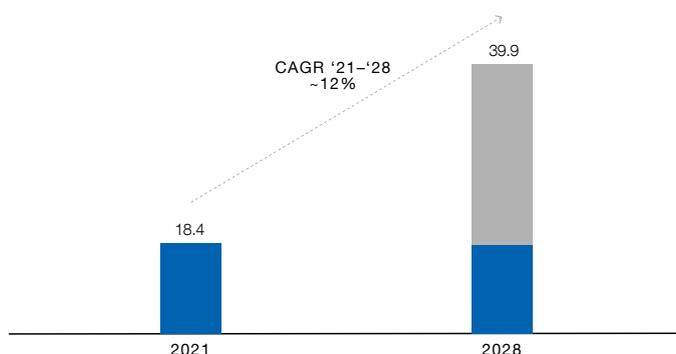


quality content and animations by creative professionals, as well as the increasing use of visual effects (VFX) in films, videos and the gaming industry, are some of the most important growth factors. Moreover, increasing integration of artificial intelligence (AI) in 3D animation is expected to give an added boost to market growth. In addition, the proliferation of VFX in the entertainment industry and the trend of using VFX in advertising and infomercials to showcase products with 3D elements is driving the growth of the 3D animation market. The main competitors in the Media market segment include Autodesk, The Foundry, Side FX, Adobe, MAGIX, and LumaFusion.

GLOBAL 3D-ANIMATION MARKET

in EUR billion



Source: <https://www.researchandmarkets.com/reports/4452097>.

1.2 Targets and Strategy

The strategic positioning of the Nemetschek Group is based on three key characteristics. These three characteristics apply to the medium term and form the basis of the company's strategic approach:

#1: With its software solutions, the Nemetschek Group supports **digitalization** along the entire construction lifecycle – from the planning and construction and operation/renovation phase to the demolition of buildings. This strategically integrated approach makes it possible to bundle and focus investments and expertise on the customer-oriented segments and thus offer end-to-end support for customers in the building lifecycle. At the same time, the Nemetschek Group's solutions enable the workflow in the construction lifecycle to be improved and greater efficiency to be achieved, particularly in the use of construction materials and in the management of building sites thanks to their end-to-end approach. Added to this are digital solutions for visualizations, 3D modeling and animation, which, in particular, find a market in the media and entertainment industry as well as the construction industry. Here,

too, the Nemetschek Group's solutions cover the entire content creation workflow and thus address the entire creative content production process.

#2: With four segments under the umbrella of a strategic holding company, the **Group structure** enables the Nemetschek Group to bundle the competencies of its 13 brands in the best possible way in its customer-oriented segments of the AEC/O industry and in the Media area. This structure is intended to increase the benefits and added value for the customer. The focus here is on the further integration and stronger cooperation of several brands under the roof of the Nemetschek Group, which allows it to offer an integrated and more networked range of solutions. This has already been accomplished in the Media segment. Here, the Maxon brand, which has fully integrated all acquisitions made to date, offers a comprehensive range of solutions for the complete workflow of creative professionals. In the AEC/O segment, the aim is to further improve cooperation between the various professional groups in the construction industry and to make this cooperation more efficient. In addition, the bundled offerings are intended to address and win over the customer group of (multinational) key accounts in particular in an even more targeted manner. The brands are "experts" in their specific customer segment and have a high level of expertise and very close customer relationships in their respective market segment. This segment and brand approach ensures that market changes can be quickly identified, analyzed and evaluated and that customer requirements can be responded to promptly. At the same time, the Nemetschek Group benefits from synergies at segment and Group level with regard to internationalization and sales strategies, the exchange and sharing of best practices, and development activities.

The **Design** segment pursues the strategy of providing a broad and integrated range of services to the respective customer segment. A strategic component here is bringing together brands with a common customer base. This offers the opportunity to exploit synergies between the brands and create further added value for customers by bundling competencies, expertise and technologies.

