

# Responsible Nano Forum

# Nano & Me

## Consultation Analysis

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## Website Consultation Overview

The pilot of the **Nano&Me** website ([www.nanoandme.org](http://www.nanoandme.org)) was soft-launched on 27<sup>th</sup> July 2009 by email to opinion formers – scientists, ngos and government to canvas opinion about its scope, style and usefulness. The consultation lasted until 31<sup>st</sup> October 2009.

The pilot of the site was originally envisaged as a mechanism to respond to members of the public who had taken part in previous nano-dialogue activities run by the UK government and others and who had requested further impartial information on nanotechnologies. However data protection restrictions meant that the contact details of these individuals could not be retained which significantly curtailed our ability to consult with the public in any depth. 36 members of the public were formally approached for their views, 14 responded directly; these responses mainly the result of the Food Standards Agency's requests to its 3 Consumer Engagement Panels.

No additional budget was allocated to this outreach activity and so though some members of the public may have been reached inadvertently, this report feedback and statistics mainly reflect the interest and views of opinion formers. This is very disappointing in that we have little information from which to make any sort of judgement about the site's usefulness to its target audience.

## Headline Feedback

### Little feedback posted on the site itself

Though over 5,000 people viewed the website (see Headline Stats below), and informal feedback at conferences and meetings has been very positive, the direct feedback on the site itself has been disappointing. Eye-catching feedback mechanisms were featured a number of times on each page and on the home page through the signposts, balloons and comment boxes to encourage input, and it was made clear in all emailed information that this is what we sought. 7 were received in total and are attached as Appendix 1.

Those opinion formers who had viewed the site indicated to us verbally only positive reasons for this, mainly that 'It's great, I couldn't think of much to add'.

The comments were diverse, including a view on weighting of issues, request for information on environmental regulation and availability of information on nanomaterials, a request for information about nano solutions for drought resistant crops and a comment on the promotion of the site. The largest thread was an interaction about how much the site cost and whether this was a good use of public funds! Support for our perspective was given on and off-line in relation to these comments.

### Scientists and opinion formers very positive

In summary, *feedback directly and through email from scientists, science communicators and ngos was broadly very positive about the site and reflected in a detailed review from Dr Andrew Maynard of the Woodrow Wilson Centre in Washington which was very complimentary and hugely influential in gaining international interest. He summarised as follows: "This is an impressive website from a number of angles. For one, it seems to avoid the trap of either hyping up nanotechnology's promise, or placing undue focus on possible risks. Rather, it provides an honest perspective of where we're going with this, what the possibilities are, and where the speed bumps might be. But it also does all of this in an incredibly intuitive way".* Read more: <http://2020science.org/2009/09/28/so-you're-curious-about-nanotechnology.../#ixzz0Xxn642QX>

### Consumers broadly supportive but it's a bit wordy

The feedback from consumers was also broadly positive, though more mixed. Of the 14 questionnaires received from the FSA consultation process, 12 agreed with various degrees of conviction that it was informative and easy to understand and provided a balanced view of the technology. 2 felt strongly that it was not and required better layout, more pictures and videos and that it was too complicated and unbalanced. However, even some who agreed it was informative and easy to navigate felt that it was too wordy, needed more visuals 'it's a bit like reading homework' one said, though others were very keen and said they would visit again.

### Generated interest from direct engagement groups

The Sciencewise team circulated information about the site to the STEM network, the East Midlands Development Agency also circulated a note, as did the Nanotechnology Industries Association. It was also posted on Twitter a number of times and several science communications, corporate responsibility and environmental network listings. It is difficult to calculate the full numbers reached by email or network traffic, probably over 3,000. Almost 250 were emailed personally by RNF.

These mailings, particularly the STEM network mailing provoked interest in nanotechnology from a number of Science Festivals, Sci-Bars and Cafés. We have been invited to participate in various initiatives over the next year. However as the site is only a pilot at this stage we have been unable to accept most offers of promotion for 2010, but will be speaking at 2 Sci-Bars about nano next year stimulated by this process.

