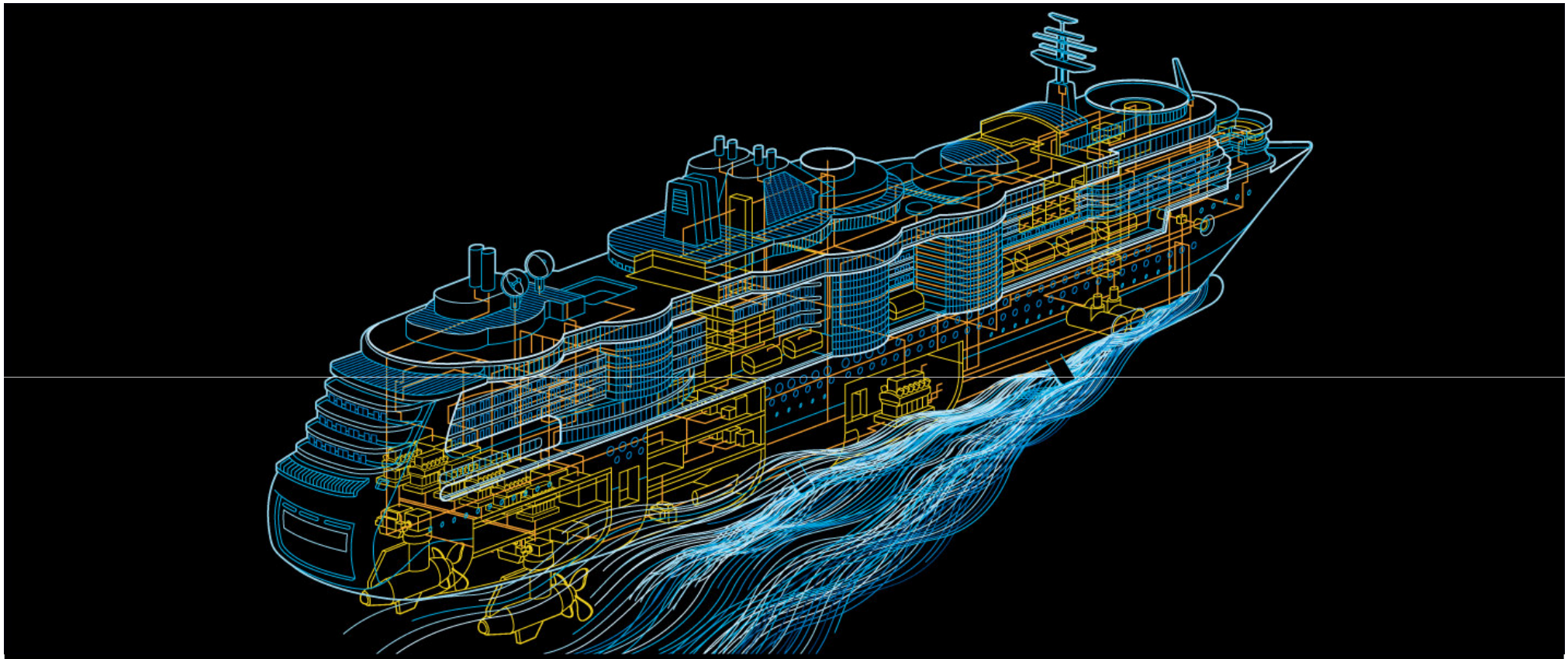


June 2012

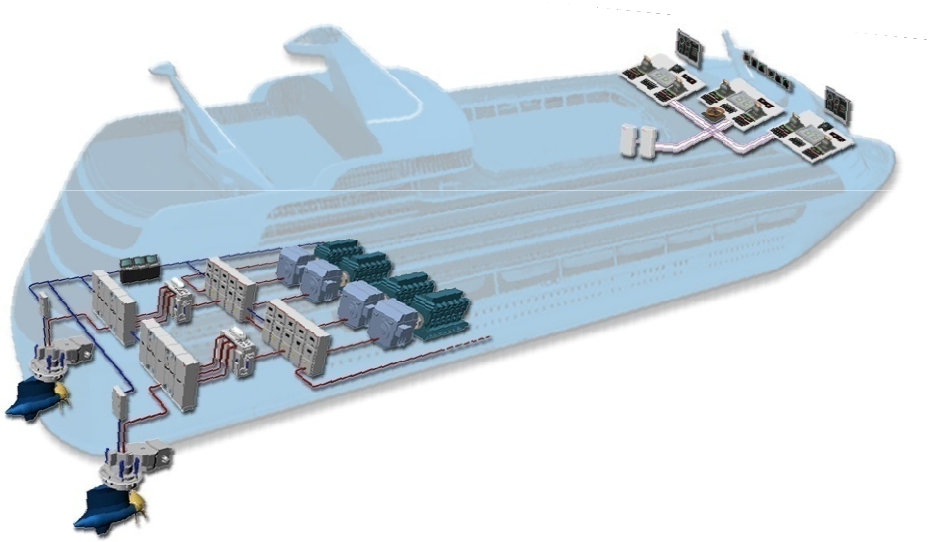
Azipod® XO

Power and productivity
for a better world™

Azipod Propulsion System Features

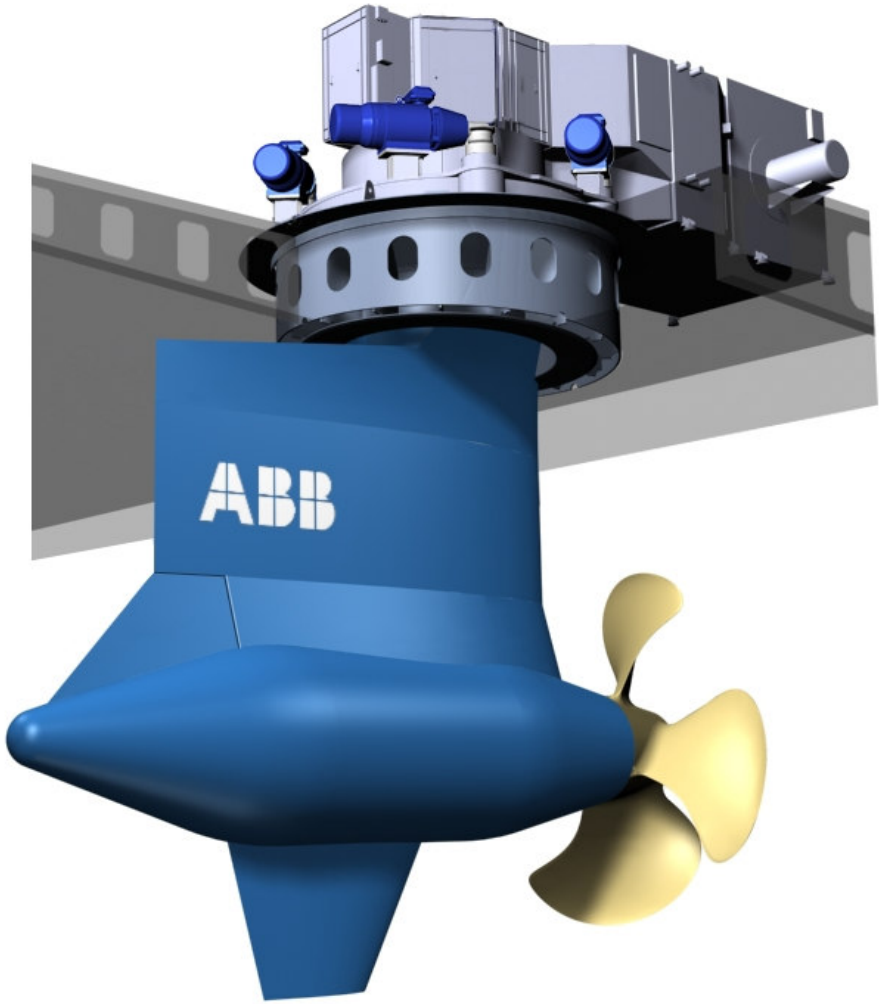
- Electric Propulsion System
- High Efficiency
- Excellent Manoeuvrability
- Increased Transportation Capacity
- About 7 million operating hours (Nov.2011)

Azipod® XO System is designed to provide



