



# From strength to strength.

Interim Report For the six months ended 31 January 2013

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Nanoco Group plc (AIM: NANO), a world leader in the development and manufacture of cadmiumfree quantum dots, is pleased to announce its interim results for the six months ended 31 January 2013.

## O Highlights

## O Licensing agreement signed with Dow

Worldwide licensing agreement signed with The Dow Chemical Company ("Dow") for exclusive rights to manufacture and market Nanoco cadmium-free quantum dots for the display industry.

### O Follow-on agreement with Osram

Follow-on joint development agreement signed with Osram to finalise the design of an LED using Nanoco cadmiumfree quantum dots in lighting.

## O Development agreement with **Tokyo Electron**

Follow-on agreement signed with Tokyo Electron for the next phase of development of a nanomaterial-based solar film

## O Further investment in production scale-up

Production scale-up continued with plans to double Semi-Tech capacity at Runcorn and Dow to build plant in Asia.

## O Cash balances of £12.5 million

Cash, cash equivalents and deposits as at 31 January 2013 of £12.5 million (31 July 2012: £15.5 million).

# Our worldwide licensing agreement with The Dow Chemical Company is transformational for Nanoco.

#### Overview

The six months to 31 January 2013 were an exciting period in the development of Nanoco, culminating in the signing of a worldwide licensing agreement with The Dow Chemical Company ("Dow"). This exclusive agreement, for the manufacture and marketing of Nanoco's cadmiumfree quantum dots for use in electronic displays. represents a major endorsement of Nanoco's unique technology, scalability and market potential. In addition, this agreement represents a significant step in the emergence of quantum dots as a mainstream material in the consumer electronics industry.

The agreement with Dow has major strategic and commercial benefits for Nanoco, including strengthening the Company's manufacturing strategy. Dow is already a major supplier to the global display industry and has close relationships with major customers in the LCD industry. It has a large manufacturing footprint in Asia, producing critical electronic materials to tight tolerances.

In our preliminary results issued in October last year, we highlighted a trend in which the emerging technical approach for combining our cadmiumfree quantum dots into LCD displays is by means of incorporating the quantum dots into a film, which would be inserted into the backlight component of the display. This approach, which is one of a number that might be adopted, requires a very substantial quantity of quantum dots. Our agreement with Dow will enhance the security of the supply chain to our customers.

In addition to progressing our manufacturing strategy, we also made progress in the first half with our commercial contracts across the three key sectors of LCD displays, lighting and solar energy.

In October, we signed a follow-on joint development agreement in lighting with one of the world's largest lighting companies, whose identity we can reveal

today as being Osram. We are excited to be working with Osram and with other leading lighting companies.

In November, we signed a further agreement with Tokyo Electron for the on-going development of a printable, nanomaterial-based solar film. We are moving closer to our target for creating a low cost high efficiency solar cell capable of generating electricity for around US\$0.50 a watt.

We continued to build the Company's infrastructure and patent estate during the first half, along with recruiting further staff in technical, manufacturing and commercial roles. Nanoco's headcount at the end of the first half was 78, compared with 61 a year earlier.

Our business development activities remain focused on Korea, the USA, Japan, China and Taiwan. We are in discussions with multiple potential customers in these countries.

We have progressed plans to extend our Semi-Tech facility at The Heath Technology Park in Runcorn by acquiring further laboratory space adjacent to our existing laboratories and have begun to fit out and install further Semi-Tech lines to double our capacity to deliver production validation materials for customers.

We have also continued to file patents at a significant rate to build out our patent estate. Our intellectual property covers four key areas: our proprietary process for the mass production of cadmium-free quantum dots; cadmium-free quantum dot materials; surface chemistry; and applications/devices.

We continue to manage the Company's cash resources very prudently and maintain our focus on the successful commercialisation of Nanoco's unique technology.

#### Manufacturing strategy and production scale-up

In our preliminary results issued in October, we said that we were reviewing our strategic manufacturing options in the light of the much larger quantities of cadmium-free quantum dots that are expected to be required by the LCD display industry. These quantities are likely to be very substantial and, in order to satisfy market demand quickly, we decided that it was essential to partner with a global organisation with manufacturing and marketing expertise in the consumer electronics industry.

On 23 January 2013, we were delighted to announce a worldwide licensing agreement with Dow – specifically with its Dow Electronic Materials division. We believe Dow is an ideal partner in that it has production expertise, market knowledge, customer relationships and a manufacturing footprint in Asia.

