MEC©
Design and Engineering

TRUST OUR YEARS OF EXPERIENCE AND EXPERTISE.

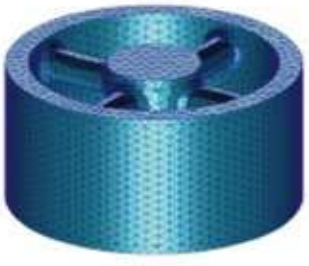
MEC Safety Systems GmbH is a leading manufacturer of cargo securing materials for seagoing vessels. With a clear focus on innovative solutions, we develop all our products in-house to ensure the highest standards of quality and safety. Our dedicated team of experts develops customized products that meet the highest standards of quality and safety.

3D MODELLING

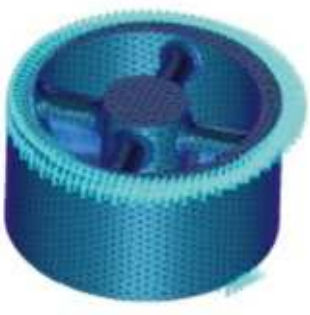
Our 3D modelling service provide detailed three-dimensional models that enhance visualization and analysis. By creating accurate representations of our designs, we enable you to explore and evaluate every aspect of your project. This advanced approach not only aids in identifying potential issues early on but also facilitates better decision-making throughout the development process.

FEM ANALYSIS

Our Finite Element Method (FEM) analysis provides comprehensive structural and load analysis to ensure maximum safety and efficiency in our designs. By simulating real-world conditions, we can identify stress points and potential weaknesses within our projects. This advanced analytical approach allows us to optimize structures for performance while minimizing material usage, ultimately leading to safer and more cost-effective solutions. Trust our expertise in FEM analysis to enhance the reliability and durability of our designs.



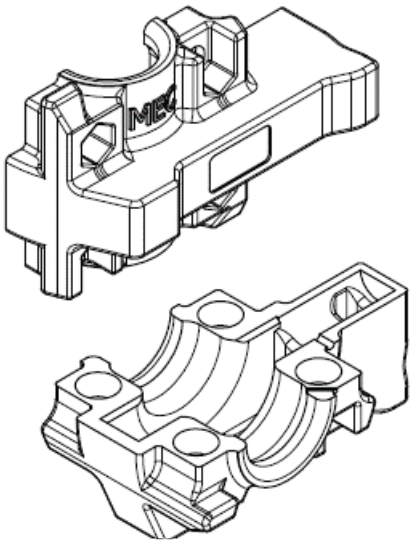
Mesh Type: Solid, Element
Shape: Tetrahedron, Mesh
Size: 5 mm

