VELA
ELECTRIC

Integrated Electrical &
Energy Solutions

THE FUTURE OF MODERN VESSELS IS NO LONGER DEFINED SOLELY BY NAVAL ARCHITECTURE OR PROPULSION. IT IS DEFINED BY THE INTELLIGENCE OF THE SYSTEMS THAT CONNECT THEM.

VELA ELECTRIC designs, engineers and integrates complete electrical and energy systems for superyachts and commercial vessels. From early-stage concept development through engineering, installation support, commissioning and lifetime technical assistance, we deliver integrated solutions that improve efficiency, reliability and operational performance.

Through ARGO NAVIS Marine Systems, VELA ELECTRIC extends this expertise into a wider multidisciplinary engineering environment, bringing together electrical engineering, automation, energy systems, vessel design and yachting expertise to deliver fully integrated solutions for modern vessels.

EVERY SYSTEM IS DESIGNED AS PART OF A LARGER WHOLE — CONNECTING POWER, AUTOMATION AND ONBOARD OPERATIONS INTO ONE COORDINATED ENGINEERING ARCHITECTURE.

100% ELECTRIC

WE DON’T SIMPLY INSTALL EQUIPMENT.
WE ENGINEER COMPLETE ENERGY ECOSYSTEMS.

Whether developing a fully electric propulsion platform, a hybrid energy architecture or upgrading an existing vessel with modern automation and monitoring systems, every project is engineered specifically for its operational profile, class requirements and owner’s expectations.

ENGINEERING FIRST

Every successful electrical system begins long before the first cable is installed.

Our engineering process establishes the electrical architecture that supports every onboard function, ensuring safe operation, future scalability and seamless integration between propulsion, hotel loads, navigation, automation and auxiliary systems.

Working alongside naval architects, mechanical engineers and shipyards from the earliest stages of a project enables us to optimise equipment selection, reduce installation complexity and improve long-term serviceability.

Each project is supported by comprehensive engineering documentation, detailed calculations and class-compliant technical packages that provide confidence throughout construction.

Our engineering services include:

- Electrical System Design
- Single Line Diagrams
- Load Analysis & Power Balance
- Cable Routing & Cable Schedules
- Equipment Selection
- Control Philosophy
- Technical Specifications
- Class Documentation

POWERING THE NEXT GENERATION OF MARINE ENERGY

The marine industry is undergoing one of its most significant technological transformations.

Increasing environmental requirements, higher owner expectations and advances in battery technology are re-shaping how vessels generate, store and distribute energy.

VELA ELECTRIC develops power architectures designed not only for today's operational demands but also for tomorrow's technologies. From traditional AC systems to advanced DC distribution, battery storage and hybrid propulsion, we engineer energy systems that maximise efficiency while reducing fuel consumption, emissions and maintenance.

Every solution is tailored around the vessel's operating profile, ensuring optimal performance whether cruising coastal waters, operating commercially or supporting extended offshore missions.

Capabilities include:

- Electric Propulsion
- Hybrid Propulsion
- Battery Energy Storage
- DC Distribution
- Shore Power Integration Charging Systems
- Energy Management
- Power Monitoring

SECTION 4
SEPARATOR
CENTRE LINE

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INTELLIGENT AUTOMATION

Modern vessels generate enormous amounts of operational data.

The challenge is transforming that information into meaningful control.

VELA ELECTRIC develops automation platforms that simplify vessel operation while improving safety, efficiency and reliability.

Integrated monitoring systems continuously supervise critical equipment, allowing crews and operators to identify issues before they become failures. Advanced PLC programming, intelligent alarm systems and remote diagnostics provide complete visibility over propulsion, power generation, batteries, pumps, HVAC, lighting and auxiliary equipment from a single interface.

Digitalisation is no longer a luxury.

It has become an essential part of vessel performance.

Our automation services include:

- PLC Programming
- Vessel Automation
- Alarm & Monitoring Systems
- Remote Monitoring
- Data Acquisition Systems
- Power Management Systems
- Digitalisation Solutions

ELECTRICAL DISTRIBUTION

Behind every reliable vessel lies a robust electrical distribution network.

We engineer complete low-voltage distribution systems that provide dependable power delivery throughout the vessel while ensuring safety, redundancy and ease of maintenance.

Every switchboard, distribution panel and control centre is designed around the vessel's unique electrical architecture, allowing future expansion while meeting international marine standards.

Our distribution capabilities include:

- Main Switchboards
- DC Switchboards
- Distribution Panels
- Motor Control Centres
- Custom Electrical Panels
- Low Voltage Systems

FROM ENGINEERING TO COMMISSIONING

Engineering is only one part of a successful project.

VELA ELECTRIC supports clients throughout the entire build process, ensuring that engineering intent is accurately translated into onboard performance. Our engineers work closely with shipyards, installers and equipment manufacturers during construction, providing technical supervision, installation guidance and commissioning support. Before delivery, every system undergoes rigorous verification through factory testing, harbour acceptance testing and sea trials to confirm safe operation under real-world conditions.

This complete lifecycle approach significantly reduces project risk while ensuring reliable vessel performance from day one.

Services include:

- Installation Supervision
- Cable Installation Support
- Commissioning
- Factory Acceptance Testing (FAT)
- Harbour Acceptance Testing (HAT)
- Sea Trials
- Performance Verification
- Technical Documentation

EXTENDING THE LIFE OF EXISTING VESSELS

Innovation isn't limited to new builds.

Many existing vessels can achieve significant improvements through carefully planned electrical upgrades and energy modernisation.

VELA ELECTRIC provides retrofit engineering that enhances efficiency, reliability and operational capability while preserving the vessel's existing value.

Whether converting conventional propulsion to electric, integrating hybrid systems, replacing ageing switchboards or introducing intelligent automation, every retrofit is designed to minimise downtime while delivering measurable operational improvements.

Retrofit services include:

- Electric Conversion
- Hybrid Upgrades
- Switchboard Replacement
- Automation Upgrades
- Energy Optimisation
- Variable Frequency Drive Retrofits
- Lighting Upgrades
- Complete Electrical Refits

SERVING EVERY MARINE SECTOR

Although every vessel presents unique engineering challenges, the principles remain the same: reliable power, intelligent control and integrated system design.

VELA ELECTRIC supports projects across the entire marine industry, adapting our engineering expertise to each vessel's operational requirements and regulatory framework.

Through ARGO NAVIS Marine Systems, this specialist expertise connects with wider multidisciplinary design and engineering capabilities across the yachting sector.

We proudly support:

- Superyachts
- Custom Tenders
- Commercial Marine
- Passenger Vessels
- Workboats
- Government & Defence

ONE ENGINEERING PARTNER

Every Stage of the Journey.

Concept → System Architecture → Engineering → Integration → Installation Support → Testing → Commissioning → Lifetime Technical Support

MARINE ENERGY SYSTEMS CANNOT BE DESIGNED IN ISOLATION. EVERY ELECTRICAL DECISION INFLUENCES PROPULSION, STABILITY, WEIGHT DISTRIBUTION, AUTOMATION, MAINTENANCE AND THE OVERALL OPERATIONAL EFFICIENCY OF THE VESSEL.

BY INTEGRATING ELECTRICAL ENGINEERING, AUTOMATION AND ENERGY MANAGEMENT FROM THE EARLIEST STAGES OF A PROJECT, VELA ELECTRIC ENSURES THAT ELECTRICAL AND ENERGY SYSTEMS WORK SEAMLESSLY WITHIN THE VESSEL'S OVERALL ENGINEERING ARCHITECTURE.

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