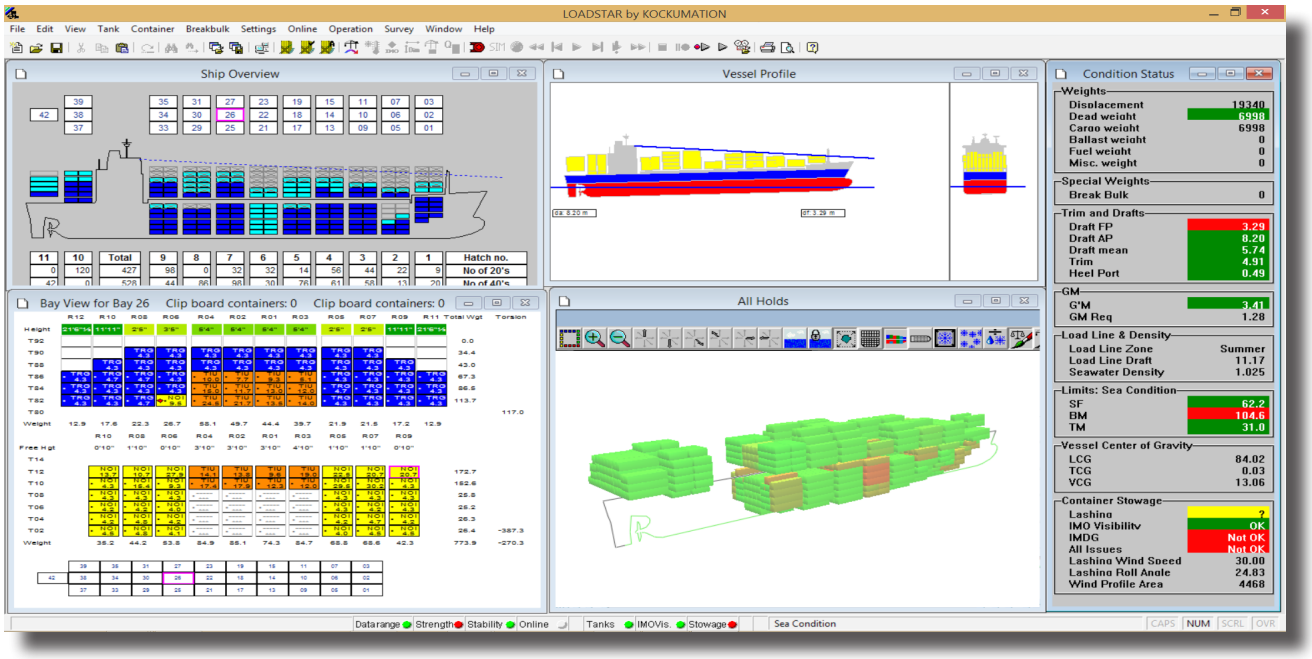
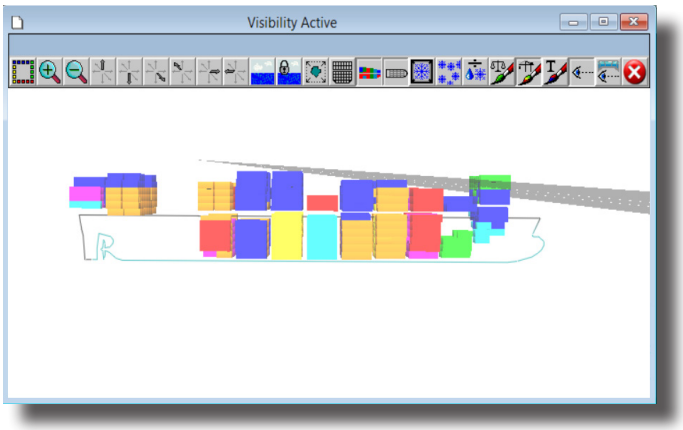
# LOADSTAR
## Loading computer software




