

KEY MARKET TRENDS IN THE EUROPEAN ADDITIVE MANUFACTURING SECTOR

Key highlights for the next six months:

- ⇒ While the growth trend for domestic orders remains positive, growth is expected to be stronger in the foreign market.
- ⇒ AM companies offering solutions related to the use of ceramics, metals and plastics as materials are expected to see the strongest growth in orders over the next six months.
- ⇒ A strong growth in new orders is expected to come from the medical sector and data from the automotive sector. Indeed, the data show a significant recovery coming from this sector.

KEY MARKET TRENDS IN THE EUROPEAN ADDITIVE MANUFACTURING SECTOR

Spring 2024

Between March and May 2024, CECIMO, the European Association of Manufacturing Technologies, organized the seventh round of its European Additive Manufacturing Survey, which aims to assess key market trends in the Additive Manufacturing (AM) sector.

It is a six-month survey that will help the industry record trend indications for key business areas, such as domestic business, AM exports, orders by type of material, client industry demand and investment trends. 3D printing companies express their six-month indications in the key business areas compared to the situation over the past six months.

As CECIMO has established cooperation with VDMA* to obtain a wider European figure in the AM sector including data for Germany, the report is divided into two sections. Part 1 of the report contains the results of the combined data of the CECIMO national associations' surveys and the VDMA survey and Part 2 contains only data from countries using the CECIMO survey and shows a trend based on the results of previous surveys.

Methodology:

The first part of this report contains data from countries that use the CECIMO survey combined with the VDMA survey which contains data for the German AM sector. Keep in mind that there is a slight difference in the approach used to ask questions of participants between the CECIMO and VDMA surveys. While the CECIMO survey asks questions about expectations concerning domestic/foreign orders, the VDMA survey asks questions about the development of the AM sector in the domestic/foreign market.

The second part of the report provides more detailed results on the AM trends based only on the results received from countries using the CECIMO survey.

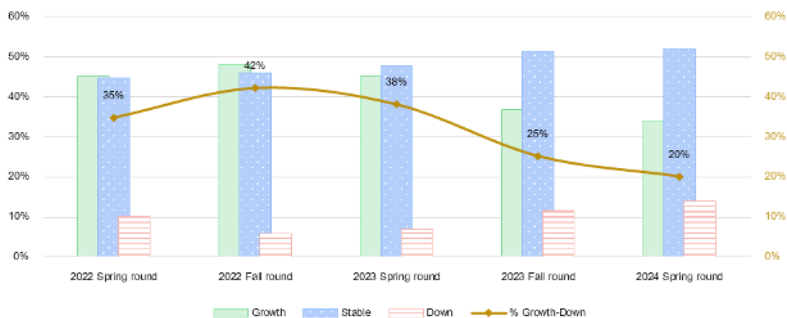
For each country, survey responses are analysed as the difference between the share of companies reporting growth and that of companies reporting a decrease in their trend indication. A positive balance provides a growth indication, and a negative balance reflects a decline.

Please note that the results at the European level are obtained by weighting country-specific results with shares derived from the 2021 Machine Tools (MT) production levels.

* VDMA is the association of Germany's engineering industry which represents the AM industry in Germany and carries out an AM survey in Germany on a regular basis.

AM TREND – HOME MARKET

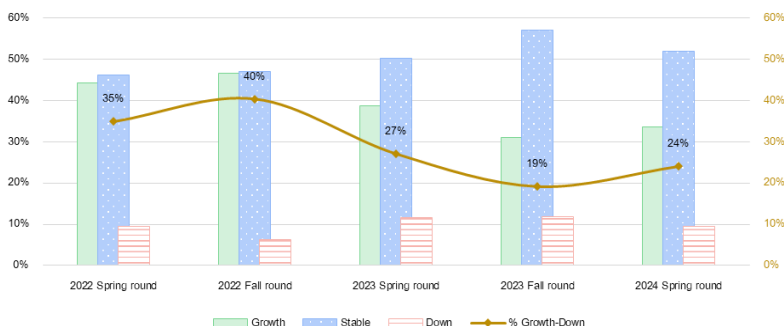
According to the latest survey results, the European Additive Manufacturing (AM) sector has a slightly slower positive outlook for growth in its home market compared to the previous survey period. As shown in the graph below, there is a moderate drop in growth expectations from 37% to 34%, while the proportion of respondents expecting a negative development increased from 12% in the Fall survey to 14% in the latest round. Despite the slight decline in business expectations, the European AM sector is expected to continue to expand moderately in its domestic market.



