


NANOCO
GROUP PLC



Partnerships & Progress

Interim Report
For the six months ended 31 January 2014



Nanoco Group PLC designs, develops and manufactures quantum dots, solar inks and other nanomaterials in commercial quantities for major end-use markets.

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“We are pleased with the positive progress made during the past six months in tailoring Nanoco quantum dots for use with particular display manufacturers’ applications. Meanwhile, Dow has continued to move forward with the various preparatory and regulatory steps necessary for building its Nanoco quantum dot production facility in South Korea and Dow expects to complete the facility in the early part of next year. The adoption of quantum dots is gaining momentum in the display industry and we look forward to the early adoption of Nanoco quantum dots in commercial display applications.”

Anthony Clinch, Non-executive Chairman

Highlights

- Growing interest from the display market in the adoption of quantum dots
- Excellent progress achieved in tailoring Nanoco’s quantum dots for specific end customer display applications
- Follow-on development agreement signed with major Asian electronics company in displays
- Follow-on development agreement signed with Osram in December 2013 for use of Nanoco quantum dots in general lighting
- Runcorn Semi-Tech facility capacity doubled and significant quantities of quantum dot samples shipped to potential display industry customers
- Dow progressing preparatory and regulatory work for construction of its Nanoco quantum dot manufacturing facility in South Korea with completion of the facility currently estimated to be during the early part of next year
- Cash and cash equivalents of £14.50 million at the period end (31 July 2013: £9.94 million)
- The Board is actively evaluating a transition to the main market as soon as is practicable and also a US ADR listing

Chairman's and Chief Executive Officer's Joint Review

Overview

When Nanoco was founded, in 2001, quantum dots were a little-known material outside of academic research. They were not used, or produced, commercially. During the past few months, quantum dots have become a material on the threshold of being a mainstream component in display and lighting applications. The first commercial products have been launched, which have helped to seed the market, including a Sony TV and an Amazon tablet, and there has been considerable media speculation about the launch of new quantum dot products such as smartphones and big screen TVs.

To date, the products brought to market have used cadmium-based quantum dots. Cadmium is a heavy metal and its use is therefore restricted under European, and other, environmental legislation owing to the threat that heavy metals present to human health and the environment.

Nanoco remains the only company in the world able to produce commercial quantities of cadmium-free quantum dots. We remain confident that our technology, once fully commercialised, will become the industry standard owing to the clear differentiation of being able to comply with health and safety requirements. This differentiation has led to very considerable interest from potential customers in the display industry during the past few weeks and months.

This interest reflects the estimates from industry researchers on the potential size of the quantum dot component market which ranges from around \$3.5 billion to more than \$7 billion.

The half year to 31 January 2014 was a period of considerable technical achievement at Nanoco during which we continued to make progress across our business towards commercial applications. Our technology has multiple potential applications but we remained focused on

our initial three key applications: backlighting of LCD displays, LED general lighting and solar power. We also continue to see significant potential in the application of quantum dots in bio-imaging applications for use in in-vivo imaging of cancer.

During the half year we successfully raised a further £10 million, before costs, in a placing. This has strengthened our balance sheet allowing us to focus on delivering our technology to the first display customers. These customers, with whom our licensing partner The Dow Chemical Company ("Dow") is negotiating, are some of the world's biggest consumer electronics companies, which are based in our key target markets of Korea, USA, Japan, China and Taiwan.

We are pleased to announce today that we have signed the third phase of a joint development programme with a major Asian electronics company. This agreement, which will run until end of July 2014, follows the successful completion of the second phase, the start of which was announced on 2 May 2013. This third phase of work will focus on the commercialisation of optimised Nanoco quantum dots in this company's displays. It is expected that the company will launch commercial products following this third phase of development work.

During the half year we continued to make good progress in our exclusive worldwide licensing agreement with Dow for the manufacture, sale and marketing of Nanoco quantum dots for use in electronic displays. Dow has been active in marketing Nanoco's technology to potential customers and has also made significant progress in preparation for the first, large-scale cadmium-free quantum dot manufacturing line at an existing Dow facility in South Korea.

