

June 7, 2019

Kawasaki Kisen Kaisha, Ltd.

### **Installation of “Seawing”, an automated kite system utilizing natural energy**

~ Social contribution by reducing environmental load ~

We have decided to install the automated kite system “Seawing” \*<sup>2</sup> developed by AIRSEAS \*<sup>1</sup> which was spin off from AIRBUS SE, the major aircraft manufacturer, to a large bulk carrier owned by our company.

“Seawing” is mounted on the bow of the vessel and is unfolded by simple operation from the bridge under certain conditions of wind power and wind direction, and assists propulsion power of the vessel with utilize wind force effectively.

In the installation of this system, we carry out intense assessment "Seawing" performance and innovative technology for two years under the close cooperation of AIRSEAS, and confirm that this system can greatly contribute to the reduction of the environmental load associated with the ship's operation. In a case, the bulk carrier can reduce emissions by more than 20%, about 5,200 tons of CO2 annually.

In addition, we and AIRSEAS cooperate on further improvement of their solution by utilizing the operation and performance data obtained from the ship operation and performance management system "Kawasaki Integrated Maritime Solutions"\*<sup>3</sup> installed in our fleet vessels.

We will continue to work on CSR activities for environmental friendly to achieve the target of "K" LINE Environmental Vision 2050\*<sup>4</sup> and the GHG reduction of IMO, through the studies, developments and installations various environmental improvement technologies such as "Seawing".

\*1: AIRSEAS

AIRSEAS as a spin-off of AIRBUS combines aeronautical know-how in modelling and control laws with maritime technology to bring a game changing energy efficiency solution to shipping.

\*2: Seawing

Seawing combines aeronautical know-how with maritime technology to create a breakthrough in the maritime transportation sector. A simple switch launches or recovers the kite which unfolds, operates and refolds autonomously. The system collects and analyses meteorological and oceanic data in real-time. Seawing adapts to this information in order to optimize its performance as well as to ensure maximum safety.

\*3: Kawasaki Integrated Maritime Solutions

Integrated vessel operation and performance management system.

<https://www.kline.co.jp/en/news/other/other3295047094663452046.html>

\*4: "K" LINE Environmental Vision 2050

<https://www.kline.co.jp/en/csr/environment/management.html#002>