AM TREND – FOREIGN MARKET

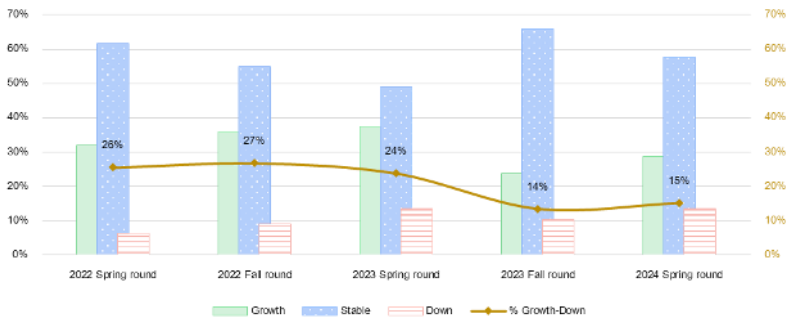
Compared with the previous survey, the latest expectations for the export market reflect a relative growth, with a growth-down ratio of 24%. In the current round of the survey, 34% of participants expressed confidence in the expansion of export orders over the next six months. This figure represents an increase of 3% compared to the previous survey, indicating a continued level of cautious optimism.

In addition, the percentage of respondents expecting a decline in the export market decreased to 9%, together with a relative decrease in the number of respondents with stable expectations, reaching a record high of 52%.



AM INVESTMENTS

Concerning the investments in the sector, the latest round of the survey shows a relatively stable situation for the AM sector, from 14% in the previous round to 15% in this round. In this context, the share of respondents expecting growth has increased from 24% to 29%, while it is important to note that the share of those expecting a decline has increased from 10% to 14%. As a result, the proportion of respondents expecting investment to remain stable diminished to 58%. This underlines that the majority of respondents expect investment levels to remain the same as in the previous six months.

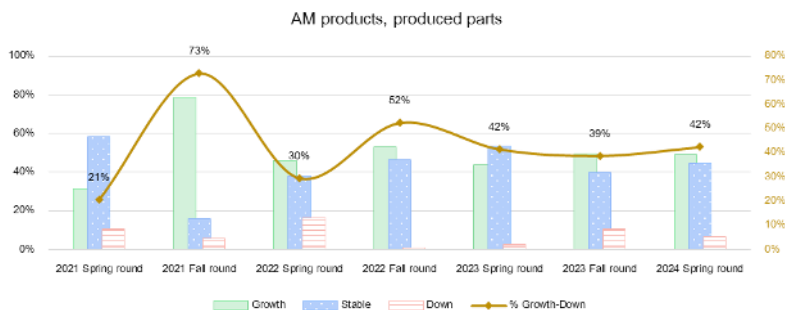


Note: The next part of the report presents the results of the CECIMO surveys based on the new methodology (Spain, Switzerland, the United Kingdom, France and Austria).

AM TREND INDICATION OF THE HOME MARKET

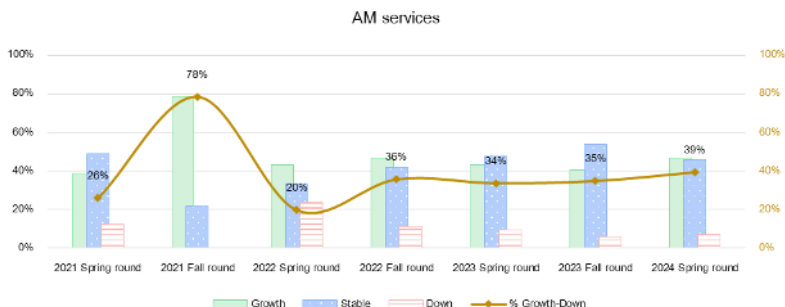
Question: Please indicate the trend in new home market orders over the next 6 months compared to past 6 months based on value.

When analysing the current trend indicators within the domestic market, there is a visible positive balance; indeed, there is a noticeable growth in expectations across most of the categories (even though the proportion of respondents expecting growth decreased by 1%). For a deeper understanding, the following graphs provide a detailed breakdown, showing trends and percentages for each category in both the latest and previous rounds.

