ICT Strategic Plan 2001-2004
In 2000 the Department of Education and Training (DET) released its first Information and Communications Technologies (ICT) strategic plan - the *ICT Strategic Plan 2000-2003*. The plan was based on a series of documents, released in the previous year, outlining the strategic directions for the Department of Education and Training. This document, the *ICT Strategic Plan 2001-2004*, is a revision of the original plan. While drawing heavily on the work done in the development of the first plan, this revision takes account of the changing ICT environment and the Department’s achievements and implementation experience.
Public education and training has an extensive and proud history in New South Wales. Public schools have existed for over 150 years and have provided the foundation on which the economic, social, cultural and intellectual growth of the state has been built. The story of the development of technical, vocational and further education in NSW has fundamentally been written by our TAFE colleges. Nevertheless, the Department of Education and Training is a new entity, formed in the final years of the twentieth century. It was formed from an amalgamation of the Department of School Education, the Department of Training and Education Co-ordination and the NSW TAFE Commission.

The new department was created to deliver a seamless, integrated, world class offering of education and training from preschool to adult and community - from cradle to grave. The key pillars of that offering are:

- an internationally recognised system of primary and secondary schools
- extensive high quality provision of TAFE facilities
- a range of specialist services in migrant English and Arts education
- one of the most extensive distance education networks in the world.

One of the key strategic drivers influencing the decision to establish DET was an understanding that, in the 21st century, technology was to be both a major challenge and a major opportunity in the provision of education and training. The state education and training system needed to position itself to meet the challenge and make the most of the opportunity.

This was to be a time for a major coordinated effort, leveraging our unrivalled network of schools and colleges, our human capital of a highly qualified, motivated and professional teaching service and our economies of scale.

In the Information and Communications Technologies area we were building on firm foundations which had resulted from a major focus on technology in education and training by the Government in the last few years of the twentieth century.

That period had seen:

- major initiatives in the provision of computers to schools in learning and teaching
- an extensive training commitment for staff in technology in learning and teaching
- a series of significant online curriculum development projects
- a major injection of funding for technical support and onsite computer coordination
- a major investment in schools and TAFE colleges in a data communications network
- a commitment to have every school and every college in New South Wales connected to the Internet.

The objective was to have public education and training not only technology supported but web-enabled.

The linking of all schools and colleges to the world wide web before the end of the 20th century placed New South Wales in a pre-eminent position not only nationally but internationally.
### Links to the Corporate Plan

The statement of strategic direction for DET is to be found in a family of three integrated documents. The first, *Education and Training 2000-2002*, expresses the Government's commitment to education and training, outlines the corporate objectives of the Department for the triennium and provides a framework for sector plans for public schools, TAFE NSW, adult and community education, adult migrant English and other education and training services.

The directions set in *Education and Training 2000-2002* provide a basis for reporting achievements and progress to the people of NSW. The two associated planning documents are *NSW Public Schools: Strategic Directions 2000-2002* and *TAFE NSW: Strategic Directions 2000-2002*.

### Key Themes

The five key themes expressed in *Education and Training 2000-2002* are:

- **Our Business:** *Educating for Life and Work*
- **People:** *Achieving Excellence in Teaching and Learning*
- **Leadership:** *Succeeding in a Highly Competitive Environment*
- **Results:** *Achieving Quality Outcomes and Being Accountable*
- **Knowledge:** *Strengthening Students' Knowledge, Understanding, Skills and Capabilities*

### Corporate Objectives

To each of these key themes is attached a single, accessible, corporate objective:

#### Our Business: Educating for Life and Work

To provide quality education and training that meets the lifelong learning interests of the people of NSW and the needs and aspirations of the existing and future workforce.

#### People: Achieving Excellence in Teaching and Learning

To support the development of a highly skilled and flexible workforce committed to high standards of performance and quality of service.

#### Leadership: Succeeding in a Highly Competitive Environment

To establish the leadership role of the public education and training system through creativity in curriculum and teaching, catering flexibly for our community's common and diverse needs, and commitment to quality for all.

#### Results: Achieving Quality Outcomes and Being Accountable

To produce the best education and training outcomes for students, industry and the wider community through innovation and continuous improvement, and to report our performance.

#### Knowledge: Strengthening Students' Knowledge, Understanding, Skills and Capabilities

To extend access to new forms and combinations of curriculum, teaching and learning through strengthened education and training partnerships with industry, universities and other community agencies.
Our Changing Environment

Changes in our business environment which is impacted by global, national, local, social, cultural, financial, pedagogical and technological influences, among others, will require that we keep our plans and their implementation continually under review.

This is nowhere more the case than in the Information and Communications Technologies sphere. The global nature of the ICT industry, the massive investment in research and development, the increasingly shorter duration of product life cycles and the pervasive nature of information technology in all aspects of modern society, including education and training, mean that our ICT plans and projects are continually adjusting to ensure they remain at the leading edge.

Our Competitive Edge

The Department of Education and Training has approached the new century with a clear understanding that we operate in a highly competitive environment. While TAFE NSW is the market leader in vocational education and training in Australia, we recognise that we will maintain that position only by a continuing commitment to quality, responsiveness, strong alliances with industry and the development of the professional skills, capabilities and service focus of our staff. In many parts of the state there are viable alternatives to our primary and secondary education provision keen to offer that alternative to our students and their parents. Particularly in the post compulsory education sector we are regularly in direct competition with other education and training providers.

It is also our clear understanding that the application of technology is a critical factor in the maintenance of market edge. The successful formula for ensuring that Public Education is recognised as the leading provider of quality education and training is complex. There is no doubt, however, that an ICT competent teaching service working with ICT literate students, supported by quality online learning and teaching programs; a robust network and ICT infrastructure, and underpinned by an array of effective, innovative e-services are crucial to success.

ICT: Delivering on the Corporate Commitments

Information and Communications Technologies are a key mechanism in assisting the Government meet its commitments to the people of New South Wales. They are fundamental in enabling the public education and training system to achieve its stated corporate objectives.

ICT Key Goals

The four key goals for ICT in the Department, identified in the plan released in 2000 are:

- **Education and Training Services**: enhance the quality of learning and teaching through the provision of innovative, technology-based educational programs and services which position the Department as a global leader in the provision of quality education and training services.
- **ICT Literacy**: enhance the ICT literacy of students, staff and members of the community to meet their education, work and life needs.
- **E-Service**: enhance the quality, efficiency and effectiveness of services, systems and support for students, staff and the community through innovative e-services.
- **ICT Infrastructure**: enhance the ICT infrastructure to meet the changing educational, management and business needs of the Department.

These four key goals remain at the core of our ICT provision and planning. They continue to provide the framework on which we build our plan. All our ICT programs and their associated projects find their rationale in one or more of the key goals.

The Department’s statements of strategic direction and their associated strategic plans, such as the ICT Strategic Plan, are dynamic statements of intent. The plans set direction, elaborate the vision, identify priorities and provide a structure for resource allocation, performance monitoring, analysis and further planning. The plans are kept under review and are revised in the light of our achievements and implementation experience.
Building on Previous Plans

This revision of the ICT Strategic Plan is based on the premise that the key themes and corporate objectives identified in Education and Training 2000-2002 and the key goals and strategic framework identified in the ICT Strategic Plan 2000-2003 still hold. What we have revised, however, are the strategies, programs and projects assembled in the previous plan. Those revised strategies, programs and projects build on our achievements in ICT to date and take advantage of the emerging opportunities for ICT in education and training in the coming years.