In areas where we consider integration or bundling effects to be very advantageous, we have also merged group brands in recent years. For instance, the aim of last year's merger of the Graphisoft and Data Design System brands is to further expand their range of integrated, multidisciplinary planning solutions. The step-by-step implementation of the merger of the Allplan brand with Precast Software Engineering (which was accomplished in 2021) and the SDS/2 brand (which was accomplished in 2022) brings together knowledge, expertise and technology to enable a seamless and integrated BIM workflow to be mapped from planning through to production and construction. In this process, the platform-based BIM solution takes "buildability" into account right from the start to

ensure continuous BIM workflows, including during the transition from the planning phase to the construction phase. The smooth transfer of data, including all relevant information for the construction companies, is essential for completing construction projects within their cost and budget framework. Since mid-2022, the Frilo and Scia brands have also pooled their forces in the competence center Nemetschek Engineering so as to offer a comprehensive overall package of software solutions with static presentation and calculation options from a single source.

These strategic measures enable the respective brands to benefit from complementary competencies in order to drive growth further. Thus, it is not only “smaller” brands that benefit from the presence and sales strength of the internationally focused Graphisoft and Allplan brands. In particular, this integrated product portfolio now enables us to address the needs of larger, often integrated and multidisciplinary customer groups in an even more targeted way. To this end, the brands are also focusing increasingly on direct sales alongside the indirect sales model. As part of this strategy, for example, Graphisoft, acquired Abvent, its reseller for French-speaking markets in late 2022. A mix of licensing and rental models had proved successful in the past in ensuring the best possible benefits to customers. However, it has become increasingly clear in recent years, particularly in the wake of the Covid-19 pandemic, that there is a gradual shift in purchasing behavior toward more subscription and SaaS models due to their diverse benefits for customers and the software provider. Consequently, the company’s objective is to significantly increase the proportion of recurring revenues, particularly through subscriptions and SaaS. In addition, the sales concept was extended or greatly expanded to include digital sales channels such as e-commerce selling.

The **Build** segment’s strategy pursues the aim of advancing the digitalization of construction companies, thus making a material contribution to increasing efficiency in the construction process. Small and medium-sized enterprises (SMEs), whose digitalization strategies are often still in the early stages, represent a market that offers growth opportunities and has seen little penetration to date. The aim is to meet a construction project’s cost, scheduling and quality requirements reliably through an intuitive product range that offers maximum customer benefits. Due to the still low degree of digitalization in Europe and Asia compared to the USA, there are opportunities for growth through further internationalization of Bluebeam’s collaboration solutions, which are already widespread in the USA. To enable it to meet customers’ requirements in an even more targeted way and further increase its attractiveness for new customers, Bluebeam has offered newly developed cloud features for the first time since September 2022 as part of the transition of its product and sales approach to a subscription-based and SaaS model. The subscription/SaaS model makes it possible to integrate

product innovations into an existing product at any time and thus speed up development cycles. As a result, a customer has automatic access to the current software version with the latest features.

The **Manage** segment’s aim is to digitalize the management of buildings through an innovative software portfolio. We see large potential here, not only with respect to increasing efficiency in the use of buildings, but also in terms of taking a more targeted approach to users’ needs, as well as operating buildings in a sustainable and environmentally friendly way while optimizing energy consumption. The Manage segment systematically uses the latest technologies such as the Cloud, the Internet of Things (IoT), artificial intelligence, and machine learning for this, pursuing the strategy of a modular and integrated software platform that maps the relevant work processes in property, facility and workplace management (IWMS, Integrated Workplace Management System). Furthermore, Nemetschek provides an intelligent smart building solution that uses IoT sensors and big data analysis to improve productivity and efficiency for building managers. In addition, there are solutions for increasing energy efficiency, for example Spacewell Energy, which are playing an increasingly important role given the current rise in energy costs.

Owing to the still low level of software penetration, particularly in the area of workplace management systems, the current geographical focus is on developing existing markets in Europe as well as internationalization in selected countries in which the Nemetschek Group sees the greatest market potential. The Manage segment works with a network of local sales partners to enable it to meet customers’ needs in an optimal fashion and accelerate its access to the market.

