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Introduction

4.1 Economic growth and increased productivity are driven by innovation - the process of turning ideas into new products and services. For businesses, innovation creates better products, delivered faster and more efficiently. In competitive markets, businesses which fail to innovate will be left behind.

4.2 Innovation depends on the skills, knowledge, creativity and enterprise of individuals working in business and research. Government also has a role to play. It can help drive innovation by promoting an environment where competition works well and successful innovators are rewarded. It can invest to ensure that the infrastructure and research networks are in place to open up opportunities to innovate. It can accelerate the process of innovation by promoting the sharing and exploitation of new knowledge, particularly between science and industry.

4.3 Economic success will depend on effectively exploiting the emerging sources of innovation. Recent scientific advances in genomics, e-science and environmental technologies give us outstanding opportunities not just to create brand new industries, but to transform and renew existing sectors. We must make sure we seize that opportunity, building on the world class knowledge and expertise in our universities, colleges and research establishments.

4.4 The convergence between communications and computing will transform business processes and offer new opportunities for innovative products and services. Achieving a rapid and comprehensive roll-out of the next generation of communications infrastructure in the next few years will be key to our efforts to improve the competitiveness of all businesses. Spread of best practice and understanding of emerging new ways of working online will also be vital.

4.5 This chapter shows the key actions Government will take to encourage investment in R&D and infrastructure so that business can exploit new technologies and markets. These include:

- promoting the commercial exploitation of research, focusing on genomics, basic technologies and e-science;
- encouraging development and take-up of more resource efficient and environmentally friendly products and energy systems, and promoting markets for new technologies which reduce waste;
- encouraging diffusion of new technologies such as broadband across homes and businesses;
- boosting digital TV, which will transform the communications services available in the home and open up new markets and service opportunities;
- stimulating the development of content for the digital technologies; and
- increasing awareness and understanding among all businesses of the challenges and opportunities of e-business, and new ways of working in transformed organisations.

Our Goal

4.6 Our goal is to strengthen the ability of British business to innovate. We must do more to promote the exploitation by business of scientific advances in the key technologies of the next decade. We must ensure that all have the skills and capabilities to do so. The benefits must be available to small firms as well as medium and large companies, and in all parts of the country.

Where the UK Stands

4.7 Since 1997, the Government has strengthened our capabilities in science and technology, committing an extra £1.7 billion with the Wellcome Foundation to maintain our world class science base. The White Paper Excellence and Opportunity: a science and innovation policy for the 21st Century (Cm 4814 July 2000) set out a full analysis of the UK's position and an agenda for action by Government, academia and business.

4.8 With only 1 per cent of the world's population, the UK is responsible for 4.5 per cent of the world's spend on science, produces 8 per cent of the world's scientific papers and 9 per cent of citations. Yet British business fails to make the most of this resource - for instance, our companies apply for fewer US and EU patents than any of our main competitors except Italy. It is not enough to generate excellent research. We must do better at translating scientific advances into new industries, new jobs, and a better quality of life for all our people.

4.9 We must also embrace the green industrial revolution. Businesses increasingly need to develop environmental products and processes in order to meet national and international environmental targets, to meet consumer demand and to improve their competitive position. As part of this, we need to ensure that the UK is at the forefront of renewable energy technology. Photovoltaics - generating electricity from daylight - is a renewable energy source with enormous potential. Yet at present we lag behind Germany, the USA and Japan in developing photovoltaic energy and the supply industries that support it.

4.10 New communications infrastructure is needed to enable everyone to benefit from the opportunities of the modern economy, while minimising the potentially undesirable environmental impacts of such development. Our international competitors are racing to roll it out, particularly broadband communications networks and digital TV. In the UK more than one in four homes has been connected to digital TV in the last two years, and we have a universally recognised, highly creative digital content industry. But one third of British businesses with an Internet connection (weighted by employment) simply use the public telephone network system, with no additional digital technology, to increase data transmission speeds. There are risks that we will fall behind the leading nations, and that not everyone will benefit from broadband, particularly outside the more prosperous metropolitan areas.