Plan Structure

Section I introduces the plan and demonstrates its links to the DET corporate objectives. It identifies our ICT key goals and comments on the changing competitive environment and the critical nature of ICT in that environment.

Section II of the plan discusses trends in technology in education and training and identifies the challenges and opportunities for ICT.

Section III presents the DET ICT strategic vision for the period 2001-2004. That vision sees public education at the forefront of innovation, efficiency, excellence in teaching and learning and service to the community and ICT as integral to our continuing success.

Section IV outlines the strategies in place to meet our ICT goals in pursuit of the strategic vision. It also identifies some of the key implications for our stakeholders of implementing these strategies. The strategies are then matched for consistency against the corporate goals and Government initiatives. The Department’s governance structures for ICT are also outlined in this section.

Section V lists the ICT projects which will deliver the above strategies. They are identified and grouped according to the ICT key goals.
Section II

Strategic Imperatives

Trends in Technology and Education: Drivers for Change

The widespread implementation of Internet-based technologies is changing the way organisations throughout the world do business. It is also redefining the nature of work. The rate of change will accelerate as organisations increasingly move into an electronic business environment and as the wider community further accepts the Internet and online services as part of daily life. Familiarity with information and communications technologies will become essential to life, work and learning.

This plan has been developed to ensure the Department of Education and Training meets the challenges and takes advantage of the opportunities that information and communications technologies present for the education and training sector.

Client expectations and competition within the global marketplace are driving educational providers to set and meet new standards of service and accountability. For the Department, this necessitates the introduction of more flexible learning environments and new teaching methods in order to better cater for the range of student needs, and to improve access to curriculum options for students across the state.

The convergence of technologies, including improved access to networks for communication and information, the emergence of e-services as means of conducting business transactions, the deregulation of telecommunications and a shortage of ICT professionals, presents the Department with a range of challenges as it moves into the global online information age.

As demands on schools and students’ needs are changing, the role of the teacher and the skills teachers require are also changing. The ICT skill set and level of ICT literacy which students now bring to class pose a challenge for teachers. Many students have competencies, developed outside the classroom, which are well in advance of their peers of just a few years ago. Others, from across the ‘digital divide’, are potentially at risk of being left behind.

It is imperative that the increased provision of information technology in schools and the expansion of e-learning programs are implemented in tandem with appropriate teaching training programs in the efficient use of ICT in teaching and learning. It is also vital that teachers have the necessary evaluative skills to accurately diagnose the level of ICT literacy in students and deliver a program appropriate to that level.

Within Australia and internationally, education systems are embracing the use of technology to enhance student learning and training, modernise administrative functions and engage the broader community with the concept of lifelong learning. If New South Wales is to remain at the forefront of innovation and excellence in public education and training, the use of technology in education must remain a priority.

Worldwide, the focus of ICT in education converges on issues of awareness, application and access. The focus in New South Wales is no different. ICT literacy (awareness), the development of online learning programs and e-business services (application), and improvement in ICT infrastructure (access) are also our key concerns.

While most, if not all, technology plans from education systems around the world include the objectives of online learning, computer literacy and administrative processes facilitated by technology, it is recognised internationally that minimal technology infrastructure and lack of bandwidth are the greatest impediments to achieving acceptable and equitable e-learning and e-business standards.
Trends in Technology and Education: National and International Experience

This ICT plan presents the vision and direction for technology in education and training. The goals of supporting online learning and teaching programs, ICT literacy, e-service and ICT infrastructure are consistent with those appearing in other systems, both nationally and internationally. The approach adopted by DET to provide computers and other technology equipment equitably to all government schools through the Computers in Schools Program makes a major contribution to overcoming the 'digital divide', which a number of other educational systems around the world are seeking to address.

In the United States, the national educational technology plan e-Learning: Putting a world-class education at the fingertips of all children presents a blueprint for all students and teachers having access to information technology, all teachers being adequately trained in the use of ICT, and all students having ICT literacy skills.

A 2000 statistical analysis of 1,218 public schools in the United States showed that:

- 98% are connected to the Internet
- 77% of the schools connected to the Internet use dedicated lines
- the ratio of students per instructional computer with Internet access is 7:1.

In the United Kingdom, by the end of 2000, 98% of secondary schools and 86% of primary schools were connected to the Internet. The expectation is that all schools will be connected by 2002. In addition to internet access, laptop computers are being provided to schools for student use, over 50% of secondary teachers have their own email address - the target is 75% by 2002, a new web gateway was launched in 2000 to allow US and UK teachers to share best practice.

Recent research in the United Kingdom demonstrates that an important link exists between raising educational standards and good information and communications technology in schools. Key findings of the research include:

- schools with good ICT resources will achieve better educational outcomes than under-resourced schools
- an increase in teaching using technology improved students' ICT capability
- students with very good ICT skills outperformed students with unsatisfactory ICT skills
- there is a consistent trend for students in schools with better ICT resources to achieve better grades in English, mathematics and science
- teachers with personal access to ICT spend significant amounts of time using ICT with their students
- 68% of schools that combined good ICT teaching with good ICT resources were achieving above national standards in English.

Similarly, information from a range of developed countries (but not Australia) collected as part of the Second Information Technology in Education Study found that:

- access to the Internet by schools in economically developed countries was becoming increasingly common
- density of computers for instruction was continuing to rise
- the adequacy of ICT training of teachers was a major problem in most countries
- ICT has the potential to facilitate changes in pedagogical practices.

Australian research indicates that, in 1999, nearly 40% of NSW school students were regular users of the Internet, with home and school being the greatest sources of access. This was a vastly greater percentage than any other state or territory. The Department's commitment to providing all schools with computers and all students and teachers with access to email and Internet facilities will see NSW continuing to lead the other states and territories in the use of ICT in education. It is essential that the network and infrastructure be progressively upgraded to handle the increased demand that will result.

The New South Wales Government’s education commitments target a number of key initiatives, many of which will rely heavily, if not exclusively, on the expanded use of technology within DET. These initiatives include:

- expanding the Country Online program to 500 schools
- enabling all schools to be cabled with local networking infrastructure
- distributing 22,000 computers to schools, to complement the 77,000 already distributed
- improving student ICT literacy, including the introduction of external computing skills assessments
- developing new curriculum material that will include the latest developments in computer-based technology
- introducing two HSC courses Software Design and Development and Information Processes and Technology, and the accompanying teacher support materials
- expanding the HSC Online website to include more courses
- training more teachers through the Technology in Teaching and Learning (TILT) course, and supporting those teachers with a website and interactive CD ROMs
- designing and implementing a TILT Plus course to train a further 15,000 teachers in advanced and specialised computer skills
- introducing computer training programs for early childhood teachers, school administration staff and special education teachers
- improving student and community access to the Internet
- enhancing monitoring and reporting of student attendance in schools
- maximising the shared use of facilities.