### Recommendations to broaden its scope – particularly to schools

A number of people, both opinion formers and consumers felt that the site would be particularly useful for schools and that in the final site attention should be paid to making it relevant to the curriculum.

### Information on individual products considered useful

Informal feedback, and information gained following my specific request at a number of UK and EC conferences and meetings has confirmed that many opinion formers consider that the Products section would lend itself to impartial information on products, but without alienating companies. This was not spontaneously mentioned by consumers.

### Next Steps

The site was well received by opinion formers and by the public. Though as the budget did not allow for a media communications programme to boost numbers of consumers giving feedback, we hesitate to speculate too much on consumer preferences. However the feedback we have got does resonate with our own views on the requirements of the site.

For approximately £30k per year the site could be updated and maintained in a way which provides a basic, but useful resource for the public, SMEs and others, including improved safety and regulation areas. However, it would benefit from greater use of video clips, much of which would have to be bespoke, and would be more expensive. Further consultation and adaptation would be needed to make the site appropriate for schools, but this may be a useful extension of the project.

**NB: The site will not be hosted or maintained beyond January 27th 2010. We would be grateful for further feedback from Sciencewise on ways in which Nano&me may be taken forward beyond then.**

## Headline Statistics

Since launch, the site has had **5,252 Visits**. Each visitor spends an average of **3mins 47secs** on the site, looking at an average of **4 pages**. It is now indexed by Google, Yahoo, Bing, and showing good search term rankings for keywords.

80% of visitors are new users from **88 different countries**. The majority are from the **United Kingdom**, and the **United States**.

Of all traffic sources **40% is from external links** on other sites. **Search engines account for another 28%**.

The most popular pages are the **homepage**, which is to be expected, followed by **the products landing page**

## Visitors

### Overview

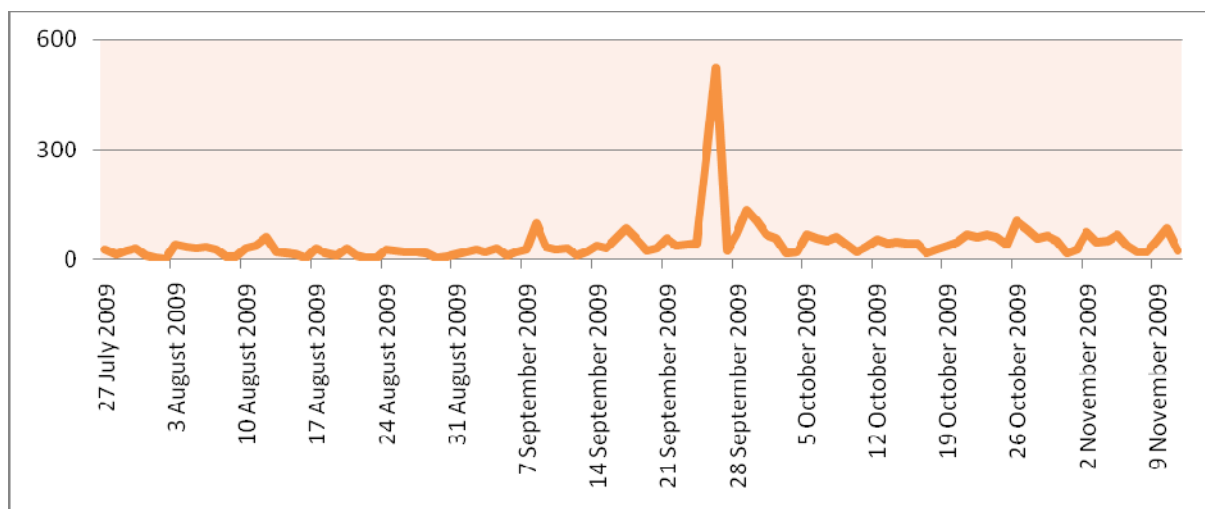


Figure 1, Visitors per day since launch.

