

NEMETSCHKE
GROUP

2021 COMPETENCES &
REFERENCES

SHAPE
THE
WORLD



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SHAPE THE WORLD

The world is continuously changing. Sustainability, digitalization, artificial intelligence and the Metaverse are just some of the hot topics of discussion in various industries and sectors. This also applies to the markets targeted by Nemetschek: global demand for residential buildings, offices, public buildings, and infrastructure is huge and building projects are becoming increasingly complex. This means that the technical requirements for us are growing. We want buildings that are as beautiful and impressive as they are functional and practical, technically state-of-the-art and optimized in terms of energy. But it's only with the support of digital tools in planning, building and operating that it is possible to turn wishes into reality efficiently, sustainably, and with minimal use of resources. This is also the case in the media industry: digital solutions are shifting the borders of what is possible and providing creatives with complete design freedom for creating fascinating virtual worlds.

The Nemetschek Group is actively helping to shape this world. It develops market-leading and innovative software solutions for the entire lifecycle of building as well as for creatives in the areas of 2D and 3D design, motion graphics, visual effects, and visualization. These solutions facilitate the efficient collaboration of all those involved in the building process, with seamless workflows based on open standards. And in the movie, advertising and gaming business, they generate fantastic visual effects. In this way, our users are shaping the world – whether at the construction site or at the film studio.

SHAPE THE INDUSTRY

Every single building project begins with a creative idea. But because building is becoming more and more complex and sophisticated, it is more and more important that a project's data is organized at a centralized point that all stakeholders can access right from the start in order to ensure that things run smoothly. This way of working, building information modeling (BIM), is changing the sector and considerably increasing productivity. And new technological developments, such as the digital twin which connects the digital building model with the real construction or building environment, allow those involved to make better decisions – most of all in terms of building use.

The products of the Nemetschek Group make it possible for customers in the AEC/O industry to consistently digitalize their processes and thus collaborate efficiently with one another – across all trades. The special structure of the Group, with strong brands in four customer-oriented segments, drives innovation and offers users access to the latest technologies, such as artificial intelligence (AI), machine learning and smart buildings – everything needed for a more modern, digital building sector.



BIM



SHAPE SUSTAINABILITY

The AEC/O (architecture, engineering, construction and operation) sector is among the most resource-intensive industries worldwide. For a more sustainable approach, it isn't sufficient just to make finished buildings more efficient; it's just as important that the planning and building process uses resources with care as well. Only this holistic approach will enable us to face the formidable challenges of climate change and environmental protection.

The brands of the Nemetschek Group with their collaborative solutions make an important contribution towards designing sustainable buildings, preventing planning errors, minimizing material wastage during the construction stage and enabling environmentally-friendly building operation. The Nemetschek Group sees the building lifecycle as a circuit in which data is continuously being collected and put to further use. This encourages a holistic consideration of the building project and its raw materials, and – looking forward – of entire building complexes, city districts, municipalities or cities. In this way, it is possible to make the entire sector more sustainable.

SHAPE THE FUTURE

Augmented and virtual reality, artificial intelligence (AI), digital twins, 3D printing, robotics – new technologies are constantly entering the market. Which technologies are sustainable? And in which areas is an actual paradigm shift taking place and what is destined to disappear again? Keeping up with all the trends isn't easy for the building sector, which is extremely fragmented into many small companies.

