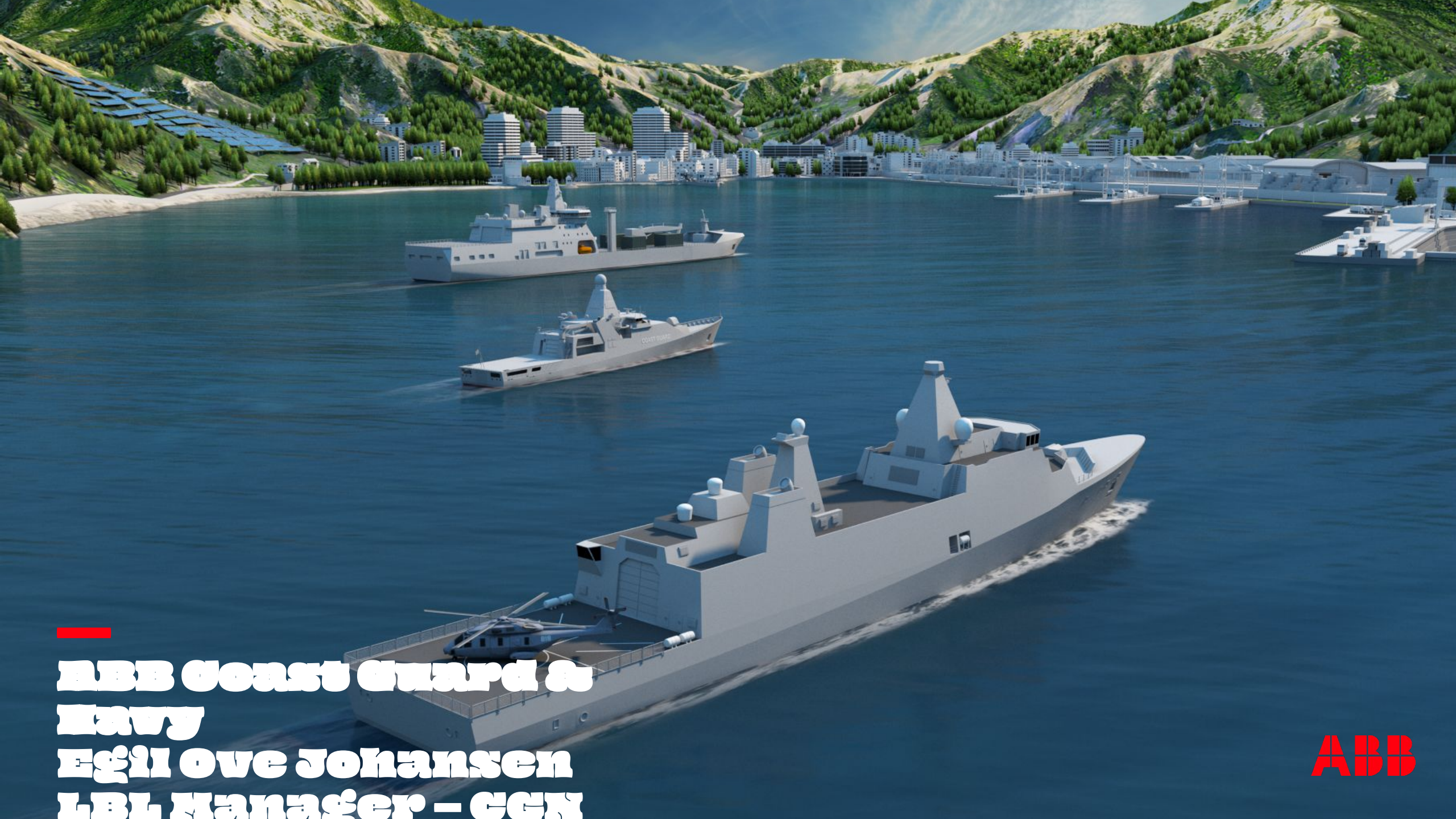


ABB Coast Guard & Navy

Egil Ove Johansen
LBL Manager – CGN

Well positioned across global m

ABB is a technology leader in electrification and automation, enabling a more sustainable and resource-efficient future.

The company's solutions connect engineering know-how and software to optimize how things are manufactured, moved, powered and operated.

