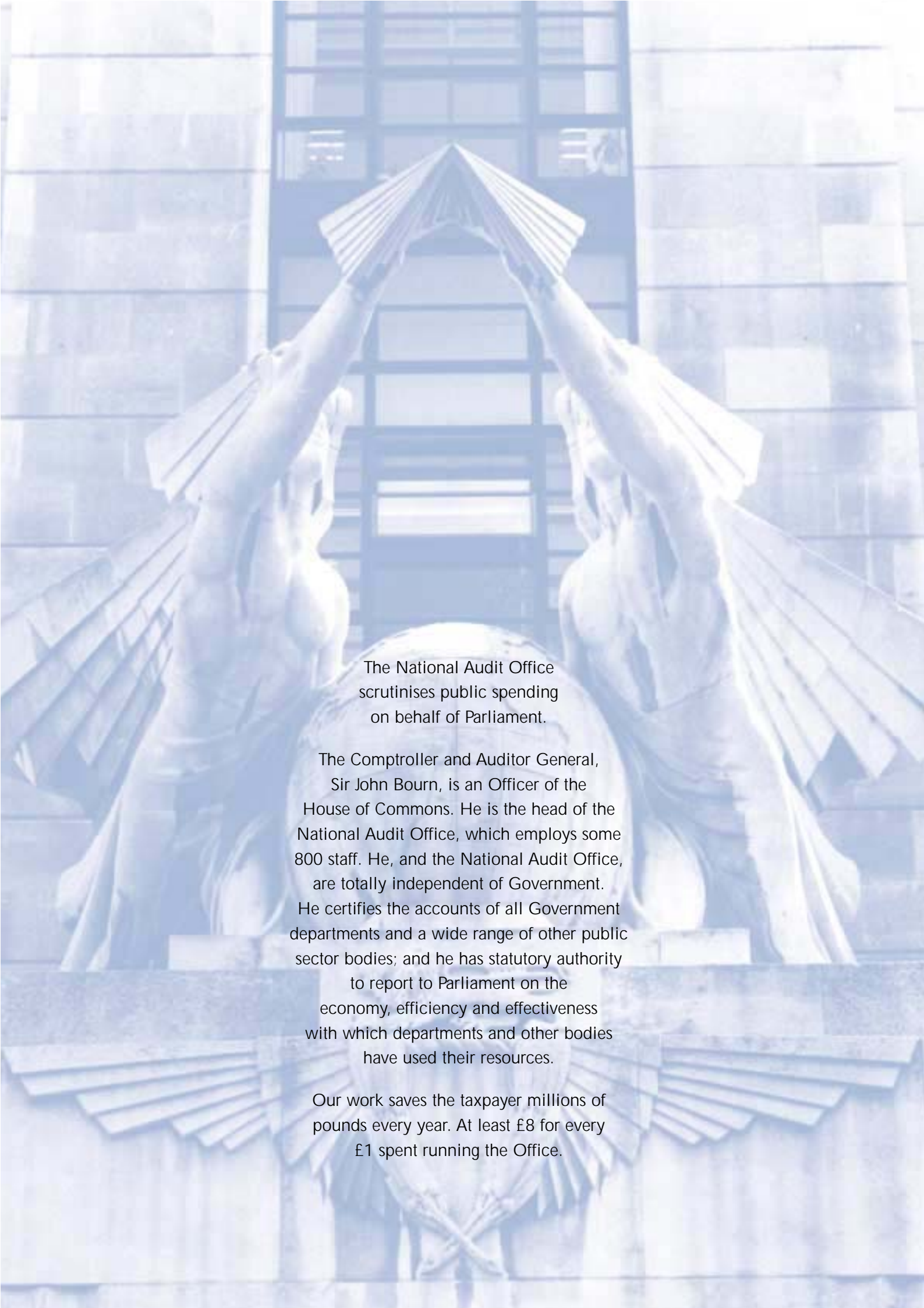


The National Endowment for Science, Technology and the Arts

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
HC 267 Session 2003-2004: 25 February 2004



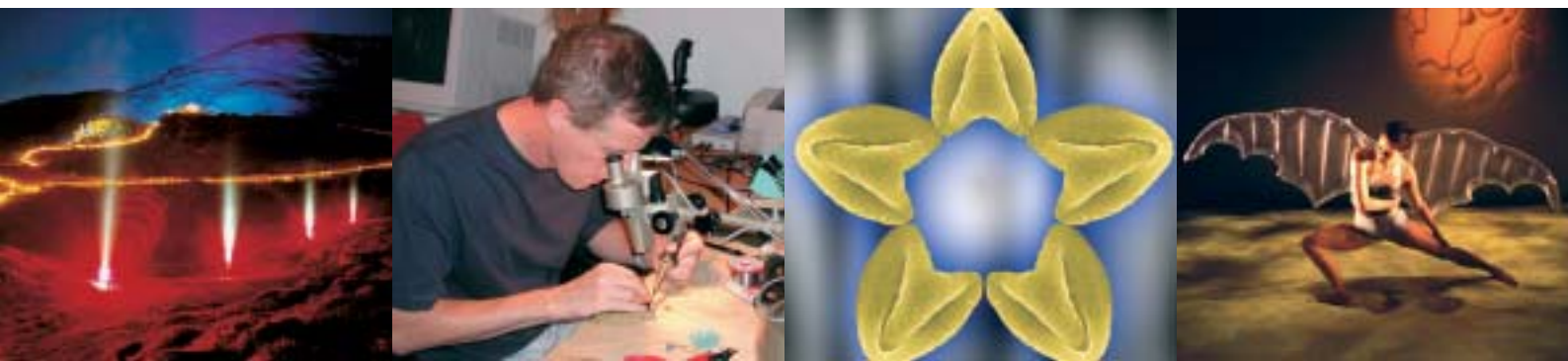


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The National Endowment for Science, Technology and the Arts



REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
HC 267 Session 2003-2004: 25 February 2004

This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act.

John Bourn National Audit Office
Comptroller and Auditor General 11 February 2004

The National Audit Office study team consisted of:

Mark Garrety, Keith Davis and Alison Winkley. Richard Wade gave specialist financial advice on Part 5 and Andrew D'Souza, Stephen Kingston, Kay Palmer and Akhil Patel assisted with parts of the fieldwork.

All photographs are courtesy of NESTA, and refer to NESTA awardees as follows:

Front Cover: The Shadow Robot Company, under the Invention and Innovation programme

Title page (in order from left to right): Angus Farquhar, Invention and Innovation programme; Steve Grand, Fellowship programme; Rob Kessler, Fellowship programme; Random Dance Company, Learning programme

This report can be found on the National Audit Office web site at www.nao.gov.uk

For further information about the National Audit Office please contact:

National Audit Office
Press Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP

Tel: 020 7798 7400

Email: enquiries@nao.gsi.gov.uk

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Introduction

The National Endowment for Science, Technology and the Arts (NESTA) is a Non-Departmental Public Body sponsored by the Department for Culture, Media and Sport. It was established by the National Lottery Act 1998 with a remit to *"support and promote talent, innovation and creativity in the fields of science, technology and the arts"*.

NESTA does this primarily through making awards to projects under three funding programmes - Fellowships, Invention and Innovation, and Learning. The programmes are designed to:

- help talented individuals in the fields of science, technology and the arts to achieve their potential;
- help people to turn inventions and ideas in these fields into products or services; and
- contribute to public knowledge and appreciation in these fields.

At inception, the Secretary of State provided NESTA with an endowment from the National Lottery Distribution Fund of £200 million, which generates the income to fund NESTA's programmes. In early 2003 NESTA was granted an additional £95 million: £50 million to add to the endowment, in part because lower interest rates meant that income was less than anticipated, and £45 million for programme spending over the following three years. The endowment itself is invested through the Debt Management Office in a specified range of instruments. NESTA, however, is able to invest the income from the endowment separately and has wide freedom over how it does so.

In this report we consider whether NESTA has been effective in investing the endowment, in distributing the income generated, and in managing the funding programmes. Our methodology is detailed at Appendix 1, findings are summarised on page two, and our recommendations are listed on page four.

Findings at a glance

PART 1



NESTA awards are reasonably spread between the four nations but, within England, London receives a disproportionate amount, and overall there is a lack of clarity on social exclusion

- NESTA has spent over £40 million and made 343 awards
- The distribution of awards between the four nations is fairly even, except for Northern Ireland
- Within England, London receives a disproportionate amount of awards
- London is most over represented in the Fellowship and Learning programmes
- NESTA is developing a strategy to address regional distribution
- There is a lack of clarity concerning NESTA's contribution to tackling social exclusion
- The awards support a great variety of ideas and activities, and most projects are not yet complete
- NESTA is developing a framework for assessing the impact of its programmes

PART 2



Two programmes have done well to generate applications but one has been less successful

- The Invention and Innovation programme has been successful in generating a high level of interest and competition for funds
- There are concerns about nomination being the main route to the Fellowship programme
- The Learning programme has effectively combined a mixture of soliciting projects with being responsive to enquiries

PART 3

There are sound processes and criteria for selecting projects, and sound principles for managing the portfolios of awards

- Application processes and selection criteria have been tailored for each programme, but with some common principles
- Programme Committees are well supported by NESTA staff
- Projects are inherently risky
- There are several ways in which NESTA manages the risk of projects failing, and these generally work well



PART 4

The existing performance indicator is not a robust measure of operational efficiency

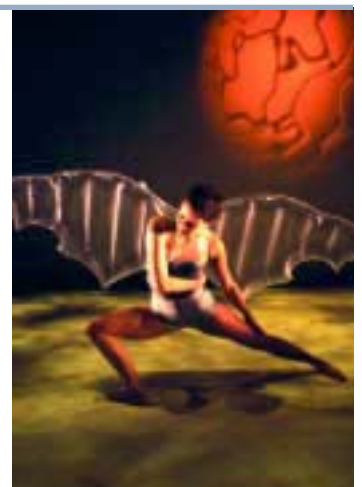
- Typically, over 50 per cent of NESTA's expenditure is on awards to projects
- The existing performance indicator has the potential to hide inefficiencies
- The existing performance indicator relates only to part of NESTA's non-award spending
- NESTA and the Department should agree a performance indicator for the level of programme support costs



PART 5

Falling interest rates caused severe financial difficulties

- Falling interest rates severely reduced returns from the endowment, and meant NESTA had to return to Parliament for additional funds to maintain its levels of activity
- The Financial Directions imposed restrictions on the investment instruments that NESTA could use and these are likely to have reduced income further
- NESTA's approach to investment of the interest from the endowment has been sound
- When public funds are used to make permanent endowments careful attention must be paid to sustainability and managing interest rate risk



Recommendations

REGIONAL DISTRIBUTION

- 1 NESTA should define and implement a strategy to address regional disparities in award distribution as soon as possible. This should prioritise areas in which there are relatively few NESTA awardees, and include regional targets for generating applications.

REPORT PARAGRAPHS: 1.8 - 1.17

SOCIAL EXCLUSION

- 2 NESTA and the Department should agree on what is expected of NESTA in terms of reaching socially-excluded groups.

REPORT PARAGRAPHS: 1.18 - 1.19

GENERATING APPLICATIONS

- 3 NESTA should re-consider the degree of emphasis on nomination as the means to generate applications for the Fellowship programme. It should accelerate its efforts to broaden the reach of the programme and increase the openness of access, taking particular account of the need for equality of access across potential applicants and for competitiveness in the application process.

REPORT PARAGRAPHS: 2.5 - 2.19

- 4 Whilst building on its activities to identify potential projects for the Learning programme, NESTA should publicise more widely its willingness to accept unsolicited approaches.

REPORT PARAGRAPH: 2.21

MANAGEMENT OF THE PROGRAMMES

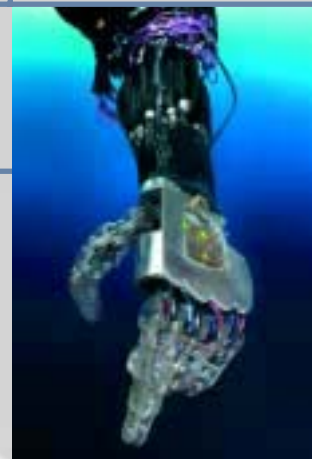
- 5 NESTA should take care to ensure that the project specific contributions of Programme Committee members are fully captured, and that they are then fully reflected in NESTA's oversight of the awards.

REPORT PARAGRAPHS: 3.7 - 3.8

- 6 As part of its management of the risk of projects failing NESTA should further improve the mentoring support provided to awardees by:

- providing more opportunities for networking between mentors;
- using mentors with different specialisms for different aspects of the same project; and
- ensuring that mentors understand their reporting responsibilities.

