

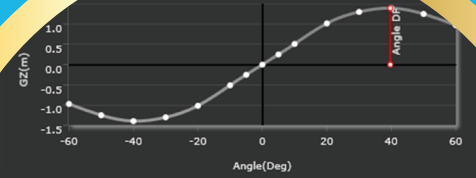
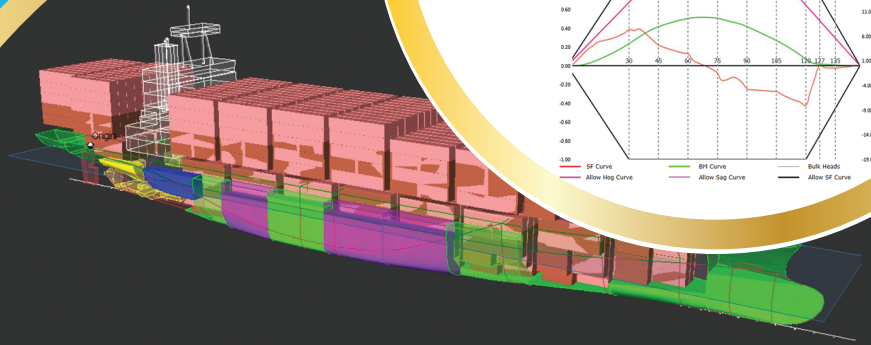


CyberMaster

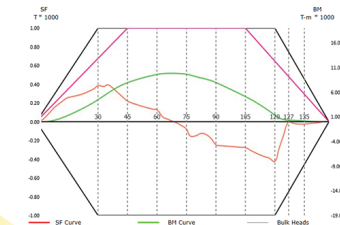
3D

Advanced Ship Loading Software

Container Vessel



Maximum GZ Occurs at 38.75 Deg
 Area Upto 30 deg 0.38 m-rad
 Area Upto 40 deg/Angle DF 0.62 m-rad
 Area 30 deg - 40 deg/Angle DF 0.23 m-rad
 Maximum GZ 1.40 m
 GoMt 2.83 m



Tree View

- Consumables 20/4.75 T
- Heavy Fuel Oil 2477.89 T
- Diesel Oil 118.89 T
- Lubricating Oil 0.00 T
- Fresh Water 376.41 T
- Miscellaneous 0.00 T
- Water Ballast 4230.64 T
- Diesel/Bunk Constant 761.41 T
- Container 16000.00 T

Result Bar

General

Displacement 31157.10 T KGD 10.696 m

Dead Weight 24007.10 T LCG 82.844 m

SDWT 73.00 T FSM 1262.200 T-m

Draft (USK)

Draft Forward 9.177 m Trim 0.655 m

Draft Mean 9.505 m Heel 0.556 Deg. S

Draft AR 9.832 m

Stability

Inflat OK Weather OK

Strength

Mix OK Frame OK

Position	Container ID	Weight T	Max Weight T	POL	POD	Type	Length Ft	Depth Ft	LCG m	TCG m	VCG m
0010482	0010482	15.00	100.00				20.00	8.50	150.850	-7.392	17.351
0010484	0010484	15.00	100.00				20.00	8.50	150.850	-7.392	17.351
0010486	0010486	15.00	100.00				20.00	8.50	150.850	-7.392	22.383
0010488	0010488	0.00	100.00				20.00	8.50	150.850	-7.392	25.199
0010490	0010490	15.00	100.00				20.00	8.50	150.850	-4.938	17.351
0010494	0010494	15.00	100.00				20.00	8.50	150.850	-4.938	19.867
0010496	0010496	15.00	100.00				20.00	8.50	150.850	-4.938	22.383
0010498	0010498	15.00	100.00				20.00	8.50	150.850	-4.938	24.900