Under the terms of the agreement, Dow will have exclusive worldwide rights for the sale, marketing and manufacture of Nanoco's cadmium-free quantum dots for use in electronic displays. Initially, these will be LCD displays such as TVs, computer screens, tablets and smartphones.

Nanoco will receive royalty payments from Dow related to its sales of cadmium-free quantum dots, with the royalty rate reflecting the unique value of our technology.

Dow already manufactures demanding materials in Asia for the region's electronics industry. It is anticipated that Dow will build the first cadmiumfree quantum dot manufacturing lines at its existing facilities in the region, beginning with a facility based on Nanoco's Kilo Lab design. Dow's experience of manufacturing scale-up is another key benefit of our licensing agreement and it is expected that full commercial production will begin in 2014.

Since signing the agreement, we have been working with Dow to secure the first customers in the display industry for Dow-manufactured Nanoco cadmium-free quantum dots. These discussions with key display customers are progressing well.

We believe that Nanoco cadmium-free quantum dots will set a new standard in the LCD display industry owing to their ability to significantly improve the colour performance of LCD displays, both cost effectively and whilst avoiding the use of heavy metals.

Today LCD displays are the dominant display technology in the large display market. Over the years LCD technology has improved and been optimised to stay ahead of competing display technologies. Nanoco's cadmium-free quantum dot technology dramatically improves the colour performance of the LCD display further enhancing the user's viewing experience.

In response to a growing level of customer activity and to support Dow we have secured additional space at Runcorn and are in the process of installing further Semi-Tech lines to double our capacity to produce large samples of production quality, cadmium-free quantum dots.

#### **Commercial contracts**

Our commercial activities have progressed well during the half year. We signed two new follow-on agreements, one in lighting and one in solar energy, and have also progressed our relationships in the LED backlighting of LCD displays.

#### Lighting

In October we signed a follow-on joint development agreement in lighting with Osram, one of the world's largest lighting companies. The objective of this agreement is to finalise the design and manufacture of an LED incorporating Nanoco cadmium-free quantum dots for use in different lighting applications and we are excited to be working with Osram's technical teams in the USA and Germany on this project.

The use of red Nanoco cadmium-free quantum dots with LEDs for home and office lighting has two key benefits: allowing the lighting company to "tune" the shade of white light produced and improving the colour rendering index so that true colours are seen.

# "The licensing agreement with Dow represents a major endorsement of Nanoco's technology, scalability and market potential."

#### Solar energy

In December we signed a follow-on agreement with Tokyo Electron, the major Japanese equipment supplier, for the on-going development of  $\alpha$ nanomaterial-based solar film. A bespoke solar ink, developed by Nanoco, is printed to form the solar active film, which is designed to become the key part of a low cost solar cell.

Our solar cell efficiencies have continued to improve and we are moving closer to the target for creating a low cost, high efficiency solar cell.

Nanoco will receive milestone payments from Tokyo Electron under this third phase of development work, which will continue to focus on improving the efficiency of conversion of solar energy to electricity.

#### Other applications

Work continues on other applications for our quantum dots including bio-medical imaging.

#### Financial results

Revenues in the six months to 31 January 2013 were £2.54 million (H1 2012: £1.32 million) and the loss before tax was £1.60 million (H1 2012: loss of £2.36 million). 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. Revenues included US\$1.0 million (£0.63 million) payable by Dow on signing the licensing agreement in January 2013.

Cost of sales remained in line with the same period in the prior year. Administrative expenses have risen by £476,000 primarily as a consequence of an increase of £240,000 in the IFRS2 (share-based payment charge) and an increase of £235,000 in staff costs, a result of recruiting additional technical staff. The IFRS2 (share-based payment) charge in respect of share schemes totalled £395,000 (H1 2012: £155,000). This increase

reflects the Company's policy to incentivise and retain staff through the use of equity-settled share awards, with annual awards being made to all staff.

Statutory cash, cash equivalents and deposits, at 31 January 2013 were £12.5 million (31 January 2012: £14.4 million; 31 July 2012: £15.5 million). Both cash and costs continue to be tightly managed.

#### Outlook

Our recent worldwide licensing agreement with The Dow Chemical Company is transformational for Nanoco. It represents a major endorsement of the Company's technology, scalability and market potential, and addresses the manufacture of the much larger quantities of our quantum dots that we now expect to be required by the LCD display industry. We expect full commercial production under this agreement to begin in 2014.