4.11 In 1998 the Government recognised the importance of encouraging small businesses to get connected to the Internet, setting a target to increase the numbers with a website or making frequent use of external e-mail or electronic data interchange from 350,000 to 1.5 million by 2002. In the event, we had already reached 1.7 million by summer 2000, and now over 90 per cent of businesses (weighted by employment) have an Internet connection. The value of business to business sales in the UK conducted over the Internet is greater as a proportion of output than in any of our leading competitors except the USA. However, the engagement of many businesses in electronic commerce is still relatively shallow: very few businesses are going beyond e-commerce to adopt new ways of working. A

further step change is now needed if British business is to stay ahead and capture the full benefits of doing business over networks.

Exploiting the Power of Science

4.12 In addition to the £1.7 billion new investment in science and engineering, we have created a range of partnerships to bring together business and academic researchers and help universities and colleges build their capacity to work with business. We have enacted a string of tax measures to promote enterprise and R&D, particularly benefiting small firms, including manufacturers. We are now examining the case for further measures to encourage R&D among large as well as small companies.

4.13 The Government has already set out its research priorities for the next three years - genomics, e-science and basic technology. We believe these offer the most outstanding opportunities for industrial application and economic growth. We must also look ahead and identify the key areas for future investment in research. The Quinquennial Review of the Research Councils, which will fully involve industry, has been asked to consider how this might be done.

Foresight

The Foresight programme supports the production of independent reports which anticipate the changes which may affect the industrial landscape. The programme has a role to play both in increasing commercial exploitation of new technology, and in ensuring spending on R&D is well focused to meet future needs and market opportunities.

Businesses are supported in accessing this thinking, and in developing their own visions of the future, through close collaboration between the Small Business Service, Regional Development Agencies and the Foresight programme.

For instance, the Manufacturing 2020 Foresight Panel concluded that manufacturing is redefining itself as a provider of lifetime service around a manufactured product, and that the Internet is a major enabler which will initiate a paradigm shift in manufacturing. As a consequence, they recommended that companies should increase their focus on high added value products and technologies, while strengthening their supporting service offerings and actively seeking strategic alliances.



4.14 We must ensure that we maximise the return the nation gets from our investment in research. We must create the conditions in which it reaches and renews existing industries and generates new ones. That means making sure universities and other research establishments have the capability and the incentives they need to reach out to the wider world of business and the community. In particular, we will consider the recommendations from the Council of Science and Technology's current review of the linkages between science and technology and the 'new economy'.

4.15 In some areas our research-based industries are already strong, and we are working with industry to build on these. For instance, a high level Government and industry Pharmaceuticals Industry Competitiveness Task Force has been examining ways to strengthen the UK business environment for this successful research-intensive industry in order to make it still more competitive, and will report to the Prime Minister in the Spring.

Bradford Particle Design plc

BPD plc was established in 1994. The company was formed by Bradford University staff and exploits original university work on particle formation using supercritical fluids.

Supercritical fluid technology has been researched for some years, but the degree of control achieved by the BPD process has expanded its effectiveness and applicability enormously. The BPD process has been evaluated by the pharmaceutical industry, and is destined to be widely applied for the manufacture of a broad range of particulate medicines. BPD developed the technology with the assistance of DTI Smart R&D grants, and DTI-supported LINK grants.

Strong links are maintained with Bradford University. The university is significant shareholder in BPD and is represented on the company's board. The company uses university technical resources and the two organisations collaborate on a number of research projects.

BPD's pioneering research and development has resulted in their acquisition by US drug development company Inhale Therapeutic Systems - a significant development that will strengthen commercial opportunities and growth potential for this Bradford based business.



Harnessing Genomics

4.16 Biotechnology is expected to have as revolutionary an impact in the twenty-first century as the computer has had in the twentieth. The mapping of the human genome, completed in July 2000, is one of the most significant scientific achievements in history. Huge opportunities will arise from gene sequencing in the next decade.