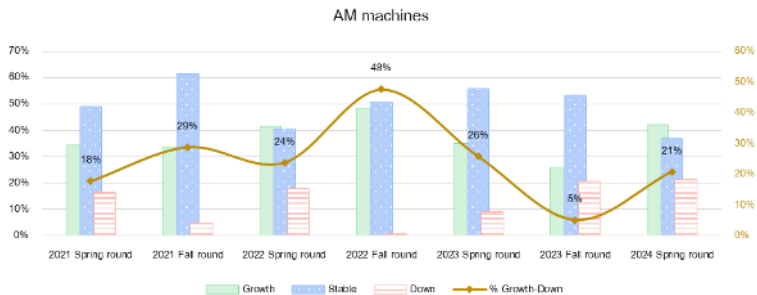


While the percentage of respondents expecting orders growth in the **AM products & produced parts** category has decreased (only by 1%), it is important to note that the percentage of respondents expecting a decline has decreased as well to 6% compared to 11% in Fall 2023 round. This resulted in a fairly stable but, slightly higher balance of 42%.

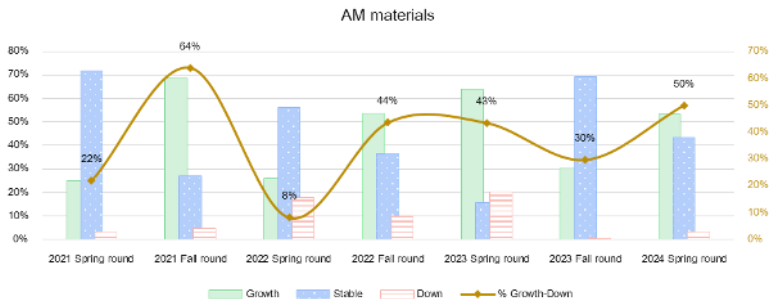
The **AM services** category also shows a stable balance (+39%), reflecting the second strongest orders growth expectations in the domestic market. As shown in the graph below, the share of participants expecting growth is significantly higher (47%) compared to the group of respondents expecting a decline (7%).



Among other categories, the expected growth in orders for **AM machines** shows a sharp rise but, only reached 21%. The below chart illustrates a stable situation in the number of respondents expecting a decline in orders over the next six months, when comparing to the previous round of the survey. As a result, the outlook for AM machine orders suggests a general growth,



While the number of respondents expressing pessimistic expectations for **AM material** orders rose up to 3% compared to the previous round in which was almost zero, there has also been a marked increase in growth expectations. More precisely, the growth expectations has risen to 53%, with more 43% of respondents expecting order levels to remain stable. This means that AM materials producers/distributors expect domestic orders to increase over the next six months.

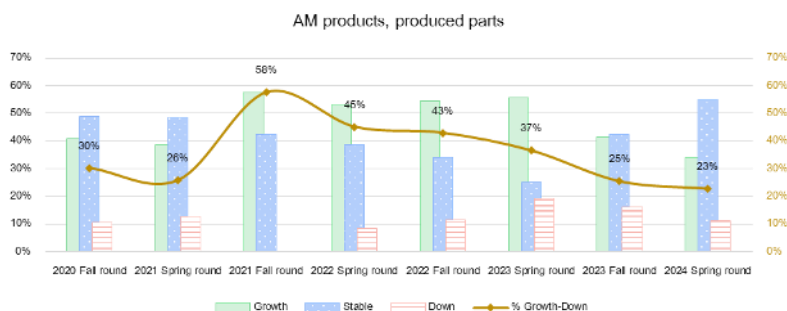


To summarise, the above charts indicate that domestic order expectations have increased compared to the previous round. This means that the AM products and produced parts sector, along with the AM services sector, are showing positive growth prospects, while the AM machines category is also experiencing general optimism about demand for the next six months.

AM TREND INDICATION OF THE EXPORTS

Question: Please indicate the trend in new export orders over the next 6 months compared to past 6 months based on value.