REPORT PARAGRAPHS: 3.14 - 3.16



MANAGEMENT OF THE PROGRAMMES (CONTINUED)

- 7 The risk mapping approach used in the Fellowship Programme should be extended to NESTA's other programmes. Other award-making bodies might also consider it.

REPORT PARAGRAPH: 3.19

- 8 The formal lessons learned review that is carried out under the Invention and Innovation Programme should be extended to the other programmes.

REPORT PARAGRAPH: 3.21

OPERATIONAL EFFICIENCY

- 9 NESTA should separate the costs of programme support from the costs of wider activities consistent with its broader remit. NESTA and the Department should then agree an appropriate ratio for the level of programme support costs in relation to the level of actual awards.

REPORT PARAGRAPHS: 4.12 - 4.17

INVESTMENT FREEDOM

- 10 When setting the parameters within which sponsored bodies must invest their funds, Departments should think carefully about whether any restrictions imposed have unintended side effects, such as preventing the body from managing interest rate risk effectively. They must then be clear that the benefits of the restrictions outweigh any threat to operating income that results.

REPORT PARAGRAPHS: 5.5 - 5.8

FUNDING BODIES THROUGH PERMANENT ENDOWMENT

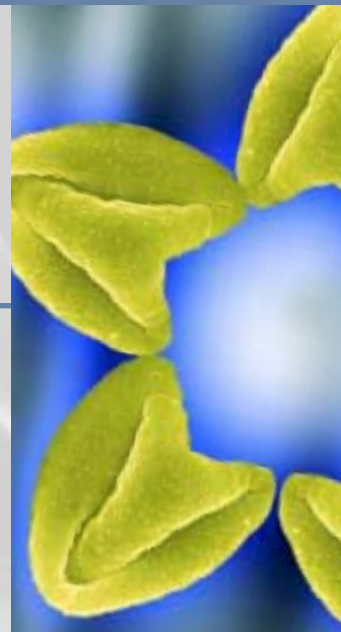
Before providing permanent endowments, for activities that are intended to continue into perpetuity, Departments should ensure that they do the following.

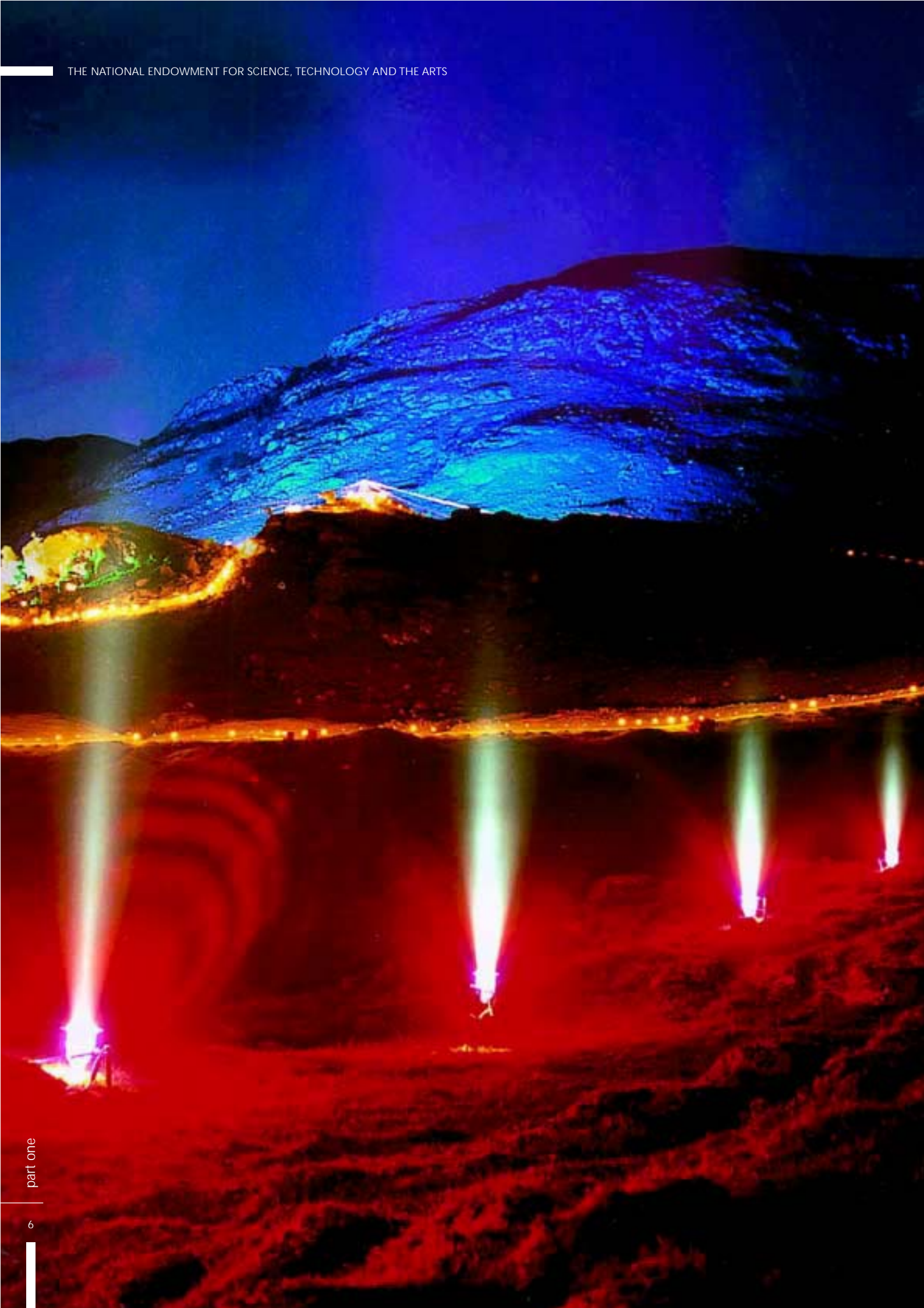
- 11 Set out a clear value for money case for tying up the amount of public funds needed to generate the returns required to fund the body's operations. This assessment should take full account of the costs and burdens that managing an endowment will impose on a body. It should also consider what changes of circumstances might call for discontinuing the activity.

REPORT PARAGRAPHS: 5.13 - 5.18

- 12 Establish a detailed plan that will either allow the body to maintain the real value of its endowment or have another strategy in place to ensure its sustainability, such as a specific proposal for establishing a reliable alternative income stream.

REPORT PARAGRAPH: 5.17





Part 1

NESTA awards are reasonably spread between the four nations but, within England, London receives a disproportionate amount, and overall there is a lack of clarity on social exclusion

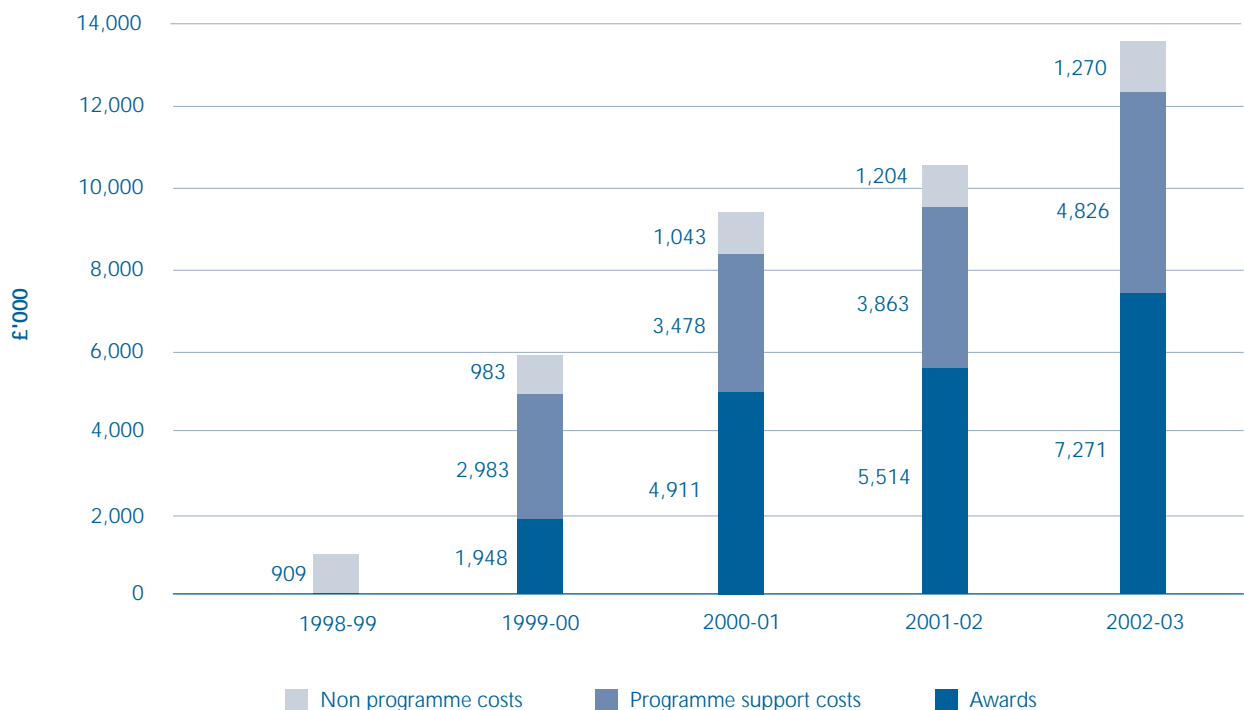
1.1 In this part of the report we set out the key facts about the scale of NESTA's expenditure and award programmes. We then consider the distribution of awards across the United Kingdom, and also comment on NESTA's contribution to tackling social exclusion.

NESTA has spent over £40 million and made 343 awards

1.2 **Figure 1** below provides a breakdown of NESTA's expenditure by financial year, since its inception, demonstrating a steady increase over time since the first awards were announced in 1999.

1.3 NESTA makes awards under three programmes, which are described at **Figure 2**. The number and value of awards under each programme is detailed at **Figure 3**.

1 NESTA's expenditure 1998-99 to 2002-03



NOTES

- 1 Figures are taken from NESTA's financial statements. NESTA's Planet Science and FutureLab activities are excluded; they represent a smaller part of NESTA's total expenditure and were not covered by this NAO study.
- 2 The distinction between programme and non-programme costs is explained in Part 4 of this report, in the context of operational efficiency.

2 NESTA's funding programmes

The **Invention and Innovation** programme aims to help people with ground-breaking ideas to turn them into innovative products, services or techniques with commercial or social potential. The programme actively seeks to support proposals which are less fully developed than would be normally be required to attract private investors.

The **Fellowship** programme gives creative and innovative individuals, who have demonstrated exceptional talent and originality, the time, space, resources and support to develop their ideas and extend their work in new directions.

The **Learning** programme aims to support innovative and pioneering learning projects which provide models for others to follow or which develop and increase public understanding of creativity in science, technology and the arts.

Examples of projects supported under each of the programmes can be seen in **Part 2** and **Appendix 2** of this report.

3 The number and value of awards by programme

Programme	Number of awards	Value of awards (£'000)	Average value of an award (£'000)
Invention and Innovation	146	7,463	51
Fellowship	91	6,001	66
Learning	106	7,933	75
Total	343	21,397	62

NOTE

We have included contracts signed up to June 2003 - therefore, the total value of awards made is slightly larger than the sum of awards quoted in Figure 1.

Source: National Audit Office analysis of NESTA data

The distribution of awards between the four nations is fairly even, except for Northern Ireland

1.4 NESTA covers all four nations of the United Kingdom. The extent to which awards have been made to people and organisations in each nation is detailed in **Figure 4**.

1.5 In **Figure 5** we have considered the number and value of awards to each nation in relation to population, in order to illustrate the level of relative over and under representation.

1.6 Broadly, this shows a fairly even distribution of NESTA funding across England, Scotland and Wales. Scotland is slightly under represented, and Wales has received a proportionate number of awards, but of a lower than average value.

