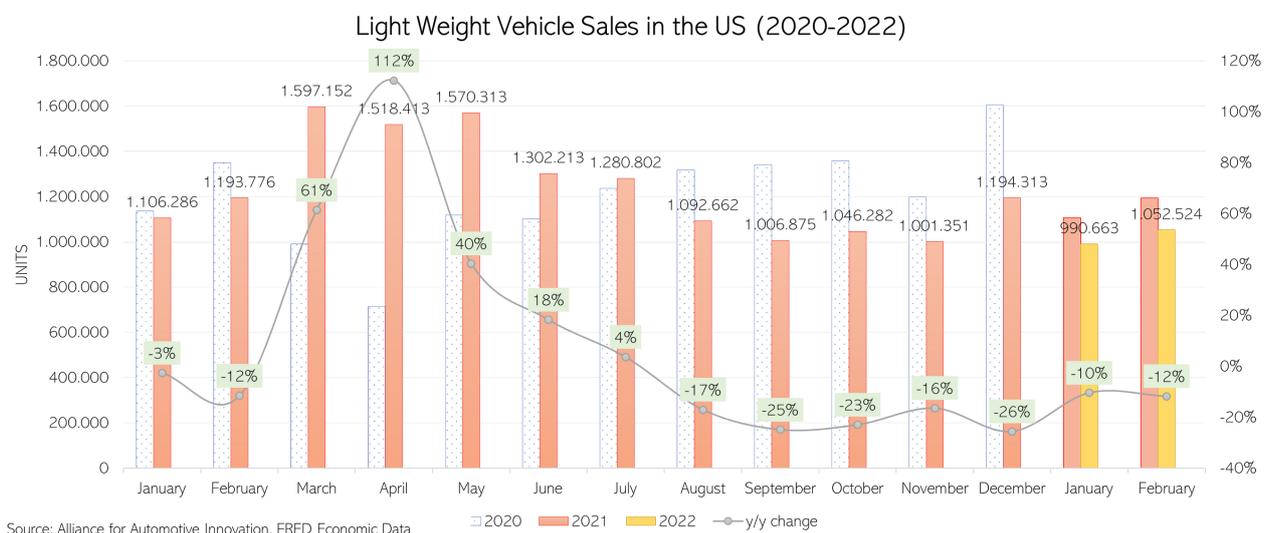
According to the China Association of Automobile Manufacturers, sales of new passenger cars in China increased by 29% in February 2022 compared to the same period previous year, reaching 1.48 million units. While lower than December or January, it still reflects a third consecutive month of growth over the previous year. The upward trend reflects positive signs that semiconductor shortages are declining.

Total and EV new Passenger Car registrations in China

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021
Total new PC registrations	2.867.000	4.974.000	5.508.000	6.782.000	5.075.000	4.919.000	4.854.000	6.621.000
Total (Q/Q-4)					77%	-1%	-12%	-2%
EV new PC registrations	100.281	229.000	303.000	560.000	490.000	638.000	904.000	1.291.000
EV % of Total	3%	5%	6%	8%	10%	13%	19%	19%
EV (Q/Q-4)					389%	179%	198%	131%

EV = Electric Vehicles including BEV and PHEVs

Following the quarterly figures, after the total number of new passenger car sales in China decreased by 12% in the Q3 2021, the last quarter displayed a better, but still negative trend, registering -2% compared to the same period last year. The share of new passenger electric vehicle registrations in the last quarter of 2021 remained 19%. It is important to note that this group, compared to total car sales, posted significant growth (+131%) in the last quarter of 2021 over the same period last year.



The US light weight vehicle sales in February totaled 1.05 million units, up 6% from the January, and around -12% compared to the same month in 2020 while production is still slowed down by a global semiconductor shortage. According to the Alliance for Automotive Innovation, inventory typically rises from January to February, and the diversion from the seasonal trend can be pegged to the ongoing chaos in the supply chain – a situation that generally is improving but could worsen due to the Russo-Ukrainian conflict.