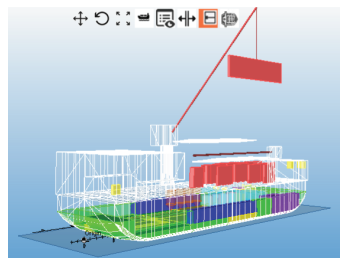
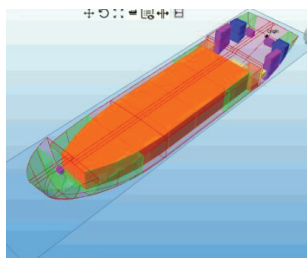
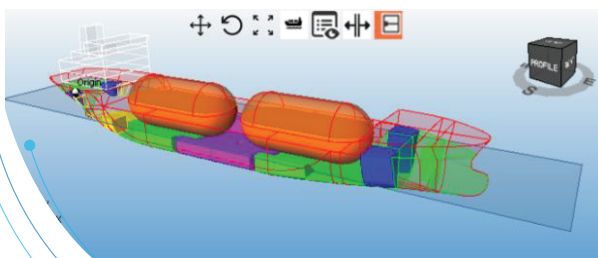
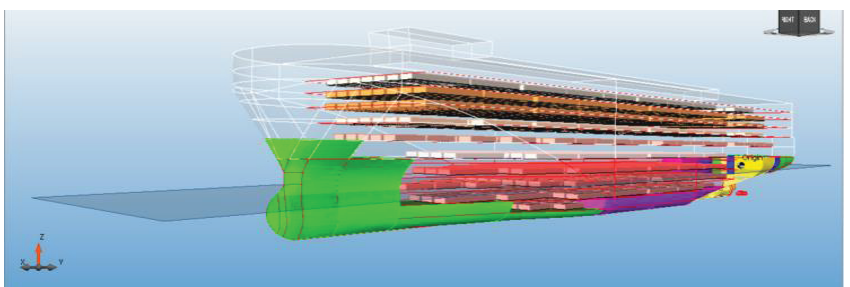
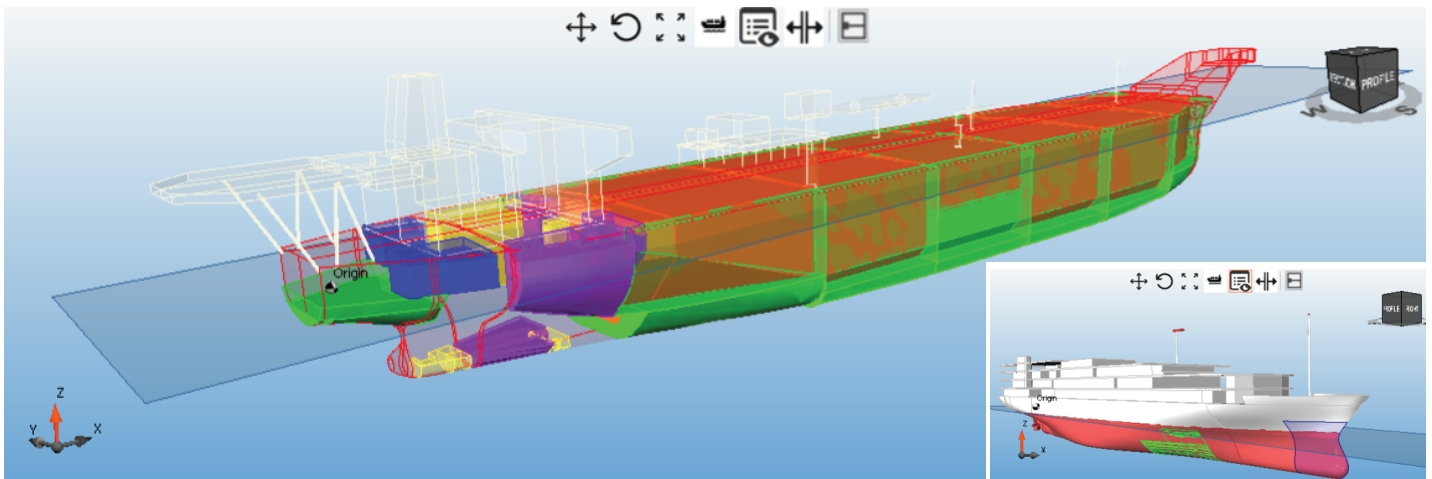
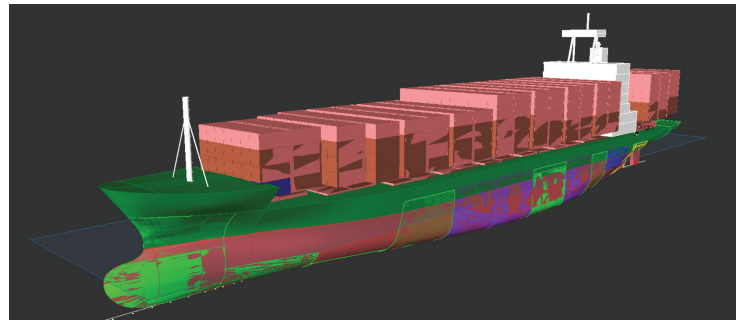