The **Media** segment has also been significantly strengthened by acquisitions in the past few years. Following the acquisition of Redshift (rendering solution) and Red Giant (solutions for motion design and visual effects), Maxon further expanded the product portfolio of the Maxon brand again at the end of 2021 with the acquisition of the Pixologic business operations (provider of the ZBrush sculpting and painting software). A particular focus in fiscal 2022 was therefore on fully integrating the acquired companies.

The Maxon One production suite, which is offered via a subscription model, combines all Maxon products in one complete package. Maxon has gained a good position in the large and dynamically growing 3D animation and emerging metaverse market with an end-to-end software portfolio along the entire digital content creation value chain. In addition, close cooperations with hardware manufacturers such as Intel, AMD and Apple guarantee optimized software solutions that support current technologies. Maxon is already globally active and is pursuing the aims of continuing its international expansion and exploiting opportunities arising from the diversified customer demand that is typical of the market. The focus here is on

the subscription offering – with the objective, firstly, to target new customers, and, secondly, to bring innovations to customers even more quickly.

#3: OPEN BIM. Nemetschek's clear commitment to OPEN BIM and the associated open interfaces increase interoperability, collaboration and communication with its different disciplines along the entire construction lifecycle. In addition, integration of competitors' software programs is also possible, thus substantially extending the circle of potential users. At the same time, Nemetschek is focusing on future topics that will shape and change the construction industry in the coming years. These include topics such as the digital twin, machine learning, artificial intelligence, and the use of IoT devices and sensors. These topics are therefore also part of the Nemetschek Group's development activities.

To achieve the medium-term strategic alignment, focus topics have been defined and implemented programmatically. These topics were defined, concretized and selectively adapted in the course of the year under review, including by the new CEO:

Subscription/Software as a Service (SaaS)

The overarching goal of the Nemetschek Group is to further increase its recurring revenues, in particular by offering subscription as well as SaaS solutions. Some brands have already largely converted their offerings to subscription and SaaS, while other brands are in the process of doing so or preparing for it.

By offering subscription and SaaS models, Nemetschek can tap into new customer groups, as the customer can use the software flexibly and without a one-off license fee, which is sometimes high and must be paid in advance. In addition, Nemetschek has the opportunity to generate higher revenues through up-selling and cross-selling. At the same time, however, the visibility and predictability of revenues also increase. Moreover, the Nemetschek Group can accompany customers even more closely and increase their loyalty and provide them with the features they want even faster. Nemetschek will generate more value in the long term through the higher payments made over the entire customer lifecycle under rental models than through the traditional license including a service contract. The switch from a licensing model to subscription or software as a service represents a transformation to a new business model, which entails investments and conversion effects. The offer and implementation of rental models is at different stages of progress in the four segments. The segments' goal and strategies are shown in the chapter [<< 7 Outlook 2023 >>](#). As part of that, the Nemetschek Group addresses the different needs of customer groups, depending on discipline and region.

Innovative Solutions (Cloud Infrastructure, Digital Twin)

Around 23% (previous year: around 22%) of Group revenues flowed into research and development in the 2022 financial year and thus into new and further developments of the solution portfolio. In each segment, the Segment Managers, together with their brands, have drawn up a roadmap for the next three years as part of the annual budget process, in which the strategic product developments at brand level and across brands are recorded. The degree of implementation of the roadmap is presented and verified in regular review meetings between the brands and the respective Segment Managers.

The brands have their own development departments. There are also cross-brand development centers, e.g. in Bulgaria, to which the brands have access. The Nemetschek Group has also built up development expertise in other countries such as Slovakia and India.

In addition to the further development of the brands' individual solutions, the strategic focus is on cross-brand development projects in the segments and strategic initiatives that extend across the segments. That includes, for example, the SaaS-based solution Solibri Inside, which is integrated into the design brands Allplan, Graphisoft Archicad and Vectorworks in order to conduct quality checks directly in the design phase. The digital transformation in the construction industry and the path toward a networked construction lifecycle go hand in hand with a continuous exchange of data and information as well as the management and provision of ever-increasing amounts of data (big data) for the planning, realization and subsequent operation and management of buildings and infrastructure projects with continuous workflows. The focus of the solutions developed by Nemetschek is therefore on reducing information loss and data disruption. New fields of development activities include topics such as digital twins, cloud features, Artificial Intelligence (AI) or the Internet of Things (IoT).