According to the Japan Automobile Manufacturers Association (JAMA), new car registration/sales in Japan in February 2021 decreased by 19.9% over the same period last year. After a month-over-month decline in December and January, February is on an upward trend. This represents a rise from 272.445 units in January to 289.848 units in February.

## 6.2 AEROSPACE

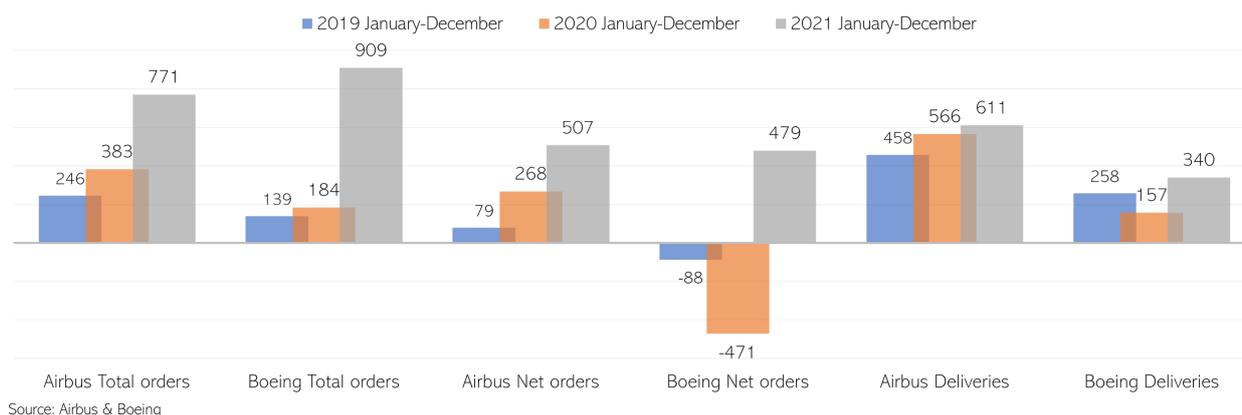
According to the Eurocontrol, in mid-March 2022, flights were back to around 73% of 2019 levels across Europe.

Some facts from the same period regarding Domestic traffic vs. 2019: Europe (-24%), USA (-16%), China (-49%, lockdowns across the country due new COVID-19 wave) and Middle-East (-7%). It is important to note that the closure of the Ukrainian airspace to civilian flights since 24 Feb, and the closure of Russian airspace for 36 States since 28 Feb has led to cancellations and extended trajectories in recent months.

For world producers, Boeing and Airbus, commercial aircraft deliveries improved in 2021 compared to the year before. Furthermore, thanks to the significant improvement in order books in the final quarter of 2021, total orders and deliveries reached 2019 levels. In light of the improved COVID-19 situation, aircraft orders are expected to improve further in 2022.

Although the following table shows orders and shipments of commercial aircrafts in 2021, it is important to note that due to recent developments and the Russo Ukraine conflict, orders for military aircraft can be expected to increase over the next several years.