Cybermarine

GENERAL

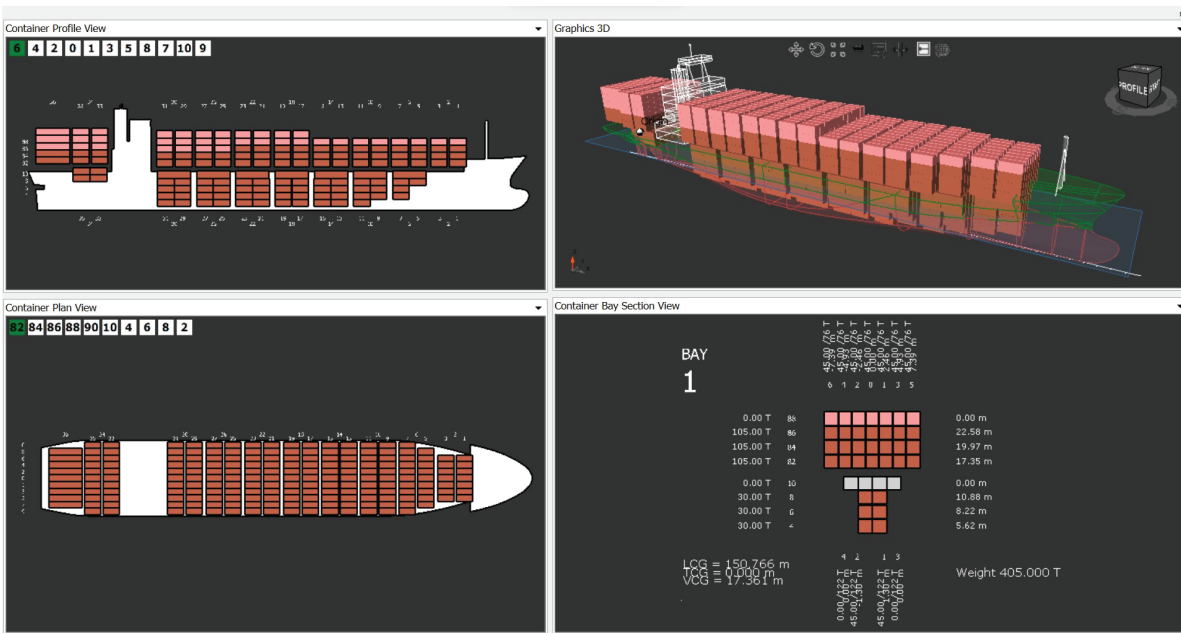
- **CyberMaster 3D** - is an advanced Ship Loading software with 3D Technology.
- Type Approved by DNV-GL & RINA
- Works on all windows based Desktops.
- Available for several types of Seagoing Vessels and Offshore Assets.
- The software is available with several superior modules as enumerated below.
- Software is built to perform all necessary operations pertaining to a Container vessel's operation.