The various disciplines along the construction lifecycle very often still work in information silos, making collaboration and an integrated workflow difficult. This is where the development activities of the Nemetschek Group come into play. The aim is to provide workflow solutions for higher quality and efficiency in the planning, construction and administrative process in order to avoid conflicts. This can be achieved by eliminating redundancies and reducing costs and time for coordination and quality inspection.

The Nemetschek Group aims to actively shape and drive the digital transformation of the construction industry and to grow sustainably and profitably in the process. The use of innovative technologies, such as digital twins, and the efficient development of industry- or customer-specific solutions is vital in that. They also include cloud technology. Cloud technologies are better suited than traditional on-premise approaches for leveraging the cloud's advantages and solving the many challenges that customers face, such as mobile access capabilities. This topic is also of great strategic importance for Nemetschek. New developments are already being created and offered as cloud-native features – such as the Bluebeam Cloud, which was launched in September 2022. However, cloud technology is not only a focus at brand level. The Nemetschek Group sees the need to create a cross-AE-C/O cloud infrastructure in order to leverage synergies in the portfolio and create a basis for all brands. The initiative aims to deploy a common cloud infrastructure that all brands can access and use to build solutions for specific customers and use cases.

One of the initiatives relating to the topic of a common cloud infrastructure at the Nemetschek Group is the use and expansion of cross-brand digital twin technology. To enable that, the Digital Twin business unit was launched in 2022 in order to develop a horizontal, data-centric, open, and cloud-based platform that will deliver greater efficiency and sustainability in the construction lifecycle. A digital twin is basically a digital image of the physical building in which digitalized information is linked to its physical counterpart. A digital twin can be used to conduct simulations in different planning phases or lifecycles of a building or infrastructure process, the findings of which are then incorporated into the real project, thus significantly reducing the risk of errors, conflicts and redundancies beforehand and making processes far more efficient. The digital twin as a common solution platform for the Design, Build and Manage segments enables new customer groups and market segments to be tapped.

Go-to-Market Approach and Internationalization

Sales in the brands are handled directly by the brands' own sales organizations and indirectly via resellers and distribution partners. Both sales channels have proven their worth and are used flexibly depending on market conditions. A further objective is to make greater use of digital sales channels in the future, such as e-commerce selling.

In addition to the established brand-specific sales approach, the existing group structure is to be used to bundle the competencies of the 13 brand companies to an even greater extent in the future so as to be able to offer customers an integrated and more closely networked range of solutions.

By offering cross-brand solutions and establishing key account management, the aim is to increase customer benefit and address and win additional customer groups. The objective of key account management is to sell the solutions from the Nemetschek Group from a single source and thus also to address larger companies that need integrated solutions or a bundle of solutions for different disciplines.

Further internationalization is also key to the successful implementation of our growth strategy. The focus is on the three major economic regions of Europe, the Americas and Asia/Pacific. The Americas are the largest regional market, followed by Europe and Asia/Pacific. Sustainable market growth is expected in all three regions in the coming years, with the greatest market growth potential seen outside Europe. As a logical consequence, the Nemetschek Group is focusing in particular on the Americas and Asia/Pacific regions. In recent years, the Nemetschek Group has been able to continually expand its market position abroad, i.e. outside Germany, and strengthen its position in the international target sales markets. Revenue outside Germany increased further in the 2022 financial year in line with our internationalization strategy. Around 79% of Group revenues are now generated outside Germany (previous year: 76%). Europe (excluding Germany) contributes around 30% to revenues (previous year: 32%). The Americas are the world's largest single market for AEC/O software, and thus of great importance for the Nemetschek Group. Nemetschek has developed well in this highly competitive growth market in recent years and now generates 39% of its revenues (previous year: 34%) in the Americas region, with the USA as the largest single regional market. The share generated in Asia/Pacific was around 10% (previous year: 10%). The Group's brands mutually support each other in their expansion in the USA and Europe: The good market position of the US companies makes it easier for European Nemetschek brands to enter markets and expand abroad and vice versa.