## General Information

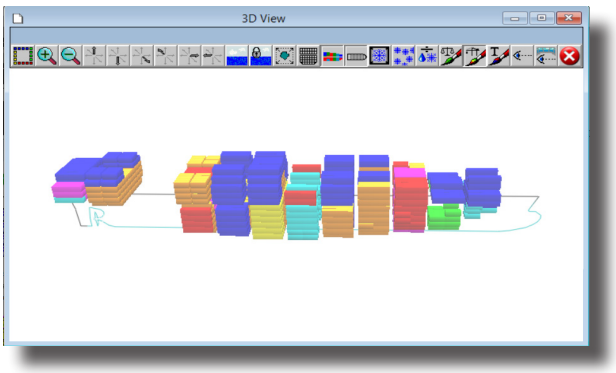
The Kockumation LOADSTAR loading computer is uniquely designed program for on-board container operations. The program is delivered comprising a basic module with several specialized cargo planning tools to fulfil all required operational needs.

The LOADSTAR program is executed in the Windows operating system and divided into a calculation core and a ship specific data package. This includes as standard the necessary features such as concise graphical container overview, dangerous goods check, lashing and much more. For seamless operation several scalable windows can be opened at any one time. LOADSTAR calculates the complete condition after each entry no matter how small and the result is displayed instantly and the modular construction enables LOADSTAR to be updated with latest features and functions without re-approval from class.




## Ship's picture 3D:

The vessel is presented as a 3D picture and the User can display container arrangements using various settings. The viewing options include 'all holds', 'single hold', 'top' view and Bridge visibility sight line. Containers are colored by type, weight, reefer, POL or POD.




LOADSTAR

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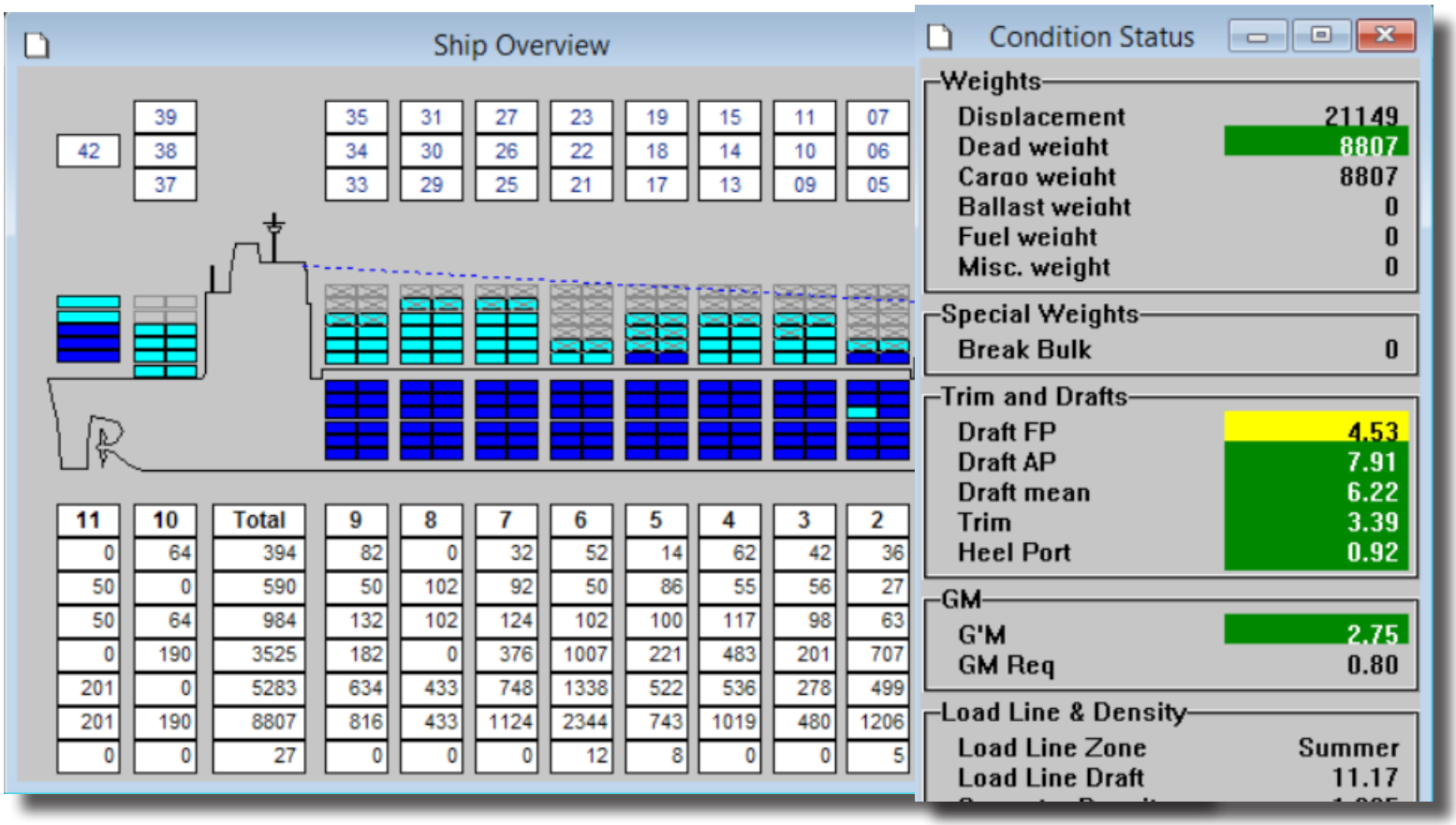
# Functional description

