Becta
leading
next generation
learning

Harnessing Technology for Next Generation Learning

Children, Schools and Families Implementation Plan 2009–2012

Contents

This document is aimed at leaders, managers, practitioners and providers working in the Children, Schools and Families sector and their representative bodies. It will also be of interest to national agencies and departmental bodies.

Ministerial Foreword

Jim Knight
Minister of State
for Schools
and Learners

I am pleased to introduce the Harnessing Technology implementation plan for Children, Schools and Families. Based on the work of many partners across the sector, the plans outlined in this document will play an important role in ensuring technology supports the transformation of services for our children and young people.

Technology has already had a huge impact on the lives of our customers, many of whom now accept technology as an essential aspect of everyday life. Schools and local authorities are responding to this rapidly changing context, increasingly recognising how technology can help improve teaching and learning and the management and support of children and young people. Where technology is used well, we have seen real benefits, including improved motivation, engagement and achievement.

My Department has a strong commitment to continued investment in technology to support improvement. Over £600 million is being distributed between 2008 and 2011 to schools through the Harnessing Technology grant, enabling every school to make strategic investment in the technology it needs for the future.

We have also made available significant capital funding for transforming schools through the Building Schools for the Future and Primary Capital programmes, which will deliver a truly modernised school estate, fit for the 21st century. We are investing £9.3 billion in Building Schools for the Future and £1.9 billion in the Primary Capital Programme over the next three years.

In addition, in 2008 I announced the £300m Home Access programme to ensure that every child and young person, no matter what their background, will have access to the technology and support they need for learning both in school and at home.

Together, these developments offer us an unrivalled opportunity to transform how schools, professionals, children and young people communicate, work and learn together, ensuring that technology really does improve and transform our services for children and young people.

This implementation plan is an important step in achieving that, ensuring a concerted and co-ordinated approach to technology within the sector.

The Rt Hon Jim Knight MP

Preface

Stephen Crowne
Chief Executive,
Becta

Niel McLean
Executive
Director, Becta

The Children, Schools and Families sector is undergoing a period of transformation, and Becta is pleased to be leading a strategy that underpins this development.

A step change is needed if we are to make the most of the opportunities that technology offers, and that step change will need action from many areas. It will require focused leadership, a capable and creative workforce, a responsive curriculum and assessment system, fully engaged learners and parents and a strong supply industry providing innovative, high-quality products and services. Our goal is to develop a fully technology-confident system. For this to be achieved we all need to make a reality of the stronger partnership approach which is set out in this plan.

This is our vision for Next Generation Learning – a vision which has informed a strategy which will deliver real change and benefits to learners. Benefits will be realised in the form of learning that is more flexible, more closely tailored to individual needs, is assessed and monitored more often and more accurately – and which takes place at times and places to suit teachers and learners.

This implementation plan has been developed with our partners, through a period of discussion and wider consultation within our Governance boards. Each board's views were aligned through a cross-sector event in December 2008 which involved experts, partners and policy makers. Here the priorities for the sector were reviewed and ratified, and the roadmap developed became this implementation plan. Through aligning our priorities and careful negotiation of our respective roles and remits, partners have come together to support one shared set of priorities, one implementation plan, and a series of key actions that form its delivery.

Stephen Crowne

Niel McLean

Summary

Technology's role in world-class education

This implementation plan outlines the strategic ambitions for technology in the Children, Schools and Families sector. The plan supports national priorities including improving achievement and narrowing attainment gaps, engaging disadvantaged and vulnerable children and young people and developing the capacity, quality and efficiency of provision.

Core goals

Reflecting the system-wide strategy outlined in *Harnessing Technology: Leading Next Generation Learning 2008–2014*[1], this plan identifies core goals which national partners will work together to achieve:

- Greater flexibility and choice among learning options – using technology to offer differentiated curricula and learning experiences which help meet children's and young people's needs and preferences

- Tailored and responsive assessment – both formative (for example, more immediate feedback on learning, better information about progress) and summative (for example, flexible end-of-stage assessment)

- Engaging learning experiences – for learners of all abilities, in all contexts, including children and young people who are hard to reach

- Strengthened relationships between families, schools and learners – with an emphasis on the adoption of information systems and use of online tools to improve parental involvement.

[1] *Harnessing Technology: Next Generation Learning 2008–14: A summary* www.becta.org.uk/ publications/ harnessing technologystrategy

Clear objectives

These goals are supported by four objectives:

Technology-confident schools and providers – ensuring that providers progress well towards e-maturity[2], that the workforce is aware and confident in using technology to improve practice and that teachers demonstrate a wide repertoire of professional skills with technology.

Engaged and empowered children, young people and families – ensuring that home access entitlement is delivered to all learners, and especially those who are hard to reach and those at risk of digital exclusion, and that technology adds value to family and extended learning, and learners use technology confidently and responsibly to support their learning and access to information.

Confident system leadership and innovation – ensuring that capital investments embrace a world-class vision of technology, that school leaders understand how technology supports their priorities and innovation is encouraged, with good practice shared and adopted.

A world-class, joined-up technology infrastructure – ensuring that systems for learning are fully interoperable, that high-quality tailored resources are available to all learners and that the infrastructure is designed for efficiency and sustainability.

This plan lists actions against all these areas which will be taken forward by Becta and its partners. Targets and milestones will be set and implementation will be monitored by the Harnessing Technology Children, Schools and Families Board.

[2] That is, they have good basic technology in place, which is led and managed well and used across the curriculum

1. Introduction

Refreshing the Harnessing Technology strategy

The Harnessing Technology strategy was first published by the DfES (Department for Education and Skills) in March 2005. Becta was given the role of lead delivery agency and was subsequently asked by DCSF (Department for Children, Schools and Families) to publish a refreshed strategy.

The revised strategy, *Harnessing Technology: Leading Next Generation Learning, 2008–2014*, was published in 2008. It set out a system-wide vision and priorities for technology to support key national objectives outlined by DCSF and DIUS (Department for Innovation, Universities and Skills).

The strategy identified key aspects of a 'technology-confident' system which supports improved and personalised learning.