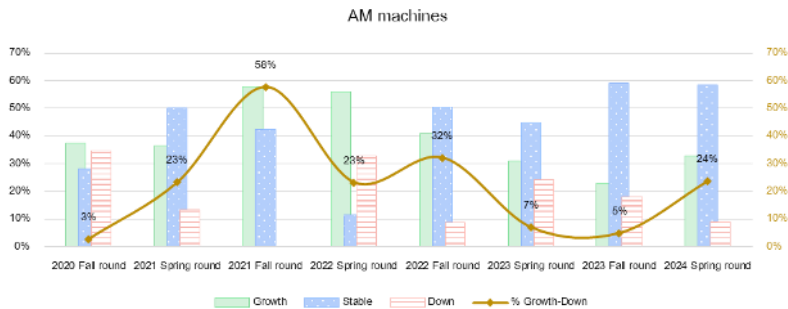
On the other side, respondents to the latest survey expressed lower expectations on average for foreign/export orders growth than in the previous survey round. Compared to the previous survey period, the majority of the companies dealing with AM products/parts and AM materials expect to have a more stable situation concerning foreign orders. Indeed, 55% of the respondents foresee a stable period. However, the proportion of respondents with negative expectations decreased from 16% to 11% for the **AM products/producted** parts. As can be seen in the chart below, the balance did not recover from the previous round when it reached its lowest point since the survey began recording lower levels. However, the outlook remains positive at +23%, indicating a moderate expectation for growth in this category over the next six months.



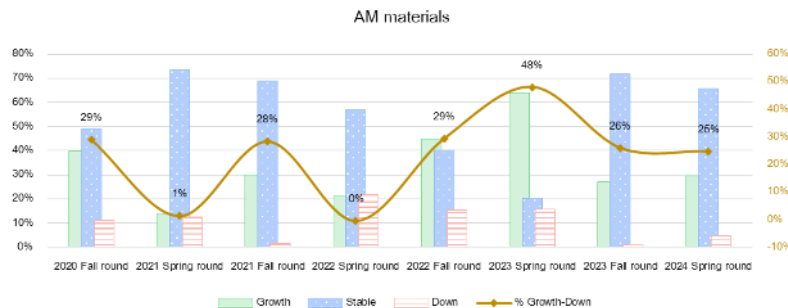
Looking at the expectations for the **AM services** category, a contained recovery balance can be seen compared to the previous reporting period. There has been a relevant increase in the proportion of respondents expecting growth, but also in the proportion expecting decline. As a result, the proportion of those expecting orders to remain stable reached almost 66%. With a balance of +22% on the foreign market, it is important to highlight the more optimistic expectations for orders growth on the domestic market for this category (+39%).



Similar to the situation in the domestic market, a more optimistic trend is noticeable concerning export orders in the category of **AM machines**. The expectation that orders for AM machines will remain stable endured showing a minor decrease from 59% to 58%. Moreover, growth expectations increased by 10%, together with a general decline in the proportion of respondents expecting a decline in orders from 18% to 9%.



After reaching a record high in the level of participants anticipating growth in orders for **AM materials** a year ago, this survey shows a stabilisation of the growth expectations, with the percentage of participants expecting growth rising slightly from 27% to 30%, as illustrated in the chart below. Meanwhile, the proportion of participants expecting stable orders has decreased to 66%. Overall, with a balance of 25%, and an increase of negative expectations compared to the previous round from 1% to 5%, the respondents are still anticipating moderate AM materials growth in the coming six months.



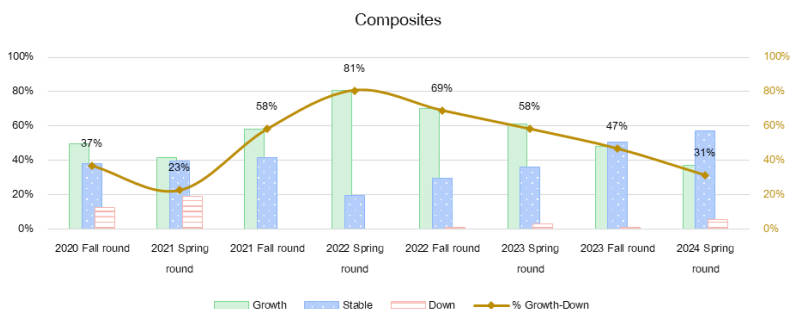
Comparing the trend in the foreign market with that in the domestic market, as in the previous round, **a moderate optimistic outlook for foreign AM orders growth can be expected**. The lowest growth in new orders is expected for producers of AM services, even though it is important to highlight again its relevant recovery from the previous round.

