

KLARM Expands Capabilities to Support Customers from the Solid-State Battery Industry



Guangzhou, Guangdong May 26, 2025 ([Issuewire.com](https://www.issuewire.com)) - As the race for energy innovation intensifies and industries around the globe push toward next-generation battery technologies, KLARM Precision Machining has officially announced a comprehensive expansion of its production capabilities and technical infrastructure to support companies in the solid-state battery (SSB) industry. Known globally as a high-precision CNC machining, prototyping, and [custom component manufacturing factory](#)

[in China](#), KLARM is positioning itself as a key manufacturing partner in the rapidly evolving field of solid-state energy storage.

Solid-state batteries represent the future of advanced power systems. With their potential to deliver higher energy densities, longer lifespans, improved safety, and faster charging compared to traditional lithium-ion batteries, they have attracted massive investment and attention from sectors such as electric vehicles (EVs), consumer electronics, aerospace, and grid-scale energy storage. However, the development and mass production of solid-state batteries introduce a new set of engineering challenges—particularly in the areas of material compatibility, thermal management, packaging precision, and mechanical integration. KLARM's expansion into this domain is a direct response to these challenges, offering a suite of [precision machining and custom fabrication services in China](#) tailored to meet the unique needs of the solid-state battery ecosystem.

Over the past year, KLARM has made significant investments in equipment, engineering talent, quality control, and R&D collaborations. These efforts are designed to support customers at every stage of the solid-state battery journey, from research and prototyping to pilot-scale manufacturing and full-scale commercialization. The company's upgraded infrastructure now includes multi-axis CNC milling centers, Swiss-type lathes for ultra-fine components, and state-of-the-art inspection equipment capable of validating micro-tolerances and material conformance. These capabilities are critical for producing the complex metal and polymer structures required in solid-state battery systems—such as electrolyte casings, pressure control mechanisms, thermal interface plates, compact enclosure housings, and ultra-flat sealing flanges.

What sets KLARM apart is its deep understanding of both mechanical and materials engineering, combined with its adaptability to emerging industries. In the context of solid-state batteries, this means the company is not just a supplier of machined parts—it is an active problem-solving partner. The transition from liquid to solid electrolytes introduces new mechanical and thermal behaviors. These must be addressed through precision manufacturing processes that control dimensions at the micron level, ensure uniform surface finishes, and support the use of novel materials, including ceramics, composite laminates, and high-purity metals. KLARM has responded by adapting its machining workflows to accommodate these materials, including developing proprietary tooling strategies and coolant systems that minimize contamination and maintain material integrity during the cutting process.

The solid-state battery industry is still in a formative stage, with design standards evolving rapidly and frequent iterations required to refine performance. KLARM's capacity for rapid prototyping plays a key role in supporting battery innovators as they refine their architectures. With an agile approach to small-batch production and fast lead times, the company enables clients to move from concept to testable hardware in days, rather than weeks or months. This acceleration of the design loop is critical for startups and R&D teams competing in a fast-moving field where early progress can determine access to funding and strategic partnerships.

As solid-state battery modules increase in complexity and integration, the mechanical systems surrounding them must evolve in tandem. Battery casings, heat spreaders, terminal connectors, sensor housings, and interface brackets must now perform under stricter tolerances while also being more compact and lightweight. KLARM's advanced machining capabilities enable the production of multi-functional parts that reduce assembly steps, minimize failure points, and improve overall system efficiency. With precision bores, tapped holes, thin-wall structures, and controlled surface roughness, the company's parts directly contribute to better thermal management, improved electrical conductivity, and longer operational life in solid-state battery assemblies.

KLARM's commitment to quality assurance is also central to its support of the solid-state battery industry. The company operates under a robust quality management system designed to meet or exceed the requirements of industries with zero-margin-for-error products. Its inspection lab is equipped with coordinate measuring machines (CMMs), optical comparators, laser scanners, and surface roughness testers to ensure that every part meets the demanding specifications associated with battery module integration. In addition, KLARM provides full traceability of materials and processes, an increasingly important requirement for customers focused on regulatory compliance and end-of-life recycling.

The expansion also includes targeted support for customers involved in battery pack assembly, thermal regulation systems, and safety mechanisms. KLARM is now machining components that serve as thermal isolation barriers, compressive force regulators, cooling plate mounts, and structural reinforcements within larger battery packs. With solid-state batteries having more sensitive thermal and mechanical profiles than their liquid counterparts, the importance of tight mechanical integration cannot be overstated. KLARM's expertise ensures that these supporting components perform predictably and consistently, enhancing the overall safety and efficiency of the battery system.

In addition to physical component production, KLARM has strengthened its engineering consultancy services to help customers design for manufacturability (DFM) in the solid-state battery field. Through collaborative development efforts, the company advises on material selection, dimensional optimization, tolerance balancing, and cost-effective geometry—all while preserving the performance intent of the design. This proactive engagement helps customers avoid costly rework, reduce prototype cycles, and speed up the path to industrialization. It also allows for better alignment between design objectives and production realities—a critical factor when dealing with intricate and emerging technologies like SSBs.

From a sustainability perspective, KLARM's expansion is also in line with global goals to reduce environmental impact through smarter energy systems. Solid-state batteries are viewed as a more sustainable alternative to conventional lithium-ion technologies due to their improved safety (which reduces waste from thermal events), potential for higher energy density (which reduces raw material usage per kWh), and better recyclability. KLARM supports this mission by implementing green manufacturing practices, including the use of recycled materials where appropriate, closed-loop coolant systems, and energy-efficient machining centers. By improving the mechanical robustness and reliability of solid-state batteries, KLARM contributes directly to the creation of longer-lasting, less wasteful energy storage solutions.

Commenting on this strategic expansion, **Jacky**, CEO of KLARM, said:

"The future of energy storage is solid-state. We recognize the magnitude of this shift, and we're committed to being a proactive manufacturing partner to the companies pioneering this change. Our expanded capabilities reflect both our investment in new technologies and our belief in the importance of high-precision mechanical engineering as a catalyst for battery innovation. We're not just making parts—we're helping to build the foundation for safer, smarter, and more sustainable power systems."

KLARM's growing involvement in the battery industry also includes partnerships with academic research labs, battery technology startups, and established EV and energy OEMs. These collaborations aim to align real-world manufacturing capabilities with the emerging technical demands of solid-state battery development. By integrating early into the innovation process, KLARM ensures that mechanical production is not a bottleneck, but rather a source of added value and strategic advantage.

Looking ahead, KLARM plans to continue investing in material R&D, automation technologies, and cross-disciplinary training for its workforce to meet the evolving challenges of the energy storage

industry. The company is also exploring the integration of advanced metrology, digital twins, and machine learning into its production workflows to further improve part quality, reduce cycle times, and support predictive maintenance of critical systems.

As the solid-state battery market progresses from laboratory innovation to global deployment, KLARM's expanded capabilities ensure that manufacturers have a dependable, agile, and forward-thinking machining partner ready to support every step of the journey. With unmatched expertise in precision fabrication, materials handling, and high-complexity component integration, KLARM is poised to play a foundational role in the next chapter of the global energy transition.

KLARM Precision Machining is a leading [Chinese manufacturer of high-tolerance CNC components](#), custom prototypes, and advanced mechanical assemblies for industries ranging from aerospace and robotics to medical and energy. With a reputation for engineering excellence, technological agility, and client-centric collaboration, KLARM empowers innovators to bring next-generation technologies to life with the support of world-class manufacturing services.

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Source : Klarm Group Limited

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