As a major government agency, the Department plays a key role in driving the Government’s ICT strategic agenda through such initiatives as:

- use of the Internet to conduct government business (connect.nsw)
  - TAFE enrolment via the Internet
  - Ensuring that rural and isolated students have access to services and courses
  - School and colleges have access to online library services
- use of the Internet to provide a single point of contact for government services (service.nsw)
  - Development of a dynamic and user-focused web site
- provision of appropriate online government services and electronic transactions with business and the community by December 2001 (Electronic Service Delivery Strategy)
  - Staff access leave and payroll information online (Employee Self-Service)
  - Development of online procurement and payment services
- provision of school technology resources and Internet access to regional communities
  - Country Online project expanded
  - School and TAFE computer resources provided out-of-hours for community use
- sharing information and technology with related agencies
  - NSW Board of Studies
  - Equipment maintenance and support through combined HelpDesk initiatives
  - Employee screening initiatives
  - Business partnerships, including the Centre for Excellence with the Department of Information Technology and Management (DITM) and Unisys
  - Commonwealth initiatives, including the implementation of a range of training packages to meet Australian National Training Authority (ANTA) guidelines

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• compliance with the NSW Government IM&T Blueprint
  - Providing exceptional customer service to both staff and the community through a user-focused intranet and Internet provision
  - Upgrading corporate service applications to facilitate information exchange
• corporate services reform
  - Necessitating the replacement of legacy systems that do not have the capability to provide the services required by DET and by government, nor those expected by staff of a modern, customer-focused organisation.

The NSW Government’s ICT Skills Action Plan focuses on a number of initiatives relating to education and training. These initiatives are encompassed in this plan and implementation of them will ensure that students and teachers have the necessary ICT skills to enhance their learning. Specific features of the Skills Action Plan include:

• raising ICT skills for all new teachers entering the workforce
• conducting computer skills assessments at Year 6 and Year 10
• increasing online learning opportunities in schools and TAFE
• supporting and training school and TAFE teachers in the use of computers in learning and teaching, and training programs
• establishing a School of the Future as a centre for e-learning and research
• introduction of ICT diploma cadetships to meet emerging skill needs in industry and the public sector
• increasing opportunities for TAFE and school teachers to develop ICT skills through work placements in business
• introducing the International Computer Driving Licence (ICDL) for school and TAFE students and adult learners
• providing a community education program in ICT for disadvantaged groups.

Inter-sectoral Competition

The Department exists within a highly competitive education and training environment. Parents have a range of government and non-government school choices for their children. TAFE NSW competes in a national, and increasingly global, market for vocational training services to the community, industry and business. There is a high public expectation that DET will provide quality education and training services to the community of NSW. It is imperative that we use ICT to help place the organisation in a competitive position and meet that expectation.

This means that we have to ensure that:

• technology is integrated into the learning environment of every student
• teachers are trained in the use of technology as an integral component of student learning
• leading edge practice is underpinned by sound pedagogy
• all students have equitable access to modern technology
• students leave education and training programs as confident, literate and innovative users of technology
• technology is used to deliver an efficient, modern service to its staff and an increasingly computer literate community
• technology infrastructure is available to the community for education and training programs
• technology infrastructure is continually upgraded to meet increasing demands of schools and TAFE campuses
• we fulfil our role as the lead agency for state wide technology infrastructure and networking.
The NSW Department of Education and Training is the largest education provider in Australia and one of the largest in the world. The public education and training system in NSW provides a comprehensive range of services - comprising pre-school education, the compulsory years of schooling, the NSW Higher School Certificate in Years 11 and 12, TAFE NSW courses, adult and community education courses, migrant English programs and post-compulsory art courses.

The Department coordinates all public education and training services in NSW. We aim to provide students with a smooth transition from school to work or further study, and from post-compulsory education and training to work or further study. Well-resourced schools, colleges and offices, and a robust technology infrastructure, will provide the solution for many educational imperatives.

The Department provides high quality education for around 70 per cent of all school students in NSW at more than 2,200 locations throughout the state. In 2001, around 760,000 students attend NSW government schools, and approximately 460,000 students are engaged in vocational training programs and other courses at over 130 TAFE colleges. Additional to this are students at the National Art School and Adult and Community Education centres.

The Department employs over 138,000 staff, the majority being teaching staff in schools and TAFE colleges. Department staff are employed in over 2,500 locations across the state. Such a large and geographically dispersed workforce represents a huge requirement for training and development and technology support.

The size and scope of DET presents both significant opportunities and challenges for the implementation of ICT in education and training. The Department is in a position to harness economies of scale such that unit costs in a range of hardware, software and service delivery circumstances are relatively low. The organisation is also in a position to leverage its already considerable investments in infrastructure, networks, training and materials development.

The widely dispersed nature of education and training sites with their well established technology based services, including a new satellite service providing high-speed Internet access, means that the Department is in a position to provide technology support for smaller agencies and rural communities.

On the other hand, the scale of the Department also presents significant challenges. The large number of geographically dispersed sites places pressure on technology infrastructure and network capacity. It also creates major demands for ICT training and support. While unit costs may be low, the very large number of units in an organisation the size of DET means that overall costs for any department wide initiative will be very high. This is true not only with regard to learning and teaching programs but also administrative projects and corporate services.
Corporate Services Applications

The amalgamation of the former Department of School Education, the Department of Training and Education Co-ordination and the NSW TAFE Commission posed particular challenges for the computer applications in the corporate services sector of DET.

The Department was confronted with a disparate array of systems. Some had been developed in-house to meet specific business needs and processes while others were in large part proprietary packages with a degree of agency-specific modification. The applications operated on a range of hardware platforms with some systems becoming increasingly difficult and expensive to support as the software became obsolete and the limits of suppliers’ support timeframes were reached. More importantly, consolidated reporting from the disparate systems was difficult, or required expensive and time-consuming custom programming. The Department has amalgamated these systems wherever possible.

Most of the existing corporate service applications are now unable to provide for optimal service delivery. In particular, the systems were not designed to enable schools and colleges to focus on their primary tasks of learning and teaching and the promotion of public education.

There is a need to replace, in a planned and systematic fashion, the existing personnel, payroll, finance and school-based administration and finance systems with a modern suite of integrated corporate service applications.

Opportunities for Multi-Agency Business and Service

As the largest agency in NSW and with a technology network that connects over 2,200 schools and 130 TAFE campuses, DET is considered the lead agency in the government for technology infrastructure and networking. The impact of increased student and teacher use of ICT on available bandwidth is considerable, with an increasing number of locations currently running at, or approaching, maximum capacity.

Through the progressive upgrade of the infrastructure, and especially through a significant increase in available bandwidth and segregation of users, DET will be well placed to carry additional traffic from smaller agencies through a virtual private network. This will allow smaller agencies to concentrate on service delivery rather than network development. However, the concept of DET hosting of shared service centres must be measured against the possible impact on the performance of the existing network at schools and TAFE colleges.

The Department works closely with the Department of Information Technology and Management (DITM) in assessing the viability of new telecommunications carriers and piloting new technologies, especially in the areas of bandwidth, optical fibre networks and radio and microwave technology. The Department also collaborates with DITM and Unisys in the Centre for Excellence, a partnership between government, IT vendors and education that provides students with real-world e-business skills.

The Department collaborates with major software providers to provide the latest software for student use, training opportunities and staff productivity benefits.

