Annual report 2003–04

Foreword by Chief Executive/Chairman

For Becta, 2003–04 was an important, transitional year. Following our very positive quinquennial review in 2002–03, in June 2003 we received from the Secretary of State a new, challenging remit that identified us as 'a strategic partner with the Government in taking forward and developing our wider objectives for ICT in education'.

In response to this new responsibility, which we welcome, we have developed our vision for the future of ICT in education, the implementation of which will underpin our work over the next few years. We have also restructured the organisation to help us to translate our vision into reality, and our newly appointed Board is working with us to develop the organisation's strategic direction.

While we have come a long way in the use of ICT to support education since Becta was established in 1998, much remains to be done. We need to capitalise on the large investment in ICT that the Government has made and on the many excellent examples of ICT use in learning and teaching to build ICT capacity across the education system as a whole. Becta will use its vision for ICT in education to provide leadership and co-ordination, and to broker partnerships across the system.

This report summarises the contribution that Becta made during 2003–04 to the Government's education programme. We would therefore like to highlight the following key achievements that Becta has made in the past year.

We have established Becta as a **national source of advice** for teachers on teaching, learning, management and administration with ICT.

1. Becta has established new models of **procurement and aggregation**, saving the education systems many millions of pounds on its current and future spend.

2. We have supported and developed the **National Learning Network** – establishing a national programme of advice, staff development and materials development for the learning and skills sector.

3. Having recognised the importance of the role of **leadership in ICT**, we have worked in collaboration with the National College for School Leadership (NCSL) on developing a national programme to address this issue.

4. Becta has overseen the **Laptops for Teachers** programme and establishing the importance of the **personal ownership** and the personal use of ICT by teachers.

We recognise that this is merely a foundation for change and that there is much for Becta still to do. We know that all of our achievements depend on the hard work and dedicated efforts of our staff and of our partners and stakeholders. We want to thank them for their valuable contributions during this year, and look forward with them to even greater achievements in the next few, crucial years for ICT and education.

Educational Practice

Over the year, the 'standards agenda' remained a centrepiece of government strategy for education in England in both the school and the learning and skills sectors, with policy statements aspiring to an education system of 'high excellence/high equity'. 'Success for all' and the 'Skills Strategy' are programmes that set out the Government's strategy to raise standards, meet needs and improve choice in the learning and skills sector.

At the same time, however, there has been a clear move in government policy away from central command and control towards greater local diversity, innovation and specialisation. In the schools sector this has been reflected in changes to funding arrangements in the 2004–05 Standards Fund circular, which gives schools greater autonomy over their purchasing and procurement decisions. In the learning and skills sector there has been a move towards regionalisation as the best means of reducing the national skills deficit. Similarly, the government strategies 'Every child matters' and 'Excellence and enjoyment' signalled a realignment of policy towards realising the potential of every individual child through personalising learning. This is where ICT has a crucial part to play.

Now established as a key component of the educational reform agenda, ICT features significantly in many new government policies. However, ICT is not yet embedded across all policies and programmes.

> The gap between the best and worst ICT provision is unacceptably wide and increasing. In the most outstanding examples, ICT is starting to have a pervasive impact on the way teachers teach and children learn. But the quality, diversity and extent of pupils' ICT experiences vary widely between schools.
>
> Ofsted, *ICT in schools 2004: The impact of government initiatives five years on*

Where strategies address ICT, its implementation still tends to be driven by immediate policy priorities focused on infrastructure rather than by the need to achieve sustainable learner-focused change throughout the educational system.

Evidence from inspections, research and elsewhere across all sectors indicates that resources have risen to unprecedented levels. Entries for external examinations in ICT have also grown rapidly. On the other hand, the use of ICT within subjects has been slow to develop and is uneven across schools and subjects.

> The outcomes of the initiatives are more evident in improvements in pupils' achievements in ICT capability than in their application of this learning in other subjects. The incidence of the effective application of ICT in lessons across subjects is increasing slowly but steadily. The impact of ICT on teaching was rated satisfactory or better in 77% of the schools visited, a slight increase since the last report. The quality of teaching in lessons where ICT is used has improved, with 59% of lessons rated good or better.
>
> Ofsted, *ICT in schools 2004: The impact of government initiatives five years on*

In schools few teachers capitalise on learners' increasing access to ICT outside lessons. In the learning and skills sector high-quality developments within learning and teaching which involve technology tend to be practitioner-led rather than institution-led. In all sectors, leaders are gaining confidence in the use of ICT applications to support basic administrative and management tasks, but use of ICT to support the strategic leadership and management of institutions is still in its infancy. Many institutions lack the systems, processes and structures they need to support and sustain innovation in these areas.

Becta is in a unique position to balance the potential of ICT to do things differently in support of initiatives like personalised learning with the desire to maintain standards. However, ICT is unlikely to support real change such as workforce reform – despite the Government's well-publicised teacher workload agreement last year – unless we redefine roles, relationships and responsibilities to address the new ways of working that ICT allows. Engaging with the current policy debate will continue to present a significant and essential challenge for Becta in its new strategic role. To do this, we have divided our activities in educational practice into two programmes of work to deliver two strategic aims:

- to improve learning and teaching through the effective and embedded use of ICT

- to increase the number of educational institutions making effective, innovative and sustainable use of ICT.

Achievements: learning and teaching

Government

We have continued to advise the Department for Education and Skills (DfES) on its subject-specific 'offer' of support and guidance for primary, Key Stage 3 and 14–19 teachers. We have been working, too, with the Home Office Task Force on internet safety issues. In partnership with the Qualifications and Curriculum Authority (QCA), the Teacher Training Agency (TTA) and the DfES, we led a cross-agency, cross-phase approach to pedagogy and ICT. This work has supported the national policy agenda on embedding ICT in learning and teaching in the schools sector and informed developments in the Primary and Key Stage 3 Strategies. We have undertaken research and collaborated with QCA and the DfES Standards and Effectiveness Unit on the contribution that e-assessment can make to the personalised learning agenda.

Schools

In 2003–04 we consolidated existing **advisory services** to establish Becta as a national source of advice for teachers on learning, teaching, management and administration with ICT. We worked in strategic partnership with the subject associations to provide subject-specific advice and support services to the sector. Our advice and support networks for the schools sector continue to grow. The rate of views of the ICT Advice site grew steadily and there are now over 28,000 subscribers to our newsletter services.

Inclusion is an underlying principle of all our work. We overhauled the **Inclusion** website during the year and its catalogue now holds over 1,700 resources. We continued to run 25 online discussion groups that form 'virtual' support communities for a wide range of inclusive educational areas. Several of these groups now produce digests of their discussions, which are regularly quoted in academic research. We worked with the National Institute of Adult Continuing Education (NIACE) on a series of six highly successful national conferences on technology and community education. We also continued to hold regular online conferences on the Inclusion website with ten expert themes such as educational technologies, challenging behaviour, autism and deafness.

Through its six centres, the **Communication Aids Project** (CAP) has supplied communication aids to over 3,000 pupils since April 2002, and has provided training and assessment services throughout England. We have developed new facilities for the CAP website, which will include an online discussion forum for pupils using communication aids and for their friends. The project will continue until 2006 with a further £10 million of funding.