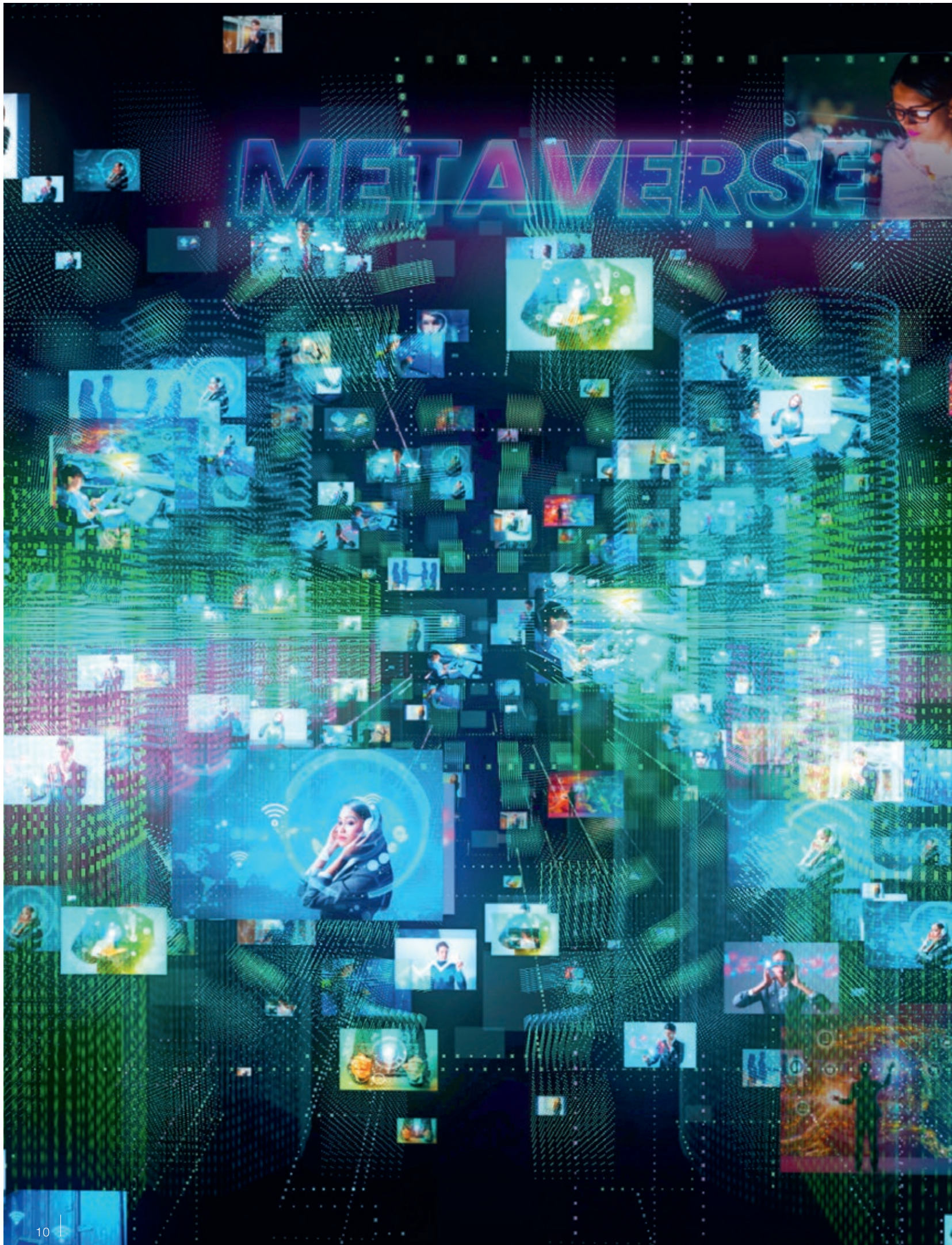
With its brands, the Nemetschek Group is very close to the market. On the one hand, it knows the needs and requirements of the customers and, on the other, it analyzes the most recent developments in detail. This leads to value-added solutions that drive the building sector forward, integrating all those involved while doing so.

For almost 60 years, the Nemetschek Group has seen itself as an innovation driver and is continuously at work making new technologies meaningfully useful to the building sector. For instance, AI is well on its way to becoming an integral part of the building process. With the expanded use of building information modeling (BIM) that encompasses the entire building lifecycle, as well as the transition to data-driven planning and building which this entails, larger and larger volumes of data are being generated in all stages of a project. AI and machine learning are proving to be powerful tools in this effort, thus maximizing the value and potential of data, and accelerating the speed of short-term decision-making – with positive impacts on the entire AEC/O lifecycle.

