

Nanoco Group

More good news – this time organic business

Contract award and fundraising

Nanoco has signed an agreement for a fifth work package from its major European customer. This covers the final phase of a scale-up of a longer wavelength material and development of a third material. It has also completed a placing and subscription raising £2.0m (net) at 37p/share, which extends the cash runway into CY24, and announced a broker option at 37p/share potentially raising up to an additional £3.7m.

Year end	Revenue (£m)	EBITDA (£m)	PBT* (£m)	EPS (p)	DPS (p)	P/E (x)
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	2.4	(2.6)	(4.4)	(1.24)	0.00	N/A
07/23e**	2.4	(2.7)	(3.7)	(1.00)	0.00	N/A

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

Work package provides stable revenue base

This fifth work package gives a monthly revenue rate similar to that delivered in H122, so we have raised our FY22 revenue estimate by £0.2m to £2.4m. Importantly, while the four previous work packages have lasted one or two quarters, this fifth work package extends for one year starting May 2022, giving Nanoco a more stable environment for business planning. The working capital arrangements in the contract enable Nanoco to set up a robust raw material supply chain ahead of commercial production orders, which it expects to have visibility of during H2 CY22. The inclusion of development work on a third material emphasises the long-term nature of the relationship with the customer, which we have previously inferred is ST Microelectronics (ST).

Cash runway potentially extended into CY24

The fifth work package, together with the placing and subscription, extends Nanoco's cash runway from H1 CY23, by which point management expects to have visibility of both potential production orders and the outcome of the patent litigation trial with Samsung, into CY24. It means Nanoco has sufficient cash if the litigation process is prolonged by appeals because if the initial application for sensing materials is relatively low volume, Nanoco will not reach cash break-even until FY25.

Valuation: Dependent on patent litigation outcome

Ahead of the programme with ST moving to commercial production, we believe much of Nanoco's value still lies in a satisfactory resolution of the patent infringement dispute with Samsung, an event which is much more likely given the positive verdict from the US Patent Trial and Appeal Board (PTAB) in May. 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.

Tech hardware and equipment

7 June 2022

Price **40.20p**

Market cap **£126m**

Net cash (£m) at end February 2022 (excluding lease liabilities, £2.0m from placing and subscription and <£5.7m from broker option) 2.6m

Shares in issue (including shares from placing and subscription and excluding shares from broker option) 313.3m

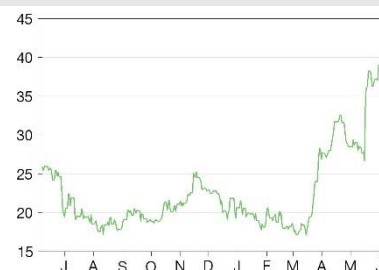
Free float (prior to placing, subscription and broker option) 75.9%

Code NANO

Primary exchange LSE

Secondary exchange N/A

Share price performance



% 1m 3m 12m

Abs 38.6 133.7 57.3

Rel (local) 34.6 115.8 51.2

52-week high/low 40.20p 17.10p

Business description

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

Next event

FY22 results November 2022

Analysts

Anne Margaret Crow +44 (0)20 3077 5700

Dan Ridsdale +44 (0)20 3077 5729

tech@edisongroup.com

[Edison profile page](#)

Nanoco Group is a research client of Edison Investment Research Limited

Revisions to estimates

Minor upgrades to FY22 estimates

We have made the following changes to our FY22 estimates:

Revenues: management notes that the new work package delivers a monthly run-rate equivalent to that delivered in H122, when revenues, most of which were attributable to ST, totalled £1.1m. Since Nanoco received new orders from its major Asian customer in Q322 and is at an advanced stage of discussion regarding additional development work packages with the customer, we expect H222 revenues to be higher than H122 and therefore raise our revenue estimate slightly, by £0.2m to £2.4m. This follows another minor upgrade in [March](#).

Administrative costs: we reduce administrative costs by £0.2m to reflect tight cost management.

EPS: we modify our estimates to include the new shares issues following the placing and subscription but exclude any potential shares attributable to the broker option. We note that the Broker Option is not materially dilutive because the total fundraise including the placing and subscription will not exceed 5% of the company's issued share capital immediately prior to the fundraise.

Cash flow: we modify our cash flow to include the £2.0m (net) from the placing and subscription but exclude any potential cash from the broker option. The broker option closes at 5.00pm on 7 June 2022. We note that long-term shareholder Lombard Odier Asset Management remains supportive but did not participate in the current fund-raising because it did not want to risk exceeding a 30% stake.

