Basic Loading Calculations for all vessel types

• For all vessel types: Container, Tanker, Bulker, PCC, General cargo, RoRo, Gas, Passenger,
• Stability and strength calculations, covering all pertinent international regulations like IMO, 2008IS-CODE
• Approved by all leading classification: ABS, BV, CCS, CR, DNV, GL, KR, LR, NK, RINA
• Numerical and graphical results for GM, Trim, Heel, Draft with/without deflection, Visibility Air draft, Prop Immersion, Shear forces, Bending moments and Torsional moment
• GM check against various GM req. curves
• GZ curve for dynamic stability
• Automatic wind pressure area calculation
• Automatic ballast tank optimization
• Automatic Trim and Heel adjustment
• Tank plan with visual editing
• Visual and audible warning
• Warning limit defined by user
• Draft survey of actual displacement calculation using measured draft
• Dead load (Unknown WT) calculation
• Unit switch several measurement

NEW: Multiple Language (English/Deutsche/Russian/Chinese)
NEW: User interface with tabbed main window for multiple views, all fully customizable
NEW: Screen and print reports in PDF, HTML and XML formats
NEW: Squat calculation based Dr. Barrass experienced method

Optional modules for all vessel types:
• Tank online and LAN, it transfers tank volume, level, temp. into LOADOMETER and distribute to local PC via TCP/IP.
• Ballast water exchange, it manages in accordance with IMO A.868(20) and create the Ballast Water Reporting Form
• Residual strength, it calculates residual strength of the damaged ship
• Grounding/Ungrounding, it calculates the effect of grounding considering Rock/Two rock/Sand-bank

Delivered over 1,740 vessels as of May 2012
**Container vessel** (Container management module : BELCO)

BELCO enhances the LOADOMETER loading computer with fast and easy container management features. Any changes to the container cargo are immediately reflected in LOADOMETER’s stability and strength calculations. The screen can be shared between LOADOMETER and BELCO to view the results at any time. Also, LOADOMETER’s screen and print reporting in PDF, HTML and XML formats is fully available to BELCO.

**Data Features**
- Variable container sizes
- Wide range of information per container: type, weight, port of loading/discharge, operator
- Calculation of vertical, transversal and longitudinal center of gravity for each container
- Full EDIFACT support
- NEW: UN Locode database
- NEW: Port rotation with date/time and quays
- NEW: 3D view

**Visual Features**
- NEW: Multiple bay views with individual settings
- NEW: Visualization of hatch covers and tweendecks
- Containers can be colored by a variety of criteria, e.g. by port of discharge
- NEW: Multiple colors per container
- Longitudinal section and top view with tanks, holds, containers and visibility lines
- NEW: 3D view

**Cargo Handling**
- Efficient pre-stowage and predischarge functions, bay-, row-, tier- or port-wise
- Hatchcover handling
- Symbolic presentation of pier
- NEW: Visual editing of reefer positions and hot areas
- NEW: Loading / discharge list
- NEW: Plan view
- NEW: Fully functional layer view
- NEW: Block shift
- NEW: Multi-step Undo
- NEW: Result table with free selection of criteria

**Checks**
- NEW: Visibility (IMO and Panama) check with blind sectors, in relation to trim/draught change
- NEW: Combined check of stack weights, flying containers, reefer positions, hatchcover clearance, type, UN Locode, overdimensions, handling instructions, container numbers

**Dangerous Goods Module for Container**
- Checks the fulfillment of the stowage and segregation requirements imposed by the latest version of the IMDG Code.
- Includes a database of dangerous goods with all relevant information from the IMDG Code and the Emergency Schedules (EmS)
- Unlimited number of dangerous goods both per container and per ship
- NEW: Company-specific blacklists of IMDG classes and UN numbers
- NEW: CFR 49, list of CDC goods
- NEW: Takes orientation of reefers into account

