

The European composites market 2023 - market developments, trends, challenges and outlook

Macroeconomic developments weigh on composites market

After a long phase of continuous growth, the composites market has seen strong fluctuations since 2018. This industry sector is particularly dependent on macroeconomic influences. In 2023, the overall market for composites in Europe fell by 8%.

The current mood on the markets in Germany and Europe is rather negative within the industry. The main drivers are the persistently high energy and raw material prices. Added to this are problems in logistics chains and a cautious consumer climate. A slowdown in global trade and uncertainties in the political arena are fueling the negative sentiment. Despite rising registration figures, the automotive industry, the most important application area for composites, has not yet returned to its pre-2020 volume. The construction industry, the second key application area, is currently in crisis. These factors have already caused the European composites production volume to fall significantly in recent years. There has now been another decline in Europe for 2023.

AVK's Market Report for Fiber Reinforced Plastics / Composites 2023 highlights developments, trends and challenges and looks to the future.

The market under review

The analysis of the AVK considers all glass fiber reinforced (GRP) materials with a thermoset matrix. NCF (non-crimp fabrics) are shown separately. In the thermoplastics market, long fiber reinforced thermoplastics (LFT), glass mat reinforced thermoplastics (GMT) and continuous fiber reinforced thermoplastics (CFRTP) are taken into account. In addition, the European production volume for short glass

fiber reinforced thermoplastics is shown separately. The production of carbon fiber reinforced plastics (CFRP) completes the overall analysis.

Overall development of the composites market

The volume of the global composites market totalled 13 million tons in 2023. Compared to 2022, with a volume of 12.3 million tons, growth was around 5%. In comparison, the European composites production volume fell by 8% in 2023. The total European composites market thus comprises a volume of 2,559 kilotons (kt) after 2,781 kt in 2022 (see Fig. 1).

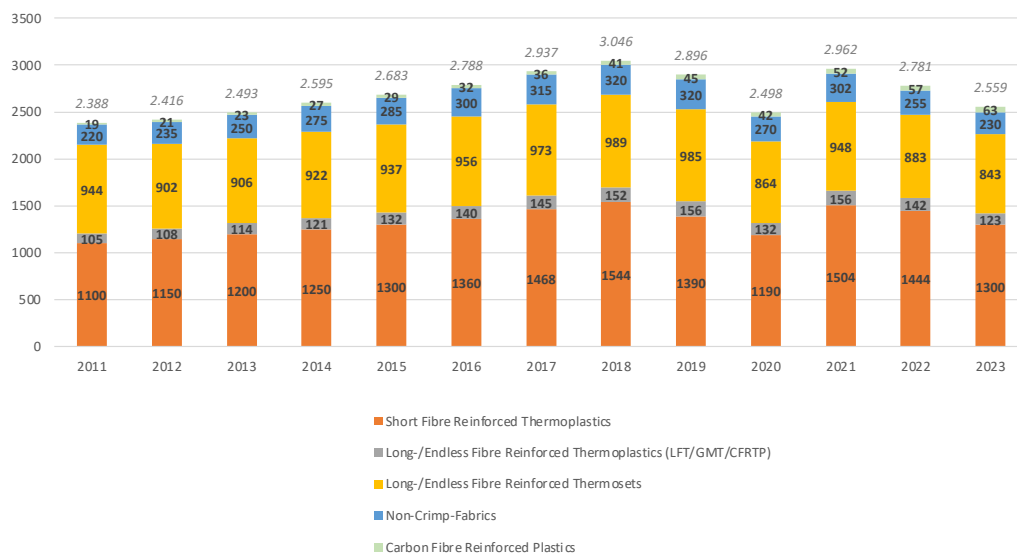


Figure 1: Composites production volume in Europe since 2011 (in kt)

The market is therefore declining and falling back to the level of 2014. Overall, market momentum in Europe was lower than in the global market. Europe's share of the global market is now around 20%.

As in previous years, development within Europe is not uniform. The differences are due to very different regional core markets, the high variability of the materials used, a wide range of different manufacturing processes and widely differing areas of application. Accordingly, there are different regional trends, especially with regard to the individual processes, although there were declines in all regions and

for almost all processes in 2023. At almost 50% of the market volume, the transportation sector accounts for the largest share of total composites production in terms of volume. The next two largest areas are the electrical/electronics sector and applications in construction and infrastructure (see Fig. 2).