The average number of visitors per day is 54 with a recorded dip each weekend. This is **ignoring** the influx of traffic over the two days from Friday 25<sup>th</sup> September 2009 which will be discussed separately.

## Weekly Average

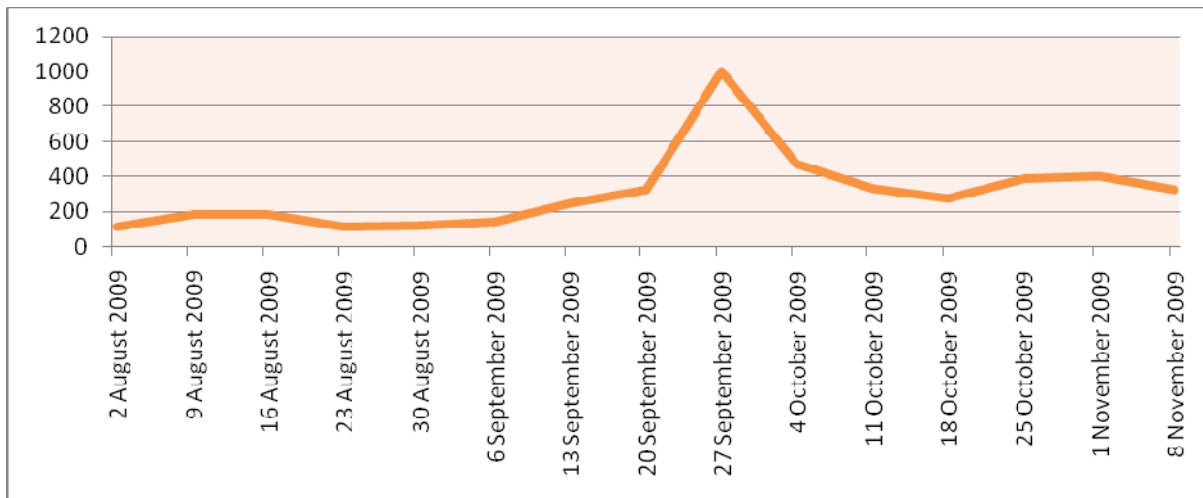


Figure 2, Visitors per week since launch, listed by Week Ending.

Looking at the figures plotted over a weekly average we can see a clear rise in traffic numbers since launch. This has resulted in an increase of expected visitors to double those experienced during the first month after launch.