AM MATERIAL TREND INDICATION

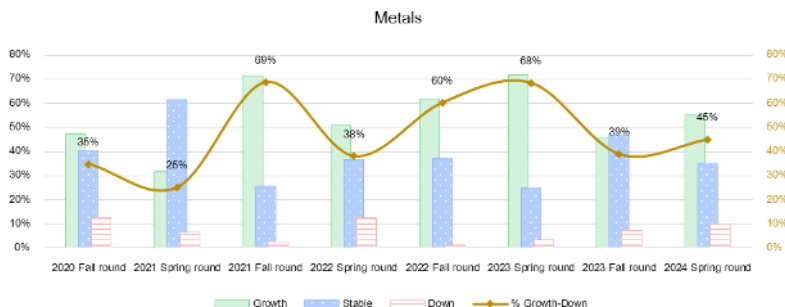
Question: Please indicate the trend in total new orders by material over the next 6 months compared to past 6 months based on value.

As seen on the preceding pages, AM material producers and distributors can expect contained growth in new orders in both domestic and foreign markets. As shown on the next charts, most materials are showing strong balances, indicating a growth demand path, albeit at a somewhat slower pace.

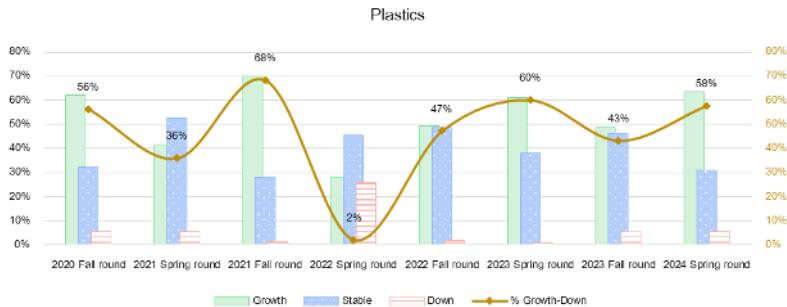
While the percentage of respondents reporting more stable orders has increased in recent rounds, **Composites** are expected to continue their decline and have the lowest balance of the AM materials over the next six months. Indeed, as shown in the graph below, the percentage of respondents expecting growth is lower than in the Fall survey round, and less optimistic expectations are foreseen over the last five rounds for the 6% of the respondents.



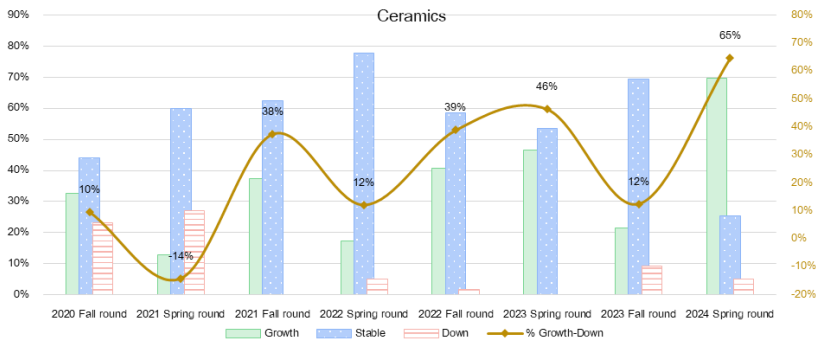
Unlike the previous survey round, where a significant decline was expected in the metals category, the current round anticipates a recovery in new orders for **Metals**. This shift is the result of an increase in the proportion of respondents expecting new orders to increase (from 46% to 55%) and a decrease in the proportion expecting a stable period (from 47% to 35%). However, metals remain in the top three AM materials with the strongest demand growth over the next six months.



Among the AM materials, **plastics** remained in second place in terms of the highest expectations for new orders/use in the coming months. It is worth noting, however, that the proportion of respondents expecting more negative new orders has increased (from 5% to 6%), because the other indicators such as expected growth (64%) has increased and future stability (31%) has decreased. As a result, the balance rose from 43% to 58%.



The most robust demand growth is expected for **ceramics**. As shown in the graph below, the percentage of participants expecting growth has increased significantly in the latest round of the survey, reaching 70%. As a matter of fact, the other expectations fell accordingly. Indeed, the proportion of participants expecting a decline in new orders has decrease from 9% to almost 5%. As a result, the balance has reached its highest level since the the beginning of the data collection for these surveys.