System leadership

Strategic leadership
Shared learning and innovation

Provider capacity and capability

Confident leaders and workforce
Innovative use
Self-improving

Personalised learning

Tailored content
Flexible pathways
Personalised assessment

Learner, parent, employer

Informed demand
Equitable access
Proactive support

Technology

Joined-up information
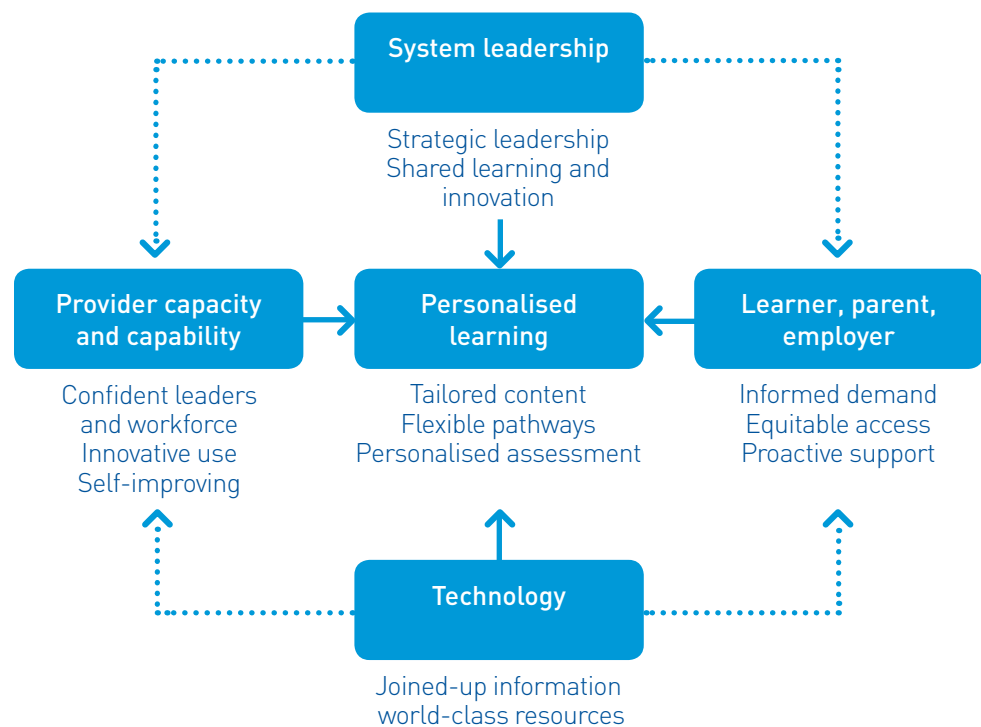world-class resources

Figure 1: A technology-confident system (From *Harnessing Technology: Next Generation Learning*)

Five key priorities

The strategy outlines key priorities in delivering a technology-confident system:

- Promoting a technology-related **learner entitlement** and working to close the gap for disadvantaged learners, to enable all learners to access and use technology effectively, safely and purposefully in support of their learning

- Putting in place **universal access** to powerful learning tools, content and support for family and informal learning

- Helping to secure better teaching and learning by fully exploiting the benefits of technology to provide **professional tools and support**

- **Mobilising leadership** at all levels of the system through nationally recognised leadership networks supporting innovation and knowledge transfer

- Developing a **fit-for-purpose, system-wide national digital infrastructure** that supports personal ownership and environmental sustainability.

Implementation in Further Education and Skills, and Higher Education

In 2008, Becta also published a further education and skills implementation plan for Harnessing Technology, outlining key actions to support technology-enabled transformation in the FE and Skills sector. The Technology Board for FE and Skills leads the delivery and development of this plan to ensure that lead bodies and agencies in this sector work together well to deliver its 21 key actions and ensure change is properly supported in the sector. This implementation plan is updated annually to reflect the changing context and revised priorities.

The Higher Education Funding Council for England (HEFCE) has also taken forward Harnessing Technology through developing a policy for technology-enhanced learning in higher education. This is due for publication during 2009.

14–19 reform

The Technology Board for FE and Skills leads on technology developments to support 14–19 reform, including supporting Diplomas and 14–19 consortia. This implementation plan therefore does not cover actions relating specifically to 14–19, as these will be published and taken forward through FE and Skills implementation.

Nonetheless, close links have been made between work taken forward in this plan and that of the Technology Board for FE and Skills. 14–19 actions will focus on developing and implementing a range of support services for consortia, developing a framework and associated tools to guide improvement in using technology and to deliver 14–19 services. These developments will be detailed in the further education, skills and regeneration implementation plan for 2009–2012.

Technology and improvement

This document addresses how Harnessing Technology will support the priorities of the Children's Plan. Building on consultation with stakeholders and national partners, it identifies specific goals for the sector and outlines what Becta and its key partners will do over the next three years to support the achievement of these goals.

Technology plays a key role in enabling improvement to services for children and young people, supporting priorities such as improving achievement and narrowing attainment gaps, engaging disadvantaged and vulnerable learners and developing capacity, quality and efficiency in services.

Around 80 per cent of teachers report that the use of technology in learning and teaching has a positive impact on young people's engagement in learning. Around 60 per cent also report that it enables them to support diverse learning needs (Smith *et al.*, 2008). Other research has found that, among 181 schools removed from Special Measures and Notice to Improve over recent years, 82 per cent of headteachers reported that technology played a key role, underpinning and supporting many of the schools' strategies that led to improvement (Hollingworth *et al.*, 2008).

Uses of technology which are known to support improvement are:

- information systems which enable good use of **data on learner achievement and progress**, including better sharing of information with parents

- systems which support more effective **management and monitoring of attendance and behaviour** (for example, lesson registration and parental alerting)

- delivery of **higher quality and more engaging learning experiences** (for example, using technology as part of creative and applied learning for under-achieving learners)

- use of online polls and forums to enable greater **learner voice and participation**

- systems which provide responsive **feedback to learners** and easier self-evaluation of and reflection on learning.

[3] Schmitt, J. and Wadsworth, J. (2004). *Is There an Impact of Household Computer Ownership on Children's Educational Attainment in Britain?* London: LSE. http://cep.lse.ac.uk/pubs/download/dp0625.pdf

Fuchs, T. and Woessmann, L. (2004). *Computers and Student Learning: Bivariate and Multivariate Evidence on the Availability and Use of Computers at Home and at School.* Germany: CESifo. http://portal.ifo.de/pls/guestci/download/CESifo%20Working%20Papers%202004/CESifo%20Working%20Papers%20October%202004/cesifo1_wp1321.pdf

[3a] Peters, M, Seeds, K., Goldstein, A. and Coleman, N. (BMRM Social Research) (2007). Parental involvement in Children's Education, London, DCSF. www.dcsf.gov.uk/research/data/uploadfiles/DCSF-RR034.pdf

[4] That is, they have good basic technology in place, which is led and managed well and used across the curriculum

[5] *Harnessing Technology: Next Generation Learning 2008–14: A summary* www.becta.org.uk/publications/harnessingtechnologystrategy

[6] *Harnessing Technology Review 2008: The role of technology and its impact on education* www.becta.org.uk/publications/htreview08

Home Access

We know that young people's access to technology to support learning beyond the classroom is critical to their educational success. Home access will help involve those that know the pupil best in supporting progress, for example, parents and members of the wider community. This will also ensure that evidence of learning gathered beyond the classroom provides a broad view of the whole learner. This is strongly linked not only with better ICT skills and related employability but also with improved engagement in learning more generally and achievement in national and standardised tests[3].

