



## PBCF FUEL GAIN ANALYSIS FOR BULK CARRIER

**Vessel:** Bulk Carrier

### Scope of assessment

Study was conducted to understand the fuel savings from PBCF installation. PBCFs are an energy saving device (ESD) that can enhance propeller efficiency, thus requiring less power to propel the vessel forward at a certain speed.

### Conclusion

It was identified that the vessel has gained 4.8% on Fuel oil consumption after the PBCF installation. From our analysis with the reported data it was clear that no other dry dock effects added to this gain

### Merits of XShip performance

Normally fuel consumption calculation and prediction is difficult as it is dependent on various vessel operational parameters. Major problem with the assessment of the vessel performance is determining a baseline within the wide operating ranges. This makes both assessment and predictability of ship performance a complex phenomenon.

In general the assessment models are based on the model test results or sea trial results which doesn't consider the actual degradation of vessels. XShip performance creates the bench mark considering the dependency of various operational parameters and weather in FO consumption and power requirement. Hence Xship performance is most reliable in

- \* Identifying the ROI from other dry dock interventions
- \* Understanding the fuel gain from PBCF installations
- \* Predicting the fuel consumption for the vessels in future

### How XShip performance calculated the PBCF Gain?



The reported data before and after the PBCF modification was analysed using the XShip Performance tool. The model for the bulk carrier was created based on her actual consumption and its dependent variables. The performance of the vessel is compared based the model for post and pre intervention periods. It was found that there was a gain of 4.8% in Fuel consumption with this modification. The gain then was converted to the cost of the fuel for a specific period to know the return on Investment.

The analysis was helpful in understanding the payback period of the modification. And the ship management was able to take decision on this kind of investment for the sister vessels.