EDISON

Nanoco Group

FY23 results

Pathway to commercial production

Tech hardware and equipment

FY23 was a turbulent but ultimately pivotal year for Nanoco. The US$150m Samsung settlement (US$90m net costs) will fund the planned £33–40m return to shareholders with the retained c £20m providing good support to make the transition from development to commercial production. The company's first commercial order is expected this calendar year. While volumes are expected to be relatively modest, this is a key milestone, and successful delivery should ease the pathway to follow-on orders and new customers. The partnership with an Asian chemicals company provides a second channel into the sensing market, while management also expects to add a third development partner potentially focusing on the display market over the course of FY24. In the longer term, pursuing other potential IP infringers could open other commercial opportunities, royalties or compensation payments.

Year end	Revenue (£m)	EBITDA (£m)	PBT* (£m)	EPS* (p)	EV/sales (x)	P/E (x)
07/21	2.1	(2.8)	(4.7)	(1.3)	23.1	N/A
07/22	2.5	(2.1)	(4.6)	(1.3)	19.6	N/A
07/23	5.6	(0.4)	(3.6)	(0.7)	8.6	N/A
07/24e	8.6	1.3	(0.4)	(0.1)	5.6	N/A

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

Much achieved, much to do, funds to execute

FY23 revenue of £5.6m (vs Edison's estimate of £6.0m; FY22: £2.5m) reflected ongoing product development with Nanoco's lead European electronics customer (£2.6m) and £3m from the Samsung licensing arrangement. The company will have received all of the cash from Samsung following the second tranche of £58.8m due in February 2024, but will amortise it over 8.8 years as £6m annual licensing revenue. Cash received will fund the planned £33–40m shareholder return, leaving c £20m to execute its growth strategy as well as pay down debt.

Requirements to become self-financing

With initial commercial volumes modest, we forecast similar FY24 services and material revenue to FY23, growing to £8.6m including £6m of Samsung licensing income. This should move Nanoco to positive EBITDA, given management's guided £6.4m recurring cost base. To generate free cash flow, we believe the company would have to deliver revenue of over £8m for its core products (excluding the draw down of license revenue from the Samsung settlement) and assuming a modest gross margin of 70% and minimal capex. Management has stated that it expects to become self-financing in CY25.

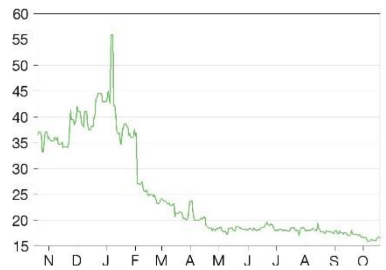
Valuation: Significant upside from commercialisation

Nanoco's current market cap of £52m is less than the expected cash return to shareholders plus the £20m expected to be retained, thus factoring in no value for the company's commercial opportunities, manufacturing capability and IP in an important domain. This seems a highly pessimistic scenario given the progress Nanoco has demonstrated over the past two years and the milestones coming up in FY24, which could pave the way for the company to make a full transition to an IP-based commercial supplier.

20 October 2023

Price	**16p**
Market cap	**£52m**
	US$1.22/£
Net cash (£m) at 31 July 2023	3.6
Shares in issue	324.4m
Free float	84.2%
Code	NANO
Primary exchange	LSE
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	(8.2)	(10.7)	(56.5)
Rel (local)	(5.6)	(8.3)	(59.4)
52-week high/low		55.8p	15.9p

Business description

Nanoco Group is a global leader in developing and manufacturing cadmium-free quantum dots and other nanomaterials, with c 375 patents. Focus applications are advanced electronics, displays, bio-imaging and horticulture.