ABB

Meeting environmental expectations and future proofing vessel designs

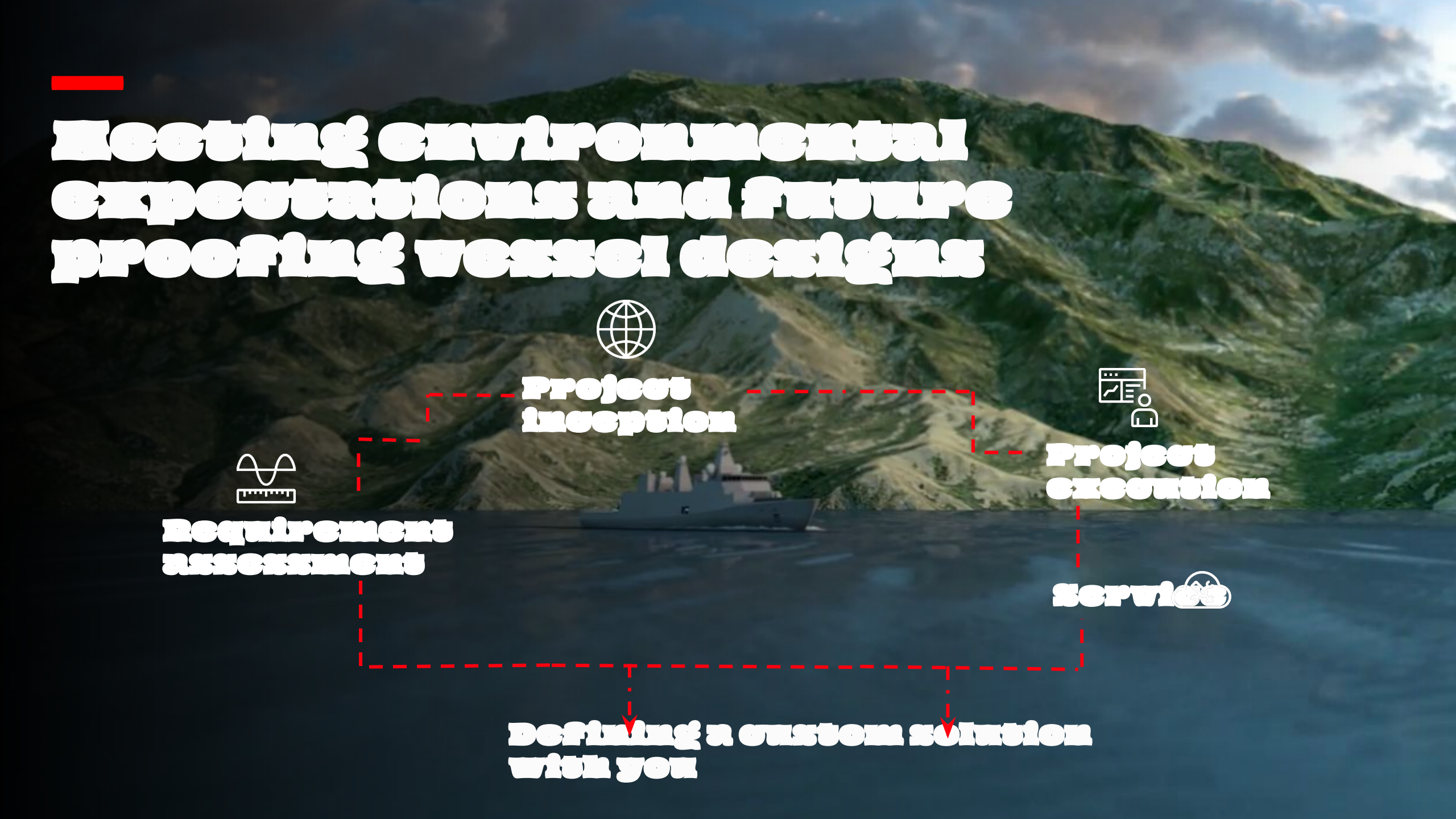


ABB Azipod® Facts & figures

- **30+ years** of successful operation
- **1 - 22 MW** unit power range
- **More than 35** ship types
- **> 99.8%** vessel availability
- **Up to 20%** fuel savings achievable

German Navy the F126 ion of power and distribution systems for the F126 Frigates because of their outstanding expertise in DC power systems," says Damen Naval Managing Director Hein van Ameijden.

"The technical specifications offered by their systems will yield valuable flexibility and modularity to these state-of-the-art frigates, while enabling the German Navy to adapt to rapidly developing energy sources."

Navy Drive

Ruggedized Onboard DC Grid™

Cabinet Design

- Reduction of cabinet height
- Shock dampers integration
- Dedicated base frame.

EMC

- EMC constraints integrated in cabinet design Additional EMC filters
- MIL-STD 461 compliance

Shock & Vibration

- Reinforced enclosure for residual shock
- Rigidified structure for higher Eigenfrequency mode
- Integration of MIL-STD vibration requirement

The Polar Security Cutter will fill a

U.S. Coast Guard

polar security cutte

provide support for other mission needs in the higher latitudes vital to the economic vitality, scientific inquiry and national interests of the United States.

