



The new Liebherr assistance system Free Modelling makes it possible to create and modify 3D models during operation in order to be able to react to changing site conditions.

IMAGE SOURCE: Liebherr Werk Telfs GmbH

Free Modeling: Improving efficiency in construction site management

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- Liebherr introduces the Free Modeling assistance system for real-time 3D construction site modeling.
- The system integrates GNSS machine control and advanced sensors for improved project workflows and resource planning.
- Free Modeling enhances efficiency by allowing operators to create and modify 3D models directly from their machinery.

- The technology accelerates project completion times and enhances accuracy with real-time data visualization.
 - Free Modeling reduces labor costs by minimizing the need for dedicated site surveyors and rework.
 - The user-friendly interface ensures quick adaptation and ease of use, promoting operator comfort and job satisfaction.
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- Innovative 3D Modeling: Free Modeling enables operators to create and modify simple 3D site models directly from their machinery, enhancing real-time decision-making.
 - Empowered Operators: Allowing operators to take charge of their work with real-time data.
 - Accelerated Project Timelines: Minimises planning and surveying time, leading to faster project completion and increased productivity.
 - Enhanced Accuracy: Provides operators with real-time data, significantly reducing errors and improving the quality of work.
 - Cost-Effective Solution: Lowers overall project expenses through reduced labor costs and fewer instances of rework.

The **Liebherr** Free Modelling assistance system enables 3D construction sites to be modelled in real time. This improves project workflows, the quality of construction work and the planning of resource deployment – which saves significant time and costs. The user-friendly interface impresses with clear visualisations: Users can switch between different views, zoom in on specific areas and easily customise 3D models. This allows the construction site models to be created and modified from the machine.

In the dynamic world of road construction, Liebherr presents the new Free Modelling assistance system, a technology designed to improve efficiency in construction site management. This innovative solution allows machine operators to create and modify simple 3D site models directly from their Liebherr crawler cabins. By integrating a GNSS machine control system with advanced sensors and real-time data visualisation, Free Modeling empowers operators to make informed decisions based on current site conditions.

The construction industry increasingly recognises the importance of technology in enhancing efficiency and productivity. As projects become more complex and the demand for faster completion times grows, the need for innovative solutions like Free Modeling becomes critical. This technology streamlines operations and enhances the overall quality of work, making it a valuable tool for contractors and operators alike.

Real-Time 3D Site Modeling

One of the most significant advantages of Free Modeling is its ability to facilitate real-time 3D site modeling. Operators can visualise projects in three dimensions, which streamlines the construction process and allows for immediate feedback on site conditions. This capability fosters a proactive approach to site management, ensuring that projects remain on track and within budget. By reducing reliance on dedicated site surveyors, Free Modeling saves time and reduces labor costs, increases job satisfaction and contributing to the overall success of construction projects by reducing the need for site surveyors.

The ability to create and modify 3D models on the fly enables operators to quickly adapt to changing site conditions. For instance, if unexpected obstacles arise, operators can adjust their plans in real-time, minimising delays and ensuring that the project stays on schedule. This flexibility is particularly valuable in road construction, where conditions can change rapidly due to weather, traffic, or other unforeseen factors.

Accelerating Project Completion and Enhancing Accuracy

Integrating Free Modeling into road construction operations significantly accelerates project completion times. By minimising the time spent on planning and surveying, projects can move forward more quickly. The ability to create and modify site models directly from the machinery allows for rapid adjustments, ensuring that any changes in site conditions are addressed promptly. This increased efficiency translates to shorter project timelines, enabling contractors to take on more projects and improve their overall productivity.

Moreover, Free Modeling enhances accuracy by providing operators with real-time data, which reduces the likelihood of errors that can arise from miscommunication or outdated plans. This access to current site information ensures that operators are always working with the most accurate data, allowing them to make informed decisions that improve the quality of their work. In road construction, where even minor discrepancies can lead to significant issues, this level of precision is crucial.

The technology also promotes better collaboration among team members. With real-time data accessible to all stakeholders, including project managers, engineers, and operators, everyone is on the same page. This

transparency fosters a collaborative environment where issues can be addressed quickly, and solutions can be implemented efficiently.

