



# KEY MARKET TRENDS IN THE EUROPEAN ADDITIVE MANUFACTURING SECTOR

November 2021

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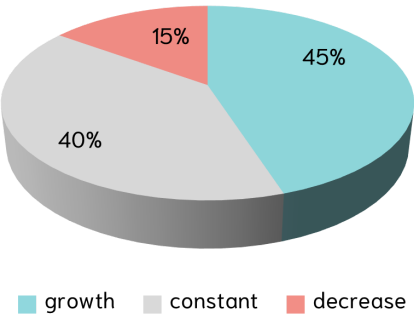
Fall 2021

Between September and November 2021, CECIMO, the European Association of the Machine Tool Industries and related Manufacturing Technologies, organized the third round of its European Additive Manufacturing Survey, which aims to assess key market trends in the Additive Manufacturing (AM) sector.

It is the third time CECIMO conducts this survey to collect data directly from 3D printing companies that operate in the participating countries. 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 trend. 3D printing companies express their six-month indications in the key business areas compared to the situation over the past six months.

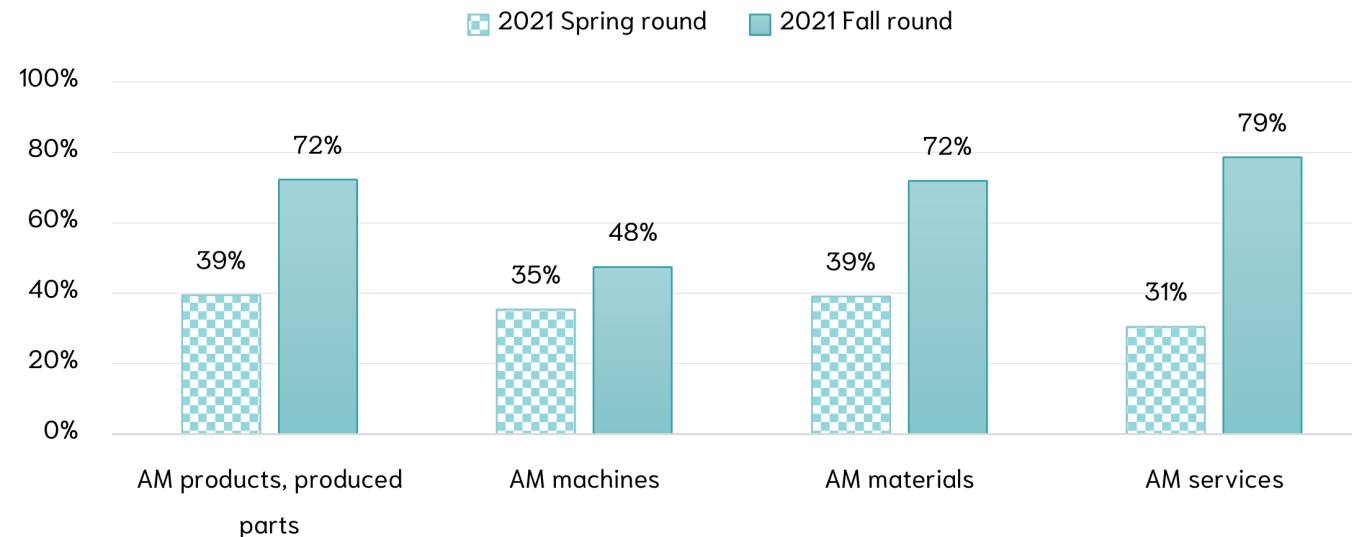
*Methodology: For each country, survey responses are analysed as the difference between the share of companies reporting growth and that of companies reporting a decrease in their trend indication. A positive balance provides a growth indication, and a negative balance reflects a decline. National results are weighted with equal shares for the participating CECIMO countries to have a European figure. The figure to the right shows how percentage balance is calculated.*