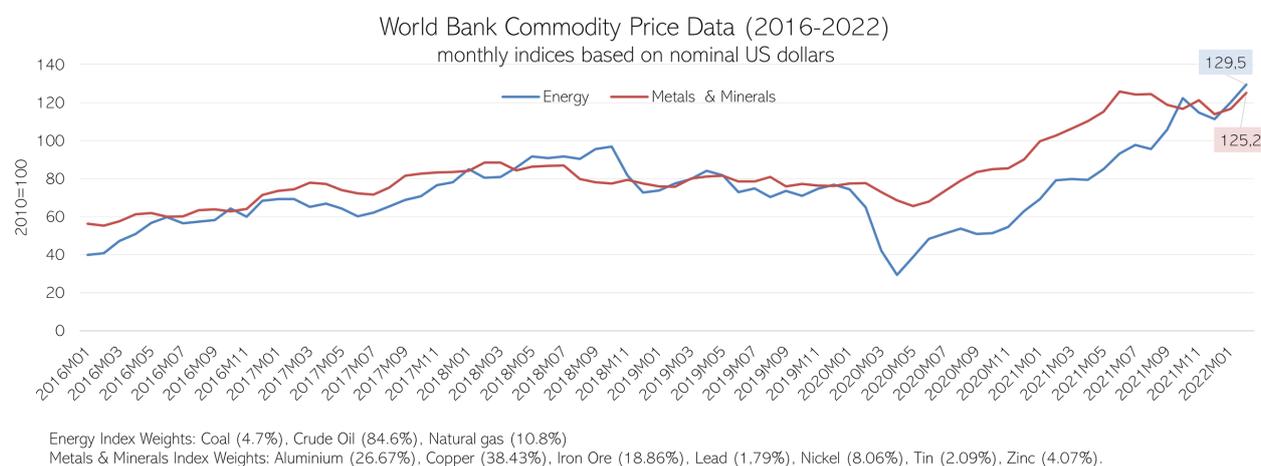
### Airbus vs Boeing: Commercial Aircraft Orders & Deliveries (Units)



In 2021, Boeing recorded 909 total orders and 430 cancellations, leading to 479 net orders. In the same period, Airbus registered 507 net orders due to 264 cancellations. Both producers recorded an increase in deliveries where Airbus delivered 611 aircraft while Boeing delivered 340 aircraft between January and December 2021. The Aerospace industry is likely to experience the longest recovery as travel demand is not expected to return to pre-COVID levels until 2024. In the short term, new variants of Covid-19, specifically Omicron in the first quarter of 2022, and a new geopolitical situation may further delay the recovery of this sector.

## 6.3 ENERGY AND METALS

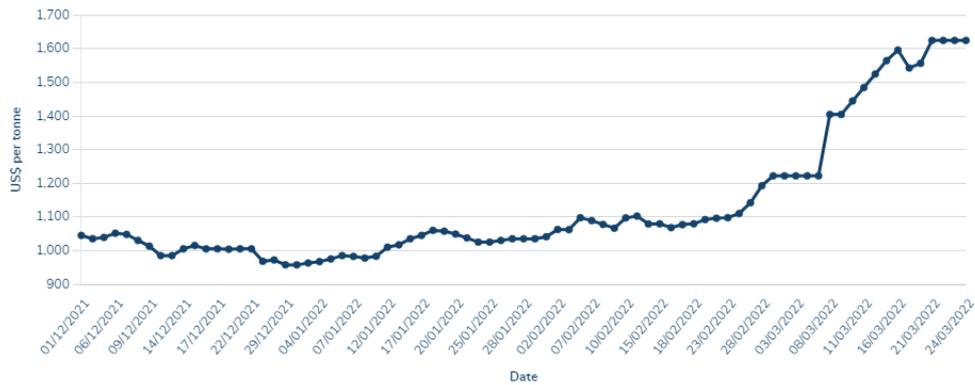
This chapter gives a brief overview of energy and metal prices from the World Bank and London Metal Exchange sources. While the World Bank's commodity price data presents monthly indices based on the nominal US dollars, the prices for certain metals are based on information available on the London Metal Exchange (LME) website at the time of writing this report.



As shown in the previous chart, following a slight decline in energy and metals and minerals prices in December 2021, January and February data show further increases. According to the latest press releases from the World Bank (March 2022), energy and non-energy commodities continue to soar in February, increasing 7.7% and 4.2% respectively. Moreover, it is important to note that among the major non-energy sub-groups in February, Metals and Minerals recorded the strongest price growth (4.7%).