We are very pleased to have developed a close working relationship with Dow, drawing on its mass-production expertise, market knowledge, customer relationships and manufacturing footprint in Asia, where much of the world's optoelectronics industry is based.

Our Runcorn production facility has been producing significant sample quantities of quantum dots for potential customers in the display industry, underlining the level of interest in our technology.

Recent technical issues associated with how Nanoco quantum dots were being incorporated into a film for TV backlighting for one particular customer have now largely been resolved. This issue was specific to one customer and has not been experienced elsewhere.

Nanoco's business is built on robust intellectual property and we continued to reinforce our patent estate during the half year. The Company currently has around 300 granted and applied for patents. We also continued to manage the Company's cash resources very prudently, maintaining our focus on the successful commercialisation of Nanoco's unique technology.

Commercial applications - displays

The LCD display industry has always represented the first market in which Nanoco intends to commercialise its technology owing to the size of the available opportunity. Nanoco can offer the potential of vastly improved colour performance as a drop-in solution, allowing display makers to manufacture quantum dot LCD displays on existing production lines using existing supply chains in which they have invested billions of dollars.

Owing to the large volume of quantum dots that are expected to be required by the LCD industry, Nanoco signed an exclusive agreement with Dow in January 2013 for worldwide rights for the sale,

marketing and manufacture of Nanoco's cadmium-free quantum dots for use in electronic displays including LCD TVs, computer screens, tablets and smartphones.

Dow has been active in marketing Nanoco's technology to potential customers and has also made significant progress in preparation for the first, large-scale cadmium-free quantum dot manufacturing line at an existing Dow facility in South Korea.

Commercial applications - general lighting

LEDs are now becoming available on the high street as a source of general lighting, and consumers are beginning to recognise their advantages over traditional lighting particularly in their long service life and reduced power consumption. The limiting factor to the widespread adoption of LEDs remains colour performance as existing products tend to offer either bright cold light or warm dull light neither of which is attractive in a home or office environment.

Nanoco's quantum dots have been shown to transform LEDs so they produce bright, warm light with a high colour rendering index, thereby showing true colours. In addition, as Nanoco quantum dots are tuneable to any specific wavelength, any shade of light can be produced.

Nanoco has been working under joint development agreements with Osram, one of the world's largest lighting companies, since August 2011. This work has progressed well and has focused recently on the integration of the quantum dots with the LEDs. Osram's preferred solution is that the dots should be close to the LED chip. This proximity to the LED requires that the quantum dots are optimised to operate at relatively high temperatures. We are currently achieving good results from a system in which the dots are encased in a protective film.

Chairman's and Chief Executive Officer's Joint Review **continued**

As announced at the time of our AGM statement on 18 December 2013, we have signed a further joint development agreement with Osram, which will run until September this year. Nanoco is also working with a number of other lighting companies in Asia, the USA and Europe.

Commercial applications - solar

Since 2009 Nanoco has been developing a solar ink from cadmium-free nanomaterials with the objective of creating low cost, highly efficient solar panels for the production of cheap electricity. This exciting research and development project has made impressive progress to date and Nanoco sees clear commercial potential for the Company in the solar energy sector.

Nanoco's solar ink has the ability to absorb light from a very wide spectrum of visible and invisible wavelengths in contrast to the majority of currently used photovoltaic materials. In addition, the ink has been designed with physical characteristics such that it can be printed by low cost methods and annealed into a thin photovoltaic film.

Since June 2010, Nanoco has been carrying out solar development work in partnership with Tokyo Electron, the major Japanese equipment supplier, which in September 2013 announced its intention to merge with the US company Applied Materials Inc. The stated strategic focus of the combined group is on the semiconductor and display industries.

Nanoco's current joint development agreement with Tokyo Electron runs until September 2014, at which time Nanoco intends to continue development work under a new arrangement. The Company is currently considering a number of number of options including a potential new partnership. Nanoco will retain the intellectual property protecting its proprietary solar ink, in which the primary value of the development work currently resides.