The Department and the NSW Board of Studies work closely in the development of curriculum, syllabuses and assessment practices in NSW. Through close working relations and participation in all consultative practices, there is significant opportunity for collaboration between the two agencies. Recent examples of collaboration are:

• the development of the Year 6 and Year 10 computer skills assessment
• mapping of technology objectives currently found in K-10 syllabuses to ensure that specific technology-related outcomes are included in all syllabuses
• the use of DET teachers to staff HSC Hotline call centres.
The Department also has close working relationships with other education providers and curriculum developers. The collaboration involves national projects, cross-systemic initiatives and cross-sectoral enterprises. National collaboration has been arranged under the auspices of the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), the Curriculum Corporation and the Conference of Education Systems Chief Executive Officers (CESCEO). Examples of such collaboration include:

- the development of national online curriculum content with the Curriculum Corporation, via the Schools Online Curriculum Content Initiative (SOCCI), initially in the areas of Chinese Online and a years 7-10 science course Prism
- the provision of Internet-based support for the new Higher School Certificate in conjunction with the Association of Independent Schools, the Catholic Education Commission and the NSW Board of Studies
- the provision of NSW HSC Online with Charles Sturt University. This web site provides a significant amount of multimedia curriculum support material for students, their parents and teachers in 23 Higher School Certificate subjects. Materials for a further 19 subjects will be available by 2004.

Collaboration with other agencies in e-business initiatives include:

- the development of the Employment and Training Approved Screening System (ETASS). This computerised system provides an online facility for employment screening for vocational education and training providers in NSW.
- e-Tendering developments in conjunction with the Department of Public Works and Service
- the online bookshop program.
Corporate Objectives

The Department's corporate planning document, *Education and Training 2000-2002*, sets out the broad directions for the organisation. The five key objectives of the plan are:

- Educating for life and work
- Achieving excellence in teaching and learning
- Succeeding in a highly competitive environment
- Achieving quality outcomes and being accountable
- Strengthening students' knowledge, understanding, skills and capabilities.

This document provides the framework within which the sector planning documents for NSW public schools and TAFE NSW have been developed.

Strategic Directions for Schools

The key strategic directions for schools, outlined in *NSW Public Schools - Strategic Directions 2000-2002*, are:

- Maintaining leadership in education provision
- Strengthening the foundations for lifelong learning
- Enhancing the breadth, depth and diversity of secondary school curriculum
- Promoting teacher professionalism and workplace flexibility
- Providing a safe, secure and disciplined environment for learning
- Reporting on education and training outcomes to students, parents and the community.

Strategic Directions for TAFE NSW

The key strategic directions for TAFE, outlined in *TAFE NSW - Strategic Directions 2000-2002*, are:

- Ensuring training better meets the needs of industry and our customers
- Creating valued educational and employment pathways
- Capitalising on our leadership in flexible learning
- Refocussing the range of training programs offered in national and international markets
- Pursuing a broader range of market opportunities
- Supporting the expertise, creativity, innovation and commitment of our staff.

The system aims to prepare young people for jobs and for further education and training. They must be equipped to learn and to continue to learn on a life-long basis. The primary means to these ends are access to and efficiency in using the tools to participate in the knowledge society. We must provide students with those tools, and lead the nation in making the use of ICT an integral part of every student's education and training.
Our Vision for Education and Training

The provision of education in NSW is changing to reflect community needs and to better provide education and training options for students. Flexible delivery and partnerships between schools, TAFE, university and industry are creating a new and dynamic learning environment for students.

The multi-campus model, which combines schools, TAFE colleges and universities, allows students to follow individualised learning pathways that suit their interests, vocational desires and learning needs. Increasingly, such programs allow students to follow patterns of study that have not previously been available to them. Learning programs can be undertaken from school or home and accessed from venues other than the student's base school at a time not restricted by a formal timetable.

The importance of vocational education programs in every student's program of study has increased the nature and scope of partnerships with training organisations and industry - designed to provide quality learning and training outcomes for students and to meet the requirements of business.

Such changing patterns of schooling impact on teaching practice. New award agreements have, for the first time, enabled teachers to teach across both schools and TAFE sectors, and have allowed for extended hours of teaching in schools to accommodate the vocational education and training needs of students. Changes to education, particularly school education, will undoubtedly lead to the provision of better learning courses for students and further improvements in teaching practice.

New technologies will impact on education, creating innovative teaching and learning experiences. Technological literacy will foster new learning modes, styles of cognition, networks of relationships and methods of communication as the roles of teachers and students change. Learners will develop higher order skills while using technology to build knowledge, solve problems and interact with a wide array of information sources and people. Teachers will increasingly apply and use technology tools for teaching, learning and productivity.

The appropriate use of technology will improve and enhance learning outcomes and opportunities for students, the quality of learning, and their attitudes to learning. By interacting with others nationally and internationally, learners will gain a more sophisticated and global understanding of complex international and national issues, while increasing their information technology literacy. Technology will equip and provide our students with the skills to gain access to further education and employment, to participate fully in the community and to contribute to the knowledge nation.

Access to and use of appropriate technology enable students to actively participate in the ever evolving technology centred world of work. The technologically connected world will be the classroom and the library of the future. Online course delivery will enable expanded curriculum choice for all learners.
This is our vision of education and training over the next three to five years:

- Students will pursue a curriculum, which meets their needs, interests and aspirations
- Learning and teaching programs, staff-student interaction and student behaviour will be based on clearly articulated values
- All students will have access to curriculum any time, in any place
- Powerful multimedia technology will be at the fingertips of students and teachers
- e-Learning will be a natural and logical component of every student's education
- Schools and colleges will regularly assess student performance and will provide detailed, relevant information on that performance to students, parents and employers
- Schools will provide access for all learners to a unique mix of resources, facilities and opportunities that may not be available in their home or community
- All students will have access to courses and information from a range of providers
- Students will have access on demand to information and research via the Internet
- Teaching and learning will reflect a strong commitment to student and staff welfare
- Teachers will be trained in best practice in the use of technology in education
- Teachers will have access to appropriate curriculum resources on demand

- Teachers will have instant access to syllabuses, assessment resources and policies
- Traditional classrooms will increasingly give way to virtual classrooms with teachers supporting online learners
- Learning communities will be established across the state, country and internationally
- Flexible learning environments will allow for the incorporation of technology and changing approaches to pedagogy and education delivery
- Schools will use technology to expand educational services to their communities
- Access to work-related information will be available to staff on a 24x7 basis
- Administrative and corporate functions in the Department will deliver user-centred services
- Schools will work cooperatively in maximising opportunities for students
- Students will become effective life-long learners.
Our ICT Vision

We see technology having the following impact on education and training in the next three to five years.

• Staff and students will be supported by an efficient and effective information technology environment
• Students will acquire the technological skills, knowledge and competencies that will support their future training, study and employment needs
• Students will use technology to communicate with peers, regardless of location, and work collaboratively on learning programs
• All students will be skilled users of information technology
• Student ICT skills will be assessed and reported, and will be valued by industry
• All teachers will be skilled users of information technology to enhance their students’ learning and training programs
• Teachers and students will use technology as a normal part of the teaching and learning environment
• Teachers and students will have the necessary technology skills to enhance their learning experiences
• Students and staff will be able to use technology to find information, evaluate it and use it in innovative ways for learning and teaching
• The ICT literate teacher will be a critical member of the Department’s highly skilled workforce
• Teachers will play a key role in transforming the way education of the future is delivered
• Improved service standards will result from the implementation and use of ICT
• Teachers will enter the teaching service with credentials in using ICT to enhance student learning

