

Ensurge Micropower

Preparing for delivery of first microbatteries

During Q321, Ensurge built its first stacked batteries using cell-stacking equipment and roll-based unit cells, which was a significant step towards delivering initial customer samples of milliAmpere hour (mAh) class microbatteries by the end of 2021. It also signed a commercial agreement with a global leader in the medical hearables market, its second agreement in this key market segment and third commercial agreement in total.

Cash runway into Q122 secured

Ensurge did not generate revenues during the first nine months of FY21 (9M21) and the \$0.5m revenues in 9M20 related to sales of legacy stock of anti-theft tags. Payroll costs were \$2.8m higher year-on-year in 9M21 as management invested in engineering, manufacturing and business development personnel, contributing to a widening of EBITDA losses, excluding share-based payments, by \$2.5m to \$10.9m. Following a fund-raising programme generating \$25.2m (net) from a private placing and exercise of the remaining warrants, cash (excluding restricted cash) totalled \$11.5m. Management estimates that this cash is sufficient to fund the company into Q122. Management has stated that it intends to seek additional financing from the investor market to fund the company's activities further into 2022.

Strengthening routes to market

In addition to the three customer agreements already signed, Ensurge is negotiating multiple proposals with several prospects in the medical wearables and industrial markets. In some cases, such as smart rings and smart contact lenses, a potential customer's planned products are only viable if they incorporate Ensurge's microbatteries with their highly customisable form factor and architecture. Following the initial sample shipments in Q421, which are likely to generate the first microbattery revenues in early Q122, management expects to have a double-digit number of customers evaluating the company's microbatteries in Q122 ahead of volume production later in the year.

Valuation: Potential market of over 1bn units a year

Ensurge is initially targeting the medical wearables and hearables markets, followed by the connected sensor and sport & fitness wearables markets. Our scenario [analysis](#) calculates that a 5–10% share of these markets represents annual revenues of \$330–550m and EBITDA of \$211–365m.

Historical financials

Year end	Revenue (\$m)	EBITDA (\$m)	PBT* (\$m)	EPS* (\$)	DPS (\$)	P/E (x)	Yield (%)
12/17**	5.9	(50.9)	(54.5)	(0.06)	0.00	N/A	N/A
12/18**	3.4	(49.3)	(54.3)	(0.93)	0.00	N/A	N/A
12/19**	1.2	(30.6)	(35.9)	(0.61)	0.00	N/A	N/A
12/20	0.5**	(11.4)	(15.3)	(0.04)	0.00	N/A	N/A

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

Tech hardware & equipment

19 November 2021

Price **NOK0.73**
Market cap **NOK920**

Share price graph



Share details

Code ENSU
Listing OSLO, OTCQB
Shares in issue 1.26bn
Last reported net cash (US\$m) at 30 Sept 2021 0.9
excluding restricted cash and finance leases

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.

Bull

- High energy density, flexible form factor, enhanced cycling and improved safety features of solid-state batteries highly suitable for hearables and medical wearables markets.
- Markets for microbatteries already established.
- Ensurge already has volume manufacturing facility able to generate c US\$100m EBITDA.

Bear

- Ensurge has yet to ship samples to customers.
- Revenue growth dependent on companies incorporating microbatteries in their products.
- Management does not expect company to reach cash break-even until late 2023.

Analyst

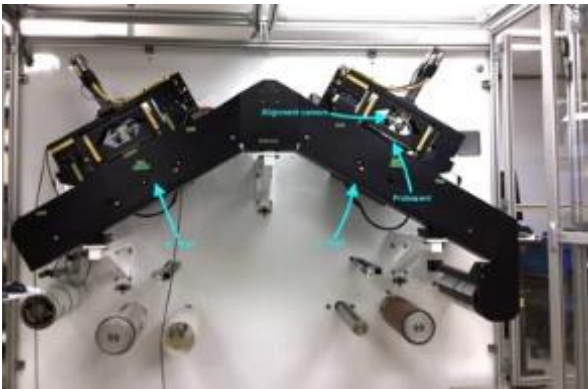
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Preparing for manufacture of first samples

