



TÜRK LOYDU

DIGITAL SOLUTIONS

Softwares



Türk Loydu, closely monitors developments in global platforms and acts with the responsibility of contributing to its development. With complementary initiatives such as our digital transformation and innovation programs carried out in collaboration with our R&D Center, we continue our efforts to prepare for the future in a strong way by working with important international organizations.

We are steadfastly continuing our software development projects that are tailored to the needs, expectations, and priorities of the sectors. At Türk Loydu, we always place importance on understanding user expectations and work on the inclusion of technological changes within our organization.

LÜTFÜ
Savaşkan

General Manager
Türk Loydu UDH. A.Ş.



THE DIGITAL SOLUTIONS AT TÜRK LOYDU

The digital software solutions we offer are designed to optimize our processes, reduce costs, and maximize safety. With our customer-centric approach, we are here to understand your needs and provide you with the best solutions to streamline operations and enhance safety to the highest level.

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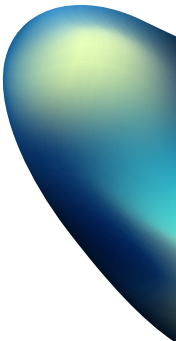
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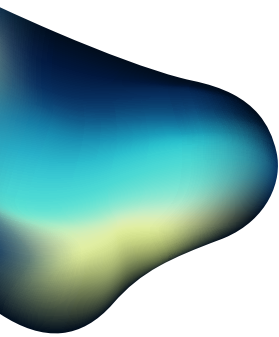
Hull Global Strength Assessment





ENGINEERING SOFTWARE

- TL HULL SCANTLING
- FEM BEAM ANALYZER



TL HULL SCANTLING

TL HULL SCANTLING software is the main Türk Loydu suite for application of Structural Rules for Classification of Steel Ships.

TL HULL SCANTLING software may be used to perform the following assessments:



Calculation of Geometric Properties



Hull Girder Strength and Ultimate Strength Criteria



Hull Girder Strength and Ultimate Strength Criteria

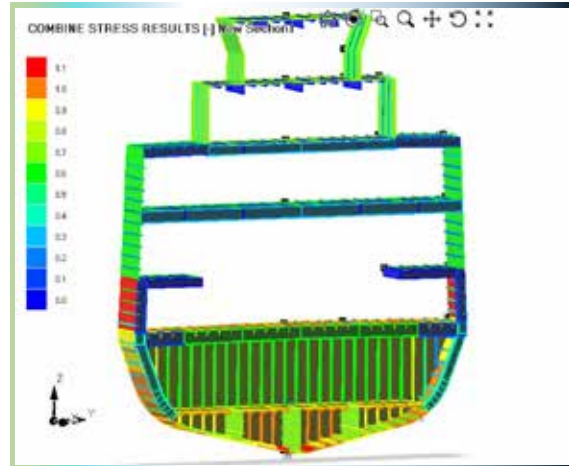
- Yielding
- Buckling
- Minimum Thickness



Assessment of Transverse Cross-Sections and Transverse Bulkheads Throughout Ship Length

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Access to and usage of the TL Hull Scantling software is completely free. To access the software download page, simply scan the QR code with your smartphone's camera.



Advantages and key features of TL HULL SCANTLING



Easy Modeling



Powerful Consistency and
Error Checking



Fast Calculations



One-Click Access to
Detailed Results for Deeper Analysis

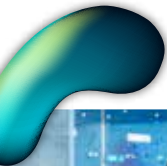


User-Friendly and
Intuitive Interface



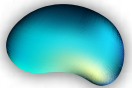
TL FEM BEAM ANALYZER

3D Beam Analyzer



Fem Beam Analyzer is an advanced 3D beam structural analysis software designed to model and analyze the beam structures of ships.

The software utilizes the Finite Element Method (FEM) to calculate displacements, moments, and forces and then processes the results to obtain stresses and other relevant solutions that occur along the beams.



The software is entirely interactive and user-friendly.

It provides a comprehensive PDF report automatically generated for the solved structural model.

“To get detailed information about the Fem Beam Analyzer software and to download the trial version, simply scan the QR code with your smartphone's camera.