Cost-Effectiveness and Operational Efficiency

The cost-effectiveness of Free Modeling is another significant advantage. By reducing the need for dedicated site surveyors and minimising instances of rework, construction companies can lower overall project expenses. This technology optimises resource allocation and minimises waste, ultimately enhancing the profitability of projects.

In addition to improving operational efficiency, Free Modeling significantly enhances comfort on construction sites. By providing operators with a clear understanding of site conditions, the system allows for better-informed decisions, which can lead to a more relaxed and confident working environment.

Comfort is further enhanced by the ergonomic design of the machinery and the user-friendly interface of Free Modeling. Operators can work for extended periods without experiencing fatigue, as the controls are designed to be intuitive and responsive. This focus on operator comfort not only improves productivity but also contributes to job satisfaction, as operators feel more in control and less stressed while managing complex tasks.

Furthermore, the reduction in labor costs associated with Free Modeling can be substantial. With operators able to perform tasks that would typically require additional personnel, companies can allocate their resources more effectively. This not only leads to cost savings but also allows for a more streamlined workforce, reducing the complexity of project management.

User-Friendly Interface: A Key to Success

Liebherr has prioritised creating an intuitive interface that allows operators to navigate the system with ease. This focus on user experience ensures that operators can quickly adapt to the technology without extensive training, making it accessible to a broader range of users.

The interface is designed to be straightforward, featuring clear visualisations and easy-to-understand controls. Operators can switch between different views, zoom in on specific areas, and manipulate the 3D models with simple gestures. This ease of use is particularly beneficial in high-pressure environments like road construction, where time is of the essence, and quick decisions are often required.

Training programs are designed to familiarise operators with the system, emphasising hands-on experience and practical applications. By providing operators with the tools and knowledge they need to succeed, Liebherr fosters a culture of continuous improvement and innovation within the workforce. This commitment to training enhances the effectiveness of Free Modeling and contributes to the overall development of skilled operators in the industry.

Commitment to Sustainability

Sustainability is also a key focus of Free Modeling. The ability to optimise site operations in real-time contributes to more environmentally friendly practices. By improving resource management and reducing waste, Free Modeling allows for better planning and execution, minimising the environmental impact of road construction projects. This commitment to sustainability not only meets regulatory requirements but also enhances the reputation of construction companies in the industry.

Additionally, the ability to visualise projects in 3D allows for better planning of resource use. Operators can identify potential issues before they arise, leading to more efficient use of materials and reducing the likelihood of costly mistakes. This proactive approach not only benefits the environment but also enhances the overall efficiency of construction projects.

Versatility Across Projects

The versatility of Free Modeling is evident in its adaptability to various types of construction projects, from residential buildings to large infrastructure developments. Whether working on a small road repair or a major highway construction project, Free Modeling provides the flexibility needed to meet the unique demands of each job. This adaptability ensures that construction companies can leverage the benefits of Free Modeling across a wide range of applications, maximising their investment in this innovative technology.

For instance, in urban environments where space is limited, the ability to create accurate 3D models can help operators navigate complex site conditions more effectively. This capability is invaluable in ensuring that projects are completed on time and within budget, even in challenging environments.

The future is today

In conclusion, Free Modeling represents a significant advancement in road construction management, offering a host of benefits that enhance efficiency, accuracy, and cost-effectiveness. By empowering operators with real-time 3D modeling capabilities and providing a user-friendly interface, Liebherr has created

a solution that transforms the way construction projects are managed. As the construction landscape continues to evolve, innovations like Free Modeling will play a crucial role in shaping the future of the industry. Embracing these advancements allows construction companies to improve their operations, enhance their competitiveness, and ultimately deliver better results for their clients.

With Free Modeling, Liebherr is enhancing road construction management, making it easier, faster, and more efficient than ever before. In a world where efficiency and precision are paramount, Free Modeling stands out as a practical solution, empowering operators, enhancing accuracy, and promoting sustainability while delivering significant cost savings. Embrace the future of road construction with Free Modeling, where ease, efficiency, and effectiveness converge to create a better tomorrow.

Source: Liebherr Werk Telfs GmbH