

DESIGN & ENGINEERING





Visit our website

Find out more about what our technologies can do for you and how you could benefit from our consulting and assistance services: primaelectro.com

CONTENTS

03/

OUR MISSION

Empowering your electronics evolution with industrial-grade solutions

04/

THE INDUSTRIES

Built for performance, designed for the industry

05/

ABOUT US

Looking for tailor-made electronic solutions for your sector?

06/

OPERATIONS & MANUFACTURING

Vertical integration for industrial-grade production

07/

R&D - DESIGN & ENGINEERING

This is where innovation meets cost-effective implementation

08/

R&D - HARDWARE, FIRMWARE & SOFTWARE From core to code

09/

R&D - PROJECTS & INNOVATIONS

Pioneering solutions for tomorrow's industries

10/

R&D - PARTNERSHIPS

Building stronger partnerships, nurturing stronger talents

EMPOWERING YOUR ELECTRONICS EVOLUTION WITH INDUSTRIAL-GRADE SOLUTIONS

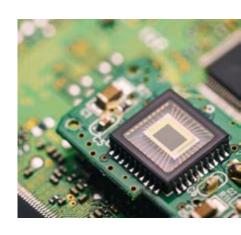


Verticalize the vision. **Integrate** design, manufacturing and testing. Tailor each stage of the project to the specific requirements of the manufacturing process, to achieve **industrial-grade solutions**, cost management and time-to-market requirements.

As an **Original Design Manufacturer**, Prima Electro empowers businesses across industries by delivering tailored, cutting-edge embedded power and control solutions. Committed to reliability and sustainability, **we turn challenges into growth opportunities**.

- 1 End-to-end turnkey solutions
 - From design and prototyping to manufacturing, testing, and after-sales support, Prima Electro offers a comprehensive service that simplifies your project management. This **integrated approach** means you can focus on your core competencies while we handle the technical and production details.
- 2 Expertise in Design and Engineering
 Your project leverages advanced technical expertise, with tailored solutions designed to meet both functional and technical requirements, optimizing performance and efficiency.
- Flexibility and Scale Production

 Production scales to meet your needs, allowing for growth in demand without the need for significant investment in new resources or infrastructure.





BUILT FOR PERFORMANCE, DESIGNED FOR THE INDUSTRY

We craft **tailor-made solutions** designed to meet the unique needs of every market segment, including those that demand the highest precision and reliability.

INDUSTRIAL AUTOMATION

RAILWAY & TRANSPORTS

ENERGY & STORAGE

AVIONICS & DEFENCE

CONSTRUCTION & MINING

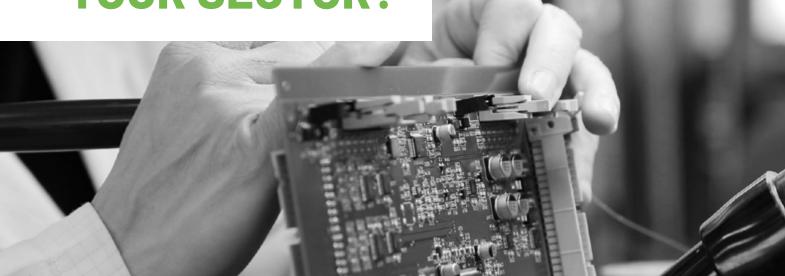
OFFSHORE & UNDERWATER SYSTEMS

HVAC

SMART LOGISTICS



LOOKING FOR TAILOR-MADE ELECTRONIC SOLUTIONS FOR YOUR SECTOR?



Cross-fertilization fosters innovation, boosts efficiency, and creates robust, creative solutions, giving a competitive edge in technological development. **Innovation** is the foundation of progress.

We harness decades of expertise to develop cutting-edge solutions that meet the unique demands of your industry, making Prima Electro a truly **strategic resource for your company**.

Tailored Solutions

Custom electronics designed for your unique needs, ensuring a competitive edge.

Customer Focus

A proactive, personalized approach ensures high satisfaction and long-term relationships.

Technological Partnership

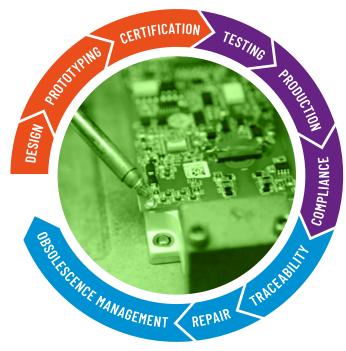
Collaborative support throughout every phase—from concept to after-sales.