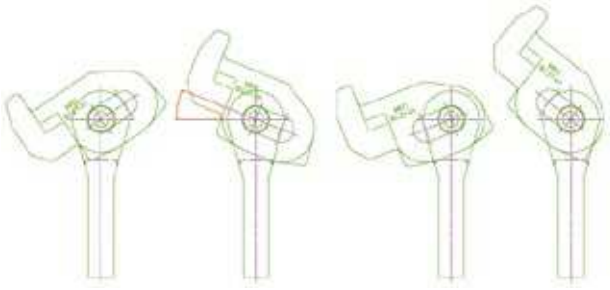


Load and Boundary Condition
Loads: 2 x 4,5 t (SWL)
Direction: Vertical

WORKSHOP DRAWINGS

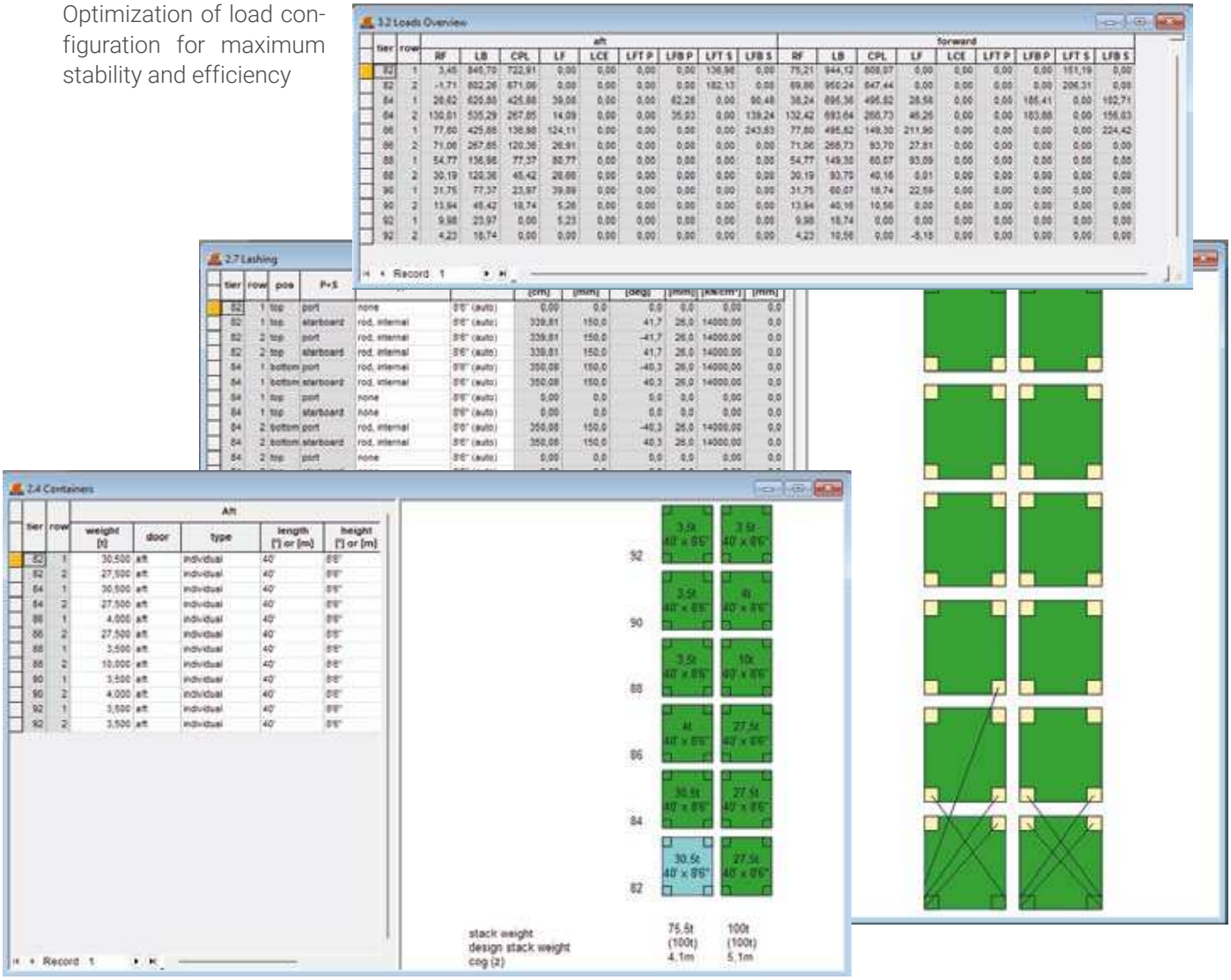
We specialize in creating precise manufacturing drawings tailored to meet the specific needs of our clients. Our expertise allows us to develop everything from initial concepts to detailed technical drawings, ensuring clear representation of all components. We provide comprehensive workshop drawings that are both detailed and clear, facilitating seamless implementation and fabrication processes. With our commitment to accuracy and clarity, we ensure that every aspect of your project is effectively communicated for successful execution.





