Ensurge Micropower Q4 Update – Working to develop world's most advanced solid-state lithium microbatteries

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Ensurge Micropower ASA (OSE: ENSU, OTCQB: ENMPY)

Ensurge has made great progress in 2021 building high performance solid state microbatteries using our novel and proprietary architecture within our roll-to-roll (R2R) facility in San Jose. The combination of our anode-less solid-state chemistry, ultra-thin stainless steel with significantly higher capacity uniquely positions Ensurge to provide commercial quantities of milliamp-hour class batteries that we believe will provide far superior solutions for our target markets. Throughout the past year, despite the challenges presented by an unprecedented global pandemic, the Ensurge team worked with purpose and commitment to achieve milestones in technology development, manufacturing readiness, and market development.

In January, the Company announced its Microbattery Product Platform (MPP) and first product based on customer requirements for energy dense, long-lived, and fundamentally safe energy storage. The platform is designed to deliver the fundamental advantages of steel-substrate solid-state lithium battery (SSLB) technology across a range of products that can be rapidly and efficiently customized to meet the unique capacity and form factor needs of specific customer designs. By April the Company confirmed expected key performance parameters of its first prototype cells.

By mid-year, Ensurge had successfully validated - ahead of schedule - the operational readiness of the full toolset required to implement the Company's baseline manufacturing necessary for scale-up its SSLB technology. In addition, the Company had ordered the initial tool conversions necessary to support the process transfer from the baseline sheet-based process development line to the roll-to-roll production line.

Also, the Company had confirmed depositing battery materials on ultrathin 10-micron steel substrates, with the Company's roll-to-roll equipment with expected performance. The combination of ultrathin steel substrates and roll-based manufacturing is fundamental to the Company's advantages in volumetric energy density and manufacturing scalability.

During the third quarter the Company installed and qualified equipment necessary to initiate development of the packaging of microbattery products, allowing product development to begin to progress from developing and validating individual unit cells to integrating multiple-unit cells ('multi-cells'), packaging these into complete microbatteries. Microbattery construction comprised of multi-cells is a complex and multi-step process involving manufacturing integration of lithium-compatible packaging materials enabling high energy densities assembled by stacking, encapsulation, metallization, and plating.

During the fourth quarter the Company continued its product development progress demonstrating working batteries using both sheet based and roll based unit-cells. While shipments of fully operating, packaged samples did not occur during Q4 the Company is expecting to ship them in the short term as it advances its packaging process optimization and overall battery integration efforts.

In addition, further improvements were made in preparing the roll-to-roll line for volume manufacturing with upgrades to our tools optimizing them for SSLB production. The company also received its automated metallization tool and is in the final stages of qualification. And finally, critically important, over the past quarter, with our new equipment and refinement of the process, our cycles of learning have more than doubled, significantly accelerating our rate of optimization. We remain actively engaged

with our customers, and recently provided mechanical samples to customers to validate the processes of integrating the Ensurge Microbattery into their products.

As Ensurge enters 2022 our customer engagements continue to provide enthusiastic validation that the benefits of our SSLB microbattery products resonate strongly with battery decision-makers across all our target markets; hearables, wearables, and connected sensors. Our total addressable market continues to grow and is forecasted to reach 10 billion units over the next several years. In the near term, the market opportunity remains robust for Ensurge to bring differentiated microbatteries that will fully maximize our existing San Jose facility and will require the Company to consider adding a larger facility over time.

The Company's key efforts during 2022 will be focused on converting current and new customer agreements into ramping product revenue during the latter part of the year. The Company will be broadening customer activities across all our target market segments adding new customers as well as deepening engagements with existing customers. Ensurge is actively engaged with several prospects in the medical wearables and industrial markets, with multiple proposals currently in negotiation.

A major step towards product revenue is the qualification of our technology and products at each customer, providing them confidence to design our differentiated microbatteries into their next generation products. During qualification, work will be focused on designing the optimum microbattery form factor to meet the requirements of our customer's next generation product and assisting our customer's product design and launch into the market.

In parallel to our customer efforts, operational readiness for ramping deliveries will increasingly be the Company's internal focus. Productivity, yield and performance improvements, lowering material costs will all be important efforts to provide predictable and profitable customer deliveries. The Company also anticipates needing to acquire and install incremental equipment capacity to meet customer demand.

About Ensurge

Ensurge is Energizing Innovation (TM) with ultrathin, flexible, and safe energy storage solutions for wearable devices, connected sensors, and beyond. Ensurge's innovative solid-state lithium battery (SSLB) technology is uniquely positioned to enable the production of powerful, lightweight, and cost-effective rechargeable batteries for diverse applications. The company's state-of-the-art flexible electronics manufacturing facility, located in the heart of Silicon Valley, combines patented process technology and materials innovation with the scale of roll-to-roll production methods to bring the advantages of SSLB technology to established and expanding markets. Ensurge Micropower ASA ("Ensurge") is a publicly listed company in Norway with corporate headquarters in Oslo and global headquarters in San Jose, California.

Contact

Ståle Bjørnstad - Investor Relations
E-mail: stale.bjornstad@ensurge.com
Phone: +47 99 16 76 72

Kevin Barber - Chief Executive Officer
E-mail: kevin.barber@ensurge.com