The status of BIM regulations also plays a major role in the strategic focus on the regions mentioned above and the respective countries. In some countries, for example, the use of BIM software solutions is already mandatory for state-funded projects, such as in the USA, Singapore, the UK, Scandinavia or Japan. These countries thus offer the Nemetschek Group excellent general conditions for future growth.

Acquisitions and Investments in Start-ups and Ventures

The Nemetschek Group aims to grow inorganically through acquisitions in addition to organic growth. Suitable target companies in the respective segments are identified internally at holding company and segment level and by the brand companies themselves, as well as, by specialized external partners and consultants.

The target companies should either extend or round off the technological expertise in the workflow of construction processes and strengthen the expertise in the Media segment. Another goal is to gain market shares in international markets. Strong management, innovative and complementary software solutions, and an established and promising business model are vital factors in assessing potential acquisition targets. Regionally, the focus is currently on the European and North American market. In addition, the Nemetschek Group are more likely to invest in companies that already run their business on the basis of subscription and/or SaaS models. Following the acquisition and integration of acquired companies (mainly in the Media segment) in recent years, the focus is currently on all segments, with a particular emphasis on the Build segment, as the growth potential there is high and the degree of digitization of this industry sector is still relatively low.

After an acquisition, the holding company generally accompanies the brands during their integration into the segments and the group, and integrates the new brands into the processes and the reporting system established throughout the company. The acquired companies have become an important part of an internationally operating group and thus benefit from established structures and possible synergies. In addition to acquisitions at segment level, acquisitions at brand level are also possible and desirable. However, essential criteria applicable at the Group, such as technological expansion, regional expansion, distribution structure and financial solidity, must be met. In the 2022 financial year, for example, Graphisoft SE, which is headquartered in Budapest, Hungary, and is part of the Design segment, acquired Abvent, a sales partner from the AV-Tech Group. The acquisition strengthens the Design segment's presence in the important markets of France and French-speaking Switzerland, enabling it to further expand its market and sales expertise. The Frilo Software GmbH, which is also assigned to the Design segment, was strengthened by the acquisition of DC-Software Doster & Christmann GmbH. The acquisition means Frilo expands its product portfolio in the field of foundation engineering and strengthens its position as a provider of structural analysis programs.

In order to benefit even further from the technological advances in the growing AEC/O industry, the Nemetschek Group has defined a venture and start-up strategy alongside the established M&A approach. The focus for acquisitions or investments is therefore also on smaller, still young and highly innovative companies in addition to the companies already established on the market. This provides Nemetschek with early access to new and innovative technologies with high growth potential and enables it to support these companies from an early stage and bring them together with existing group brands in the portfolio. Investments and interests in startup companies are coordinated and supported at holding company level via the Start-up & Venture Investments function.

In the 2022 financial year, for example, the Nemetschek Group took a stake in the British start-up SymTerra, which is headquartered in London, UK, as part of a financing round. SymTerra is a digital platform for construction site communication, and its use is intended to boost efficiency in construction site management. The investment in SymTerra is the Nemetschek Group's first investment in a UK start-up and a continuation of our strategy to support young companies and thus shape the future AEC/O market and drive innovations.

The further support for the Venture Lab Built Environment at the Technical University of Munich is also part of the Nemetschek Group's venture strategy to foster innovation and thus help actively shape the construction industry of the future.

The Nemetschek Group will continue to invest more strongly in start-ups moving ahead, because product excellence and innovative strength are the key to being able to offer customers real technological added value in the future.

Even though acquisitions represent an important growth option, the Nemetschek Group always has opportunities to open up new business areas organically as an alternative or expand existing ones thanks to its very broad expertise along the entire construction lifecycle and in the media environment. To "make or buy" is a consideration that is permanently taken into account as part of implementation of the growth strategy.

