

Promoting World Class Science and Innovation

Introduction

Science and Engineering

Knowledge Transfer and Innovation

Introduction

In 2004 Government outlined its vision for science and innovation over the next decade with the overall ambition to make the UK one of the most competitive locations for science, R&D and innovation in the world.

The Department is working to create a supportive environment for the development of ideas through a skilled and flexible workforce, a strong science and research base and a balanced attitude to risk and reward so that British business can successfully innovate: exploiting ideas, wherever they come from.

The Department needs to do this if the UK is to remain globally competitive, and can only do this by having successful businesses. Businesses can be successful in a global economy if they use and provide effective and efficient processes, products and services.

Since its publication in 2004, significant progress has been made in delivering on the measures set out in the '10 Year Science and Innovation Investment Framework⁸⁵.

- ▼ The UK continues to retain its position on the world stage second only to the USA on most leading science indicators;
- ▼ The Department has taken massive strides in updating and renewing UK laboratories and science facilities

through the Science Research Investment Fund now worth £500million a year;

- ▼ Research careers have been made more attractive through increases in stipends and better training; today more PhDs than ever are qualifying from UK universities;
- ▼ The Technology Programme is supporting collaboration, knowledge transfer and R&D into promising new technologies under the business-led Technology Strategy Board's guidance; as well as pull through from universities, this programme supports business-to-business technology development projects. The Department is also looking at how to encourage more innovation in the service sector – where businesses can gain high value from the use of innovative products and processes but do not necessarily do the R&D themselves;
- ▼ The Department encourages Knowledge Transfer from Universities through the Higher Education Innovation Fund (HEIF). This makes use of the UK's strengths in basic research and encouraging innovation by helping ideas move towards the applied research that is so important to Business R&D. This has resulted in a step change in the way Universities treat their knowledge and intellectual property (IP);
- ▼ Public procurement of innovative solutions through initiatives such as the

85 Science & innovation investment framework 2004 – 2014, published by HMSO July 2004, ISBN 1-84532-031-X

Small Business Research Initiative (SBRI) and work with the Office for Government Commerce are making Government a more intelligent customer prepared to buy the outputs of business R&D. The Department is also piloting new ideas to stimulate innovation and manage risk in procurement e.g. with the NHS for Primary Care Trust construction projects;

- ▼ Skills development is another key area and the Department works closely with DfES and business to ensure that demand led requirements are built into skills strategies.

Science and innovation are not only key drivers of wealth creation; they also underpin evidence based policy development, improved service delivery and effective international diplomacy. The Government's Chief Scientific Adviser leads in ensuring that science and research, as well as expert and independent advice, are managed and used to best effect across Government.

implemented and quarterly returns have indicated that key deliverables are on track. There are a number of agreed metrics that will provide evidence of the UK research base's improvement against world benchmarks.

- 3.80 The Medical Research Council (MRC) received over £120million as part of one of the biggest deals to come out of breakthroughs by British scientists. This involved a drug used to treat rheumatoid arthritis, created using patented technology derived from research at the MRC Laboratory of Molecular Biology in Cambridge and The Scripps Research Institute in California.
- 3.81 The UK is to play a major role in the European Space Agency's (ESA) robotic space exploration programme, Aurora. The UK, through the Particle Physics and Astronomy Research Council (PPARC), will be the second largest contributor with a leading role in a programme designed to improve understanding of Mars and the Solar System.

Science and Engineering

Performance in 2005-06

UK Research Base is performing to a high standard against annual global benchmarks for excellence

- 3.78 The UK Science Base retains its strength and depth across all disciplines⁸⁶. The Arts and Humanities Research Council has successfully completed its first year and has been a valuable addition to the Research Council UK partnership, reinforcing the importance of the full spectrum of research across disciplines.
- 3.79 The Performance Management System for the Research Councils has been

UK Research Base is more robust and sustainable financially, with continued strategic investment in infrastructure

- 3.82 In taking forward its commitment to improve the long term sustainability of UK research Government invested £120million in 2005-06 to enable Research Councils to begin paying 80% of the full economic costs of the research they commission from Higher Education Institutions (HEIs)⁸⁷. Set alongside this important reform to the Dual Support System Government continues to invest directly in the infrastructure of the university sector through the Science Research Investment Fund, a dedicated capital funding stream worth £500million a year.