Jake, aged 5, has a closed-circuit television (CCTV) at home, courtesy of CAP. When he started school, his LEA provided a CCTV in the classroom and the teacher of visually impaired pupils who supports Jake suggested applying for extra equipment to use at home. This has made a tremendous difference to his reading progress. "We've made the study a place for reading in our house," says his Dad. "Jake enjoys the Oxford Reading Tree scheme they use at school and he has large-print versions of the readers, but obviously he wants to read other books as well. We use the CCTV for bedtime stories and family-time reading, which he loves."

Jake is totally at home with his CCTV: "I'm very pleased with my CCTV because I don't have to use my magnifier any more. The one at home is a bit different from the one at school because it has a screen that turns round and round. The children at school think the CCTV is a computer and my teacher lets them use it to make stuff bigger."

In fact, the school has been very sensitive to the fact that the CCTV might mark Jake out as being 'different', so they have adapted teaching methods to incorporate the CCTV in class work. Now all the children know what it is and what it does, so to them it is no longer 'special'.

Awards play a key role in underpinning Becta's work: we use them to show best practice across the UK in sectors ranging from early years to adult and community education. The fourth year of the ICT in Practice Awards, which culminated in the presentation ceremony at BETT 2004, proved highly successful. There were over 230 entries for the awards in 2004 – the highest-ever number – and we added new categories: one for learning assistants and one for those new to teaching. These were in addition to the established awards for advice and support, teaching, leadership, inclusion, and innovation and change. As media sponsor, the TES continued to provide excellent high-profile coverage of the awards; and in March 2004 we launched the fifth year of the awards with lead sponsorship from Ramesys and associate sponsorship from Adobe, Capita and Toshiba.

Steve Ungi won the 'Teaching Secondary' category of the Becta 2004 ICT in Practice Awards. Steve was appointed Head of Design and technology at Harrow Way Community School at the beginning of the summer term 2001. Technical support at the school was limited, so he spent his first summer holiday installing hardware and software and creating a new state-of-the-art CadCam suite.

Steve introduced software for 3D computer-aided design, 2D design, virtual manufacturing, 3D design and manufacturing, printed circuit-board design, mathematical modelling and a virtual wind tunnel. He also produced a series of CD-ROMs for use in class to support design technology lessons. According to headteacher Chris Overton, these innovations have had "an enormous impact on pupils' practices and taken an outdated department to the forefront of mainstream secondary school design."

Harrow Way has made outstanding progress in design technology. Between 2001 and 2002, its Design and technology results improved from 32% to 79% for grades A to C at GCSE and it is now the most successful option subject in the school. In a monitoring report earlier this year, the County Inspector for Design Technology wrote: "The curriculum provision for design technology has been revolutionised. The quality of development of CAD/CAM within the school is very high. The range and quality of the pupils' work is exceptional." Harrow Way is now a National Support Centre for CAD/CAM.

The second year of the Digital Video Awards was also very successful. We received over 130 entries from groups of students aged from 7 to 18, and there was increasing emphasis on the use of digital video across a range of curriculum subjects. Becta has showcased widely the winning entries and for 2004 we have extended the scope of the awards under the title Creativity in Digital Media Awards. We also completed a second year as associate partners to BESA and EMAP in the BETT Awards, which focus on the link between high-quality ICT products and effective educational practice.

Learning and skills sector

Isolation can be a problem for those working in the FE sector: practitioners often have few opportunities to meet face to face to share good practice and hear about new developments in ICT and e-learning. To meet this need, the fifth annual **Ferl Conference** was held in London at the end of November 2003. To promote debate, we also hosted an online conference on virtual learning environments (VLEs) from 28 January to 4 February 2004. This was the biggest event of its kind ever held in the UK.

In June 2003 Becta launched the **Ferl Practitioners' Programme** (FPP) – an innovative staff development programme for the further education and lifelong learning communities in the UK. The FPP is designed to equip teaching, learning resources, learning support and technical staff with the skills essential for harnessing the potential of information and learning technology (ILT) and e-learning. Take up has risen to 69% of all UK colleges (314 licences), with a further 290 licences purchased for specialist colleges and adult and community

learners. We are also liaising with the Centre of Excellence in Leadership with a view to extending the FPP to include a module for strategic leadership of ICT and one on e-learning.

> "The FPP was a gift from the gods. It was simple to implement, had excellent examples and could be delivered in many different ways to suit everyone. More importantly the whole package could be encapsulated on one CD-ROM and kept to revisit and seek guidance."
>
> Director of Quality in an FE college

Strand 6 of the Ferl Practitioners' Programme, *Demonstrating transformation*, is a comprehensive, step-by-step guide to e-learning, inspection and self assessment for colleges and providers of adult education and training. In Spring 2004 we distributed it free to all colleges, Regional Support Centres (RSCs) and main Adult Community Learning (ACL) providers in England; we also sent inspection copies to the funding councils of Scotland, Wales and Northern Ireland.

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Some 23 regionally-based **subject mentors**, employed by their home institutions but seconded to the LSC, offer guidance on how to embed e-learning materials in learning and teaching. Between April 2003 and April 2004 the mentor team visited 272 colleges, worked with all National Learning Network (NLN) partner organisations, and had dealings with over 11,000 FE colleagues across the spectrum of teaching and management. We held 11 *Crafting the Content* events in 2003–04 to show tutors how to use NLN materials in their own VLEs; 143 people attended these events, which were received very positively.

> "There are things in my discipline – to do with movement, for example – that can be covered more quickly and more clearly using computers. With some of the NLN materials we have been trialling you can explain a topic more fully in ten or twenty minutes than I usually do over two whole lectures."
> Sport and Leisure Lecturer, Henley College Coventry
>
> "They're very interactive and the best we've got at the moment. I want to demonstrate them to tutors because I think they'll be impressed."
> Librarian, Stroud College

As each round of new materials has become available, initial technical difficulties have gradually been overcome, and more and more staff have been able to make creative use of e-learning.

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Becta has developed the **Community Learning Resource** as the website to take the NLN into the adult and community learning sector. We developed the website jointly with our NLN partners, which include NIACE (the National Institute of Adult Continuing Education in England and Wales), UKERNA (an educational network-management organisation) and JISC (Joint Information Systems Committee), organisations active in community, higher and further education. The site went live at the Ferl Conference on 24 November 2003.

Evidence

Teaching and Learning with Digital Video Assets was a unique project that sought to extend the boundaries of using content in the form of digital media in teaching and learning. The project involved creating some assets by filming and digital video editing, and downloading other ready-made ones using an online portal. These two distinct types of asset may be used either separately or together as resources for learning and teaching.

The project highlighted the issues to take into account in the future development and use of digital media assets at local, regional and national levels. Many of the participants feel that their involvement has made a substantial and lasting impact on their schools. Outputs include the final evaluation report, now available on the research area of the Becta website, and Digital Alchemy, a CD-ROM with advice and tools to help schools embed the use of digital media into subject lessons.

> *"The most noticeable impact is how this initiative enables children to take charge of their own learning and how mature, responsible and motivated they become when handling the equipment."*
>
> Primary school headteacher , Cornwall LEA, on Teaching and Learning with Digital Video Assets

Becta's research website contains information on our ICT Research Network, research resources, reports and publications. The site remains one of the most visited parts of the Becta corporate site and Becta research is quoted increasingly in the education sector.