4 The number and value of awards to the four nations

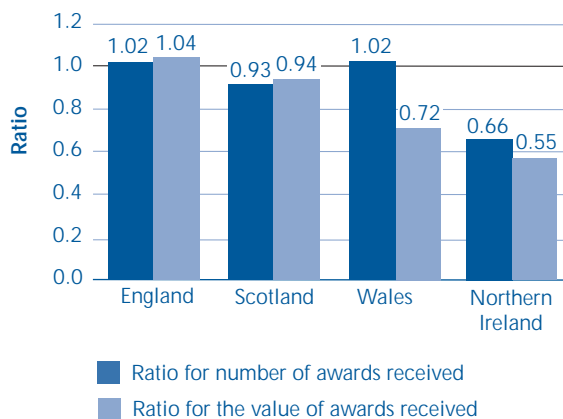
	Percentage of UK population	Number of awards received	Number of awards as a percentage of the total	Value of awards received (£'000)	Value of awards as a percentage of the total
England	83.6	277	85.2	17,415	86.8
Scotland	8.6	26	8.0	1,616	8.0
Wales	4.9	16	4.9	717	3.6
Northern Ireland	2.9	6	1.9	316	1.6
Total	100.0	325 ¹	100.0	20,064	100.0

NOTE

1 Out of the 343 awards contracted by June 2003, 18 are excluded from this analysis because they involve spending across the UK. The majority of these 18 are from the Learning programme.

Source: National Audit Office analysis of NESTA data

5 Ratios for each nation of the share of awards received to share of the population



NOTE

Ratios are calculated for the percentage of NESTA awards for each nation, by number and value, in relation to the percentage of the population. Thus, a ratio of 1.00 would denote a proportion of NESTA awards equal to the proportion of the UK population, a ratio of more than 1.00 denotes a greater share relative to population, and a ratio of less than 1.00 means relative under representation.

Source: National Audit Office analysis of NESTA data

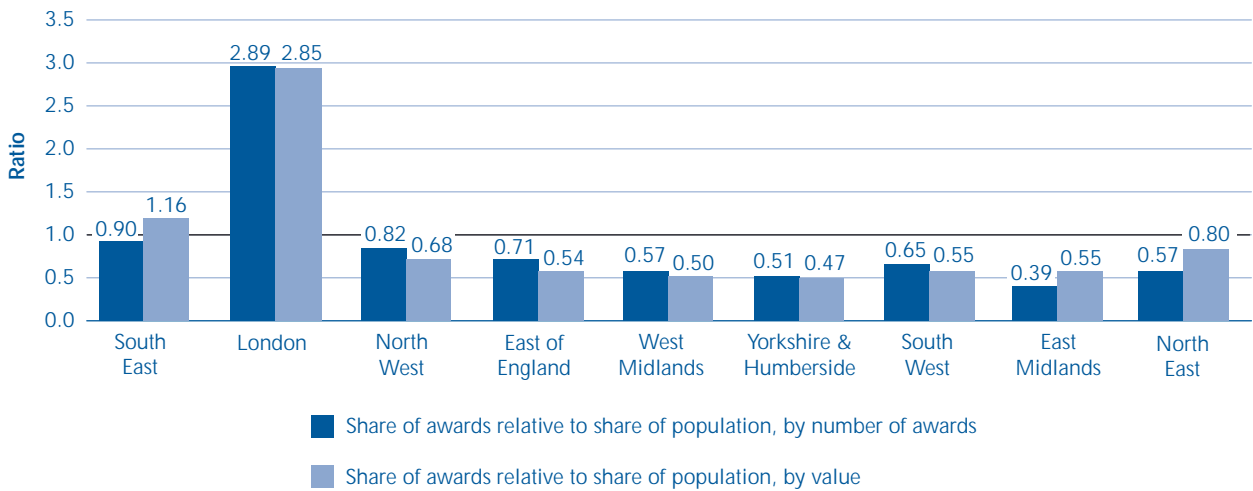
1.7 Projects in Northern Ireland have not benefited from NESTA awards to an extent proportionate with population. However, it should be noted that the under representation in terms of absolute numbers and value of projects is relatively small. At June 2003 there were six awards in Northern Ireland with a total value of £316,000; an equal per capita representation would be nine projects for approximately £575,000.

Within England, London receives a disproportionate amount of awards

1.8 Within England there are more marked variances between regions than there are between the four nations. **Figure 6** shows that London has received nearly three times the number of awards that would be expected for the population, whereas every other region has received fewer awards than would be expected. The East Midlands fares worst of all, with less than half the number of awards that would be expected for its population.

1.9 In terms of the value of awards received in each region, London has also received nearly three times the amount that would be expected, the South East has received slightly more than a proportionate amount, and every other region has received less than would be expected. In these terms, Yorkshire and Humberside has fared worst, with less than half of a proportionate share.

6 Ratios for each English region of the share of awards received to share of the population



NOTE

A ratio of 1.00 for a region would denote that it has received a proportion of the NESTA awards in England equal to its share of the population in England. A ratio of more than 1.00 denotes a greater share relative to population, and a ratio of less than 1.00 means relative under representation.

Appendix 3 shows the actual number and value of awards to each English region.

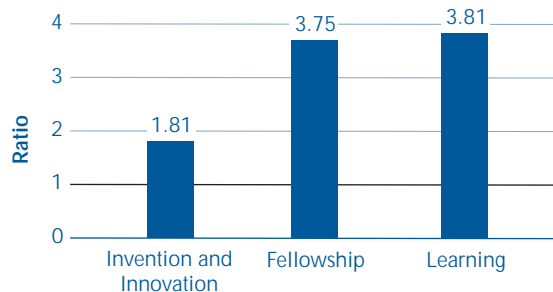
Source: National Audit Office analysis of NESTA data

London is most over represented in the Fellowship and Learning Programmes

1.10 The relative over representation of London, and under representation of other regions, is an issue common to all three programmes though more pronounced in Fellowship and Learning, as shown in Figure 7.

1.11 Under the Fellowship and Learning programmes more than 50 per cent of the awards have gone to people and organisations in London. It is of particular concern that these are the two programmes under which NESTA has a more direct influence over the generation of applications - through nominations in the Fellowship programme and through solicitation or commissioning of projects in the Learning programme (see also paragraphs 2.5 and 2.20). We also noted that 42 per cent of the nominators for the Fellowship Programme, who are appointed by NESTA, were London based. Whilst nominators are not limited to nominating people in their own geographical area, a more representative regional spread of nominators would be more likely to generate more applications from outside London.

7 London is most over represented in the Fellowship and Learning programmes



NOTE

The ratios are for the number of awards in London as a percentage of the total number in England, in relation to London's population as a percentage of England. Thus, a ratio of 1.00 would denote a number of awards proportionate to population and a ratio of more than 1.00 denotes a greater share relative to population.

Source: National Audit Office analysis of NESTA data

NESTA is developing a strategy to address regional distribution

1.12 NESTA acknowledges that, as a UK-wide body, there is a responsibility to ensure equality of access to the programmes across the UK. NESTA staff are aware of the discrepancies that do exist, for example the Northern Ireland under representation, and the disparities between English regions. NESTA has taken some steps to address the unequal impacts in different parts of the UK, but also acknowledges that more needs to be done.

1.13 Specific actions taken by NESTA so far include:

- The appointment of three part-time 'regional agents' to support and promote NESTA. These have been in Scotland, Wales, and, jointly, the North West of England and Yorkshire & Humberside;
- Under the Fellowship programme, the implementation of targets for numbers of nominators¹ to reflect the population in each region; and
- The concentrated use of 'talent scouts' in the East Midlands specifically to nominate people from that area for the Fellowship Programme. This pilot scheme has more recently been extended to the West Midlands.

1.14 We received feedback from stakeholders that we consulted in Scotland, welcoming the appointment of the regional agent there as having been a positive step in stimulating awareness and involvement with NESTA. This appears to be translating into a greater number of applications and awards for Scotland, which in the past has been more under represented than it is now.

1.15 NESTA is now developing a formal strategy to address regional distribution. NESTA resists the idea of quotas for the number of awards to each nation or region within the UK, but stresses its commitment to "*seeking the best potential applicants wherever they may be found*". We sympathise with the resistance to setting actual award quotas because, given the relatively low number of awards, this could well lead to worthy applicants being turned down on the basis of location rather than merit, which could be seen to be at odds with NESTA's core remit.

1.16 However, there is scope for targets to be put in place at a regional level in respect of 'inputs' to the programmes - for example in relation to applications received, nominations made, solicitation of projects, and promotional activities. Such input targets would be appropriate in order for NESTA to demonstrate its commitment to achieving a more reasonable spread of

awards across the UK. We understand that NESTA's strategy to address regional inequalities is likely to include such targets, informed by the current distribution of actual awards.

1.17 NESTA is also planning to consider what other factors may be affecting the varying levels of achievement in different geographical areas. This might include, for example, other regional funding sources and demographic factors. One NESTA Programme Committee member commented to us:

"I think that the diversity of NESTA's applicants is extraordinary. There is also a disproportionate number of awards in London and the South East. But the reasons for these trends are complex and not necessarily in NESTA's control: for example, young artists and creative entrepreneurs are often drawn to the capital as part of their career path."

There is a lack of clarity concerning NESTA's contribution to tackling social exclusion

1.18 In November 2002 the Secretary of State for Culture, Media and Sport wrote to NESTA and commented that there were a number of issues to address during moves to release the additional £95 million in funding. One of these was NESTA's contribution to tackling social exclusion and the Secretary of State proposed "*to agree with NESTA that in future it will place greater emphasis on its contribution to tackling social exclusion, within the overall context of its objects*". It was planned that officials would discuss the finer detail of this and other points in due course, whilst in the meantime NESTA agreed in principle and moves to release the additional funding continued. However, NESTA and the Department have not yet agreed a common understanding on what role or emphasis is expected of NESTA in terms of a contribution to tackling social exclusion.

1.19 At the operational level NESTA is keen to engage with people from a wide variety of backgrounds, who face different barriers to realising their potential. We received comments to this effect from stakeholders; a typical example being that NESTA had demonstrated "*a clear intention and desire to be very inclusive*". There are certainly examples of NESTA funded projects which have a clear objective to target minority or disadvantaged groups, and we witnessed during our attendance at Programme Committees an interest and enthusiasm for such projects. In addition, NESTA's 2003-06 strategic plan includes initiatives to engage with young people facing particular economic or social barriers.

¹ See paragraph 2.5 for an explanation of the role of nominators.

The awards support a great variety of ideas and activities, and most projects are not yet complete

- 1.20 NESTA's programmes each support a wide range of ideas and the people who have those ideas². Projects are awarded funds for a specified period, and the large majority of these are not yet complete.
- 1.21 Many of the achievements, impacts and success of NESTA projects will only be measurable in the long term, beyond the period in which they receive NESTA funds. For example, under the Invention and Innovation programme, NESTA has deliberately supported projects which are at relatively early stages of development - too early to attract a venture capitalist - and it may take considerably longer for a product to reach the market. Similarly, a NESTA Fellow receives support to pursue their work on a particular project over a specified period of time, often three years or more. Impacts from the dissemination and success of that project will often be even longer term.
- 1.22 Of course, it is still essential for NESTA to monitor projects. Monitoring should ensure that funds are being spent as intended, help towards the achievement of milestones and address issues arising. This is dealt with in Part 3.

NESTA is developing a framework for assessing the impact of its programmes

- 1.23 The Learning programme, which has the highest proportion of completed projects, has made most progress in setting up systems to assess the impact of the programme. For example, it has formally defined its particular strategy in the context of corporate goals, and experimented with different approaches, such as assessing groups of projects with similar themes, and explored how to disseminate findings across the education system.
- 1.24 Since mid-2003 NESTA has developed a more comprehensive cross-programme evaluation framework. This is an ambitious framework, which is symptomatic of NESTA's broad remit and ambitious aims, of the variety of projects across the programmes, and of the consideration of wider impacts on society beyond immediate project outputs.
- 1.25 It is important to address evaluation in the early stages of funding programmes, for example to ensure that relevant data is collected, to be clear on what programmes are trying to achieve, and to make plans for how to measure and capture achievements. Evaluation has taken something of a back seat until recently, while NESTA focussed on establishing the programmes, but is now receiving due attention. NESTA recently introduced a new Graduate Pioneers Programme, which is not covered by this study, and we noted that evaluation plans are being integrated into the programme strategy from an early stage.

Part 2

Two programmes have done well to generate applications but one has been less successful

2.1 In this part of the report we consider how effective NESTA has been in attracting applications to the three funding programmes.

The Invention and Innovation Programme has been successful in generating a high level of interest and competition for funds

2.2 The Invention and Innovation programme is open for anyone to apply via the NESTA website. The initial proposals are reviewed independently by external assessors who make recommendations on which proposals should go on to full application stage.

2.3 In order to generate applications NESTA has conducted a wide range of promotional activities. Our discussions with some key stakeholders in the inventor community suggested that, whilst NESTA is not a household name, an innovator who is interested in funding of this sort can reasonably be expected to be aware of NESTA, or to find out about NESTA with minimal research.