Business Structures and Processes (Business Enablement)

Across all the segments, the focus is still on reducing the complexity resulting from the diversity of brands. Internal processes and IT structures are streamlined further and optimized. This includes, for example, harmonizing the internal back-end systems in the areas of Human Resources, ERP (Enterprise Resource Planning) and CRM (Customer Relationship Management). In this context, further expansion of cross-brand development centers is also planned in order to pool resources and leverage expertise for multiple brands. Countries such as India or selected Eastern European countries, where qualified software developers are available, are particularly suitable for this purpose.

This and subsequent further optimization of business structures will unlock synergies, with the ultimate aim of increasing operational excellence, i.e. improving the company's ability to continuously optimize the value chain in terms of efficiency and effectiveness. At the same time, further harmonization and partial centralization, particularly in support and enabling functions, is intended to enable the brands to generate further growth and, in future, to focus even more strongly on the development and go to market as well as on further deepening customer relationships.

Our strategic direction and focus topics, along with the targets and milestones, are set out in a strategic plan and are regularly discussed within the Executive Board and with the Supervisory Board. Countermeasures are developed and implemented where deviations from the targets set out in the strategic plan are identified. Targets are also adjusted where required. There were no adjustments to the strategic objectives in the 2022 financial year.

1.3 Corporate Management and Governance

General information

A key success factor in the Nemetschek Group structure of a strategic holding company with customer- and market-oriented operating segments and brand companies lies in the combination of a flat group structure with the associated processes and synergies on the one hand and the flexibility and entrepreneurial independence of the brands on the other.

Responsibility for the strategic alignment of the Nemetschek Group and operational corporate management lies with the Executive Board and, respectively, the Segment Managers of Nemetschek SE. This includes the strategic positioning of the Nemetschek Group on the relevant global sales markets and its short and medium-term revenues and earnings planning. This also orients the company toward the competitive and market environment.

The company is managed at the level of the four operating segments. In this process, the targets and annual objectives of the segments and related brand companies are derived from the strategic targets. In the annual planning process, these are coordinated with the brand companies, specified by the brand companies and recorded with quantitative and qualitative sub-targets for marketing, sales and development. The annual planning, sub-targets and medium-term planning are coordinated between the managers of the individual brands and the member of the Executive Board responsible for the segment and, in a subsequent step, within the Nemetschek Group Executive Board. The Supervisory Board monitors and advises the Executive Board throughout all processes mentioned above.

Throughout the year, Group targets are monitored and evaluated on a monthly basis using a Group-wide management information system, with detailed reporting on the key performance indicators of revenues, growth and earnings. These indicators are compared with previous year and plan data. The respective segment managers and the Executive Board discuss any deviations from the plan on a monthly basis. In case of deviations, suitable measures are defined and followed-up.

Financial Performance Indicators

The key financial performance indicators (core management ratios) of the Nemetschek Group have been expanded compared with the previous year and comprise the following both at Group holding company and segment level:

	FY 2022	FY 2021
Sales revenues (in absolute terms)	X	X
Sales growth (currency-adjusted)	X	X
ARR (annual recurring revenue)	X	
EBITDA	X	X
EBITDA margin	X	X

In order to plan and steer the profitable growth strategy, absolute revenues and revenues growth in absolute and currency-adjusted terms compared with the previous year are used both on a Group as well as Segment and brand level. To present the future growth dynamic and success of the ongoing transition of business to subscription-based and SaaS models, and thus also all the recurring revenues, more transparently, the Nemetschek Group implemented an annual recurring revenue (ARR) indicator in the course of the 2022 financial year. This KPI reflects the average of all recurring revenues (Subscription, SaaS and maintenance contracts) over the last three months multiplied by 4. This new indicator is an important measure of the Group's future potential for revenue and also cash flow growth. The operating result (EBITDA) is used to control profitability. EBITDA provides information on profitability and includes all items of the income statement relating