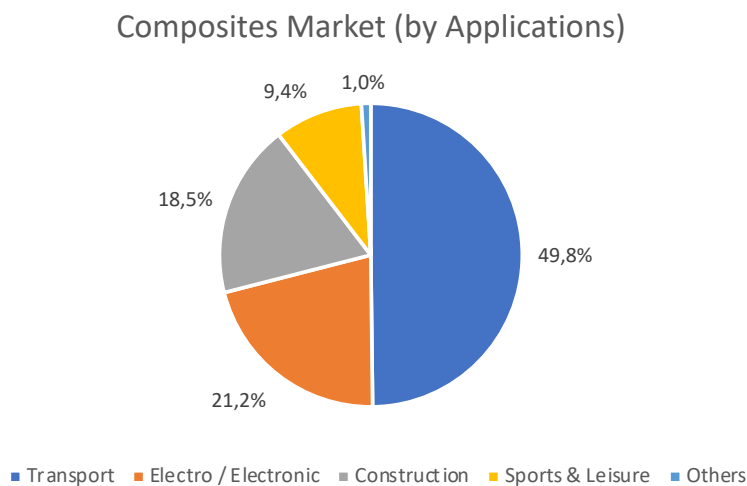


Figure 2:: Total composites market by application area 2023 (in %; without CFRP)

Development of the market for thermoset composites

The total production volume of thermoset composites (excluding CFRP) amounted to 1,073 kt in 2023, compared to 1,138 kt in the previous year. This material group therefore accounted for 43% of the total market in Europe. Compared to the long-term trend, there was a slight increase in market share in contrast to thermoplastic systems. The two main areas of application for thermoset composites remain the construction/infrastructure sector and the transportation sector. While the transportation sector was still the largest area of application for the GRP industry until 2019, there has been a general shift towards the construction and infrastructure sector in recent years. For many years now, however, the thermoplastics market

has been dominated by applications in the transportation sector, particularly in components for cars and commercial vehicles.

Development of the market for thermoplastic composites

The market for thermoplastic composites in Europe had a total volume of 1,423 kt in 2023, compared to 1,586 kt in the previous year. This means that the market share of these systems in the overall European market fell to 57%. Compared to the previous year, the market volume has fallen by 10.3%, which is more than in the thermoset materials segment. The largest material group within thermoplastic composites, but also in the overall market, are the so-called short glass fiber reinforced plastics. The main area of application for thermoplastic composites is the transportation sector, which accounts for almost two thirds of the market. Within this segment, the passenger car and commercial vehicle sectors dominate. Together with applications for electrical/electronic applications, this results in a market share of almost 90% by 2023. The passenger car market is of central importance for thermoplastic composites. Here, the total volume is still well below the record years of 2018/2019, although the market has recovered slightly in contrast to the lows of previous years. A similar picture can be seen for 2023 in the commercial vehicle sector. Here, too, new registrations increased significantly compared to 2022. However, the low registration level from 2022 must also be emphasized here. The vehicle market is therefore recovering, but this is not currently reflected in the European composites market.

Trend developments in processes/parts

When looking at the quantitative development of the main processes/parts for the production of composites, the individual segments are not always completely stringent or clear-cut. In general, the materials are differentiated according to their basic and sometimes significantly different mechanical properties. The material properties of short glass fiber-reinforced materials and long and continuous fiber-rein-

forced systems sometimes differ significantly. The glass fibers contained are generally less than 2 mm in length. The CFRP figures were also taken into account here.

SMC/BMC is now once again the largest single segment in the European composites market (see Fig. 3). These are often used in large series applications in the electrical/electronics and transportation sectors, as well as in the construction and infrastructure sectors. Non-crimp fabrics are the second largest group. Applications here are mainly in the wind energy/rotor blade sector and in boat building. Open processes follow in third place. The above-average growth of CFRP in recent years is clear. The individual material groups and processes are examined and analyzed in detail in the AVK market report.