⁸⁶ PSA Target Metrics for the UK Research Base

⁸⁷ DTI and DfES Ministers announced in January 2005 that Research Councils would pay 80% of the full economic costs of the research they commission from HEIs beginning September 2005

3.83 A parallel strand of work continues in relation to the sustainability of public sector research institutes and laboratories. The OST set up the Research Establishment Sustainability UK (RESUK) forum in 2005 to enable representatives from public sector research establishments and their parent bodies to work together on implementation of the Research Council Institute and Public Sector Research Establishments Sustainability Study (RIPSS) guidelines.

UK Research Base has a higher performing, diverse workforce, educating and training more and higher quality scientists and engineers for the UK workforce, including a significant increase in the involvement of women in the governance of science, engineering and technology and school leavers equipped to engage in science as active, informed citizens of the future.

3.84 The UK produces over 14,000 PhDs per year. Measures for Research Careers introduced in 2005 included increasing the average Research Council PhD stipend to £12,000, providing funding for transferable skills training for Research Council PhD students and postdoctoral researchers and increasing the average Research Council postdoctoral salary by around £4000 between 2002-05.

3.85 The UK Resource Centre for Women in SET (UKRC) is delivering a range of programmes including the new Returners Package, the SET for Work Scheme in 13 English HEIs, Employer Award and Recognition Schemes, a database of women in SET and successful collaborations with bodies such as the Royal Academy of Engineering. Total funding for the UKRC is £6.9million to 2008.

3.86 OST has provided an additional £550,000 to enable the Science, Engineering, Technology and Mathematics Network (SETNET) to employ 10 regional directors. SETNET is now focusing activity on harder to reach schools and on groups which are under-represented in post-16 SET education. OST is providing £1.5million of funding to SETNET for a dedicated programme to benefit Bangladeshi and Pakistani girls and Caribbean boys which was launched in March 2006. In the budget we announced a further commitment to expand significantly the Science and Engineering Ambassadors Scheme to support teachers and engage and enthuse pupils to continue studying science. We will invest a further £900,000 over the next two years so that by 2007-08 we will have increased the total number of ambassadors by 50% from 12,000 to 18,000.

UK Public are more positive and confident about science and its use generally, and more engaged in these matters.

3.87 During 2005-06 rapid progress has been made to take forward public engagement and dialogue projects under the Sciencewise programme. In August, 2005, Government published its outline programme of public dialogue on nanotechnologies. This was followed up in November with further commitments in the first report of the Nanotechnologies Research Coordination Group. In January 2006, the first public dialogue process under the 'Nanodialogues' Sciencewise project took place, related to the application of nanoparticles for environmental clean up. Further priorities for public dialogue have been identified, and include brain science, stem cells and future challenges from emerging technologies.

3.88 In September, Government published its response to the Council for Science and Technology's report "Policy Through Dialogue". The report sets out a range of commitments to embed public dialogue and engagement within policy and decision-making on science and technology issues.

UK researchers, businesses and Government gain greater benefit from international partnerships and programmes in science and technology, as measured by evaluations and metrics established by the Global Science and Innovation Forum, and monitored through annual assessments.

Global Policy

3.89 The Global Science and Innovation Forum (GSIF), established in January 2005 and chaired by Sir David King, brings together key Government players in international science and innovation. GSIF is responsible for overseeing the design and implementation of the UK's strategy for international engagement in science and innovation with the overarching aim of making UK the partner of choice for global business looking to locate R&D activities overseas, and for foreign universities seeking overseas collaboration. Evidence studies have been completed and these will inform the development of strategy during 2006.

3.90 Bilateral and increasingly multilateral science and technology relationships with priority partner countries and key organisations have continued to be pursued this year, with much of the emphasis on aligning the bilateral approach with G8 and EU priorities, predominantly climate change and African development. These have culminated in a comprehensive

programme of bilateral visits and multilateral meetings during 2005-06 by Lord Sainsbury and Sir David King. 2005-06 has also seen continued funding of the Dorothy Hodgkin Postgraduate Award Scheme, 162 PhD students from emerging and developing countries are currently studying in the UK, with another large cohort due to commence in autumn 2006.

EU

3.91 The EU's Framework Programme for Research and Technological Development (RTD) is the main funding mechanism for supporting collaborative RTD in the EU. Government provides a comprehensive promotion and advisory service for UK organisations including a network of National Contact Points, central website and helpline. The Department has also continued to take up the concerns of UK participants and successfully pressed the Commission to simplify the administrative processes associated with the programme.