• A range of school and TAFE courses will be delivered online
• Technology will allow educational and training services to be delivered to all DET locations
• Modern, powerful technology will be available to students to enhance their learning and training
• Educational technology will be continually upgraded to ensure that NSW students always have access to current technology
• Technology will support a client-focused service environment
• New technology in schools and colleges will be supported by teacher training programs
• Every officer in DET will be able to do their job more efficiently through the use of appropriate technology
• Access to online services will no longer be constrained by students’ geographical, physical or other circumstances
• Extended capacity and reach of the DET data network will provide every student and employee of DET with access to educational content and electronic services online
• Progressive improvements to the central computing infrastructure of DET will improve the quality, reliability, timeliness and security of electronic services in a cost effective manner
• Technology will allow more efficient systems to be implemented for enrolment, assessment and reporting, data handling and management purposes
• Technology infrastructure will be regularly updated and expanded to meet increasing needs and demands.
The Department’s vision for education, and our vision for Information and Communications Technologies, inform our plan for ICT in education and training. That plan is structured around four goals relating to education and training services, ICT literacy, e-service and infrastructure. The goals represent major opportunities for the Department to use Information and Communications Technologies for the educational benefit of the people of New South Wales. They were developed to:

- Align ICT activities with the corporate vision and business goals to achieve improved education and training outcomes for students
- Achieve business process improvement and re-engineering supported by ICT
- Improve information management
- Improve governance and management
- Support the NSW Government commitments for education and training, the NSW Government IM&T Blueprint and associated policies such as connect.nsw.

Each of these goals is further elaborated as key strategies, which:

- Take opportunities to leverage ICT in delivery of improved educational outcomes
- Support major DET programs such as Building the Future, increased vocational education and training courses in schools and linkages with TAFE, and the introduction of the new Higher School Certificate
- Enhance existing systems or develop new systems to support multi-campus structuring of schools and TAFE
- Integrate and centrally manage disparate technology and information architectures
- Improve DET corporate services for staff and the NSW public.
Elaborating the Goals as Strategies

1. **Education and Training Services**
   
   **Goal:** Enhance the quality of learning and teaching through the provision of innovative, technology-based educational programs and services, which position the Department as a global leader in the provision of quality education and training services.

   We will achieve this goal through these strategies:

   1.1 Provide online curriculum content and services to support the flexible delivery of education and training in schools
   1.2 Provide online curriculum content and services to support the flexible delivery of education and training in TAFE
   1.3 Develop online content and provide quality online education services to students in rural and isolated communities
   1.4 Provide enhanced access to ICT and learning for students with special needs
   1.5 Provide online information and library services
   1.6 Establish alliances with industry and other education providers to deliver quality online education and training services
   1.7 Conduct research and evaluation to identify best practice in the use of technologies for effective learning and teaching

2. **ICT Literacy and Support**

   **Goal:** Enhance the ICT literacy of students, staff and members of the community to meet their education, work and life needs

   We will achieve this goal through these strategies:

   2.1 Provide ongoing training for teachers and staff in the use of ICT
   2.2 Introduce state wide computing skills assessment for students
   2.3 Provide a broad range of ICT education and training programs to meet the needs of the community, business and the ICT industry
   2.4 Recruit staff with appropriate ICT skills
   2.5 Provide support services to assist staff and students in their use of ICT
3. **E-Service**

**Goal:** Enhance the quality, efficiency and effectiveness of services, systems and support for students, staff and the community through innovative e-services.

We will achieve this goal through these strategies:

3.1 Provide electronic services to facilitate communication between staff, students and the community

3.2 Develop a dynamic, interactive website to provide students, staff and the community with online access to policies, procedures and other information

3.3 Implement e-commerce transactions to facilitate the Department’s dealings with the community, business and government agencies

3.4 Implement new integrated student administration applications in schools and TAFE

3.5 Implement e-business solutions for staff to access personnel and other administrative services

3.6 Develop an integrated management information system to facilitate policy, planning, reporting and performance monitoring

3.7 Provide access to ICT facilities for community members in schools and TAFE campuses

3.8 Market online services nationally and internationally

4. **ICT Infrastructure**

**Goal:** Enhance the ICT infrastructure to meet the changing educational, management and business needs of the Department.

We will achieve this goal through these strategies:

4.1 Enhance access to computers in schools and TAFE colleges

4.2 Provide a flexible managed network with adequate bandwidth to support growth in usage and online services

4.3 Upgrade central computing sites to support the increasing use of ICT

4.4 Establish technology standards for the Department
Making the Strategies Real for Stakeholders

What will the strategies mean for stakeholders? The following are some implications for our key stakeholders:

**Students**
- Access to a broad range of curriculum online
- Access to secure online services including email, discussion forums and web-hosting
- A much richer and more comprehensive assessment regime identifying successes and areas for improvement
- For isolated students and those with special needs, online access to curriculum and teacher support
- The ability to access information and research from anywhere, any time
- The ability to collaborate in learning programs with students at other locations
- Access to training programs online
- Online enrolment for TAFE and ACE courses
- Online access to results

**Parents**
- A capacity to communicate more effectively with teachers
- Access to feedback on student performance
- Access to departmental information and publications online
- Online enrolment facilities for TAFE and ACE courses
- Provision of online courses in further education
- Access to meaningful information about public schools

**Staff**
- Training to incorporate technologies effectively in teaching and learning
- Access to online learning and teaching programs and resources
- Access to student performance data for analysis and reporting
- Online services in the areas of library, enrolment, staff training and employee services
- The provision of secure online access to departmental information including management information and expanded email facilities
- Electronic student and course information management systems
- E-business solutions for staff to access personnel and other administrative services
- Increasing integration of Internet-based research in learning programs

**Community and business**
- Online access to education and training courses
- Online access to departmental and government information
- Access to technology in schools and colleges for training needs
- E-business with the Department
**Government and the Department**

- enhanced access to performance data to support quality improvement, performance monitoring and strategic planning
- improved data and information handling capacity to expedite external and statutory reporting
- school administration systems using technology to improve educational management, release resources for teaching and learning and support innovative teaching
- administrative applications accessible to staff in schools, colleges and state offices
- selected applications will have links to external organisations and government agencies
- meeting government commitments in e-learning, employee self-service and service delivery
- further development of the common infrastructure and systems applications
- increase in bandwidth to support the expansion of e-learning and e-business
- the development of virtual private networks to allow the safe transmission of data from other agencies on the Department’s network
Matching the Strategies to Government Goals and Initiatives

The following table demonstrates the match between the ICT Strategies, the key elements of the DET Corporate Plan and the major Government initiatives in the ICT area. As is apparent there is a high level of correlation between the strategies, the corporate goals and the initiatives.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>DET Corporate Plan</th>
<th>Government Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 1</strong>  Education and Training Services - Enhance the quality of learning and teaching through the provision of innovative, technology-based educational programs and services, which position the Department as a global leader in the provision of quality education and training services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Provide online curriculum content and services to support the flexible delivery of education and training in schools</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>1.2 Provide online curriculum content and services to support the flexible delivery of education and training in TAFE</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>1.3 Develop online content and provide quality online education services to students in rural and isolated communities</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>1.4 Provide enhanced access to ICT and learning for students with special needs</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>1.5 Provide online information and library services</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>1.6 Establish alliances with industry and other education providers to deliver quality online education and training services</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>1.7 Conduct research and evaluation to identify best practice in the use of technologies for effective learning and teaching</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td><strong>Goal 2</strong>  ICT Literacy - Enhance the ICT literacy of students, staff and members of the community to meet their education, work and life needs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Provide ongoing training for teachers and staff in the use of ICT</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>2.2 Introduce state wide computing skills assessment for students</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>2.3 Provide a broad range of ICT education and training programs to meet the needs of the community, business and the ICT industry</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>2.4 Recruit staff with appropriate ICT skills</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>2.5 Provide support services to assist staff and students in their use of ICT</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
</tbody>
</table>
### Goal 3  E-Service - Enhance the quality, efficiency and effectiveness of services, systems and support for students, staff and the community through innovative e-services

| 3.1 | Provide electronic services to facilitate communication between staff, students and the community | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3.2 | Develop a dynamic, interactive website to provide students, staff and the community with online access to policies and procedures and other information | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3.3 | Implement e-commerce transactions to facilitate the Department's dealings with the community, business and government agencies | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3.4 | Implement new integrated student administration applications in schools and TAFE | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3.5 | Implement e-business solutions for staff to access personnel and other administrative services | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3.6 | Develop an integrated management information system to facilitate policy, planning, reporting and performance monitoring | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3.7 | Provide access to ICT facilities for community members in schools and TAFE campuses | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3.8 | Market online services nationally and internationally | ✔ | ✔ |  | ✔ | ✔ | ✔ | ✔ |