> There is real disparity in access to technology at home. 97 per cent of children from social class AB have internet access at home. But only 69 per cent of children from social class E.[3a]

In September 2008 Gordon Brown announced the Government's aspiration that all school age learners should have access to a computer and connectivity at home. The Home Access programme (announced in 2008 by Jim Knight, Minister of State for Schools and Learners), has a key role in this aspiration and the Harnessing Technology plan. Over the next two years the programme will be targeting the most disadvantaged families and so their children can have access to the appropriate technology to support their learning at home.

The programme carries significant opportunities and implications for learning and teaching in schools, including how homework, coursework, communication and assessment are managed in the future. This includes opportunities for supporting parental engagement, extended and remote learning, and greater use of learning platforms and technology-supported learning more generally.

Where are we now?

We recognise that many local authorities, schools and other providers have already done much to embed technology. Around a quarter of schools are now 'e-enabled[4]', with a further 40 per cent making good progress in embedding technology. Local authorities have played an important role in ensuring that schools have good access to effective systems and infrastructure and are increasingly working with schools to ensure that technology focuses on strategic priorities[5].

Becta's annual *Harnessing Technology Review 2008*[6] reported that there are considerable further opportunities for using technology in the development and improvement of services, particularly in the context of the rapid adoption of consumer technologies and high levels of general use of online services by parents and young people.

Key challenges to address

There are several challenges facing the sector in fully achieving the improvements technology can offer:

- **Fairer access:** children and young people without good access to computers and the internet are increasingly disadvantaged in terms of skills and participation in learning. However, achieving fair access is difficult and requires concerted and co-ordinated national and local action to ensure that all target groups benefit.

- **Parental engagement:** there is strong demand among parents and carers for online information and communication which is not yet being met. This can support better learning relationships between schools and parents. Many schools require further support and guidance to achieve what we know is possible with technology.

- **Improved teaching:** despite a strong upward trend in teachers' use of technology to support learning, much current practice tends to be narrowly focused, and some does not fully build on what learners bring to the experience. We need to work with the teaching profession to establish expectations based on the best current practice.

> The most special person in this is the child. They're benefiting at home, they are benefiting at school and you're working together as a team and that's why this is an incredibly special tool.
>
> Andrew, parent, Anson Primary School

Teachers making some use of technology with learners 2008

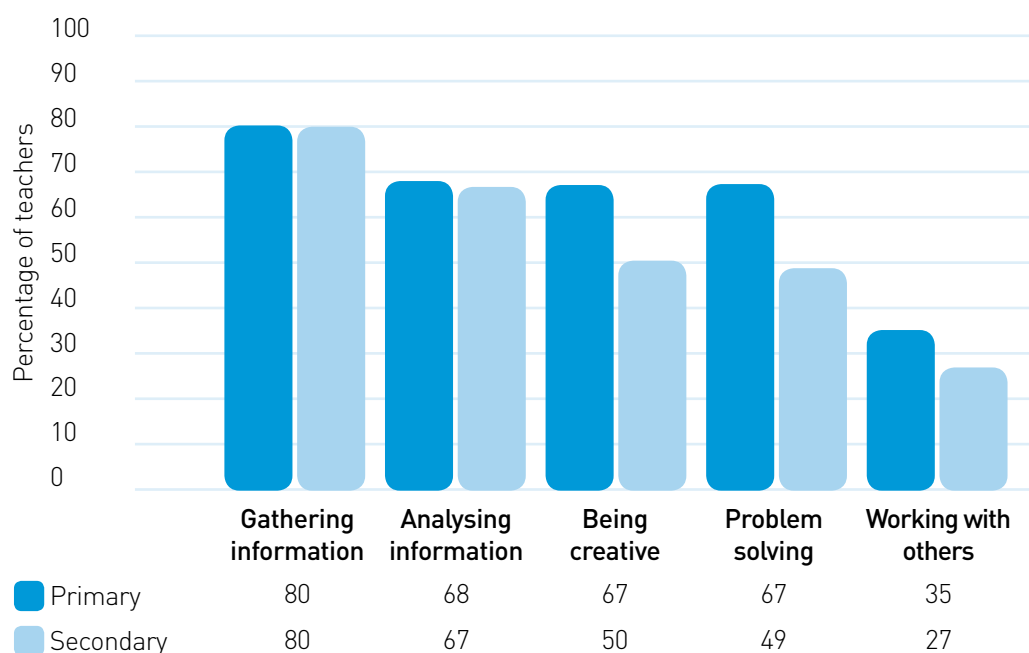|	Gathering information	Analysing information	Being creative	Problem solving	Working with others
Primary	80	68	67	67	35
Secondary	80	67	50	49	27

Figure 2: Primary and secondary teachers' use of technology (From *Harnessing Technology Review 2008*; data available Annex D)

- **Technology systems and services:** many learners and practitioners are still experiencing technology services that lack reliability and professionalism. We need to ensure that management information and learning systems are integrated, and there is better implementation of systems which provide analysis of learner progress and support remote and extended learning.

- **Strategic leadership:** we need to share understanding of how technology has been applied to deliver improved outcomes, strengthening leadership at all levels of technology-supported change. This includes the need to support effective networks, and building knowledge through leadership development.

Funding to support Harnessing Technology

Maintaining and developing technology in schools involves both capital costs (for example, ICT hardware) and revenue costs (such as technical support services, software subscriptions etc.). The Harnessing Technology Grant is one source of funding that can be used for capital spending on technology-related priorities.

The availability of a single Harnessing Technology grant[7] to schools and local authorities has been an important step in offering flexibility to schools and local authorities in technology investment. The grant is the principal source of central government funding for technology in schools. Between 2008–2011, over £600 million is being distributed through this funding mechanism. The grant guidance clarifies current investment priorities.

Schools and local authorities also have access to other funding which can be used to support technology-based change. These include the School Development Grant and Devolved Formula Capital. Building Schools for the Future (BSF) and the Primary Capital Programme (PCP) also represent significant capital funding for designated authorities to support transformation using technology.

Implementing change

The challenges and the opportunities presented by the current technology context have informed the approach we outline in the implementation plan and the ways in which its delivery will be monitored. The actions have been developed by Becta in partnership with other national agencies and in consultation with key stakeholders and providers.

Whilst the implementation plan outlines a set of high-level actions owned by Becta and its partners to support change in the sector, the implementation of this change belongs to those leading and delivering services for children and young people in England.

Alongside its national partners, Becta will advise and support local leadership teams, demonstrating the role of technology with advice and providing robust evidence on the role of technology in supporting parental engagement. We will promote networks and projects to stimulate change. We will work with schools, local authorities and providers to realise the value of technology and drive the change required locally to achieve it.

