

Nidec

Conversion

Marine



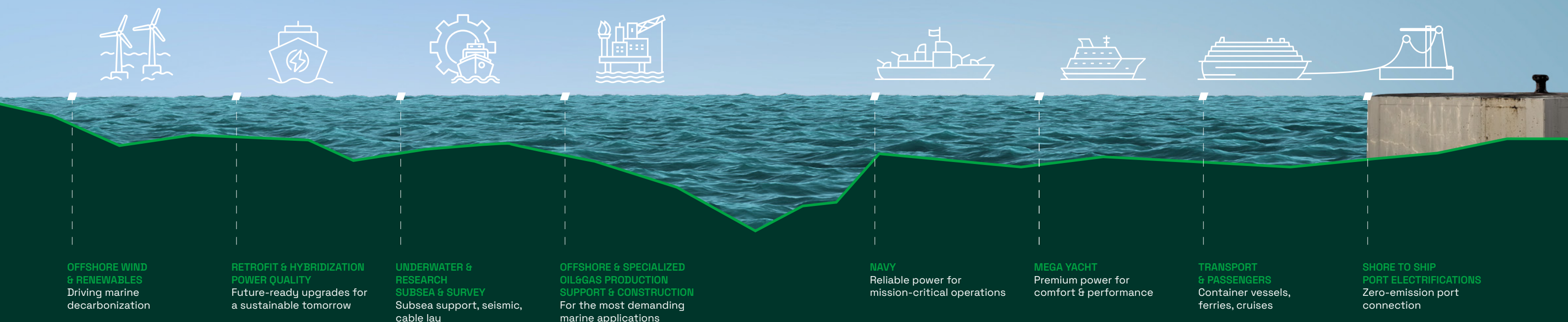
One-stop shop.
One partner. Full marine solutions.

One global partner for fully integrated marine solutions.

- From power generation to propulsion, we deliver a complete, seamless system.
- Our one-stop-shop approach simplifies complexity, ensuring single-point responsibility.
- We integrate drives, motors, energy storage and power quality solutions. This reduces interfaces, lowers risk and accelerates project execution.
- Designed for **all vessel types**, from naval to commercial and offshore.
- End-to-end lifecycle performance through globally aligned expertise.
- From design and supply to integration and service, we ensure full performance. Optimized efficiency, availability and sustainability at every stage.

One partner. Complete control. Maximum value.

Powering Marine Applications



Join us on the Journey to Excellence

Innovative solutions designed
to enhance performance at sea



Design for Navy. Powered by Excellence.

For over 90 years, Amerigo Vespucci has embodied the heritage of the Italian Navy. Today, its journey continues with advanced Nidec electric propulsion technology, designed and manufactured in Italy. Combining reliability, silent operation, and engineering excellence, our solutions bring together tradition, innovation, and performance for demanding naval applications.



Powering the Depths.

Reliable Electrification for Subsea Applications

Nidec provides topside compact VFD systems without output step-up transformer suitable to supply subsea motors for pumps and compressors with umbilical length up to 50km and fitting with space constraint in FPSO retrofit upgrade.

Key Features:

- Topside Compact VFD Systems for Subsea Applications
- Long-Distance Capability
- Compact Footprint
- High Efficiency & Robust Design



Optimizing Marine Energy Performance.

Optimized Energy. Reduced Fuel Consumption. Enhanced Performance

Enhance Power. Reduce Fuel. Sail Smarter. Improving power factor is essential to optimizing energy use onboard. By increasing the power factor, we significantly reduce diesel generator operation, minimize the number of startups, and lower the overall energy consumption of the vessel.

Our STATCOM systems are designed to enhance power factor and stabilize voltage across vessel's electrical network, helping cut fuel consumption and ensuring smoother operations, lower emissions, and smarter energy use on every voyage.

The Marine Portfolio

Discover our marine solutions designed for maximum flexibility and minimal maintenance. Our modular design and high volume production ensure both efficiency and scalability. With long-term availability and reduced spares investment, our products offer a reliable and cost-effective choice for your marine needs.