2.4 Up to June 2003 NESTA had received 3,864 proposals under the programme, of which 486 were invited to submit full proposals, leading to 146 awards. Whilst there is no meaningful comparison, the application figures certainly suggest a high level of awareness of the programme amongst potential recipients. The figures also indicate a high level of competition for funding between applicants, and such competition provides an important assurance over the quality of applications selected for investment.

EXAMPLE OF AN INVENTION AND INNOVATION PROJECT

MiniMills aims to develop new, cleaner technology to make paper on a small scale. It is a subsidiary of BioRegional, an environmental charity which works with industry to develop sustainable production and lifestyles through practical projects.

MiniMills' new method of paper making would enable the use of a greater variety of raw materials, including straw (it is estimated that four million tonnes of straw goes unused in the UK annually) and wood from sustainably-managed, smaller woodlands. The new method would also provide a more efficient and ecologically sound method for treating effluent, otherwise known as 'black liquor', from the pulp-making procedure.

NESTA's support of £90,500 is to help MiniMills to secure intellectual property rights and to provide legal and technical expertise.

Sue Riddlestone, director of MiniMills, is pictured.



There are concerns about nomination being the main route to the Fellowship programme

2.5 Under the Fellowship programme NESTA has a network of nominators, who are recruited for their level of expertise and achievement in their field. The identity of active nominators is not disclosed publicly because NESTA considers this would put nominators under unfair pressure and could jeopardise the nominator's working relationships with people whose talent is not judged to be exceptional enough for nomination.³ The nominators propose potential applicants to NESTA for consideration, and, in most cases, the nominee is then invited by NESTA to submit a full application. The nominee is not aware that they have been nominated until an invitation to apply is received from NESTA.

Stakeholders sympathise with NESTA's reasons for operating a nomination system

2.6 NESTA chose a nomination system, as opposed to more open forms of application, for the following reasons:

- because external consultation over programme design supported the use of recognised and established experts as the most effective way to source appropriate talent;
- to ensure that the programme could reach individuals whose work could further NESTA's objectives, but who might not apply unprompted;
- to guard against being swamped by vast numbers of applications, which would require extensive administrative resources to sift, and be irresponsible given the relatively few numbers of fellowships to be awarded; and
- to use a different principle to the more traditional open application method used by many funding bodies, and see what lessons could be learned from this.

2.7 Our interviews with representatives of key stakeholder organisations in science, technology and the arts found some support for the nomination system but the balance of opinion was in favour of more openness. Stakeholders' views in favour of the nomination system, which were broadly consistent with NESTA's own rationale, included:

- that it is rational to engage with influential people in creative fields as a way to access those fields;
- that NESTA has a potentially huge clientele, across all sorts of fields and combinations of fields, and could be overwhelmed if the programme was open application; and
- that a diversity of funding mechanisms is a good thing, there is too little such diversity in the UK and NESTA's emphasis on nomination is a different approach to most funding bodies.

However, stakeholders have significant concerns

2.8 Stakeholders' concerns about the nomination system were:

- that the best way to support excellence and maintain quality is through open competition;
- that potentially large numbers of applicants is a management problem faced by many bodies. It can be managed, for example, by clarity of objectives in the application guidance, by performing an initial sift on the basis of brief information before inviting full applications (as NESTA does under the Invention and Innovation programme), or by inviting applications under particular themes each year;
- that maintaining and developing the network of nominators may use more resources than managing an open application programme;
- that, if important application types are not coming forward, nominations could be accepted to complement a predominantly open application scheme, but NESTA's emphasis is the wrong way round;
- that worthy people may know about the programme, but cannot be nominated because, through no fault of their own, there is not a NESTA nominator who knows them. Similarly, a stakeholder organisation cannot encourage exceptional people to apply to NESTA, nor draw them to the attention of a nominator; and

³ The identity of a nominator may be disclosed once they are no longer eligible to nominate, see paragraph 2.10.

EXAMPLE OF A FELLOWSHIP PROJECT

Documentary filmmaker Craig Hornby is using his NESTA Fellowship of £75,000 over three years to progress his vision of creating a community TV network in Teesside.

Craig witnessed localised, participatory television while working in North America and wanted to create something similar for his own community. Craig has set up his own community-based production company - Pancrack Pictures - and has completed *A Century in Stone*, a feature-length film which chronicles the struggles of local miners and ironworkers.

Craig says, "The developments that followed the discovery of iron-ore in the local hills (were) more akin to the American gold rush of the same period. It has never been documented on film in any depth and is not common knowledge even in the town itself. It will reach a wide audience, including my own generation, who would perhaps be more inclined to watch a DVD than sit down to read a history book."



- that there is a danger of particular nominator groups being more engaged and active than others, resulting in the perception of the programme being for "*friends of friends*".

2.9 In our view, the negative perceptions of stakeholders carry a serious reputational risk to NESTA. However, it is also important to consider whether NESTA has actually been successful in generating applications under the nomination system.

NESTA has had difficulty generating sufficient applications

2.10 Up to May 2003 NESTA had invited 299 individuals to become nominators for the Fellowship programme, of which 169 had accepted (57 per cent). Nominators can make a maximum of two nominations.⁴ In fact, 89 of the nominators had made a total of 147 nominations. These figures raise concerns about the breadth of coverage of the Fellowship programme, and thus equality of access.

2.11 In addition to regional coverage (paragraph 1.13), we were also interested to see how NESTA ensured that the nominators were a representative cross section of interests and disciplines, again with equality of access

in mind. NESTA does aim for an equal number of nominators across each of science, technology and the arts, and has introduced a target for the number from ethnic minorities. However, NESTA does not ensure that the network of nominators achieves comprehensive coverage within science, technology or the arts - for example across music, literature or the performing arts. In practice, such an approach would be problematic given the size of NESTA, the breadth of coverage required, and the difficulties of finding nominators. However, the absence of this coverage raises concerns that some exceptional people would have no chance of being nominated as there is no nominator in their field.

2.12 Competition between applicants encourages excellence and quality in selection, and the statistics also raise concerns in this respect. For example, in 2002-03 NESTA's internal target for nominations was 100, whereas only 45 were received. Out of the 34 applications subsequently invited there was a rejection rate of only six per cent. A relatively low rejection rate would be expected, given that applicants have been nominated in the first place, but this is exceptionally low, and NESTA's planning assumption was 50 per cent.

⁴ NESTA sets a limit of two nominations per nominator in order to focus nominators' attention on the truly exceptional candidates, and also to spread the pool of potential fellows more widely.

Initiatives have been introduced to broaden the coverage of the Fellowship programme

- 2.13 NESTA realised that more nominations were required in order to increase the competitiveness of the awards. Therefore, effectively from early 2002, NESTA devoted resources to increasing the number of invitations issued to people to become nominators. However, with the conversion rate of invitations to actual nominators falling, and the proportion of nominators who then actually make nominations remaining static, more effort than before is required to generate each application.
- 2.14 In terms of increasing the number of nominators NESTA has also taken two more targeted steps. Firstly, the recruitment of nominators in specific regions - the East and West Midlands - where the Fellowship programme is particularly under represented. Secondly, the appointment of 50 organisations as nominators, with a particular view to reaching scientists, of whom there are relatively few in the programme.
- 2.15 In terms of open access, there has been a smaller element of the programme to which people are publicly invited to apply. This is known as Dream Time and was piloted in 2002, with six awards made as a result. It is aimed at exceptional achievers with at least ten years experience in their field who wish to take structured time away from their work to pursue ideas and activities which will benefit both themselves and their sector. Dream Time was reopened for a period in 2003, and NESTA expects to make a further 12 awards of up to £40,000 each.

However, significant concerns remain about the viability of nomination as the primary route to funding

- 2.16 We think it is important to acknowledge that NESTA would not necessarily have reached the people and sectors that it has, without having approached them via nominators. As one Programme Committee member said:

"An open application process inevitably favours those with confidence to put themselves forward, and there is no doubt that many of the existing fellows would not have applied to an advertised programme."

- 2.17 We would also caution against the view that there is a stark and simple choice between NESTA's emphasis on nominations and the 'open application' approach. All funding bodies design eligibility and selection criteria, in accordance with their remit, which effectively restrict both who can apply and the likelihood of success.

- 2.18 Still, concerns remain that nomination is the primary route to funding in this case. These are in terms of stakeholders' negative perceptions, equality of access, competitiveness, and sustainability. These concerns are magnified in the context of the new monies granted to NESTA, part of which is intended to increase the number of Fellowship awards.

- 2.19 There may well always be a place for a significant nomination element to the Fellowship programme, or other top down methods, to access particular fields and innovative projects. However, as another Programme Committee member observed:

"The nomination process has its problems. Mainly it is too indirect and some obvious candidates for Fellowship are missed for lack of a nominator. Dream Time gets around this, but at too small a volume."

EXAMPLE OF A LEARNING PROJECT

The Northern Ireland Film and Television Commission received £75,000 to customise its digital film archive, in collaboration with the Nerve Centre, Londonderry's creative learning centre. This is to support the teaching of history, citizenship and moving image arts in secondary schools.

Footage of the Titanic docked in Belfast Harbour and of life in the trenches during World War One are among the moving images that will be made available to students in Northern Ireland as part of *Creative Learning in the Digital Age* - a new educational version of the Archive. The aim is to explore how digital images can promote creativity in the classroom and explore relevant new teaching methods.



The Learning Programme has effectively combined a mixture of soliciting projects with being responsive to enquiries

2.20 NESTA set out originally to do its own research and investigation of potential applicants for the Learning Programme. The main focus was to be on soliciting⁵ applications - through researching potential partners involved in pioneering work. There was also to be an element of commissioning projects to address identified gaps in provision. However, as a result of building a profile and an expanding network of contacts, NESTA received an increasing number of unsolicited approaches and proposals.

2.21 NESTA acknowledged the potential value and interest of these unsolicited proposals and so incorporated this as a route to application. In fact, 40 per cent of Learning projects now originate from such enquiries, as opposed to 35 per cent from solicitation and 16 per cent from commissions.⁶ However, two stakeholders did comment to the effect that NESTA should open up the Learning programme, because it is too dependent on NESTA's own knowledge. This suggests that some parties are unaware that NESTA does now actively welcome unsolicited proposals.

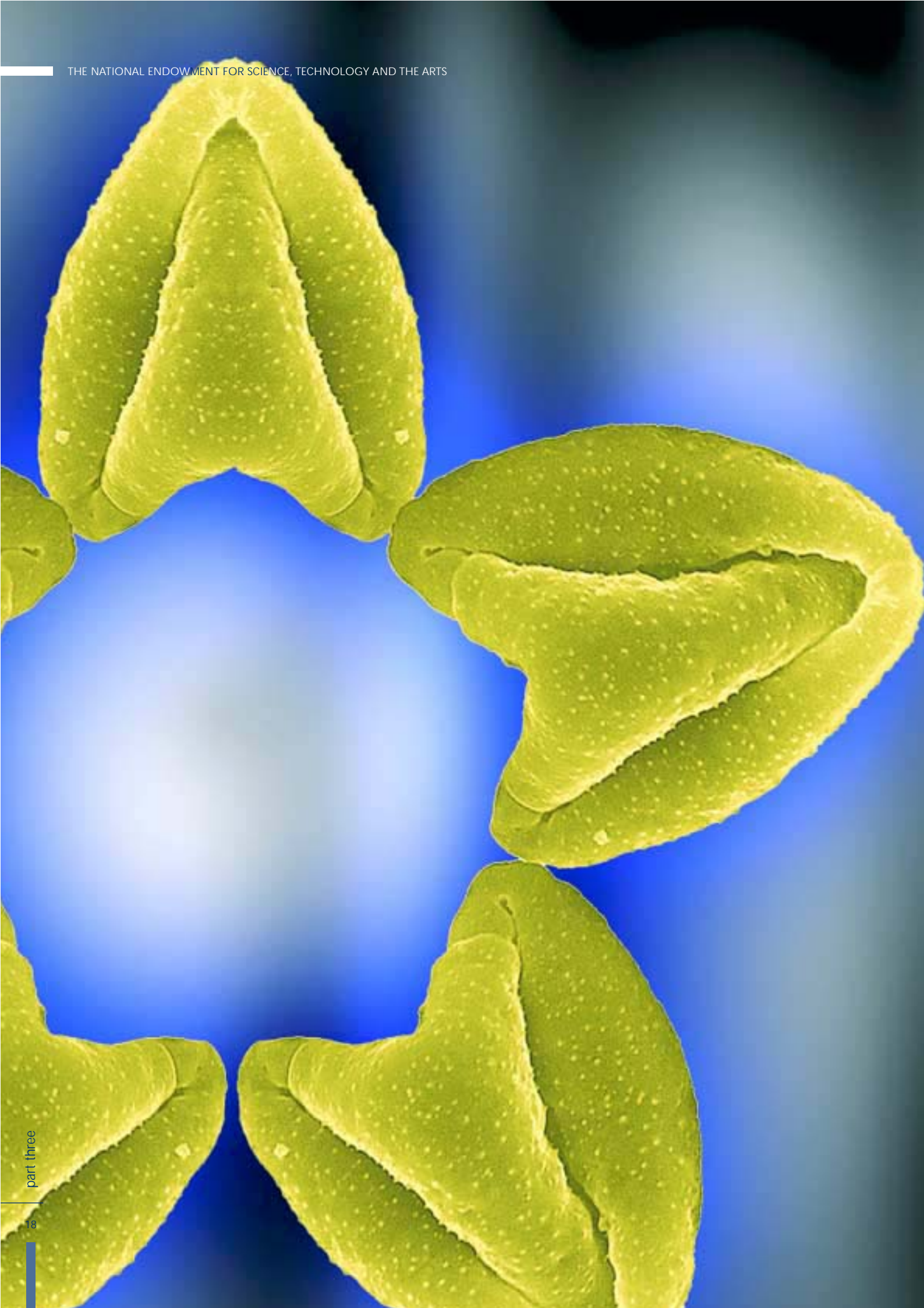
2.22 We asked stakeholders for their views on the hybrid approach to accessing the programme, and the balance of opinion was very supportive. A significant top down element to generating applications was seen as appropriate to reach pioneering and innovative projects, and those addressing researched gaps in provision. But NESTA's move to complementing solicitation with being more responsive to proposals was also welcomed because, as one stakeholder commented, "*they (NESTA) can't possibly be everywhere and know everything*".