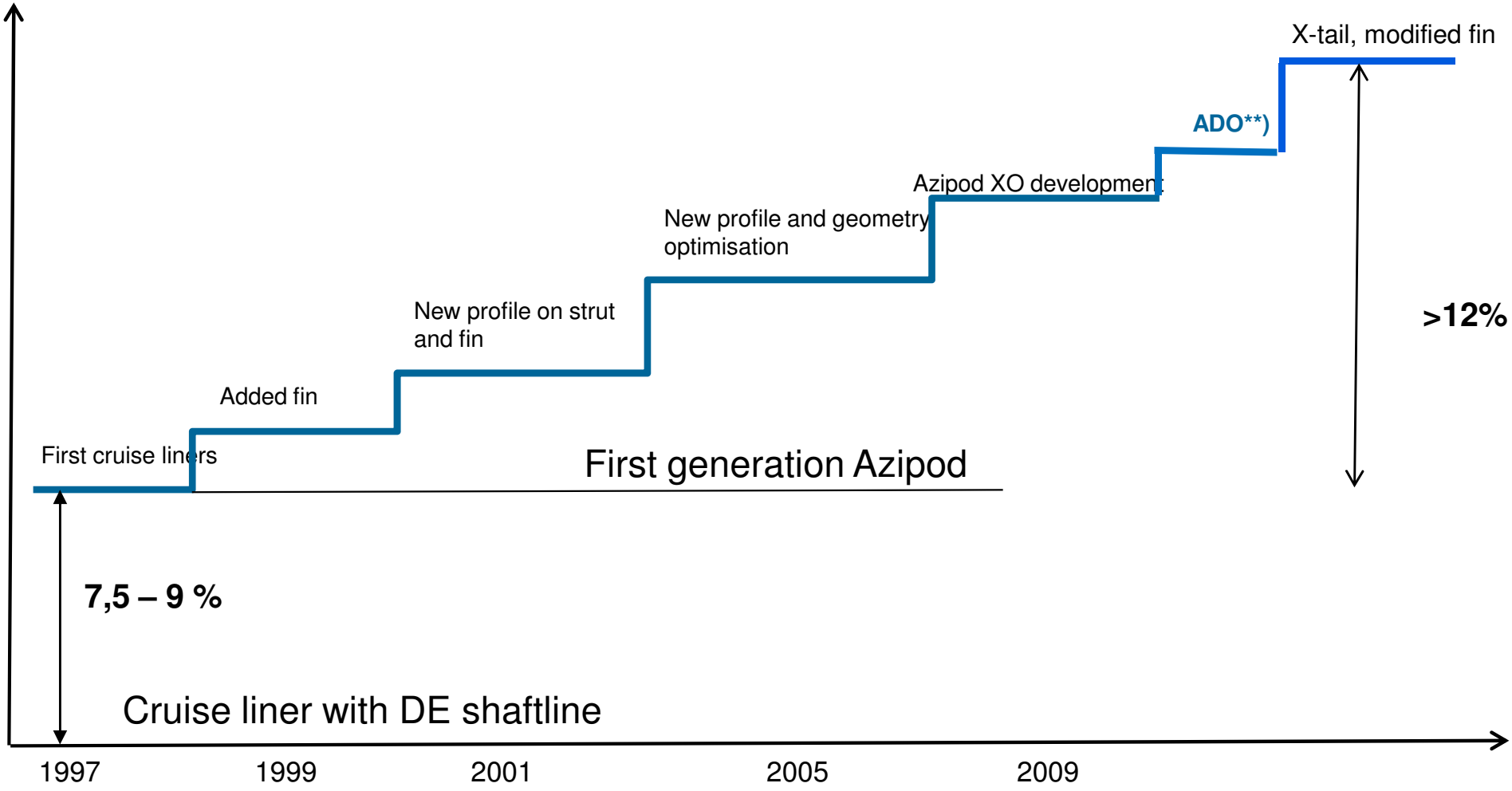
- Reduced life cycle costs
- Minimized emissions
- Enhanced maintainability
- Flexible integration to ship hull
- Improved reliability

Azipod® XO System Features



- Freely 360 degree rotating Azipod unit
- Fixed pitch pulling propeller
- Undisturbed water flow to propeller
- Extremely low vibrations

Efficiency development history (Azipod® V and X)

