RECOM POWER SYSTEMS EXPANDS RECOM'S GLOBAL POWER PORTFOLIO

Delivering rugged, high-power solutions that expand RECOM's reach into custom and mission-critical applications through innovation, market growth, and technical excellence.

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INTRODUCTION

Founded in 1975, RECOM Power GmbH is a global leader in designing and manufacturing high-quality power conversion products. The company offers a comprehensive range of AC/DC converters, DC/DC converters, switching regulators, and LED drivers.

With decades of commitment to performance, reliability, and customer satisfaction, RECOM has earned a strong global reputation. The company continues to expand its international presence and diversify its offerings to meet the evolving power needs of industries worldwide.

This white paper introduces RECOM Power Systems S.r.l. (RPS), an Italian subsidiary of RECOM. It highlights RPS's strategic importance within the RECOM family. As demand grows for high-power and high-reliability solutions in the energy, transportation, medical, and industrial fields, RPS delivers customized, rugged power systems that complement RECOM's global offerings.

The remainder of this paper discusses RPS's origin, capabilities, expertise, technologies, and its role in RECOM's growth strategy.

RPS: ORIGIN AND EXPERTISE

RECOM Power Systems S.r.l. was founded in 1980 under the name Power Control Systems, specialized early on in high-power switching technologies and quickly earned ISO 9001 certification, establishing a strong commitment to quality management from the outset.

From the beginning, the company focused on AC/DC and DC/DC converters, delivering custom power solutions of up to 75kW for demanding sectors such as rail, industrial automation, medical, defense, and energy. Its in-house R&D capabilities and modern CAD facilities enabled rapid development of tailored solutions. A dedicated burn-in testing setup with full traceability reinforced the company's focus on quality. Initially, operations were based in a 4,500–5,000m^2 facility in Italy, serving markets across Europe and the Middle East through regional distributors.

In 2019, the business was acquired by the RECOM Group as part of a strategic move to enhance RECOM's capabilities in power conversion. Following the acquisition, the company operated under the name Power Control Systems S.r.l., reflecting its integration into the RECOM brand while maintaining its role as a center of excellence for high-power solutions.

In March 2025, the company moved into a newly constructed 6,500m^2 facility in Italy and was renamed in RECOM Power Systems S.r.l. – a step that marks its full integration into the RECOM Group and reinforces the RPS identity as a specialist in high-power conversion technologies.

RPS continues to focus on the development of high-performance AC/DC and DC/DC switching technologies. Rigorous testing procedures and comprehensive traceability protocols demonstrate the company's ongoing commitment to quality and reliability throughout every stage of design and production. RPS's engineering excellence is especially valued in industries requiring rugged, mission-critical systems, including rail, transportation, mobility, material handling, medical, and industrial applications.

With over 45 years of experience, RPS has built a strong legacy in the design and manufacturing of high-power electronic solutions.

A STRATEGIC ADDITION TO THE RECOM FAMILY

RECOM's acquisition of RPS aimed to broaden its product range and better serve customers needing complete power solutions. By integrating RPS into its global ecosystem, RECOM now offers a seamless selection of products, from standard modules to fully customized high-power systems. This integration streamlines supplier management for RECOM's customers and expands their access to a broader array of capabilities.

The partnership has also created new growth opportunities for RPS. By leveraging RECOM's global distribution and support networks, RPS has expanded its reach into key markets including the DACH region , North America, India, and China. While RPS is recognized for its

custom power designs, it also supports the sale of standardized products, providing greater flexibility and choice for customers.

Combining RPS's deep design skills with RECOM's global infrastructure provides significant advantages in speed, scalability, and technical excellence.

CUSTOM POWER SOLUTIONS

RPS is dedicated to designing power solutions tailored to specific requirements. Its portfolio includes high-power AC/DC and DC/DC converters (up to 75kW), complex inverters, and power factor correction (PFC) front ends. These systems are engineered for efficiency, performance, and durability.

Figure 1: RPS offers full custom power solutions to meet its customers' unique needs

RPS also specializes in battery charging and management solutions, including bidirectional converters that allow for both power delivery and energy recovery. These converters can supply power to a load (source mode) and absorb power from it (sink mode), reversing power flow as needed. This capability is increasingly important in modern applications such as smart grids and vehicle-to-grid systems.

One of RPS's key advantages is its platform-based design approach. Rather than starting from scratch for each project, RPS builds on proven design platforms that can be rapidly customized. This method reduces development time while maintaining high-quality standards.

All RPS products feature 100% component traceability and undergo active burn-in testing. This process ensures robust operation and compliance with strict regulatory standards. Additionally, all RPS systems are designed and manufactured in the European Union (EU), reinforcing RECOM's commitment to reliability, traceability, and long-term availability.