2.23 We received positive feedback from stakeholders complimenting NESTA on its efforts to consult with key players and strategic organisations in the field, in order to raise awareness and find out about potential projects. We also received feedback from stakeholders, who had been involved in particular projects and proposals, praising the constructive attitude of NESTA in discussing and developing proposals received.

2.24 Overall, the combination of available routes to funding under the Learning programme seems to be working well and to enjoy the support of stakeholders. In order to sustain the programme in its current form it will be important for NESTA to build on its activities to identify potential projects and opportunities, as well as ensuring parties understand that they can also approach NESTA with a proposal.

⁵ 'Soliciting' means that NESTA makes the initial approach to the potential applicant, although this still does not guarantee funding. The potential applicant is invited to submit a proposal, which would then enter the selection process for consideration.

⁶ The remaining nine per cent are follow-up awards to continuing projects, or projects which initially applied to the Invention and Innovation programme and were referred on to the Learning programme.



Part 3

There are sound processes and criteria for selecting projects, and sound principles for managing the portfolios of awards

3.1 In this part of the report we consider whether NESTA has appropriate procedures in place for selecting which projects to support, and we comment on the systems in place to manage the risks being taken.

Application processes and selection criteria have been tailored for each programme, but with some common principles

- 3.2 The path of an application under each programme is illustrated in **Figure 8**. This shows that, whilst the routes into the application process differ, the principles of external review, case report and Committee decision are then common to all three programmes.
- 3.3 NESTA has defined a set of selection criteria to inform the decision on the application. Broadly, these are a mixture of criteria concerned with innovation, ability to deliver, and impact. These criteria underpin the assessments commissioned from independent experts,

and the case reports prepared by NESTA staff for the Programme Committees. **Figure 9** shows the selection criteria used for each programme.

3.4 Whilst the selection criteria represent a consistent framework of judgements against which to assess all applications under a programme, they are interpreted quite flexibly. A project may be relatively weak in one area, but still be supported due to its strength and potential in other areas, or because a risk can be addressed through mentoring or other project support. Judgements are certainly exercised by NESTA staff, Programme Directors and the Programme Committee in assessing applications, as opposed to, for example, reducing the assessment to a total of points scored under each of the criteria. We welcome a process which enables NESTA to look beyond numerical assessments, subject to appropriate controls being in place - for example, rigorous consideration of projects by the Programme Committee.

8 The application process



Source: NESTA

9 Programme Selection Criteria

Invention and Innovation	Fellowship	Learning
<p>At initial proposal stage:</p> <ul style="list-style-type: none"> ■ Innovation and creativity ■ Commercial and social potential <p>At full application stage:</p> <ul style="list-style-type: none"> ■ Inventiveness / originality ■ Status of intellectual property protection ■ Potential market and returns to NESTA ■ Level of competition ■ Management expertise ■ Finance required ■ Overall shape of project 	<ul style="list-style-type: none"> ■ Excellence ■ Promise ■ Creativity ■ Innovation ■ Commitment ■ Usefulness ■ Applicability ■ Value for money 	<ul style="list-style-type: none"> ■ Partnership organisation ■ Potential to nurture / identify talent and creativity ■ Innovation ■ Target audience ■ Management ■ Scope for wider dissemination ■ Strategic fit

Source: NESTA

Programme Committees are well supported by NESTA staff

3.5 The Programme Committees, which make the final decisions on whether to support a project, are made up of independent experts in their fields, to whom NESTA submits case reports for consideration. Appendix 4 lists the membership of each Committee. We observed the Programme Committees in action and also sought their confidential views on NESTA's selection process.

3.6 The Programme Committee members themselves were impressed with the information and analysis received about each project from NESTA staff. There were a few suggestions from members about how the structure of discussion and paperwork could be improved, which we have provided to NESTA staff to take forward. However, these should not detract from the dominant message that the Committees are well served. For example, one member commented that:

"I have worked in and around NDPBs for 20 years and I have not met a Committee better serviced."

3.7 At Programme Committee meetings we witnessed a high level of engagement, enthusiasm and detailed discussion from members; using their expertise and knowledge to scrutinise applications. We observed that members make many useful contributions to project assessment - for example, highlighting potential risks to delivery, offering insights and suggestions to improve a project further, or approving a project subject to resolution of a particular issue.

3.8 If a project is approved then the Committee's contributions should be incorporated into project contracts and monitoring or mentoring⁷ arrangements as appropriate. However, we noted that the formal record of the Committee discussion is brief, and that it is not kept on the project file. These two factors increase the risk of losing the added value from Programme Committee members' contributions.

Projects are inherently risky

3.9 NESTA makes it quite clear that its remit is to be prepared to take informed risks on projects, and acknowledges that not all projects will succeed. Experimental approaches, challenges to conventional wisdom, crossing traditional discipline boundaries, uncertain outcomes - such characteristics define the programmes rather than being the exception. The key stakeholders from science, technology and the arts, with whom we consulted as part of the study, consistently welcomed this remit. For example, commenting:

"The UK has a long standing reputation of failure to follow innovation, a risk averse approach, a failure with serious consequences economically, socially and culturally. NESTA is a positive contribution to counter this, if not the only thing that's needed"; and

"They (NESTA) are prepared to take risks and accept that in some cases things won't work, and that's the only way we learn at the end of the day. Where failure is not an option it is actually counter-productive... people play for safety."

⁷ 'Mentoring' is described more fully in paragraphs 3.14 to 3.16.

3.10 Of course, applications must still be well supported and considered with rigour by NESTA staff and the Programme Committees, as detailed in the paragraphs above. But given that there is inherent risk in the projects supported, a key question is then whether the risks which are taken are effectively managed by NESTA, in order to maximise the chances of success.

There are several ways in which NESTA manages the risk of projects failing, and these generally work well

3.11 Several aspects of our study methodology cover NESTA's management of the portfolios in general, and specifically its management of the risks that can contribute to project failure. Examples of these risks include inadequate support for the awardee, acquisition of new technical skills, awardees' financial inexperience, and continued synergy with NESTA values. In the following paragraphs we describe the main features of this risk management and our findings.

Objectives and milestones

3.12 Each project should have clear objectives and milestones, against which progress can be monitored. During our case review of a sample of projects we examined the objectives and milestones and found a clear improvement over time in their definition. This supported the anecdotal evidence of NESTA Programme Directors who had described to us how the organisation had learned lessons and made improvements in this respect. We noted the contrast between some earlier projects with negligible milestones against which to monitor progress, and more recent projects with milestones covering a breadth of areas such as design and technical issues, commercial considerations, business management, reporting of progress, and evaluation.

3.13 NESTA finds most difficulty defining specific and measurable objectives, and meaningful milestones, under the Fellowship programme. This is because of the relatively greater focus on the individual's development, as opposed to the product, and a concern that being overly prescriptive may be counter-productive to the individual's creativity. An example for a Fellowship award is provided in **Figure 10**, showing how an individual Fellowship award's objectives may be broad, but can be supported by milestones to monitor progress. With this programme it is particularly the case that creative judgements and subjectivity must come into play in assessing progress: it can never be a precise science.

Mentoring

3.14 NESTA appoints mentors for the majority of projects supported, in consultation with the awardee.⁸ NESTA describes the role of a mentor to be *"to ensure that the assistance provided by NESTA is used effectively and that, during the lifetime of the award, the awardee can turn to a source of overall guidance, objectivity, moral support and advocacy"*. The individual emphasis of the mentor varies according to the nature of the project in question. We surveyed NESTA's mentors for their views and compared their (very positive) views about their impact on projects with views from the awardees themselves. The awardees felt that provision of a mentor was the most useful non-financial contribution of NESTA, with seven out of ten saying it had a great deal or fair amount of impact on their project. There are lessons to learn from the less successful mentor to project matches - one in ten awardees felt the mentor assistance had been poor - but NESTA should generally be pleased with the success of mentoring.

10 Example of objectives and milestones for a Fellowship award

Mark Jones - Research on the management of pain and trauma (award made in 2002)

Research suggests that cognitive behavioural techniques can reduce the pain and distress associated with medical procedures. Mark Jones aims to use computer technology to make such techniques directly accessible, particularly for children, with on screen scenarios and puzzles to help patients understand what they are going to face, why and how the procedures will work physically.

The 18 month award is specifically for Mark to undertake a period of concentrated research and personal development in this field. Objectives are not detailed more specifically, but progress is assessed against, and award payments are dependent upon, certain milestones being met. These milestones include:

- appointment of a mentor;
- investigation of a placement within business;
- research visits to information technology and medical centres of excellence;
- purchase of key software;
- completed research into product potential; and
- production of academic papers and progress reports.

⁸ Strictly, these are termed 'Mentors' under the Fellowship programme, 'Champions' under Invention and Innovation, and 'Supervisors' under Learning. However, the principles are very similar across programmes, and for convenience they are all termed mentors here.

- 3.15 In terms of potential improvements to the quality of mentoring, there were two recurring suggestions from the mentors. Firstly, that it would be helpful for mentors to have more opportunity to meet with each other to share experiences, pool ideas and build contacts. Secondly, most noticeably within the Invention and Innovation programme, that the range of assistance sought by projects might be better offered in some cases by a combination of mentors with different strengths.
- 3.16 We asked mentors to describe how they perceived their role and there were several common themes; for example, providing encouragement, advice and suggestions, and making introductions. However, there was a noticeable difference between the programmes concerning the reporting of project progress to NESTA. Six out of 10 Learning project mentors mentioned reporting to NESTA as a key part of their role. This reduced to three out of ten for Invention and Innovation mentors, and only one out of ten under the Fellowship programme. Reporting from mentors to NESTA plays a key role in project monitoring - identifying problems and risks to success that NESTA might otherwise not discover - and its importance should be clear to all mentors.

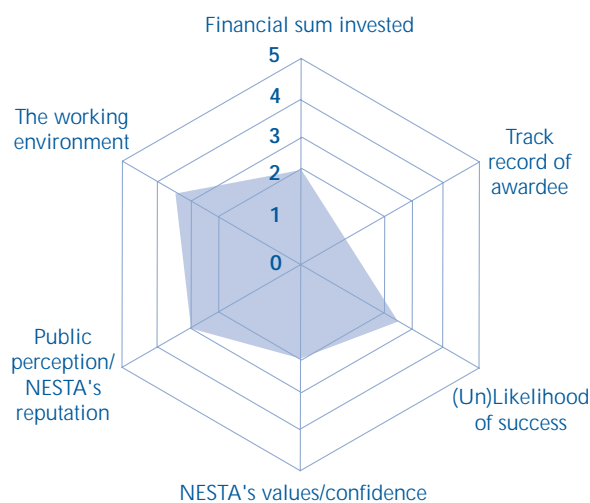
Portfolio reviews

- 3.17 Under each programme NESTA now produces a six monthly portfolio review, which takes the form of a report to the Programme Committees. These reviews consider the shape and direction of the programme as a whole, and also the individual projects making up the portfolio. The programmes have each designed their own methods for assessing the status of individual projects on an ongoing basis.
- 3.18 The portfolio reviews provide an important control in terms of NESTA staff reporting to the Programme Committees and Trustees, and have also introduced an important discipline to the review of project progress. The assessments of the health of each project contained in the reviews should be used to prioritise and focus project support on where it is most needed, and it is the responsibility of NESTA Programme Directors to ensure that this happens.
- 3.19 Reviews of the Fellowship Programme also include a risk map which plots the on-going likelihood of different types of risk materialising. It covers wider risks to NESTA corporately as well as those to the success of the individual project. **Figure 11** shows how this approach works. We commend it as an effective tool to arrive at an informed view of what factors are most likely to de-rail a project and what sort of exposure NESTA has as an organisation. We consider that it should be applied more widely.