We continue to make good progress across our business and look forward to the future with confidence.

#### **Peter Rowley**

Non-Executive Chairman 18 March 2013

Peter Rove

Michael Edelman

Chief Executive Officer 18 March 2013

# Consolidated Statement of Comprehensive Income

For the six months ended 31 January 2013

|   |       | Six         | Six              |           |
|---|-------|-------------|------------------|-----------|
|   |       | months to   | months to        | Year to   |
|   |       | 31 January  | 31 January       | 31 July   |
|   |       | 2013        | 2012             | 2012      |
|   |       | (Unaudited) | (Unaudited)      | (Audited) |
|   | Notes | £'000       | £'000            | £'000     |
| Revenue                                     | 2     | 2,541       | 1,321            | 2,948     |
| Cost of sales                               |       | (586)       | (597)            | (1,165)   |
| Gross profit                                |       | 1,955       | 724              | 1,783     |
| Administrative expenses                     |       | (3,718)     | (3,242)          | (6,442)   |
| Operating loss                              |       |             |                  |           |
| – before share-based payment                |       | (1,368)     | (2,363)          | (4,294)   |
| – share-based payment                       |       | (395)       | (155)            | (365)     |
|   |       | (1,763)     | (2,518)          | (4,659)   |
| Finance income                              |       | 165         | 158              | 317       |
| Finance costs                               |       | (3)         | (4)              | (8)       |
| Loss on ordinary activities before taxation |       | (1,601)     | (2,364)          | (4,350)   |
| Taxation                                    | 3     | 400         | 343              | 710       |
| Loss for the period and total comprehensive |       |             |                  |           |
| loss for the period                         |       | (1,201)     | (2,021)          | (3,640)   |
| Loss per share:                             | ·     | ·           |                  |           |
| Basic loss per share for the period         | 4     | (0.59)p     | <b>o</b> (1.00)p | (1.80)p   |
|   |       | ,           |                  |           |

# Consolidated Statement of Changes in Equity

For the six months ended 31 January 2013

| At 31 January 2013                          | 27,690           | 1,246            | (1,242)          | (11,353)         | 16,341          |
|---|------------------|------------------|------------------|------------------|-----------------|
|   |                  |                  |                  |                  |                 |
| Issue of share capital Share-based payments | 215              | 395              | _                | _                | 215<br>395      |
| to 31 January 2013                          | - 245            | _                | _                | (1,201)          | (1,201)         |
| Loss for the six months                     |                  |                  |                  |                  |                 |
| At 31 July 2012                             | 27,475           | 851              | (1,242)          | (10,152)         | 16,932          |
| Share-based payments                        | _                | 210              | -                | _                | 210             |
| Issue of share capital                      | 5                | _                | _                | _                | 5               |
| Loss for the six months to 31 July 2012     | _                | _                | _                | (1,619)          | (1,116)         |
| At 31 January 2012                          | 27,470           | 641              | (1,242)          | (8,533)          | 18,336          |
| Share-based payments                        | _                | 155              | _                | _                | 155             |
| Expenses of 2011 placing                    | (10)             | _                | _                | _                | (10)            |
| Issue of share capital                      | 53               | _                | _                | _                | 53              |
| Loss for the six months to 31 January 2012  | _                | _                | _                | (2,021)          | (2,021)         |
| At 1 August 2011                            | 27,427           | 486              | (1,242)          | (6,512)          | 20,159          |
|   | capital<br>£'000 | reserve<br>£'000 | reserve<br>£'000 | reserve<br>£'000 | equity<br>£'000 |
|   | equity           | payment          | Merger           | Revenue          | Total           |
|   | Issued           | Share-based      |                  |                  |                 |