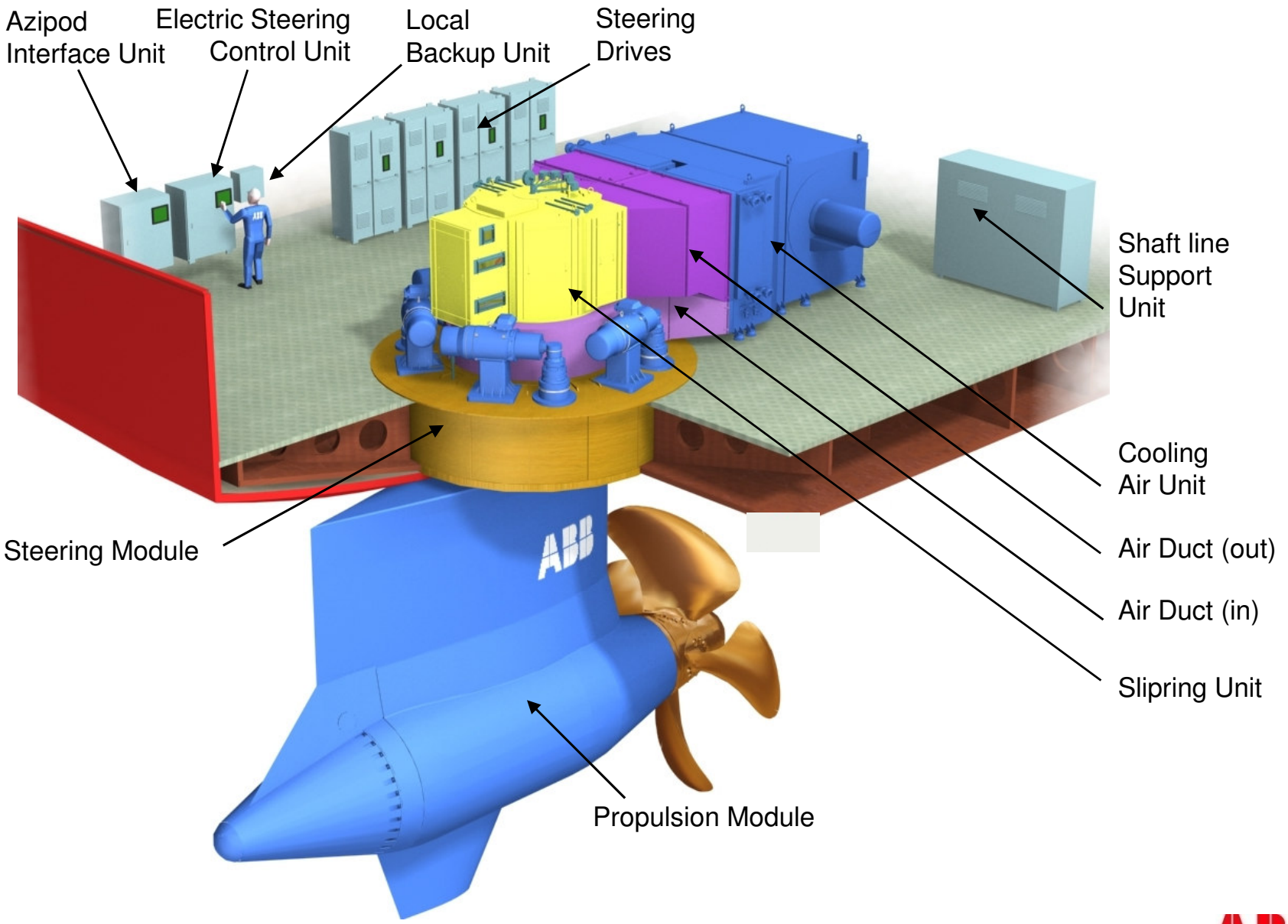


Designed for fuel saving up to 20%! *)