3.92 During the UK Presidency of the EU the Department took the lead on the negotiation of the Seventh Framework Programme (FP7). This culminated in the UK Presidency and the Council agreeing to a Partial General Approach (a PGA is a non binding political agreement) on FP7 at the Competitiveness Council in November 2005. The PGA is an important achievement, and is crucial for keeping FP7 to the overall legislative timetable. It confirms agreement on some of the main principles behind FP7, notably the critical importance of improving Europe's research, technology transfer and innovation performance to enhance global competitiveness and to increase growth and employment.

Government makes better use of science and scientific advice in making and delivering its policies within and across Departments and internationally.

- 3.93 Government continues to improve the quality of its science and scientific advice. The updated Chief Scientific Adviser's Guidelines on Scientific Analysis in Policy Making were published in October 2005 and address how evidence should be sought and applied to enhance the ability of Government to make better informed decisions. Alongside this, OST continue to review the way Government Departments identify their scientific requirements and commission, quality assure and use science and scientific advice.
- 3.94 The Council of Science and Technology (CST), the top-level advisory committee, has produced reports on Energy (*An electricity supply strategy for the UK*); Personal information (*Better use of personal information: opportunities and risks*); and public dialogue (*Policy through dialogue*). These reports, together with the CST's own annual report, can be found at www.cst.gov.uk.

Science Budget Allocations 2005-06 to 2007-08

- 3.95 OST is responsible for the allocation of the Science Budget for research via the eight Research Councils for which the Director General of the Research Councils, Sir Keith O'Nions is responsible. Government has substantially increased spending on science. Between 1997 and 2007 the Annual Science Budget will have more than doubled, rising to £3.4 billion enabling the Research Councils to raise their support for research substantially.

Foresight

- 3.96 The Brain Science, Addiction and Drugs project produced scenarios for the development of drugs for treating addiction and mental health, and for the use of performance enhancing substances more broadly.
- 3.97 The Intelligent Infrastructure Systems project explored how science and technology may be applied over the next 50 years to the design and implementation of Intelligent Infrastructure Systems that are robust, sustainable and safe.
- 3.98 The one-year review of Flood and Coastal Defence confirmed that the project is leaving a lasting impression on the approach Government takes to flood management in the UK, while that of the Cyber Trust and Crime Prevention project highlighted the use of its scenarios to explore the implications of Information and Communications Technologies for future strategy in areas from road user charging to the tracking of criminals. All reports, action plans, reviews and scans are available via the Foresight website⁸⁸.

Science and Innovation Investment Framework 2004-2014: next steps

- 3.99 This discussion paper, published in the budget in March, presents the next steps in taking forward Government's 10-year framework for science and innovation. Against the background of increasing global competition for knowledge intensive business activity, next steps are presented on five key policy areas: maximising the impact of public investment in science on the economy through increasing innovation; increasing Research Councils' effectiveness; supporting excellence in university research; supporting world-class health research; and increasing the supply of science, technology, engineering and mathematics (STEM) skills.

88 www.foresight.gov.uk

Publications

- ▼ Science Budget Allocations 2005-06 to 2007-08, May 2005;
- ▼ The ten-year Science and Innovation Investment Framework Annual Report 2005, July 2005;
- ▼ Science and Innovation Investment Framework 2004-2014: next steps, March 2006.
- ▼ Chief Scientific Adviser Guidelines *on Scientific Analysis in Policy Making*, October 2005;
- ▼ The Government's outline programme for public engagement on nanotechnologies, August 2005.
- ▼ Continue work to ensure that the research base is robust and financially sustainable, with a leading edge research infrastructure;
- ▼ Ensure that the skills demands of the UK economy are met by a higher-performing, diverse workforce, with more higher-quality post-graduate and post-doctoral scientists and engineers;
- ▼ Encourage the UK public to be more positive and confident about the development, regulation and use of science, engineering and technology;
- ▼ Work with other Government Departments to make better use of science and scientific advice in making and delivering policy;

All publications are available from the website⁸⁹

Plans for 2006-07

- ▼ Invest in the UK research base to ensure its continued performance to a high standard against global benchmarks for excellence, relevance, responsiveness and productivity;
- ▼ Help UK researchers, businesses and Government to gain greater benefit from international partnerships and programmes in science and technology;
- ▼ Continue to implement the 10-year Science and Innovation Investment Framework including taking forward the Consultation and proposals outlined in the recently published next steps document.