In 2003–04 the *What the Research Says* series increased to 19 titles, with a new item on using ICT in English and another on ICT and whole-school improvement. Aimed at a general audience, the reports offer concise introductions to key issues and we have received very positive feedback. This includes extensive coverage of the series and the research website as a whole in the NFER publication *50 websites for school improvement*, and in a range of external websites that link to the series. Other additions to the research site have included large-scale literature reviews complementing the ImpaCT2 project on two related topics: the impact of ICT on attainment in primary and secondary schools, and the impact of ICT on pedagogy in primary and secondary schools. The reports revealed evidence of some positive effects of specific uses of ICT on pupils' attainment in almost all National Curriculum subjects, notably in the core subjects of English, maths and science. Summary reports were published as part of the DfES *ICT in Schools Research and Evaluation* series.

Research site page views 2003–04
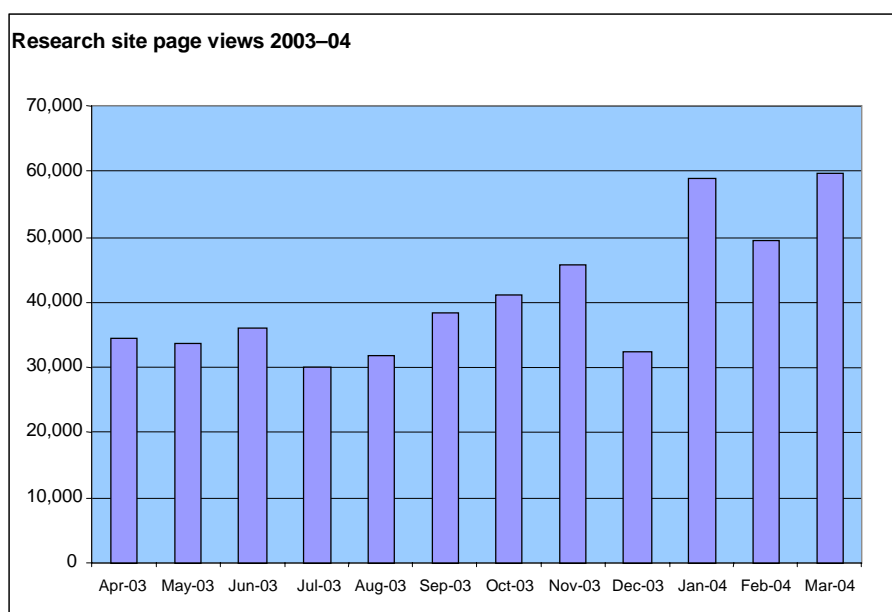
We also published the latest in the Statistical Analysis of National Data series of reports, which set out to determine the relationship between the use of ICT in schools and standards of educational achievement, using data from Ofsted and QCA. We found that the schools that made good use of ICT tended to achieve higher test and exam results than other schools with similar characteristics.

Becta's **ICT Research Network** – which now brings together 1,700 researchers, policy makers, teachers and funders – continued to engage practitioners and make research on the use and impact of ICT in learning and teaching more accessible. In June 2003 we held a very successful conference, 'Proving effective practice with ICT'; of the 230 delegates who attended, 95% rated the conference either excellent or good.

The Becta **ICT Research Bursaries** have continued to support a number of independent research activities. A compendium report summarising the 2002–03 bursary projects was completed for BETT 2004 and published in the Research and Evaluation series. All 13 projects for the 2003–04 schemes were agreed during Autumn 2003 and final reports will be published at the end of 2004.

Achievements: institutional development

Government

We have maintained our links with Government and its agencies and other bodies through collaborative working, policy reviews and support for initiatives. Becta supports the Embedding ICT in Primary Schools initiative in partnership with the Primary National Strategy (PNS), DfES and NCSL. This initiative saw the emergence of a common language and a single model, which were to lead to the co-development of five LEA conferences and a leadership toolkit in Summer 2004. Work on the SLICT (Strategic Leadership of ICT) programme for headteachers has informed leadership policy, identified gaps in provision and led to the creation of a proposal for briefing national strategy and related consultants to support schools with a coherent message about the role of school leaders and effective institutions. Our work in 2003–04 led to the development of four high-profile conferences linking policy, practice and research. We also began ongoing activity on a programme of symposia, papers and dialogue on a range of policy issues, including a focus on the personalised learning agenda and its impact on institutional effectiveness.

Schools

Online support services for **leaders and local education authorities (LEAs)** linked to support materials provide an essential information service on ICT management and leadership issues. These services have continued to grow. The LEA portal on Becta's corporate website offers leaders and LEAs an effective channel to guidance materials for leaders. For example, the Building the Grid site holds information that has been developed specifically for chief education officers, plus a range of materials to help LEAs and strategic school managers in England. We have over 2,000 subscribers to the ICT Support Network's weekly e-newsletters.

Over the last two years, Becta has developed in collaboration with NCSL a range of **self-evaluation and action planning tools** for schools and LEAs. This is the first time self-assessment tools like these, which are designed to allow organisations to review their progress critically and plan future developments, have been made available, underpinning the importance of critical self review and supported action planning. The self-evaluation matrices include one for Naacemark for schools, a quality mark Becta developed in association with Naace and which is used by over 900 organisations.

> *"During the summer of 2003 we contacted our LEA primary ICT adviser, who encouraged us to apply for the Naacemark. Our first port of call was the Becta website. We worked through the 10 criteria required to gain the Naacemark using the online matrix to see whether we were on course and what work would be involved. The planning matrix grid helped us to identify areas needing more work."*
>
> Primary school, Hertfordshire

We have developed further matrices covering a range of topics including ICT assessment and record keeping, technical support assessment (linked to Becta's Framework for ICT Technical Support (FITS)) and self review for LEAs. Partners on these initiatives have included Ofsted, DfES, Confed (Confederation of Education and Children's Services Managers) and NAACE (an association for advancing education through appropriate use of ICT).

Developing these materials and approaches in partnership provides a range of tools to meet school- and LEA-determined needs. The growth in adoption and the level of use during the year since March 2003 demonstrate the value of these matrices:
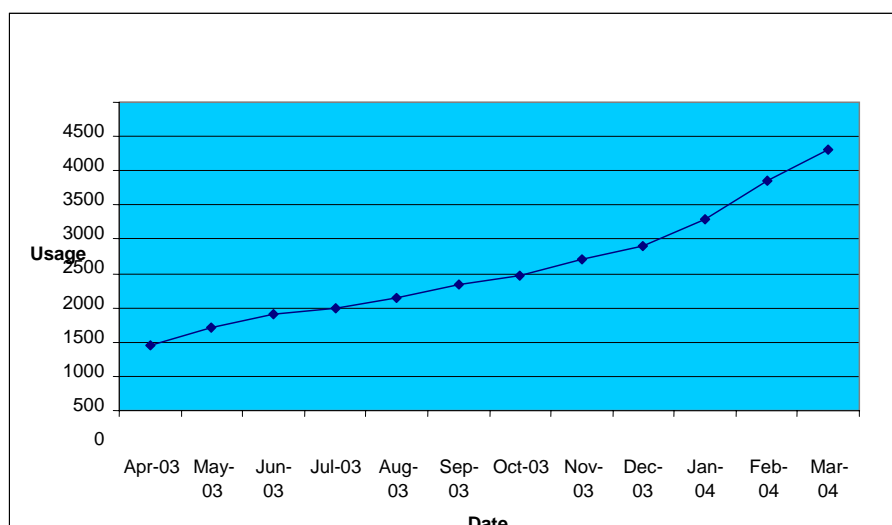
We will continue to review current tools and to develop new matrices in the schools sector, and plan to adapt them to create similar resources for learning and skills providers.