**) Compared to reference diesel – electric shaft line cruise liner*

***) Azipod Dynamic Optimizer*

Azipod® XO

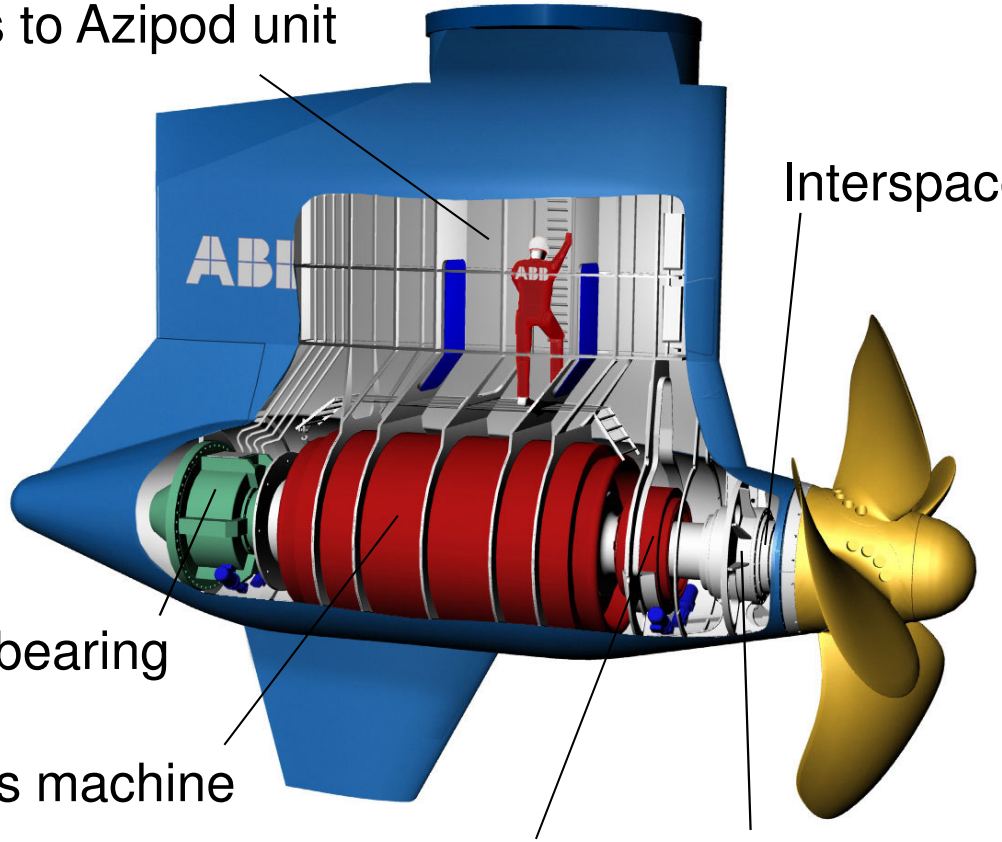


Main Components and new features

Advanced condition monitoring

Steering torque reduced over 20 %

Easy and safe access to Azipod unit



Interspace seal arrangement

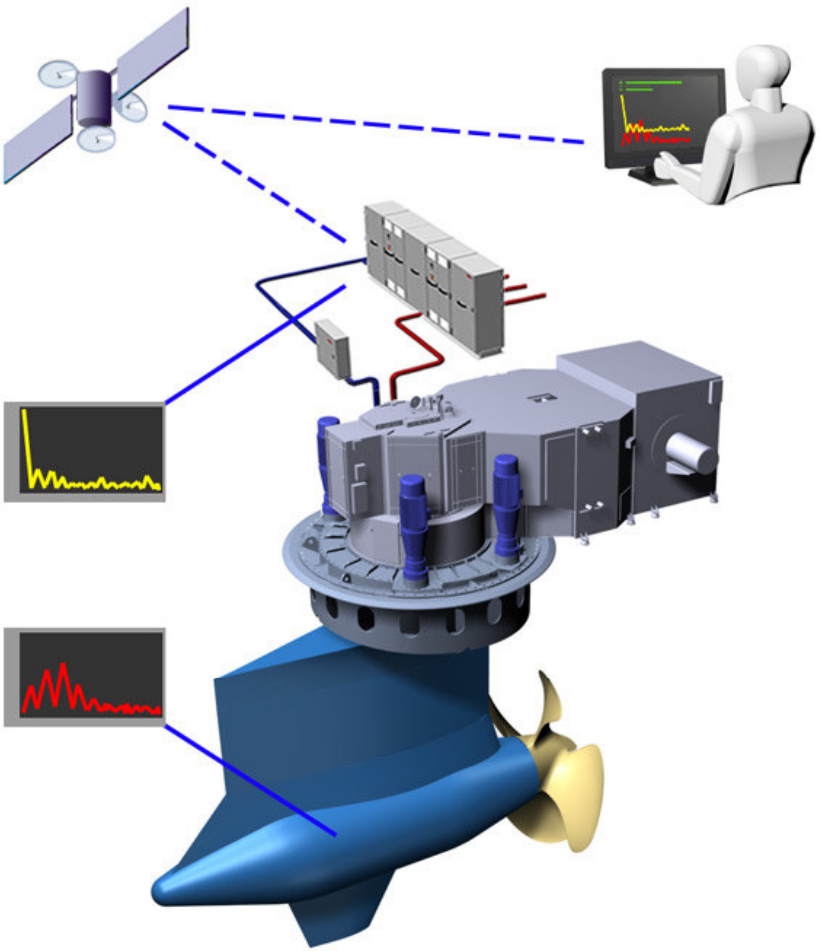
Non drive end hybrid bearing

Synchronous machine

Excitation machine

Drive end bearing

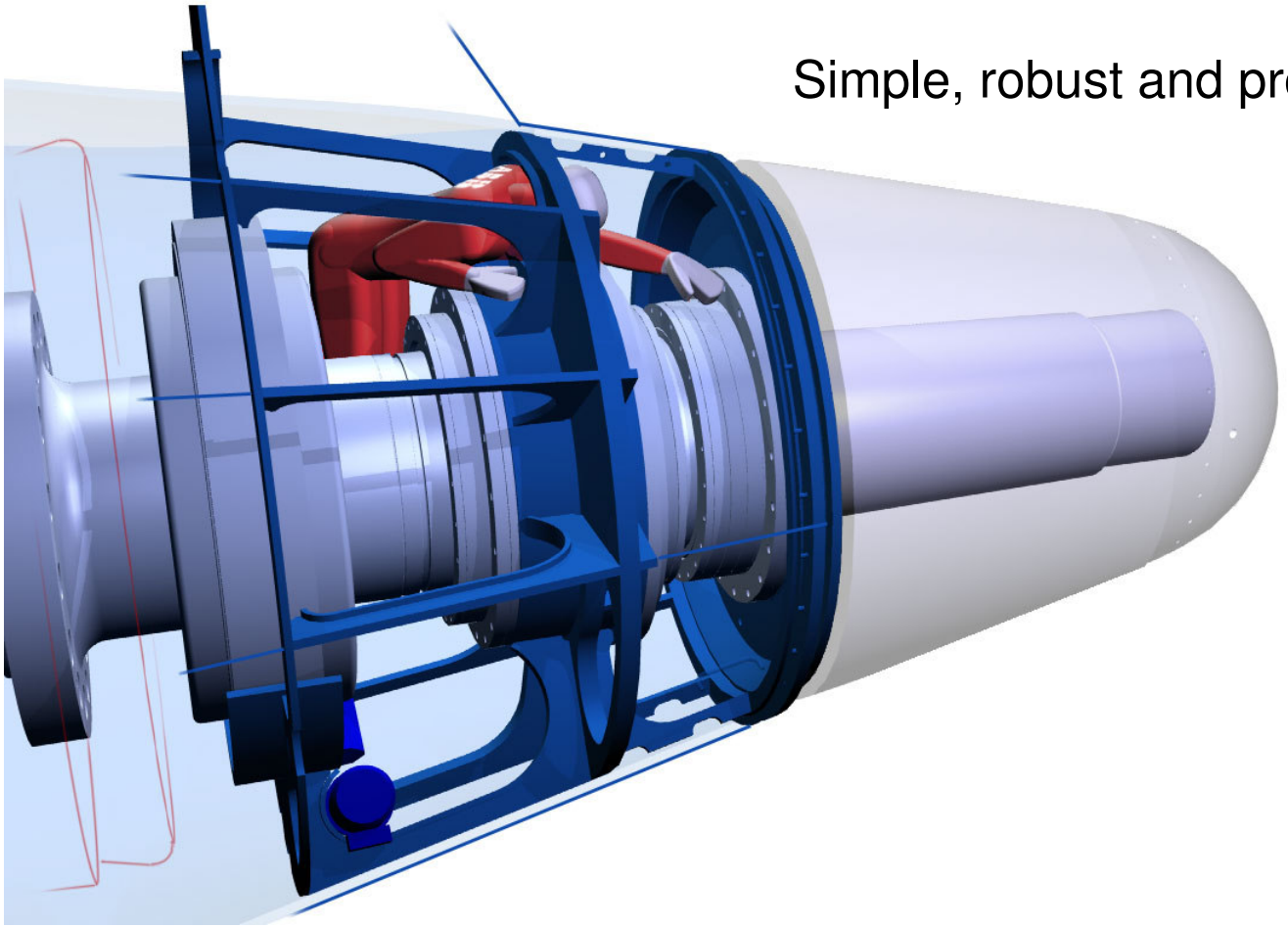
Advanced Condition Monitoring



- Remote Diagnostics
  - Preventive maintenance
  - Troubleshooting
- Monitored Systems
  - Propulsion and steering systems
  - Bearings
  - Seals
  - Lubrication