TL FEM BEAM ANALYZER

& Features



Elements can be modeled as Euler beams, Timoshenko beams, or bars. 2-way tapered elements are supported.



Ability to open holes on beam webs.



Supports distributed beam loads, concentrated load, and moments and gravity loads.



Unlimited number of load cases can be added.



Ability to draw contour plots on 3D beam geometry for stresses, displacements, bending moments, shear forces, and more.



Automatic worst-case loading condition generation.



Ability to draw diagrams on beam lines for displacements, bending moments, shear forces, and more.



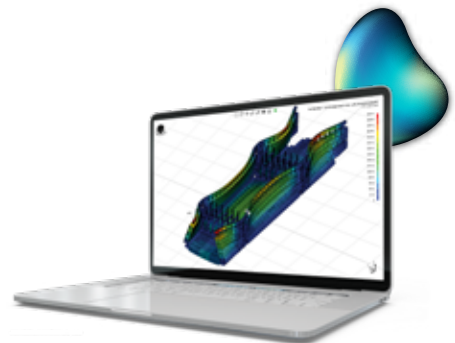
Normalized plots and special colorizations of the regions that exceed material limits.



Highly customizable thin-walled sections and solid sections. Sections parts can be defined with different materials.



Secondary moment calculations around the beam holes and buckling checks according to the class rules.



WEB-BASED SYSTEMS

- **TL EASY**
Ship Information System
- **TL EPAS**
Electronic Plan Approval System



TL EASY

Ship Information System

TL Easy is a web application within the Turk Loydu organization that allows for the online monitoring of information related to ships. Shipowners, ship operators, or flag states can register in the system to view detailed ship information.

Additionally, general public information can be viewed without the need for registration.


Shipowners and ship operators can also use the TL Easy application to track survey information and submit new survey requests to Turk Loydu online.



Including New Build Material and Certification Processes and New Build Ship Processes within the TL EASY framework in a web-based format.



It has implemented an integrated system that shares data with stakeholders at the necessary points comprehensively.



You can access TL EASY for free and online through your browser.

TL EPAS

Electronic Plan Approval System

TL EPAS is an electronic plan approval system that can be accessed through a web browser on the internet.

After our customers become members of the system via **www.tlepas.org**, they will have the opportunity to digitally perform plan approval services in classification and certification processes. They can upload documents in PDF format to the EPAS system by logging in with a username and password.

While tracking approval processes via EPAS, instant email notifications are sent for completed document approvals.

“ EPAS provides features for tracking and reporting remarks and unreleased documents in document approvals. To become a member, please scan the QR code with your smartphone's camera.



TL EPAS

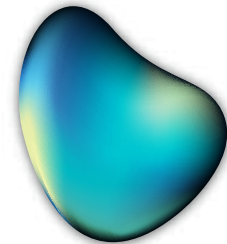
Electronic Plan Approval System



The web-based digital plan approval has accelerated our processes by providing our customers with real-time access to the documents they submit for approval and the ability to take immediate action. It has allowed approval processes to continue smoothly outside the office, especially during the pandemic, ensuring uninterrupted service to our clients around the world.

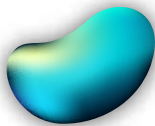


The transition of the Plan Approval Department employees to a remote work system has increased motivation and a sense of belonging, and it has accommodated the hybrid working requests of the new generation of employees.



