

Optimised maintenance increases large dredger availability

CASE STUDY: CASSIOPEIA FIVE PTE LTD.



“THE ADVANCED TECHNICAL SUPPORT FROM WÄRTSILÄ ALLOWS US TO PUT OUR FULL ATTENTION ON OUR CORE BUSINESS.”

Singapore-based Cassiopeia Five Pte Ltd. receives extensive technical support and advisory services for their large cutter dredger Cassiopeia V. This is the result of a five-year technical management agreement – comprising Dynamic Maintenance Planning (DMPTM) – combined with Advanced Technical Support.

“The support of Wärtsilä’s Technical and Field Service teams ensures the reliability and availability of our dredger, which needs to be in the best condition, even in the most demanding sea conditions,” says Shinji Yashima, Technical Manager at Cassiopeia Five Pte Ltd.

Cassiopeia Five Pte Ltd. is a wholly owned subsidiary of Japan-based Penta-Ocean Construction Co. Ltd., a global contractor in coastal and waterfront areas. Cassiopeia V (built in 2014) is a large cutter suction dredger,

combining Penta-Ocean’s established know-how with the latest European technology. The dredger is designed to navigate the open sea to work anywhere in the world. It can operate as a stationary or a self-propelled

CHALLENGE

- Preventing unnecessary stops and breakdowns
- Ensuring optimal engine operation

SOLUTION

- Providing advanced technical support and a technical management agreement to cover the engines and thrusters on the vessel Cassiopeia V.

BENEFIT

- Equipment condition is always monitored to ensure high availability and reliability
- Contract manager as a single point of contact, working closely with the customer in maintenance program planning
- Dynamic Maintenance Planning for extended and coordinated maintenance intervals
- Continuous access to technical experts for technical advice.

vessel, using a rotating cutter head to loosen material from the seabed.

WÄRTSILÄ PROVIDES RELIABLE AND EFFICIENT SOLUTIONS

Cassiopeia V often operates in harsh environments. As the vessel is hired for challenging long-term contracts, the company cannot afford breakdowns or failures.

The technical management agreement provided by Wärtsilä guarantees that the customer's installation runs under ideal conditions with optimised maintenance. As such, certainty of operations is efficiently ensured.

– We started out in 2015 with Wärtsilä's Advanced Technical Support, which covers extensive proactive technical information, service and advice to the ship's crew by a dedicated Wärtsilä team offering priority service and a support guarantee, says Mr Shinji, as he describes the start of the cooperation with Wärtsilä.

In 2016, a technical management agreement was signed in addition to the Advanced Technical Support provided, thus expanding the partnership between the two companies.

– Wärtsilä and Penta-Ocean have worked together before in other services-related vessel projects. Therefore, it was easy to decide in favour of an agreement. We trust in Wärtsilä's ability to provide reliable and efficient solutions that meet our needs. This agreement is flexible and tailored to our specific needs, says Mr Shinji.

The technical management agreement includes technical management support for the

dredger's two Wärtsilä 46 main engines, one Wärtsilä 20 auxiliary engine, and two Wärtsilä thrusters.

RELIABILITY IN DREDGING

Dynamic maintenance planning (DMP) enables extended and coordinated maintenance intervals. This is based on continuous condition monitoring data and periodical inspections, which are the basis for the maintenance planning.

– Normally, there is a fixed maintenance schedule based on the running hours of the engine. With this agreement and the DMP, maintenance is done according to the actual condition of the equipment. Thanks to this, the vessel operates at an optimal level, which has a positive impact on both fuel economy and maintenance costs, says Mr Shinji.

In addition, he explains that Cassiopeia Five Pte Ltd. places a lot of trust in Wärtsilä as an OEM. He believes that Wärtsilä can determine the correct safety limits for critical components based on Wärtsilä's experience, extensive condition-based maintenance knowledge and component evaluation.

– The advanced technical support from Wärtsilä allows us to put our full attention on our core business, which is dredging, while Wärtsilä provides us with all the expertise we need.

The agreement, part of Wärtsilä's Lifecycle solutions portfolio, allows the dredger's engine and thruster maintenance to be planned and carried out according to real condition instead of following an inflexible calendar-based schedule.

Online operational support enables advanced support and instant answers from Wärtsilä, reducing the

number of unscheduled maintenance visits onboard.

– The great value for us with the technical management agreement and the advanced technical support is that the condition of the engines and thrusters are always monitored. Furthermore, Wärtsilä's contract manager works closely together with our superintendent in planning the maintenance program. All this gives us continuous access to engine experts for any technical advice. We feel more comfortable in meeting our contract obligations having Wärtsilä working together with us, concludes Mr Shinji Yashima.

TECHNICAL MANAGEMENT AGREEMENT BENEFITS:

- Dynamic maintenance planning for improved predictability and optimised operations
- Savings in operational costs through reduced fuel consumption
- Reduced maintenance costs (10-20%) and fewer unplanned stops
- Increased availability
- Fixed monthly fee, parts, and work on purchase base

ADVANCED TECHNICAL SUPPORT BENEFITS:

- Dedicated expertise
- Priority technical support
- Support in technical analyses
- Guaranteed availability of spares
- Optimal performance
- Minimised downtime