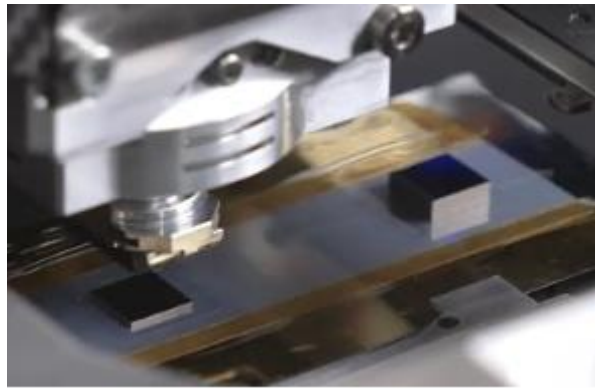
Now that Ensurge has built its first stacked batteries using cell-stacking equipment and roll-based unit cells, its focus has shifted to the test and optimisation activities required to validate key performance characteristics ahead of initial shipments to customers by the end of calendar 2021. The increased levels of activity resulted in an increase in manufacturing expenses, raising the costs associated with premises and supplies by \$0.8m year-on-year during Q321 to \$3.0m. The company has already installed and validated the packaging and test equipment required to enable initial customer samples. Management has not disclosed the capital expenditure required for this equipment, but we note that capital expenditure in Q321 was \$1.6m compared to \$0.2m in Q320.

Exhibit 1: Roll-to-roll test



Source: Ensurge Micropower

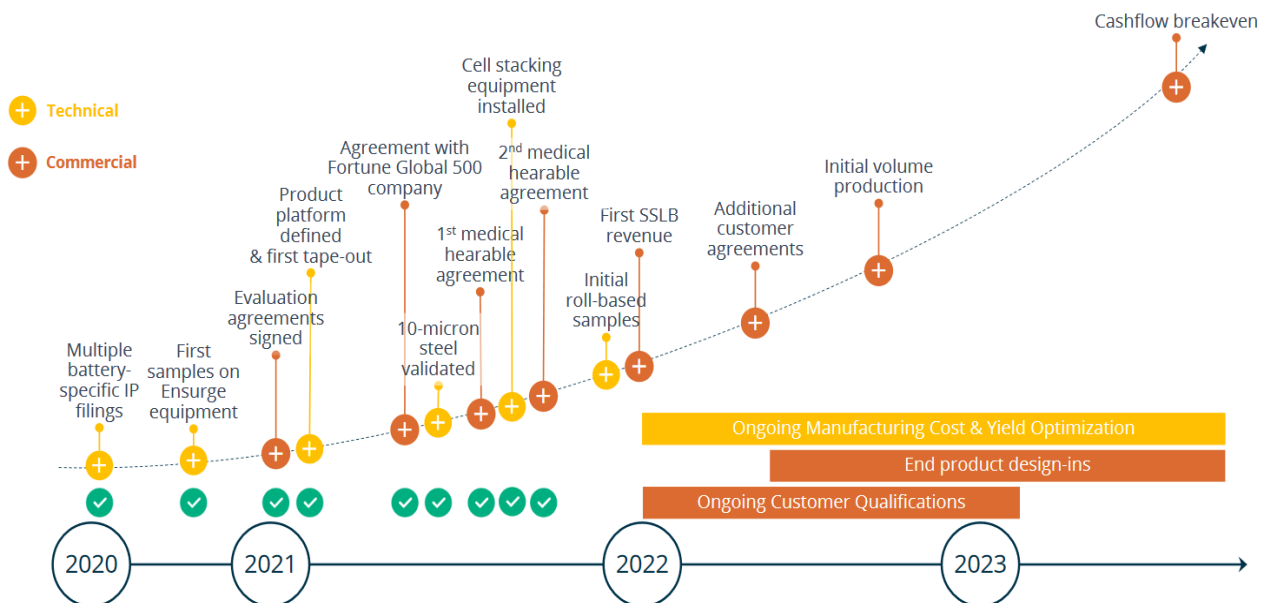
Exhibit 2: Cell stacking



Source: Ensurge Micropower

In parallel, the company is preparing to commence volume manufacture of microbatteries during FY22. It intends to install further production-grade tools and equipment during Q421, with expected qualification in Q122 to support the transition to volume production. Management has not disclosed the capital expenditure required for the stacking equipment, but it is modelled in management's cash runway guidance. We note that the existing roll-to-roll facility was designed for a different product, so supplementary equipment will be needed.