[7] www.becta.org.uk/harnessing technologygrant

2. Our approach

This plan focuses on two broad areas:

- Strengthening the role of technology in improving interactions between providers (for example, schools and teachers) and children, young people and parents

- Building the capability of providers and children, young people and parents to use technology responsibly and effectively.

Improving core interactions
Outcomes for children and young people are improved through better interactions between service providers (for example, schools or teachers) and children, young people and parents. They are also improved through ensuring that parents, children and young people are better informed about the services provided.

Building from the system-wide Harnessing Technology strategy, this plan outlines four areas of interaction that evidence shows technology can improve.

These represent **core goals** for the implementation plan:

Real-time reporting is enabling parents to construct meaningful dialogue around their child's learning and progress at school. Access to the system is secure and parents can gain access by subscribing via the Academy website. Up-to-the-minute information about attendance, behaviour and attainment means that parents can now get an ongoing record of progress rather than just the usual snapshot in the form of monthly reports. Having recently adopted a new assessment system that makes use of a traffic light visual representation of attainment, parents now have an overview of whether their child is meeting targets as determined by Fischer Family Trust data.

Assistant head, Djanogly City Academy

- **Greater flexibility and choice among learning options** – using technology to offer differentiated curricula and learning experiences which help meet children and young people's needs and preferences

- **Tailored and responsive assessment** – using technology to support both formative assessment (for example, more immediate feedback on learning, better information about progress) and summative (for example, flexible end-of-stage assessment)

- **Engaging learning experiences** – which support deep and higher-order learning for all learners, with a particular focus on technology. These can improve learning across the curriculum, including the acquisition of difficult concepts and the attainment of hard-to-reach children and young people.

- **Strengthened relationships between families, schools and learners** – with an emphasis on the adoption of information systems and use of online tools to improve information to parents, and parents' engagement in their children's learning experience more generally.

The actions which are focused specifically on these areas are outlined in section 3: Making it Happen.

Building capacity and capability

We have identified activities to help ensure that the requisite levels of capacity and capability are in place to implement and use technology effectively. This is applicable not only to providers such as schools and teachers. Children, young people and parents also require good understanding and skills to exploit the opportunities that technology brings for engagement and improved outcomes. Building understanding and capability on the 'demand-side' is therefore also critical to success.

We call this developing a 'technology-confident' or 'e-enabled' system – that is, one with the capability of applying technology to transform and improve services and use technology to support ongoing improvement.

The technology-confident system

To achieve a technology-confident system requires four vital components:

Technology-confident schools and providers, in which:

- providers are making good progress in their use of technology to improve outcomes[8]

- the workforce is aware and confident in using technology to improve practice

- teachers demonstrate a wide repertoire of professional skills with technology

Engaged and empowered children, young people and families, through:

- substantial progress being made towards home access for all school-age children, and support provided to all vulnerable groups

- technology adding demonstrable value to family and extended learning

- school age learners able to use technology confidently and responsibly to support their learning.

Confident system leadership and innovation, in which:

- capital investments embrace a world-class vision of technology

- school leadership teams understand how technology supports their priorities

- innovation is encouraged, and good practice shared and adopted.

> Completing the self-review framework has enabled our school to move forward at the right level for pupils and staff, without going over old ground or wasting time because we aimed too high. By sharing the responsibility of going through the process, the gaps became evident to everyone – no one needs to be told where they lie... Individuals shouldn't do too much of the work on their own: it flows much faster when other people are involved.
>
> Jane Carson – Headteacher, Roselands Primary School, Hertfordshire

[8] As indicated by progression within the Next Generation Charter scheme www.becta.org.uk/nextgenerationlearningcharter

A world-class, joined-up technology infrastructure, in which:

- systems for learners are fully integrated

- high-quality tailored resources are available to all learners

- the infrastructure is designed for efficiency and sustainability.

To support these goals, this plan also includes actions to **help schools build their use of technology**, including advice and guidance, and tools for self-review. In a context where only around 25 per cent of schools can be considered 'e-enabled', the plan recognises the need to encourage **better and more strategic use of technology**. This includes building good strategic leadership of technology at all levels, encouraging and rewarding innovation, and sharing effective practice.

School e-enablement

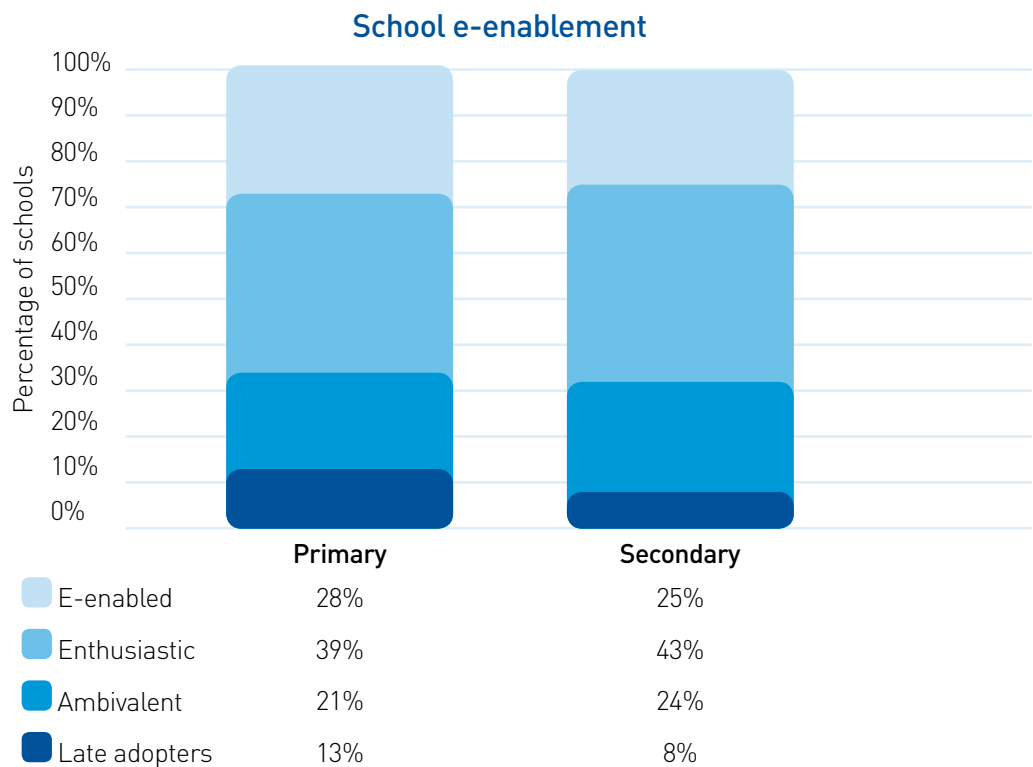|	Primary	Secondary
E-enabled	28%	25%
Enthusiastic	39%	43%
Ambivalent	21%	24%
Late adopters	13%	8%