BIM



METAVEVERSE



SHAPE THE EXPERIENCE

Architecture, with its buildings and structures, is always around us; it shapes day-to-day life as well as our perceptions of it. Impressive forms only come into being as a result of creative and simultaneously precise planning. Visualizations are becoming more and more important in this regard – whether for planning a house or for movies, advertising spots or computer games. Thanks to digital visual effects, experience approximates reality, which makes the light inside a building fall just right or makes a car in a movie appear to be flying through the air.

With the solutions of the Nemetschek Group, planners and architects can create 3D models from drawings quickly, simply and precisely and then make informed decisions on the basis of exact static or dynamic visualizations.

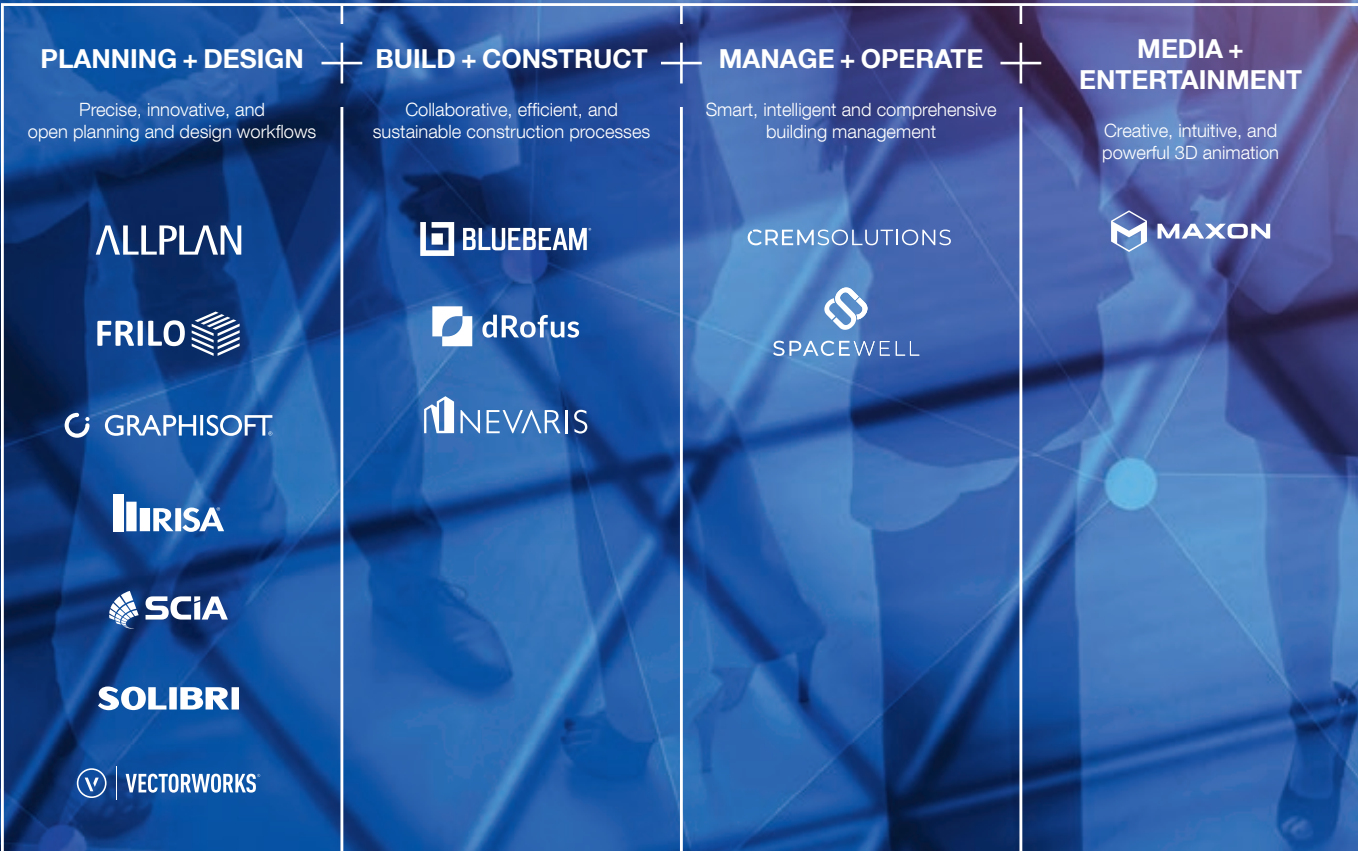
Moreover, the 3D animation solutions of the Nemetschek Group support creatives from the media and entertainment sector in the optimization of their creative workflows, through, for example, 3D modeling, 3D simulation and 3D animation, tools for cutting, motion design and film production as well as rendering solutions for high-end production.