## Time on Site

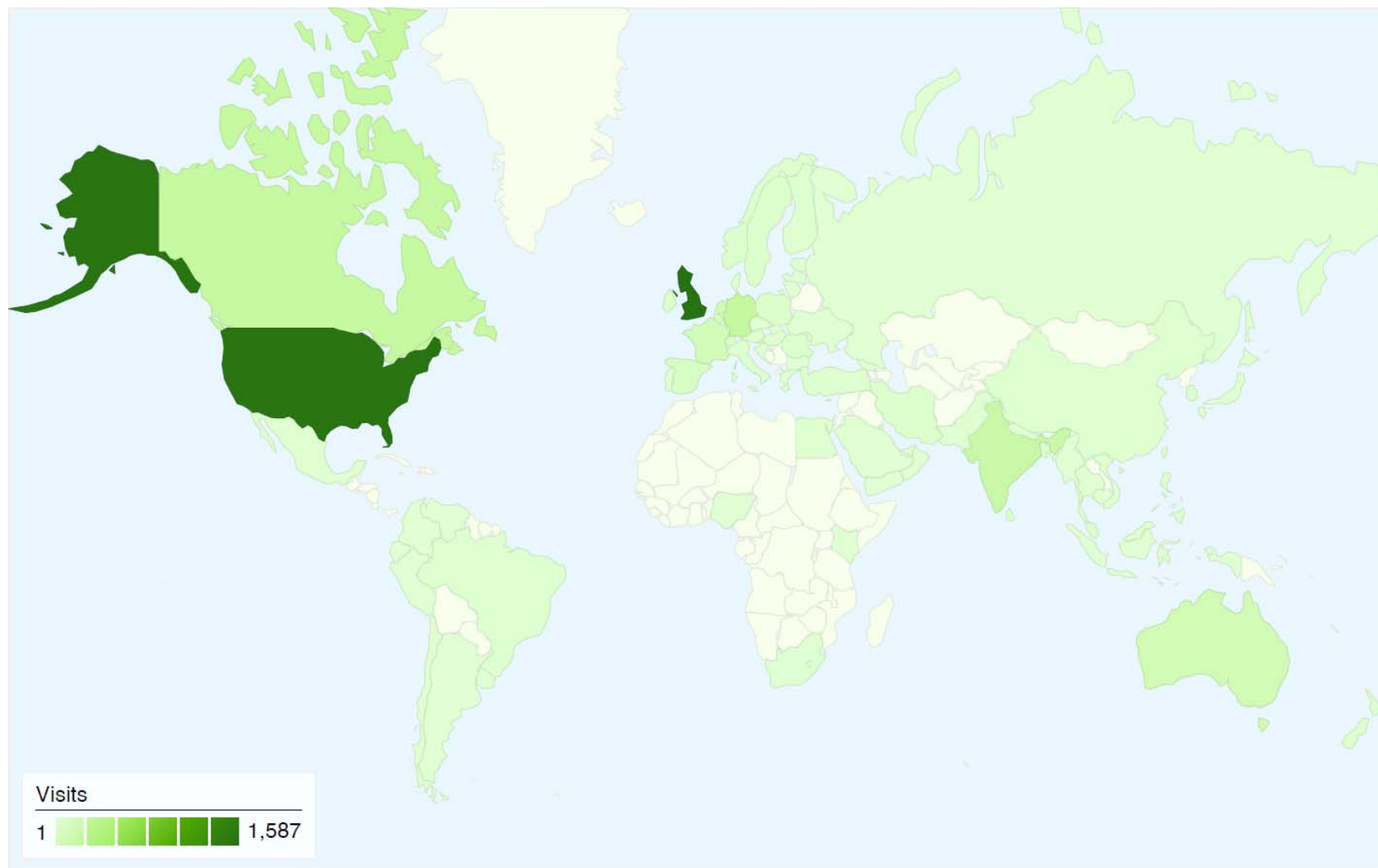
The time people spend on the site varies. During any given week visitors will spend up to 11 minutes on the site on average. The weekly average is reduced by the visitor numbers at the weekend, which appear to mainly consist of automated and background traffic.

## Country of Origin

The majority of visitors originated in the United Kingdom and the United States; however, this can be expanded to include the entire North American continent with the inclusion of Canada, also a source of a large number of visitors. However, traffic is not restricted to these two countries, and includes many different continents.

Continent	Visitors	Percentage
Europe	2,639	50%
Americas	1,867	35%
Asia	546	10%
Oceania	164	3%
Africa	42	<1%
Unclassified	21	<1%

## World Traffic



#	Country	Visits
1	United Kingdom	1,578
2	United States	1,543
3	Germany	250
4	Canada	229
5	India	208
6	Australia	143
7	Netherlands	133
8	France	120
9	Belgium	94
10	Spain	69
11	Poland	44
12	Singapore	42
13	Ireland	36
14	Switzerland	35
15	Norway	34
16	Sweden	31
17	Iran	30
18	South Korea	30
19	Romania	29
20	Malaysia	25
21	Turkey	24
22	Portugal	24
23	Brazil	24
24	Hong Kong	22
25	Austria	21
26	(not set)	21
27	Israel	21
28	Sri Lanka	21
29	Egypt	20
30	China	20
31	Finland	20
32	New Zealand	20
33	Italy	20
34	South Africa	19
35	Mexico	16
36	Philippines	15
37	Denmark	15
38	Greece	13
39	Thailand	13
40	United Arab Emirates	12
41	Pakistan	12
42	Ukraine	9
43	Chile	9
44	Slovenia	9