Introducing FY23 estimates

Since the fifth work-package from ST extends to end April 2023, there is sufficient visibility to introduce estimates for FY23. These do not include any revenues attributable to the commercial production of nano-materials for sensing or other applications. We note that, if inflationary effects were excluded, the cost savings arising from exiting the surplus facility in Manchester and other actions would reduce the annualised cost base by around 15% by January 2023 compared with management's expectations for FY22.

Exhibit 1: Changes to FY22 estimates and introduction of FY23 estimates						
Year end 31 July		FY21	FY22e			FY23e
£m		Actual	New	Old	% change	New
Revenues		2.1	2.4	2.2	9.1%	2.4
Gross profit		1.9	2.2	2.0	9.3%	2.2
EBITDA		(2.9)	(2.6)	(3.0)	N/A	(2.7)
Normalised PBT		(4.7)	(4.4)	(4.8)	N/A	(3.7)
Normalised net income		(4.0)	(3.8)	(4.2)	N/A	(3.1)
Normalised diluted EPS (p)		(1.3)	(1.2)	(1.4)	N/A	(1.0)
Net debt/(cash)		(0.3)	(0.3)	2.2	N/A	2.3

Source: Edison Investment Research

Cash break-even in FY24 or FY25, depending on initial sensing application

Management expects that cost saving measures will reduce the company's annualised cost base to c £4.0m by January 2023, resulting in a cash break-even revenue figure of c £5.0m. The litigation costs are being funded by a third party, so are not a drain on cash. When the group reaches cash break-even will depend on what application the first commercial volumes of nano-materials are

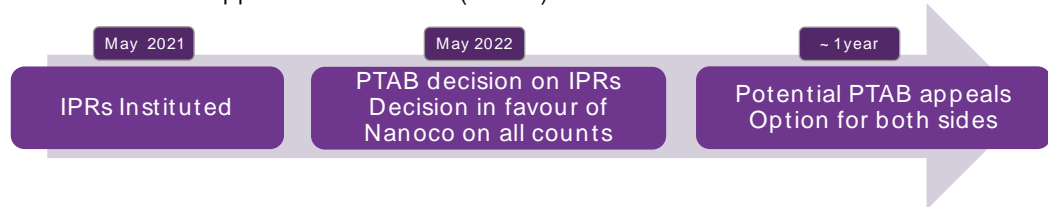
made for. ST is engaged with many customers that could potentially deploy sensing chips incorporating Nanoco’s material. Deployment by a major mobile phone company in a key handset model could potentially generate c £15–20m annual revenues working a single five-day shift, potentially enabling Nanoco to reach cash break-even in FY24. Deployment in a more niche application, such as virtual reality (VR) glasses, would generate lower revenues, but would be likely to catalyse take-up by other customers, potentially enabling Nanoco to reach break-even in FY25. Longer-term, the existing production capacity in Runcorn could generate sensing application revenues of £100m/year working 24/7.

Realising value from patent litigation

Until the development programmes with ST or other customers definitely move to commercial production, we believe that most of Nanoco’s value lies in a satisfactory resolution of the [patent infringement dispute](#) with Samsung, which Nanoco instigated in February 2020.

Exhibit 2: Samsung litigation timeline

Patent Trial and Appeal Board Process (‘PTAB’)



Trial Process



Source: Edison Investment Research

Nanoco received a final decision on the validity of the patents in May 2022. The PTAB determined in favour of Nanoco in respect of all 47 claims in the five patents. Nanoco’s IP infringement case had been put on hold, awaiting the PTAB decision. Now that is out of the way, management expects that the court hearing, which will focus on infringement and damages, is likely to take place in calendar Q422. Samsung has the right to appeal the verdict of both the PTAB decision and of the infringement case, if Nanoco is successful. If this were to happen, then the process could potentially last several more years. However, it is possible that the unequivocal nature of the PTAB’s verdict could make Samsung more receptive to entering negotiations.

Nanoco estimates that between April 2015 and the present Samsung has sold more than 14m 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 United States 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.

There are further options as well. 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.