Priority Action – 10 Year Science and Investment Framework

In 2004 Government published the ten-year Science and Innovation Investment Framework, which set out a long-term vision for UK science and innovation, together with the ambition that public and private investment in R&D should reach 2.5% of GDP by 2014 (from a level of 1.9%). Alongside the Science and Innovation Investment Framework the Government also published a comprehensive set of indicators to monitor implementation of the ten-year framework, and made a commitment to report annually on progress against these indicators.

The first Annual Report published in July 2005 including updates on progress indicators and measures is available from the website⁹⁰

⁸⁹ www.ost.gov.uk

⁹⁰ <http://www.ost.gov.uk/policy/sif.htm>

Figure 3.11

Research Councils Capital Assets (£million)

	Land and Buildings	Plant and machinery	Ships aircraft and vehicles	Equipment fixtures and fittings	Assets under construction	Investments	Total
Net book value at 31 March 2005							
BBSRC	199.4			1.4	0.1		200.9
CCLRC	180.9	114.0			45.0	143.2	483.1
ESRC	2.7			2.3			5.0
EPSRC	4.3			2.0			6.3
MRC	153.4		0.7	47.3	14.1		215.5
NERC	146.609	3.429	53.616	25.431	11.800		240.9
PPARC	36.601	16.447	0.274	–	–	6.047	59.4
Total	723.9	133.9	54.6	78.5	71.0		1,211.0

Figure 3.12

Breakdown of Significant international subscriptions by the research councils (£million)⁹¹

Research Council	Organisation/Activity	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
EPSRC	European Science Foundation	0.2	0.2	0.2	0.2	0.2	0.2
Total		0.2	0.2	0.2	0.2	0.2	0.2
CCLRC	Institute Laue-Langevin	10.8	13.2	14.5	14.8	13.7	13.7
	European Synchrotron Radiation Facility	6.1	6.6	7.2	7.4	7.6	7.6
Total		16.9	19.8	21.7	22.2	21.3	21.3
MRC	European Molecular Biology Conference	0.3	1.3	1.4	1.5	1.6	1.7
	European Molecular Biology Laboratory	5.9	7.2	8.1	8.5	9.6	10.5
	International Agency for Research on Cancer	0.6	0.7	0.7	0.7	0.7	0.8
	Human Frontier Science Programme	1.0	0.8	0.9	0.9	1.0	1.0
	EMBO		0.1	0.1	0.1	0.1	0.1
	EMBL – Special Capital Investments				0.1	0.2	0.2
	European Science Foundation				0.1	0.2	0.2
Total		7.8	10.1	11.2	11.8	13.4	14.5
NERC	Ocean Drilling Programme (ODP)	1.0					
	Integrated Ocean Drilling Programme (IODP)	0.7	2.5	3.5	3.1	3.4	0.5
	European Space Agency	46.3	45.7	45.8	39.9	38.3	41.6
	European Science Foundation	0.2	0.2	0.2	0.2	0.2	0.0
	New Initiatives	0.5	0.4	0.5	0.5	0.6	0.7
Total		48.6	48.7	49.9	43.7	42.4	42.8
PPARC	European Space Agency	46.9	55.2	53.7	60.0	66.1	70.0
	Anglo-Australian Telescope	1.5	1.5	1.9	0.9	0.5	0.4
	European Incoherent Scatter Facility (EISCAT)	0.6	0.5	0.5	0.5	0.3	0.3
	European Organisation for Nuclear Research (CERN)	73.1	75.7	87.2	78.7	80.1	81.6
	European Southern Observatory (ESO)	15.0	17.4	21.7	23.1	23.5	24.0
	European Science Foundation	0.1	0.1	0.1	0.1	0.1	0.1
Total		137.1	150.3	165.0	163.2	170.5	176.3

91 Information on previous years international subscriptions can be found in previous Departmental Reports.

Figure 3.13

Expenditure on Science (£million)

