EDISON

Ensurge Micropower

Progress update

Closer to delivering customer samples

Tech hardware & equipment

Ensurge Micropower has provided a detailed update on its progress on manufacturing the world's first milliampere hour scale solid-state lithium microbatteries, noting that it expects to provide samples to its customers 'shortly'. This is a critical step in the company's development, because it already has agreements with five customers that are waiting for the samples and, unlike most early-stage technology companies, already has a volume manufacturing facility, which it is preparing for delivery of commercial volumes of microbatteries to a lead customer by end 2022.

Year end	Revenue ($m)	EBITDA ($m)	PBT* ($m)	EPS* ($)	DPS ($)	P/E (x)
12/18**	3.4	(49.3)	(54.3)	(0.93)	0.00	N/A
12/19**	1.2	(30.6)	(35.9)	(0.61)	0.00	N/A
12/20	0.5**	(11.3)	(14.9)	(0.04)	0.00	N/A
12/21	0.0	(14.6)	(17.2)	(0.01)	0.00	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments. **Discontinued business

Ensurge notes that there are three key steps in producing customer samples, and that it has completed the first two and has identified how to complete the final one. First, it successfully built individual battery cells that consistently meet targets for capacity and number of charge/discharge cycles. Importantly, the cells charge three times more quickly than conventional lithium-ion battery cells. Second, it has confirmed that the packaging technology provides an effective hermetic seal, preventing air and moisture from penetrating the battery and degrading the lithium cycling performance. Third, while it has successfully integrated battery cell processing, stacking and packaging microbatteries, these do not consistently meet the initial target cycling performance yet, although the company has identified a solution to meet this parameter, which is undergoing cycle-life testing. Once the lifecycle testing process has finished, potentially validating the solution, Ensurge will need to produce sufficient quantities of packaged and cycle-tested microbatteries for its customers to try out in their products.

Ensurge has already signed agreements with five customers. These include a Fortune 500 industrial company active in manufacturing capital equipment, a customer in the digital health market, two agreements in the medical hearables market and one in the broader wearables market. As of March 2022, there were 10 tier one OEMs awaiting microbattery samples. Customers are keen to use Ensurge's solid-state batteries as a replacement for conventional coin and button batteries in hearing aids, because the switch enables them to either reduce the size and weight of devices or increase the time between battery charges, as well as providing devices that charge more quickly and only need the batteries changing every three or four years. Customers in the connected sensors and sports wearables markets are also interested in the novel form factors available with solid-state batteries, without which some of their product designs are not viable.

10 May 2022

Price	**NOK2.6**
Market cap	**NOK553m**

Net debt ($m) at end December 2021 (excluding $1.6m restricted cash and $10.9m finance leases and funds from February $11.3m placing)	4.5
Shares in issue	212.7m
Free float	69.9%
Code	ENSU
Primary exchange	OSLO
Secondary exchange	OTCQB

Share price performance

Business description

Ensurge Micropower's solid-state lithium battery technology combines advanced energy cell design with proprietary materials and manufacturing innovation to produce thin, flexible batteries that can power safer and more capable wearable devices and connected sensors.

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