4.17 Other countries are making concerted efforts to overtake the UK's lead in biotechnology in Europe. Our aim is to maintain our lead and ensure the UK reaps full economic advantage from our leading position in the biosciences.

4.18 The Government has increased funding for genomics research by an additional £110 million. Our bioscience industry must be properly equipped to make a commercial success of researchers' achievements.

The Government will bring forward a new £25 million programme Harnessing Genomics. This will help businesses take up this rapidly developing science and

apply it in new ranges of commercial products, processes and services which will give us health care improvements and environmental applications of real social and economic value.

4.19 The programme will show how science can be harnessed - not only for new medicines and new ways to treat diseases such as Parkinson's, Alzheimer's and cancer - but also using DNA and proteins in novel applications in fields such as electronics and bio-computing. It will provide the tools to support bio-medical developments, particularly bio-informatics which is essential to make use of the very complex data from genomics. In addition, the programme will encourage bio-manufacturing, which is a high priority area for a new Faraday Partnership.

4.20 To give young biotechnology companies a boost, we will help them learn from experienced business gurus in the USA (which has the most developed biotechnology industry) and encourage e-mentoring. We will also encourage provision of the incubator space and advice these companies will need as they develop their growth strategies.

Basic Technologies

4.21 The Government is setting up an interdisciplinary Research Council programme on basic technology worth £41 million over three years. It will support research into the creation of fundamental new capabilities in areas such as quantum computing, sensors, photonics and nanotechnology, which have the potential to transform whole manufacturing sectors and to form the basis of major new, resource efficient industries of the future.

We need to ensure that this research is fully exploited by industry. We will therefore invest £25 million over three years in a series of new activities and projects to ensure that businesses can commercialise such key technologies. The programme will focus on exploiting technologies with widespread applications in manufacturing.

4.22 We are already taking steps to support mature industries in taking advantage of new opportunities. Technical textiles is a global growth market, covering a diverse range of applications from construction materials and conveyor belts through to airbags and high tech composites. British companies have already established world leadership in some of these areas, such as non-wovens. The Government is funding the establishment of a Faraday Partnership for technical textiles, which will strengthen the research base for the sector and enable it to develop stronger links to manufacturing companies. In addition, it will continue to support a range of individual projects aimed at developing new technical textile materials and applications.

E-science

4.23 The next generation of the world wide web will be developed in the coming decade, and like the Internet will create enormous new opportunities for business and commerce. Systems are now being developed which will allow thousands of times more data to move extremely quickly around whole networks. Information will come with tools to allow users to analyse, probe, and process it.

4.24 We must ensure that the UK can lead the way in developing this next generation of information and communications technologies (ICT). It will allow companies to be truly global in their thinking, with whole projects being worked on simultaneously at several sites and all details available to all partners in real time. It may even lead to a new generation of e-commerce, providing customers with a fully interactive service. We are already investing £98 million in research into e-science.

4.25 With these funds we will establish a substantial generic research programme funded jointly by Government and industry to investigate and exploit the underlying network and software technologies of the next generation Internet.

We will complement this with a new £20 million programme over three years to ensure the findings of this research are quickly taken up and turned into commercial applications in the UK. A further £20 million over four years will go towards the establishment of a new Interdisciplinary Research Centre.

4.26 This will bring together manufacturers and researchers to work on interoperability and the commercial applications of new e-technologies.

Vocean

Vocean is a small company in Omagh that worked with the Faculty of Informatics at the University of Ulster, using the TCS scheme (previously known as the Teaching Company Scheme), on developing emerging Internet technologies. As a result, the company now claims to be the market leader in e-procurement products. Graduate Declan Gribbin was the TCS Associate for the Programme that also led to the formation of a new spinout company, 8over8, in which the University has a stakeholding. This new company is now valued at over £25 million and the TCS Associate and academic supervisors are shareholders and directors in the joint venture company located at the University's Science Research Park in Londonderry. Vocean's unique position in the market has resulted in partnership deals with the key industry players and it has grown from a micro-business to one employing over 30 with plans to grow by a further 100 per cent in 2001.