Next events

FY23 annual report	November 2023

Analysts

Max Hayes	+44 (0)20 3077 5700
Dan Ridsdale	+44 (0)7930 166512

tech@edisongroup.com

Edison profile page

Nanoco Group is a research client of Edison Investment Research Limited

Results summary and introduction to FY24 forecasts

Good commercial progress in a year of distractions

Nanoco made significant commercial progress in FY23, despite significant potential distractions from the Samsung litigation process, followed by agitation from an activist investor. The company achieved all milestones with its two lead customers and now expects to expand these development collaborations alongside commercial orders, including:

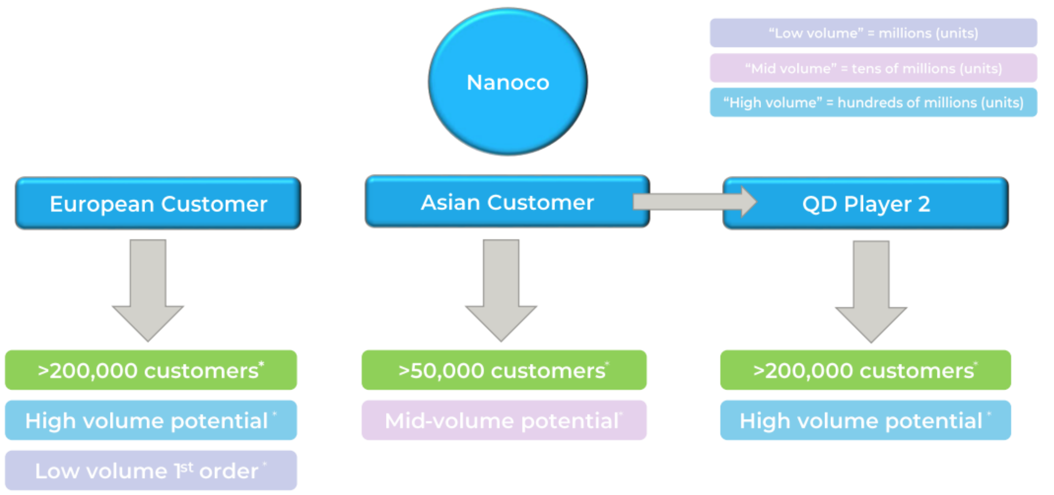
- **European electronics partner** – Nanoco is expecting its first commercial order from its European electronics partner by end-CY23, likely to be low volume initially but an important milestone. With >200,000 customers, there is scope to expand this into many more devices ranging from low to high volumes.
- **Asian chemicals supplier** – the Asian chemicals supplier has completed five sequential development projects, with a sixth in progress, focusing on sensing applications. Commercialisation will likely take a couple of years, with the company's >50,000 customers providing mid-volume potential.
- **QD player 2** – a second quantum dot (QD) player with a presence in in the sensing and display markets could be accessed via the Asian chemicals supplier and would expand the volume potential to a similar size as its existing large European partner, as highlighted by Exhibit 1.

Following the Samsung litigation, Nanoco has seen significant interest in its technology and is now aiming to add another large customer, potentially focused on the display market in FY24.

Management has said that an order for around 100m sensor units could generate around £20m revenue, which would equate to deployment across a high-volume handset range, especially if multiple sensors are included in the device. Volume discounts will mean that the price per unit for lower volume orders will be higher but this implies that mid-level volumes, in the low tens of millions, would bring revenues to the £8m level required to reach break-even.

By way of context, the CMOS image sensor market is estimated to be worth $21.2bn growing to $30bn by 2030 (by Yole Research), with applications across almost any market involving image capture mobile devices, automotive, industrial, surveying, security and agriculture.

Exhibit 1: Opportunity within existing sensor customer ecosystem



Source: Nanoco

Unlocking further IP value

Unlocking value from IP infringers adds to monetisation potential through licensing or litigation. Management does not believe that other players can make cadmium-free QDs at scale without using its IP.

While Samsung still dominates QD display volumes, limiting the near-term royalty potential, management estimates that volumes from other suppliers will grow strongly. Through leveraging its IP position, Nanoco may look to enter into commercial supply partnerships or royalty agreements with infringers or to pursue them via legal channels. We note that over the year, the company has been tearing down potentially infringing devices and found one (out of eight) that uses cadmium-free QDs.

While Nanoco has identified a potential infringer, building a robust, profitable case takes time, so any potential impact would likely not be before FY25. However, environmental concerns and looming regulations, like the Restriction of Hazardous Substances Directive in Europe, provide strong tailwinds for the adoption of cadmium-free solutions.

Summary of forecasts

As shown by Exhibit 2, Nanoco's FY23 results were slightly below our forecasts. Margins were affected by the revenue mix, with slightly lower revenue from services and materials than our expectations. Higher adjusted admin costs, driven by a one-third increase in headcount (+11 people) in H2, as well as some inflationary pressures affected operating margins and led to an EBITDA loss of £0.4m.