#	Country	Visits
45	Saudi Arabia	8
46	Czech Republic	7
47	Japan	7
48	Argentina	7
49	Hungary	6
50	Colombia	6
51	Vietnam	6
52	Uruguay	6
53	Taiwan	6
54	Russia	6
55	Croatia	5
56	Peru	5
57	Indonesia	4
58	Bulgaria	4
59	Puerto Rico	4
60	Bangladesh	4
61	Kuwait	4
62	Lithuania	4
63	Estonia	3
64	Ecuador	2
65	Kenya	2
66	Bahrain	2
67	Oman	2
68	Slovakia	2
69	Nepal	2
70	Latvia	2
71	Brunei	1
72	Aruba	1
73	Cyprus	1
74	Anguilla	1
75	Cambodia	1
76	U.S. Virgin Islands	1
77	Yemen	1
78	Venezuela	1
79	Nigeria	1
80	Macedonia [FYROM]	1
81	Moldova	1
82	Myanmar [Burma]	1
83	Saint Vincent and the Grenadines	1
84	Luxembourg	1
85	French Polynesia	1
86	Isle of Man	1
87	Georgia	1
88	Serbia	1

# Traffic Sources

## Overview

Traffic primarily comes from three distinct locations.

- Direct Traffic – Consists of traffic of unknown origin, which can include the following:
  - Directly visiting your site from the address bar.
  - Using a bookmark in their browser.
  - Following a link in an email, although not in a webmail service.
- Referral – A link on an external site, blog, forum comment or webmail service as examples.
- Search Engines – Traffic as a result of appearing in a search engine result listing, either pay-per-click, or natural listings.

Of the visitors to the website since launch, the following breakdown occurs:

Percentage	Source
31.45%	Direct Traffic
40.37%	Referral
28.18%	Search Engines

## Referrals

173 unique sites were the source of all referrals to the website. Of these sites, there was a good mix of social and topical sites, as well as links from partner sites. There were also numerous links from webmail facilities, showing that there is even more communication about the site that we are unable to track.

#	Website	Visits
1	stumbleupon.com	897
2	2020science.org	307
3	responsiblenanoforum.org	87
4	spectrum.ieee.org	86
5	bristol.ac.uk	72
6	twitter.com	67
7	togetherhubbub.com	55
8	interactive.bis.gov.uk	33
9	mail.google.com	28
10	vivagora.org	27

## Social Media

There was an influx of visitors on the 25<sup>th</sup> September 2009 from stumbleupon.com.

Stumbleupon.com is a social network recommendation system for websites. It allows users to rate and categorise websites so that other users can find other similar websites with similar content. It describes itself as “channel surfing” for the web.

Upon investigation, this appears to be driven primarily by Andrew Maynard at [www.2020science.org](http://www.2020science.org), his submission of [www.nanoandme.org](http://www.nanoandme.org) to stumbleupon.com caused multiple visitors both directly through the stumbleupon service and his own website.

For more details see: <http://www.stumbleupon.com/url/www.nanoandme.org/home/>

## Search Engines

9 different search engines were the source of all search engine traffic; these break down into the standard 5.

#	Search Engine	Visits
1	Google	1,403
2	Bing	45
3	Yahoo	13
4	AOL	8
5	Ask Jeeves	8

The majority of search traffic is from Google. While this is possibly due to international market share, this is a clear indicator of good indexing in the Google search engine.

## Keywords

The website identifies the following keywords on each page. The expectation is that the page will have high ranking for these terms, but that is at the search engines discretion.

Nano, Nanotechnology, Science, Future, The future, Technology, Nano silver, Nanometre, Nano scale, Scientific, Technological, Scientists, Safety, Debate, Discussion, Small, Tiny, Invention, Inventions, Discovery, Discoveries

802 different keywords were used in search engines to locate the Nano & Me website; a list of these is included on the next page.

It is clear to see that the attention to SEO in the structure and build of the site has had a very positive effect in search position. The majority of terms directly relate to the page names in use on the site, and any additional sites added should definitely continue this naming convention to maintain such high search keyword placements.