Figure 3: Primary and secondary schools: e-enablement (From *Harnessing Technology Review 2008*; data available Annex D)

The plan is also designed to **ensure every child and young person develops the skills to use technology effectively and responsibly**, and that providers evaluate the effectiveness of their systems and teaching in developing and monitoring safe practice. The plan requires, amongst other things, development of the curriculum to reflect the role of technology in society and the future of work. As a result, key actions within this implementation plan are linked to Sir Jim Rose's review of the primary curriculum, reporting in March 2009, and the implementation of the secondary curriculum review. We recognise that curriculum development and teachers' subject-specific ICT knowledge is an ongoing consideration and have reflected this in the implementation of the Harnessing Technology strategy.
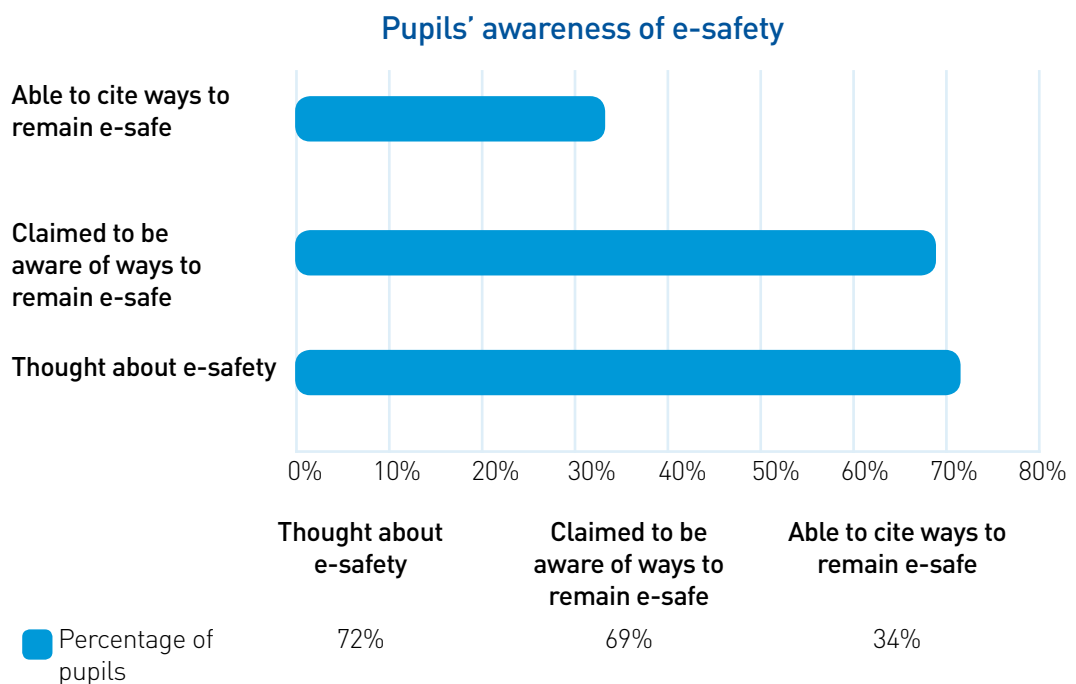
Pupils' awareness of e-safety

	Thought about e-safety	Claimed to be aware of ways to remain e-safe	Able to cite ways to remain e-safe
Percentage of pupils	72%	69%	34%

Figure 4: Pupils' awareness of e-safety (From *Harnessing Technology Review 2008*; data available in Annex D)

In addition, we have identified actions to **build parents' understanding of the opportunities and benefits of technology**. This will, amongst other things, raise awareness of opportunities with technology through the Next Generation Learning campaign, encourage parents' use of schools' online information, build the role of technology in supporting extended learning and promote take-up of Home Access grants and exploitation of technology to access online services and support learning at home.

All this is not possible without a sustainable, underpinning infrastructure. Becta will continue, therefore, to work closely with industry and partners to ensure **the continued development of effective and sustainable technology services** and to agree and implement standards to ensure effective system integration.

The Next Generation Learning Campaign and Charter

Becta leads the 'Next Generation Learning' campaign[9]. This currently focuses primarily on developing parents' and employers' understanding of the role of technology-supported learning.

We will extend the campaign to support greater awareness and understanding of how technology supports improvement and transformation through a workforce and leadership campaign. This will be linked to the Next Generation Learning Charter[10], which helps support and recognise schools' progress in building the use of technology to improve learning.

All schools have the potential to raise standards, improve results, and engage pupils using technology. By working through Becta's self-review framework, every school can make significant progress on the journey to becoming ready for Next Generation Learning.

The Next Generation Learning Charter is a journey in four stages towards effective use of technology in schools:

- **Making a public commitment** – acknowledgement for first steps on the journey to becoming Next Generation Learning ready

- **Getting recognised** – for development and progress through receiving a certificate and media coverage to showcase progress

- **Achieving ICT Mark accreditation** – accreditation for reaching a national standard by achieving the prestigious ICT Mark

- **Entering the ICT Excellence Awards** – applying for an award for outstanding and innovative ways of using technology.

[9] www.nextgeneration learning.org.uk/

[10] www.becta.org.uk/ nextgeneration learningcharter

3. Making it happen: key actions

The tables below outline 21 key actions which will be implemented over the next three years by national organisations working in partnership to support Harnessing Technology. In all cases, the first named partner is the lead partner. This organisation will often be working closely with one or more listed organisations and in collaboration and liaison with the others. A diagram representing the key actions and their impacts on system reform appears at the end of this section.

Improved personalised learning experiences

Goal:	We will:
Learners are able to exercise choice among flexible learning outcomes	**Key Action 1:** Promote comprehensive ICT services to schools which provide access to online resources and services for extended and flexible learning. To be developed in consultation with the education sector and industry (Becta, PfS, RBCs, Unions, SSAT, local authorities, industry bodies)
Tailored and responsive assessment that addresses learner needs	**Key Action 2:** Build the use of technology and underpinning systems to support on-demand and on-screen assessment in schools (QCA, Becta)
	Key Action 3: Deliver programmes of support to improve schools' and teachers' capacity to assess pupil progress by embedding assessment of electronically generated evidence within learning and teaching processes. This will ensure that teachers recognise learning as it happens and take decisions and actions through day-to-day interactions (QCA, Becta, SSAT, National Strategies, TDA)

Engaging learning experiences which support deep and higher learning	**Key Action 4:** Develop and support networks and partnerships through which effective innovative practice can be identified and shared (Becta, TDA, CLCs, SSAT, Futurelab) **Key Action 5:** Build links between, and add value to, ICT/CPD interventions and projects to address hard-to-teach concepts (National Strategies, TDA, Becta, SSAT, Subject Associations)
Strengthened relationships between families, schools and learners	**Key Action 6:** Work with local authorities and commercial suppliers to ensure that all secondary schools have online reporting systems operational by 2010 and all primary schools by 2012 (Becta, local authorities, commercial and non-commercial providers) **Key Action 7:** Produce a toolkit for schools for developing parental engagement through online communication and build an effective system of advocates and networks to share expertise (Becta, SSAT, ASCL, NAHT CLCs)