Learning Lessons

- 3.20 Given the risk taking remit of NESTA it is perhaps especially important that NESTA seeks to learn lessons for the ongoing management and success of the programmes. We judge NESTA to be a flexible and responsive organisation, keen to learn and to improve its levels of service. There are several examples of NESTA having refined its approach in the light of experience, for example; on the early appointment of mentors, on the need for links to other investors for the future of Invention and Innovation projects, on provision of information to Programme Committees, on the need to define meaningful objectives and milestones, and on the risks of focusing exclusively on the technical aspects of a project at the expense of business issues.
- 3.21 We noted that, for the Invention and Innovation programme, NESTA includes a section on lessons learned within the six monthly portfolio review. This is a sound practice to ensure that issues are captured formally in the organisation's memory, which increasingly becomes a concern as organisations grow, and as staff and Committee members move on.

11 Example of Risk Map for a Fellowship Awardee



Comments

- Financial sum invested: The more invested, the greater the risk
- Track record of awardee: Taking a risk on a novice?
- (Un)Likelihood of success: The determination of the awardee, set against the ambition of the proposal
- NESTA's values/confidence: NESTA's values? Would the award enhance or damage morale or confidence?
- Public perception/ NESTA's reputation: How enthusiastically would the award be perceived?
- The working environment: Is the awardee working in a high risk field of activity?

Source: NESTA

Part 4

The existing performance indicator is not a robust measure of operational efficiency

4.1 NESTA's Financial Directions state that it shall "establish adequate procedures for appraising, monitoring and evaluating the value for money of its administrative expenditure and operational efficiency". In this part of the report we consider what measures of efficiency exist for NESTA's non-award spending.

Typically, over 50 per cent of NESTA's expenditure is on awards to projects

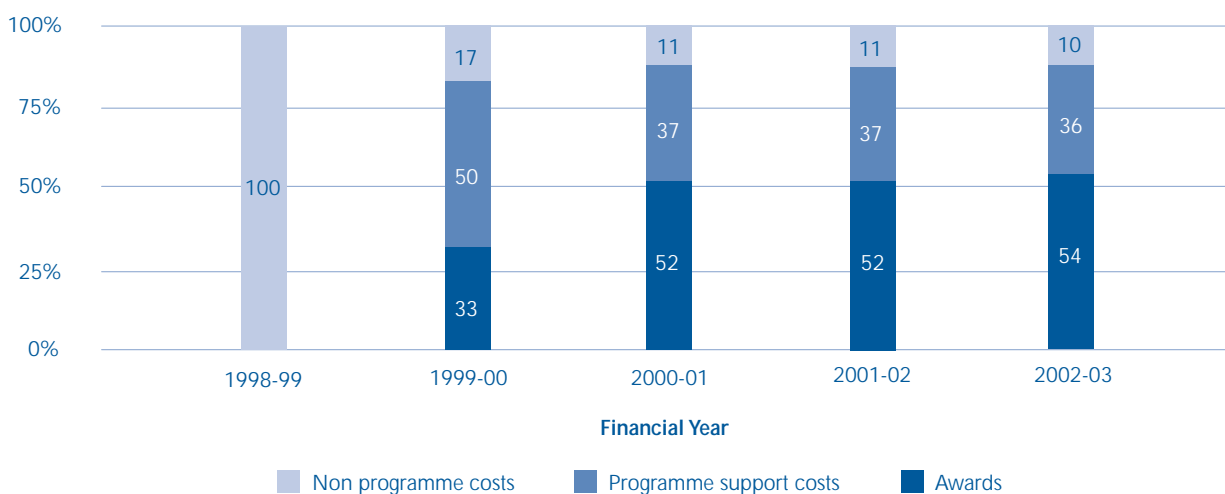
4.2 NESTA has awarded £19.6 million to projects, out of total expenditure of £40.2 million up to March 2003; a figure of 49 per cent (see also Figure 1). However, there were inevitably start up costs incurred to establish the organisation and to launch the programmes, which made non-award expenditure higher in the early days. In the last three years award expenditure has consistently been over 50 per cent, as illustrated in **Figure 12**.

The existing performance indicator has the potential to hide inefficiencies

4.3 One of NESTA's five strategic aims for 2003-06 is to 'strengthen NESTA as an organisation'. NESTA plans to achieve this, in part, by "deriving greater value from our overheads and becoming more efficient as an organisation". The associated measure and target is "Proportion of expenditure allocated for non-programme costs dropping from 12% to 9%".

4.4 'Programme expenditure' includes both the awards themselves and programme support costs, of which the largest single element is staff costs. Centrally incurred costs, such as the human resource and finance functions, rent and information technology, are attributed 70 percent to programme support, with the remaining 30 per cent being the 'non-programme costs'.

12 The proportions of NESTA expenditure on awards, programme support and non-programme, 1998-99 to 2002-03



Source: National Audit Office

4.5 This methodology has the potential to hide inefficiencies if direct programme support costs rise without a corresponding increase in the value of awards made. This would result in non-programme costs being a lower percentage of total expenditure - an apparent efficiency improvement.

The existing performance indicator relates only to part of NESTA's non-award spending

4.6 In October 2002 the Science and Technology Select Committee expressed some concern over NESTA's administration costs and commented "*we hope to see administration decreasing as a percentage ...*". In its response to the Committee NESTA anticipated that this would be the case. The Department also responded to the Committee, agreeing that administration costs should decrease, and that officials would work with NESTA to develop performance indicators for these costs.

4.7 When the Secretary of State for Culture, Media and Sport wrote to NESTA in November 2002, during moves to release the additional £95 million in funding, she commented "*I want our officials to continue to work together to ensure that each of the issues raised by the Committee has been satisfactorily addressed. This should include the development of new performance indicators in relation to NESTA's non-programme administrative expenditure.*"

4.8 Because of its unique funding arrangements, there is no Funding Agreement between NESTA and the Department or the comprehensive set of performance measures that normally goes with a Funding Agreement. NESTA does, however, report internally on levels of expenditure against target budgets for most categories of expenditure.

4.9 While there is now a published performance indicator in respect of non-programme expenditure, as detailed above, albeit noting our concerns about its potential to miss inefficiencies, there is no performance indicator in respect of the non-award costs which are incurred under the 'programme support' heading. For example, in 2002-03 the existing indicator related to £1.3 million of non-programme costs, but not directly to the more significant £4.8 million of programme support. Approximately £3 million of this £4.8 million is covered indirectly, because it is part of the central costs that are apportioned between non-programme and programme support (see paragraph 4.4). Total programme support costs since NESTA's inception have been £15.1 million, out of total programme costs (i.e. including awards) of £34.6 million to March 2003.

4.10 Besides staff costs, NESTA's programme support heading includes project assessment and monitoring, agency staff, communications and publicity, consultancy, information technology, legal fees, travel and subsistence, staff recruitment and training, and shares of accounting costs such as depreciation and devaluation. Because the large part of these non-award costs are classified as programme support, they are partly not covered by performance indicators at all, and partly covered only by extension of the non-programme element. Action must now be taken to address this.

4.11 We are not suggesting that the definition of appropriate performance indicators for non-award costs is the only relevant action for an organisation such as NESTA to measure and control efficiency. However, if a decision is made to set an indicator, that indicator needs to be robust and comprehensive. Also, our criticism of the existing performance indicator for non-award costs should not be read as comment on the internal financial controls of NESTA, which are not the subject of this report.

NESTA and the Department should agree a performance indicator for the level of programme support costs

4.12 There will be several factors for the Department and NESTA to take into account in defining appropriate performance indicators for NESTA's non-award costs. In the following paragraphs we highlight some of these factors in order to contribute to this process.

4.13 NESTA's corporate aims, and the strategies to achieve these aims, do primarily concern the awards to projects - in terms of distributing funds, monitoring and support, evaluation and publicity. However, to think in terms of NESTA purely as an award distributor would not do justice to the broader interpretation of its remit, and the associated activities. For example, promoting innovation and creativity in a wider sense through campaigns and events, or disseminating learning through seminars and conferences.

4.14 These wider activities have cost implications, which are currently attributed to programme support costs, and thus programme expenditure as a whole. Yet NESTA will sometimes refer to the same programme expenditure totals as being the sum of what the awards are 'worth'. There is scope for confusing messages here: on the one hand, the sum of awards is considerably less than total programme expenditure; but, on the other hand, not all of the programme support costs, which is the balancing figure, relate to direct management of the awards

programme. There is a risk that NESTA could give the impression of having awarded more money to projects than it actually has, but also the risk that it can appear to have spent more administering the awards than it actually has, and not do justice to its wider activities.

4.15 In order to address this anomaly, we are recommending that NESTA should separate the costs of award programme support from the costs of wider activities consistent with its broader remit. NESTA and the Department should then agree an appropriate target ratio for the level of programme support costs in relation to the level of actual awards. This would address the issue of transparency and the spirit of both the Select Committee's and the Secretary of State's concerns.

4.16 In agreeing a ratio for the level of programme support costs, due account must also be taken of the nature of NESTA's remit and approach. NESTA is taking informed risks, and then devotes significant resources to managing those risks. This takes a variety of forms, such as mentoring, promotional support, specialist advice on marketing or business planning, or introductions to potential partners. All of these have financial costs to NESTA, which are categorised as programme support.

4.17 This assistance given to awardees by NESTA, beyond the actual award, is often termed the 'added value support'. It is also helpful to think of this support in the sense of NESTA making investments, as opposed to grants, and spending its own resources to try and maximise the chances of the investment being successful. The ratio of programme support costs to awards should not create a disincentive for NESTA to offer an appropriate level of ongoing support.

4.18 Benchmarking the level of programme support costs compared with other organisations would have potential, particularly now that NESTA is getting beyond its formative years in terms of having established structures and procedures. However, due account must be taken of the definitions of programme and non-programme costs, which may differ between organisations; the key area being which costs are attributed to programmes.



Part 5

Falling interest rates caused severe financial difficulties

5.1 In this part of the report we examine NESTA's performance in investing its endowment and highlight some wider issues associated with providing funds through endowments.

Falling interest rates severely reduced returns from the endowment, and meant NESTA had to return to Parliament for additional funds to maintain its levels of activity

5.2 When NESTA was set up in 1998 it was envisaged that its £200 million endowment would be capable of generating returns of £10 million to £12 million a year. These returns would be used to finance its award programmes.

5.3 The endowment itself is invested with the Debt Management Office (previously the National Debt Commissioners). Until June 2003 the only investment instrument used for these funds was short-dated Treasury Bills, which meant NESTA would be very exposed should interest rates fall. By 2002 interest rates had fallen to the extent that NESTA's income was reduced to £8 million a year.

5.4 This reduction in income was a significant factor behind NESTA's request for additional funding in 2002. The further £95 million that they were awarded included a £50 million increase for the endowment that was intended to raise NESTA's income back to £10 million, taking account of the new interest rate conditions.

The Financial Directions imposed restrictions on the investment instruments that NESTA could use and these are likely to have reduced income further

5.5 The parameters for NESTA's investment strategy were defined in the Financial Directions issued by the Department for Culture Media and Sport in 1998. These required the endowment to be invested with the National Debt Commissioners and in specific investment instruments specified in the Trustee Investments Act 1961. However the Directions also required NESTA to 'preserve the total capital of its endowment' and this caused NESTA significant difficulties.

5.6 Acting on legal advice NESTA interpreted this phrase as meaning that the total capital value of the endowment must be preserved at all points in time. While the investment instruments referred to in the Financial Directions would maintain the value at the point of maturity, most do not guarantee this throughout the life of the investment. So, in effect, NESTA felt that it could only invest in short-dated Treasury Bills (maximum term - six months).