Flexible Design



Modular High-Volume Production



Reduced Spares Investment



Easy Maintenance



Long-Term Reliability and Support



Our R&D Department

Our R&D Department drives excellence in marine technology, continuously designing cutting-edge solutions that meet the evolving demands of the industry.

By focusing on product development, space optimization, and vibration reduction, we ensure superior marine experiences.

Anticipating market trends, we deliver products that set new standards and enhance performance and efficiency.



LV DRIVES

- Power range: up to 5,000 kW
- Voltage: up to 1,000 V_{AC}
- Output frequency: up to 400 Hz
- AC & DC Drives



MV DRIVES

- Power range: Air cooled up to 10 MVA, Water cooled up to 30 MVA
- Voltage range: up to 13.8 kV
- Output frequency: Standard 5-70 Hz, Extended up to 200 Hz
- Drive topology: Diode Front End, Active Front End, Multilevel and LCI



STATCOMS

- Reactive power rating
- Up to 50 MVAR
- Maximum rated voltage
- Air or water cooling



LV MOTORS

- Power rating: up to 1,500 kW (2,000 HP)
- Induction & synchronous motors



MV MOTORS

- Power ratings:
 - Induction motors: 150-25,000 kW (200-33,000 HP)
 - Synchronous motors: up to 35,000 kW (47,000 HP) for marine applications, and up to 100 MW (134,000 HP) for other applications
- Voltage: up to 15 kV
- Induction & synchronous motors



LV-MV GENERATORS

- Power rating: 2,500-16,000 kVA
- Voltage: up to 11 kV
- Induction & synchronous generators



PERMANENT MAGNET MACHINES

- Up to 10 MVA
- Up to 690 V



BATTERY PACK

- Air cooled and liquid cooled
- Compact and reliable

- Chemistry: LiFePO4
- Nominal capacity: 285 Ah
- Energy: 14,592 Wh
- Nominal voltage: 51.2 V
- Max voltage: 58.4 V
- Min voltage: 40 V
- Weight: 124 Kg
- Dimensions: 670 x 410 x H 296 (mm)



LV-MV SHORE TO SHIP CONVERTERS

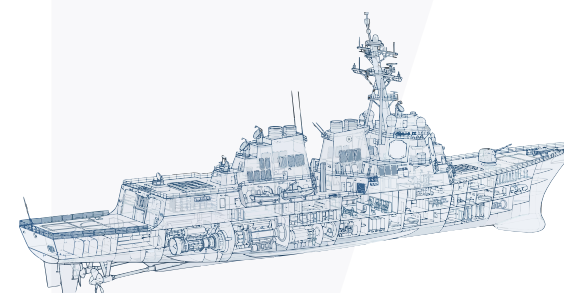
- AFE Input section or DFE (only MV configuration)
- Modular IGBT power structure
- Output power range from 1 up to 20 MVA
- Output voltage from 690 up to 3,250 V
- Water cooled
- Input clean power filter (only for AFE configuration)
- Output sine filter





Automation & Control Systems

- Reliability and safety
- Communication & connectivity
- Monitoring and diagnostics



Full Electric Package

- Main propulsion
- Variable speed generators
- On-board grid
- Shore power / Dry dock
- Power Management System (PMS)
- Battery packages / Solar panels (upon request)
- Thrusters
- PTO/PTI Systems
- Large pumps and compressors
- Auxiliary pumps and fans

Benefits of an Integrated MV & LV Electrical Package for Marine Applications

An integrated Medium Voltage and Low Voltage electrical package enables seamless interaction between propulsion, power generation, shore connection, energy storage, power quality, and onboard distribution systems. By combining all key electrical functions within a coordinated architecture, vessel operators benefit from enhanced reliability, improved energy efficiency, optimized performance, and simplified system integration.

This approach also streamlines commissioning and maintenance activities while supporting lower lifecycle costs and future-ready marine operations.



Service

- Level 1 Support - 24/7 Help desk support for the customer
- Level 2 Support - Remote Technical Support
- Level 3 Support - R&D or Engineering
- On Site Support - Technical personnel who go on site to do maintenance
- Training - Technical personnel who go on-site to do training
- Field Service Coordination
- Spare Parts Management

Integrated LV Marine Electrical Architecture

