

Nanoco Group

Trading update

Further progress, but adoption slow

Nanoco's commercial ramp looks set to start this calendar year, and interest has increased since the European Commission's (EC) ruling. However, the pathway to commercial volumes is still slower than anticipated and we are therefore substantially reducing our FY18 estimates. The market opportunity is still significant and we believe Nanoco's competitive position should ultimately support strong growth and margins, although visibility in the early revenue ramp is inevitably low.

| Year end | Revenue (£m) | PBT* (£m) | EPS* (p) | DPS (p) | EV/sales (x) | P/E (x) |
|----------|--------------|-----------|----------|---------|--------------|---------|
| 07/16 | 0.5 | (12.3) | (5.2) | 0.0 | 116.5 | N/A |
| 07/17e | 1.6 | (9.8) | (4.1) | 0.0 | 34.0 | N/A |
| 07/18e | 4.5 | (7.1) | (3.0) | 0.0 | 12.2 | N/A |

Note: *PBT and EPS are normalised and diluted, excluding intangible amortisation, exceptional items and share-based payments.

Pipeline full, commercial ramp set to start

The company continues to work with 13 major OEMs, with a near-term focus on 10 programmes with five OEMs with the most immediate potential. Further orders are expected in the coming months for both televisions and computer displays.

But cadmium-free transition still protracted

Recently, Nanoco has seen an uptick in interest from OEMs in preparation for the EC's ban on cadmium in displays from October 2019. However, the EC's protracted decision-making process has held back this transition, with the Chinese OEMs targeted by WAH Hong. Samsung (which uses its own QD product) is dominating the high-end western market. With respect to the company's licensees, visibility on Dow is limited but it has commented that it is seeing increased interest in CFQD and is engaged with a number of display customers. Nanoco expects commercial contracts from Merck in H1, initially for product, until Merck decides to build its own plant. Merck's main focus appears to be on second-generation QD filter displays, which are likely three or more years away from a significant volume ramp.

Forecasts substantially scaled back

We are scaling back our forecasts substantially to what we believe should be the very bottom of a likely range. Our FY18 sales estimate is reduced to £4.5m from £16.3m and PBT to a £7.1m loss from a £0.8m profit. We are withdrawing our FY19 estimates due to the limited visibility. Nanoco has reduced its headcount and operating cost base to a c £9m pa run rate (£10.9m previously modelled), bringing the revenue rate to EBITDA break-even to £13-15m. Nevertheless, the company will almost certainly need to raise more cash to reach this point.

Valuation: Potential still there

The lack of visibility makes it very difficult to ascribe a precise fair value. However, we still believe that there is a big enough opportunity for Nanoco to scale into a strongly profitable business. Assuming broadly equal product to royalty volumes, break-even can be reached at below 1.4m m² per annum, which would equate to circa 5% market share of total QD TV screen area based on market analyst IHS's 2018 estimates. Earnings should scale strongly from there.

Tech hardware & equipment

25 August 2017

Price **29.25p**

Market cap **£70m**

US\$1.28/£

Net cash (£m) at July 2017 5.7

Shares in issue 238.3m

Free float 89.9%

Code NANO

Primary exchange LSE

Secondary exchange N/A

Share price performance



% 1m 3m 12m

Abs (24.5) (26.9) (56.5)

Rel (local) (24.8) (25.9) (60.0)

52-week high/low 73.0p 29.2p

Business description

Nanoco Group is the leading commercial supplier of cadmium-free quantum dots (CFQD) and IP. The near-term focus is on the display market, where CFQDs are used to enhance picture quality. The company is also developing solutions for medical imaging, lighting and solar cells.

Next events

Full year results October 2017

Analyst

Dan Ridsdale +44 (0)20 3077 5729

tech@edisongroup.com

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Investment summary

Estimate changes

Our estimate changes are shown in Exhibit 1.

The FY trading statement says that full year results are expected to be in line with management's expectations and with year end net cash standing at £5.7m (vs Edison £6.4m).

Given the difficulty in forecasting growth in a developing market, where the timing as well as the rate of uptake can make big differences, we have set our estimates at what we believe to be a very cautious level for FY18. We see the changes as in part a "shift to the right", although we need to see volume orders coming through to be able to calibrate estimates beyond this year.

Given the wide range of potential outcomes we have also included two more positive scenarios, both of which we believe are equally achievable. We will get more visibility on the likely outcome as news of further orders come through.

We have withdrawn our FY19 estimates as there is not enough visibility at this stage, although we still believe that the opportunity is there to support healthy profitability.