A damages award 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	2020	2021	2022e	2023e
31-July		IFRS	IFRS	IFRS	IFRS
INCOME STATEMENT					
		restated			
Revenue		3.9	2.1	2.4	2.4
Cost of Sales		(0.3)	(0.2)	(0.2)	(0.2)
Gross Profit		3.5	1.9	2.2	2.2
EBITDA		(2.9)	(2.9)	(2.6)	(2.7)
Operating profit (before amort. and excepts).		(4.8)	(4.6)	(3.9)	(3.6)
Amortisation of acquired intangibles		0.0	0.0	0.0	0.0
Exceptionals		(0.7)	0.0	0.0	0.0
Share-based payments		(0.4)	(0.4)	(0.7)	(0.7)
Reported operating profit		(5.9)	(5.0)	(4.6)	(4.3)
Net Interest		(0.1)	(0.1)	(0.5)	(0.1)
Profit Before Tax (norm)		(4.9)	(4.7)	(4.4)	(3.7)
Profit Before Tax (reported)		(6.0)	(5.1)	(5.1)	(4.4)
Reported tax		0.9	0.7	0.6	0.6
Profit After Tax (norm)		(4.0)	(4.0)	(3.8)	(3.1)
Profit After Tax (reported)		(5.1)	(4.4)	(4.5)	(3.8)
Minority interests		0.0	0.0	0.0	0.0
Net income (normalised)		(4.0)	(4.0)	(3.8)	(3.1)
Net income (reported)		(5.1)	(4.4)	(4.5)	(3.8)
Average Number of Shares Outstanding (m)		287	306	308	313
EPS - normalised (p)		(1.39)	(1.30)	(1.24)	(1.00)
EPS - normalised fully diluted (p)		(1.39)	(1.30)	(1.24)	(1.00)
EPS - basic reported (p)		(1.77)	(1.44)	(1.46)	(1.22)
Dividend per share (p)		0.00	0.00	0.00	0.00
BALANCE SHEET					
Fixed Assets		4.6	3.4	3.0	2.5
Intangible Assets		3.7	2.9	2.6	2.4
Tangible Assets		0.9	0.5	0.4	0.1
Investments & other		0.0	0.0	0.0	0.0
Current Assets		7.2	5.8	5.3	2.7
Stocks		0.1	0.1	0.1	0.1
Debtors		1.0	1.2	0.7	0.7
Cash & cash equivalents		5.2	3.8	3.7	1.1
Other		0.9	0.7	0.7	0.7
Current Liabilities		(3.6)	(2.4)	(2.2)	(2.2)
Creditors		(2.3)	(1.6)	(1.5)	(1.5)
Tax and social security		0.0	0.0	0.0	0.0
Short term financial leases		(0.6)	(0.5)	(0.5)	(0.5)
Short term bank debt		0.0	0.0	0.0	0.0
Other		(0.6)	(0.3)	(0.3)	(0.3)
Long Term Liabilities		(1.3)	(3.8)	(4.3)	(4.3)
Long term financial leases		(0.5)	(0.1)	(0.6)	(0.6)
Loan notes		(0.5)	(3.5)	(3.5)	(3.5)
Other long term liabilities		(0.2)	(0.1)	(0.1)	(0.1)
Net Assets		7.0	3.1	1.7	(1.4)
Minority interests		0.0	0.0	0.0	0.0
Shareholders' equity		7.0	3.1	1.7	(1.4)
CASH FLOW					
Operating Cash Flow		(3.0)	(2.8)	(2.6)	(2.7)
Working capital		(1.4)	(1.4)	0.3	0.0
Exceptional & other		(0.8)	(0.1)	0.0	0.0
Tax		1.1	0.9	0.7	0.7
Net Operating Cash Flow		(4.1)	(3.5)	(1.5)	(2.0)
Capex		(0.7)	(0.3)	(0.4)	(0.4)
Acquisitions/disposals		0.0	0.0	0.0	0.0
Net interest		0.0	(0.0)	(0.1)	(0.1)
Equity financing		3.2	0.0	2.1	0.0
Dividends		0.0	0.0	0.0	0.0
Other		(0.8)	2.3	0.0	0.0
Net Cash Flow		(2.4)	(1.5)	0.0	(2.5)
Opening net debt/(cash) excluding finance leases		(6.6)	(4.7)	(0.3)	(0.3)
FX		0.0	0.0	0.0	0.0
Other non-cash movements		0.6	(3.0)	0.0	0.0
Closing net debt/(cash) excluding finance leases		(4.7)	(0.3)	(0.3)	2.3

Source: Edison Investment Research

General disclaimer and copyright

This report has been commissioned by Nanoco Group and prepared and issued by Edison, in consideration of a fee payable by Nanoco Group. Edison Investment Research standard fees are £60,000 pa for the production and broad dissemination of a detailed note (Outlook) following by regular (typically quarterly) update notes. Fees are paid upfront in cash without recourse. Edison may seek additional fees for the provision of roadshows and related IR services for the client but does not get remunerated for any investment banking services. We never take payment in stock, options or warrants for any of our services.

Accuracy of content: All information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable, however we do not guarantee the accuracy or completeness of this report and have not sought for this information to be independently verified. Opinions contained in this report represent those of the research department of Edison at the time of publication. Forward-looking information or statements in this report contain information that is based on assumptions, forecasts of future results, estimates of amounts not yet determinable, and therefore involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of their subject matter to be materially different from current expectations.

