



# How SPOS Seakeeping helps stop containers from getting lost at sea

Losing shipping containers at sea is a significant problem for the industry - recent figures from the World Shipping Council state that an average of [1,382 shipping containers](#) are lost at sea every year. However, [more than 3,000 containers were lost in 2020](#) alone, including [one vessel](#) that lost 1,900 containers on its way to Kobe, Japan.

The consequences for shipping companies goes beyond goods going overboard. Container loss can incur charges and damage relations with their clients. It puts the safety of the vessel's crew at risk and causes an environmental hazard. DTN [SPOS](#) Seakeeping combines accurate weather forecasting data and with customized vessel performance to help captains avoid putting themselves into situations where they may experience container loss. In this article, we'll tell you more about it.



## How containers get lost at sea

The primary cause of containers becoming lost at sea is adverse weather - and the waves caused by rough weather. The lashing determines whether the containers are kept in place. It has to be strong and tested to withstand specific pressures, but challenging weather can exceed these limits.

The effect of waves on cargo varies depending on the type of ship:

- **Container ships:** [roll motion](#) causes containers to lose their lashings and either fall into the sea or move around so much it damages the cargo inside
- **Car carriers:** shifting cargo
- **Bulk carriers:** liquefaction of the cargo which can be dangerous to the ship

Right now, many shipping companies rely on their captains to interpret weather forecasts and plot routes that minimize the effects of adverse weather while moderating their speed accordingly. Often, it's done on gut instinct alone.

## Introducing Seakeeping

Seakeeping is an add-on to DTN SPOS. It is the only seakeeping solution automated to include weather forecasting and vessel motion forecasting in one user interface.

It works by combining accurate and detailed weather forecasting with hydrodynamic modeling and operational data from each ship to advise captains on the best

route. Traditionally, wave and weather conditions determine optimized vessel routes but SPOS Seakeeping factors the vessel's design and response to metocean conditions when determining the best route. This provides more precise and safer route advice specifically tailored to the operational limitations of the vessel and to avoid weather that can cause a specific ship to lose cargo. SPOS provides captains this information as early as possible, to enable confident decision-making.

## How it works

Hydrodynamic details from the ship's hull design are loaded as DTN SPOS Seakeeping is installed. DTN and ABB then create a matching model to evaluate how the vessel will handle with the force of waves as they hit. These results are entered into a database installed onboard the ship. With this accurate, personalized information, you can be confident that you are doing as much as you can to safeguard your cargo.

Three out of the five biggest container companies are using SPOS Seakeeping to minimize container loss. Larger companies with similar ships can utilize the 3D version, while new users can get started with the 2D version.

## Extra benefits

Shipping companies realize a number of benefits when they start using SPOS Seakeeping. These include:

**Economic benefits** – Plotting the most efficient route and maintaining a constant speed helps conserve fuel, which is the primary cost for any shipping company.

**Time saved** – Avoiding rough weather also helps save time and avoid delays in getting to the destination port.

**Simple to set up** – Seakeeping is easy to add to your existing SPOS product. We estimate that building a hydrodynamics simulation takes around two weeks.

**Unburden captains** – Being able to access accurate, detailed operational intelligence allows captains to take the gut instinct out of route planning.

**Increased safety** – Plotting a route around adverse weather areas minimizes accidents that could be dangerous for your crew.

## Find out more

DTN SPOS Seakeeping is the only solution of this type on the market, combining weather data with the unique attributes of each vessel to allow companies to optimize their routes. Don't leave the health of your cargo to chance or gut instinct. Let the data point you in the right direction. Read the whitepaper "[How SPOS Seakeeping Prevents Containers from Getting Lost at Sea](#)" to learn more.

Want to try SPOS Seakeeping? [Request a demo.](#)

Learn more at [www.dtn.com/spos](http://www.dtn.com/spos)

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