The increase in headcount will enable the company to deliver commercial volumes from the end of the year, as well as execute on the expected expanded development contracts with its two lead customers – a major European electronics company and an Asian chemical player. Additionally, this headcount will be sufficient to deliver another development contract with a third major global supply chain customer.

Management has guided for a recurring cash cost base of £6.4m for FY24 and we believe the full-year licensing revenue of £6m from Samsung (£3m in FY23 due to timing) could move the group to EBITDA profitability. To generate free cash flow, we believe that the company will have to generate over £8m from its products and services, assuming a modest 70% gross margin and minimal capex. Although no long-term guidance was given, management did state that it expects to become self-financing in CY25.

Exhibit 2: FY23 results summary and introduction to FY24 forecasts

Year-end July	FY23			FY24e	
£m	Reported	Old estimate	% change	New	y-o-y (%)
Revenues	5.6	6.0	-6.4%	8.6	52.2%
Gross profit	4.8	5.4	-11.6%	7.7	61.5%
Gross margin	*84.9%*	*90.0%*	*-5.6pp*	*90.1%*	*5.2pp*
EBITDA	(0.4)	0.5	-183.5%	1.3	N/A
Reported operating profit	15.0	18.8	-20.3%	(0.7)	-104.4%
Reported operating margin	*267%*	*313%*	*-14.8%*	*-8%*	*-274.5%*
Normalised net income	(2.1)	(0.8)	157.5%	(0.4)	-80.2%
Normalised diluted EPS (p)	(0.66)	(0.26)	157.4%	(0.13)	-80.3%
Net debt/(cash)	(3.6)	(5.3)	31.6%	(18.5)	408.6%

Source: Nanoco, Edison Investment Research

We do not provide forecasts for FY25, given that the company is in the early stages of commercial production; visibility should become clearer as the commercial pipeline builds. With its core IP validated and scaled Runcorn production in place, Nanoco can accelerate commercialisation with new customers. Exact timescales depend on display versus sensing applications, but the underlying proposition supports mid-term momentum.

Financial position to facilitate growth and shareholder returns

Gross cash at year end was £8.2m (Edison: £9.2m) with the majority of the first £62.1m settlement tranche (received in March) used to pay funders and advisors. The receipt of the fully hedged second tranche of £58.8m due in February 2024 will enable the planned £33–40m shareholder return (mechanism to be determined). The remaining c £20m will be used to execute its growth strategy, as well as pay down borrowings of £4.6m – reflected in our FY25 net cash forecast. Given the current share price of 16p, the planned returns (equivalent to 10–12p) represent a substantial return with a yield of 69% at the mid-point.

