

3 Economic Report

3.1 Macroeconomic and Industry-Specific Conditions

General Economic Conditions

Global Economy and the Covid-19 Pandemic

Overall, the year 2021 and economic developments continued to be shaped significantly by the Covid-19 pandemic and its impacts. The recovery of the global economy remained hampered by the Covid-19 pandemic in the first half of 2021, while growth weakened compared with the strong growth in the second half of 2020. However, a recovery set in as of the second quarter in the wake of a decline in new infections and progress with vaccination, particularly in the advanced economies. Nevertheless, the recovery was negatively affected by increasing supply and capacity bottlenecks, leading to disruption in the global value chains in many countries and different industries and also resulting in considerable price rises, particularly in the energy sector.

Based on its Annual Report 2021/2022 published on November 10, 2021, the German Council of Economic Experts expected global gross domestic product (GDP) to climb by 5.7% in 2021. The International Monetary Fund (IMF) forecast growth of 5.9% for 2021 in its latest World Economic Outlook Update published on January 25, 2022. The global economy was in recession in 2020, shrinking by 3.3% due primarily to the Covid-19 pandemic (German Council of Economic Experts, November 10, 2021) or 3.1% (IMF, January 25, 2022).

Both the German Council of Economic Experts (Annual Report 2021/2022) and the IMF (World Economic Outlook Update) assumed that all key economic areas would return to growth in 2021. The growth of the emerging markets is expected to exceed the growth of the advanced economies.

Eurozone

At the beginning and end of 2021, many member states of the eurozone were affected by a new rise in the Covid-19 infection rate. This made restrictions necessary, although these did not affect all public and economic domains as in spring 2020 and primarily had a negative impact on parts of the services sector. The situation with the pandemic eased in the second and third quarters and the associated lifting of restrictions led to an upswing in the eurozone.

All in all, economic developments in the eurozone were very heterogeneous over the course of 2021 and depended on the course of the pandemic in the individual member states of the eurozone.

2021 was also shaped by increasing bottlenecks in the supply of raw materials and intermediate products, which was also reflected in steep rises in energy and raw material prices as well as increasing logistics costs over the course of the year, leading to an overall rise in inflation in the eurozone. Up to now, European monetary policy has responded cautiously to the rise in consumer price inflation and it can be assumed that the broad orientation of monetary policy will continue to be expansive, at least in 2021 and 2022, with interest rates at a low level.

Despite – in some cases – significant slumps in added value due to the pandemic, employment and unemployment remained stable in the eurozone. This can be attributed, in particular, to the stabilizing influence of short-time working and short-time working allowances. Therefore, according to the Annual Report of the German Council of Economic Experts, the unemployment rate in August 2021 was only slightly above the pre-crisis level of 7.4% in February 2020, namely at 7.5%.

Overall, in its Annual Report 2021/2022 published on November 10, 2021, the German Council of Economic Experts assumed economic growth of 5.2% for 2021. In its World Economic Outlook Update published in January 2022, the IMF also forecast growth of 5.2% for 2021.

USA

The economic recovery in the USA continued in the first half of 2021. The recovery was led by private consumer spending, particularly in the services sector. A high level of consumer price inflation was also recorded in the USA in 2021. Here, too, high prices for energy and transport services were among the factors contributing to the price increases. Consumer sentiment fell appreciably in the summer. This was attributable, in particular, to the renewed spread of the Covid-19 virus and the discontinuation of unemployment benefit top-ups in all US states.

The US labor market also continued to recover. Unemployment and employment rates improved steadily, but are not yet back to pre-crisis levels. Individual sectors are also performing very differently.

Overall, in its Annual Report 2021/2022, the German Council of Economic Experts assumed economic growth of 5.5% for 2021. In its World Economic Outlook Update published in January 2022, the IMF forecast growth of 5.6% for the same period.

Asia

Within Asia, Japan is currently the Nemetschek Group's strongest regional single market in terms of revenues. The Covid-19 pandemic also dampened economic development there once again in the first half of 2021. Even the summer Olympics held in Tokyo

in July and August 2021 failed to provide any notable impetus, as they took place with virtually no audience. The economy was expected to recover in the fourth quarter of 2021 following a decline in the infection rate.

Overall, the German Council of Economic Experts expected the Asia region's gross domestic product to grow by 6.1% in 2021, and Japan's gross domestic product to grow by 2.0%. In the previous year, Asia's economy contracted by 0.9% and Japan's contracted by 4.6%. The IMF anticipated growth of 1.6% for Japan in 2021. In the previous year, the IMF put the contraction at 4.5%.