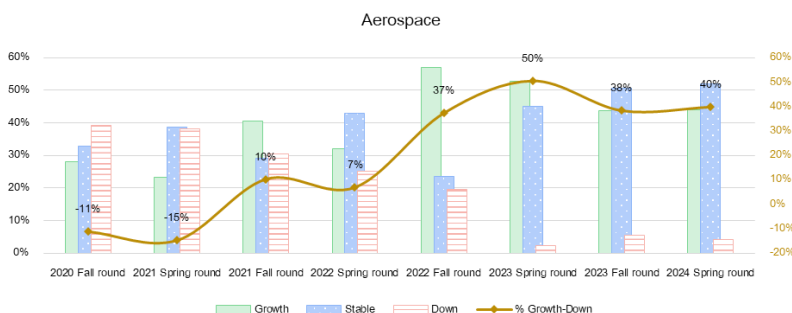
Comparing the average balances for all materials, this round shows positive indications than the Fall 2023 survey results. AM companies offering solutions related to the use of **metals, plastics and ceramics as materials can expect the strongest growth in orders over the next six months**. Although not shown in the previous graphs, growth expectations for the 'other materials' continue their steadily decline started in the 2023 Spring round.

BUSINESS TREND INDICATION: CLIENTS

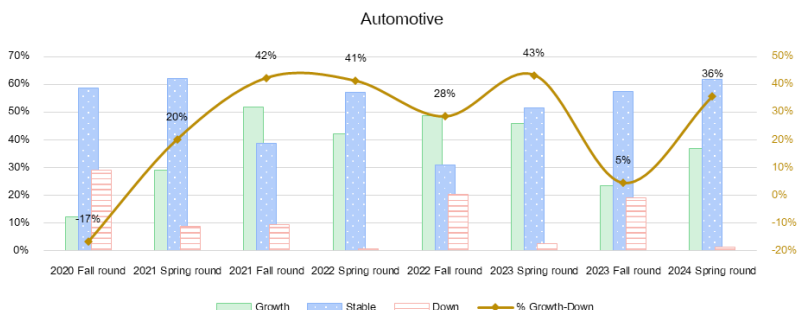
Question: Please indicate the trend in total new orders by customer sector over the next 6 months compared to past 6 months based on value.

A level of optimism in the latest round is also evident when examining the orders expectations of the main additive manufacturing (AM) purchasing sectors. With the exception of the 'other' and 'Chemical, Pharmaceutical' sector, the survey results indicate that all other sectors have achieved higher balances compared to the previous survey round. While the automotive sector is expected to have the strongest improvement in new orders, it is important to highlight how the medical sector is growing again after its decline started in the 2023 Spring Round.

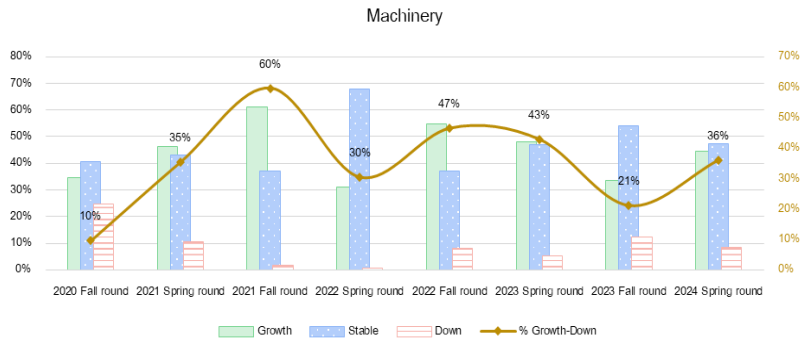
A slightly higher balance in the **aerospace sector** can be seen in the chart below. Although the percentage of respondents expecting growth has remained the same (44%), and the percentage of negative expectations decreased compared to 2023 (from 6% to 4%), the aerospace sector is expected to maintain its position as one of the strongest sector in the coming months.



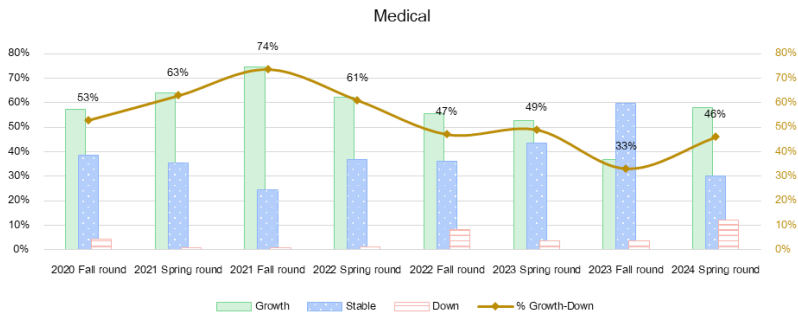
Following a notable recovery in AM order expectations from the automotive sector in the previous survey round, the current round shows a favorable trend. The balance of growth and decline has increase from 5% to 36%, with an increase of respondents anticipating growth (from 24% to 37%) and decrease of respondent expecting a decline (from 19% to 1%) in orders compared to the previous six months. Given these shifts, it is expected that AM orders from the automotive sectors will increase over the next six months.