Exhibit 3: Financial summary

£m	2020	2021	2022	2023	2024e
Year end 31 July	IFRS	IFRS	IFRS	IFRS	IFRS
INCOME STATEMENT	restated				
Revenue	3.9	2.1	2.5	5.6	8.6
Cost of Sales	(0.3)	(0.2)	(0.9)	(0.8)	(0.8)
Gross Profit	3.5	1.9	1.5	4.8	7.7
EBITDA	(2.9)	(2.8)	(2.1)	(0.4)	1.3
Operating profit (before amort. and excepts.)	(4.8)	(4.6)	(4.2)	(2.9)	0.3
Amortisation of acquired intangibles	0.0	0.0	0.0	0.0	0.0
Exceptionals	(0.7)	0.0	0.0	18.9	0.0
Share-based payments	(0.4)	(0.4)	(0.6)	(1.0)	(1.0)
Reported operating profit	(5.9)	(5.0)	(4.8)	15.0	(0.7)
Net Interest	(0.1)	(0.1)	(0.5)	(0.7)	(0.7)
Exceptionals	0.0	0.0	0.0	(4.7)	0.0
Profit Before Tax (norm)	(4.9)	(4.7)	(4.6)	(3.6)	(0.4)
Profit Before Tax (reported)	(6.0)	(5.1)	(5.2)	9.6	(1.4)
Reported tax	0.9	0.7	0.5	1.5	0.0
Profit After Tax (norm)	(4.0)	(4.0)	(4.1)	(2.1)	(0.4)
Profit After Tax (reported)	(5.1)	(4.4)	(4.7)	11.1	(1.4)
Minority interests	0.0	0.0	0.0	0.0	0.0
Net income (normalised)	(4.0)	(4.0)	(4.1)	(2.1)	(0.4)
Net income (reported)	(5.1)	(4.4)	(4.7)	11.1	(1.4)
Average Number of Shares Outstanding (m)	287	306	308	322	324
EPS - normalised (p)	(1.39)	(1.30)	(1.32)	(0.66)	(0.13)
EPS - normalised fully diluted (p)	(1.39)	(1.30)	(1.32)	(0.66)	(0.13)
EPS - basic reported (p)	(1.77)	(1.44)	(1.52)	3.44	(0.42)
Dividend per share (p)	0.00	0.00	0.00	0.00	0.00
BALANCE SHEET					
Fixed Assets	4.6	3.4	1.8	7.7	7.0
Intangible Assets	3.7	2.9	1.6	1.0	0.7
Tangible Assets	0.9	0.5	0.2	2.4	2.0
Deferred income	0.0	0.0	0.0	4.3	4.3
Other	0.0	0.0	0.0	1.8	1.8
Current Assets	7.2	5.8	9.0	42.9	52.5
Stocks	0.1	0.1	0.2	0.3	0.1
Debtors	1.0	1.2	1.5	33.8	33.8
Cash & cash equivalents	5.2	3.8	6.8	8.2	18.0
Other (including proceeds from settlement receivable in FY24)	0.9	0.7	0.5	0.6	0.6
Current Liabilities	(3.6)	(2.4)	(2.4)	(14.0)	(10.0)
Creditors	(2.3)	(1.6)	(1.5)	(2.6)	(2.6)
Tax and social security	0.0	0.0	0.0	(0.8)	(0.8)
Short term financial leases	(0.6)	(0.5)	(0.2)	(0.5)	(0.5)
Short term bank debt	0.0	0.0	0.0	(4.0)	0.0
Other (including deferred licence income)	(0.6)	(0.3)	(0.7)	(6.1)	(6.1)
Long Term Liabilities	(1.3)	(3.8)	(4.0)	(20.2)	(69.7)
Long term financial leases	(0.5)	(0.1)	(0.0)	(1.4)	(1.4)
Loan notes	(0.5)	(3.5)	(3.9)	(0.6)	0.0
Other (including deferred licence income)	(0.2)	(0.1)	(0.1)	(18.2)	(68.3)
Net Assets	7.0	3.1	4.3	16.4	(20.1)
Minority interests	0.0	0.0	0.0	0.0	0.0
Shareholders' equity	7.0	3.1	4.3	16.4	(20.1)
CASH FLOW					
Operating Cash Flow	(3.0)	(2.8)	(2.3)	(1.9)	1.3
Working capital	(1.4)	(1.4)	0.1	24.5	(5.8)
Exceptional & other	(0.8)	(0.1)	(0.2)	(46.0)	0.0
Tax	1.1	0.9	0.7	(4.2)	0.0
Net Operating Cash Flow	(4.1)	(3.5)	(1.8)	(27.6)	(4.5)
Capex	(0.7)	(0.3)	(0.1)	(0.4)	(0.4)
Net proceeds from Samsung settlement	0.0	0.0	0.0	34.5	55.8
Net interest	0.0	(0.0)	(0.0)	(4.7)	(0.0)
Equity financing	3.2	0.0	5.4	0.0	0.0
Dividends	0.0	0.0	0.0	0.0	(36.0)
Other	(0.8)	2.3	(0.6)	(0.5)	(4.6)
Net Cash Flow	(2.4)	(1.5)	2.9	1.3	10.3
Opening net debt/(cash)	(6.6)	(4.7)	(0.3)	(2.8)	(3.6)
FX	0.0	0.0	0.0	0.2	0.0
Other non-cash movements	0.6	(3.0)	(0.4)	(0.6)	4.6
Closing net debt/(cash)	(4.7)	(0.3)	(2.8)	(3.6)	(18.5)

Source: Edison Investment Research, company accounts

20 Red Lion Street
London, WC1R 4PS
United Kingdom