

Nanoco Group

Closer to commercialisation

Nanoco has announced it has signed an agreement for a fourth work package from a major European customer relating to a longer wavelength material for enhancing the sensitivity of silicon sensors. Significantly, this package is for the delivery of an enhanced and scaled up version of the technology, indicating that the performance achieved so far merits scaling up the process and is consistent with management's goal of having visibility of production revenues during calendar H222.

Year end	Revenue (£m)	EBITDA (£m)	PBT* (£m)	EPS (p)	DPS (p)	P/E (x)
07/19	7.1	(3.8)	(5.0)	(1.34)	0.00	N/A
07/20**	3.9	(2.9)	(4.9)	(1.39)	0.00	N/A
07/21	2.1	(2.9)	(4.7)	(1.30)	0.00	N/A
07/22e	2.2	(3.0)	(4.8)	(1.37)	0.00	N/A

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

Preparing for production

We have previously noted that the existing production capacity in Runcorn can generate sensing application revenues of £100m/year working 24/7. While this remains the case, we would caution investors against assuming that a successful conclusion to the programme with the major European customer, which we have previously inferred is ST Microelectronics, would immediately result in this level of revenues. ST is engaged with many customers that could potentially deploy sensing chips incorporating Nanoco's material. Deployment by a major mobile phone company in a key handset model could potentially generate c £15–20m annual revenues working a single five-day shift, while deployment in a more niche application, such as virtual reality (VR) glasses, would generate lower revenues, but is likely to catalyse take-up by other customers.

Nudging estimates upwards

Management notes that the revenues from this fourth work package will benefit Q322, and now expects a year-on-year increase in revenues for FY22 as a whole. We therefore raise our revenue estimate by £0.2m to £2.2m and reduce our estimate of EBITDA loss by £0.1m to £3.0m. The group continues to have a cash runway for organic business activities into calendar H222, at which point there should be good visibility of both potential production orders and the outcome of the patent litigation.

Valuation: Resolution of patent infringement still key

Ahead of the programme with ST definitely moving to commercial production, we believe that much of Nanoco's value still lies in a satisfactory resolution of the patent infringement dispute with Samsung. Although the value of a potential payout has not been disclosed, we calculate that lost revenue in the United States attributable to the patent infringement to date could be in the region of US\$200–250m or more. Any damages awarded could also make an additional allowance for future sales of infringing TVs and a possible uplift for wilfulness.

Additional work package

Tech hardware & equipment

21 March 2022

Price **19.4p**

Market cap **£60m**

Net cash (£m) at end July 2021 (including loan notes but excluding £0.7m lease liabilities) 0.3

Shares in issue 307.2m

Free float 72.5%

Code NANO

Primary exchange LSE

Secondary exchange N/A

Share price performance



% 1m 3m 12m

Abs 7.8 (4.0) (7.4)

Rel (local) 9.3 (4.1) (13.5)

52-week high/low 29.9p 17.1p

Business description

Nanoco Group is a global leader in the development and manufacture of cadmium-free quantum dots (QD) and other nanomaterials with c 560 patents. Focus applications are advanced electronics, displays, bio-imaging and horticulture.

Next event

Interims 12 April 2022

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Estimate revisions

Management notes that the revenues from the fourth work package mean that FY22 revenues are likely to be higher than the £2.1m generated in FY21. We have made some minor adjustments to our FY22 estimates (see Exhibit 1) to reflect this statement.

Exhibit 1: Changes to estimates

Year-end July	FY21	FY22		
£m	Actual	New	Old	% change
Revenues	2.1	2.2	2.0	10.0%
Gross profit	1.9	2.0	1.8	10.3%
EBITDA	(2.9)	(3.0)	(3.1)	-5.0%
Normalised PBT	(4.7)	(4.8)	(4.9)	-3.1%
Normalised net income	(4.0)	(4.2)	(4.3)	-3.6%
Normalised diluted EPS (p)	(1.3)	(1.4)	(1.4)	-3.6%
Net debt/(cash)	(0.3)	2.2	2.4	-6.4%

Source: Nanoco data, Edison Investment Research

Management has also announced that it is relocating R&D and scale-up activities from its Manchester R&D centre to the Runcorn production facility and vacating the Manchester site. This follows a previously announced decision to exit one floor of the Manchester facility. Vacating the Manchester site entirely will result in some additional minor cost savings in FY23, though the savings will be partly offset by the cost of recommissioning the production facility. Importantly, having R&D and scale-up experts at hand as the Runcorn facility is readied for commercial production will expedite that process.