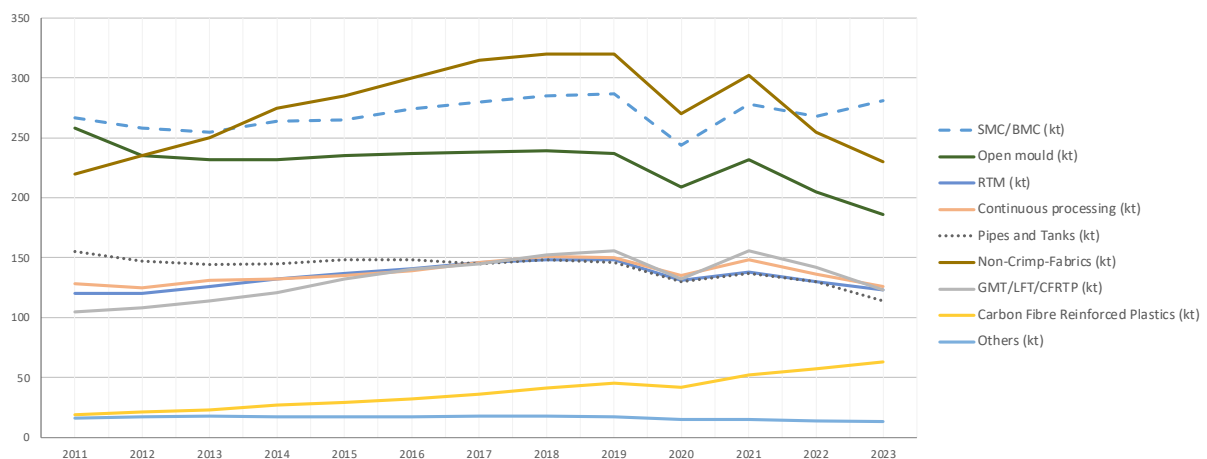


Figure 3: Long-term development of the market segments (in kt)

Regional market development

The percentage shifts by regional focus have changed only slightly in 2023 compared to 2022. However, the absolute market figures are lower. Overall, all regions covered were affected by declines. The German thermoset market reached a volume of 208 kt in 2023. With a share of 19.4%, Germany is currently the largest market within the regions surveyed.

The Eastern European countries follow in second place with a market share of 19% and a volume of 204 kt. This region comprises the following countries: Poland,

the Czech Republic, Hungary, Romania, Serbia, Croatia, Macedonia, Latvia, Lithuania, Slovakia and Slovenia. With a processing volume of 152 kt, Spain/Portugal is the third largest group. Their market share is 14.2%. Just behind Spain/Portugal is Italy, with a market share of 14% and a composites processing volume of 150 kt. Together, these four regions account for almost two thirds of the European composites market.

The next largest processing region within Europe is the UK/Ireland with a market share of 13.6% and a volume of 146 kt. France is well behind with a market share of 10.8% and an associated production volume of 116 kt.

The remaining three, rather smaller processing regions are led by the Benelux countries. The volume in the Northern European countries (Denmark, Sweden, Norway and Finland) was somewhat lower. Austria/Switzerland accounted for the smallest percentage and therefore volume share.

In addition to a pure volume analysis, it is also important to bear in mind that the composites industry has very different focuses in almost all regions. Accordingly, the various countries/regions are often affected very differently by macroeconomic developments. A pan-European analysis can therefore only ever provide a rough indication of developments or give an indication of fundamental trends.

Outlook: How to save the composites industry in Europe

In recent years, markets have changed in ever faster cycles. In addition, there have been numerous individual effects that have often rendered existing forecasts obsolete. Overall, uncertainty regarding possible future scenarios has increased significantly, not only in the composites industry, but for the economy in general. The European composites industry is currently going through a difficult phase.

Despite the challenges mentioned, composites are well positioned for the future. On the one hand, composites have a unique set of properties that predestine them for use in many areas of application. In addition, the composites industry was and is a market segment that is strongly driven by innovation.

However, the composites industry is strongly characterized by SMEs and micro-enterprises. Many of the current requirements are almost impossible to meet.

There must be better help and support here. However, this can only come from a strong Europe, also as a single market. National solo efforts will inevitably come to nothing in an increasingly international environment. What is needed is a coordinated, supportive economic policy that enables action and production on an international level and a return to our own strengths. If we succeed in overcoming the current crisis, there is much to suggest that the fundamentally positive development of the composites industry in recent years can continue.

So can the composites industry in Europe still be saved? We say: yes! But the reactions must be decided quickly and, above all, free of dogmatic and (party) political sensitivities. A strong Europe can have a future as an industrial location. The basis, a strong industry, already exists.