

NOTE OF SECOND MEETING OF THE NANOTECHNOLOGIES STRATEGY FORUM, TUESDAY 18TH DECEMBER 2012

Attendees:

David Willetts	Joint Chair (BIS)
Lord de Mauley	Joint Chair (Defra)
Steve Elliott	Chemical Industries Association
Steffi Freidrichs	Nanotechnologies Industry Association
Denis Koltsov	BSI and ISO
Michelle Van-der-berg	Unilever
John Knowles	Nanosight and Nanotechnologies KTN
Catherine Pazderka	British Retail Consortium
Sue Davies	Which?
Neil Ebenezer	Medicines and Healthcare Regulatory Agency
Gill Smith	Health and Safety Executive
Prof Stephen Holgate	Hazardous Substances Advisory Committee
Prof Peter Dobson	Begbroke Science Park and RCUK
Prof Terry Wilkins	Yorkshire Forward and Leeds University

Defra and BIS Officials also attending:

Dr Kay Williams	Defra
Steve Morgan	Defra
Daniel Jones	Defra
Stuart Barthropp	BIS
Fergus Harradence	BIS

Apologies:

Zoe Webster	Technology Strategy Board
Sandy Lawrie	FSA
Simon Holland	GSK
Thomas Keller	GSK
Victor Christou	Wellington Partners

Item 1: Welcome and Introductions

1.1 Attendees introduced themselves, including Lord de Mauley, who was attending his first NSF Meeting as the Defra Minister responsible for Chemicals and Emerging Technologies.

Item 2: Agreement of note of the first NSF meeting, 3 May 2012

2.1 The note of first NSF meeting was agreed with minor amendments. It was agreed that the Forum's Terms of Reference should be amended in order to avoid confusion over its conditions of membership. The proposed revision is attached at Annex A.

Item 3: Investment and Growth in Nanotechnology

3.1 A paper on issues affecting Investment and Growth was presented to the Forum, providing a perspective from the UK nanotechnologies industries. It focussed on what role Government could play in improving commercialisation prospects for nanotechnologies in the UK, with an emphasis on how R&D advantage can be translated into growth.

3.2 The relationship between UK research funding and investment was discussed. It was agreed that a key issue for start-ups involved crossing the 'valley of death' – i.e. early phase capital investment is typically required for a number of years until start-up businesses become profitable. It was noted that the financial crisis had restricted flows of private capital investment.

3.3 The paper included a number of specific recommendations which could act as stimuli for growth in nanotechnologies. These were based upon a proposed redistribution of existing funds, rather than seeking an increase in funding. Proposals included:

- A specific fund for nanotechnology to co-fund VC investment in early stage companies, including university spin outs;
- A reallocation of 10% of Research Council budgets to be directed toward nanotechnologies;
- A National Nanotechnology Initiative emulating the US model.
- Increased tax incentives to encourage investment in nanotechnologies e.g. increase of Seed Enterprise Investment Scheme
- Strengthening and aligning existing support such as Catapult Centres, the SBRI scheme, 'Grand Challenge' R&D competitions and technology transfer activities

3.4 David Willetts said that whilst money was clearly constrained, Government was providing investment in areas that benefitted technology sectors. For example, where the VC market had been damaged by the financial downturn, Government was providing support through Enterprise Capital Funds, Business Angel Co-Fund, and the Seed Enterprise Investment Scheme. In the technology area, Government

had made substantial investments, for example in the area of High Value Manufacturing and Life Sciences, elements of which include nanotechnologies. General Purpose Technologies, such as nanotechnology, that spanned sectors posed a particular problem in identifying the most appropriate and effective forms of support.

3.5 It was noted that nanotechnology was no longer considered a homogenous industry or a single sector– rather, nanotechnologies cut across different sectors. In this vein, it was agreed that nanotechnology was increasingly seen as one among many technology solutions.

3.6 A paper was presented which highlighted the level of research funding already invested in nanoscience by the UK research councils. It was acknowledged that much of this had been in ‘pure science’ and that nanotechnologies were no longer seen as discreet, instead having become mainstreamed and integrated within a wide range of diverse sectors. Existing cooperation between the Technology Strategy Board (TSB), Research Councils UK and industry was highlighted, with agreement that this should continue and be strengthened. The success of the three ‘grand challenges’ (solar energy, healthcare and CO² capture) was highlighted as a potentially repeatable research funding model.

3.7 It was noted that the existing ‘graphene initiative’ was an example of a successful scheme to promote advanced manufacturing. In the University environment, doctoral training centres were cited as strong environments for the development of nanotechnology expertise. It was pointed out that better incentives were needed in universities for spin-outs and to encourage the trialling of ideas in partnership with smaller companies.

3.8 The importance of selecting the right ideas was stressed. Ideas should be carefully scrutinised, with realistic viability assessments being made. The example of medical devices was offered, where funding had been made available but ideas had still not been commercialised.

3.9 There was broad agreement on the importance of fully exploiting existing funding for research. An important part of this was the creation of single pots of funding, such as that which already exists in the Life Sciences Sector. It was noted that the creation of further such funds would send positive signals, which could catalyse investment in the advanced manufacturing sector.

3.10 There was discussion of other countries’ policies in nanotechnologies. It was noted that the US has a specific nanotechnology initiative and that Japan and Russia had fast-developing R&D expertise. German policies to incentivise closer ties between Universities and businesses were noted.