Bay No.	Bay Name	Bay Type	Bay Code	Bay Length (m)	Bay Width (m)	Bay Height (m)	Bay Volume (m³)	Bay Area (m²)	Bay Weight (kg)	Bay Capacity (kg)	Bay Status
1	Bay 1	Bay	101	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK
2	Bay 2	Bay	102	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK
3	Bay 3	Bay	103	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK
4	Bay 4	Bay	104	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK
5	Bay 5	Bay	105	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK
6	Bay 6	Bay	106	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK
7	Bay 7	Bay	107	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK
8	Bay 8	Bay	108	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK
9	Bay 9	Bay	109	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK
10	Bay 10	Bay	110	10.0	10.0	10.0	1000.0	100.0	10000.0	10000.0	OK

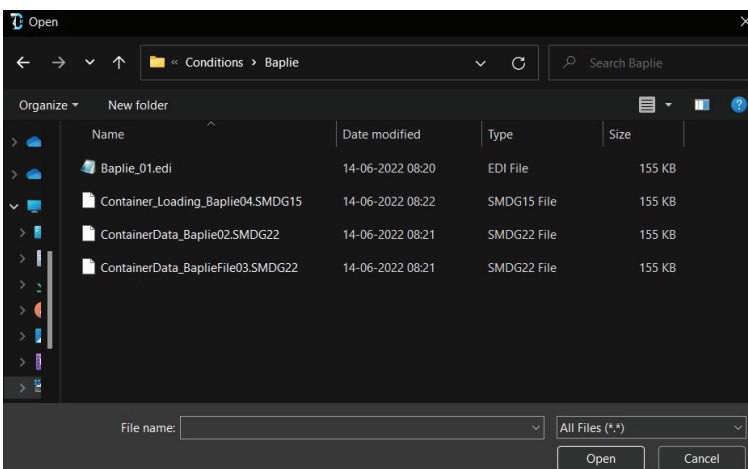


3-D GUI MODULE

- CyberMaster3D's graphics facilitate the operator to work on dual monitors.
- Enhanced display with the 3D model of the vessel with tanks & containers.
- Real time simulation of the tank filling & container stowage.
- Graphical simulation to view Bay Section View, Plan & Profile View.
- Option to view the Deck wise & Hold Wise Container Distribution.
- Provision to see container properties by cursor pointing.



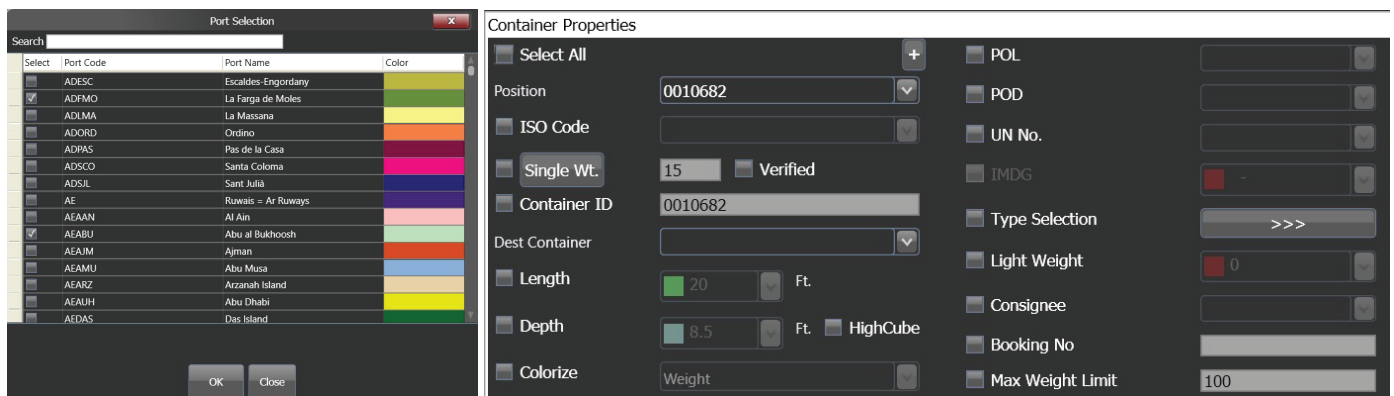
STOWAGE DATA INTERFACE



- Container data input by Baplie File in *.EDI, *.SMDG22, *.SMDG20, *.SMDG15 formats.
- Provision to import loading conditions from Microsoft Excel.
- Provision to Back-up & Restore Loading Conditions.

