

# Membership case study: Namura



## Greener Ships with Less CO2 and Less Fuel

We share the 2040 Vision of SSI and in this case study focus on new ship design to reduce greenhouse gas emission and fuel resource consumption.

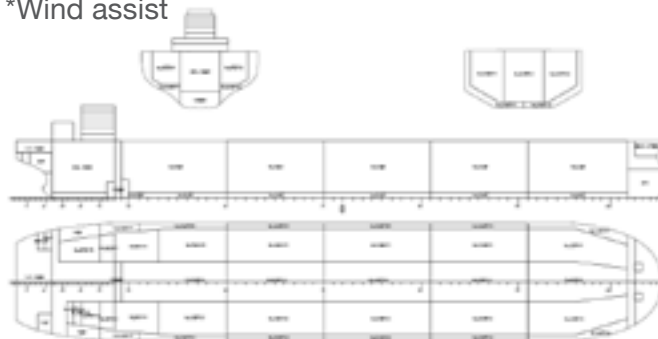
### CONTEXT & OBJECTIVES

Ships are the most efficient transportation method with the smallest impact on environment per ton-mile transportation, but they consume huge quantity of fuel in total in world scale. Therefore, reducing GHG emission from ships per ton-mile transportation is necessary and important. We are aiming to reduce CO2 emission as well as fuel consumption by 30% for our next generation ship designs, to contribute to sustainable shipping and environmental protection.

### SOLUTION

We are working on the following technologies, focusing on the top three , but we are also going to continuously challenge the other ones.

- \*Improvement of Hull Form and Propeller
- \*Development of Energy-saving Devices (Combination of two types of fins : NCF + Rudder Fin, where NCF stands for “Namura flow Control Fin” on stern.)
- \*Waste Heat Recovery
- \*New Concept of Minimal Ballast water Ship, MIBS
- \*Slow Steaming and ship speed
- \*Low-friction paint
- \*Air Lubrication
- \*Voyage Optimization
- \*LNG Fueled Ships
- \*Wind assist



Minimal Ballast water Ship, MIBS

### OUTCOMES

Approximately 30% reduction has been achieved for our capesize bulk carrier and 250,000t ore carrier designs newly developed, mostly on the strength of hull form improvement, more efficient propellers and self-developed energy-saving devices (NCF & Rudder Fin) .

The new concept of a MIBS has acquired AIP (Approval in Principle) from ClassNK.

We are convinced that the new designs will further satisfy our customers’ environmental and commercial needs, and promote our new building business.



### More information:

[www.namura.co.jp](http://www.namura.co.jp)