3.11 It was highlighted that the process for awarding patents could be simplified. The forthcoming EU-wide patent system would be important for stimulating investment in small high-tech companies.

Action: It was agreed that:

- i) the two papers raised issues about the support for nanotechnologies that should be explored further, particularly with the involvement of the TSB, prior to the next meeting.
- ii) the next meeting should focus on the landscape of technology support and consider how nanotechnology can best align, integrate and exploit this.
(BIS and TSB to take forward)

Item 4: Communications and Outreach on Nanotechnologies

4.1 A paper was presented by the BIS Science and Society Team. It sought to put public understanding of nanotechnologies in the context of other emerging technologies, and identify any common themes in public responses.

4.2 There was a discussion on how best to communicate with the public on nanotechnologies. It was acknowledged that nanotechnologies were more easily understood by application sector and that some sectors provoked more interest and/or concern than others. It was noted that in a recent EU-wide survey, the UK public had shown more positive attitudes towards nanotechnologies than their European counterparts.

4.3 It was agreed that misinformation was a risk and that all stakeholders had a role in aiding public understanding of nanotechnologies. It was also pointed out that as nano labelling becomes more commonplace (e.g. in cosmetics) it will come to the fore in public minds. It was agreed that the '[Nano & Me](#)' website was a good example of an existing, user-friendly source of information on nanotechnologies and that its ongoing maintenance should be considered by the Forum.

Action: Ministers to decide on a way forward based on the options in the BIS Science and Society paper. All stakeholders to actively consider options for future communication and outreach strategies, including the ongoing maintenance of the Nano & Me website.

Item 5: Update on regulation of nanotechnologies

5.1 A paper was presented by Defra giving an update on regulation of nanotechnologies. This focussed on the European Commission's recently published

Second Regulatory Review of Nanomaterials. It was confirmed that the UK Government broadly welcomed this publication, but more work was needed at EU level to ensure that the right regulatory framework was in place. There was agreement that REACH remains the right framework for the regulation of nanomaterials. It was noted that good regulation and proper compliance is necessary to secure public acceptance of nanotechnologies.

5.2 The Environment Agency's recent intelligence-gathering work, which was significantly improving understanding of which nanomaterials are produced and used in the UK, was discussed. It was noted that, while the majority of UK businesses had been very co-operative, a significant minority of companies were proving difficult to engage. The Ministers stressed to the Forum the importance of this initiative in demonstrating both a responsible approach by industry and the Government's capability to respond in the event of a risk incident. The need for full cooperation from the UK's nanotechnology businesses was particularly emphasised. The industry representative bodies present stressed their support for this work and the Nanotechnology Knowledge Transfer Network (KTN) offered to communicate with their industry networks over the issue.

Action: Defra to continue representations in Europe to achieve a proportionate and evidence-based regulatory approach

5.3 The soon-to-be-implemented initiative by the French Government, which seeks to allow full supply chain traceability for any nano product, was discussed. It was agreed that the need to comply with notification and information requirements was likely to impact adversely on UK businesses.

Action: The Minister for Science and Universities agreed to raise the issue in his next discussion with his French opposite number, and report back to the NSF at its next meeting.

5.4 The meeting closed. It was agreed that the next NSF meeting would include a further update on regulatory progress through the EU and input from the TSB on investment and growth in nanotechnology. This would take place in late Spring/early Summer of 2013.

ANNEX A

NANOTECHNOLOGIES STRATEGY FORUM: TERMS OF REFERENCE

(DRAFT UPDATED IN LIGHT OF NSF DISCUSSION OF 18 DECEMBER 2012. NEW TEXT UNDERLINED)

The Nanotechnology Strategy Forum (NSF) has been established to facilitate discussion and engagement between Government and key stakeholders on strategic issues for the responsible advancement of the UK's nanotechnologies industries. The NSF is an ad hoc expert advisory body with a membership drawn from industry, regulators, academia and NGOs and reflecting a wide range of stakeholder perspectives. The NSF will have a fluid membership, with guests invited to provide advice and evidence according to the issues discussed at its meetings.

The NSF is jointly chaired by the Minister of State for Universities and Science (BIS) and the Parliamentary Under-Secretary for Defra. It is supported by a small secretariat based in Defra. The Forum meets two times a year and will exist initially for a two year period, after which it will be reviewed.

The NSF will:

- Provide a forum for engagement to facilitate balanced discussion by industry, regulators, researchers and consumers on opportunities and risks.
- Demonstrate Government leadership in Nanotechnologies as part of the UK's Growth and Sustainable Development strategies.
- Provide a strategic overview of the key issues, to inform Government policy and ensure that Government research and other activities provide conditions for success for the UK's nanotechnologies industries; and encourage overseas companies to invest in the UK.
- Advise Government on activities in which the UK should seek to develop, promote or maintain a leading edge.
- Advise on the prioritisation and means of providing accessible and commercially focused investment for the responsible development of nanotechnology based products and applications.

- Advise on EU and international funding initiatives in order to capitalise on available opportunities, including those available through the EU Framework Programme
- Provide a fresh focus for the Government's nanotechnology research agenda, ensuring that the UK can lead in both better-targeted research into risks and research into areas of innovation and potential opportunity; and providing a vehicle for linking scientific advice to regulation
- Use outputs from evidence-based dialogue between stakeholders, researchers and the public to inform policy decisions.
- Be open and transparent. NSF discussions and comments will be matters of public record and will be attributed to organisations, but not individuals.