Emerging Markets

The emerging markets also continue to be affected by the Covid-19 pandemic. The number of registered infections and deaths rose sharply in spring and summer 2021, particularly in India and other South-East Asian and Latin American emerging markets where the number of registered infections had previously been comparatively low. While, on the one hand, severe Covid-19 outbreaks are likely to be less frequent in the emerging markets due to the tendency of their populations to be younger, on the other hand, the vaccination rate in most emerging markets is considerably lower than in the advanced economies and their health systems are also less resilient.

Economic development was also limited in the emerging markets owing to global raw material supplies and regional energy shortages.

Overall, in its Annual Report 2021/2022, the German Council of Economic Experts assumed economic growth of 7.2% in the emerging markets for 2021.

Sources: German Council of Economic Experts, Annual Report 2021/2022 dated November 10, 2021 and International Monetary Fund, World Economic Outlook Update dated January 25, 2022.

Development of the Construction Industry

Europe

Almost two years after the outbreak of the Covid-19 pandemic, it can be said that the construction industry was not affected severely by the crisis and has contributed to stabilizing the overall economic situation. While the construction industry ended 2020 with a smaller decline than initially feared, there was record growth in investments in 2021. Drivers behind these developments include state infrastructure investments, incentives for renovating buildings and growth in the residential sector due to low interest rates. According to current estimates (as of November 2021), the European construction industry recorded growth of 5.6% in 2021 and was thus able to return to the level of revenues achieved in 2019.

The individual European markets recovered at very different rates. Italy (+15.1%), the UK (+13.4%) and Belgium (+10.3%) recorded the strongest growth in 2021. However, Sweden (+8.3%), France (+6.7%) and Spain (+6.5%) also reported above-average growth. Construction output stagnated in Germany (-0.7%), the Netherlands (+0.8%) and Portugal (+0.4%) in 2021.

Residential construction was the segment with the highest growth rates in 2021 at 7.1%, followed by infrastructure construction at 5.1%. Non-residential construction (commercial and public buildings) grew by 3.7% in 2021.

North America

The construction industry in the **USA** closed 2021 with an upturn of 3% (as of October 2021), compared with 6% in 2020. The residential sector was a key driver (+12%), particularly single-family homes (+14%) and renovations (+13%). Some segments of the non-residential construction sector (-5%), including accommodation (-23%), recorded significant declines, while office buildings (-6%) and educational institutions (-6%) also recorded moderate declines. The USD 550 billion infrastructure package adopted in November 2021 will boost infrastructure construction in the USA in the coming years.

Although the construction industry in **Canada** stagnated in 2020, it realized record growth of +5% in 2021. Residential construction (+7%) was also key to the growth seen here. However, at +4%, civil engineering also performed significantly more positively than in the previous year (-5%).

Emerging Markets

There was a catch-up effect in the **Chinese** construction sector in 2021: in the first half of the year, production value climbed +19% against the comparative period of the previous year.

The **Russian** construction industry also recovered in 2021 thanks to state investments in the construction of housing and transport infrastructure. Construction output in Russia climbed 7% from January to August 2021.

Sources: ifo (Nov. 2021) – 92nd Euroconstruct Summary Report; FMI (Oct. 2021) – 2021 North American Engineering and Construction Outlook Fourth Quarter Edition; GTAI (Nov. 13, 2021) – Tiefbau erfüllt in den USA die Erwartungen; GTAI (July 1, 2021) – In China wird 2021 kräftig weitergebaut; GTAI (Sept. 27, 2021) – Indien stockt Investitionen im Infrastruktursektor auf; GTAI (Sept. 28, 2021) – Indiens Baubranche erwartet weitere Erholung für 2022; GTAI (Oct. 29, 2021) – Russlands Bauwirtschaft bleibt auf Wachstumskurs; GTAI (Oct. 18, 2021) – China will Infrastruktur weiter kräftig ausbauen; GTAI (July 30, 2021) – Japans Bauwirtschaft hofft auf neue konjunkturelle Impulse, um die Auftragsbücher füllen zu können; GTAI (Sept. 14, 2021) – Smart Cities sind langfristige Investitionsprojekte; RICE (Dec. 2021) – Quarterly Outlook of Construction and Marco Economy; IBEF (Dec. 2021) – Indian Infrastructure Industry Analysis.

Digitalization in Construction

In addition to the general development of the construction industry, the advancing digital transformation of the construction sector is an important structural growth driver for the Nemetschek Group. The construction industry has a below-average level of

digitalization compared with other industries and therefore offers further growth potential for the Nemetschek Group. Even if the Covid-19 pandemic represents a challenge for the economic development of the construction industry, it is considered an accelerator for the digital transformation. In a study from spring 2021, over 70% of the construction industry companies surveyed stated that the digital transformation represented the greatest opportunity for growth for their company in the coming years.