Development work to date has focused on steadily increasing the efficiency of the electrical conversion of the solar ink, which is currently at around 13%. This is close to the target efficiency for the production of low cost electricity of around 15%. Given the limitations of current solar panels, Nanoco sees an exciting future for its nanomaterials-based approach and therefore remains committed to exploiting its technology in the solar sector.

Production at Runcorn

During the half year, we commissioned two new Semi-Tech lines giving us a total of four lines at The Heath Business and Technical Park in Runcorn. We have now used all four lines to produce large quantities of sample materials for the display industry. We have been pleased by the quality, quantity and consistency of quantum dots produced on these Semi-Tech lines. We expect that initial commercial orders for Nanoco quantum dots will be manufactured and delivered from our Runcorn facility until Dow's commercial production plant comes on line.

Our technical team at Runcorn is focused on the continual improvement of production processes to increase reactor yields and to create better performing dots. Whilst we have planning permission to build Kilo Lab lines, which represent the next stage of production scale-up, we do not currently need to begin construction because Dow is developing manufacturing capacity in South Korea based on our Kilo Lab designs.

Financial results

Revenues in the six months to 31 January 2014 were £0.70 million (H1 2013: £2.50 million) and the loss before tax was £5.00 million (H1 2013: loss of £1.60 million).

The reduction in revenue is a consequence of the completion of certain joint development programmes. At this stage in the Company's development, revenues are primarily a reflection of the amount and timing of milestone and joint development payments from strategic partners.

Cost of sales increased over the prior year period partly as a consequence of the increase in quantity and size of samples required for display application customers, and also as a result of the commissioning costs associated with doubling the Semi-Tech capacity at Runcorn. Administrative expenses have increased as a consequence of the new staff recruited in support of the commercialisation and scale-up activities at both Runcorn and Manchester.

Statutory cash, cash equivalents and deposits, at 31 January 2014 were £14.5 million (31 January 2013: £12.5 million; 31 July 2013: £9.9 million). Both cash and costs continue to be prudently and tightly managed.

Capital markets strategy

The Board is actively evaluating a transition to the main market as soon as is practicable and also a US ADR listing.

Outlook

We are pleased with the positive progress made during the past six months in tailoring Nanoco quantum dots for use with particular display manufacturers' applications. Meanwhile, Dow has continued to move forward with the various preparatory and regulatory steps necessary for building its Nanoco quantum dot production facility in South Korea and Dow expects to complete the facility in the early part of next year. The adoption of quantum dots is gaining momentum in the display industry and we look forward to the early adoption of Nanoco quantum dots in commercial display applications.



Anthony Clinch

Non-executive Chairman
25 March 2013



Michael Edelman

Chief Executive Officer
25 March 2013

Consolidated Statement of Comprehensive Income

For the six months ended 31 January 2014

	Notes	Six months to 31 January 2014 (Unaudited) £'000	Six months to 31 January 2013 (Unaudited) £'000	Year to 31 July 2013 (Audited) £'000
Revenue	2	679	2,541	3,928
Cost of sales		(859)	(586)	(1,293)
Gross (loss)/profit		(180)	1,955	2,635
Administrative expenses		(4,907)	(3,718)	(7,957)
Operating loss				
- before share-based payment		(4,787)	(1,368)	(4,452)
- share-based payment		(300)	(395)	(870)
		(5,087)	(1,763)	(5,322)
Finance income		102	165	286
Finance costs		(3)	(3)	(6)
Loss on ordinary activities before taxation		(4,988)	(1,601)	(5,042)
Taxation	3	650	400	920
Loss for the period and total comprehensive loss for the period		(4,338)	(1,201)	(4,122)
Loss per share:				
Basic and diluted loss for the period	4	(2.07)p	(0.59)p	(2.00)p