	2003-04 Outturn	2004-05 Outturn	2005-06 Working provision	2006-07 Plans	2007-08 Plans
Total OST Expenditure on Science	2,253.3	2,608.0	3,294.4	3,247.6	3,464.5
<i>of which:</i>					
Arts and Humanities Research Council		287.6	68.5	91.4	97.1
Biotechnology and Biological Sciences Research Council	269.1	287.6	321.3	371.6	381.8
Economic and Social Research Council	88.8	105.3	126.1	142.5	150.3
Engineering and Physical Sciences Research Council	378.8	497.3	575.0	636.3	721.2
Medical Research Council	420.9	455.2	503.6	503.5	546.5
Natural Environment Research Council	292.1	315.1	371.1	359.4	367.2
Particle Physics and Astronomy Research Council	272.7	274.0	337.4	306.5	315.2
Council for the Central Laboratory of the Research Councils	119.0	124.3	226.2	182.2	212.5
Research Councils' Pensions Scheme	29.7	31.1	18.1	0.0	0.0
Royal Society	29.4	31.0	32.6	36.4	41.1
Royal Academy of Engineering	5.3	5.6	5.9	7.9	9.8
British Academy	-	-	14.0	18.1	21.4
Diamond Synchrotron	36.2	86.9	74.2	45.0	0.0
Joint Infrastructure Fund	43.6	-	2.3	0.0	0.0
Science Research Infrastructure Fund	262.2	296.6	379.2	300.0	300.0
Capital Yet to be allocated	-	39.7	0.0	60.4	104.7
Knowledge Transfer	3.0	2.0	87.4	103.5	108.5
Restructuring, minor initiatives and contingencies	2.5	22.9	0.0	66.9	71.4
International Collaboration	-	-	0.0	3.0	3.0

Knowledge Transfer and Innovation

Performance in 2005-06

Infrastructure and Networks: Effective networks of business, Government, the research base and global partners improve UK's knowledge transfer and access to infrastructure.

3.100 The Department, through Knowledge Transfer Networks (KTNs), helps to facilitate business access to, and investment in, science, engineering and technology. The Department has established 18 KTNs in areas such as bioprocessing, materials, grid computing and resource efficiency with another three under consideration. The Department and other funders have allocated £40million to KTNs over a three-year period.

3.101 The Department is on course to complete the new facilities at The National Physical Laboratory by March 2007. The National Measurement System (NMS) has continued to sustain and improve the measurement infrastructure and knowledge base.

3.102 Increasing infrastructure access and knowledge transfer capability of the UK research base, equipment and sites to increase volume/activity of business is progressing. The National Weights and Measures Laboratory (NWML) has joined the Organisation International de Métrologie Légale (OIML) Mutual Acceptance Arrangement (MAA) as an 'utilising authority' and it is the intention to become an 'issuing authority' under the MAA when certain procedural changes have been implemented by OIML

Engaging business: Innovation performance of UK companies is driven up by increasing business engagement and demand for knowledge and innovation through coherent and responsive support that meets customer needs.

3.103 The business-led Technology Strategy Board is helping Government develop a national Technology Strategy ensuring that clear and consistent messages on innovation are conveyed and support activities channelled through the Technology Programme. The Technology Programme launched two competitions for Collaborative R&D projects during 2005-06, allocating over £160million. Collaborations with business intermediary organisations, RDAs and Business Links are being established to target messages to specific segments. Knowledge Transfer Partnerships (KTP) help businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills. Strong demand from business delivered over 1,000 live partnerships, the highest ever number.

3.104 The Global Watch service has had a successful year in driving up innovation performance within the UK. Secondment offers for 2005-06 increased by 40% and 25 outward missions were organised. Its network of International Technology Promoters (ITPs) facilitated 1,532 international technology partnership meetings and reported 149 international partnership deals since the beginning of the year. The Global Watch website has had almost 5,000 registered users and the magazine has a circulation of almost 54,000, reaching readers in 120 countries.

Frameworks: A world-class measurement, Intellectual Property (IP) and standards framework-based innovation system will create commercial opportunities for the UK, eg by doubling production of informal standards by 2008.

Partnerships: The Department led innovation agenda across Government and the regions creates stronger partnerships and improves methods of engagement that enable business, the not-for-profit sector, the research base and public sectors to realise increased productivity and quality of life.