Exhibit 3: Technical and commercial roadmap



Source: Ensurge Micropower

Exhibit 4: Financial summary

	US\$m	2017*	2018*	2019*	2020
Year end December		IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS					
Revenue		5.9	3.4	1.2	0.5*
EBITDA		(50.9)	(49.3)	(30.6)	(11.4)
Operating Profit (before amort. and except.)		(54.8)	(53.3)	(34.5)	(11.4)
Intangible Amortisation		0.0	0.0	0.0	0.0
Exceptionals		(3.0)	(15.6)	(42.4)	0.0
Share-based payments		(2.2)	(1.8)	(0.2)	(0.6)
Operating Profit		(60.1)	(70.6)	(77.1)	(12.0)
Net Interest		0.4	(1.1)	(1.4)	(3.9)
Profit Before Tax (norm)		(54.5)	(54.3)	(35.9)	(15.3)
Profit Before Tax (FRS 3)		(59.7)	(71.7)	(78.5)	(39.1)
Tax		0.1	(0.0)	0.0	0.0
Profit After Tax (norm)		(54.3)	(54.4)	(35.9)	(15.3)
Profit After Tax (FRS 3)		(59.6)	(71.7)	(78.4)	(39.1)
Average Number of Shares Outstanding (m)		862.7	58.6	58.6	393.2
EPS - normalised (\$)		(0.06)	(0.93)	(0.61)	(0.04)
EPS - (IFRS) (\$)		(0.07)	(1.22)	(1.34)	(0.10)
Dividend per share (\$)		0.00	0.00	0.00	0.00
EBITDA Margin (%)		N/A	N/A	N/A	N/A
Operating Margin (before GW and except.) (%)		N/A	N/A	N/A	N/A
BALANCE SHEET					
Fixed Assets		34.2	35.3	0.6	0.8
Intangible Assets		2.2	2.4	0.0	0.0
Tangible Assets		20.5	22.5	0.0	0.2
Other		11.5	10.4	0.6	0.6
Current Assets		115.1	44.1	11.7	6.9
Stocks		0.7	2.6	0.0	0.0
Debtors		16.2	8.9	2.8	1.1
Cash including restricted cash		98.1	32.6	8.9	5.8
Other		0.0	0.0	0.0	0.0
Current Liabilities		(7.3)	(8.1)	(6.8)	(32.7)
Creditors		(7.3)	(8.1)	(5.5)	(29.5)
Short term borrowings		0.0	0.0	(1.4)	(3.2)
Long Term Liabilities		(12.1)	(11.5)	(25.1)	(21.9)
Long term borrowings excluding finance leases		0.0	0.0	(11.8)	(9.7)
Other long-term liabilities		(12.1)	(11.5)	(13.2)	(12.2)
Net Assets		129.9	59.7	(19.7)	(46.9)
CASH FLOW					
Operating Cash Flow		(52.3)	(52.3)	(29.1)	(11.9)
Net Interest		0.3	0.3	(1.4)	(3.2)
Tax		(0.0)	(0.1)	0.0	0.0
Capex		(27.1)	(11.2)	(5.1)	(0.3)
Acquisitions/disposals		0.0	0.0	0.0	0.0
Financing		103.3	(0.0)	0.0	13.3
Dividend payments and other items		0.2	(1.6)	0.0	0.0
Net Cash Flow		24.4	(64.9)	(35.5)	(2.1)
Opening net debt/(cash) excluding finance leases		(74.2)	(98.1)	(32.6)	4.3
Finance leases initiated		0.0	0.0	0.0	0.0
Other		(0.5)	(0.6)	(1.4)	(0.7)
Closing net debt/(cash) excluding finance leases		(98.1)	(32.6)	4.3	7.2

Source: Company accounts. Note: *Discontinued business.

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