# **Statement of Financial Position**

As at 31 January 2013

|  | 31 January<br>2013<br>(Unaudited)<br>£'000 | 31 January<br>2012<br>(Unaudited)<br>£'000 | 31 July<br>2012<br>(Audited)<br>£'000 |
|--|--|--|---------------------------------------|
| Assets                                     |  |  |                                       |
| Non-current assets                         |  |  |                                       |
| Tangible fixed assets                      | 2,490                                      | 2,804                                      | 2,596                                 |
| Intangible assets                          | 1,123                                      | 949  | 1,042                                 |
|  | 3,613                                      | 3,753                                      | 3,638                                 |
| Current assets                             |  |  |                                       |
| Inventories                                | 51   | 67   | 79                                    |
| Trade and other receivables                | 1,587                                      | 1,451                                      | 762                                   |
| Income tax asset                           | 1,054                                      | 924  | 654                                   |
| Short-term investments and cash on deposit | 10,653                                     | 9,838                                      | 11,119                                |
| Cash and cash equivalents                  | 1,877                                      | 4,558                                      | 4,355                                 |
|  | 15,222                                     | 16,838                                     | 16,969                                |
| Total assets                               | 18,835                                     | 20,591                                     | 20,607                                |
| Liabilities<br>Current liabilities         |  |  |                                       |
| Trade and other payables                   | 2,241                                      | 1,939                                      | 3,390                                 |
| Financial liabilities                      | 63   | 63   | 63                                    |
|  | 2,304                                      | 2,002                                      | 3,453                                 |
| Non-current liabilities                    |  |  |                                       |
| Financial liabilities                      | 190  | 253  | 222                                   |
| Total liabilities                          | 2,494                                      | 2,255                                      | 3,675                                 |
| Net assets                                 | 16,341                                     | 18,336                                     | 16,932                                |
| Capital and reserves                       |  |  |                                       |
| Issued equity capital                      | 27,690                                     | 27,470                                     | 27,475                                |
| Share-based payment reserve                | 1,246                                      | 641  | 851                                   |
| Merger reserve                             | (1,242)                                    | (1,242)                                    | (1,242)                               |
| Revenue reserve                            | (11,353)                                   | (8,533)                                    | (10,152)                              |
| Total equity                               | 16,341                                     | 18,336                                     | 16,932                                |

Approved by the Board and authorised for issue on 18 March 2013.

#### **Colin White**

Director

# **Cash Flow Statement**

For the six months ended 31 January 2013

|  | Six<br>months to<br>31 January<br>2013<br>(Unaudited)<br>£'000 | Six<br>months to<br>31 January<br>2012<br>(Unaudited)<br>£'000 | Year to<br>31 July<br>2012<br>(Audited)<br>£'000 |
|--|--|--|--|
| Loss before interest and tax   | (1,763)  | (2,518)  | (4,659)  |
| Adjustments for:   | /47  | / 22   | 0/0  |
| Depreciation of tangible fixed assets  | 417<br>71  | 423<br>58  | 849<br>122                                       |
| Amortisation of intangible assets Share-based payments                                     | 395  | 155  | 365  |
| Changes in working capital:  | 393  | 155  | 303  |
| Decrease in inventories  | 28   | 13   | 1  |
| Increase in trade and other receivables  | (733)  | (1.044)  | (429)  |
| Increase in trade and other receivables  | 125  | 354  | 533  |
| (Decrease)/increase in deferred revenue payables   | (1,274)  | (56)   | 1,216  |
| Cash outflow from operating activities   | (2,734)  | (2,615)  | (2,002)  |
| Interest paid  | (3)  | (4)  | (8)  |
| Research and development tax credit received   | -  | _  | 637  |
| Net cash outflow from operating activities   | (2,737)  | (2,619)  | (1,373)  |
| Cash flows from investing activities:  |  |  |  |
| Purchases of tangible fixed assets   | (311)  | (74)   | (292)  |
| Purchases of intangible fixed assets   | (152)  | (179)  | (336)  |
| Decrease in cash placed on deposit   | 466  | 2,177  | 896  |
| Interest received  | 73   | 158  | 391  |
| Net cash inflow from investing activities  | 76   | 2,082  | 659  |
| Cash flows from financing activities:  |  |  |  |
| Net proceeds from the issue of ordinary share capital                                      | 215  | 53   | 58   |
| Expenses of 2011 placing   | -  | (10)   | (10)   |
| Loan repayment   | (32)   | (32)   | (63)   |
| Net cash inflow/(outflow) from financing activities  | 183  | 11   | (15)   |
| Decrease in cash and cash equivalents Cash and cash equivalents at the start of the period | (2,4 <b>7</b> 8)<br>4,355                                      | (526)<br>5,084   | (729)<br>5,084                                   |
| Cash and cash equivalents at the end of the period<br>Monies placed on deposit             | 1,877<br>10,653  | 4,558<br>9,838   | 4,355<br>11,119                                  |
| Cash, cash equivalents and deposits at the end of the period                               | 12,530   | 14,396   | 15,474   |