### Goal 4  ICT Infrastructure - enhance infrastructure to meet the changing educational, management and business needs of the Department

| 4.1 | Continue to upgrade hardware in schools and colleges | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 4.2 | Provide a flexible managed network with adequate bandwidth to support growth in usage and online services | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 4.3 | Upgrade central computing sites to support the increasing use of ICT | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 4.4 | Establish technology standards for the Department | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
ICT Governance and Management

The Department has established an ICT Steering Committee chaired by the Director-General with a membership of the Deputy Directors-General, Chief Information Officer, General Manager, Finance and appropriate directors, as required. The ICT Steering Committee endorses the ICT Strategic Plan and oversees its implementation. It also resolves strategic issues arising from the implementation of the plan and approves ICT policies and standards for the Department of Education and Training.

Governance is maintained, and major projects are managed, through a series of application steering committees which report to the ICT Steering Committee. These steering committees are responsible for the scope and strategy of particular projects. They are led and driven by the business process owners from within the Department who act as project sponsors. Their membership includes user group representation and specialist technical expertise.

The application steering committees determine the project scope, endorse the project plans, monitor implementation and are responsible for benefit realisation. In circumstances where application integration or rationalisation are key strategic objectives, steering committees will involve a number of business process owners acting as joint sponsors. This is the case, for example, with regard to the corporate services applications integration project.

The application steering committees oversight the work of project planning and working groups associated with particular projects. These working groups are responsible for the detailed planning and implementation of approved projects and are often involved in business process reform in addition to software appraisal, consideration of infrastructure options and network implications. Invariably the input of technical expertise from Information Technology Directorate and input and feedback from user groups are vital at this level. The Department utilises a Quality Management System for ICT project standards, documentation and reporting.

The size of the Department dictates that many of the projects proceed through a pilot or evaluation phase to assess viability for full-scale tendering, implementation, or outsourcing to third parties.

The General Manager of Information Technology and Chief Information Officer has the responsibility to maximise the integration of systems and applications across the Department and to plan and manage infrastructure and basic ICT services to meet the growing use of ICT in education and training. This requires collaboration with sponsors to facilitate business process reengineering through the application of enabling technology.

The diagrams outline the governance model in ICT used in the Department of Education and Training and the key accountabilities for major ICT-related projects shared by the senior officers and members of the DET Board of Management.

Figure 1 - ICT Governance Structure
Figure 2 - ICT Governance with Committees

* Members of DET ICT Steering Committee along with CIO and GM, Finance

Online Curriculum
Outcomes Reporting
Student Administration System
Computer Skills Assessment
Online Distance Education
Students with Special Needs
Building the Future
School of the Future
Multi-campus colleges

Student & Course System
TAFE Online
Campus Management System
Library Services

Corporate Services Application Integration
Data Warehouse
Executive Information System
Properties/Asset Management System
Records Management System
eProcurement
eTendering
Technology Infrastructure & Services

Website
Training and Development
Promoting Public Education

Industry Services System
International Computer Drivers Licence
ICT Initiatives in Adult and Community Education
Section V

ICT Projects

ICT Projects: Delivering the Strategies

For each ICT key goal a series of strategies has been identified. The strategies will be delivered through particular projects which are grouped and listed below.

1. Education and Training Services

STRATEGIES AND PROJECTS:

1.1 Provide online curriculum content and services to support the flexible delivery of education and training in schools
   • HSC curriculum online
   • Years K-10 curriculum online
   • Languages curriculum online
   • Curriculum Exchange K-12
   • Excellence Exchange
   • e-HSC subjects
   • National Schools Online Curriculum Content Initiative (SOCCI)

1.2 Provide online curriculum content and services to support the flexible delivery of education and training in TAFE
   • TAFE Online

1.3 Develop online content and provide quality online education services to students in rural and isolated communities
   • Develop online content and services to replace School of the Air radio provision
1. **Education and Training Services**

1.4 Provide enhanced access to ICT and learning for students with special needs
   - e-Summer Schools
   - ICT tutorial classes for disruptive students

1.5 Provide online information and library services
   - Mobile Library and Information Unit for isolated TAFE students
   - Replacement of OASIS library for schools
   - Library of online resources for schools and TAFE

1.6 Establish alliances with industry and other education providers to deliver quality online education and training services
   - *School of the Future* at Australian Technology Park
   - *Building the Future* - ICT links between schools, universities and industry
   - Skilling People for an Information Society - *ICT Skills Action Plan*
   - Multifunctional education and training precincts

1.7 Conduct research and evaluation to identify best practice in the use of technologies for effective learning and teaching
   - Online Snapshots of integration of IT into classrooms
   - Research into innovative use of IT in learning and teaching
   - Quality teaching practice research
   - Promotion and fostering of school-based innovations in learning and teaching using technology
### Goal 1: Education and Training Services

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HSC curriculum online</strong></td>
<td>Old HSC (28 subjects)</td>
<td>38 new HSC subjects</td>
<td>4 additional subjects</td>
<td>K - 10 Key Learning Areas revised for IT focus</td>
<td>Year 7-10, 10 subjects revised for IT focus</td>
<td>Remaining subjects revised for IT focus</td>
</tr>
<tr>
<td><strong>Languages curriculum online</strong></td>
<td>Chinese Yr 3-6, French, Japanese</td>
<td>Chinese Yr 5-6, Indonesian, Italian</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Curriculum Exchange K - 12</strong></td>
<td></td>
<td></td>
<td></td>
<td>Curriculum exchange K-12</td>
<td></td>
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<tr>
<td><strong>Excellence Exchange</strong></td>
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<td></td>
<td></td>
<td>Excellence exchange</td>
<td></td>
</tr>
<tr>
<td><strong>e-HSC subjects</strong></td>
<td></td>
<td></td>
<td></td>
<td>3 e-HSC subjects provided online</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Metadata</strong></td>
<td>Literacy</td>
<td>Numeracy</td>
<td>Australian Studies, others</td>
<td>Yr 7 Science, Chinese</td>
<td>Yr 8 Science, Chinese</td>
<td>Yr 9 Science, Chinese</td>
</tr>
</tbody>
</table>

#### 1.1 Provide online curriculum content and services to support the flexible delivery of education and training in schools

#### 1.2 Provide online curriculum content and services to support the flexible delivery of education and training in TAFE