The propulsion will be diesel electric and readily capable of breaking ice between six to eight feet thick.

The yard teamed with ABB Marine for its PCR Ice VI 3600 Azipod® propulsion system, in addition to a

"Our new patrol vessels will be at sea about 300 days a year,

Finnish Border Guard Multi-Purpose Patrol

Commander Marko Aheristo, Head of Ship Technical Unit at the Finnish Border Guard.

"The vessels are designed for low-emission operations and for energy efficiency and need a versatile and sophisticated power and propulsion system based on advanced, proven technology. ABB provides us with an integrated package that meets our stringent requirements, ensuring rapid functional capacity and continuous

Spanish Navy Juan Carlos I

The first Azipod® propulsion retrofit order for a naval vessel, replacing the existing system onboard the Spanish Navy flagship, Juan Carlos I

The contract follows a feasibility study that identified Azipod® technology as an optimal solution for the retrofit project

Future vessels are – Electric. Digital. Adaptable.

1. Benefits of selecting a sustainable power and propulsion system
2. Power system selection for optimizing adaptable mission demands
3. Why an OEM for electrical design/integration

Benefits of selecting a sustainable power and propulsion system

- Reducing our Environmental Impact
- Enhanced Energy Efficiency
- Whole Life Cost Savings
- Future Energy Readiness

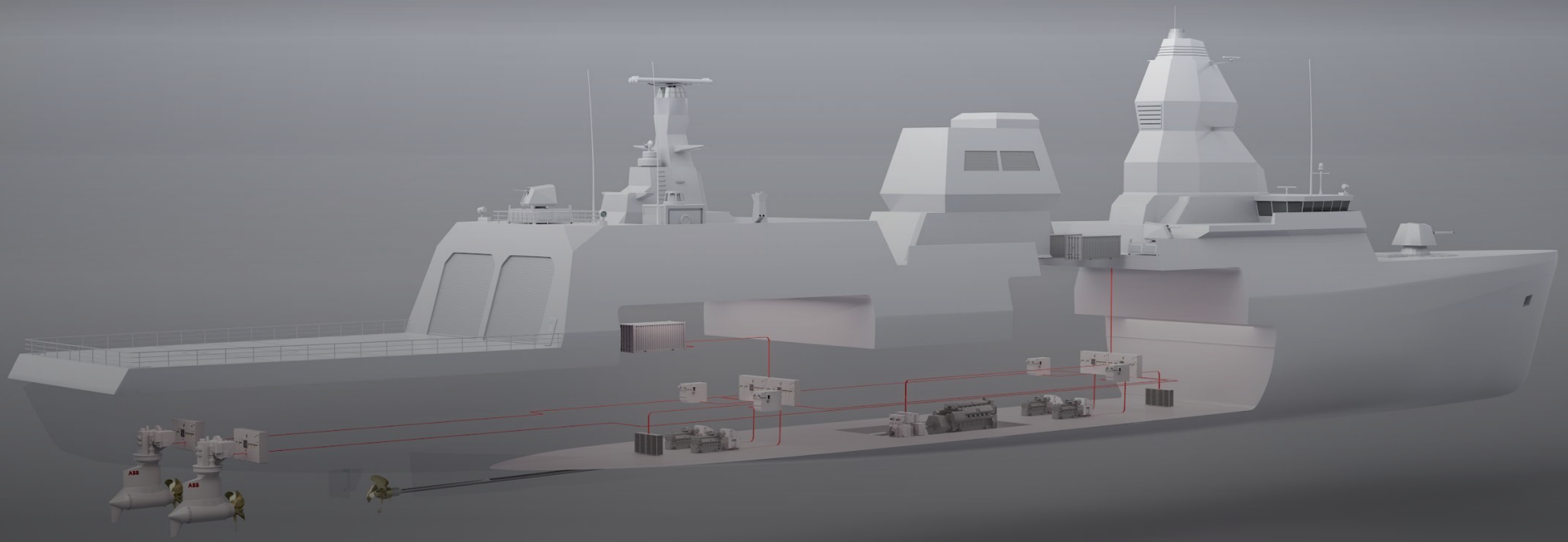
Power system selection for optimizing adaptable mission demands

- Mission Requirements
- Energy Storage
- Power Source Options
- Efficiency and Fuel Consumption
- Scalability and Modularity
- Reliability and Redundancy

Why an OEM for electrical design/integration

- Expertise and Experience
- Quality Assurance
- Access to Cutting-Edge Technology
- Strong Supplier Relationships
- Global Support and Maintenance
- Obsolescence and Lifecycle Management
- Reputation and Trust

Electrifying the Future of Naval Design



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