STACK WEIGHT CALCULATION

Optimization of load configuration for maximum stability and efficiency



NEW BUILDING ELABORATION

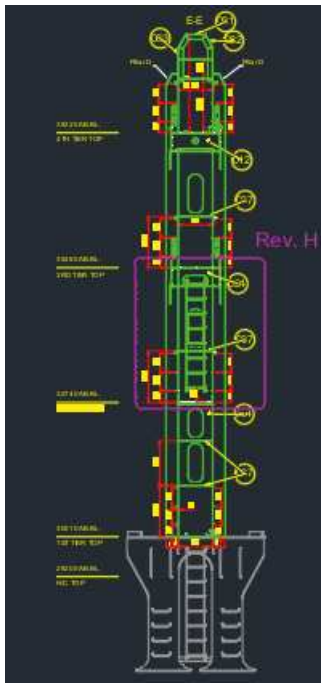
At our company, we specialize in the comprehensive elaboration of new building projects, ensuring that every phase is meticulously planned and executed. Our team combines innovative design with advanced engineering solutions to create structures that are not only aesthetically pleasing but also functional and sustainable.

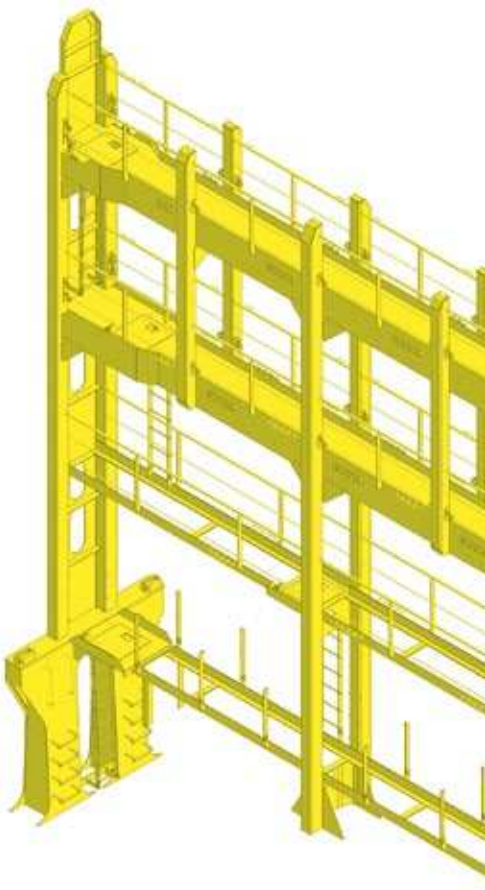
From the initial concept to detailed manufacturing drawings, we focus on precision and clarity at every step. Our expertise in FEM analysis allows us to assess structural integrity and optimize designs for safety and efficiency. We also provide thorough lashing bridge calculations to ensure robust securing of containers during transport, further enhancing the reliability of our projects.

With a commitment to quality and attention to detail, we work closely with our clients to bring their visions to life while adhering to industry standards and regulations. Trust us to deliver exceptional results in your new building endeavors.