- 3.105 The Patent Office (PO) is developing an IP framework to improve UK's knowledge transfer. The Gowers review, launched to look at support given to business, will form the basis of the Framework. Improvements to the European Patent system have continued, with the London Agreement ratified in 2005.
- 3.106 The National Standardization Strategic Framework (NSSF) continues to promote the benefits of standardization, and to develop the UK's standardization infrastructure. The publication of an NSSF-sponsored research report on the macro-economic impact of standards found that 13% of the increase in UK labour productivity was attributable to formal standardization, equating to around £2.5billion per year of growth in the UK economy.
- 3.107 NWML is on track for implementation of the Measuring Instruments Directive (MID) by October 2006. Regulations to implement the Directive will be made by April 2006.
- 3.108 BNSC continues to develop strategic frameworks with the introduction of the UK Space Board and the Operation Board. Further work is planned in the form of a major study, intended to inform the development of the UK Space Strategy.
- 3.109 OST have enhanced the capacity of RDAs through funding secondments from the research base. The Department successfully developed co-funding and marketing opportunities through the Technology Programme. The autumn 2005 competition established joint funding and assessment projects with Defra and the Research Councils.
- 3.110 The Department, Regions and Research Councils are strong partners in the development and exploitation of key technologies and the development of innovation platforms. Both approaches are the cornerstone the Technology Strategy. Implementation of the Third round of Higher Education Innovation Fund (HEIF) was launched November 2005. The HEIF is jointly funded by DFES and is worth a total of £238million over the two years 2006-08. Additionally, the Outcome of the third round of Public Sector Research Exploitation (PSRE) fund was announced on 19 January 2006, allocating nearly £25million to support commercialisation from PSREs. Annual surveys on HEI-business interaction and PSRE knowledge transfer programmes were published in January 2005 and spring 2006.
- 3.111 Patent Office has developed and implemented a coherent approach in engaging the regions in delivering an Intellectual Property awareness campaign aimed at SMEs. Initial findings indicate an 84% positive response from attendees.

3.112 Increased influence and development of investment opportunities outside the UK are being achieved through the good progress on the Galileo In Orbit Validation Phase. In late 2005, the UK secured agreement from other European countries for the Galileo Operations Centre to be located in the UK.

Innovation Leader: The Department is recognised as the innovation leader across Government, business and stakeholders

3.113 A focal point of the Department's work on technology and innovation is the business-led Technology Strategy Board. The Board published its first Annual Report⁹² in November 2005 setting out the achievements and also the plans for developing a national Technology Strategy. As set out in the 'Science and Innovation Investment Framework 2004-2014: next steps', published as part of the recent Budget announcement, building on its success to date, the Government expects the Technology Strategy Board to play an increasing role in contributing to the development of the Government's innovation strategy across all important sectors of the UK economy. The Technology Strategy Board will have a wider remit to stimulate innovation in those areas which offer the greatest

scope for boosting UK growth and productivity, and plans for it to operate at arms length from central Government are being developed.

Plans for 2006-07

- ▼ Establish effective networks that involve business, Government, the research base and global partners to improve the UK's knowledge transfer and access to infrastructure;
- ▼ Increase business engagement and demand for knowledge and innovation through coherent and responsive support that meets customer needs;
- ▼ Enable a world-class measurement, intellectual property and standards framework to create commercial opportunities for the UK;
- ▼ Lead the innovation agenda across Government and the regions, creating stronger partnerships and improved methods of engagement that enable businesses, the not-for-profit sector, research base and public sectors to realize increased productivity and quality of life;
- ▼ Monitor our progress and publish an update in the ten-year Science and Innovation Investment Framework Annual Report 2006.

Figure 3.14

Expenditure on Knowledge Transfer and Innovation (£million)

	2003-04 Outturn	2004-05 Outturn	2005-06 Working provision	2006-07 Plans	2007-08 Plans
Total	289.9	313.7	317.1	244.8	300.5
<i>of which:</i>					
Knowledge Transfer (formally industrial exploitation of science)	115.7	92.9	74.3	29.1	9.1
Technology Strategy Activities (formally part of knowledge transfer)	0	21.7	38.3	103.3	178.3
Exploitation of investment in the science base	48.8	76.0	87.4	0.0	0.0
Technical infrastructure	83.7	86.1	84.2	79.5	80.2
Space	41.7	37.0	32.9	32.9	32.9

92 Technology Strategy Board Annual Report 2005 Pub 8069/4k/11/05/NP. URN 05/1758