Becta has established a partnership programme with NCSL where Becta supports the national rollout of the **Strategic Leadership of ICT** (SLICT) programme by contributing material to the overall programme direction and providing support and management for the 488 schools acting as hosts. The programme has received considerable support at school, LEA and national level, with links being made between this programme and other DfES ICT initiatives such as the Hands-on Support programme, which is designed to help teachers make effective use of ICT in their teaching and learning. By 31 March 2004 1,800 headteachers had taken part in the programme and our target is to exceed 3,000 by 31 March 2005.

Full responsibility for the **ICT Test Bed** initiative transferred from DfES to Becta during 2003–04, although Becta has managed the implementation of the project since its inception in October 2002. The project involves 28 schools and three colleges in three LEA-focused clusters. The project takes a holistic approach to ICT implementation with the institutions having access not only to high levels of ICT, but also to funding towards the support they need to make the most effective use of this investment. The main aims of the project are to determine how ICT use can raise standards in schools and colleges and to gather and disseminate evidence about how ICT can bring about significant improvements in all aspects of education.

A multilingual information kiosk is playing a central role in Ripple Junior School's strategy to improve communications with its pupils' parents. This is a major issue as the school, which is part of the Barking and Dagenham Test Bed cluster, has parents who use 33 different languages.

The school's solution has been to introduce an information kiosk with a touch-sensitive screen. Featuring the six main languages of the school population – English, Hindi, Urdu, Yoruba, Swahili and Punjabi – the kiosk provides access to general school information, such as the prospectus, attendance information, the curriculum and the home/school agreement. It is

> *planned that the system will also display students' work. Along with the new cybercafé, the kiosk also plays a role in the school's wider home–community links strategy by offering parents internet access.*
>
> *"Both initiatives are proving increasingly popular as the children encourage their parents to come in to use the new equipment," comments Ripple Junior Head, Gordon Sanders.*
>
> *"The issue of sustainability is another important consideration, so we are now looking at allowing outside agencies to use the facilities for adult training in the hope that the resulting income will assure the future of the project."*

During 2004 all institutions involved in the Test Bed project made progress in embedding the technologies they implemented in the first phase of the project into their organisational practices. Support from the LEAs and Becta continued to be significant, and collaborative working has been a key theme, along with the Accelerating Change programme delivered in partnership with the National Remodelling Team. Across all clusters and phases there have been a number of school inspections, and feedback has been positive on both the project and the role ICT is playing in the schools.

Learning and skills sector

The **14–19 reform** agenda is still relatively new, so the school, college and work-based learning sectors require advice and guidance on how ICT and e-learning can support its implementation. Last year we worked with the DfES ICT in Schools division to look at the availability of e-learning resources suitable for use with the applied GCSEs. We will build on this throughout 2004–05 by looking to provide advice and guidance to support vocational provision across the phase, including modern apprenticeships. To support this work, we are developing relationships with the sector skills councils and the Sector Skills Development Agency.

Recognising the importance of e-assessment to the successful implementation of 14–19 reform and to personalised learning across all age groups, we have set up an e-assessment project board under the auspices of the National Learning Network. This cross-sector, cross-agency group is working on identifying and prioritising barriers and enablers through research and gap analysis and is moving forward on areas for collaborative action on use of ICT and e-learning. Underpinning all of our advice and guidance has been the collection and dissemination of evidence of good practice in the use of ICT and e-learning, particularly in the field of cross-sector or cross-institutional collaboration.

Each Regional Development Agency (RDA) has been tasked with setting up a Framework for Regional Employment and Skills Action (FRESA) in its region to address ways in which partners can work in collaboration to counter skills shortages. To reflect this, the **Ferl Outreach Adviser team** has been strengthened to support the regional agenda. Ferl development advisers have taken on a more strategic role and are now working with the RDAs and the newly formed regional LSC offices to examine how Becta can support this initiative.

We have modified the Becta **total cost of ownership** (**TCO) model** for schools to apply it to further education. We have collected enough data from our web-based trial with two groups of nine UK colleges to enable us to make a reasonable comparison between individual colleges and the overall total annual cost of ICT to the sector.

Evidence

Some 256 colleges, representing 64% of the sector, responded to the 2003 **ILT monitoring survey,** which aimed to assess progress in the provision of ILT in the further education

sector. The survey results suggest that the large investment since 1999 in colleges' technology infrastructure has been slow to have a widespread impact on learning and teaching. While staff training is an important element in integrating ILT into teaching and learning, the survey identified sustainability as the key issue that underpins ILT use and development as many of the computers bought in 2000 and 2001 reach the end of their useful lives.

The **ICT Test Bed project evaluation** by a team from Manchester Metropolitan and Nottingham Trent Universities has produced the first working drafts of maturity models to assess the impact and readiness for ICT embedding and use. These models are starting to be used as data collection tools. Secondary data analysis based on material collected by the implementation team was commissioned to supplement what evaluators have been undertaking and to add value to the project. The first report is due in June 2004 and work is already under way on disseminating outcomes from the evaluation alongside lessons from the project itself.

Environment: educational technology

In recent years there have been significant advances throughout the UK in the development of ICT infrastructure and connectivity. In England, all schools are connected to the internet – with 41% of primary schools, 98% of secondary schools and all colleges now connected at broadband speeds. The ratio of computers to pupils has been improving steadily; in primary it is now 1:7.9 and in secondary 1:5.4. The number of schools with interactive whiteboards is also increasing, with 48% of primary schools and 82% of secondary schools having at least one whiteboard. By 2006 over 300,000 teachers will have personal access to a computer. The education sector now has over 1.2 million desktop computers and, if current growth levels are maintained, by 2006 this figure is likely to exceed 2 million.

Spend by government 2003-04
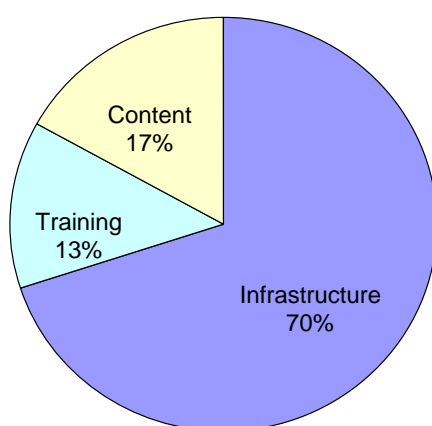
There has been similarly remarkable growth in the amount of electronic materials rich in resources for learning, yet the increase is chaotic, provision is patchy and quality is variable. There are over 12,000 titles listed on Curriculum Online (COL), and the National Learning Network Materials programme has made over 800 hours of teaching materials available free to colleges and the adult and community learning sector. Despite the introduction of funding designed to encourage the development and uptake of such educational content, the extent of its use in everyday learning and teaching has been disappointing.