Building Information Modeling (BIM) is considered one of the fastest growing disruptive technology trends within the construction industry. BIM describes a networked working method in which all relevant building data is digitally captured using software as part of the planning, execution and management process. The use of the BIM methodology has progressed to varying degrees in different countries. The pioneers here are the USA and Singapore and, in Europe, the Scandinavian countries, the Netherlands and Great Britain.

In 2016, the UK took a decisive step toward the nationwide establishment of BIM with the entry into effect of the BIM Level 2 mandate, which makes the use of BIM Level 2 mandatory for public construction projects. In 2021, the share of companies using the BIM method was over 70%. Due to the proven benefits of using BIM software, the UK government plans to make further investments in the coming years to further advance the use of BIM Level 3.

Since 2014, there has also been a new directive for the EU that recommends the use of computer-based methods such as BIM in the awarding of public works contracts and tenders. In the meantime, many European countries have implemented the EU recommendations on a national level.

In Germany, BIM is being boosted by the “Digital Planning, Building and Operation” step-by-step plan. Since 2015, experience has been gathered and skills have been pooled in pilot projects funded by the Federal Ministry of Transport and Digital Infrastructure (BMVI) in order to define the necessary quality standards. Since 2017, BIM has been used in an extended pilot phase in numerous transport infrastructure projects. As of December 31, 2020, the use of BIM is mandatory in all new public sector infrastructure projects that are in the planning stage. It is evident from surveys of civil engineering companies that the new regulations have led many companies to introduce BIM.

Sources: BIM World (Oct. 13, 2020) – Der BIM-Stufenplan – wie Deutschland sich vernetzt; BMVI (Dec. 2015) – Stufenplan Digitales Bauen; IFS (Oct. 2020) – Understanding construction and engineering spending on digital transformation; McKinsey (Oct. 2020) – Rise of the platform era; McKinsey (Feb. 17, 2017) – Reinventing construction through a productivity revolution; NBS (Oct. 2021) – Digital Construction Report 2021; USP Marketing Consultancy (Mar. 2020) – Digitalisierung im Bau.

3.2 Business Performance in 2021 and Key Events Influencing the Company's Business Performance

Covid-19 Pandemic

In 2020, the Covid-19 pandemic threw the world into turmoil and ultimately led to a global recession, although this had very different impacts on different industries. The 2021 financial year was also affected by the continuation of the pandemic and its impact; see [<< 3.1 Macroeconomic and Industry-Specific Conditions >>](#). For the Nemetschek Group, the health and safety of our workforce and business partners is the utmost priority. Therefore, in the 2021 financial year the crisis management team, installed in 2020 under the leadership of the Spokesman and Chief Financial & Operations Officer (CFOO), continued to work on protecting the health and safety of our own employees and business partners, maintaining business operations and ensuring a healthy financial situation. The processes and solutions established in 2020, such as hygiene concepts, virtual support and training activities, and the possibility to work outside the business premises, were retained but regularly reviewed and adapted in line with the course of the pandemic. The experience gained in the 2020 financial year, namely that the pandemic is, in particular, also driving digitalization, led to the decision to soften the cautious investment and hiring policy pursued in the 2020 financial year and to continue the well-established and profitable growth strategy as well as increase investment in the required resources again, even during the ongoing Covid-19 pandemic.

General Statement on the Economic Position of the Group

In an ongoing uncertain macroeconomic environment, which continued to be characterized by the Covid-19 pandemic during the past financial year, the Nemetschek Group continued to develop very well, achieving revenue growth of 14.2% (currency-adjusted: 15.6%) and an EBITDA margin of 32.6% (previous year: 28.9%). In the previous year, revenue growth was 7.2% (adjusted for foreign currencies: 8.3%).

Revenues increased to EUR 681.5 million in the 2021 financial year (previous year: EUR 596.9 million), while EBITDA rose to EUR 222.0 million (previous year: EUR 172.3 million). The path of profitable growth thus also continued in the 2021 financial year.

Revenue growth was based exclusively on organic growth (before synergy effects) in this year. Acquisitions did not have any impact on revenues in the 2021 financial year.

The Group's growth and EBITDA margin targets, which were communicated in March 2021 and already took into account the continuing uncertainties surrounding Covid-19, were exceeded. The forecasts that had been raised in July due to good business performance were also exceeded. Nemetschek was thus able to