Interspace - Revolutionary Shaft Seal Arrangement

Seal change possible inside the Azipod unit *)

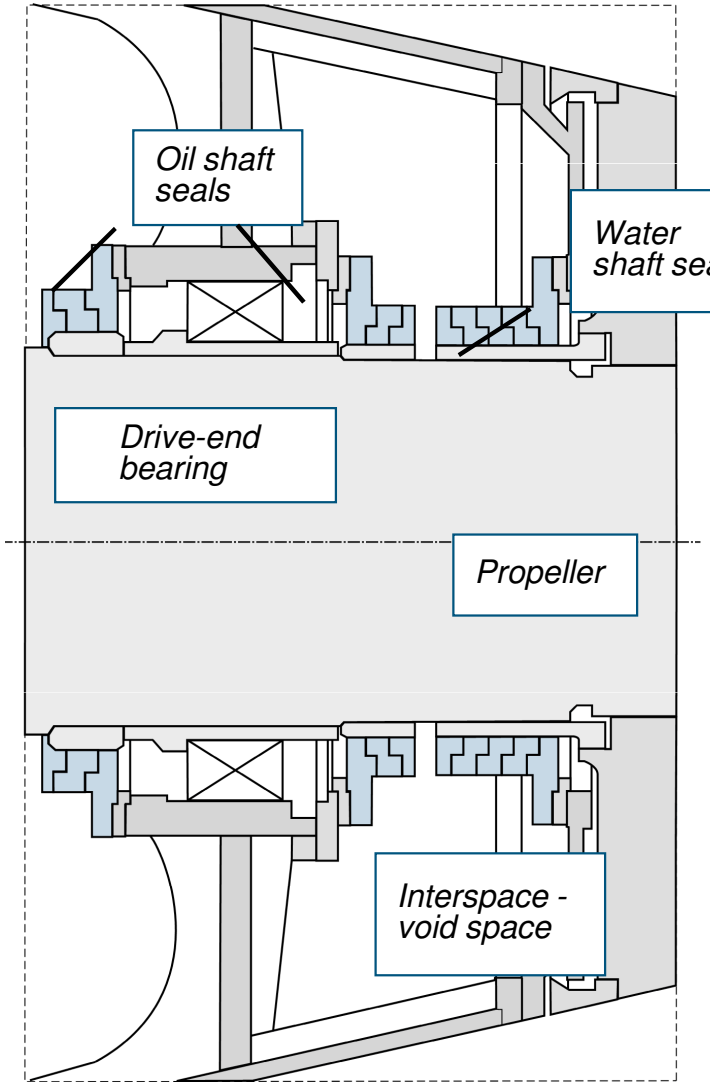


Simple, robust and proven technology

Patent pending

(*) depending on frame size

Interspace - Revolutionary Shaft Seal Arrangement



- Bearing oil seal separated from water seal
- Lubrications optimized for bearing and sealing – long lifetime
- Capacious void space with drainage for occasional leakages
- Designed for maximum reliability
- Designed to operate without harmful external leakages
- Protect the sea – **biodegradable** lubrication