The computer-assisted merging of reality with the virtual world in movies, advertising spots and computer games creates impressive visual effects and a special experience.

SHAPE THE WORLD

The intelligent software solutions of the 13 brands of the Nemetschek Group in four strong segments cover the entire life cycle of construction and infrastructure projects and also enable artists to optimize their workflows. Buildings can be planned, built and managed more efficiently, sustainably and resource-saving, and digital content such as visualizations, films and computer games can be developed more creatively.

The Segments and Brands of the Nemetschek Group



An aerial photograph of a large dam and reservoir. The dam is a long, concrete structure with a series of buttresses. To the left of the dam, the steep slopes are terraced with concrete retaining walls, creating a series of steps. A winding road runs along these terraces. In the foreground, a yellow truck is visible on the road. The reservoir is a large body of water, and a power transmission tower is visible on the left side of the image.

Shape *architecture & engineering*

With the help of the software solutions in the “Planning & Design” segment, architects and engineers can model, plan and calculate more efficiently and conveniently.



Çetlin Dam, River Tigris, Turkey
Engineering office: Su Yapı
Realized with Allplan from ALLPLAN



THE PROJECT

Asian Institute of Chartered Bankers (AICB)
Kuala Lumpur, Malaysia

The AICB complements the Kuala Lumpur skyline, standing on a 3.16-hectare site housing 11 different companies. In addition to the open spaces that encourage collaboration, group rooms have been set up to provide individual workspaces with an idiosyncratic stylistic approach.



PRODUCT:

Vectorworks Architect

WEBSITE: www.vectorworks.net

SOLIBRI

PRODUCTS:

Solibri Office, Solibri Site, Solibri Anywhere

WEBSITE: www.solibri.com

THE PROJECT

The Cradle

Dusseldorf, Germany

The innovative timber structure, which also forms the façade, is the first timber hybrid office building in Dusseldorf. It received several awards before construction even began.



ALLPLAN

PRODUCT:

Allplan

WEBSITE: www.allplan.com

THE PROJECT

DB Brick and DB Tower

Frankfurt, Germany

The building ensemble consisting of the DB Brick and the DB Tower was designed by Schmidt Plöcker Architekten using the OPEN BIM working method for smooth cross-discipline collaboration with the Allplan BIM solution.





THE PROJECT

Szervita Square Building

Budapest, Hungary

Behind the glass façade, the building houses office, retail, residential and parking spaces. The LEED Platinum certification recognizes not only the building's location, but also the innovative, sustainable building solutions and environmentally conscious technologies used during construction and operation.

GRAPHISOFT®

PRODUCT:
ARCHICAD

WEBSITE: www.graphisoft.de

THE PROJECT

Columbia University Medical School

New York, USA

On the Washington Heights Campus, the Roy and Diana Vagelos Education Center is a 107,000-square-foot, 15-storey, state-of-the-art medical education center that meets today's demands for efficient study and teaching methods and, despite its function as a medical teaching facility, retains a warm and welcoming look.



PRODUCT:

ADAPT-Builder

WEBSITE: www.risa.com





THE PROJECT

Headquarters HeidelbergCement

Heidelberg, Germany

With the construction of its new headquarters, HeidelbergCement has displayed the considerable range of concrete as an attractive building material. To determine the vertical load transfer via the three eleven-meter-high columns, the engineering office Wulle Lichti Walz used the GEO Building Model from FRILO.