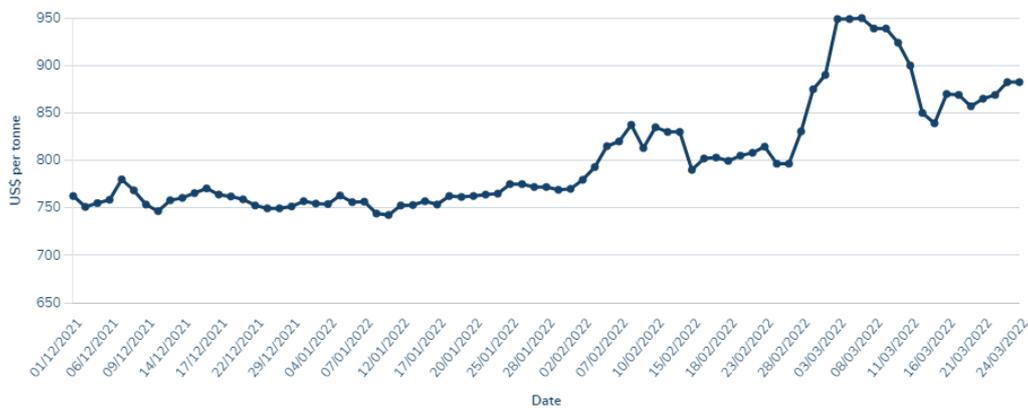
Recent developments concerning Russia's aggression against Ukraine and Western sanctions have certainly had an impact on this strong upward trend. As the situation is still very uncertain, these prices are likely to remain high in the coming months.

**LME Steel HRC EXW NW Europe (Argus) Closing prices graph (March 24 = 1.618 USD/t)**



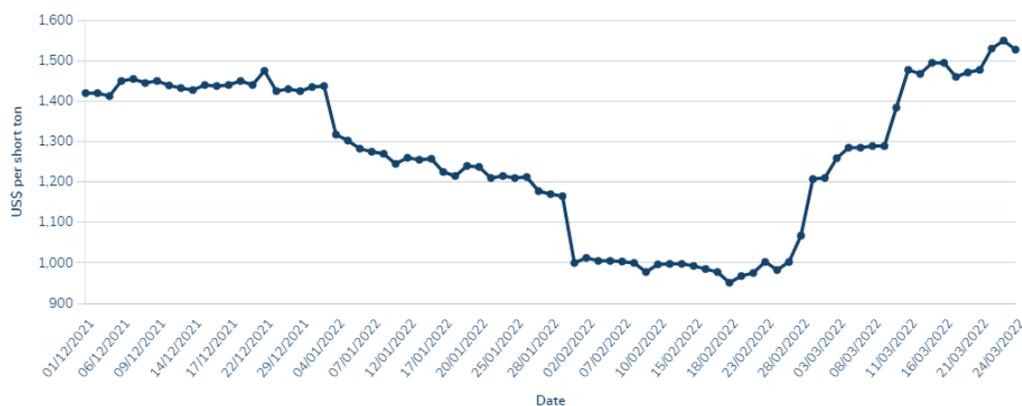
Domestic prices for hot-rolled coil in Northern Europe increased significantly compared to our last report when the closing price on December 13 was 975 USD/t, reaching a 1.618 USD/t on March 24. According to the Financial Times, the price rise underlines the pressure European steelmakers are under because of surging electricity (energy) prices following Russia's invasion of Ukraine.

**LME Steel HRC FOB China (Argus) Closing prices graph (March 24 = 882.5 USD/t)**



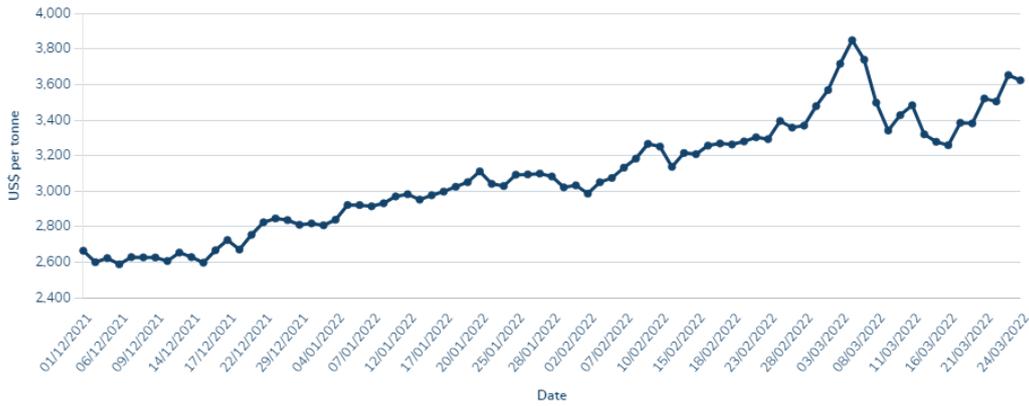
Due to recent developments and geopolitical tensions related to the war between Russia and Ukraine and rising energy prices, Chinese steel prices rose sharply in late February. The March price remained stable at a slightly lower level. However, on 24 March, the closing price for HRC FOB China was 882,5 USD/t, compared with 753 USD/t on 13 December (previous reporting period).