# **Notes to the Interim Financial Report**

For the six months ended 31 January 2013

#### 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 2012. The interim financial information for the six months ended 31 January 2013 and 31 January 2012 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 2012. The 2012 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 have 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 2013 the Group operated as one segment, being the provision of high performance nanoparticles 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        | Six        |         |
|------------------------|------------|------------|---------|
|                        | months to  | months to  | Year to |
|                        | 31 January | 31 January | 31 July |
|                        | 2013       | 2012       | 2012    |
|                        | £'000      | £'000      | £'000   |
| Analysis of revenue    |            |            |         |
| Products sold          | 66         | 101        | 134     |
| Rendering of services  | 1,307      | 728        | 1,557   |
| Royalties and licences | 1,168      | 492        | 1,257   |
|                        | 2,541      | 1,321      | 2,948   |



# **Notes to the Interim Financial Report (continued)**

For the six months ended 31 January 2013

#### Geographical information

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

|                       | Six        | Six        |         |
|-----------------------|------------|------------|---------|
|                       | months to  | months to  | Year to |
|                       | 31 January | 31 January | 31 July |
|                       | 2013       | 2012       | 2012    |
|                       | £'000      | £'000      | £'000   |
| Analysis of revenue   |            |            |         |
| UK                    | 122        | 94         | 182     |
| Europe (excluding UK) | 653        | 96         | 124     |
| Asia                  | 1,690      | 1,086      | 2,542   |
| USA                   | 76         | 45         | 100     |
|                       | 2,541      | 1,321      | 2,948   |

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 £400,000 recorded in the consolidated statement of comprehensive income for the six months ended 31 January 2013 (£343,000 for the six months ended 31 January 2012) is in respect of a research and development tax credit receivable, as is the tax credit of £710,000 for the year ended 31 July 2012.

| 4. Loss per share  | 31 January  | 31 January  | 31 July     |
|--|-------------|-------------|-------------|
|  | 2013        | 2012        | 2012        |
|  | £'000       | £'000       | £'000       |
| Loss for the financial period attributable to equity shareholders Share-based payments | (1,201)     | (2,021)     | (3,640)     |
|  | 395         | 155         | 365         |
| Loss for the financial period before share-based payments                              | (806)       | (1,866)     | (3,275)     |
| Weighted average number of shares:   | No.         | No.         | No.         |
| Ordinary shares in issue* Adjusted loss per share before                               | 204,024,647 | 202,199,473 | 202,661,900 |
| share-based payments (pence)  Basic loss per share (pence)                             | (0.40)p     | (0.92)p     | (1.62)p     |
|  | (0.59)p     | (1.00)p     | (1.80)p     |

<sup>\*</sup>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.

## O Financial Statements (continued)

# **Notes to the Interim Financial Report (continued)**

For the six months ended 31 January 2013

#### 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.nanocotechnologies.com



#### **Directors**

Dr Peter Rowley (Non-Executive Chairman)

Dr Michael Edelman (Chief Executive Officer)

Dr Nigel Pickett (Chief Technology Officer)

Mr Colin White (Chief Financial Officer)

Mr Michael Bretherton (Non-Executive Director)

Mr Gordon Hall (Non-Executive Director)

St Gabrielle LLP (Non-Executive Director) represented by Mr Anthony Clinch

#### **Secretary**

Mr Colin White

#### Nominated Advisor and Joint Broker

Canaccord Genuity 8th Floor 88 Wood Street London EC2V 7OR

#### Joint Broker

Bank of America Merrill Lynch 2 King Edward Street London EC1A JHO

#### Auditor

Ernst & Young LLP 100 Barbirolli Sauare Manchester M2 3EY

#### Legal Adviser

Schofield Sweeney 76 Wellington Street Leeds LS1 2AY

#### Investor Relations and Financial PR

**Buchanan Communication** 107 Cheapside London FC2V 6DN

#### **Registered Office**

46 Grafton Street Manchester M13 9NT

#### Website

www.nanocotechnologies.com www.nanocogroup.com

#### Registrars

The Company's share register is maintained on our behalf by Neville Registrars. Neville are responsible for updating the register, including changes to shareholders' addresses, purchases and sales of the Company's shares.

If you have any questions about your shareholding or need to notify any changes to your personal details please contact them:

### **Neville Registrars**

18 Laurel House Halesowen B63 3DA

Telephone: 0121 585 1131