The use of content for learning is at an early stage in all sectors and only a few teachers have so far adopted it. A substantial amount of work is required to introduce teachers to online content, to help them to locate and recognise good quality and to build their skills in integrating it into their teaching.
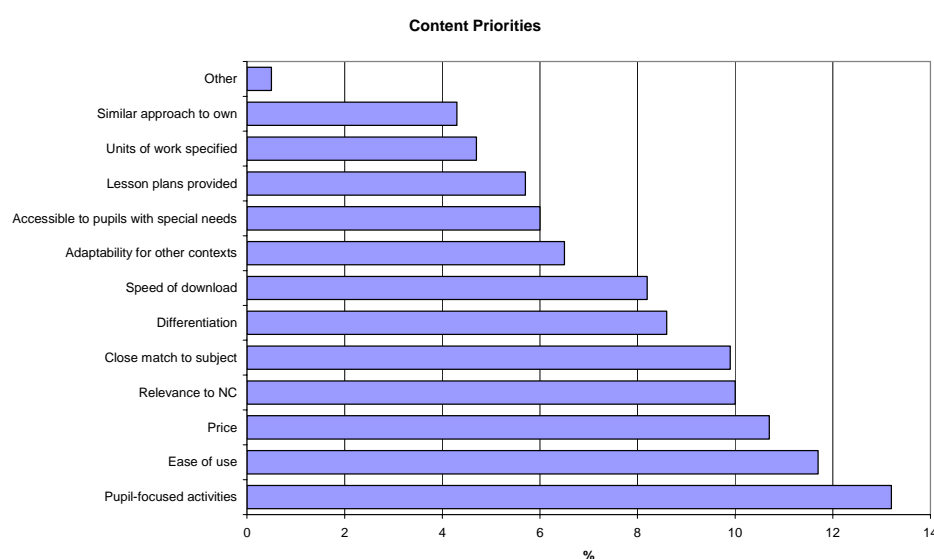
However, despite significant advances in the volume of equipment, in most institutions the reliability, coherence and diversity of the ICT infrastructure remain significant issues. Becta's survey of equipment in secondary schools indicates that only 23% have the specification of equipment required to run the proposed Key Stage 3 online assessment. Our research also indicates that 63% of primary schools and 59% of secondary schools do not have adequate processes in place to manage their ICT infrastructure. We see our role as leading and co-ordinating a system-wide approach to ICT infrastructure and content to build capacity, confidence and coherence across the system. To do this, we have divided our activities in educational technology into two programmes of work to deliver two strategic aims:

- to improve the availability and use of high-quality educational content

- to develop a coherent, sustainable and dependable ICT infrastructure for education.

Achievements: content

Government

Chaired by Becta's Chief Executive, the **Content Advisory Board** was established in September 2003 to advise the Secretary of State for Education and Skills on the performance of Curriculum Online in delivering a comprehensive range of online digital learning resources for schools. The initial task of the Content Advisory Board is to develop a strategy to deliver a comprehensive, coherent and consistent set of curriculum resources for teachers and pupils. A system of regular consultation with the private sector has been set up and research has been commissioned to inform the Board's thinking and decision making. Reports to the Board have included customers' views on Curriculum Online, research on curriculum coverage and the impact of e-learning credits (eLCs). The following chart, taken from a content survey at BETT 2004, shows teachers' and other key users' priorities in choosing content:

Content Priorities

Category	%
Other	0.5
Similar approach to own	4.3
Units of work specified	4.7
Lesson plans provided	5.7
Accessible to pupils with special needs	6.0
Adaptability for other contexts	6.5
Speed of download	8.2
Differentiation	8.6
Close match to subject	9.9
Relevance to NC	10.0
Price	10.7
Ease of use	11.8
Pupil-focused activities	13.2

The Government has also tasked Becta with examining the BBC's commissioning plans in relation to their proposals for a digital curriculum. This will be a free online service to be launched in January 2006.

Schools

Since July 2002 Becta has been running, on behalf of the DfES, a registration service for content providers and retailers who want to make their digital learning resources available to teachers via **Curriculum Online**. We are also responsible for monitoring compliance to ensure that suppliers only make eligible products available. We have supported the Curriculum Online technical standards programme by authoring and publishing metadata vocabularies for a range of subjects not currently covered. We also oversaw the development of a new classification system and information structure for the redesign of Curriculum Online, which has given users a more intuitive navigation structure.
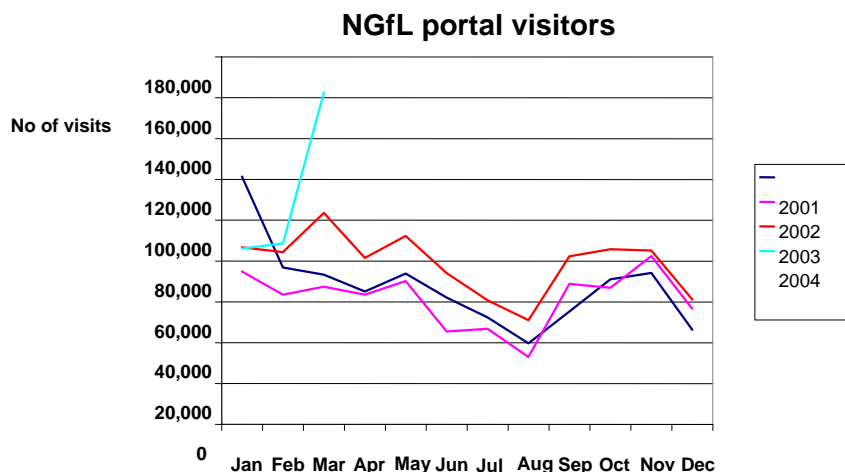
By the end of March 2004 there were 597 registered content providers and 631 registered retailers on Curriculum Online. At the end of January 2004 there were 12,717 resources on the Curriculum Online website.

Despite the very high number of registered products and suppliers, spend is concentrated on a relatively small number of suppliers – 61% of spend goes on 2% of registered suppliers of

priced product. These suppliers provide only 12% of the registered products.

Content Advisory Board data, March 2004

One of the largest portals in the world for educational content, the **National Grid for Learning** (NGfL) is the gateway to educational resources on the internet for all sectors. It provides a network of selected links to websites that offer high-quality content and information. Last year, the NGfL continued to build its year-on-year growth in visitors (see chart).

NGfL portal visitors

No of visits

Chart showing monthly NGfL portal visits (Jan–Dec) with lines for years 2001, 2002, 2003 and 2004. Y-axis ranges from 0 to 180,000 in increments of 20,000.

New features on the NGfL portal have included a personalisation service that enables users to register a profile and save favourite pages for future reference; the launch of an email newsletter including news, events and the latest additions to the site; plus the design of new categories for user groups such as librarians.

Contributions to the **Teacher Resource Exchange** (TRE), the UK's only public service allowing the direct exchange of resources and good practice between teachers, have continued to increase. The TRE also supports Curriculum Online by providing free teacher-generated content.

Learning and skills sector

One obstacle to the success of e-learning identified in the DfE/-LSC *Success for All* report was the limited availability of high-quality content. To address this issue, Becta has been contracted by the Learning Skills Council to commission **e-learning materials for the National Learning Network**. We manage the procurement process, the project support for contracted suppliers and the delivery of e-learning materials to users. Over 500 hours of online learning materials had been made available by summer 2003, with a further 300 hours due to be released during 2004. The materials have been delivered free to colleges in England, Scotland and Northern Ireland. *Paving the way to excellence in e-learning* was published in January 2004 to show how we ensure the high quality of e-learning materials we commission.

We have done innovative work to support teaching staff in **developing and customising learning content**. Benefits of the approach include increased engagement with ICT, improved ICT skills and a greater sense of ownership of the materials. This produces content

that is tailored to the learner and embedded in the teaching process. We have been at the forefront of promoting the re-purposing of existing materials to meet the needs of learners.

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Work has started on the next round of National Learning Network materials that we are developing for the **adult and community learning** (ACL) sector. We have also created content creation toolkits for ACL users which are hosted online, starting with Webquests.