TARGET INDUSTRIES

RPS serves a variety of industries, each with its own unique collection of safety, durability, and performance requirements:

- **Transportation**: RPS designs robust DC/DC converters and on-board power distribution systems for railway rolling stock, electric buses, agricultural machinery, and marine navigation systems. These solutions deliver regulated power across wide input ranges (e.g., 43–101VDC) and are compliant with railway standards such as EN 50155. Engineered for motion-critical environments, they operate reliably under high vibration, extended temperature ranges (-40°C to +85°C), and exposure to humidity and dust—ensuring safety and system uptime in demanding mobile applications.
- **Defense and Aerospace**: For defense and aerospace applications, RPS supplies power converters that meet military standards such as MIL-STD-461 and MIL-STD-810. These rugged modules feature galvanic isolation, conformal coating, reverse polarity protection, and EMC filtering. Designed to withstand extreme thermal, mechanical, and electromagnetic stress, they ensure uninterrupted operation

in field-deployable communication systems, airborne platforms, and ruggedized computing environments.

- **Medical**: In healthcare, RPS provides medically certified AC/DC and DC/DC converters designed for compliance with IEC 60601-1 standards. These solutions are optimized for patient-monitoring equipment, MRI-compatible systems, and mobile diagnostic devices. Key features such as reinforced isolation, low leakage current, and high MTBF ensure continuous, safe, and reliable performance in life-critical medical environments.
- **Energy and Industrial**: RPS develops power conversion systems for a wide range of industrial and energy-related applications, including hydrogen-generation controllers, robotic automation, and smart grid monitoring. These configurable systems support wide AC input ranges, active power factor correction, and scalable DC outputs (e.g., 24 V to 400VDC). Built for compliance with EN/IEC 61000 standards, they offer surge protection, fault logging, and redundancy options—meeting the high reliability and uptime requirements of modern industrial infrastructure.

These solutions often require rugged enclosures, improved EMI filtering, and full traceability. RPS incorporates these factors into its designs to ensure long-term operational reliability.

ENGINEERED FOR EXTREME DEPLOYMENTS

RPS combines cutting-edge technology with extensive engineering expertise to develop systems that perform reliably in extreme conditions.

- **Bidirectional converters** enable energy recovery in electric vehicles, renewable energy systems, and smart grids. By allowing power to flow in both directions, these converters enhance system efficiency and reduce energy waste.
- **Hydrogen vehicle boosters** deliver regulated power to fuel cell systems, ensuring safe and reliable operation in clean transportation applications.
- **A modular platform architecture** allows customers to scale or modify designs with minimal engineering effort, making it ideal for adapting to evolving system requirements.

Figure 2: The SAB10000 series provides 10kW of battery charging and is bidirectional

All RPS products are designed with lifecycle management in mind. Long-term support, comprehensive documentation, and industry-specific certifications ensure that systems remain serviceable and compliant throughout their operational lifespan.

With EU-based engineering and manufacturing, RPS maintains full control over development cycles, ensuring compliance with EN, IEC, and ISO standards.

BIDIRECTIONAL ENERGY SYSTEMS, ELECTRIC MOBILITY, AND DECENTRALIZED GRIDS

Looking ahead, RPS is positioned to lead in emerging application areas. Evolving trends such as bidirectional energy systems, electric mobility, and decentralized grids are changing power needs across industries.

RPS has begun addressing these trends with:

- Advanced bidirectional DC/DC and AC/DC converters.
- Scalable systems for energy storage and distribution.
- Solutions tailored for smart grids and off-grid energy.
- Power platforms for the next generation of e-mobility, including industrial and heavy-duty electric vehicles.

RPS's strategy centers on customer-focused innovation. Each system is developed in close collaboration with the customer to ensure it meets specific performance, form factor, and environmental requirements.

As part of RECOM, RPS plays a vital role in delivering high-power, high-reliability solutions that complement RECOM's standard product lines. Together, they provide an unmatched range of power conversion options.

CONCLUSION

RECOM Power Systems S.r.l. brings over four decades of expertise in high-power electronics to the RECOM Group. With a strong foundation in custom design, proven technologies, and EU-based manufacturing, RPS is a key asset in RECOM's mission to deliver reliable, efficient, and flexible power solutions.

By combining RPS's strengths with RECOM's global reach and extensive catalog of standard products, customers gain a comprehensive source for all their power conversion needs—ranging from rugged custom solutions to ready-to-use plug-and-play modules.

To learn more about how RECOM and RPS can meet your toughest power challenges, visit recom-power.com.

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