% balance = growth – decrease = 30%



# AM TREND INDICATION OF THE DOMESTIC BUSINESS

Based on the latest survey results, the AM trend indication of the domestic business reflects very strong new orders expectations in all AM categories over the next six months (products/produced parts, machines, materials and services). Unlike the results from the spring survey, where the strongest growth was expected for the AM products/parts produced and the AM materials category, new orders are now expected to be the highest in the AM services sector (79%). This result represents strong new orders income related to AM process like design & product development, computational methods & stimulation, supports systems & software, application development and other direct related services. However, new orders indications continue to be strongly positive in the AM products/parts produced and AM materials categories, reaching a positive percentage of 72% for both categories. A slightly lower, but strong percentage balance is also indicated for the AM machines category with a 48% positive balance. In general, the chart below shows that orders expectations are much stronger than in the spring and describes a strong growth of all AM business on the domestic market. Moreover, if we compare the average responses for all categories at the spring round level, almost every second response was in favour of constant orders, whereas now one of the four companies has shown constant indications while almost three of the four companies expressed growth scenario in domestic business.

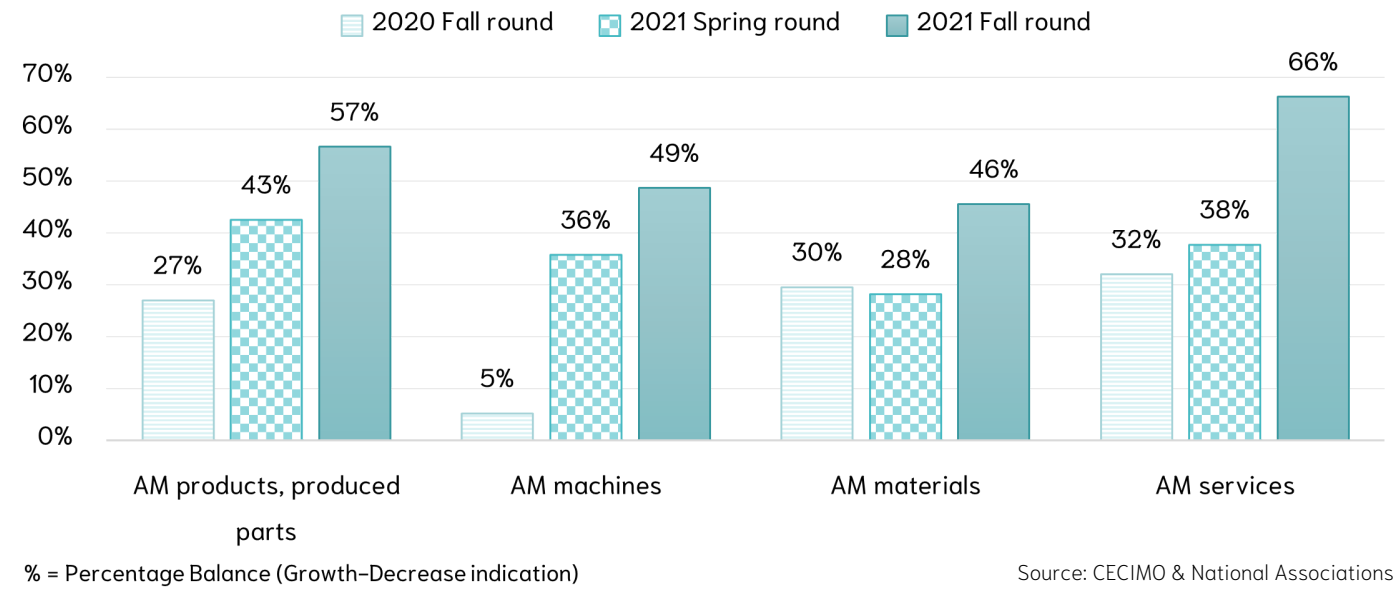


% = Percentage Balance (Growth–Decrease indication)