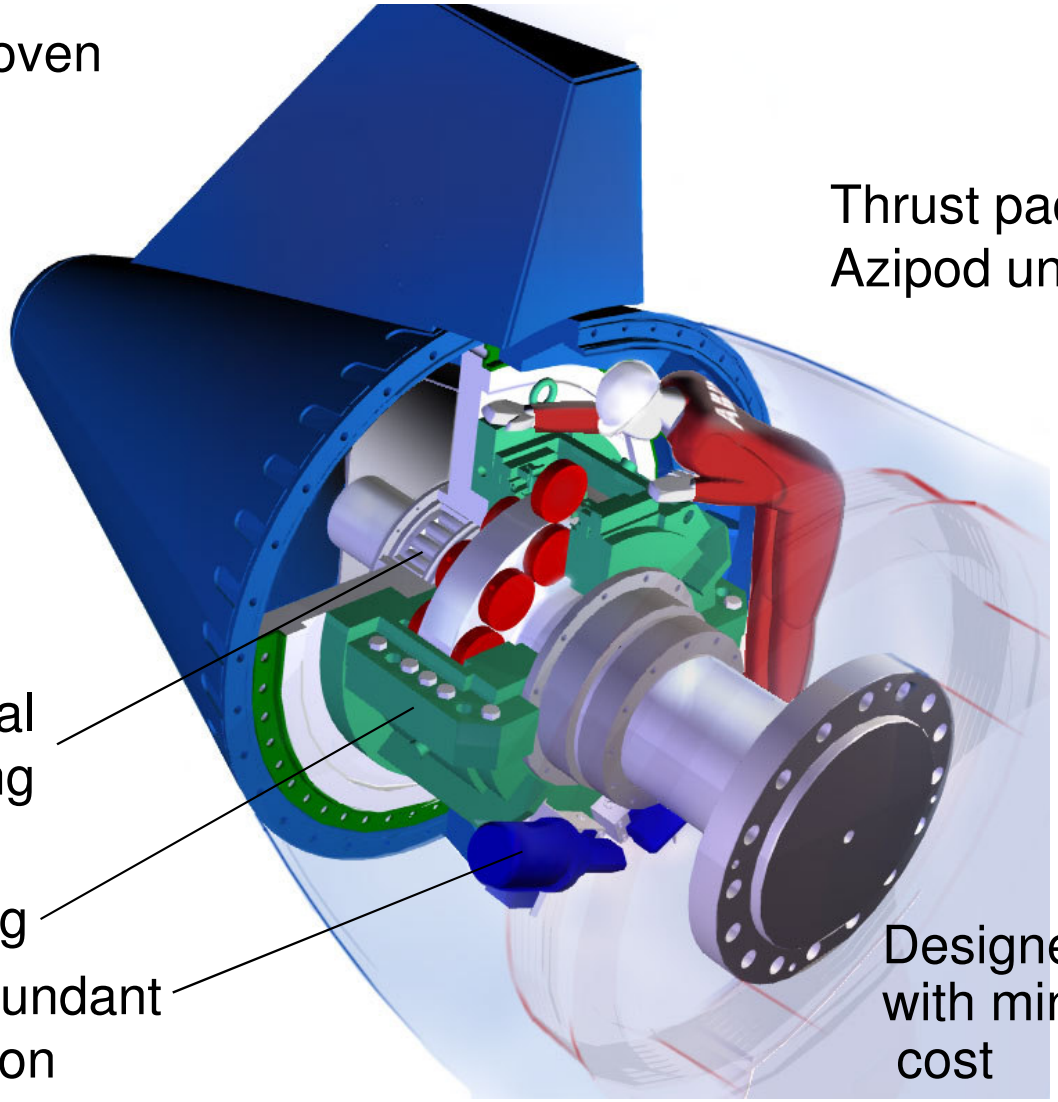
Patent pending

No water to bearing oil – no bearing oil to the sea!

Hybrid Bearing, innovation which combines the advantages of two different types of bearings

Well known and proven technologies

Thrust pad change inside Azipod unit



Non-drive-end radial **roller** bearing

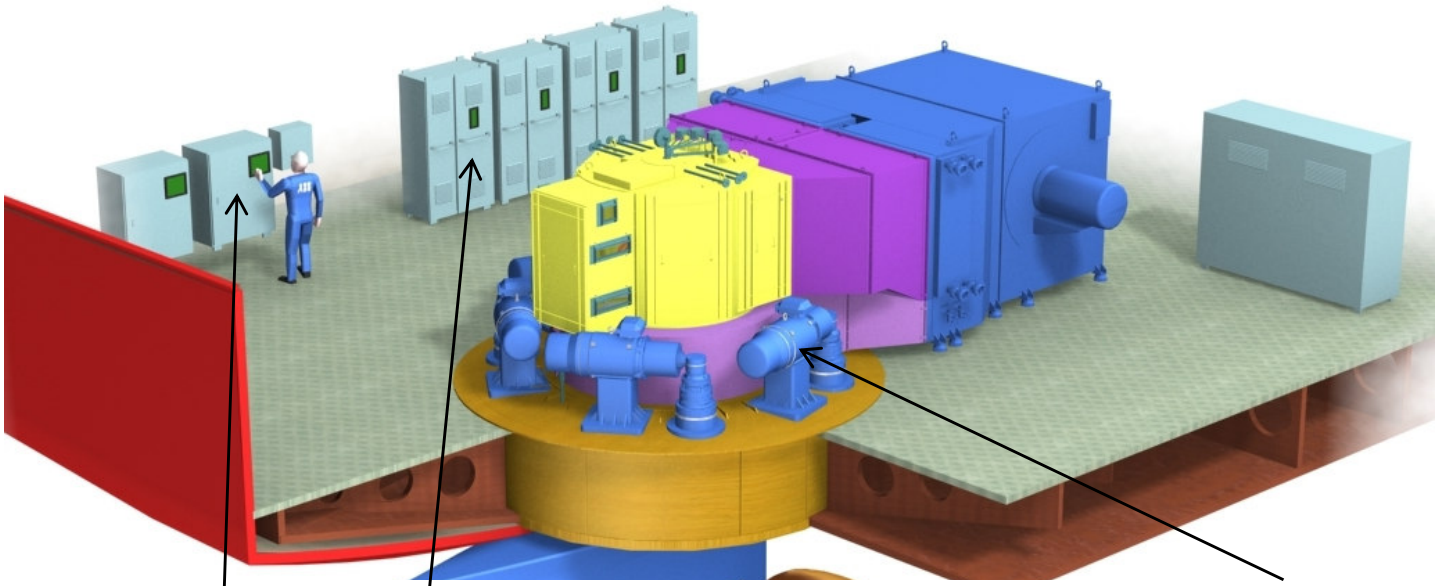
Slide thrust bearing

Redundundant lubrication

Designed to be robust with minimum maintenance cost

Patent pending

Electric Steering



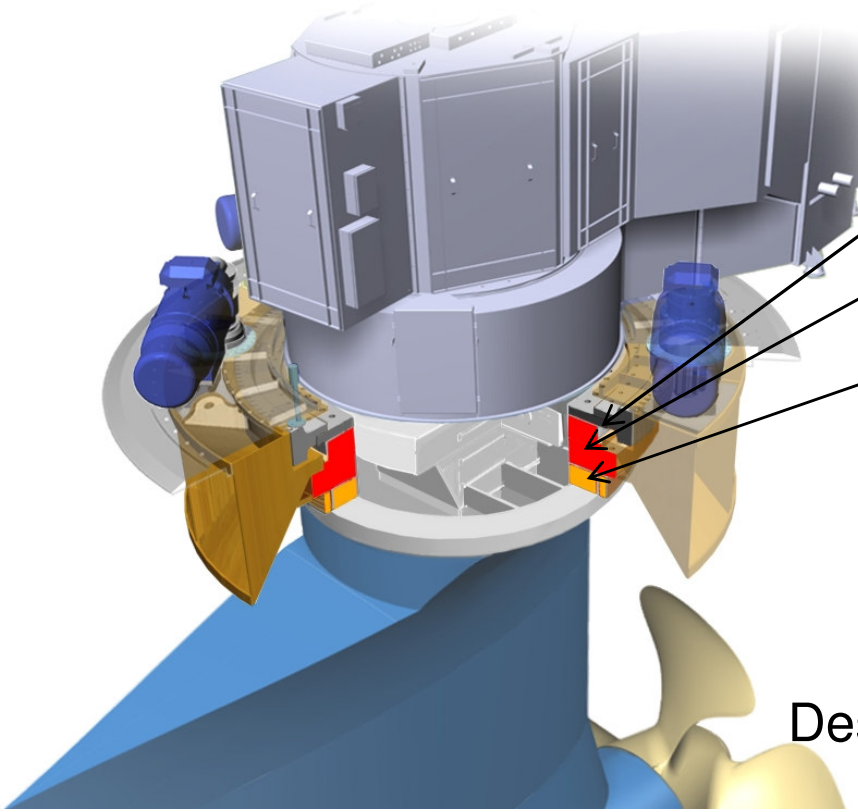
Steering motors

Steering Drives

Electric steering control unit

Low noise
Low vibration
Easy Installation
Proven Solution from Azipod® C
Redundant steering drive system
Environmentally friendly