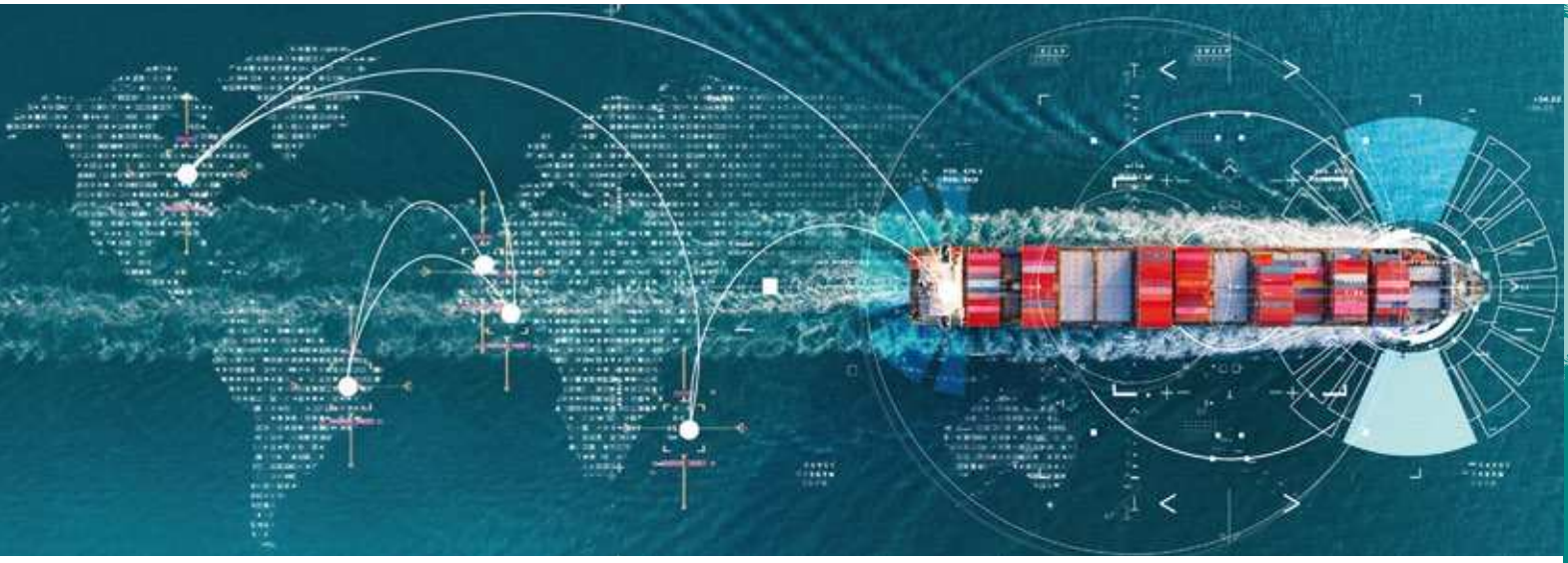
LASHING BRIDGE

Our engineering solutions for lashing bridge calculations are designed to ensure robust and reliable securing of containers during transport. We understand the critical importance of safe container handling, which is why we employ advanced methodologies to calculate the optimal lashing configurations. Our team utilizes precise engineering techniques to analyze forces, load distributions, and environmental factors, ensuring that every container is securely fastened. With our expertise, you can trust that your cargo will be protected against shifting and movement, providing peace of mind throughout the shipping process.





ROUTE SPECIFIC CALCULATION FOR CARGO INCREASE



Enhanced Route-Specific Container Stowage

Innovative route-specific analyses are transforming container shipping by enhancing safety and efficiency.

Key Challenges

Container shipping often faces variable trade routes and port conditions, leading to costly re-stowage. To address these challenges, classification societies have improved stowage planning systems using long-term wave data and advanced computations.

Key Features

- **Data-Driven Optimization:** Tailored stowage plans consider water depths, currents, and weather conditions, minimizing grounding risks and ensuring vessel stability.
- **Weather-Dependent Acceleration Factor:** This feature optimizes stowage for specific routes and reduces unnecessary re-stowage for voyages of up to three days, lowering operational costs.
- **Precise Calculations for Longer Voyages:** The system allows accurate stowage calculations for extended journeys, enhancing overall efficiency.
- **Voluntary Application:** Suitable for both new builds and existing ships, this solution aims to improve load management across the industry.
- **Dynamic Safety Enhancements:** Real-time data integration enables dynamic adjustments to stowage plans, elevating safety standards.

MEC's Role

MEC performs route-specific calculations in line with classification rules, facilitating optimized container stowage that meets regulatory standards while enhancing safety and operational efficiency.

Distinction from Other Systems

What sets us apart is our ability to leverage various systems without focusing solely on one approach. We provide comprehensive solutions that allow container ship operators to optimize their operations while ensuring compliance with diverse regulatory requirements.

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