Content suppliers

We published a data model focusing on **technical standards** currently supported by products using existing learning platforms. Available since December 2003, the model asks suppliers to specify the standards and specifications with which their products are compatible. This data is being used to inform a review of the Learning Platform Conformance Regime.

We continued to hold meetings with content providers and to provide information and advice, both individually and through contributing to meetings, conferences and other events. We have published and promoted advice on quality issues both in print and on our websites. For contributors to the NGfL we published a booklet with tips on creating educational content and advice on how to make websites meet the NGfL technical and content standards.

## Achievements: infrastructure

Government

In our new remit, the Secretary of State charges Becta 'to continue to develop its high level strategic relationships with national and international organisations'. We aim to maintain **dialogue with the private sector** to ensure best value for money in the procurement of quality equipment and services supplied to the education system. On behalf of and at the request of the Secretary of State, in December 2003 we signed a memorandum of understanding (MoU) with Microsoft in relation to its licensing framework for schools. Taking effect from 1 January 2004, the MoU gives significant savings to schools that choose to license Microsoft software. The agreement also extends to schools in Northern Ireland, Wales, and Scotland.

Taking account of current spending patterns and the cost of Microsoft products to schools at the start of the financial year, we expect total savings to schools in England to reach £46 million over three years, with a further £2.5–3.5 million anticipated savings by schools in the devolved administrations over the same period. Depending on the mix of products purchased, schools should be spending between 20% and 37% less than they might have expected without the MoU. The new agreement does not change schools' current purchasing procedures and advantages all schools who choose to licence Microsoft software but does not diminish their freedom to choose alternative solutions.

Schools, LEAs and the learning and skills sector

Sustainability of ICT infrastructure is highly important, so we have produced a standards methodology and online tool that allows schools to assess the total cost of ownership (TCO) of their ICT infrastructure. This is becoming increasingly important at a time when investment in ICT in the educational sector is rising. We have developed a TCO model and online system that collects data on costs of IT infrastructure as well as information on user confidence and perception. We have also commissioned research on different models of technical support, including schools using open-source software, which will be reported on in 2004–05. We are developing the system to make it available to all schools in England and are working with Wales on developing a system for Welsh schools over the next two years.
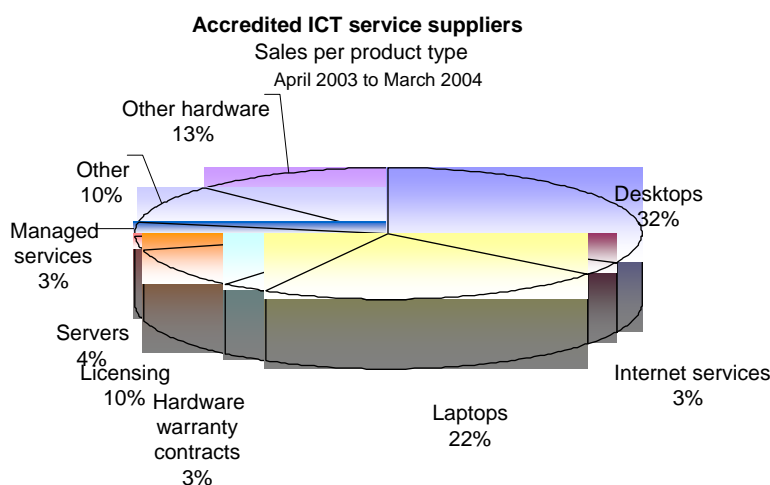
Total annual cost of ICT
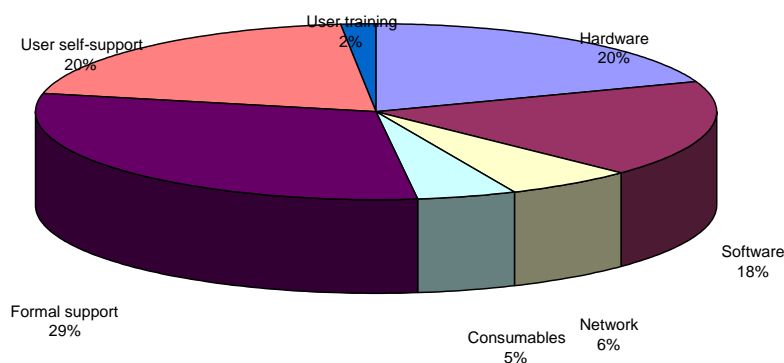
The Government has identified **interactive whiteboards** as a key tool in the use of ICT to raise standards and revolutionise learning and teaching. In support of this, in January 2003 Becta undertook a procurement competition, setting national standards for the specification of the equipment and services and establishing a framework contract. Since the framework contract and catalogue went live, the average costs for the bundled package have dropped by approximately 9%. We estimate that the £25-million interactive whiteboards project will provide over 8,000 interactive whiteboards for schools and at BETT in January 2004 a further £25 million of funding was announced for 2004–05. During 2003 Becta also took on full responsibility for the Laptops for Teachers initiative, which had £60 million of funding. Between year 1 and year 2 the average cost of laptops has fallen by 18%, despite a rise in the equipment specification. As a result, over 14,000 extra teachers will now receive a laptop.

> *"I have been hugely impressed myself by the use of electronic whiteboard technology. […] I believe that interactive whiteboards are a tool which can assist teachers in delivering exciting and engaging lessons to children of all ages and ability. They are now teaching whole classes in an entirely exciting and exhilarating way which gets benefits from the interactions of the children with each other and with the teacher, and with the whiteboard, in whatever context it might happen to be. "*
>
> Charles Clarke, Speech at BETT, January 2004

Over £376 million was spent with the Becta **ICT service suppliers** and analysis of this spend (see graph below) will inform our future strategy development. Work is also well under way on a continuation of the Becta Accredited Internet Service Providers scheme via a rolling accreditation process. The DfES also commissioned Becta to run a procurement exercise in support of the 2004 Fast Track Teachers initiative, which involves 400–700 laptops, printers and digital camera packages.

Accredited ICT service suppliers
Sales per product type
April 2003 to March 2004

Other hardware
13%

Other
10%

Managed
services
3%

Servers
4%

Licensing
10%

Hardware
warranty
contracts
3%

Desktops
32%

Internet services
3%

Laptops
22%

Beginning in 2001, Becta's **Independent (ICT) Procurement Advisory Service (Ipas)** was commissioned by the DfES to support schools in the procurement of effective and sustainable ICT equipment and services. Since then, the Ipas team has developed a portfolio of generic advice, guidance and information on ICT procurement and related issues. From the outset the intention was to learn lessons and gather information that would inform the development of services to schools and LEAs.

Targeting a range of people from headteachers and technicians to LEA representatives and suppliers, we have made available free advice and guidance through four channels: a website, a CD-ROM, national seminars and workshops, and a telephone/email support service for schools with specific procurement queries. In addition, we have offered consultancy and advice to seven LEAs and have delivered a national programme of seminars on ICT procurement and related topics. Over 1,500 people attended Ipas seminars between April 2003 and the end of March 2004.

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Broadband Consortia and the DfES to deliver over a **national schools' network** the services that schools need. This is to be a secure network, available from anywhere, with a system of safe information and service access across education. It will enable the wide area network to become a true extension of local area networks and allow easy access to a wide range of high-quality online applications. Becta has also led on the strategic development of the proposed National Management Authority, working with stakeholders to establish standards that will allow coherent connectivity and greater interoperability over the national education network.