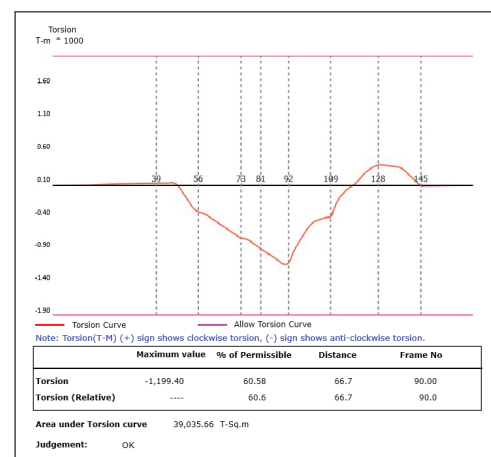
STOWAGE PLANNER

- Specific tables showing Bay wise & Hold Wise Container Distribution.
- Provision to assign Container Properties such as ISO Number.
- Standard 20 ft, 40 ft container properties pre-defined in the software.
- Non-Standard Container types pre-loaded as per Approved Stability Booklet.
- Container selection based on property such as Depth, IMDG Code, Length, Lightweight, Port of Discharge (POD), Port of Load (POL) and Type.
- Stack Weight Check during Loading.
- Provision to assign weight for single unit or as stack wise homogeneous load.
- List of POL, POD available by default in the software for user selection.
- Vessel visibility check based on IMO/SOLAS Compliance.



TORSION MODULE

- Direct computation of longitudinal still water torsion.
- Accurate consideration of torsional contribution due to transverse lightship distribution.
- Graphical representation throughout vessel's length.
- Verification of the torsion values against the permissible limits.
- Examine if the absolute amount of area under the static torsional moment curve exceeds the allowable value.
- Warning for violation.



IMDG COMPLIANCE CHECK MODULE

- Based on IMDG 2020 (Amendment 40-20)
- IMDG Classification of Cargo pre-defined in the software.
- Easy check of IMDG container segregation after loading any Baplie files.
- Intelligence to exclude containers from same segregation group.
- Identification of Container type using ISO Code.
- Separate IMDG check for open and closed containers based on IMDG code.
- Identification of Classes, sub classes and segregation code from UN Number.
- Container Segregation checks post loading for 20ft, 40ft and combinations simultaneously.
- Separate container segregation check for hold containers and deck containers.
- Colour Coding of Containers based on respective IMDG Class for ease of identification.
- Clear and proper segregation requirement message based on latest IMDG code.
- Provision to check IMDG containers against nearby reefer containers.
- Recommendation message for smart stowage of IMDG containers based on segregation requirements.
- Vessel specific limitation of certain IMDG class containers at specific locations based on Vessel's IMDG certificate.
- User can view the segregation requirement table in the software extracted from latest IMDG Code.