Source: CECIMO & National Associations

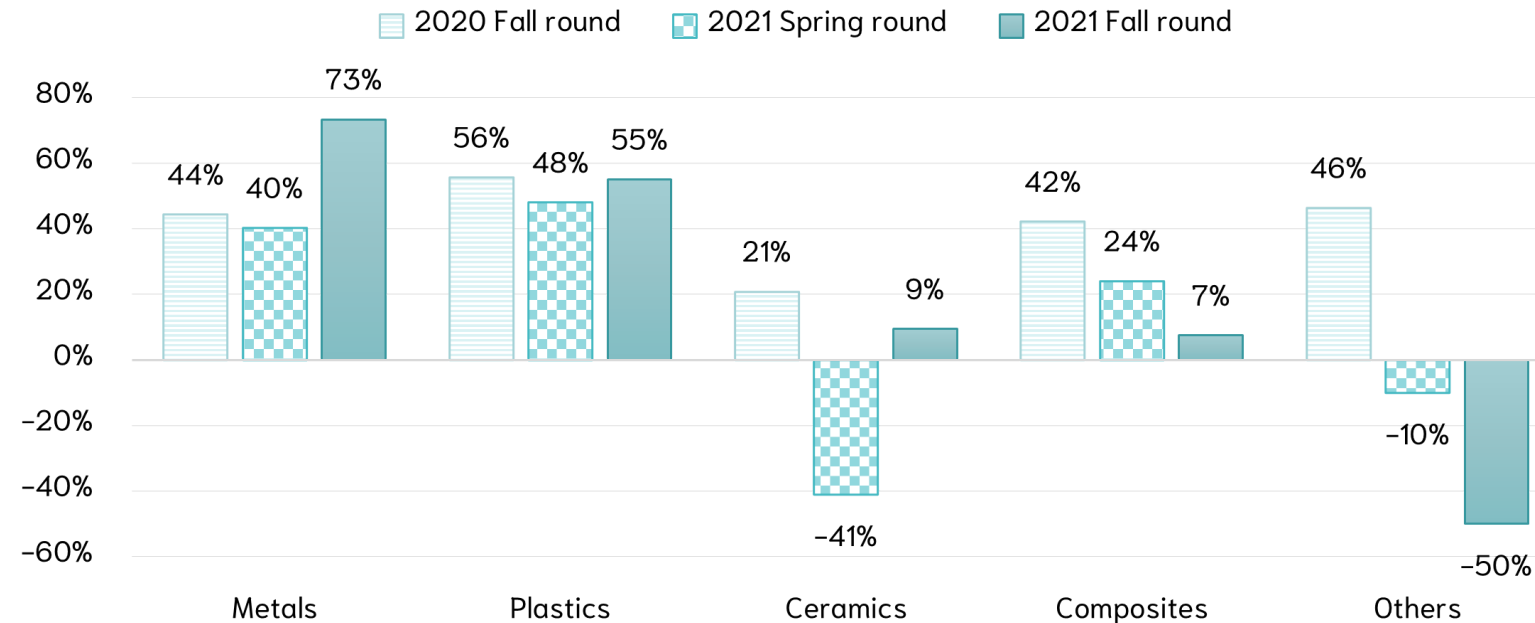
# AM TREND INDICATION OF THE EXPORTS

In analysing the responses of export trends, managers expressed higher indications for foreign orders compared to the spring round in all AM categories. In line with domestic business, the highest orders growth indications are in the AM services category, with a positive balance of 66%, closely followed by the AM products/produced parts, with a strong positive net balance of 57%. Of course, the pandemic has created strong demand for AM products and services, and many organizations have turned to 3D printing to close supply chain gaps. Growth indications in these sectors therefore reflect a strong network of AM service providers and AM product/parts producers in Europe, who expect strong orders from both domestic and foreign markets. Unlike the domestic market, foreign order indications are a bit higher in the AM machines category than the AM materials category which counts also positive (+46%) percentage balance. While the export indications are at the highest levels since the beginning of this survey, it is important to note that, except for AM machines, all other categories have higher percentage levels on the domestic market. However, it is important to note positive trends when we see the average for all categories, when in the spring, 10% of responses indicated a decrease in new foreign orders, in this round, only 1% of businesses share the same indications.