## Search Terms

#	Search Term	Visits
1	nano and me	220
2	nano products	84
3	nanoandme	41
4	nanoproducts	41
5	nano&me	36
6	nano & me	21
7	nano clothing	17
8	www.nanoandme.org	14
9	nano safety	12
10	ethical questions	10
11	nano cosmetics	10
12	nano packaging	10
13	nano sunscreen	9
14	nano in sports	7
15	nano textile	7
16	nanosafety	7
17	what is nano	7
18	nano clothes	6
19	nano in food	6
20	nano supplements	6
21	nano textiles	6
22	nano chemicals	5
23	nano paints	5
24	cosmetic ingredient little balls of oil	4
25	household cleaning products	4
26	nano cleaning products	4
27	nano food products	4
28	nano foods	4
29	nano in medicine	4
30	nano-safety	4
31	nanoandme.org	4
32	nanofood	4
33	tennis balls nano	4
34	biological nanoproducts	3
35	how nano objects and materials will be useful in the future?	3
36	nano	3
37	nano and cosmetics	3
38	nano building materials	3
39	nano coating	3
40	Nano cosmetic	3

## Content

138 pages were viewed a total of 20,845 times. The average time spent on each page was 1min 17 secs.

Of the pages on the site, the top level content was the most viewed, except for some specific sub sections. This can be seen when looking at the top 10 most viewed pages.

#	Page	Visits
1	/home/	5,538
2	/nano-products/	1,461
3	/what-is-nano/	1,273
4	/nano-safety/	871
5	/nano-products/cosmetics-and-sunscreen/	701
6	/the-nano-debate/	664
7	/social-and-ethical/	575
8	/regulation/are-there-laws-on-nano/	543
9	/what-is-nano/what-makes-nano-special/	515
10	/nano-products/textiles-and-clothing/	457

From the top 10 above, and expanding out across the top 25, interest in the 'Nano Products' section features prominently.

## Translation

In the list of 138 pages, there are numerous calls from translation services showing a good amount of international interest. Although these are not a large source of page views, the following language versions have been requested:

- French
- Persian
- Hindi
- Korean
- Polish
- Russian

## The Nano Debate

Since launch the debate site has had **1,831 Pageviews**, or **17 Pageviews a day**. The average time on each page is **1min 23secs**.

The most viewed idea is titled 'nano&me funding'.

Since the debate section of the website is powered by Hubbub. This offers a variety of different statistics around discussion metrics and traffic analysis, some of which are included on the following page.

### Debate Metrics

Metric	Result
Total number of users on the system	97
Total number of votes	11
Total plus votes	8
Total negative votes	3
Number of users who have voted (plus or minus)	6
Number of users who have commented	7
Number of users who have submitted an idea	10
Most active user by ideas	PRABHAKAR tonemcd
Most active user by votes	tonemcd
Most active user by comments	hilary@responsiblenanoforum.org

## Appendix

### 1) Positioning nano debate relative to others

**Submitted by: Nina Horne**

Overall I believe this section does an admirable job of presenting a balanced view of a hot topic, but I believe a bit of editing might help.

The sentence "Many people are concerned that products on the market..." and the phrase "causing lots of arguments among governments, campaigning groups..." seems to overstate the relative importance and level of awareness and activity in the nano world as compared to other issues. I think "some" people are concerned and it causes "some" arguments.

Also, the idea that we don't have adequate tests yet is a bit buried. Also, there is no coverage of the fact that there is a large and coordinated effort among scientists to determine those tests and find those answers.

But overall, I think you all have done a great job of providing a balanced and informative site for folks. Well done.

### 2) environmental regulations beyond agriculture?

**Submitted by: fern**

Love the website!

It is a great initiative and really well done - very easy to navigate, written in a way that is accessible, and covering a very broad range of topics. Well done!