Consolidated Statement of Changes in Equity

For the six months ended 31 January 2014

	Issued equity capital £'000	Share-based payment reserve £'000	Merger reserve £'000	Revenue reserve £'000	Total £'000
At 1 August 2012	27,475	851	(1,242)	(10,152)	16,932
Loss for the six months to 31 January 2013	-	-	-	(1,201)	(1,201)
Issue of share capital	215	-	-	-	215
Share-based payments	-	395	-	-	395
At 31 January 2013	27,690	1,246	(1,242)	(11,353)	16,341
Loss for the six months to 31 July 2013	-	-	-	(2,921)	(2,921)
Issue of share capital	364	-	-	-	364
Issue of shares by EBT	-	(468)	-	603	135
Share-based payments	-	475	-	-	475
At 31 July 2013	28,054	1,253	(1,242)	(13,671)	14,394
Loss for the six months to 31 January 2014	-	-	-	(4,338)	(4,338)
Issue of share capital	9,747	-	-	-	9,747
Share-based payments	-	300	-	-	300
At 31 January 2014	37,801	1,553	(1,242)	(18,009)	20,103

Consolidated Statement of Financial Position

As at 31 January 2014

	31 January 2014 (Unaudited) £'000	31 January 2013 (Unaudited) £'000	31 July 2013 (Audited) £'000
Assets			
Non-current assets			
Tangible fixed assets	3,270	2,490	3,470
Intangible assets	1,451	1,123	1,230
	4,721	3,613	4,700
Current assets			
Inventories	129	51	120
Trade and other receivables	955	1,587	932
Income tax asset	1,528	1,054	870
Short-term investments and cash on deposit	9,728	10,653	6,176
Cash and cash equivalents	4,750	1,877	3,768
	17,090	15,222	11,866
Total assets	21,811	18,835	16,566
Liabilities			
Current liabilities			
Trade and other payables	1,518	2,241	1,951
Financial liabilities	63	63	63
	1,581	2,304	2,014
Non-current liabilities			
Financial liabilities	127	190	158
	127	190	158
Total liabilities	1,708	2,494	2,172
Net assets	20,103	16,341	14,394
Capital and reserves			
Issued equity capital	37,801	27,690	28,054
Share-based payment reserve	1,553	1,246	1,253
Merger reserve	(1,242)	(1,242)	(1,242)
Revenue reserve	(18,009)	(11,353)	(13,671)
Total equity	20,103	16,341	14,394

Approved by the Board and authorised for issue on 25 March 2014.

Colin White
Director

Consolidated Cash Flow Statement

For the six months ended 31 January 2014

	Six months to 31 January 2014 (Unaudited) £'000	Six months to 31 January 2013 (Unaudited) £'000	Year to 31 July 2013 (Audited) £'000
Loss before interest and tax	(5,087)	(1,763)	(5,322)
Adjustments for:			
Depreciation of tangible fixed assets	599	417	901
Amortisation of intangible assets	97	71	152
Share-based payments	300	395	870
Changes in working capital:			
(Increase)/decrease in inventories	(9)	28	(41)
Increase in trade and other receivables	(67)	(733)	(130)
(Decrease)/increase in trade and other payables	(321)	125	384
Decrease in deferred revenue payables	(112)	(1,274)	(1,823)
Cash outflow from operating activities	(4,600)	(2,734)	(5,009)
Research and development tax credit received	-	-	704
Overseas corporation tax paid	(8)	-	-
Net cash outflow from operating activities	(4,608)	(2,734)	(4,305)
Cash flows from investing activities:			
Purchases of tangible fixed assets	(399)	(311)	(1,775)
Purchases of intangible fixed assets	(318)	(152)	(340)
(Increase)/decrease in cash placed on deposit	(3,552)	466	4,943
Interest paid	(3)	(3)	(6)
Interest received	146	73	246
Net cash (outflow)/inflow from investing activities	(4,126)	73	3,068
Cash flows from financing activities:			
Net proceeds from the issue of ordinary share capital	9,747	215	714
Loan repayment	(31)	(32)	(64)
Net cash inflow from financing activities	9,716	183	650
Increase/(decrease) in cash and cash equivalents	982	(2,478)	(587)
Cash and cash equivalents at the start of period	3,768	4,355	4,355
Cash and cash equivalents at the end of the period	4,750	1,877	3,768
Monies placed on deposit	9,728	10,653	6,176
Cash, cash equivalents and deposits at the end of the period	14,478	12,530	9,944