The **Technical Support Advisory Service** (TSAS) aims to equip schools with the knowledge and expertise they need to manage their ICT infrastructure effectively and to commission technical support services to meet their requirements. The service has developed the Framework for ICT Technical Support (FITS) to provide advice and checklists for schools. FITS changes the focus of technical support away from fire-fighting to working more proactively to minimise ICT incidents. Ofsted, which has used FITS to assess current practice in schools, has released a report to the DfES recommending the development of a national framework building on FITS. In 2003, TSAS also launched an online survey of current technical support practice in schools.

Industry

We recognise that the commercial sector is a key strategic partner in helping educational organisations to realise the benefits that ICT can bring to learning, teaching and organisational management. Industry provides valuable insight into future developments and current trends, supporting innovation and the development of new approaches.

On 3 March 2004 we held the first **meeting with industry partners** to bring the commercial sector fully up to date on the current educational agenda, and to discuss collaboration with Becta on agreeing a shared vision and ways to deliver it. We discussed education, content and infrastructure issues with managing directors and chief executives of around 100 infrastructure, content and consultancy companies, many of which have not worked collaboratively with Becta before.

Evidence

We have carried out a number of technical surveys in 2003–04. The DfES commissioned us in 2003 to carry out a detailed **survey of local area network (LAN) infrastructure** and ICT equipment in schools. Published in February 2004, the survey report is the first of its kind in that the data on workstations, servers, networking equipment and network topologies was collected from schools by technically qualified engineers. The results give a clear picture of the present status of ICT infrastructure and equipment in schools, and a valuable insight into the diversity of provision both within and between schools. The report will provide a substantial step forward in allowing us to advise Government on future investment decisions and priorities.

- 99% of secondary, 77% of primary and 78% of SEN/PRU networks pass the minimum 100Mbps requirement as recommended by Becta for both desktop and LAN infrastructure speeds.
- 36% of primary and 24% SEN/PRU schools have technical support provided by teachers.
- Over 88% of secondary, 66% of primary and 68% of SEN/PRU schools use interactive whiteboards.

Becta LANs in Schools survey (2003)

During Autumn 2003 Becta contracted BMRB International to conduct the **Performance IndICaTor**, a survey of 2,510 schools in England to investigate their satisfaction with ICT products, services and suppliers. Key findings include evidence that, in general, secondary schools tend to be more satisfied than primary schools with their ICT equipment and services. This is true across almost every area included in the survey. There is also considerable variation in the ratings given for different computer manufacturers, suppliers and internet service providers.

We developed our **expert technology seminars** that draw together policy makers, analysts, leading practitioners and experts from the IT industry. Topics included broadband technologies and home, school and community links. We also continued to publish a collection of technical briefing papers for practitioners on topics ranging from web hosting and personal area networks to data-logging and open-source software.

Achievements: Becta as an organisation

Accountability

Our new remit letter indicates that Becta is directly accountable through our Board to the Secretary of State for Becta's strategic direction and successful delivery. In response to this, we have put into place a new **accountability framework** to allow the Board to support and challenge the Executive. This includes a revised risk-management system and a performance-measurement framework to gauge our impact on the education system. To support the Board we have revised the structure of the Board committees that will advise on key areas of our activity. We have also worked to develop clear and effective ways of working with the DfES and the other UK Education Departments, as expressed in new memoranda of understanding.

People and corporate systems

Our greatest challenge in this area in 2003–04 was to **restructure the organisation** to deliver our new remit and reflect our new funding regime, which has meant a substantial increase in our core grant to allow us greater flexibility over the delivery of our work. We worked with PricewaterhouseCoopers on a new organisational design, which we finalised by December 2003. Recruitment initially concentrated on senior posts and specialist advisers, and by 1 April 2004 the whole organisation had moved to the new structure. To support our strategic aims we have developed our evidence and evaluation capacity, providing all staff and programmes of work with appropriate research support.
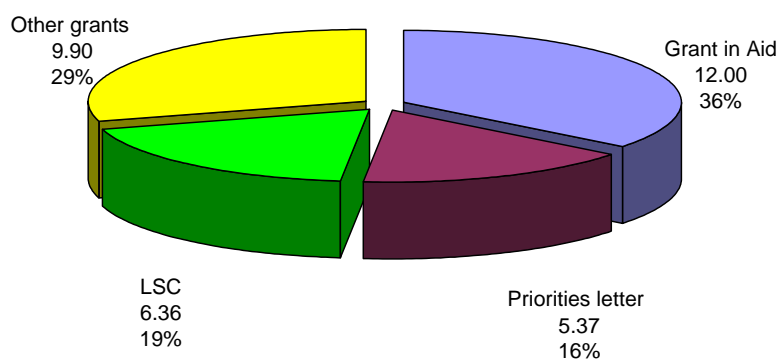
We have continued to develop our corporate systems in line with the reorganisation. This has included the establishment of a programme office to oversee programme and project management, plus a new corporate procurement board to define procurement policy and ensure compliance with OGC (Office of Government Commerce) guidance and EU legislation.
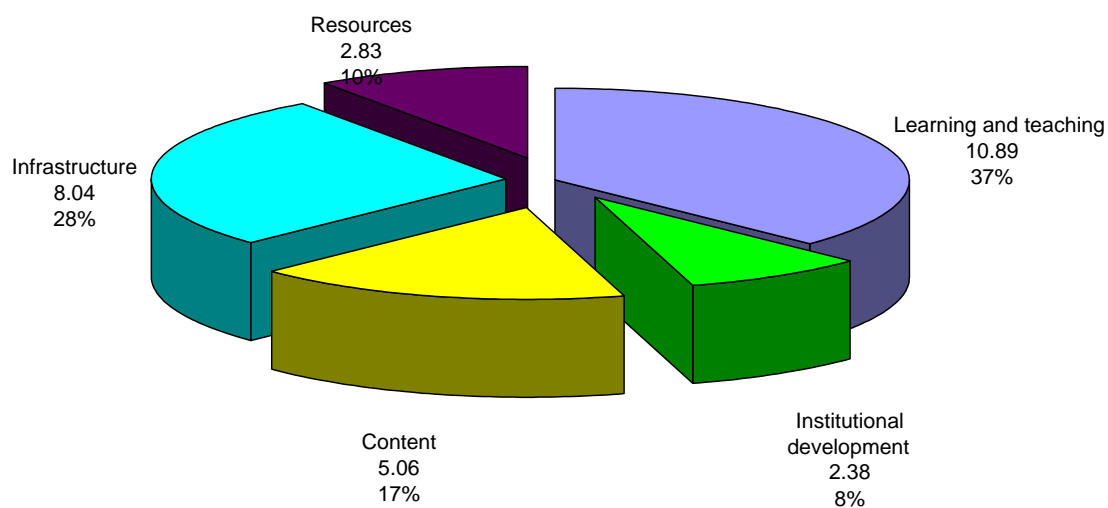
Communications