Steering Module

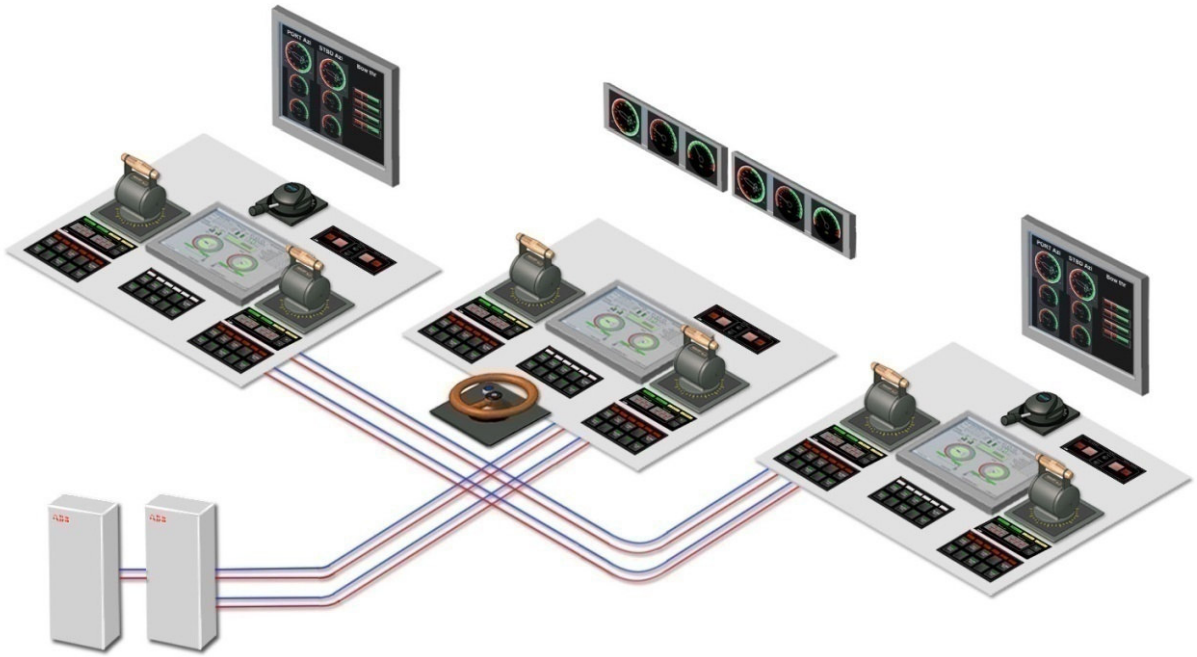


Design based on proven technologies

Designed for improved maintainability of slewing bearing and seals

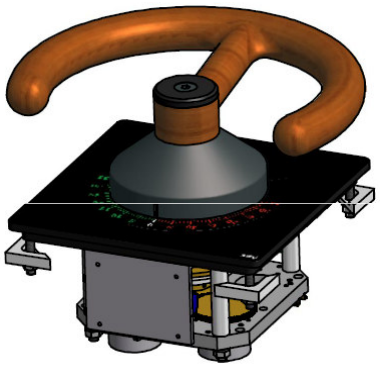
Air-actuated seal for emergency cases

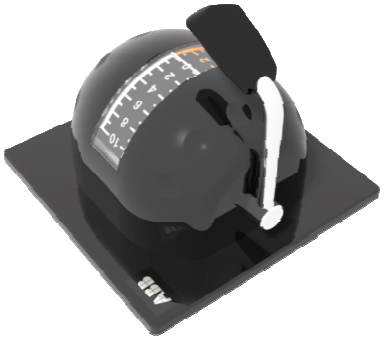
Intelligent Bridge Control Interface, Enhanced usability of Azipod® user interface on bridge