Notes to the Interim Financial Report

For the six months ended 31 January 2014

1. Accounting policies

Basis of preparation

The accounting policies adopted in this interim financial report are consistent with those followed in the preparation of the Group's annual report and accounts for the year to 31 July 2013. The interim financial information for the six months ended 31 January 2014 and 31 January 2013 is unaudited and does not constitute statutory accounts as defined in the Companies Act 2006. This interim financial report includes audited comparatives for the year to 31 July 2013. The 2013 annual report and accounts received an unqualified audit opinion and has been filed with the Registrar of Companies. This interim financial report has been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union and has been prepared under the historical cost convention.

Basis of consolidation

This interim financial report consolidates the financial statements of Nanoco Group PLC and the entities it controls (its subsidiaries).

2. Segmental information

Operating segments

At 31 January 2014 the Group operated as one segment, being the provision of high performance nano-particles for research and development purposes. This is the level at which operating results are reviewed by the chief operating decision maker (i.e. the CEO) to make decisions about resources, and for which financial information is available. All revenues have been generated from continuing operations and are from external customers.

	Six months to 31 January 2014 £'000	Six months to 31 January 2013 £'000	Year to 31 July 2013 £'000
Analysis of revenue			
Products sold	50	66	110
Rendering of services	629	1,307	2,116
Royalties and licences	-	1,168	1,702
	679	2,541	3,928

Geographical information

The Group operates in four main geographic areas, although all are managed in the UK. The Group's revenue per geographical segment is as follows:

	Six months to 31 January 2014 £'000	Six months to 31 January 2013 £'000	Year to 31 July 2013 £'000
Analysis of revenue			
UK	93	122	254
Europe (excluding UK)	1	653	42
Asia	539	1,690	2,854
USA	46	76	778
	679	2,541	3,928

All the Group's assets are held in the UK and all of its capital expenditure arises in the UK.

3. Tax

The tax credit of £650,000 recorded in the consolidated statement of comprehensive income for the six months ended 31 January 2014 is in respect of a research and development tax credit receivable of £658,000 net of overseas corporation tax paid of £8,000 (prior period tax credits receivable were: £400,000 for the six months ended 31 January 2013 and £920,000 for year ended 31 July 2013).

4. Loss per share

	31 January 2014 £'000	31 January 2013 £'000	31 July 2013 £'000
Loss for the financial period attributable to equity shareholders	(4,338)	(1,201)	(4,122)
Share-based payments	300	395	870
Loss for the financial period before share-based payments	(4,038)	(806)	(3,252)
Weighted average number of shares:	Number	Number	Number
Ordinary shares in issue ⁽¹⁾	209,564,972	204,024,647	205,826,395
Adjusted loss per share before share-based payments (pence)	(1.93)p	(0.40)p	(1.58)p
Basic loss per share (pence)	(2.07)p	(0.59)p	(2.00)p

(1) Excludes shares held by the Nanoco Employee Benefit Trust

Diluted loss per share has not been presented above as the effect of share options issued is anti-dilutive.

5. Interim financial report

A copy of this interim financial report will be distributed to shareholders and is also available on the Company's website at www.nanocogroup.com

Notes

Investor Information

Directors

Mr Anthony Clinch	(Non-executive Chairman)
Dr Michael Edelman	(Chief Executive Officer)
Dr Nigel Pickett	(Chief Technology Officer)
Mr Colin White	(Chief Financial Officer)
Dr Peter Rowley	(Non-executive Director)
Mr Michael Bretherton	(Non-executive Director)
Mr Gordon Hall	(Non-executive Director)

Company Secretary

Mr Colin White

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