Over the past twelve months we have been moving towards a more cohesive **client-focused approach** to communications. This has resulted in a series of publications promoting the specific resources available to our client groups and a web portal redesigned to channel information more directly to our different sector audiences. This year, too, Becta has started regular holistic ICT advice columns for key trade magazines in the education and industry sectors. Further highlights have been a supplement outlining the changes in Becta's remit, which appeared in *The Independent* in September 2003, and the programme of activity for each of our client groups, which we published at BETT 2004.
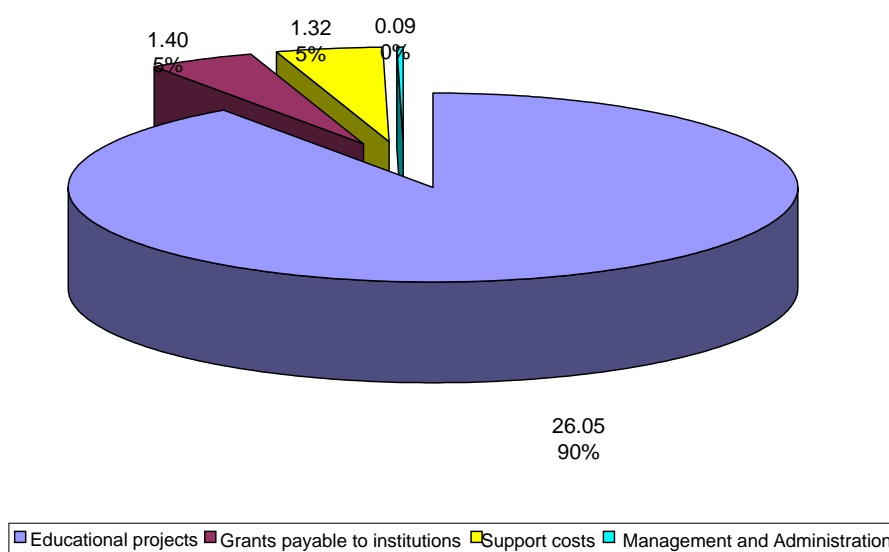
Money and people

Sources of Becta's income (£m)

Other grants
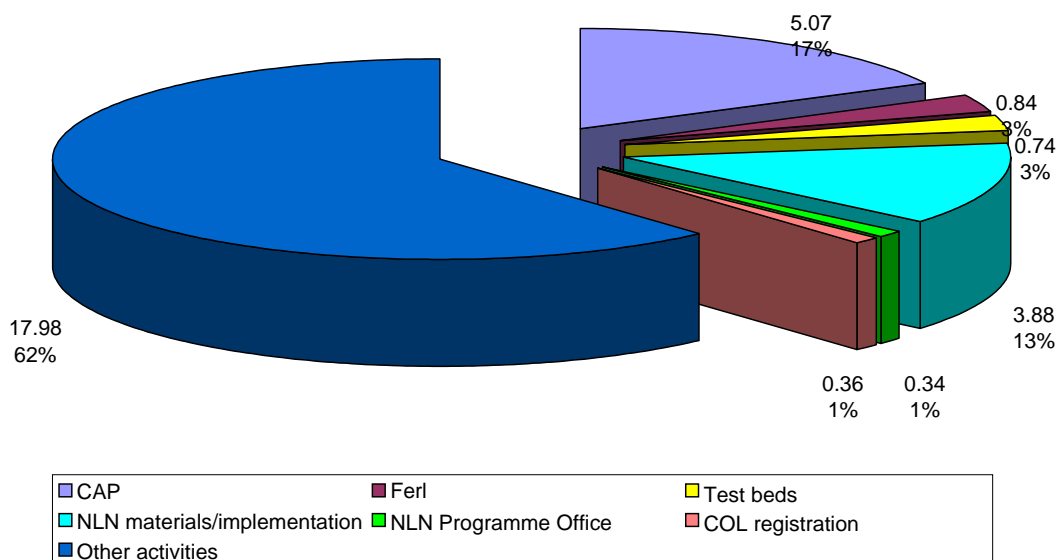9.90
29%

Grant in Aid
12.00
36%

LSC
6.36
19%

Priorities letter
5.37
16%

Expenditure by strategic aim (£m)

Resources
2.83
10%

Infrastructure
8.04
28%

Learning and teaching
10.89
37%

Content
5.06
17%

Institutional
development
2.38
8%

Expenditure by charitable activities (£m)

1.40
5%

1.32
5%

0.09
0%

26.05
90%

☐ Educational projects ☐ Grants payable to institutions ☐ Support costs ☐ Management and Administration

Expenditure on major projects (£m)

5.07
17%

0.84
3%

0.74
3%

3.88
13%

17.98
62%

0.36
1%

0.34
1%

☐ CAP	☐ Ferl	☐ Test beds
☐ NLN materials/implementation	☐ NLN Programme Office	☐ COL registration
☐ Other activities		

A full financial report on Becta's activities in 2003–04 is available on the Becta website.

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Committees

In 2003–04 Becta established a new committee structure to support the work of the Board.

- The **Education Committee** provides strategic advice to the Board on the role and impact of ICT on learning, teaching and educational institutions.

- The **Technology Committee** advises the Board on infrastructure and content and their application to education.

- The **UK Strategic Committee for ICT in Education** provides a forum for the four UK Education Departments to discuss strategic ICT policy issues.

- The **Audit Committee** reviews the financial reporting process, the system of internal control and management of financial risks and the audit process.

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Future priorities

Having established the foundation for implementing our new remit to lead and co-ordinate ICT in education over the year, we are keen to use our new responsibility to deliver real change. Our priorities in doing this will be informed by some of the practical lessons we have learned since Becta was formed in 1998:

1. **ICT and good practice together make even better practice.** ICT infrastructure and content will not achieve transformation unless supported by engaged staff and institutional development.

2. **You only maximise the benefits from ICT if you take a system-wide approach.** To achieve this in a devolved education system requires creativity, leadership and networking.

3. **ICT in education is neither just a commercial market issue nor just a public sector issue – it is both**. Successful ICT in education usually happens through public-private collaboration.

4. **ICT challenges the status quo by increasing access and encouraging networking**. ICT breaks down barriers and builds communities: among and between learners, teachers, schools, homes and colleges.

5. **Learners get there first.** No matter how fast education professionals develop their own ICT skills, learners will usually be there first.

We believe that these insights will help us to counter the fragmentation that characterises the education system. We cannot carry on as we are. The reliability and variability of infrastructure and content remain significant issues for educational institutions, and innovative practitioners still face isolation. Our aim is to act as a force for coherence, operating across all sectors and phases to rationalise and join up the system. Becta is a small organisation and we want to maximise our influence and impact by exploiting our unique position at the interface between educational practice and educational technology; central government and the locality; the public and the private sectors.

We will continue to develop the work outlined in this report. We will work with Government to create more coherent policy for ICT and education, advising on areas such as the contribution that ICT can make to personalised learning and ICT for assessment and inspection. We will develop evidence-informed models of effective practice, benchmarks in areas such as content development, and a framework of technical support and pedagogical frameworks.

Over the last few years we have developed tools to help individuals make decisions about purchasing, implementing and managing infrastructure. We will develop and promote tools like these as well as other ways of improving skills and training. Our objective is to ensure that all content is comprehensive and well balanced, and that it meets the needs of educational users. We will also work to develop a sustainable model for infrastructure. We will continue to provide a comprehensive set of advice services and a robust evidence base, building a new national library of effective practice, and increasing continuity of learning between learners' homes and educational institutions through ICT.

We recognise that agreeing a common way forward will be difficult, as there has not been leadership in this area before. Collaboration is crucial. Without co-operation from industry, LEAs and educational institutions, we will not be able to achieve the long-term change that is necessary. However, we believe we can create the frameworks and flexibility that will translate the Government's substantial and ongoing investment in ICT into the foundation for a world-class education system.