Technology-confident schools and providers

Goal:	We will:
Providers make good progress in their use of technology to improve outcomes	**Key Action 8:** Promote progression (inclusive of 14–19 reform) and support schools' development in the use of technology through the 'Next Generation Learning' charter, Becta Self-Review framework and ICT Mark (Becta, QCA, TDA, NCSL, PfS, SSAT, National Strategies, CLCs) **Key Action 9:** Provide leadership support for schools to develop their technology strategies and implementation (SSAT, NCSL, Becta)
Teachers are aware and confident in using technology to improve practice	**Key Action 10:** Deliver a workforce campaign to build high awareness and understanding of the use of technology to improve learning and teaching, including developing and sharing best practice in relation to the role of ICT in the primary curriculum and in the KS3–4 framework of Personal Learning and Thinking Skills (PLTS) (Becta, SSAT, TDA, GTCE, CLCs)
The workforce demonstrates a wide repertoire of professional skills with technology	**Key Action 11:** Set a higher bar for standards in technology for the school workforce and ensure up-to-date professional tools, networks and support programmes are in place to develop professional skills (GTCE, TDA, Becta, CLCs)

Engaged and empowered children, young people and families

Goal:	We will:
Substantial progress is made towards home access for all school age children, with all vulnerable groups supported	**Key Action 12:** Deliver a Home Access programme, supported by a campaign to parents, to ensure that children and families have access and support to develop their use of technology for learning at home (Becta, DCSF, UK Online Centres, CLCs)
Technology adds demonstrable value to family and extended learning	**Key Action 13:** Raise expectations and motivation among parents, through a 'Next Generation Learning' campaign, to engage with online reporting and to make effective use of online information and services offered by schools and others (Becta)

Confident system leadership and innovation

Goal:	We will:
Capital investments embrace a world-class vision of technology	**Key Action 15:** Define and promote a world-class vision for technology which links to and maximises the value of capital funding and investment programmes in the school sector (Primary Capital Programme, Building Schools for the Future, Academies Programme, Harnessing Technology Grant) (Becta, DCSF, PfS, NCSL, CLCs)
School leadership teams understand how technology supports their priorities	**Key Action 16:** Build leadership of technology-based change through: a Next Generation Learning campaign for education leaders; an enhanced network of 'Technology Leadership Champions'; and leadership development programmes (Becta, NCSL, PfS, SSAT, National Strategies, CLCs and others)
Innovation is encouraged, and good practice shared and adopted	**Key Action 17:** Ensure those recognised as excellent (through Awards, ICT Mark and other mechanisms) are supported in building and sharing practice and transferring knowledge through appropriate networks (SSAT, CLCs, Becta)

A world-class, joined-up technology infrastructure

Goal:	We will:
Systems for learners are fully integrated	**Key Action 18:** Ensure underpinning standards and infrastructure are in place to enable a shift from institution-centric to learner-centric data systems across education and children's services. This includes securing agreement across partners and intermediaries on common interoperability standards, governance, identity management and integration of learning and management systems (Becta, DCSF, MIAP, local Authorities)
High quality, tailored resources are available to all learners	**Key Action 19:** Improve access to curriculum-focused resources for teachers and learners through the development of digital resource banks (Becta, RBCs, Local Authorities)
The infrastructure is designed for efficiency and sustainability	**Key Action 20:** In partnership with school leaders, develop a new range of ICT service offerings for schools – designed to ease the burdens on schools and teachers of implementing and managing ICT systems and to improve sustainability and value (Becta, PFS, ASCL, NAHT, SSAT) **Key Action 21:** Develop policy recommendations to support schools in reducing carbon emissions and energy consumption from technology (Becta, DCSF)

System outcomes – impacts of strategy on reform

Improved outcomes for children and learners

Raised achievement   Narrowing gaps   Supporting the vulnerable   Improved skills

Improved personalised interactions and experiences

Learners are able to exercise choice among flexible learning outcomes

Key Action 1: Promote comprehensive ICT services to schools which provide access to online resources and services for extended and flexible learning.

Tailored and responsive assessment which addresses learners' needs

Key Action 2: Build the use of technology and underpinning systems to support on-demand and on-screen assessment in schools.

Key Action 3: Deliver programmes of support to improve schools' and teachers' capacity to assess pupil progress by embedding assessment of electronically generated evidence within learning and teaching processes.

Engaging learning experiences which support deep and higher learning

Key Action 4: Develop and support networks/partnerships through which effective practice can be identified and shared.

Key Action 5: Build links between and add value to ICT/CPD interventions and projects to address hard-to-teach concepts.

Strengthened relationships between parents, families, schools and the learner

Key Action 6: Work with Local Authorities and commercial suppliers to ensure that all secondary schools have online reporting systems operational by 2010 and all primary schools by 2012.

Key Action 7: Produce a toolkit for schools for developing parental engagement through online communication and build an effective system of advocates and networks to share expertise.

Engaged and empow young people and fam

Substantial progress is made towards home access for all school age children with all vulnerable groups supported

Key Action 12: Deliver a Home Access programme.

Technology adds demonstrable value to family and extended learning

Key Action 13: Raise expectations and motivation among parents, through a 'Next Generation Learning' campaign.

Learners use technology confidently and responsibly to support their learning

Key Action 14: Rose Review: support the development and implementation of the Primary Curriculum to ensure that, by the age of 11, all children have opportunities to develop the knowledge and skills required to use technology responsibly and effectively in their learning.

Technology-confident schools and providers

Providers progress well in their use of technology to improve outcomes

Key Action 8: Promote progression and support schools' development in the use of technology.

Key Action 9: Provide leadership support for schools to develop their technology strategies and implementation (SSAT, NCSL, Becta).

Teachers are aware and confident in using technology to improve practice

Key Action 10: Deliver a workforce campaign to build high awareness and understanding of the use of technology for improving learning and teaching.

Workforce demonstrates full repertoire of professional skills with technology

Key Action 11: Set a higher bar for standards in technology for the school workforce and ensure up-to-date professional tools, networks and support programmes are in place to develop professional skills.

System Leadership

Capital investments embrace a world-class vision of technology

Key Action 15: Define and promote a world-class vision for technology which links to and maximises the value of capital funding and investment programmes in the school sector.

School leadership teams understand how technology supports their priorities

Key Action 16: Build leadership of technology-based change through: a Next Generation Learning campaign for education leaders; an enhanced network of 'Technology Leadership Champions'; and leadership development programmes.