# AM MATERIAL TREND INDICATION

Materials' net balances show that quite important change compared to the spring survey results. As shown in the chart below, strong orders growth indications are expected for the two materials. In the first place, the highest expectations are in the Metals category, where the percentage balance is positive and exceeds 70%. This growth trend is followed up with very high indications for new orders for Plastics (55%). The indication for Ceramics orders is also in positive equilibrium (9%), compared to very low expectations during the spring round (-41%). The downward trend is visible for Composites, which are still positive, but at a very low level compared to the two previous survey rounds. A negative trend is expected in the Others materials category (-50%), which has deteriorated further in negative terms since the spring round. With this difference between materials, it is important to draw a conclusion that the strongest orders in the short term could expect AM companies that provide solutions aligned for the use of metals and plastics as a material.

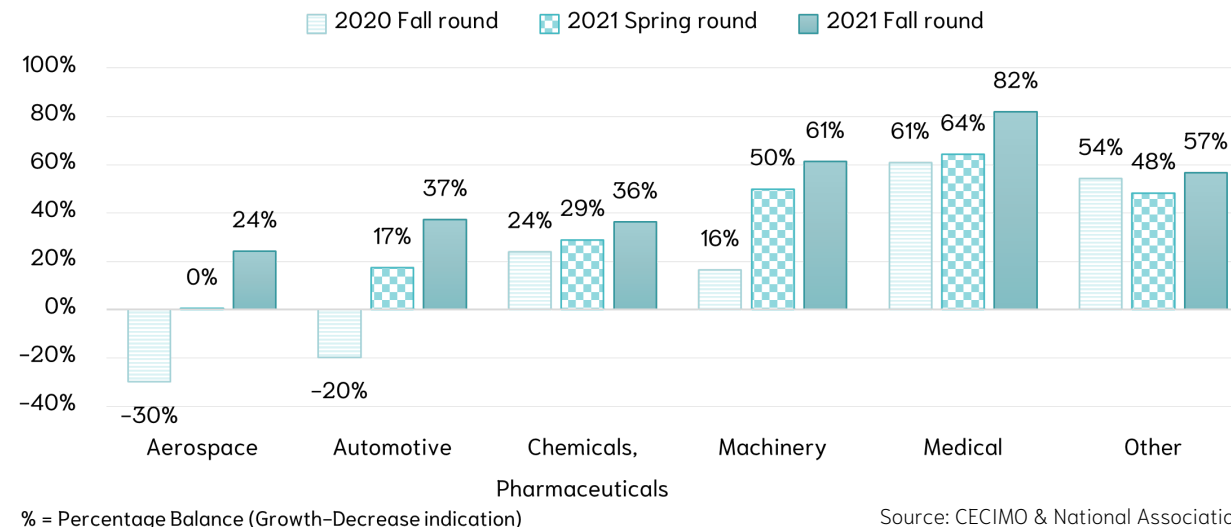


% = Percentage Balance (Growth-Decrease indication)

