GBMS

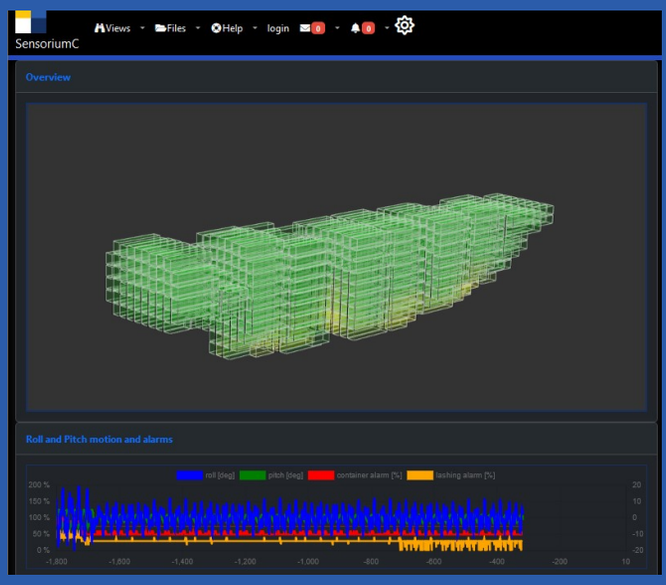
Dear reader,

We are excited to announce that GBMS has developed a new tool specifically designed to improve the safety of container transport called SensoriumC.

At its core, SensoriumC is a decision-support tool that provides real-time information on the loads and lashings of containers in the stacks. It does this by measuring the ship's motions and combining this data with container mass and placement information found in BAPLIE-files.

This allows you to make informed decisions about the safety of your voyage and whether heading should be changed or speed reduced. Think of it as a 'loadometer' for container stacks.

But SensoriumC doesn't just stop there. It also provides functionality for pre-voyage planning by allowing you to check BAPLIE-files, suggest changes, and even return a modified BAPLIE-file to the terminal. You can easily access information such as container type, color, mass, dangerous goods, and reefer information, and most importantly, it allows you to verify your planning against the CSM and ensure that limits are not exceeded.



The system consists of a server, a motion sensor, and will be accessible on any computer, phone or tables connected to the onboard intranet or WiFi.

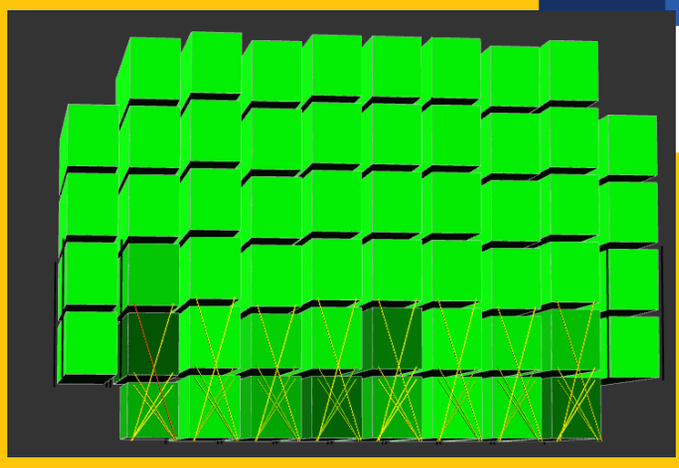
Our goal is to make this tool easy and intuitive to use, and we value your feedback. Please let us know how we can improve and make SensoriumC the best tool for planning, checking, verifying, and monitoring your container cargo.

How it works

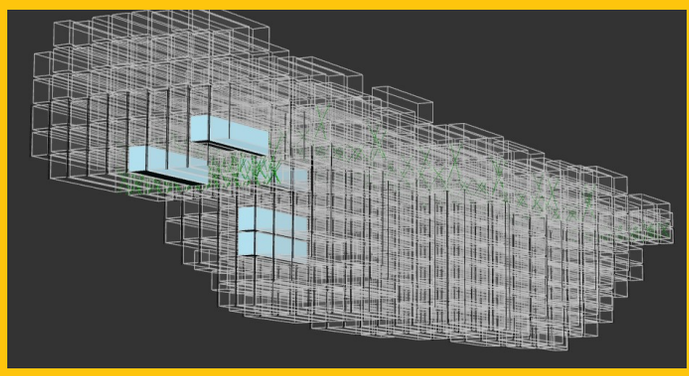
SensoriumC has 3 operational modes:

- Handling
- Monitoring
- Reporting

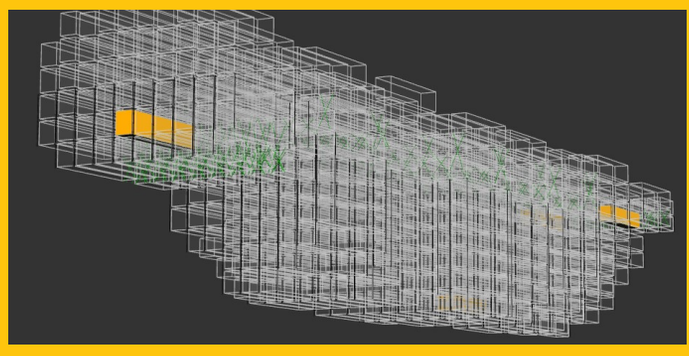
Handling mode is used to check an incoming or modified BAPLIE-file. The maximum accelerations are taken from the class rules and the CSM. The proprietary SensoriumC software checks within seconds if the proposed stowage fits in the ship's layout, if the masses of the containers are OK and if the stowage plan and proposed lashing fulfills the requirements set forward by the class rules and the CSM. The user interface allows you to easily visualize the containers and obtain information about them.



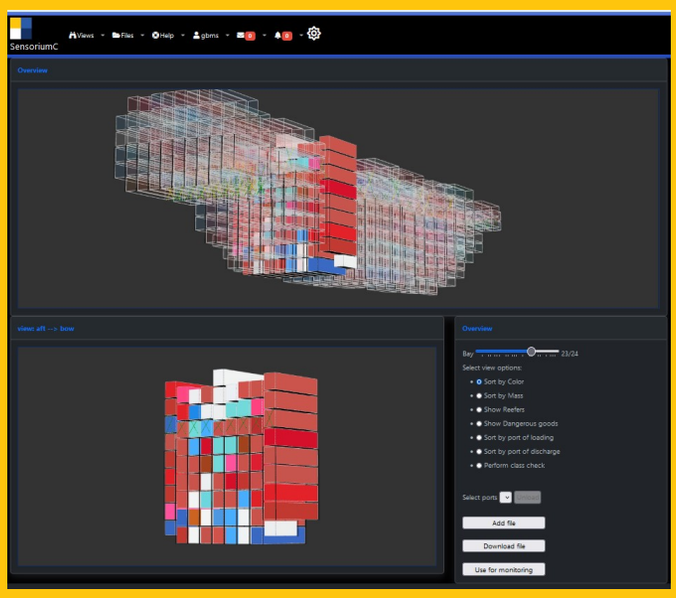
Container masses



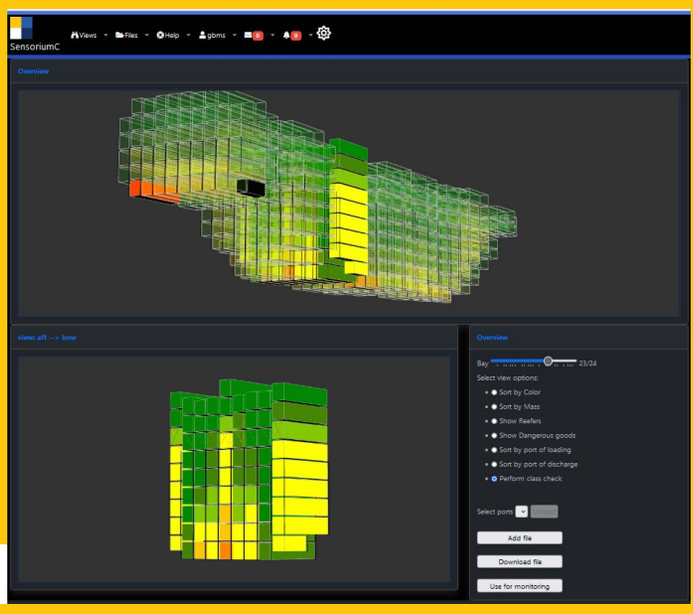
Reefer locations



Dangerous goods locations

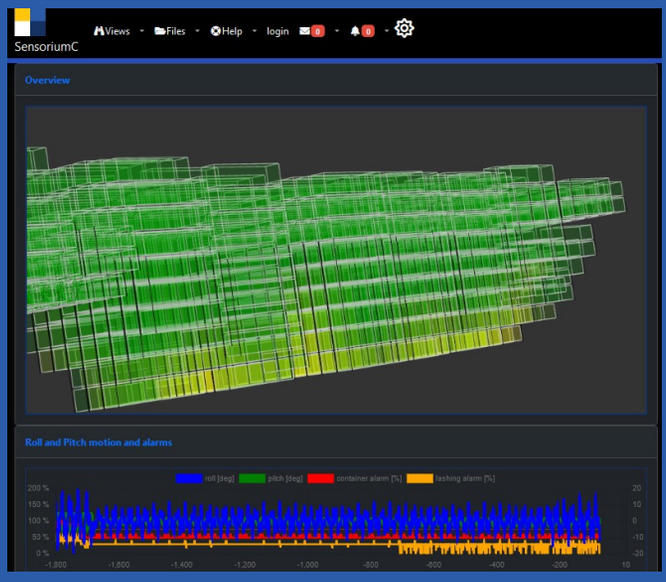


Containers by actual color



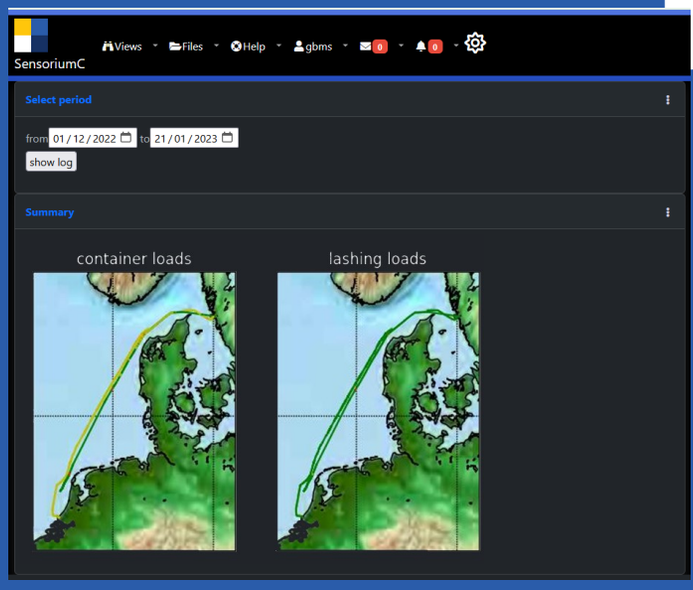
Class check

In **Monitoring mode** the ship's motions, accelerations and rotations, are obtained from the installed sensor. The accelerations at any position on the ship are extrapolated from this sensor using ridged body assumption. The accelerations (a) at all container locations with mass (m) provide all internal container force (F) according to Newtons law (F = m•a). Our proprietary solver then solves the resulting external loads acting in corner posts, twistlocks, lashings etc. Slack between twistlocks and lashings is included as well.