Exhibit 1: Estimate changes

| £m, year end 31 July | FY16 | FY17e | FY17e | | FY18e | FY18e | | FY18e | FY18e |
|------------------------------------|---------|--------|-------|--------|-------|----------|---------|---------|--------------|
| | Actual | Old | New | Change | Old | New base | Change | New mid | New positive |
| Product | 0.2 | 0.5 | 0.5 | 0% | 10.0 | 3.0 | -70% | 5.0 | 7.5 |
| Royalties | 0.0 | 0.0 | 0.0 | nm | 4.0 | 1.0 | -75% | 2.0 | 2.5 |
| Other | 0.3 | 1.1 | 1.1 | 0% | 2.3 | 0.5 | -77% | 0.5 | 0.5 |
| Revenues | 0.5 | 1.6 | 1.6 | 0% | 16.3 | 4.5 | -72% | 7.5 | 10.5 |
| Gross profit | 0.3 | 1.4 | 1.4 | 0% | 12.2 | 3.3 | -73% | 5.5 | 7.5 |
| Gross margin | 63% | 84% | 84% | | 75% | 72% | | 73% | 71% |
| EBITDA | (11.2) | (9.1) | (8.7) | -4% | 1.7 | (6.2) | -461% | (4.0) | (2.0) |
| EBITDA margin | -2,367% | -562% | -538% | | 11% | -137% | | -54% | -19% |
| Normalised operating profit | (12.5) | (10.2) | (9.8) | -4% | 0.6 | (7.3) | -1,263% | (5.1) | (3.1) |
| Normalised operating profit margin | -2,639% | -630% | -606% | | 4% | -162% | | -68% | -30% |
| Normalised net income | (12.3) | (10.2) | (9.8) | -4% | 0.8 | (7.1) | -971% | (4.9) | (2.9) |
| Normalised diluted EPS (p) | (5.2) | (4.3) | (4.1) | -4% | 0.3 | (3.0) | -996% | (2.1) | (1.2) |
| Net debt/(cash) | (14.5) | (6.4) | (5.7) | -11% | (3.4) | 1.8 | -155% | 0.9 | (0.3) |

Source: Nanoco Group data, Edison Investment Research

Opportunity still looks attractive

From a market standpoint, market analyst IHS still expects strong growth in QD displays, forecasting the total screen area of QD displays to increase from 4m m² in 2016 to 9m m² in 2017 and then to 27m m² by 2021. It expects cadmium free to expand market share progressively from 83% in FY17 to over 90% by 2020.

We still believe that Nanoco is well positioned to take a strong market share in the "open" CFQD market, and see only Nanosys as a serious potential competitor at this stage. The extent to which the tier 2 suppliers, such as TCL, Hisense, Skyworth, TPV, etc, are able to take market share from Samsung will define how large this market opportunity is.

Aggressive market share assumptions are not required to reach strong profitability

Based on IHS estimates, and on our revised operating cost base assumptions, we estimate that Nanoco could reach break-even with revenues of £13-15m. Assuming volumes are broadly evenly split between licensees and products, this could be achieved on circa 10% market share, based on



IHS's calendar FY17 estimates. Based on I.H.S's estimates for 18/19 we estimate the same mix, market share and cost base in fiscal FY19 should drive revenues over £20m and margins close to 20%. Our analysis of Nanoco's competitive situation suggests it is well placed to achieve greater than 10% market share.

Nevertheless, given the near-term outlook and need to support working capital when revenues do start to ramp, it looks inevitable that the company will need to raise further funds at some point, although depending on order visibility, there may be alternative options to equity.

