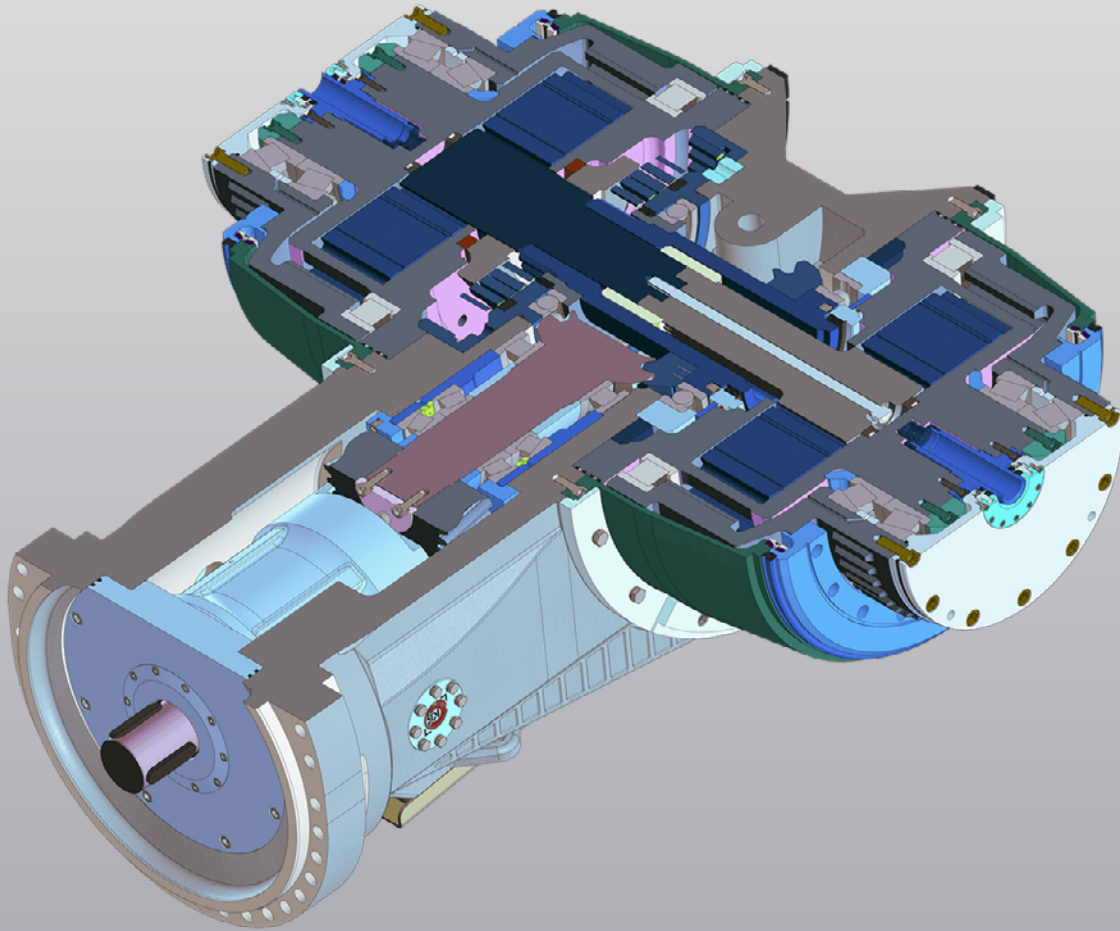


How OKB relies on KOMPAS-3D for mastering 500 high-component projects a year



Company Profile

OKB is a privately owned R&D company that develops high-tech equipment, integrated machining systems, and robotics solutions.

