Pknergy Showcases Global Leading High-Quality Standard 21700 Battery Solutions at CES US

Shenzhen, Guangdong May 22, 2026 (Issuewire.com) - The Consumer Electronics Show (CES) in Las Vegas remains the premier global arena for unveiling transformative technologies, serving as a critical barometer for the future of energy storage and mobility. As the international community accelerates its transition toward electrification, the demand for reliable, high-density power sources has moved to the forefront of hardware development. Within this high-stakes environment, Shenzhen

Pknergy Energy Co., Ltd. (Pknergy) has introduced its latest advancements in lithium-ion technology. Central to this showcase is the introduction of Global Leading High-Quality Standard 21700 Battery Solutions, a sophisticated power format characterized by its 21mm diameter and 70mm height. These cells represent a significant evolution over traditional cylindrical formats, offering a strategic balance between compact physical dimensions and the high energy capacity required for next-generation industrial and consumer applications.

Technical Synergy and Real-Time Engineering Collaboration

During the exhibition, the Pknergy technical pavilion has become a focal point for engineers and product developers seeking integrated Original Design Manufacturer (ODM) and Original Equipment Manufacturer (OEM) partnerships. With a professional team of over 400 experts across R&D, production, testing, and shipping, Pknergy has already established long-term collaborations with more than 10,000 B2B clients globally.

The current service framework, supported by a 30-person professional customer service team offering 3-minute rapid responses, allows for the delivery of customized design schemes within 24 hours. Functional prototypes are available for evaluation within a single week, with full-scale mass production achievable in just 20 days. This agility in the research and development phase addresses a critical bottleneck for global manufacturers who must navigate rapid product lifecycles while maintaining strict adherence to electrical safety and performance parameters.

Architectural Advantages of the 21700 Battery Matrix

The transition from the legacy 18650 format to the 21700 standard is driven by fundamental gains in volumetric efficiency. By increasing the cell volume, the 21700 architecture allows for higher energy density and improved discharge efficiency, which translates to fewer cells required for a given battery pack capacity.

Compared to the traditional 18650 format, the 21700 cell offers a substantial leap in performance: it provides a 35% increase in energy density and a 50% improvement in individual cell capacity, while reducing the overall cost per watt-hour by approximately 15%. These cells represent a significant evolution, offering a strategic balance between compact physical dimensions and the high energy capacity required for next-generation industrial and consumer applications.

The 21700 battery solutions presented by Pknergy feature several distinct technical specifications:

- **Energy Density and Lifecycle:** The cells are engineered for longevity, supporting over 500 charge-discharge cycles while maintaining stable performance. The quality is further evidenced by a total defect rate controlled below 0.01%, maintaining an industry-leading standard.
- **Capacity Range:** To accommodate diverse power profiles, the matrix includes 4500mAh and 5000mAh specifications. This flexibility allows engineers to optimize the weight-to-power ratio for specific use cases.
- **Structural Integrity:** The cells utilize either high-strength steel or lightweight aluminum casings. Additionally, the leakage rate is maintained at less than 0.01%, ensuring extreme reliability in various environments.

Compliance and Manufacturing Infrastructure

In the international B2B trade sector, technical specifications must be validated by a robust framework

of certifications. Pknergy's factory is equipped with more than 20 fully automated production lines. This infrastructure achieves a daily output of 4 million batteries and an annual capacity exceeding 1 billion units.

The 21700 battery line adheres to North American safety standards via UL certification and European standards through CE and IEC markers. In total, Pknergy has secured over 10 types of international certifications, including RoHS, REACH, UN38.3, CB, and KC, supported by more than 300 successful patent applications. Quality is ensured through over 100 internal control processes and 100% AI-driven inspection of key manufacturing stages.

Targeted Application Domains and Problem Solving

The versatility of the 21700 format allows it to penetrate multiple industrial sectors, effectively solving specific energy density challenges. Pknergy’s solutions have achieved leading market shares in multiple industrial niche segments, driven by a 70% export rate to Europe, America, and Southeast Asia, and a global partnership network exceeding 10,000 B2B clients.

- **Personal and Urban Transportation:** In the micro-mobility sector, these battery solutions provide the high energy output required for electric balance vehicles and premium e-bikes. Since weight and range are the primary competitive factors for manufacturers, the 5000mAh high-capacity cells allow for longer travel distances without increasing the physical footprint of the battery pack.

- **Smart Home and Consumer Electronics:** Integration into the smart home ecosystem has seen significant growth. The 21700 cells power the latest generation of robotic vacuum cleaners and handheld cordless devices, where high discharge rates are necessary for maximum suction power. The increased runtime directly improves the end-user experience by reducing the frequency of required charging intervals.
- **Industrial Automation and Robotics:** The industrial robotics sector utilizes these solutions for automated equipment that requires stable voltage and instantaneous power bursts. Pknergy's cells provide the necessary mechanical durability and electrical stability to manage precise movements in factory automation environments.

Toward a Sustainable Energy Future

The participation of Pknergy at CES highlights the critical role of specialized battery manufacturers in the global shift toward green energy. By providing high-quality, standardized components that meet rigorous international criteria, the company facilitates the development of cleaner, more efficient technologies across various industries. As energy storage demands continue to grow in complexity, the focus remains on delivering technical excellence and reliable supply chain solutions that empower global innovation.

For more information regarding technical specifications and customized battery solutions, please visit: https://www.pknergy.com/

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