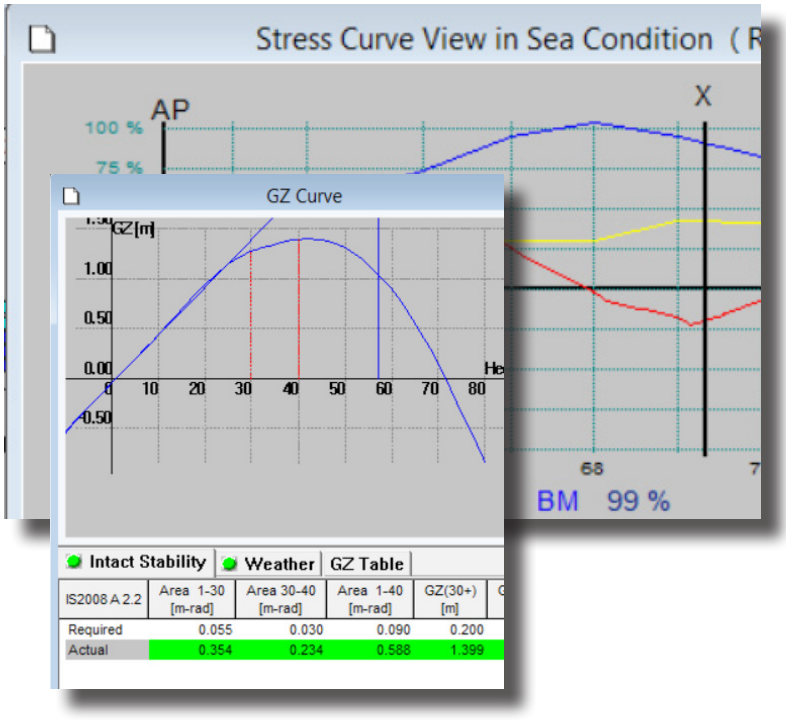



## Ship Overview

This window displays a graphical view of the vessel and the container bays (in side view) and also displays totals for the individual bays. Within the window the user can select individual bays to perform other actions such as the pre-planning of containers.

## Condition status window

The condition status window contains all necessary information related to the vessel's condition and displays all essential calculated results. The user has the flexibility to define which criteria are presented from a list of 10+ different parameters. To assist the user there are also built in colour warnings (red) should the condition not comply with mandatory stress and stability requirements. Additionally the user can also self-define certain other specific (yellow) limits. Successful compliance is always presented in green.