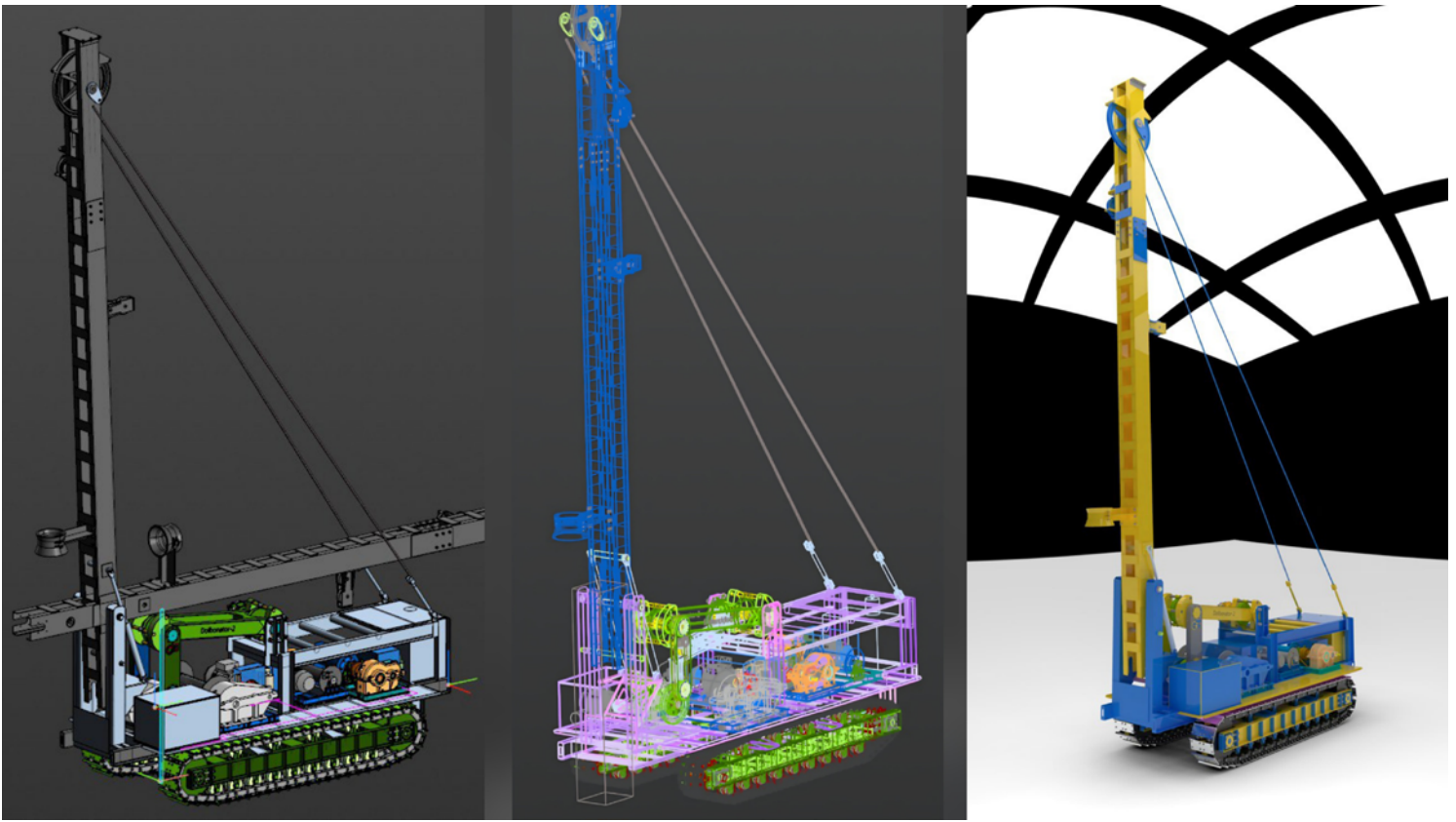
Challenge

The OKB business is product development. The deliverables are design documentation packages: PMI-enriched 3D models and drawings. The OKB team's productivity is impressive: every year, the company completes around 500 projects, each ranging from several thousand to millions of components.

Most projects are delivered at record-breaking speed thanks to efficient collaboration, with multiple designers able to work on the same components concurrently. Such collaboration requires a reliable software solution that supports fast-paced, hassle-free computer-aided design.

Solution

In this use case, OKB's CEO explains why no other CAD system besides KOMPAS-3D can support the delivery of so many high-quality projects at such a rapid pace. To support his point, the CEO also shares several of the company's projects.



Results

OKB needed to design a cable percussion drilling rig within an extremely tight deadline. The turnkey-ready KOMPAS-3D project was completed in just 2 weeks. The biggest challenge was that 14 designers collaborated simultaneously on the same assembly. The machine has been designed for driving a projectile to a depth of up to 250 meters and is used in the Far North. Only this drilling method proves effective in permafrost conditions. Although cable percussion drilling is a well-known process, OKB significantly improved the conventional design, where all tools are driven by a single shaft. The new rig features multiple individual drives, which also enabled state-of-the-art concurrent engineering practices and helped complete the project in record time.

Another project involved a heavy-duty railcar indexer designed for leading mining, metallurgy, and fertilizer production companies. In just one month, OKB designed a highly advanced, extremely easy-to-manufacture indexer.