Container Segregation (cargo segregation is as per 2020 Imdg code)

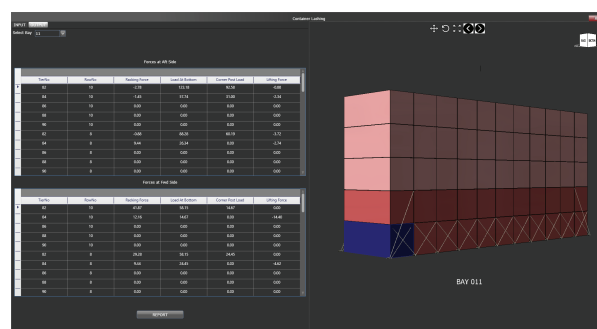
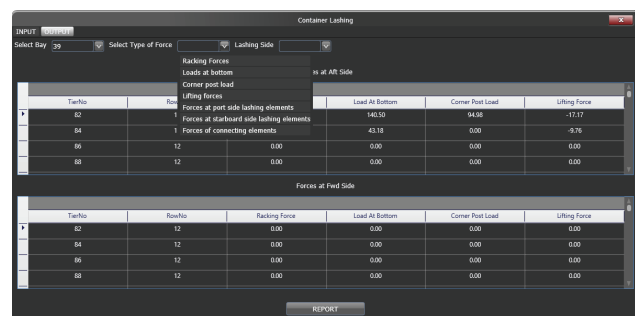
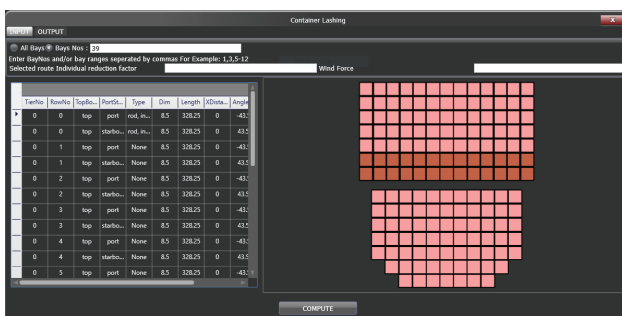
Container Position	UN No	IMDG Class	Blocking Cont Position	IMDG Class	UN No	Segregation Requirement	Recommendation*
0220584	1824	8	0220586	8 (Reefer)	1791	Stow away from Reefer container	
0310082	1558	6.1	0330482	9 (Reefer)	3496	Stow away from Reefer container	
0330584	1987	3	0390482	9 (Reefer)	3480	Stow away from Reefer container	
0350482	1052	8,6.1	0390482	9 (Reefer)	3480	Stow away from Reefer container	
0350384	2048	3	0390482	9 (Reefer)	3480	Stow away from Reefer container	
0350386	2735	8	0390482	9 (Reefer)	3480	Stow away from Reefer container	
0350584	2048	3	0380584	(Reefer)		Stow away from Reefer container	
0350584	2048	3	0390482	9 (Reefer)	3480	Stow away from Reefer container	
0370384	3263	8	0390482	9 (Reefer)	3480	Stow away from Reefer container	
0210802	3159	2.2				Class 2.2 is not allowed in hold : 3	Keep 0210802 in hold 1
0210304	3159	2.2				Class 2.2 is not allowed in hold : 3	Keep 0210304 in hold 1
0231006	2735	8	0260808	8	2794	Seg Type - 2 - "Separated from" Long - 1 CONTAINER SPACE OR 1 BULKHEAD Trans - 1 CONTAINER SPACE Vert - Not allowed to keep in a same vertical line unless separated by deck	Keep 0260808 in Bay 027 or Bay 023
0230802	3159	2.2				Class 2.2 is not allowed in hold : 3	Keep 0230802 in hold 1
0230304	3159	2.2				Class 2.2 is not allowed in hold : 3	Keep 0230304 in hold 1
0300504	2857	2.2				Class 2.2 is not allowed in hold : 4	Keep 0300504 in hold 1

*Run IMDG Segregation Check again after arranging containers as per recommendation.
**Note: IMDG containers which are segregated properly are not listed in above list.