ONGOING PROJECTS

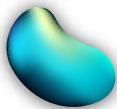
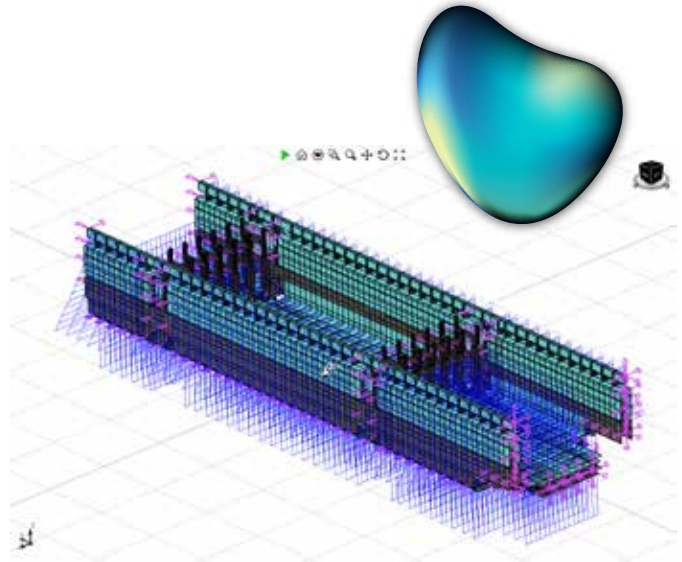
- 3D PLAN APPROVAL SYSTEM
- HULL SCANTLING / NAVAL SHIPS
- HULL GLOBAL STRENGTH ASSESSMENT SYSTEM



3D PLAN APPROVAL SYSTEM

The 3D plan approval system, which is a new technological trend in the world, is used to create a completely digital workflow that enables seamless and transparent digital model exchange among stakeholders in the new build and basic design stages of ships.

A 3D model created at the beginning of the design phase and shared among stakeholders will eliminate the need for 2D drawings produced for classification authorities' approval. The digital 3D model forms the basis for verifying the design against class rules and functional objectives.



The International OCX Consortium, consisting of Turk Loydu and leading classification organizations worldwide, along with Computer-Aided Design (CAD) providers, was established to oversee the standardization efforts for 3D Plan Approval in the field. Turk Loydu, as a full member, not only provides support but also holds the right to speak and vote in the consortium's steering committee. Additionally, it is eligible to participate in any future technical workshops and meetings, and may assume the role of coordinator when necessary.

**We are improving
our processes
through digital
integration**



NAVAL SHIP SIZING

The military ship sizing software integrated into the TL Hull Scantling system provides an excellent tool for performing structural sizing calculations for naval ships. The TL Hull Scantling software for naval ships contributes significantly to making the shipbuilding process more efficient and reliable, while also playing a crucial role in ensuring the safety and performance of naval ships.

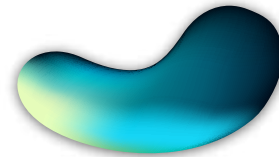
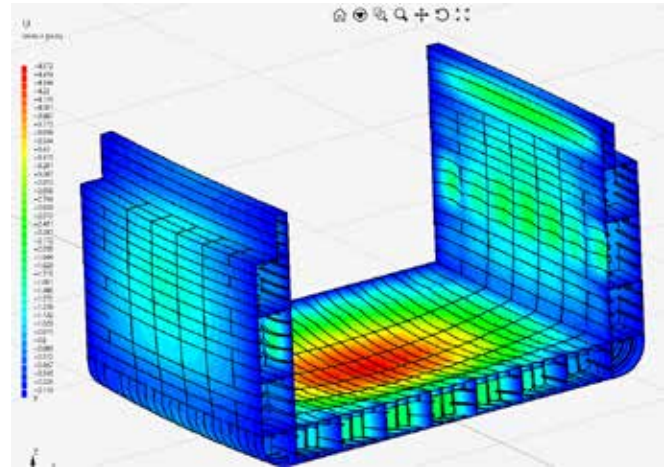


HULL GLOBAL STRENGTH ASSESSMENT

Türk Loydu R&D center is developing a 3D finite element analysis software, which will cover both commercial and naval ships, using its own resources. The development of this software received support from TUBITAK - The Scientific and Technological Research Council of Turkey.

By enhancing this software on top of the Ship Sizing Software, it will enable our customers to transition from sizing software to finite element analysis software.

Using this software for the validation of rational ship designs will lead to the creation of optimal ship designs, improving energy efficiency, and reducing greenhouse gas emissions.





By integrating our software into our business processes, we are making our operations more successful and efficient. We offer customized solutions to improve workflows, make informed decisions through data analytics, and enhance customer satisfaction.

With our digital approval processes, we support our customers in advancing their projects by providing the most reliable and expedited approvals. For further information, please feel free to contact us at **info@turkloydu.org**



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Contact