<table>
<thead>
<tr>
<th>TAFEOnline</th>
<th>Online course modules</th>
<th>100 modules</th>
<th>200 modules</th>
<th>350 modules</th>
<th>475 modules</th>
<th>600 modules</th>
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</thead>
<tbody>
<tr>
<td>e-Student services</td>
<td>e-enrolment for commercial courses</td>
<td>User authentication</td>
<td>Student self service</td>
<td>Student portal</td>
<td>Integration</td>
<td></td>
</tr>
<tr>
<td>Delivery Colleges</td>
<td>40 colleges</td>
<td>55 colleges</td>
<td>70 colleges</td>
<td>85 colleges</td>
<td>95 colleges</td>
<td></td>
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<tr>
<td>Online training</td>
<td>Content developer training</td>
<td>Delivery training</td>
<td>Manager training</td>
<td>Advanced delivery training</td>
<td>Revised teacher training</td>
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</tr>
</tbody>
</table>

**Key:** Competed/operational Implementation Development Proposed
### Goal 1: Education and Training Services (P2)

<table>
<thead>
<tr>
<th>1.3 Develop online content and provide quality online education services to students in rural and isolated communities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1999</strong></td>
</tr>
<tr>
<td>Replace School of the Air</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.4 Provide enhanced access to ICT and learning for students with special needs</th>
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<tbody>
<tr>
<td>e-Summer schools</td>
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<tr>
<td>ICT tutorial classes for disruptive students</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>1.5 Provide online information and library services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile library and information unit for isolated TAFE students</td>
</tr>
<tr>
<td>Replacement OASIS library for schools</td>
</tr>
<tr>
<td>Library of online resources for schools and TAFE</td>
</tr>
<tr>
<td>Online Library</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.6 Establish alliances with industry and other education providers to deliver quality online education and training services</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of the Future</td>
</tr>
<tr>
<td>Building the Future</td>
</tr>
<tr>
<td>Skilling people for an Information Society</td>
</tr>
<tr>
<td>Multifunctional education and training precincts</td>
</tr>
</tbody>
</table>

**Key:**
- Completed/operational
- Implementation
- Development
- Proposed
| 1.7 Conduct research and evaluation to identify best practice in the use of technologies for effective learning and teaching |

**Goal 1: Education and Training Services (P3)**

<table>
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<tr>
<th></th>
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<tr>
<td>Online Snapshots</td>
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<tr>
<td>Research innovative use of IT</td>
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<tr>
<td>Quality teaching practice research</td>
<td></td>
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<tr>
<td>Fostering innovation in learning and teaching</td>
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</tbody>
</table>

**Key:**
- **Completed/operational**
- **Implementation**
- **Development**
- **Proposed**
2. ICT Literacy and Support

STRATEGIES AND PROJECTS:

2.1 Provide ongoing training for teachers and staff in the use of ICT
   • Technology in learning and teaching (TILT)
   • Advanced technology in learning and teaching (TILT Plus)
   • TAFE Online
   • Student evaluation
   • Internet Services Project training for staff
   • School administrative and support staff training

2.2 Introduce state wide computing skills assessment for students
   • Year 6 and Year 10 computer skills assessment test
   • International Computer Drivers Licence in schools, TAFE and Adult and Community Education

2.3 Provide a broad range of ICT education and training programs to meet the needs of the community, business and the ICT industry
   • Vendor-certified training
   • TAFE Plus courses
   • NET*Working 2002 online conference
   • ICT Diploma Cadetships
   • ICT Adult and Community Education courses for disadvantaged community groups

2.4 Recruit staff with appropriate ICT skills
   • Accelerated teacher training and retraining programs
   • Pre-service, graduate and postgraduate scholarships for Mathematics, Science and Technology and Applied Studies (TAS) teachers

2.5 Provide support services to assist staff and students in their use of ICT
   • Upgrade HelpDesk support for schools and TAFE colleges
   • Additional technology support for schools
### Goal 2: ICT Literacy and Support

#### 2.1 Provide ongoing training for teachers and staff in the use of ICT

<table>
<thead>
<tr>
<th>Year</th>
<th>TILT Components 1-6</th>
<th>TILT Components 7-8</th>
<th>TILT Website</th>
<th>Early Childhood</th>
</tr>
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<tbody>
<tr>
<td>1999</td>
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<td>2004</td>
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</tbody>
</table>

- TILT Plus
  - SASS training
  - Information skills
  - Leadership programs
  - Special Programs
  - KLA

- TAFE Online
  - Professional Development
  - WebBoard
  - Project Mgmt
  - Learnscope

- Quality Teaching Program - IT

- Student evaluation
  - KidMAP
  - Outcomes Assessment

- Internet Services Project
  - ISP service training

- SASS training

- School Finance Training
- School Administration Training
- School Library Training

#### 2.2 Introduce state wide computing skills assessment for school students

<table>
<thead>
<tr>
<th>Year</th>
<th>Yr 6 &amp; 10 assessment</th>
<th>Yr 6 &amp; 10 Computer Skills Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
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<td>2004</td>
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</table>

- International Computer Drivers Licence
  - International Computer Drivers Licence - TAFE/ACE

### Key

- Completed/operational
- Implementation
- Development
- Proposed
### Goal 2: ICT Literacy and Support (p2)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>2.3 Provide a broad range</strong></td>
<td></td>
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<tr>
<td><strong>of ICT education and</strong></td>
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<td><strong>training programs to meet</strong></td>
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<td><strong>the needs of the</strong></td>
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<td><strong>community, business and</strong></td>
<td>Vendor certified training</td>
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<td><strong>the ICT industry</strong></td>
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<tr>
<td><strong>TAFE Plus courses</strong></td>
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<tr>
<td><strong>ICT diploma cadetships</strong></td>
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<td><strong>ACE community IT education</strong></td>
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<td><strong>2.4 Recruit staff with</strong></td>
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<tr>
<td><strong>appropriate ICT skills</strong></td>
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<tr>
<td><strong>Teacher recruitment</strong></td>
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<tr>
<td><strong>ICT skills mandatory for all teacher recruits</strong></td>
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<td><strong>Scholarships</strong></td>
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<tr>
<td><strong>Pre-service, graduate and post-graduate scholarships for Mathematics, Science and Technology and Applied Studies (TAS) teachers</strong></td>
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<td><strong>2.5 Provide support</strong></td>
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<tr>
<td><strong>services to assist staff and students in their use of ICT</strong></td>
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<tr>
<td><strong>Help desk</strong></td>
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<tr>
<td><strong>Technology Support</strong></td>
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<td><strong>Technology Advisers</strong></td>
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<td><strong>Computer Coordinators</strong></td>
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<td><strong>Help Desk upgrade</strong></td>
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<td><strong>Additional online technology support</strong></td>
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</tbody>
</table>

**Key:**
- Completed/operational
- Implementation
- Development
- Proposed
3. **E-Service**

**STRATEGIES AND PROJECTS:**

3.1 Provide electronic services to facilitate communication between staff, students and the community
   - Internet Services Project - email, chat, web hosting, filtered Internet access, remote access

3.2 Develop a dynamic, interactive website to provide students, staff and the community with online access to policies, procedures and other information
   - New interactive website promoting public education
   - Standardise and link all departmental websites through a DET portal
   - Teacher Swap scheme via the Internet
   - Student employment website

3.3 Implement e-commerce transactions to facilitate the Department’s dealings with the community, business and government agencies
   - Online enrolment and access to records for TAFE students
   - Electronic student enrolment for ACE students
   - e-Tendering
   - e-Procurement