Exclusion of Liability: To the fullest extent allowed by law, Edison shall not be liable for any direct, indirect or consequential losses, loss of profits, damages, costs or expenses incurred or suffered by you arising out of or in connection with the access to, use of or reliance on any information contained on this note.

No personalised advice: The information that we provide should not be construed in any manner whatsoever as, personalised advice. Also, the information provided by us should not be construed by any subscriber or prospective subscriber as Edison's solicitation to effect, or attempt to effect, any transaction in a security. The securities described in the report may not be eligible for sale in all jurisdictions or to certain categories of investors.

Investment in securities mentioned: Edison has a restrictive policy relating to personal dealing and conflicts of interest. Edison Group does not conduct any investment business and, accordingly, does not itself hold any positions in the securities mentioned in this report. However, the respective directors, officers, employees and contractors of Edison may have a position in any or related securities mentioned in this report, subject to Edison's policies on personal dealing and conflicts of interest.

Copyright: Copyright 2022 Edison Investment Research Limited (Edison).

Australia

Edison Investment Research Pty Ltd (Edison AU) is the Australian subsidiary of Edison. Edison AU is a Corporate Authorised Representative (1252501) of Crown Wealth Group Pty Ltd who holds an Australian Financial Services Licence (Number: 494274). This research is issued in Australia by Edison AU and any access to it, is intended only for "wholesale clients" within the meaning of the Corporations Act 2001 of Australia. Any advice given by Edison AU is general advice only and does not take into account your personal circumstances, needs or objectives. You should, before acting on this advice, consider the appropriateness of the advice, having regard to your objectives, financial situation and needs. If our advice relates to the acquisition, or possible acquisition, of a particular financial product you should read any relevant Product Disclosure Statement or like instrument.

New Zealand

The research in this document is intended for New Zealand resident professional financial advisers or brokers (for use in their roles as financial advisers or brokers) and habitual investors who are "wholesale clients" for the purpose of the Financial Advisers Act 2008 (FAA) (as described in sections 5(c) (1)(a), (b) and (c) of the FAA). This is not a solicitation or inducement to buy, sell, subscribe, or underwrite any securities mentioned or in the topic of this document. For the purpose of the FAA, the content of this report is of a general nature, is intended as a source of general information only and is not intended to constitute a recommendation or opinion in relation to acquiring or disposing (including refraining from acquiring or disposing) of securities. The distribution of this document is not a "personalised service" and, to the extent that it contains any financial advice, is intended only as a "class service" provided by Edison within the meaning of the FAA (i.e. without taking into account the particular financial situation or goals of any person). As such, it should not be relied upon in making an investment decision.

United Kingdom

This document is prepared and provided by Edison for information purposes only and should not be construed as an offer or solicitation for investment in any securities mentioned or in the topic of this document. A marketing communication under FCA Rules, this document has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research.

This Communication is being distributed in the United Kingdom and is directed only at (i) persons having professional experience in matters relating to investments, i.e. investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "FPO") (ii) high net-worth companies, unincorporated associations or other bodies within the meaning of Article 49 of the FPO and (iii) persons to whom it is otherwise lawful to distribute it. The investment or investment activity to which this document relates is available only to such persons. It is not intended that this document be distributed or passed on, directly or indirectly, to any other class of persons and in any event and under no circumstances should persons of any other description rely on or act upon the contents of this document.

This Communication is being supplied to you solely for your information and may not be reproduced by, further distributed to or published in whole or in part by, any other person.

United States

Edison relies upon the "publishers' exclusion" from the definition of investment adviser under Section 202(a)(11) of the Investment Advisers Act of 1940 and corresponding state securities laws. This report is a bona fide publication of general and regular circulation offering impersonal investment-related advice, not tailored to a specific investment portfolio or the needs of current and/or prospective subscribers. As such, Edison does not offer or provide personal advice and the research provided is for informational purposes only. No mention of a particular security in this report constitutes a recommendation to buy, sell or hold that or any security, or that any particular security, portfolio of securities, transaction or investment strategy is suitable for any specific person.

Frankfurt +49 (0)69 78 8076 960
Schumannstrasse 34b
60325 Frankfurt
Germany

London +44 (0)20 3077 5700
280 High Holborn
London, WC1V 7EE
United Kingdom

New York +1 646 653 7026
1185 Avenue of the Americas
3rd Floor, New York, NY 10036
United States of America

Sydney +61 (0)2 8249 8342
Level 4, Office 1205
95 Pitt Street, Sydney
NSW 2000, Australia