OK Print

CONTAINER LASHING MODULE

- Container Lashing calculation in accordance with IMO/Class Rules and Guidance.
- Lashing computation based on 3D finite element model based on linear springs.
- User friendly GUI enables the user to calculate the lashing system's strength for any stack with minimal manual input of data.
- Provision to check lashing for all bays or user defined selected bays.
- Container Lashing Module is compatible with all Baplie extensions which makes container generation very easy.
- Provides Graphical views of lashing and containers for better understanding of users.
- User can evaluate mixed, external, and internal lashings at multiple tiers and multiple lashing points, using different type of lashing elements like Rods, chain and ropes.
- Twist-lock gaps in both vertical and horizontal directions and dynamic effects are considered in computation.
- Calculations for Lashing bridge can also be performed.
- Option of using rules-based route specific reduction factor which reduces lashing requirements for specific routes.
- Option to create report for detailed documentation of the calculated stacks.
- Results can be seen in graphical as well as in tabular form.
- Provides option to use additional lashing elements from vessel inventory for new optimized lashing system.

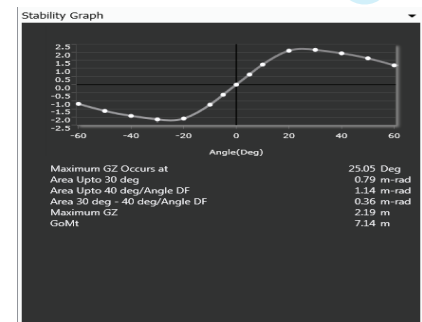


Methodology of Computation

- Innovative mathematical modelling with high accuracy & computing speed.
- A novel 'discretised hull form concept' mapping the volumetric properties on a 3-D grid with draft, trim and heel as the axes.
- Equilibrium is computed from the 3-D grid by solving the force (vertical) and moment (longitudinal and transverse) balance.
- Free surface effects accounted by either virtual free surface moments or real wedge shift moments.

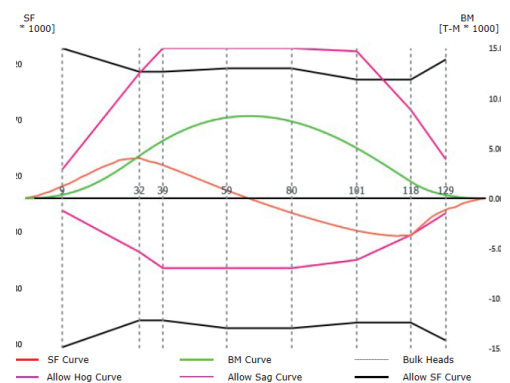
Loading Conditions & Intact Stability Computation

- Preparation of Loading Conditions via percentage filling, volume, weight or sounding/ullage depth.
- Use of accurate tank soundings from 3-D models.
- Computation of Draft, Trim & Heel
- Displacement & Deadweight Calculation
- GM & GoM Calculation
- Intact Stability computation as per I.S Code 2008 & compliance comparison
- Damage Stability check using Max KG or Minimum GM limit curves.