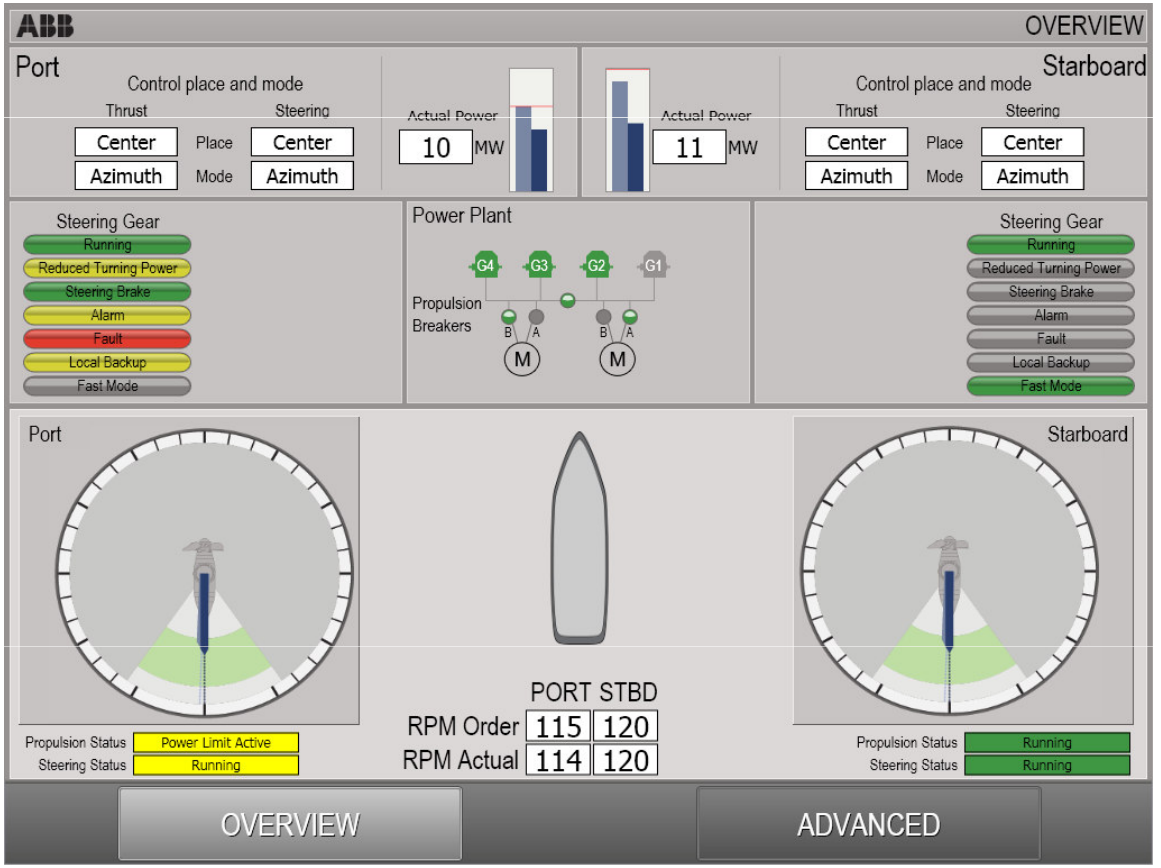


- Real time information for optimized operating practices
- Improved presentation of system state for deck officer
- Fieldbus-based modular system architecture

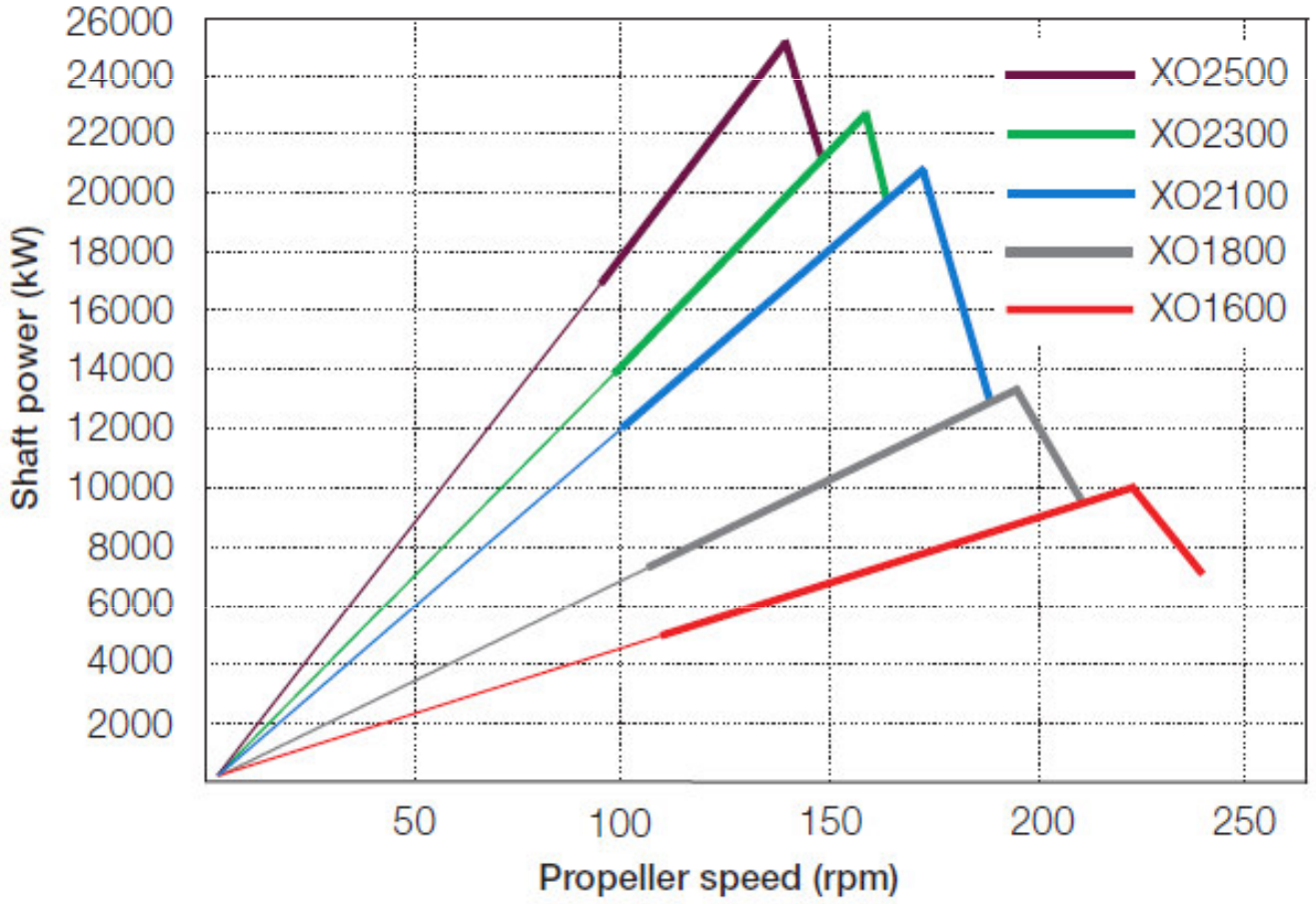
Intelligent Bridge Control Interface







Azipod® XO Product Series

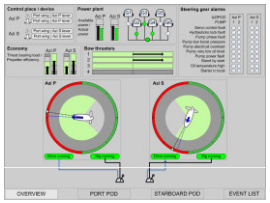


Azipod® X References

Owner	Ship type	Power/ship	Azipod Type
Celebrity Cruises	1 pc Cruise vessel	2 x 17,5 MW	XO 2100
Shin Nihonkai Ferry Co	2 pcs Fast ferries	1 x 12,9 MW	XC 2100
NCL	2 pcs Cruise vessels	2 x 17,5 MW	XO 2100
RCI	2 pc Cruise vessels	2 x 20,5 MW	XO 2300
Aida Cruises	2 pcs Cruise vessels	2 x 14 MW	XO 2100

NCL cruise vessel, picture by Meyer Werft

Summary for Azipod® XO



- Power up to 20+ MW per unit
- Energy efficient
- Designed for extended docking intervals of future needs
- Electric steering and intelligent control systems
- Optimised maintainability
- Advanced condition monitoring

...Steering to Success!

Power and productivity
for a better world™