Established Experience

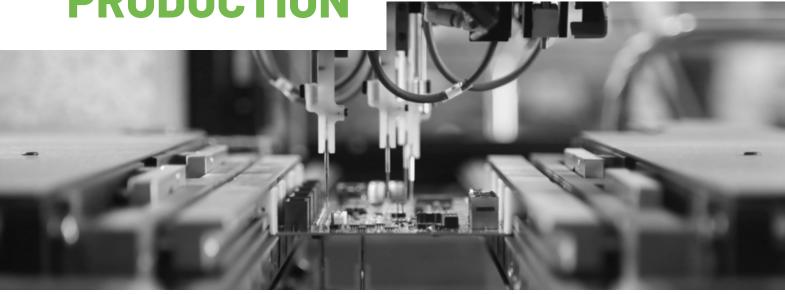
Decades of expertise across industries deliver innovative solutions and best practices.

Certified Ouality

Products and processes adhere to rigorous quality standards, ensuring long-term reliability.



VERTICAL INTEGRATION FOR INDUSTRIAL-GRADE PRODUCTION



From production to quality assurance and post-production support, Prima Electro provides tailored solutions that deliver **performance**, **reliability**, **and peace of mind**.

PLANT DETAILS

ITALY, MONCALIERI

- SMT (Surface Mounting Technology) and THT (Through Hole Technology)
- Automatic welding of PTH components
- Automatic optical inspection (AOI) and BGA X-ray inspection
- ICT, Functional Test (FCT), Flying probe machines

ITALY, BARONE CANAVESE

- Conformal Coating to improve electrical insulation
- Assembly operations
- Burn-in testing, ON-OFF testing and dedicated FFT lines
- Shipping & Receiving warehouse

CHINA, SUZHOU

- Production & Assembly of frequency inverters for Far East market (up to 250kVA)
- 4000+ power inverters/y

POWERING YOUR PRODUCTION

1 QUALITY

WE GO ABOVE STANDARDS

- ISO 9001 and ISO 14001 certified
- Full traceability for predictive maintenance and optimised efficiency
- Advanced testing protocols (e.g., EMC/EMI, electrical safety, CE/ UKCA, UL/CSA compliance)
- Precision-driven design with automated test benches and real-time KPI monitoring

2 PRODUCTION

A ONE-STOP-SHOP

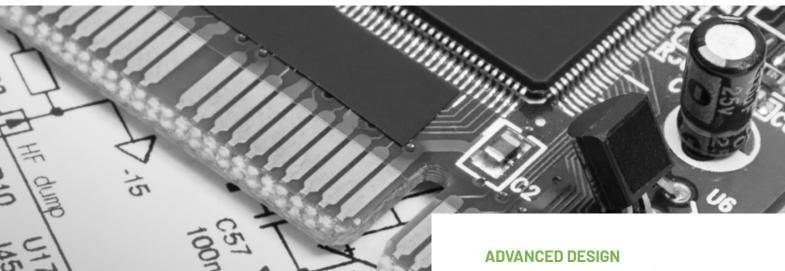
- Complete in-house production in the Italy plants
- Cutting-edge technology: SMT, THT, and PTH wave machines for efficient board assembly
- Advanced diagnostics and rigorous testing methods
- Conformal coating for electrical insulation and environmental protection

3 MAINTENANCE & REPAIR

ONGOING SUPPORT

- Prototyping, obsolescence management, and reverse engineering
- Dedicated repair labs for products up to 20 years old
- Efficient material traceability

THIS IS WHERE INNOVATION MEETS COST-EFFECTIVE IMPLEMENTATION



The Prima Electro R&D department designs complete electronic and automation systems that combine advanced simulations, innovative engineering, and a customer-centric approach.

From electrical and thermal simulations to system integration, firmware development, and complete custom-tailored projects, we craft solutions that empower your business to excel in a competitive landscape:

- Custom-tailored to your specific needs
- Comprehensive, covering the entire lifecycle from concept to final product
- Engineered for reliability, adhering to the highest standards

- Electrical and thermal simulations for optimal component performance
- Precision wiring diagrams and board layouts
- Electromechanical integration tailored to your application

END-TO-END DEVELOPMENT

- Firmware/hardware interface design
- Implementation of real-time deterministic software
- Prototyping, testing, and system validation