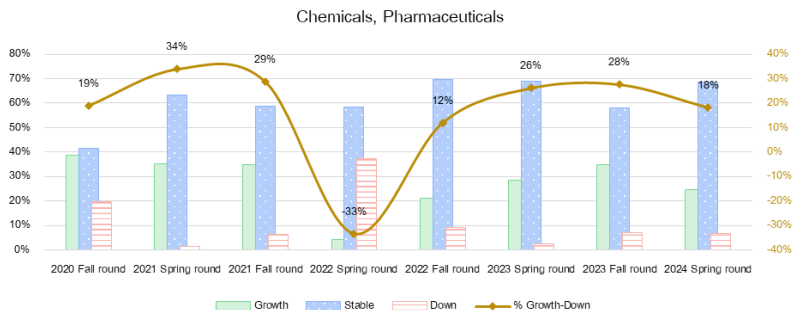
Regarding expectations for new orders in the **machinery sector**, there has been an increase in the number of respondents anticipating a growth trend compared to the previous six months. Additionally, there has been a significant decline in the number of respondents expecting order books to decline or remain stable. Nevertheless, with a balance of +36%, the machinery sector continues to anticipate a relevant recovery in new orders over the next six months.



The latest data show a positive trend for the **medical sector**, with the balance rising from 33% to 46%. As indicated in the chart below, the most robust growth expectations for new orders from the medical sector were observed in the second half of 2021, amid the COVID-19 pandemic. The subsequent trend indicates a deceleration. However, the latest figures shows a significant growth. Despite a slight increase in negative expectations, the medical sector remains relevant in terms of new order expectations in the short term.



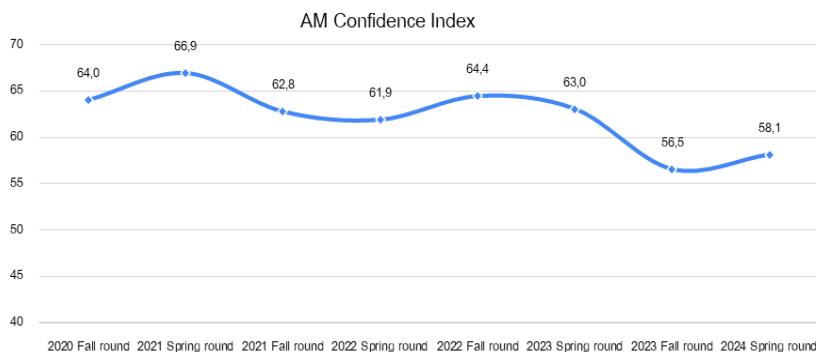
The latest survey results show that the balance in the **chemicals & pharmaceuticals** sector is falling from the previous survey round at +18%. As shown in the graph below, the number of participants expecting new orders to remain stable has increased, while the number of participants expecting both growth and decline has decreased (concerning growth) and remained unchanged (concerning down expectations). The latest data show an unfavorable moment for this sector.



Orders from **other sectors** are also expected to fall, breaking the trend that was confirmed by the latest survey results, which show a positive balance (but still low) of 13%. This balance fell significantly compared to 32% in the Spring 2023 round.

AM CONFIDENCE INDEX

The latest survey results show a small recovery in the AM Confidence Index to 58.1 points compared to the previous round in which it reached the lowest level since the survey began. Although the index is still in the favourable zone above 50, it still shows low values since the start of this data collections.



Associations supporting the report:



UCIMU-SISTEMI PER PRODURRE



Additive Manufacturing



About CECIMO:

CECIMO is the European Association of Manufacturing Technologies. With a primary focus on machine tools and additive technologies, we bring together 15 national associations of machine tool builders, which represent approximately 1500 industrial enterprises in Europe (EU + UK+ EFTA + Türkiye), over 80% of which are SMEs. CECIMO covers 97% of the total machine tool production in Europe and about 1/3 worldwide. It accounts for approximately 150,000 employees and a turnover of around 25 billion euros in 2022.

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