I am just wondering whether there are any environmental regulations relevant for applications beyond those used in agriculture. For example, how are free nanoparticles being used in a range of different consumer products being regulated for their potential negative impacts on various organisms and ecosystems?

### 3) Nano in agriculture

**Submitted by: Ankit Tulsyan**

Hello I am a chemical engineer from VNIT Nagpur, India.

Talking about the agriculture scenario esp in India...

Its still majorly dependent on rain. This year it has a high probability of drought.

I feel for a country like India where 60%people depends on agriculture Nano could bring revolution.

If anything like Nano seeds which takes less quantity of water can be brought, it would be a miracle.

Apart, there are various avenues in agriculture where Nano can revolutionize the world.

Please put your suggestions.

#### 4) nano&me funding

**Submitted by: Joe Public**

Regarding the nano&me "If we get funding for a full site" statement: there's no mention of how has this pilot consultation has been funded to date? From the public purse? Did Joe&co have a choice? Are you implying that we do now, as to whether this funding continues/snowballs, via this debate? Amidst the credit crunch and the scandal of MPs' expense claims recently being exposed (and the subsequent £0.5 million repayment), the assumed right to spend taxpayers' money ought to have been stamped out before now and any spending will at least now be open to scrutiny as a result of the Freedom of Information Act! The Responsible Nano Forum ought therefore to assume full responsibility for informing us on how much public funding has been received to date and how much future funding is pending. Perhaps this topic will prompt a more lively debate!

#### Comments

**Submitted by: Hilary Nano Forum**

Hello Joe Public. We have got a slot on who paid, have a look at the section About Nano and Me, Who Paid For it. <http://www.nanoandme.org/about/who-paid-for-it/> You will see that it was paid for by The Department for Business, Innovation and Skills, though they were the Department for Innovation, Universities and Skills at the time of paying, and the Esmee Fairbairn Foundation, a charitable foundation in the UK. It is precisely because we feel the public has a right to know and have a say in how these new technologies are used in the products in the shops that the site was developed. As you will see from the About Nano and Me section, we are a charity also and giving Joe&co a choice is exactly what we are about. I appreciate that what appears to be good use of money varies from person to person, so you may not agree with this spend, but our aim is to involve the public in considering where these new technologies go, we think that is a good use of people's time and money as some of applications may have a profound influence on our lives in the future. We will aim in our ongoing funding to have multiple funding streams, not just government, or business and to retain our independence and commitment to providing balanced information. Thanks though for your comment.

**Submitted by: Joe Public**

Do you not feel that we have a right to know: i) exactly how much the government has paid to fund this pilot to date, and ii) the amount of ongoing funding sought from the government???

**Submitted by: Hilary Nano Forum**

Hello Joe, no-one is hiding anything don't worry. The grant was £77,000 and £5,000 from Esmee Fairbairn, and I haven't figured out the cost of the full site yet, though it is an important part of our remit that we get multi-stakeholder funding, so it won't just be from government. This is the point of the site, to see if the public and others feel it is an important enough issue to deserve a permanent site. You obviously don't think it is a good use of cash, though I would be interested to know why. This was set up in response to requests from the public, given in previous 'nano dialogue' type initiatives for more information on how nanotechnologies and information on how they were being used in products we can all buy at the moment. I am working on that last bit! Do let us know what your particular concerns are, given that this was produced in response to requests from the public.

**Submitted by: Joe Public**

Thank you for answering the initial question re. how much public funding has been received to date, although I really find it hard to believe that the government paid this (rather substantial sum in return for the level of content provided to date) with such vague details of the full cost to complete! If the government still operates on a "pay as you build" basis, then clearly no lessons have yet been learned from such projects as the Holyrood building fiasco! Re. your statement that this site has been set up in response to requests from the public "given in previous 'nano dialogue' type initiatives", I assume you are referring to the 'Nanoscience and nanotechnologies: opportunities and uncertainties' report published by the Royal Society and Royal Academy of Engineering in July 2004. Perhaps a section on "What's New" would be appropriate!