PRODUCTS:

More than 140 analysis programs
(including GEO Building Model)

WEBSITE: www.friilo.eu

THE PROJECT

Wooden Barrel

Belo Horizonte, Brazil

The structure evokes the image of a huge, open wooden barrel over the mountains of Belo Horizonte. SCIA Engineer was used for the modeling and structural analysis.



PRODUCT:

SCIA Engineer

WEBSITE: www.scia.net



Interstate 75, Atlanta, USA
General contractor: The Walsh Group
Realized with Revu from Bluebeam





Shape *construction*

The digital solutions from the “Build & Construct” segment ensure a perfectly coordinated workflow on the building site.



THE PROJECT

Münchner Volkstheater

Munich, Germany

Everything on time – and on budget. Together with the architects, the general contractor Georg Reisch realized an impressive building with three stages, catering and state-of-the-art stage technology.



PRODUCTS:

NEVARIS Build, NEVARIS Finance

WEBSITE: www.nevaris.com



PRODUCT:

dRofus

WEBSITE: www.drofus.com

THE PROJECT

Glasblokkene

Bergen, Norway

The university hospital is the largest construction project in Bergen with an area of approx. 79,000 m². dRofus as a planning and data management solution enables almost 100% digitalization in the creation phase.





PRODUCT:

Revu

WEBSITE: www.bluebeam.com

THE PROJECT

Blue Sky Ranch

Park City, USA

The lodge was designed and built with great reverence for the beauty of the natural surroundings of its unique location in Utah's Wasatch Mountain Range. The 386,000-sq-ft hospitality project with complex staging requires greater efficiency and improved collaboration on the part of logistics and project management professionals, and Bluebeam Revu gives them the tools to do it.



Shape *operation* *of buildings*



A photograph of a modern office interior. The space is characterized by large, multi-paned windows that offer a view of the outdoors. A glass railing runs across the middle of the frame, separating a lower level from the upper level. The ceiling is a complex, perforated structure with recessed lighting. The floor is a light, polished surface. The overall aesthetic is clean, bright, and architectural.

Today, buildings are managed efficiently and in a resource-saving way with software solutions from the “Operate & Manage” segment.

Headquarters HeidelbergCement, Heidelberg, Germany
Engineering office: Wulle Lichti Walz, Image: Thilo Ross
Realized with GEO Building Model from FRILLO



THE PROJECT

Car Dealer MB

The Hague, The Netherlands

MBDB deploys Spacewell's workflow-based IWMS to streamline daily operations at its car dealerships. The ticketing portal is used by its own staff as well as suppliers, who automatically receive work orders, so that issues are resolved within the agreed response times.



SPACEWELL

PRODUCT:

MCS Integrated Workplace Management System (IWMS)

WEBSITE: www.spacewell.com

THE PROJECT

Campus am Kunstpalast

Dusseldorf, Germany

HanseMerkur Grundvermögen AG is an asset and investment manager specialized in the German real estate market. It stands for long-term oriented real estate investment products and holistic real estate management. The company uses iX-Haus for this purpose.

CREMSOLUTIONS

PRODUCT:

iX-Haus

WEBSITE: www.crem-solutions.de



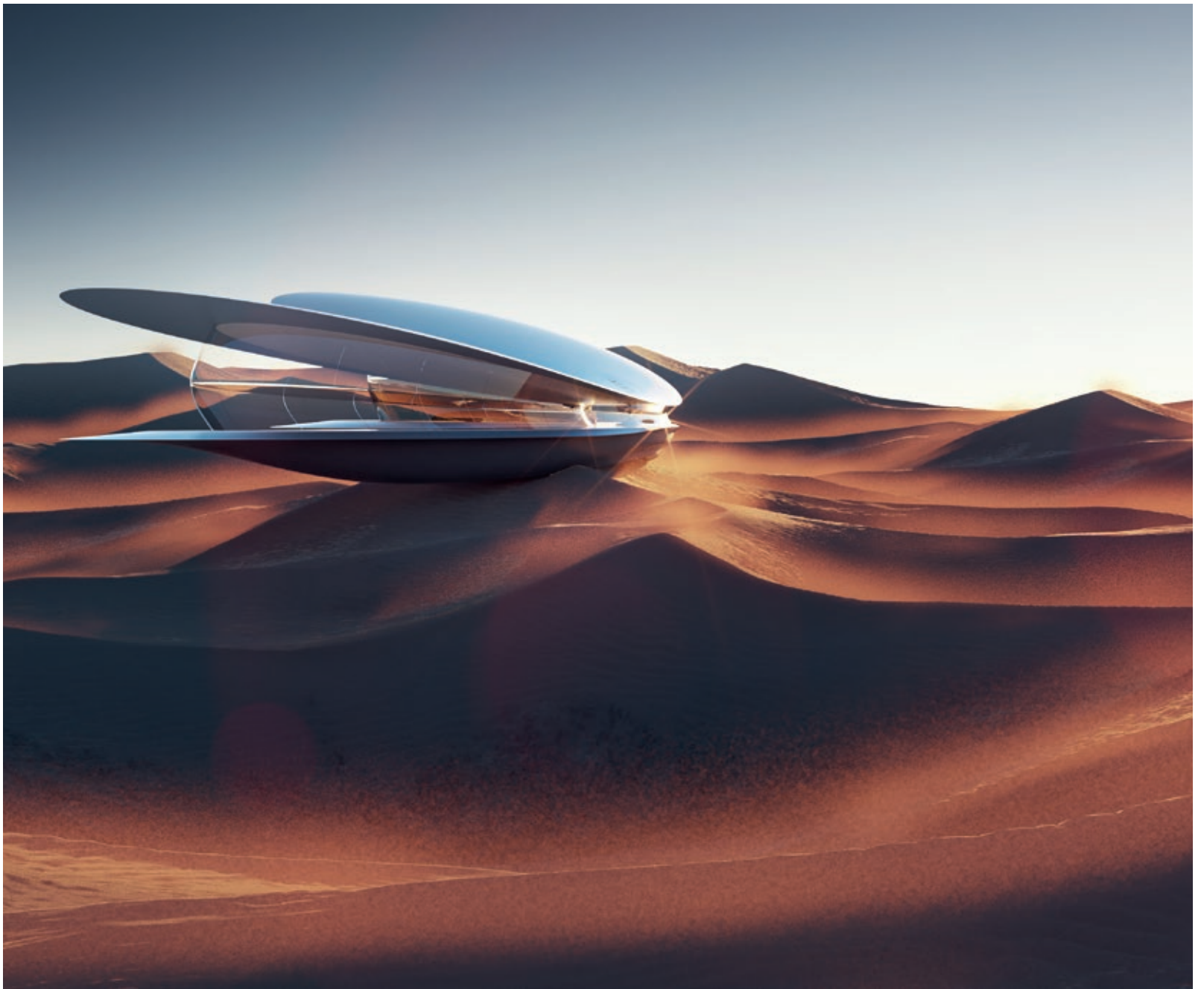




Saadiyat Island, Abu Dhabi, United Arab Emirates;
Visualization: Antonio Saccoman for Gary Fedorenko, JJ AGENCY
realized with Cinema 4D from Maxon

Shape *virtual reality*

Virtual reality is only one of the countless possibilities in which the software from the "Media & Entertainment" segment is used.



THE PROJECT

Citadel

Germany

Citadel – a concept of architecture from the future. The distinctions between building, flying object, super-computer, laboratory, and fortress blur in this project. Enough inspiration for a new design by Benjamin Springer aka EXORBITART.



PRODUCT:

Cinema 4D

WEBSITE: www.maxon.net

Discover the world of MAXON:



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Engineering office: Vista Engenharia

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Hospital manager: Bergen Hospital Trust

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