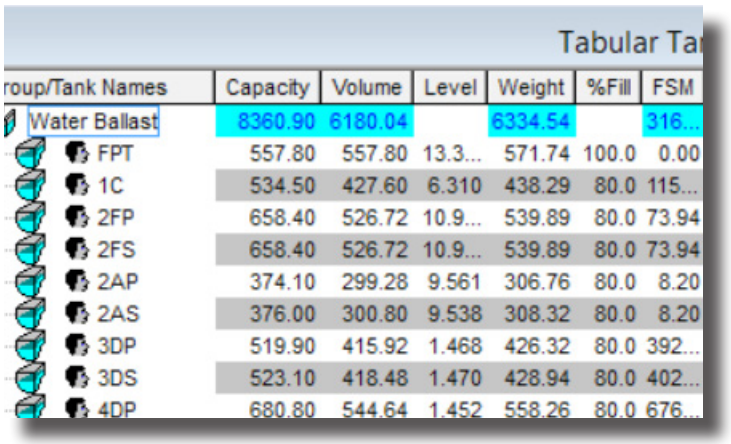

## Stress curves

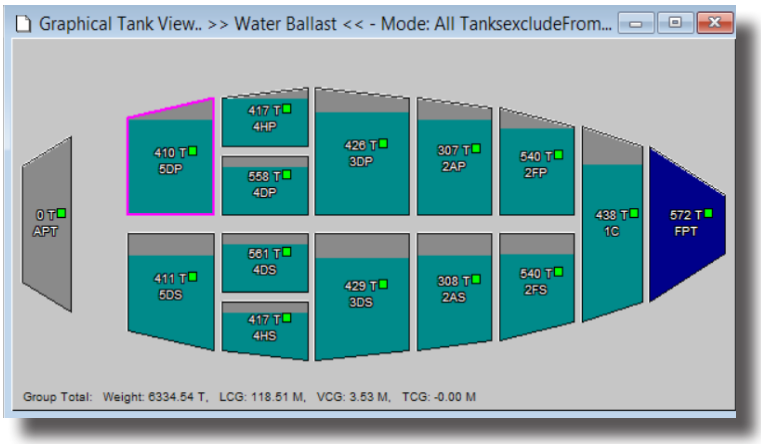
The Stress window provides a graphical view of strength values in relation to the limits specified by the classification society. Other information available in the window includes the calculations at stations/frames defined by the classification society and the actual shear force (SF), bending moment (BM) and torsion moment (TM) values at these reference points.

The user can toggle the weight distribution curve on and off and also switch the calculation mode from sea condition to harbor condition and vice versa.

## GZ Curve

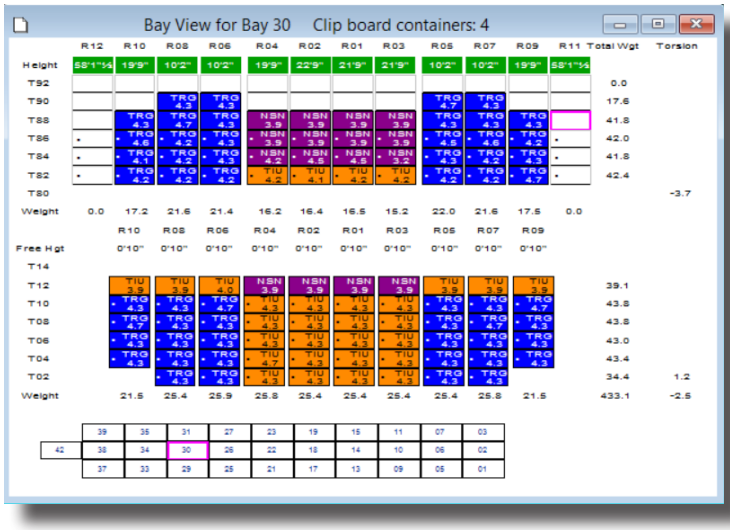
The window shows the G'Z curve (the righting lever) for both static and dynamic stabilities. Warning appears in case requirements are not fulfilled.