The user interface shows, in 3D, how far the actual forces compare to the maximum allowable forces from the class rules and CSM. At the bottom of the screen, the time history of the maximum forces is shown, enabling the crew to respond when forces approach critical limits. This could mean changing heading or speed or changing the filling of the ballast tanks.

In **Reporting mode** a map of the sailed track is shown, where the color of the track indicates the maximum forces acting in that part of the track.



The log-files of the sensor and loads are stored and can be retrieved to get detailed information on any forces and ship motions at any point in time.

Usage

The input of the system consists of the BAPLIE-file only. GBMS has taken care that in most cases no modification of the BAPLIE-file is needed before reading it into the system. If the system cannot read the file, feed back is provided on what has to be adapted. Once read, the BAPLIE-file can be checked, modified and saved using the **Handling mode**.

Once a stowage plan is approved and the cargo is being loaded, the BAPLIE -file should be forwarded to the **Monitoring mode.** From that moment on, the system monitors and shows the load for that specific BAPLIE-file. Reports can be generated at any time using the BAPLIE-file active in each part of the voyage.

Contact and feedback

At GBMS we are contiguously improving our software. Therefore we are eager to hear your experience with the SensoriumC system. If you have any feedback, questions, remarks, requests or idea on new features, please give us a call or drop an email.

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