Valuation

While the award of the fourth work package from ST increases the likelihood of Nanoco generating revenues from the supply of nanomaterials for sensing applications, ahead of a programme with ST or others definitely moving to commercial production, we believe that most of Nanoco's value lies in a satisfactory resolution of the patent infringement dispute with Samsung. While the outcome of this litigation is by no means certain, we note that the large US litigation finance specialist funding the costs of the litigation undertook detailed due diligence before agreeing to provide finance. The lawyers, who are working on the case on a discounted fee basis, also carried out due diligence.

A final decision on the validity of the patents is expected by May 2022. If this is favourable, Nanoco will have cleared the first of two major hurdles in proving validity. The court hearing will then focus on infringement and damages, with validity effectively a settled matter by then. The [transcript](#) of the oral hearing in the inter partes reviews (IPRs) of the five patents in the case, which took place on 23 February 2022, was released on 17 March 2022. While the transcript of the oral hearing is subject to interpretation, Nanoco believes that the judges' lines of questioning appear, on balance, to favour Nanoco's position on each point.

Nanoco estimates that between April 2015 and the present Samsung has sold more than 14 million TVs deploying QDs based on Nanoco IP in the United States, which represents around one-third of its global sales. While Nanoco has not revealed its estimates of the potential payout if the litigation is successful, it has disclosed three possible damages models for calculating the value of the lost revenue to Nanoco:

- Top end: damages based on the premise that Samsung's QD TV market in the US is wholly enabled by Nanoco's QD technology, so the value of the lost revenue would be derived from the total value of that market.

- Mid: damages based on the premise that the QD-enabled display is a high proportion of the additional value of a QD-enhanced TV compared with a standard TV.
- Low end: damages based on the value only of the QD film in the displays.

Further options exist. Applying the low-end valuation model, we assume the QD enhanced TVs had an average sales price of US\$2,200–2,500 compared with the average price of a top of the range TV without QDs of c US\$1,000. Had the alleged patent infringement not taken place, we believe that the volumes of QDs Samsung required would have been higher than Nanoco could have produced in Runcorn, so it would have licensed its technology to partners, primarily Dow Chemical, and would have received significant royalties. If we assume that the cost of the QDs in each TV is equivalent to 10% of the uplift in price between QD and non-QD TV displays, and that Nanoco would have received a 12% royalty (as per our May 2017 [initiation note](#)) on these QDs, this represents US\$14.4–18.0 in lost revenue per TV display or US\$200–250m between April 2015 and the present in the United States alone.

Any damages awarded may also make an additional allowance for future sales of infringing TVs and a possible uplift of up to three times for wilfulness. While the ongoing litigation only covers the United States, we understand that Samsung would also be likely to seek a global negotiated settlement covering sales in other territories. Nanoco would retain 50–80% of the award, depending on its magnitude, and would have to pay UK corporation tax on the amount received, which could be offset against £36m losses.