**Submitted by: Hilary Nano Forum**

Hello, I am sorry that you think it is not a good use of money. I can assure you for a site of this quality it is extremely good value for money. Remember the BBC website cost £85million! I am sorry also that you don't feel the content is strong enough. I was speaking yesterday to one of the world's leading nanotechnology scientists, Dr Andrew Maynard from the Project on Emerging Nano in Washington who felt that the site was a huge break-through in public communication and that the content managed to be both informative, balanced and interesting which is tricky considering what a high tech area this is. I am getting this feedback from many others in lots of different organisations also, but you can't please everyone I suppose! With regard to your question on requests from the public, no not the RS/REng report, but a number of nano dialogue activities which spoke directly to members of the public, including the government Nanotechnology Engagement Group's 6 dialogues, work from the think tank DEMOS, the Engineering and Physical Sciences Resource Centre dialogue on Nano medicines (on our join the debate page) and the East Midlands Development Agency Nano Roadshow, which together reached quite a large number of individuals, many of whom said they would like to be able to find information on nano for themselves to make up their own mind. It may also be helpful for schoolkids and students as a 'nano starter', and the information on regulation and safety is for the use of small businesses looking to use nano in their products. Finally the reason there is no business plan is that this is a new form of engagement, we are seeking public input into whether it is a valuable resource, what it should have in it, what could be added, with a view to then deciding if it is a good idea to fund as a permanent resource, probably jointly funded by government and business. I'll put you down as a no then!

**Submitted by: Jonathan**

I think the Nano forum have been honest and open. We as Joe Public shouldn't be commenting on every area of public spending. We should do this at the ballot box and vote politicians in on their public spending strategy and then let them get on with it. Also unless you are a web design company how can you comment on whether £77K is a lot or a little. Compared to the BBC web site at £85m this seems great value.

**5) Go International**

**Submitted by: kristinalford**

The website is great, well done. So much detailed information to explore and consider - I think you've achieved a goal of providing balanced and informative content. I look forward to seeing what sort of feedback you get around the different content issues.

I would love to see this adopted and customised for other countries. And it would be interesting to compare different approaches and initiatives around the broad spectrum of issues. Will keep in touch!

**6) Promotion of the site**

**Submitted by: Physicus**

I think the site is an excellent start.

It strikes me that awareness of the site itself is going to be crucial, and I wondered how you are getting it 'out there' and any plans - social media?, through schools?, posters?, etc. Even a slot on the TV ?

Also, will promotion targeted just at the UK, Europe, World? (global companies, global issues).

**Comments**

**Submitted by: Hilary Nano Forum**

You are right that this is essential Physicus. We are working on that, though struggling to raise funds to do it in any systematic way at the moment. The government has helped with word of mouth, connections to schools etc, but mainstream PR is needed to get the consumer involved. We get most hits at the moment in the US, and have a vision for EU 'community of countries' using nano&me, translating and localising the information. Though of course cash is the issue again! Thanks for your posting!

## 7) Generally not worried

**Submitted by: tonemcd**

I believe strongly in freedom of choice, so I would like to know whether a product had 'passive' (compounds, graphene, buckytubes etc) nanotechnology or 'active' nanotechnology.

Here's an example

Suppose I brought home a bag of apples, and the bag was made of a nanotechnology-based polymer that gave better transit resilience and longer life to the apples, but on being opened, evaporated into water and a tiny puff of CO<sub>2</sub> - I'd call that passive nanotechnology.

On the other hand, suppose I bite into an apple laden with (advanced!) active medical nanotechnology. I can imagine cell repair and restructuring devices, homeostatic devices and hunter-killers of rogue cells and foreign microbes/viruses, monitoring devices, nano-factories to create more of what was needed and computer nodes hanging it all together. They would all rush into my body and start doing their jobs - massively increasing their numbers if needed. Now considering I've almost certainly got swine-flu at the moment, that latter apple is looking very tempting. But I'd still like to know which one I was eating!

And this is just the start, do a google for 'Utility Fog' to see what could happen...

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