Source: CECIMO & National Associations

# BUSINESS TREND INDICATION: CLIENTS

Considering the AM purchasing sectors, the outlook for new orders is generally positive for all sectors. Compared to the preceding periods, there is a visible change in the trend in the Aerospace and Automotive sectors, which had negative indications in the fall 2020 round, and very weak indications in the spring round. The latest results show that indications for new orders from the Aerospace industry are on the growth path, recording a positive balance of 24%. This growth could be related to the recovery in this sector after the strong impact of the coronavirus pandemic. On the other hand, indications for new orders from the Automotive industry also show significant growth, reaching a positive percentage balance of 37%. This also reflects the recovery of the Automotive sector and the current disruption of the supply chain where the AM sector certainly plays a significant role. Compared to previous survey results, the AM sector is now expected to receive similar or higher growth in orders from the Automotive industry compared to the Chemical and Pharmaceutical sector, which has a 36% positive balance. Indications of new orders in the Machinery sector, thanks to the recovery in the industry, are at high levels with a net balance of 61%, keeping this sector in second place at the sectoral level. The medical sector recorded a net balance of 82%, retaining the highest trend indication score at sectoral level. Therefore, the European AM sector still expect very strong order intake from Medical sector, closely followed by Machinery. Net orders from other sectors, such as Infrastructure and Energy, are also showing strong growth, with a positive balance of 57% in this survey round.



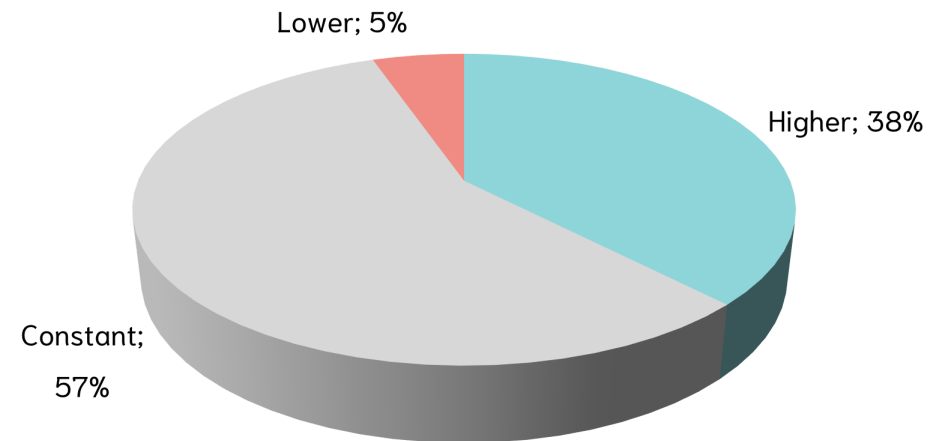
Source: CECIMO & National Associations

# AM INVESTMENTS

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According to the responses concerning the AM Investments trend, managers have almost the same indications compared to the spring survey results. With a net positive balance of 33%, the responses indicate that companies are considering investing in AM over the next six months.

AM Investments indications – Fall 2021



Source: CECIMO & National Associations



# SUMMARY

Due to similar investment patterns, the AM Confidence Index remains stable at 66 points. The AM growth path is expected to continue in the following period thanks to the growth scenario for both domestic and foreign markets, supported by the recovery in major purchasing sectors and in line with a stable and positive investment path. Positive expectations are higher for the domestic market, though businesses also have a positive outlook on export opportunities. Among the purchasing sectors, even the Medical and Machinery sector remains to have the highest growth path, it is good to see that managers are expecting stronger order intake from the Aerospace and Automotive industry. Thinking about the challenges for these two sectors, such as the transition to electric vehicles in the Automotive industry and reducing the CO2 footprint in the Aerospace industry, we believe the AM sector is going to play an important role here. As far as materials are concerned, metals and plastics continue to have the strongest order indications over the next six months. It is important to note that the strong growth of these two materials, considering the last three rounds of surveys, could also lead to a significant increase in demand for AM machines based on metal and plastic deposits.

## About CECIMO

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 34% worldwide. It accounts for approximately 150,000 employees and a turnover of around 20 billion euros in 2020. More than three quarters of CECIMO production is shipped abroad, whereas half of it is exported outside Europe. CECIMO will continue to represent the interest of AM sector, which we consider to be one of the most innovative and fast-growing industries in Europe. The next round of AM survey should take place in the Spring 2022, from March to April, with results expected in May.

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