## Ballast and Store tanks window

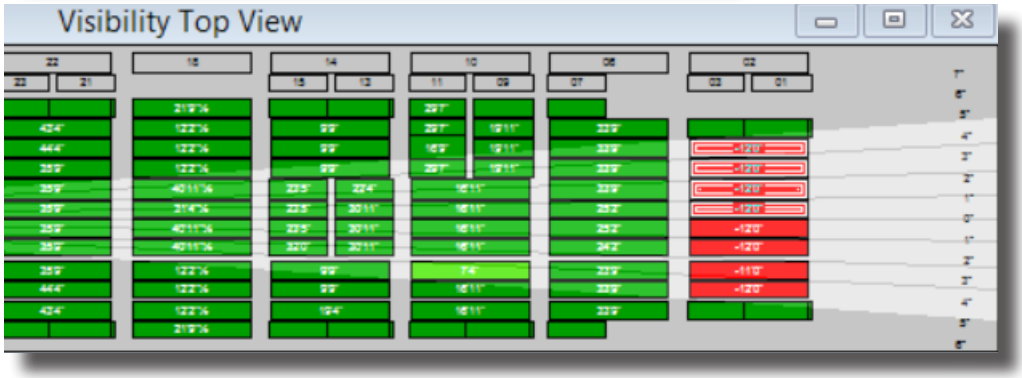
A dedicated window that presents the tanks in both a tabular and graphical format that allows the user to quickly edit tank content data such Empty / Fill all tanks or to make specific fine adjustments. The user can select to use maximum or actual free surface moments and enter content data using weight, volume, % filling or level dependent upon the user's preferences. The window is automatically updated if the program is communicating online to the vessel's level gauging system.

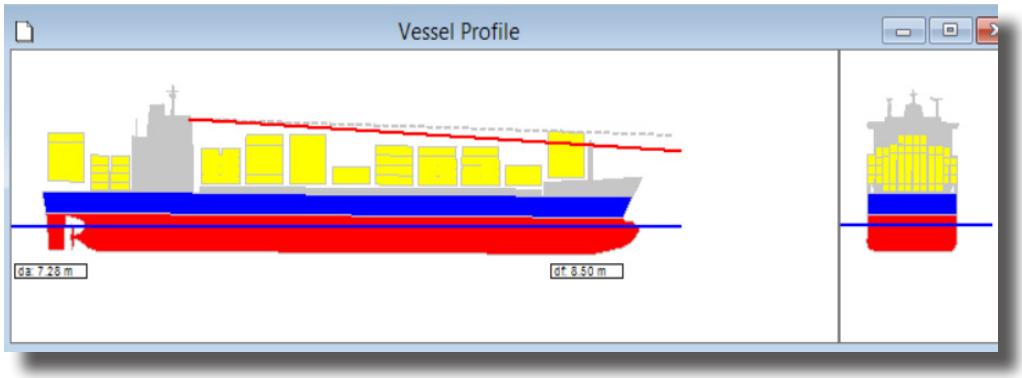



## Bay View

The Bay view window generates a graphical view of container positions in their bays and at the bottom there is a bay selector where the user can easily decide which bay is displayed. The window also includes numerous features for quick inputting of containers, their shifting and provides warnings as appropriate.

A colour selector tool provides a quick and easy ready-reckoning presentation for both individual rows and the complete bay plus the functionality to work on individual or multiple slots simultaneously. Once the desired positioning of containers is defined, LOADSTAR offers multiple edit functions to the user.