Innovation is encouraged, good practice shared and adopted

Key Action 17: Ensure those recognised as excellent are supported in building and sharing practice and transferring knowledge through appropriate networks.

Enabling Infrastructure
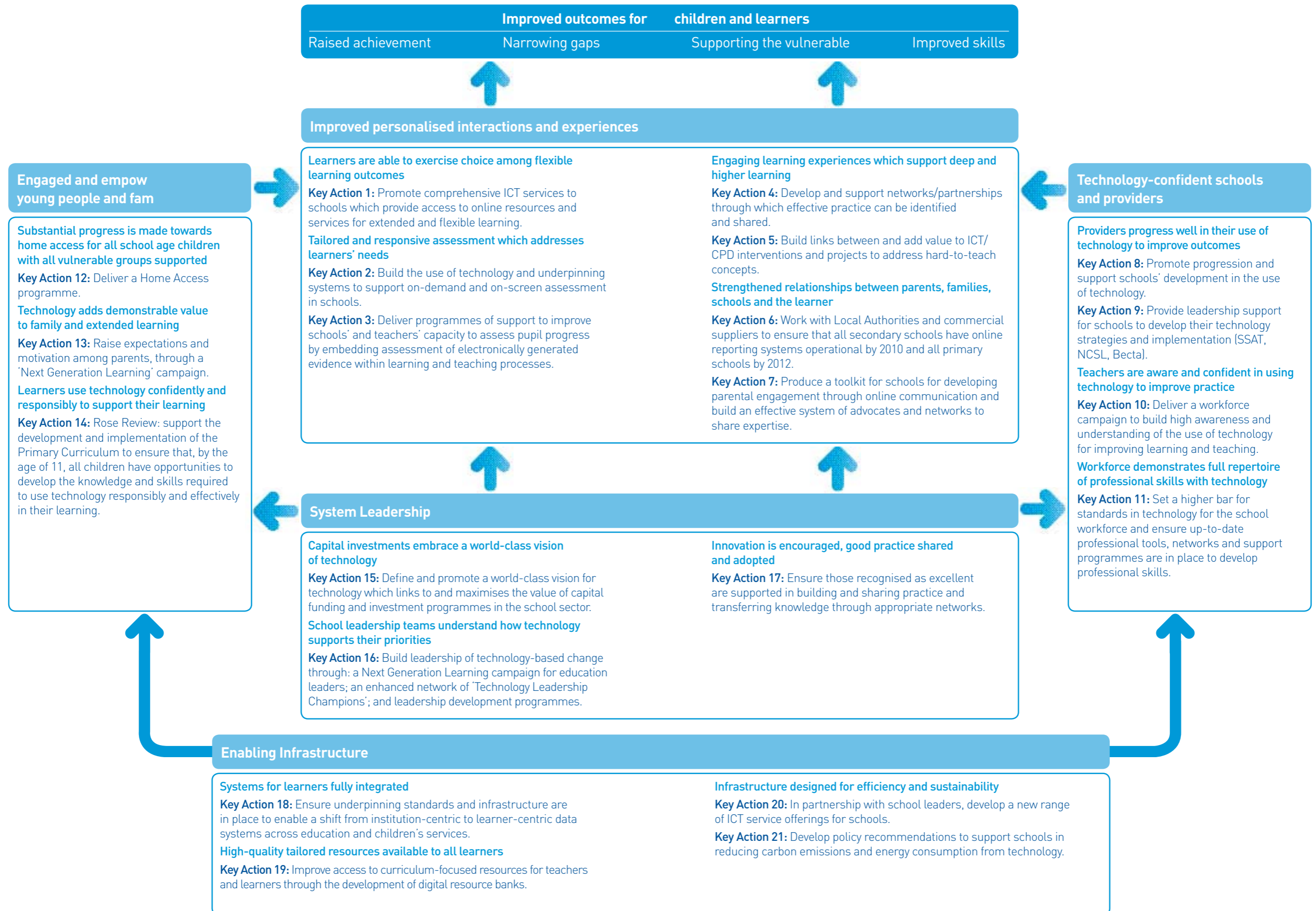
Systems for learners fully integrated

Key Action 18: Ensure underpinning standards and infrastructure are in place to enable a shift from institution-centric to learner-centric data systems across education and children's services.

High-quality tailored resources available to all learners

Key Action 19: Improve access to curriculum-focused resources for teachers and learners through the development of digital resource banks.

Infrastructure designed for efficiency and sustainability

Key Action 20: In partnership with school leaders, develop a new range of ICT service offerings for schools.

Key Action 21: Develop policy recommendations to support schools in reducing carbon emissions and energy consumption from technology.

4. Ensuring delivery

Governance

The Harnessing Technology Board for Children, Schools and Families has the responsibility to monitor and track programmes and services outlined in this implementation plan. Chaired by Niel McLean, Becta's Executive Director for Institutional and Workforce Development, this group meets quarterly and comprises a broad membership representing national organisations and sector bodies. These include QCA, SSAT, TDA, ADCS, CLC Network, GTCE, The Inclusion Trust, Naace, The National Strategies, NCSL and Partnerships for Schools.

The FE & Skills Technology Programme Board approves, prioritises and monitors all 14–19 projects and services. The board aims to ensure that such projects and services are aligned to the overall Business Strategy and ensure delivery of the overall change portfolio.

Each board reviews progress in delivering key actions and achievement of intended goals. They report on a quarterly basis to the Harnessing Technology National Strategy Group (NSG). Chaired by Stephen Crowne, Chief Executive of Becta, the NSG has a responsibility to report to Becta's Board, DCSF Information and Technology Strategy Board, and to Ministers on the progress of the Harnessing Technology strategy.

Targets and milestones

The Harnessing Technology Children, Schools and Families Board has responsibility for establishing key milestones and deliverables for the implementation plan and works with responsible partner bodies to establish targets against which progress can be assessed.

The actions outlined in this plan comprise a range of projects and programmes. Some are already developed, or are being delivered, and have existing targets (for example the Next Generation Learning Charter, linked to the Becta Self-Review Framework, the Home Access programme). Others are at earlier stages and will be subject to further operational planning, so that key targets can be established and milestones agreed through business planning and discussion at the Children, Schools and Families Board.

Further information on existing key targets and milestones will be published on the Becta website in Spring 2009 as a link from the Implementation Plan summary page. This site will be updated as operational planning develops and implementation targets are agreed.

Partnership strategy

Partnership is the central tenet of this strategy. Each agency and organisation listed in the implementation plan will continue to lead in its area whilst also working closely at times with other partners. This will ensure the delivery of an integrated, efficient and highly effective set of services that will enable our education system to respond to the challenges it faces.

The role of local authorities

An important aspect of this work is the need to communicate with stakeholders to build relationships and develop understanding and knowledge.