5.7 To offset the risk of interest rates falling it is usual for investors to spread their funds over instruments of varied length, including some with terms covering several years. If NESTA had done this from the outset it would have been able to protect itself, to some extent, against the reductions in returns that it experienced, without any risk to the capital value of the endowment. It would be too speculative to attempt to put a precise value on the impact this had on NESTA's income, though it would have been significant. In the shorter term such an approach should have ensured returns were close to the required £10 million though within two or three years, unless interest rates picked up, returns would gradually decline.

5.8 NESTA and the Department for Culture Media and Sport were in discussion about this anomaly in the Financial Directions from 1999, and in June 2002 the Department issued a note of clarification to confirm their acceptance that 'at any given time before maturity of some investments, the actual value may be less than the original value'. In June 2003 NESTA began implementing its new investment strategy which involves investing the endowment in five £50 million tranches, with terms of 1-5 years.

NESTA's approach to investment of the interest from the endowment has been sound

5.9 Until the Financial Directions were clarified NESTA felt there was no scope for any active management of the endowment itself. However the Financial Directions allowed NESTA wide freedom in terms of how they could invest the interest earned by the endowment and it needed to establish an approach to carrying this out. Consequently NESTA recruited an independent investment adviser (initially William M Mercer, now Hymans Robertson) and a fund manager (Schroder).

5.10 The value of the interest fund rose as high as £17 million in 2001. However by March 2003 it had reduced to £12 million as a result of the falling stock market and NESTA's need to make withdrawals to fund activities. By June 2003 the value of NESTA's investments of interest had fallen by 2.9 per cent since inception. This compares favourably to the benchmark⁹ performance which is a fall of 3.6 per cent over the same period.

5.11 On the adviser's suggestion NESTA invested sixty per cent of the interest fund in equities and forty per cent in bonds. Clearly, and with the benefit of hindsight, it is the case that NESTA's interest fund would now be healthier if it had all been invested in bonds rather than equities. However it is not reasonable to expect NESTA to have anticipated the dramatic drop the equities market experienced between the second half of 2001 and the first half of 2003. Given that NESTA's endowment was invested in very secure instruments, and that this represented the vast bulk of its funds, it would be unfair to criticise NESTA for investing this relatively small element of its funds in equities on a longer term view and in the hope of making significant gains if the market became buoyant.

5.12 Overall we found that NESTA's approach to investing the interest fund was thorough and appropriate. It drew in appropriate advice and expertise and its decisions were informed by clear analysis of the options and the risks associated with them. In addition it took a sensible approach to its operational planning: in assessing how much it could spend in the coming period it did not over-stretch itself so that it risked jeopardising operations at critical points.

When public funds are used to make permanent endowments careful attention must be paid to sustainability and managing interest rate risk

5.13 NESTA is still the only public body that relies on a permanent endowment for the main part of its funds although there are other cases where public funds are being used to provide permanent endowments to bodies outside the public sector, for example to charities, for activities that are intended to continue into the longer term. While it is too early to draw conclusions about whether funding NESTA through the endowment mechanism, rather than through annual grant-in-aid, has been successful, nevertheless the experience of NESTA to date has shed some useful light on the debate.

5.14 NESTA, and other supporters of the endowment funding mechanism, cite the benefits in terms of providing NESTA with greater independence and promoting a long-term approach to planning and policy within a framework of accountability to the Department. They argue that the leaders of the organisation will take on a wider sense of responsibility to deliver because they are given full control of the organisation.

5.15 In financial terms though, particularly when interest rates are low, the case for funding a public body through permanent endowment is more difficult to make. It would have to be strong enough to justify tying up a much larger endowment in order to achieve a reasonable level of return for a body to operate with.

5.16 The experience with NESTA, including its need to return to Parliament to seek additional funds, shows how exposed to interest rate risk a body funded through permanent endowment is. The new money provided to NESTA was split almost equally between endowment top-up and annual allocation and the effect of this is that, for the next three years at least, NESTA is less vulnerable should interest rates fall further.

⁹ The benchmark is a combined measure that compares NESTA's equities against the FTSE All-share Index and compares NESTA's bonds against the FTSE All Stocks Up to 5 Years Gilts Index.

5.17 Going beyond the issue of interest rates being much lower than in 1998 when NESTA was set up, there is still a wider question of sustainability. Even with an endowment as large as £200 million it would not be realistic for NESTA to attempt to preserve its value in real, as opposed to cash, terms while still having adequate resources for its operations. Effectively, before the new money, NESTA was in the position that either it had to develop a secure alternative income stream, which it is not clear will be possible, or its capacity to make awards would whittle down over time.

5.18 It is also important not to lose sight of the necessary burdens that managing an endowment imposes on a body. By September 2003 NESTA had spent £235,000 on external advice and fund management in addition to the considerable time devoted by Trustees and staff.



Appendix 1

Study Methodology and summary results of work packages

The methods we used

- 1 The main elements of our work were as follows:
 - Semi-structured interviews with stakeholder organisations in science, technology and the arts
 - Survey of Programme Committee members
 - Survey of the mentors used by NESTA to support projects
 - Review of case files
 - Survey of awardees (commissioned jointly with NESTA)
 - Interviews with a sample of Trustees
 - Interviews with staff in NESTA and the Department for Culture, Media and Sport
 - Review of key strategic documents
- 2 The stakeholder interviews, case review and three surveys are summarised in the following paragraphs.¹⁰

Stakeholder interviews

- 3 In consultation with NESTA we identified 40 organisations as key stakeholders from the science, technology and arts communities and approached them to perform semi-structured telephone interviews. This resulted in our performing 24 interviews during July and August 2003, with one additional organisation submitting a written response to our questions. We asked them about their awareness of NESTA, the accessibility and coverage of the different funding programmes and the impact which these programmes are having.
- 4 Stakeholders felt that potential applicants to the Invention and Innovation programme would be likely to hear about NESTA. However, we received comments that NESTA was not yet seen as source of investment opportunities for the private sector; an issue which NESTA is actively seeking to address now that it is building a track record.
- 5 Awareness of NESTA Fellowships was primarily through having heard about individuals who had been supported and the receipt of NESTA news bulletins. We did receive feedback that this programme did not seem to be reaching the science community; again an issue of which NESTA is aware and is seeking to address.
- 6 Stakeholders in the education sector commented that they had been actively consulted and approached by NESTA and gave us a generally positive message about their awareness of NESTA's work. This is particularly important given the solicitation approach of the Learning programme being dependent on NESTA's knowledge of the sector, coupled with NESTA's partners' role in generating unsolicited proposals.
- 7 The issue of access to the Fellowship programme prompted a great deal of comment from stakeholders, the balance of opinion being that the programme should be more transparent. The emphasis on nominations was considered to increase the risk of bias and to reduce the accessibility and coverage of a programme aimed at support to individuals, despite some stakeholders also seeing the benefits of using nomination as a filter and as a means to access particular fields.
- 8 Views about the top down approach to generating applications for the Learning programme were more positive among stakeholders, with a perception that it was an acceptable and appropriate approach. Several stakeholders felt that NESTA tries to encourage projects which demonstrate a contribution to social inclusion.
- 9 Stakeholders considered it too early to judge the overall impact of NESTA, although some felt that NESTA could have achieved more to date. An area where NESTA was seen as already having made a positive impact was in combining disciplines such as art and science. NESTA's willingness to take risks and fund experimental projects was also seen as making a positive contribution to creativity and innovation. Recognising that the overall impact of NESTA will be difficult to measure in the short term, a number of stakeholders noted that it was still important to ensure that mechanisms are in place to monitor and evaluate the impact of awards.

¹⁰ We have provided more comprehensive reports to NESTA directly.

10 The list of stakeholders that we consulted is as follows:

Arts and Humanities Research Board
 Arts Council England
 Association for Science Education
 Association for Women in Science and Engineering
 Biotechnology and Biological Sciences Research Council
 British Venture Capitalist Association
 Design Council
 ECSITE-UK (European Collaborative for Science Industry and Technology Exhibitions)
 Higher Education Funding Council for England
 Institute of Patentees and Inventors
 Learning and Teaching Scotland
 Medical Research Council
 National Academy for Gifted and Talented Youth
 National Business Angels Network
 National Campaign for the Arts
 Office of Science and Technology
 Particle Physics and Astronomy Research Council
 Qualifications and Curriculum Authority
 Research Councils UK
 Royal Academy of Engineering
 Royal Institution
 Royal Society
 Scottish Arts Council
 Scottish Executive Education Department
 Scottish Higher Education Funding Council

Survey of Programme Committee members

- 11 Each of NESTA's programmes has a Programme Committee to whom NESTA present case reports for decision and report on the progress of the programmes. Every Trustee also serves on a Programme Committee, although not every Programme Committee member is also Trustee. A list of current Trustees and Programme Committee members is provided at [Appendix 4](#).
- 12 We undertook a survey by email of Programme Committee members during June and July 2003. The survey revealed general support for the current application procedures as a whole. There were some qualms about the nomination approach to Fellowships, moderated by reference to initiatives taken to broaden coverage. A number of issues relating to biases in the programme were highlighted, most notably in terms of regional and disciplinary coverage. A number of respondents mentioned action already being taken to tackle some of these biases, such as establishing a sub-committee to investigate ways to increase science and technology applications in the Fellowship programme. Suggestions for further action included appointing regional officers and increasing the diversity of nominators.
- 13 Most respondents thought that NESTA's monitoring of projects against agreed milestones and success criteria was satisfactory (with a quarter considering it to be very good). However, several were concerned about heavy workloads, which could impact on NESTA's capacity to monitor projects. Around a fifth of respondents felt that there were weaknesses in the evaluation of outcomes, both at project and programme level, with some making suggestions for improvement. In terms of overall outcomes to date, the two most significant were considered to be providing support for diverse and innovative projects and the collective achievements of awardees.

Survey of mentors

- 14 In consultation with the awardee, NESTA appoints mentors for the majority of projects supported. For convenience we use the term 'mentors' to cover all programmes, although they are actually termed 'champions' for the Invention and Innovation programme and 'supervisors' for Learning. The principles of monitoring, advice and support to projects are common to all.
- 15 We carried out a survey of 141 active project mentors during June and July 2003. Questionnaires were sent by email and post and we received a total of 77 responses, a response rate of 55 per cent. When asked what they perceived their roles to be, offering advice and guidance emerged as the most significant with 75 per cent of respondents citing this as one of their roles. On reporting to NESTA, there were considerable variations between programmes with only eight per cent of respondents acting as mentors for the Fellowship Programme citing reporting to NESTA as one of their roles, compared to 33 per cent for the Invention and Innovation Programme and 60 per cent for the Learning Programme. Despite this, 81 per cent of all respondents thought that NESTA was mostly or fully informed about the progress of projects.

- 16 56 per cent of respondents thought that they had made a noticeable difference to the achievement of the award's objectives, with a further 27 per cent considering that they had made a very significant difference. A number of ways in which the mentoring role could be improved were suggested, the most frequently cited being the creation of a mentor network, which was mentioned by nearly a quarter of the respondents.

Review of case files

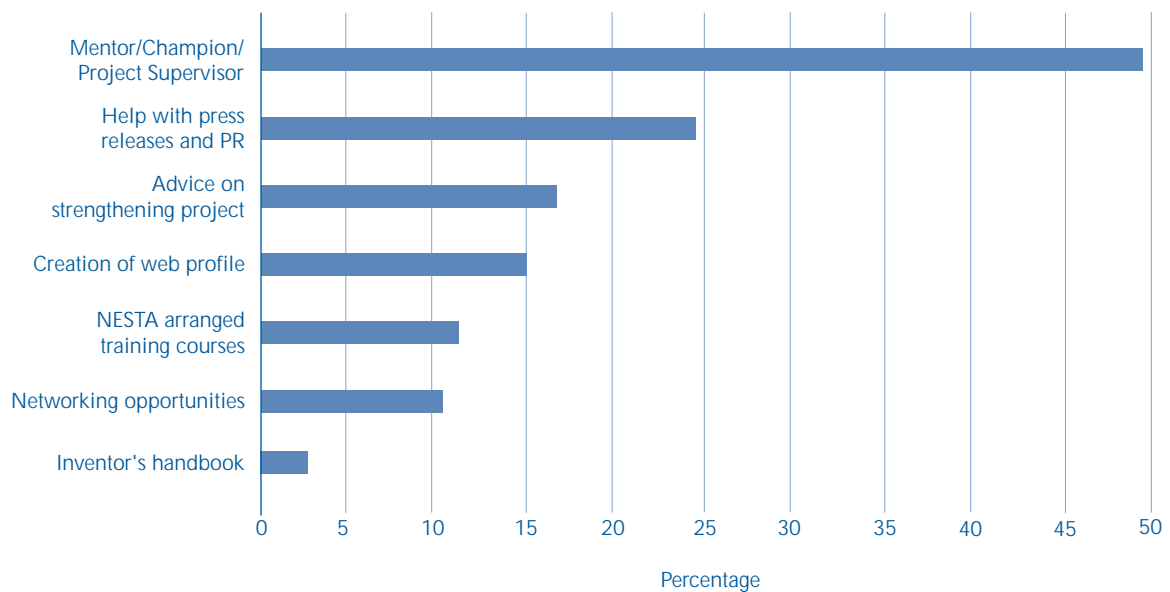
- 17 We selected a random sample of 40 awards from across the funding programmes, weighted by value. The review was specifically concerned with actions to manage the risk taken by NESTA once the award had been approved by the Programme Committee. A complete list of the projects included in the review is at [Appendix 2](#).
- 18 From our analysis we identified a number of strengths as well as areas for development, which are summarised in the table below:

Area reviewed	Strengths	Opportunities for development
Objective setting	Objectives were generally clear and consistent with the awards.	Objectives for projects within the Fellowship programme could be quantified to a greater extent to facilitate the assessment of achievements.
Milestones	Milestones have become clearer and more specific over time.	There was a lack of clear milestones for some projects, particularly under the Fellowship programme. However, this has improved since 2001.
Monitoring	The level of monitoring has been consistently good with evidence of regular contact between NESTA, awardees and mentors.	
Evaluation and dissemination of lessons	The Learning programme is most advanced in this respect.	Formal evaluation procedures take place at or after the closure of funding. Since relatively few projects have been concluded, formal evaluation has so far been limited, but this body of projects is continually expanding.