Exhibit 2: Financial summary

| | £m | 2015 | 2016 | 2017e | 2018e |
|--|----|---------|-----------|---------|---------|
| Year end 31 July | | IFRS | IFRS | IFRS | IFRS |
| INCOME STATEMENT | | | | | |
| Revenue | | 2.0 | 0.5 | 1.6 | 4.5 |
| Cost of Sales | | (0.3) | (0.2) | (0.3) | (1.3) |
| Gross Profit | | 1.7 | 0.3 | 1.4 | 3.3 |
| EBITDA | | (8.1) | (11.2) | (8.7) | (6.2) |
| Operating profit (before amort. and except). | | (9.5) | (12.5) | (9.8) | (7.3) |
| Amortisation of acquired intangibles | | 0.0 | 0.0 | 0.0 | 0.0 |
| Exceptionals | | (0.9) | 0.0 | (0.4) | 0.0 |
| Share-based payments | | (0.6) | (0.3) | (0.3) | (0.3) |
| Reported operating profit | | (11.0) | (12.8) | (10.5) | (7.6) |
| Net Interest | | 0.1 | 0.2 | 0.1 | 0.2 |
| Joint ventures & associates (post tax) | | 0.0 | 0.0 | 0.0 | 0.0 |
| Exceptionals | | 0.0 | 0.0 | 0.0 | 0.0 |
| Profit Before Tax (norm) | | (9.3) | (12.3) | (9.8) | (7.1) |
| Profit Before Tax (reported) | | (10.9) | (12.6) | (10.4) | (7.4) |
| Reported tax | | 1.9 | 2.0 | 0.0 | 0.0 |
| Profit After Tax (norm) | | (9.3) | (12.3) | (9.8) | (7.1) |
| Profit After Tax (reported) | | (9.0) | (10.6) | (10.4) | (7.4) |
| Minority interests | | 0.0 | 0.0 | 0.0 | 0.0 |
| Discontinued operations | | 0.0 | 0.0 | 0.0 | 0.0 |
| Net income (normalised) | | (9.3) | (12.3) | (9.8) | (7.1) |
| Net income (reported) | | (9.0) | (10.6) | (10.4) | (7.4) |
| Basic average number of shares outstanding (m) | | 221 | 237 | 238 | 238 |
| EPS - normalised (p) | | (4.22) | (5.20) | (4.10) | (3.00) |
| EPS - diluted normalised (p) | | (4.22) | (5.20) | (4.10) | (3.00) |
| EPS - basic reported (p) | | (4.05) | (4.47) | (4.39) | (3.11) |
| Dividend per share (p) | | 0.00 | 0.00 | 0.00 | 0.00 |
| Revenue growth (%) | | nm | (76.6) | 242.9 | 179.2 |
| Gross Margin (%) | | 84.4 | 62.8 | 83.8 | 72.0 |
| EBITDA Margin (%) | | (400.4) | (2,367.4) | (537.7) | (137.4) |
| Normalised Operating Margin | | (465.9) | (2,639.4) | (605.6) | (161.5) |
| BALANCE SHEET | | | | | |
| Fixed Assets | | 3.9 | 3.7 | 4.0 | 5.2 |
| Intangible Assets | | 1.8 | 2.4 | 2.9 | 3.0 |
| Tangible Assets | | 2.1 | 1.3 | 1.2 | 2.2 |
| Investments & other | | 0.0 | 0.0 | 0.0 | 0.0 |
| Current Assets | | 27.2 | 18.7 | 8.4 | 4.4 |
| Stocks | | 0.2 | 0.2 | 0.4 | 0.2 |
| Debtors | | 0.9 | 2.0 | 0.3 | 1.2 |
| Cash & cash equivalents | | 24.3 | 14.5 | 5.7 | 1.2 |
| Other | | 1.8 | 2.0 | 2.0 | 2.0 |
| Current Liabilities | | (2.0) | (3.0) | (1.9) | (4.3) |
| Creditors | | (1.9) | (2.4) | (1.3) | (1.3) |
| Tax and social security | | 0.0 | 0.0 | 0.0 | 0.0 |
| Short term borrowings | | (0.1) | (0.0) | 0.0 | (3.0) |
| Other | | 0.0 | (0.5) | (0.6) | 0.0 |
| Long Term Liabilities | | (0.0) | (0.6) | 0.0 | 0.0 |
| Long term borrowings | | (0.0) | 0.0 | 0.0 | 0.0 |
| Other long term liabilities | | 0.0 | (0.6) | 0.0 | 0.0 |
| Net Assets | | 29.1 | 18.8 | 10.5 | 5.3 |
| Minority interests | | 0.0 | 0.0 | 0.0 | 0.0 |
| Shareholders' equity | | 29.1 | 18.8 | 10.5 | 5.3 |
| CASH FLOW | | | | | |
| Op Cash Flow before WC and tax | | (8.1) | (11.2) | (8.7) | (6.2) |
| Working capital | | 0.2 | 0.5 | (0.1) | (1.2) |
| Exceptional & other | | (0.9) | 0.0 | (0.4) | 0.0 |
| Tax | | 1.3 | 1.8 | 2.0 | 2.0 |
| Net operating cash flow | | (7.6) | (8.9) | (7.3) | (5.4) |
| Capex | | (0.9) | (1.1) | (1.3) | (2.3) |
| Acquisitions/disposals | | 0.0 | 0.0 | (0.3) | 0.0 |
| Net interest | | 0.1 | 0.2 | 0.1 | 0.2 |
| Equity financing | | 21.1 | 0.0 | 0.0 | 0.0 |
| Dividends | | 0.0 | 0.0 | 0.0 | 0.0 |
| Other | | (0.6) | 0.0 | 0.0 | 0.0 |
| Net Cash Flow | | 12.2 | (9.7) | (8.8) | (7.6) |
| Opening net debt/(cash) | | (12.2) | (24.4) | (14.5) | (5.7) |
| FX | | 0.0 | 0.0 | 0.0 | 0.0 |
| Other non-cash movements | | 0.0 | (0.1) | 0.0 | 0.0 |
| Closing net debt/(cash) | | (24.4) | (14.5) | (5.7) | 1.8 |

Source: Nanoco Group accounts, Edison Investment Research

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