To support change, Becta has reviewed its relationships with, and support for, local authorities in realising the ambitions of the strategy. Many communities are developing innovative and coherent approaches to using technology across a spectrum of services, including making practical use of new technology to design 'smarter' services and deliver them more efficiently. It is important to learn from front-line developments, listen to local authorities and schools, and support local authorities and schools in taking a strategic approach to using technology to improve services and provide online information for parents and families.

As a result of Becta's review of the delivery chain for Harnessing Technology, Becta will revise its relationship with local authorities during 2009, to ensure more effective and strategic engagement with these key stakeholders. Becta is already liaising closely with local authorities, the Local Government Association, the Association of Directors of Children's Services, the Association of Chief Executives and regional Government Offices. New developments will include appointment of additional consultants who will engage with local authority leadership teams, to ensure that local authorities are supported in delivering improved services for parents, children and young people.

Annex A:
The Harnessing Technology Grant

The principal source of central government funding for technology in schools

Over £600m is being distributed through this funding mechanism between 2008 and 2011. This capital grant is allocated to local authorities, who are responsible for distributing it to eligible schools in a way that best meets local priorities. To ensure that all schools receive the benefits of aggregated purchasing, local authorities are also able to retain up to 25 per cent of their allocation centrally (or more with the agreement of the Schools Forum).

Becta's advice and guidance

To help schools and local authorities understand and make best use of the Harnessing Technology Grant, Becta publishes detailed advice and guidance on its website about:

- the nature of this funding

- what it can be used for

- priorities for investment

- how schools and local authorities can maximise the impact of their technology spend.

This advice and guidance is published online and updated on a regular basis to reflect changes and developments within the schools' funding and technology landscape.[11]

Local authorities, which play a key role in providing technology support and leadership, should consult the Harnessing Technology Grant guidance when making strategic decisions around technology-related expenditure. Becta's regional delivery team can provide further expert advice on how to make the most of the funding available.

Other sources of funding

Maintaining and developing technology in schools involves both capital costs (for example, ICT hardware) and revenue costs (such as technical support services, software subscriptions etc.). The Harnessing Technology Grant is just one source of funding that can be used for capital spending on technology-related priorities.

Schools and local authorities can use other appropriate funding streams which have been outlined in Becta's guidance online.

Annex B:
Supporting publications

Strategy

Harnessing Technology: Next Generation Learning 2008–2014
www.becta.org.uk/publications/harnessingtechnologystrategy

A summary of Becta's review and revision of the original e-strategy to ensure that we are meeting the requirements of today's learners.

Technology Strategy for further education, skills and regeneration. Implementation plan for 2008–2011
www.becta.org.uk/publications/festrategy

Research

Harnessing Technology Review 2008: The Role of Technology and its impact on education
www.becta.org.uk/publications/htreview08

Smith, P., Rudd, P. and Coghlan, M. (NFER) (2008), *Harnessing Technology: Schools Survey 2008 Report 1: Analysis*, Coventry, Becta.
www.becta.org.uk/research/reports/htschools2008

Hollingworth, S., Allen, K., Hutchings, M., Abol Kuyok, K. and Williams, K. (IPSE) (2008), *Technology and school improvement: reducing social inequity with technology?* Coventry, Becta.
www.becta.org.uk/research/reports/reducingsocialinequity08

Advice and Guidance

Becta's website hosts up-to-date research, advice and guidance, to support the implementation of this plan. A short review of some of our current publications appears below.

Publications and online advice and guidance

Harnessing Technology Grant: Guidance to schools and local authorities
www.becta.org.uk/harnessingtechnologygrant

Improving schools

Key publications:

- What is the self-review framework? A guide for school leaders

- How to use the self-review framework
  www.becta.org.uk/improveyourschool

Planning sustainable success

Key publications:

- Information Management Strategy framework: Guidance for schools

- Planning technology into your building – a guide for school leaders
  www.becta.org.uk/plansustainablesuccess

Achieving best value

Key publication:

- Getting best value from your investment – a guide for school leaders
  www.becta.org.uk/achievebestvalue

Safeguarding learners online
Key publications:

- Safeguarding children online – a guide for school leaders

- Safeguarding children in a digital world: Developing an LSCB e-safety strategy
  www.becta.org.uk/safeguardlearnersonline

Inspiring parental engagement
Key publications:

- Exploiting ICT to improve parental engagement, moving towards online reporting: Toolkit

- Exploiting ICT to improve parental engagement, moving towards online reporting: Getting started with using ICT to support parental engagement
  www.becta.org.uk/inspireparentalengagement

Making learning personal
Key publications:

- Getting started with your learning platform: Advice for schools

- Learning platforms in action (DVD)
  www.becta.org.uk/makelearningpersonal

Annex C:
Abbreviations and definitions

ADCS	Association of Directors of Children's Services
CLCs	City Learning Centres network
CPD	Continuing Professional Development
DCSF	Department for Children, Schools and Families
DIUS	Department for Innovation, Universities and Skills
GTCE	General Teaching Council for England
ICT	Information and Communications Technology
MIAP	Managing Information across Partners
NCSL	National College for School Leadership
Ofsted	Office for Standards in Education (England)
PCP	Primary Capital Programme
PfS	Partnerships for Schools
QCA	Qualifications and Curriculum Authority
SSAT	Specialist Schools and Academies Trust
TDA	Training and Development Agency for Schools

Use of terms

Within this document, unless otherwise specified, the following terms are used to refer to the broad range of people who support the education and care of children and young people:

- the term 'families' is used to refer to conventional and extended families and includes looked-after children.

- the term 'parents' includes the range of people with responsibility for a child or young person, such as foster parents, key workers for looked-after children, and other family members who may have a responsibility for the education or welfare of a young person.

Throughout the plan, 'pupils' refers to children in primary schools, while 'students' is used for children and young people in secondary schools.

Annex D:
Graphs and data

Teachers making some use of technology with learners (2008)

	Gathering information	Analysing information	Being creative	Problem solving	Working with others
Primary	80%	68%	67%	67%	35%
Secondary	80%	67%	50%	49%	27%

Figure 2: Primary and secondary teachers' use of technology (From Harnessing Technology Review 2008)

School e-enablement (2008)

	E-enabled	Enthusiastic	Ambivalent	Late adopters
Primary	28%	39%	21%	13%
Secondary	25%	43%	24%	8%

Figure 3: Primary and secondary schools: e-enablement (From Harnessing Technology Review 2008)

Pupils' awareness of e-safety (2008)

	Percentage of pupils
Able to cite ways to remain e-safe	34%
Claimed to be aware of ways to remain e-safe	69%
Thought about e-safety	72%

Figure 4: Pupils' awareness of e-safety (From Harnessing Technology Review 2008)

leading
next generation
learning

Becta