3.4 Implement new integrated student administration applications in schools and TAFE
   - School student administration system
   - TAFE student course information system
   - Online attendance records in schools
   - TAFE campus management system
3. **E-Service**

3.5 Implement e-business solutions for staff to access personnel and other administrative services
   - Online teacher recruitment
   - Employee Self Service
   - Integrated finance, human resources and administration applications

3.6 Develop an integrated management information system to facilitate policy, planning, reporting and performance monitoring
   - Upgrade central data warehouse
   - Expand Executive Information System

3.7 Provide access to ICT facilities for community members in schools and TAFE campuses
   - Community access to ICT facilities in schools and TAFE
   - Schools and TAFE colleges as centres for e-Government services

3.8 Market online services nationally and internationally
   - TAFE Global
### Goal 3: E-service

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.1 Provide electronic services to facilitate communication between staff, students and the community</strong></td>
<td>E-mail services for 25,000 users</td>
<td>E-mail for school principals &amp; administration</td>
<td>Limited remote access</td>
<td>Student e-mail pilots</td>
<td>Outsourced ISP services (email, chat, web hosting, filtered Internet, remote access)</td>
<td></td>
</tr>
</tbody>
</table>

**Internet Services Project**

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.2 Develop a dynamic, interactive website to provide students, staff and the community with online access to policies, procedures and other information</strong></td>
<td>Web management and meta-data standards</td>
<td>Accessibility online standards</td>
<td>New interactive website</td>
<td>Improved communication between teachers, students and parents</td>
<td>Standardise and link all web sites</td>
<td>Teacher swap website</td>
</tr>
</tbody>
</table>

**Interactive website**

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.3 Implement e-commerce transactions to facilitate the Department's dealings with the community, business and government agencies</strong></td>
<td>Online enrolment for TAFE</td>
<td>TAFE Online enrolment and student access to records</td>
<td>Electronic enrolment for ACE</td>
<td>Electronic student enrolment (ACE)</td>
<td>e-tendering</td>
<td>School Buys</td>
</tr>
</tbody>
</table>

**Online enrolment for TAFE**

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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</thead>
<tbody>
<tr>
<td><strong>e-procurement</strong></td>
<td>e-tendering</td>
<td>School Buys</td>
<td>e-procurement</td>
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</table>

**e-tendering**

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<thead>
<tr>
<th>Year</th>
<th>1999</th>
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<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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</table>

**Key:**

- Completed/operational
- Implementation
- Development
- Proposed
Goal 3: E-service (P2)

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
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<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
</table>

### 3.4 Implement new integrated student administration applications in schools and TAFE

- **School student administration system**
  - New student management requirements
  - School Student Administration System (student records, timetabling)
  - Juvenile Justice System

- **TAFE Student Course Information System**
  - Student Course Information System
  - Integrate learningware and student records

- **Online attendance records**
  - Online attendance records in schools

- **TAFE Campus Management System**
  - TAFE teachers electronic rollbook
  - TAFE timetabling system

### 3.5 Implement e-business solutions for staff to access personnel and other administrative services

- **Online teacher recruitment**
  - Teacher recruitment online

- **Employee self service**
  - Employee self service

- **Integrated finance, human resources and administration applications**
  - Y2K OASIS
  - OASIS admin/library integration
  - Finance, HR Admin(ERP)
  - Y2K corporate applications

**Key:**
- **Completed/operational**
- **Implementation**
- **Development**
- **Proposed**
Goal 3: E-service (P3)

3.6 Develop an integrated management information system to facilitate policy, planning, reporting and performance monitoring

<table>
<thead>
<tr>
<th>Year</th>
<th>Data warehouse</th>
<th>Executive Information System</th>
<th>Additional information sets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
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<tr>
<td>2000</td>
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<tr>
<td>2001</td>
<td>Upgrade central datawarehouse</td>
<td>Expand Executive Information System</td>
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<td>2002</td>
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<td>2003</td>
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<td>2004</td>
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</tbody>
</table>

3.7 Provide access to ICT facilities for community members in schools and TAFE campuses

<table>
<thead>
<tr>
<th>Access to ICT facilities</th>
<th>e-Government service centres</th>
<th>Community access to ICT facilities in schools and TAFE</th>
<th>Schools and TAFE used to deliver e-Government services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country Online in Schools</td>
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</tbody>
</table>

3.8 Market online services nationally and internationally

<table>
<thead>
<tr>
<th>TAFE Global</th>
<th>TAFE Global</th>
</tr>
</thead>
</table>

Key:
- **Completed/operational**
- **Implementation**
- **Development**
- **Proposed**
4. ICT Infrastructure

STRATEGIES AND PROJECTS:

4.1 Enhance access to computers in schools and TAFE colleges
   • Additional computers in schools
   • Additional computers in TAFE
   • Computing facilities for isolated students
   • Laptop computers for teachers
   • Staffrooms equipped with computers and communication facilities
   • Replace and upgrade local area networks (LAN) in schools and TAFE colleges

4.2 Provide a flexible managed network with adequate bandwidth to support growth in usage and online services
   • Satellite connection for isolated schools
   • Increased network bandwidth
   • Network Security Project
   • Replacement of obsolete wide area network (WAN) equipment

4.3 Upgrade central computing sites to support the increasing use of ICT
   • Central computer room upgrade
   • Replacement of central computers
   • Portal software for new web-based applications

4.4 Establish technology standards for the Department
   • Infrastructure standards
   • Software standards
   • Online curriculum standards
Goal 4: ICT Infrastructure

4.1 Enhance access to computers in schools and TAFE colleges

- Additional computers in schools: 77,030 computers in schools
- Replacement of computers in schools
- Additional computers in TAFE
- Computing facilities for isolated students
- Laptop computers for teachers
- Staffrooms equipped with computers
- Provide ICT equipment for staffrooms
- Replace and upgrade local area networks
  - Additional repeaters and switches for schools
  - Replacement and upgrade of LAN equipment
  - Obsolete college switches replaced
  - Colleges equipped for online delivery (TAFE OnLine)

4.2 Provide a flexible managed network with adequate bandwidth to support growth in usage and online services

- Satellite connections
  - 2050 schools connected to DET network
  - Satellite connection for isolated schools
- Increased network bandwidth
- Increased bandwidth
- Network security project
- Network security project
- Replacement of obsolete WAN equipment
  - Central network equipment upgraded
  - Replacement of obsolete network equipment
  - Schools and institute dateline upgrades (growth)

Key:
- Completed/operational
- Implementation
- Development
- Proposed
Goal 4: ICT Infrastructure (P2)

4.3 Upgrade central computing sites to support the increasing use of ICT

<table>
<thead>
<tr>
<th>Year</th>
<th>Action</th>
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<tbody>
<tr>
<td>1999</td>
<td>Central computer room upgrade</td>
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<td>2000</td>
<td>Central computer room upgrade</td>
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<td>2001</td>
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<td>Central computer room upgrade</td>
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<td>2004</td>
<td>Central computer room upgrade</td>
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</tbody>
</table>

- Replacement of central computers
  - VMS, NT computers upgrade, disk arrays replaced
  - VMS disaster site equipment capacity upgrade
  - Small NT servers

Portal software for new web-based applications

Key:
- Completed/operational
- Implementation
- Development
- Proposed

4.4 Establish technology standards for the Department

- Infrastructure standards
- Software standards
- Online curriculum standards