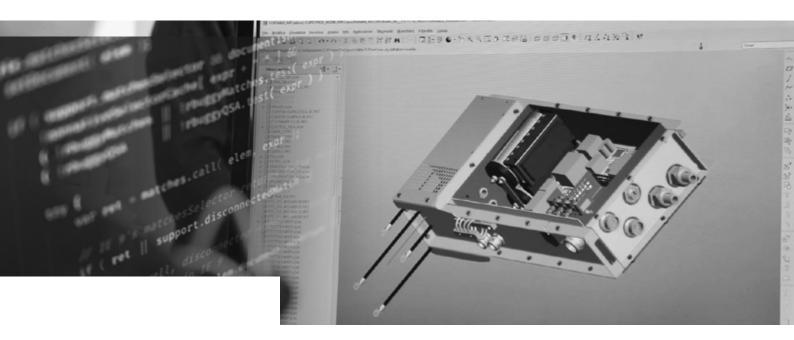
TOP STANDARDS COMPLIANCE

- Environmental, electromagnetic, and electrical safety certifications Safety Integrity Level (SIL) certifications
- Assembly stages industrialization and development of end-of-line function testing tools



WE COVER EVERY STAGE OF THE PROCESS, FROM CONCEPT TO CREATION

FROM CORE TO CODE



We create customised hardware and software solutions that deliver **superior performance while optimising cost**.

From power electronics to real-time embedded software, Prima Electro's integrated systems are crafted to meet the unique needs of diverse industrial applications and **empower your business growth**.

HARDWARE

THE CORE OF PERFORMANCE

Hardware solutions for reliability, scalability, and high performance, suitable for the most demanding requirements.

Power Electronics

Motor control, power supplies, > DC-DC, AC-DC and DC-AC power conversion up to $450~\rm{kW}$ and more.

Digital and Analogue Electronics

Local and remote I/O control units, SIL3 wireless portable terminals, domotic systems.

Thermal Simulation and System Models

Thermal simulation of components and definition of air and liquid cooling models through advanced CAD tools.

System Design and Modeling

Electromechanics design of complete systems, design of electrical diagrams, modeling of plastic parts using 3D CAD.

FIRMWARE & SOFTWARE

SMART CODE, SMARTER SYSTEM

Firmware and software solutions that enable systems to operate seamlessly, delivering real-time performance and reliable connectivity.

Firmware Development

Designing firmware and the Hardware Abstraction Layer (HAL) to optimise system functionality.

Operating System Integration

Configuring and integrating real-time kernels and market-standard operating systems.

Communication Protocols

Developing and integrating protocols for streamlined connectivity.

Embedded Software

Crafting real-time embedded software for industrial applications.

PIONEERING SOLUTIONS FOR TOMORROW'S INDUSTRIES



For over a decade, we've been a driving force in funded research projects, developing innovative solutions that shape the future of the most demanding industries. By participating in both national and international programs, we collaborate with key players to build innovation ecosystems and drive sustainability.

With unmatched expertise in embedded electronics, we deliver high-performance systems tailored to **tackle complex challenges across diverse fields**. Some of the solutions resulting from these research projects are now in the patent phase.

FUNDED PROJECTS CREATE VALUE FOR ALL

Leading and participating in funded projects, Prima Electro stays at the forefront of technological advancements, contributing to:

Technological leadership

Delivering cutting-edge solutions that boost systems' performance and drive competitive advantage.

Collaborative innovation

Working alongside industry leaders and research institutions to address real-world challenges.

Real-World impact

Creating tangible improvements, such as greater sustainability, efficiency, and reliability in industrial applications.





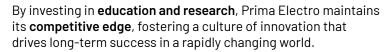




BUILDING STRONGER PARTNERSHIPS, NURTURING STRONGER TALENTS



As part of our **talent acquisition and retention programme**, Prima Electro sponsors **PhD courses** and collaborates with universities and research centres to nurture the next generation of innovators.



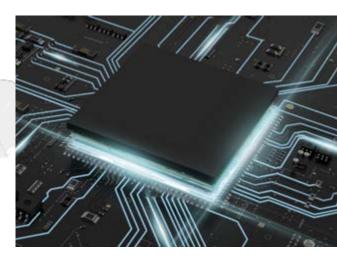














Prima Electro S.p.A.

+39 011 9899 800 | sales@primaelectro.com



CORPORATE HEADQUARTERS

R&D Center & Electronic Boards production Strada Carignano, 48/2 – 10024 Moncalieri (TO) - Italy

PRODUCTION & SERVICE

Via Caluso, 10 – 10010 Barone Canavese (TO) - Italy

PRODUCTION, SALES & SERVICE

Prima Electro Suzhou Co. Ltd

459 Xingrui Road, Eco-Tech Development Zone - Wujiang District, Suzhou - PRC