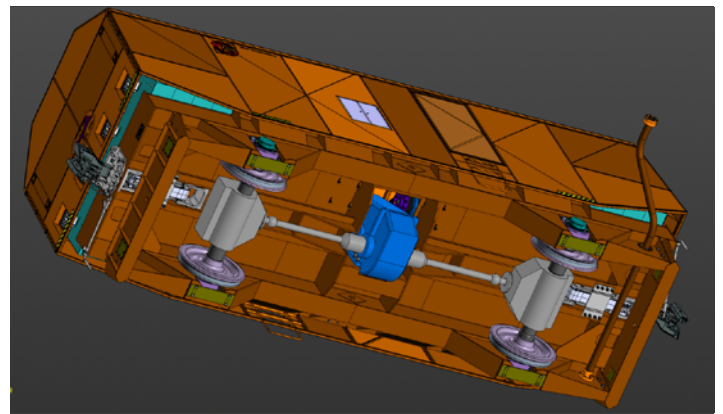
One more project example is a battery-powered trolley designed for a large European manufacturer. All its components are also produced within the European Union. The model and documentation are fully developed in KOMPAS-3D.

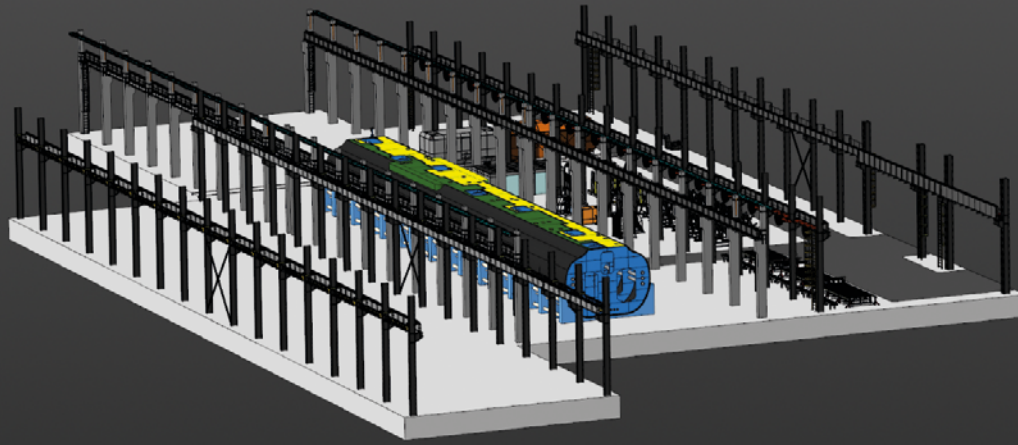
OKB has also completed reverse engineering projects. The “Pobedets” gearbox was a very complicated reverse engineering project that required some highly advanced technologies. “We used 3D scanners and had to reconstruct the design from part fragments, as the gearbox was heavily damaged. It was like archaeology: we had to piece everything together, analyze every component, and reverse engineer the entire product”.

The gearbox included extensive piping—oil channels, foam pipes, and a myriad of other components. Three engineers completed the gearbox project in just three months—an exceptionally fast turnaround.

“The core benefit of KOMPAS-3D is that you simply can’t achieve this in any other CAD system.”

The scale of products the company designs is also striking. For example, the image shows a part of an assembly consisting of 11 mln. components. This is a digital twin of a factory. The manufacturing equipment is represented by highly detailed models. The twin also features a rig and assembly area. 10 engineers worked on the project for at least 4 years, going from version to version. It was the first project to rely on a predefined layout: the team created the layout, added components of the final digital twin, and generated it on a high-performance computer. To open the project, a computer should have at least 128 GB of RAM.





Business Values

“We use KOMPAS because this solution is much better than other systems we’ve tried.”

“We did try T-Flex and SolidWorks, but KOMPAS-3D is the best. We’ve worked on projects for both the European and Chinese markets. In our experience, setting up a user profile in KOMPAS-3D to meet specific drawing standards is fast, straightforward, and flexible.”

“As a result, our deliverables meet the exact needs of international customers.”

“KOMPAS-3D delivers value throughout its entire lifecycle. It’s a powerful, fast-evolving software product. Another major advantage is instant technical support. Whenever an issue arises, technical support is always there to provide a prompt solution. They take customer feedback seriously, and we’ve observed that critical updates are incorporated into every new release.”

Konstantin Koriukin, CEO, OKB

KOMPAS-3D

Intended for creating 3D-models for individual parts and assembly units containing both original and standardized structural elements. Supports modern design methods, such as top-down and bottom-up approach.

- Solid Modeling
- Surface Modeling
- Sheet Metal Modeling
- Object Modeling
- Parametric Modeling
- Animation
- PMI tags
- Built-in FEM, CFD, CAM

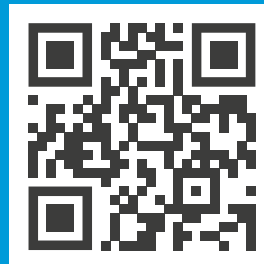
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