Exhibit 2: Financial summary

	£m	2019	2020	2021	2022e
Year end 31 July		IFRS	IFRS	IFRS	IFRS
INCOME STATEMENT		restated	restated		
Revenue		7.1	3.9	2.1	2.2
Cost of Sales		(0.7)	(0.3)	(0.2)	(0.2)
Gross Profit		6.5	3.5	1.9	2.0
EBITDA		(3.8)	(2.9)	(2.9)	(3.0)
Operating profit (before amort. and excepts).		(5.0)	(4.8)	(4.6)	(4.3)
Amortisation of acquired intangibles		0.0	0.0	0.0	0.0
Exceptionals		(0.3)	(0.7)	0.0	0.0
Share-based payments		(0.2)	(0.4)	(0.4)	(0.7)
Reported operating profit		(5.5)	(5.9)	(5.0)	(5.0)
Net Interest		(0.0)	(0.1)	(0.1)	(0.5)
Profit Before Tax (norm)		(5.0)	(4.9)	(4.7)	(4.8)
Profit Before Tax (reported)		(5.5)	(6.0)	(5.1)	(5.5)
Reported tax		1.2	0.9	0.7	0.6
Profit After Tax (norm)		(3.9)	(4.0)	(4.0)	(4.2)
Profit After Tax (reported)		(4.4)	(5.1)	(4.4)	(4.9)
Minority interests		0.0	0.0	0.0	0.0
Net income (normalised)		(3.9)	(4.0)	(4.0)	(4.2)
Net income (reported)		(4.4)	(5.1)	(4.4)	(4.9)
Average Number of Shares Outstanding (m)		286	287	306	306
EPS - normalised (p)		(1.34)	(1.39)	(1.30)	(1.37)
EPS - normalised fully diluted (p)		(1.34)	(1.39)	(1.30)	(1.37)
EPS - basic reported (p)		(1.52)	(1.77)	(1.44)	(1.60)
Dividend per share (p)		0.00	0.00	0.00	0.00
BALANCE SHEET					
Fixed Assets		5.6	4.6	3.4	3.0
Intangible Assets		3.9	3.7	2.9	2.6
Tangible Assets		1.7	0.9	0.5	0.4
Investments & other		0.0	0.0	0.0	0.0
Current Assets		9.5	7.2	5.8	2.7
Stocks		0.2	0.1	0.1	0.1
Debtors		1.1	1.0	1.2	0.7
Cash & cash equivalents		7.0	5.2	3.8	1.2
Other		1.1	0.9	0.7	0.7
Current Liabilities		(5.0)	(3.6)	(2.4)	(2.2)
Creditors		(2.6)	(2.3)	(1.6)	(1.5)
Tax and social security		0.0	0.0	0.0	0.0
Short term financial leases		(0.7)	(0.6)	(0.5)	(0.5)
Short term bank debt		0.0	0.0	0.0	0.0
Other		(1.6)	(0.6)	(0.3)	(0.3)
Long Term Liabilities		(1.8)	(1.3)	(3.8)	(4.3)
Long term financial leases		(1.0)	(0.5)	(0.1)	(0.6)
Loan notes		(0.4)	(0.5)	(3.5)	(3.5)
Other long-term liabilities		(0.4)	(0.2)	(0.1)	(0.1)
Net Assets		8.3	7.0	3.1	(0.8)
Minority interests		0.0	0.0	0.0	0.0
Shareholders' equity		8.3	7.0	3.1	(0.8)
CASH FLOW					
Op Cash Flow before WC and tax		(3.8)	(3.0)	(2.8)	(3.0)
Working capital		1.8	(1.4)	(1.4)	0.3
Exceptional & other		(0.0)	(0.8)	(0.1)	0.0
Tax		1.4	1.1	0.9	0.7
Operating Cash Flow		(0.6)	(4.1)	(3.5)	(1.9)
Capex		(3.1)	(0.7)	(0.3)	(0.4)
Acquisitions/disposals		0.0	0.0	0.0	0.0
Net interest		0.0	0.0	(0.0)	(0.1)
Equity financing		0.0	3.2	0.0	0.0
Dividends		0.0	0.0	0.0	0.0
Other		0.0	(0.8)	2.3	0.0
Net Cash Flow		(3.7)	(2.4)	(1.5)	(2.4)
Opening net debt/(cash) - excluding finance leases		(10.3)	(6.6)	(4.7)	(0.3)
FX		0.0	0.0	0.0	0.0
Other non-cash movements		0.0	0.6	(3.0)	0.0
Closing net debt/(cash)		(6.6)	(4.7)	(0.3)	2.2

Source: Company data, Edison Investment Research

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