**LME Steel HRC EXW N America (Platts) Closing Prices graph (March 24 = 1.527 USD/t)**



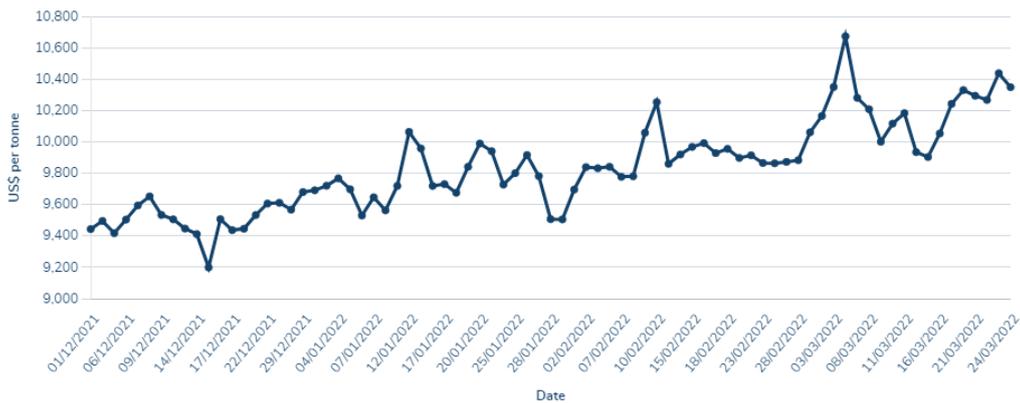
The US steel market follows the similar path and the latest figures at 1527 USD/t show higher closing price compared to the December 13 value (1340 USD/t).

### LME Aluminium Closing Prices (March 24 = 3.623 USD/t)



After aluminium prices stabilised around 2,600 USD/t in November and December, the following months brought a new upward trend. According to Reuters, in February, Aluminium prices reached their highest since 2008 led by lower Chinese production while the Russian attack on Ukraine, has raised fears of sanctions that could cut off the supply of large producer Russia and disrupt the energy supply required to produce the metal.

### LME Copper Closing Prices (March 24 = 10.349 USD/t)



Copper prices also show an increase following the Russian-Ukrainian conflict, especially in early March. The latest figure of 10.349 USD/t shows a closing price higher than in the previous period. As mentioned in previous Toolbox, due to a large stock deficit and strong demand, because of the world's shift to renewable energies and electric transportation, most forecasts predict higher prices of this metal over the next few years. Of course, given the strong demand, any disruption makes the Cooper market more sensitive.

## 7. GLOSSARY

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### **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.

### **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 2015 = 100.

Source: Eurostat.

### **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.

### **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)

## **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>

## **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.

## 8. GEOGRAPHICAL INFORMATION

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### **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.

## 9. OTHER

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### **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)

### **HF**

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

## CREDITS

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## MEMBER ASSOCIATIONS

Austria: FMTI, 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)

Denmark: 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 of the Machine Tool Industries and related Manufacturing Technologies. 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 33% worldwide. It accounts for approximately 150,000 employees and a turnover of around 22.5 billion euros in 2021. More than three quarters of CECIMO production is shipped abroad, whereas half of it is exported outside Europe.