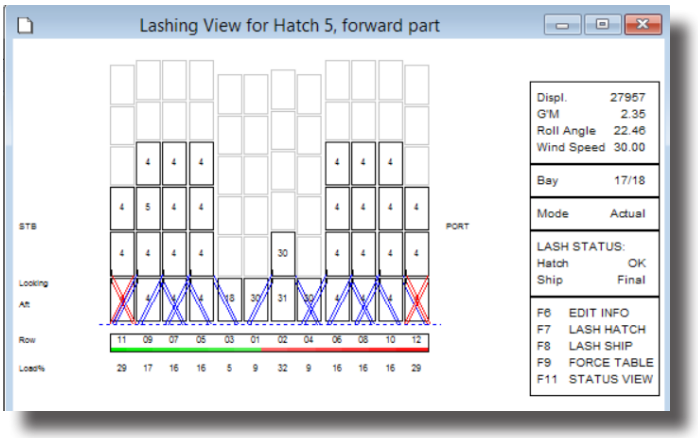

## Visibility

The visibility calculation module identifies any containers that obstruct the safe sailing view from the Bridge and a clear red warning is generated to alert the user. The offending containers are directly displayed in a 3D, side and plan view representation of the vessel.

The plan view tool will then automatically suggest alternative stowage positions to bring the visibility line back into compliance and the user can quickly re-stow them using the drag and drop function.

The program calculates visibility limits in accordance with both IMO and Panama rules.

# Functional description




## Lashing view

The lashing window is an active window where applicable lashing rules are applied and visualized in a graphical and tabular format. Clear indications are given where rules are not fulfilled. LOADSTAR complies with, among others, DNV-GL, LR and ABS specific lashing rules.

## Lashing Status View

For each bay, the lashing status view window indicates whether there are any lashing errors present. Errors such as heavy units loaded above light units, wind stacks and high cubes in the outer rows are clearly indicated.

| Index Up | Not Allowed Pos | UN no | Conflicts with Pos | UN no | Direction | Requirement |
|---|---|---|---|---|---|---|
| 1 | 050184 | 1738 | 050186 | 2735 | Vertical | Only if segregated by deck |
| 2 | 050186 | 2735 | 050384 | 1738 | Deck Athwartship | 1 container space |
| 3 | 050108 | 1719 | 060312 | 0303 | Hold Athwartship | One container space |
| 4 | 060312 | 0303 | | | | Not allowed in this Hold |
| 5 | | 0303 | 070108 | 1170 | Hold Athwartship | One container space |
| 6 | 141086 | 1044 | | 1133 | Internal | Not in same Container. Check proper selection of variant |
| 7 | 151384 | 3253 | | 3148 | Internal | Not in same Container. Check proper selection of variant |
| 8 | | 3253 | | 3148 | Internal | Not in same Container. Check proper selection of variant |
| 9 | | 3148 | | 1719 | Internal | Not in same Container. Check proper selection of variant |
| 10 | | 3148 | | 1719 | Internal | Not in same Container. Check proper selection of variant |
| 11 | 170382 | | | | | UN Number Missing |
| 12 | | | | | | UN Number Missing |

## Dangerous goods

The IMDG Conflict view shows all potential violations of the IMDG Code and the Document of Compliance. The window is active and the user can click the row to visualize the conflict in the bay view.

## Report tool

LOADSTAR includes a very powerful report tool that generates reports on loading, discharging, shifting, reefers and IMDG.

## Help function.

On keystroke (F1), the LOADSTAR displays the correct help chapter for your support. Colour printout function of the active window is also available. The tool includes a user friendly filter ensuring reports are accurate and relevant.

## Loading condition library

Feature for saving and restoring conditions in LOADSTAR. The function also supports the export and import of conditions generated on other computers using the ship's LOADSTAR program.
The LOADSTAR can export complete condition files in Json format.

## Integration with planning tools

The LOADSTAR program includes an advanced integration capability that makes it suitable for shore based server installations where multiple planners can retrieve LOADSTAR generated data simultaneously. The LOADSTAR exchanges BAPLIE, IFTDGN, tank data, complete stability, stress, lashing and IMDG analysis all in one simple file.

We are looking forward to support you. Our strength is your benefit

KOCKUMATION GROUP

Kockum Sonics POLARMARINE Texon MARINE ALIGNMENT

Subject to alteration without notice.

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