**Lashing Module for Container**
- Calculation according to the rules of the classification societies GL, DNV, BV, ABS and LR. Approved by GL.
- Calculation of lash forces per stack, with exceeding values in red
- NEW: Flying hints show exceeding lashing forces / container
- NEW: Calculation of maximum weight of an additional container
- NEW: Visual lashing
- NEW: Twistlock and cone count
- NEW: Check of available lash eyes
Tanker and GAS vessel

- Ullage Report corrects the density and weight of the cargo in tanks in relation to the temperature, providing precise volume data for billing purposes. If hydrostatic curve tables with trim and heel are available, the tank volume is corrected for the current trim and heel. Water dip can be taken into account, too. The user maintains a product database with the appropriate density and temperature correction factors. ASTM tables 54A/B/C/D as well as linear correction are supported. Also, bill of lading, weight in air/vacuum and calculation of OBQ, ROB and GSV are supported. Stowage plan by PDF.

- Online reads tank filling levels into LOADOMETER. It relieves the user of manually entering the values that are needed for the stability and strength calculations. Drafts, trim and heeling can also be read online and applied in the LOADOMETER calculations.

- Dangerous Cargo
  It checks the fulfillment of the stowage and segregation requirements imposed by the latest edition of the IBC Code by IMO.
  Dago I checks stowage and segregation regulation in accordance with IBC and CHRIS. Includes the IBC database with all the relevant information from the Code and the EmS.
  Dago II adds the fire-fighting and safety plans in several graphics.
  Dago III contains the complete Medical First Aid Guide (MFAG).

- Damage stability calculation
  Damage stability is calculated based on the hull form and inner structure of the ship, using the lost buoyancy method. Whenever the cargo or the levels of ballast and bunker tanks have been changed, the required damage conditions - as laid down by the classification society - are calculated automatically. The effect of the change is shown immediately. The calculation results are checked against the appropriate IMO criteria, e.g. IBC code, SOLAS 74, MARPOL 73/78, IACS UR L5.

- LPG Volume calculation
  Actual volume of Butane/Propane is calculated using observed gauge value, liquid/vapor temperature, pressure, MOL wt and shrinkage factor. And it also creates LPG report.

- Loading/Unloading Sequence
  It optimizes a cargo distribution with respect to certain criteria, e.g. trim, GM, stability, stress of the vessel.
MIXCARGO enhances the LOADOMETER loading computer. It is a visual solution for managing all kinds of cargo: containers, cars/trailers, single parts and homogeneous surface cargo. Loading is done interactively: You can draw the cargo area as a polygon, i.e., an irregular shape, or use standard types. Guiding lines appear automatically to help you properly align an item, or you can put it in any position and even rotate it freely. The cargo is shown both bay-wise and deck-wise, so you can easily rearrange it. Items can also be stowed on top of each other. On the other hand, accidentally loading containers in the same space with other cargo is prevented.

- Homogeneous surface cargo by input of a stowing factor
- Wide range of information per item: type, weight, port of loading/discharge, dangerous goods IMDG codes, owner, operator etc.

- Items can be colored according to a variety of criteria, e.g., by port of discharge
- Extensive reporting facilities, e.g., bays, bay overview, decks, lists of all items that match selected criteria, centers of gravity, various sums and statistic
Bulk carrier vessel

- Grain stability form creation for USA/Canada/Australia

**Loading/Unloading Sequence** optimizes a cargo distribution with respect to certain criteria, e.g. trim, GM, stability, stress of the vessel. After number of holds to take a certain amount of homogeneous cargo is selected, the program makes a proposal how to divide the cargo among the selected holds. A loading/unloading plan is created automatically and can both be printed and written to pdf. The plan fulfills the form requirements of IMO resolution A.862 (20).

- **BULKSTRENGTH** calculates the longitudinal strength for flooded conditions according to IACS regulation S17
- **BULKLIM** checks for all loading limits of weight
- **Dangerous Cargo**
  - DAGO I checks the stowage and segregation requirer
  - DAGO II adds fire-fighting and safety plan
  - DAGO III contains the complete MFAG

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