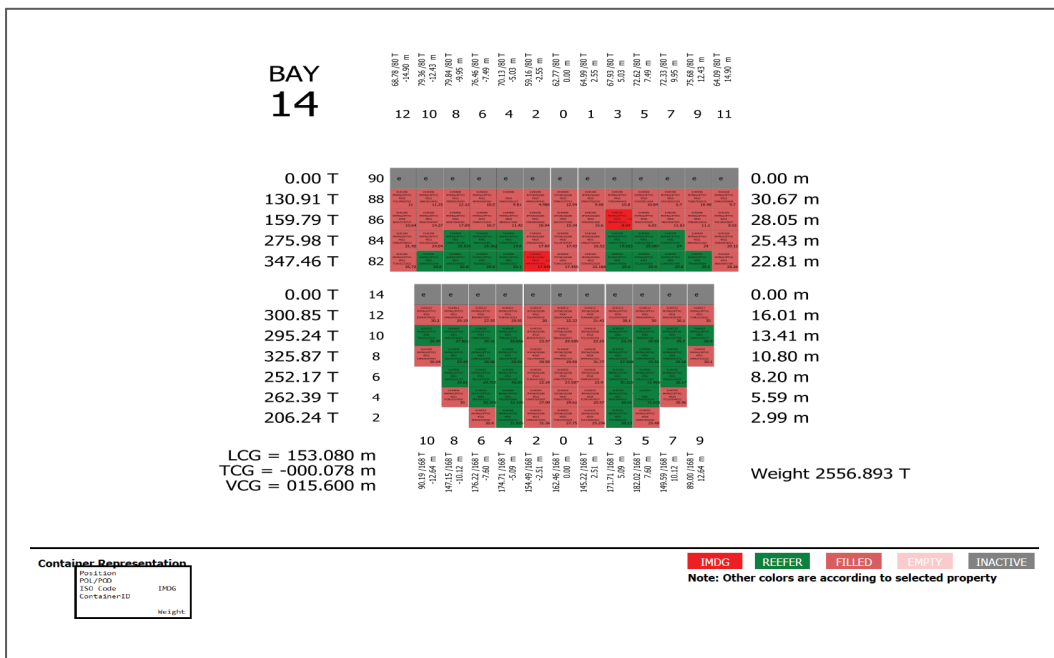
Longitudinal Strength Computation

- SF/BM Computations
- Graphical Representation throughout length of vessel.
- Option to input allowable values for SF & BM as per service restriction.
- Printable Reports with SF/BM values against Permissible allowable.
- Warnings for violation.



Generation of Reports

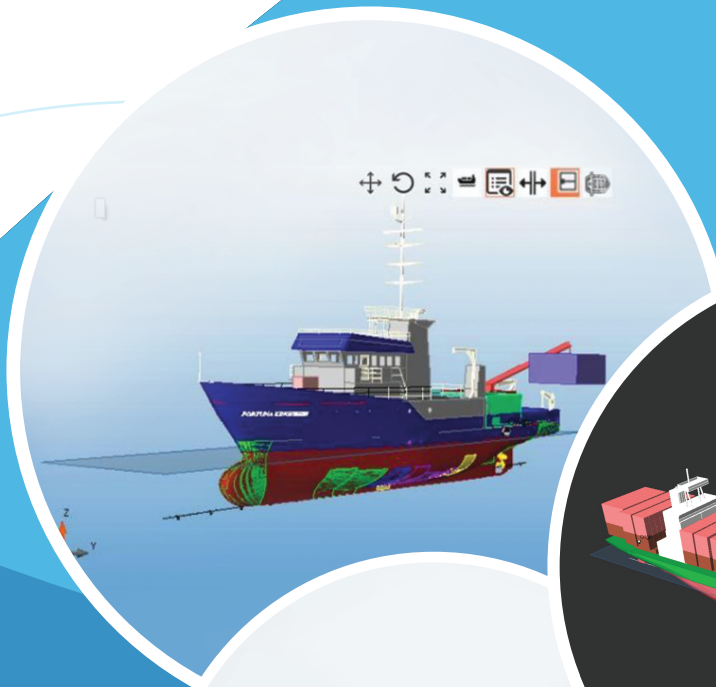
- Loading Condition Reports
- Detailed Intact Stability, Longitudinal Strength & Damage Stability Reports
- Damage Summary Report to quickly assess the results.
- Units choice-British units/SI units, American Barrels
- Vessel Specific Reports such as:
 - Container Bay Wise Report
 - Container Stowage Plan
 - Container Loading Report
 - Cross tabular report showing number of containers at various POL and POD's.
 - Container Segregation Check Report



User Defined Parameters

- Enables master to provide operational constraints.
- User defined limits for Trim, Heel, Air Draft and Bow Thruster Draft.
- Warnings if violation is observed

Draft Details			
	Computed Values	Permitted Values	Messages
Mean Draft(Extr.)	2.868 m	3.950 m	OK
Trim	0.619 m	0.642 m	OK
Draft(Prop Immer.)	3.178 m	2.100 m	OK
Air Draft	21.276 m	100.000 m	OK
Displacement	420.730 T	528.790 T	OK
Heel	-5.813 Deg.	3.000 Deg.	NOT OK



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