Survey of Awardees

- 19 The NAO and NESTA jointly commissioned MORI to carry out a survey of awardees. Between 17 July and 6 August 2003, MORI conducted 159 telephone interviews. 67 per cent of those interviewed were male and one third were London-based. The interviews covered access to funding, the effectiveness of monitoring and non-financial assistance, programme management and overall service levels.
- 20 Opinions about NESTA's willingness to finance projects were positive, and 84 per cent of respondents believed that they would not have received funding from any other source. For non-financial assistance, the service rated highest among awardees was the provision of a mentor, with nearly half the respondents who used this service stating that it had had a great deal of impact on their project (Figure 13). Interest in networking opportunities was significant (59 per cent stated that they would like to make more use of this), but networking opportunities appear to have been hindered by a perceived lack of events and opportunities to meet other awardees. There was interest in making more use of training among respondents, but more than half of those who had already attended training arranged by NESTA felt that it had had little or no impact on their project.
- 21 Overall, 87 per cent of respondents stated that they were satisfied with their experience of NESTA to date. For those that were dissatisfied, reasons given included NESTA displaying a lack of optimism and ineffective programme managers. Some respondents offered suggestions for improvement, such as speeding up NESTA's administration system and reducing bureaucracy.

13 Percentage of respondents stating that non-financial assistance had a great deal of impact on the progress of their projects, by type of service



Source: MORI survey on behalf of NESTA and National Audit Office

Appendix 2

Sample of NESTA awards

The 40 projects listed here are those included in our case review, summary results from which are described within Appendix 1. Further details on each award are available on NESTA's website at www.nesta.org.¹¹

Year of award	Value	Awardee	Description of the project
Invention and Innovation programme			
1999	£101,000	Institute of Grassland & Environmental Research	Cross-disciplinary arts and science project bringing together scientists from the Institute with artists-in-residence Heather Ackroyd and Dan Harvey who share an interest in the potential of grass and grassland. The collaboration focuses on a 'stay green' variety of grass that is opening up new possibilities for scientists and photographic, installation and performance artists working with this medium.
2000	£82,500	Mark Goulthorpe	Research and development into a responsive surface that reacts physically to events happening around it. It is hoped this will contribute towards the development of building control systems.
2000	£70,750	Andrew Slater - Slater (UK) Ltd	Research into processes to remove and recycle metals from contaminated soils.
2001	£55,000	Ronald Geary	Research and development of a structural integrity device to facilitate maintenance of oilrigs.
2001	£52,000	Leslie Couzens - WM Metals Ltd	Production of a prototype for plant that uses techniques adapted from the mining industry to extract heavy metals from incinerated sewage sludge ash. The non-toxic end product will reduce hazardous waste in landfill sites and may be used as a construction material.
2001	£50,000	Colin Barker - Robat Ltd	Construction of a demonstration model for an innovative circuit-board tester that overcomes some of the production problems in the telecoms hardware industry.
2001	£15,000	Alison Davies	Development of a locking device for lever-arch files that secures the contents while still allowing full reading access.
2001	£50,000	Eddie Norman	Development of a prototype for a fashionable, affordable, high-quality plastic guitar.
2001	£150,000	Warp Films	Development of the Warp Films brand, producing films utilising digital rather than conventional techniques, giving the option to broadcast over the internet.
2001	£10,000	James Phillips	Research and performance of the play ' <i>Observe the Sons of Ulster Marching Towards The Somme</i> ', by playwright Frank McGuinness.
2002	£65,000	Tracy Hunt - TH Melt Designs Ltd	Production of a strong, flexible and light weight fabric combining polymer fibres with other materials.
2002	£85,000	Brian McClave	Production of a stereoscopic film which, using special cameras, allows the human eye to see the Northern Lights in 3D.
2002	£86,000	David Fenn - Wright, Fenn and Co Ltd	Development of two pharmaceutical packaging technologies - a sealable monitored dosage system pack, and an automatic deblisterer for unpacking blister packs of tablets in bulk.
2002	£98,000	Bruce Davies - Intelligent Compliant Engineering Ltd	Development of sensor technology in robotics, for specific application in more efficient milking of cows.

¹¹ In some cases the value of award quoted on NESTA's website may differ from that quoted here. This is because some projects have received supplementary amounts in addition to the specific award selected as part of the NAO sample.

Year of award	Value	Awardee	Description of the project
Fellowship programme			
2000	£57,000	Mike Hobson	To aid with the development of software that can achieve sharper definitions from digital images, scanned images and other raw data.
2000	£67,000	Stephen Pizzey	To explore science in the natural environment and develop methodology for the manufacture of interactive science exhibits.
2000	£20,000	Museum of the Unknown	Support for exhibition of work at the museum, including the work of NESTA Fellow Rufus Marsh.
2000	£75,000	Gwyneth Lewis	To travel round the ports which formed trading links with Cardiff, enriching the source material from which to produce a new body of poetry.
2001	£58,000	Bronwen Edwards	Research into the links between science and music in order to develop interesting and interactive educational exhibits for children.
2001	£75,000	James Macdonald and Katie Mitchell	To explore and develop new rehearsal and production processes for theatre - to progress their own work, influence industry practice and encourage interest from younger audiences.
2001	£75,000	Ben Harrison	To read, travel and collaborate with artists from around the world, and across art forms, to explore the effect a site where a work is performed has on the development, staging and interpretation of the work.
2001	£72,000	Paul Robertson	To learn more about the relationships between music, emotions and the mind.
2001	£75,000	Luke Jerram	To experiment with light, perception and the understanding of space in art, contributing to future installations.
2002	£50,000	Arkadiusz Weremczuk	To assist the development, and build the entrepreneurial capacity of a young fashion designer.
2002	£87,000	Joy Gregory	To expand and disseminate knowledge of developing images using old and new techniques.
2002	£79,000	Stephen O' Hear	To explore the creative potential of information technology in education.
2002	£70,000	Mark Jones	To explore the possibility of an interactive programme concerned with the management of pain, particularly for children, and with the capacity for people to understand and deal with traumatic medical procedures.

Year of award	Value	Awardee	Description of the project
Learning programme			
1999 2000	£70,000 £172,000	The University of Cambridge	In partnership with the Millennium Mathematics Project, bringing together school children and mathematicians in order to illustrate the use of maths in everyday life, using video conferencing. (Initial award in 1999 with follow-up in 2000.)
2000	£1,046,00	Performing Arts Labs Ltd	For PAL to hold experimental 'Labs' with participants from across the UK. PAL acts as a research facility, offering a unique residential environment in which talented individuals can push the boundaries of their creative practice.
2001	£396,000	Muzantiks Ltd.	To develop a curriculum-based website aimed at 8-11 year olds, where children can make their own music whilst learning about the science and technology of sound.
2001	£117,000	Techno Games - BBC	Support for the televised event in which robots compete in various athletic events, and robot building kits and manuals are offered to the public. This is marketed at schools and colleges to encourage interest in robotics, science and technology.
2001	£75,000	Young Foresight Ltd	A TV competition in which teams of school children compete to create a product or service of the future.
2001	£112,000	Braunarts Ltd	Production and free distribution of an award winning interactive CD teaching resource to secondary schools and colleges. This uses Antarctic science to stimulate music composition.
2001	£72,000	School Works	To bring together all interested parties in design and refurbishment of schools and to create, with them, a web based game which seeks to encourage creative expression in school design by involving the children.
2001	£75,000	African Caribbean Network for Science & Technology	Production of a five year plan to reverse under-representation of people of African and Caribbean origin in science based professions, by encouraging children to study relevant disciplines.
2002	£265,000	Wellcome	A UK-wide touring exhibition of the work created through SciArt - an awards programme which supports works spanning science and art - with a view to furthering public understanding of science.
2002	£215,000	The Brodsky Quartet	The quartet work with school children around the UK to compose new pieces of music and then perform the compositions.
2002	£213,000	Promethean Ltd	To identify and promote effective practice in the use of interactive whiteboards, combining elements of the traditional blackboard with a computer, video and internet capabilities.
2002	£77,000	Random Dance Company	To use the Internet to offer teachers and pupils an alternative way to watch and join in with live dance performance, developing a new work specifically for 8-11 year olds.

Appendix 3

The number and value of awards to the English regions

	Percentage of English population	Number of awards received	Number of awards as a percentage of the total in England	Value of awards received	Value of awards as a percentage of the total in England
South East	16.3%	41	14.8%	3,276,984	18.8%
London	14.6%	117	42.2%	7,253,860	41.7%
North West	13.7%	31	11.2%	1,617,346	9.3%
East of England	11.0%	22	7.9%	1,034,081	5.9%
West Midlands	10.7%	17	6.1%	924,286	5.3%
Yorkshire and Humberside	10.1%	14	5.1%	822,139	4.7%
South West	10.0%	18	6.5%	954,798	5.5%
East Midlands	8.5%	9	3.2%	815,895	4.7%
North East	5.1%	8	2.9%	715,396	4.1%
	100.0%	277	100.0%	17,414,785	100.0%

Source: National Audit Office analysis of NESTA data

Appendix 4

NESTA Trustees and Programme Committee members (as at February 2004)

Name	Trustee	Fellowship Committee	Invention and Innovation Committee	Learning Committee
Chris Powell NESTA Chairman ¹	✓			
Daniel Alexander QC Intellectual Property Lawyer	✓		✓	
Yasmin Anwar Broadcaster and writer	✓		✓	
Paul Daniel CBE Music Director	✓	✓		
Dr Katie Gramich Arts Staff Tutor	✓			✓
Professor Janice Kirkpatrick Co-founder and Director, Graven Images	✓		✓	
Tom Bentley Policy innovator and writer	✓			✓
Derek Wanless Financier	✓			
Dr Simon Singh Scientist, writer and broadcaster	✓	✓		
Graham Ross Russell Founder and Chairman, UK Centre for Business Incubation	✓		✓	
Professor Nancy Rothwell MRC Research Professor, University of Manchester	✓	✓		
Genista McIntosh (Baroness McIntosh of Hudnall) Working Peer	✓	✓		
Tracy Long Venture Capitalist	✓		✓	
Professor William Morris Electrical engineer and technology consultant	✓			✓
Igor Aleksander Academic and researcher		✓		
Shreela Ghosh Arts Administrator		✓		
David Raitt Senior Technology Transfer Officer		✓		

NOTE

1 Chris Powell replaced Lord Puttnam of Queensgate in October 2003.

Name	Trustee	Fellowship Committee	Invention and Innovation Committee	Learning Committee
Marcus Davey Arts Practitioner			✓	
Brett Allsop Venture Capitalist			✓	
Thomas Hoegh Venture Capitalist			✓	
David Wardell Invention consultant and CEO of InventThat.com			✓	
John Bates Executive Director, Foundation for Entrepreneurial Management, London Business School			✓	
Mike Tomlinson CBE FRSA Educationalist				✓
Maureen Burns Director of the Innovation Unit at the DfES				✓
Jonathon Drori Head of Culture Online (DCMS)				✓
Ruth Turner Social entrepreneur			✓	
Marc Gillespie Corporate financier			✓	