Green Technology and Energy

4.27 The global market for environmental goods and services is currently estimated at \$335 billion - comparable with the world markets for pharmaceuticals or aerospace - and is forecast to grow to \$640 billion by 2010. In order to exploit this growing demand, the UK needs to be among the front runners in a green industrial revolution.

4.28 In the past, companies have focused primarily on increasing labour productivity. That has been essential in order to overcome the productivity gap with our international competitors. It remains essential because the gap is still too big. Gaining in importance, especially in the future, is environmental - or resource - productivity: maximising our use of renewable resources and minimising waste. This is good for the environment. It also makes good business sense - improving efficiency, cutting production costs, reducing dependency on finite resources.

4.29 Business must embrace this challenge by making environmental considerations part of mainstream business activity. Government's role is to provide the support and conditions for new, environmentally sustainable industries to grow, to work with business to improve environmental productivity, and to use government procurement to encourage the take-up of green technologies, while ensuring value for money.

The UK has a strong research base in environmental technologies and many leading businesses in some of these industries. Our aim is for the UK to become a leading player in the new markets for green energy and products, waste minimisation, recycling and re-use.

R Griggs and Co Ltd

R.Griggs and Co Ltd is one of the UK's largest footwear manufacturers. It produces the famous Dr Martens brand and employs about 2,000 people. The company hosted trials, which were part-funded by DTI, to evaluate the effectiveness of a biological system to treat volatile organic compound (VOC) emissions. It was so impressed with the results of the trials that it installed a biotrickling filter, which degrades VOCs to water and carbon dioxide.

The new biological system enabled the company to comply with current legislation. A BIO-WISE case study found that the system was 16 per cent cheaper than conventional systems and cost 23 per cent less to run. In addition, it has superior environmental performance compared to conventional incineration.

Howard Johnstone, Group Administration Director said, "We are delighted to have found such a clean and environmentally sound solution to our needs through this use of biotechnology. We are also very proud to be one of the first UK companies to use biotechnology in this sort of application".



Waste

We will commit an additional £10 million to the new Waste and Resources Action Programme to develop new markets for recycled materials and to promote technologies and processes which reduce waste.

4.30 This programme will support investment on a much larger scale in novel methods for waste minimisation, reuse and recycling and to develop new markets. We will also explore the scope for further year on year increases in funding.

4.31 We will launch a Performance and Innovation Unit study of the longer term issues concerned with resource productivity and renewables, and develop specific strategies with the Regional Development Agencies to support the growth of environmental industry clusters across the country.

4.32 The Regional Development Agencies will promote best practice in construction and sustainability, as outlined in the White Paper *Our Towns and Cities: The Future* (Cm 4911, November 2000), to promote innovation and reduce the levels of embodied energy in new housing construction.

Climate Change

4.33 Climate change is a worldwide environmental threat. It has both global and local implications. The devastating floods, droughts and storms we have seen in the UK

and across the world in recent years show how vulnerable we are to climate extremes.

4.34 Tackling the causes of climate change will require action across national economies. The actions we propose to take in the UK are described in *Climate Change - the UK Programme* (Cm 4913, November 2000). One of the key elements in this strategic programme is action by business to cut out energy waste across industry and commerce, and to explore and exploit home and export markets for new low carbon technologies.

4.35 We propose to help meet this challenge by setting up joint government business initiatives spearheaded by the 'Carbon Trust'. Announced by the Prime Minister in his speech on the environment in October 2000, this UK wide initiative breaks new ground in the way we approach a major environmental threat. With initial funding of around £50 million per year, the Carbon Trust will:

- work with business to develop a range of information and advice programmes;
- take forward the development of the enhanced capital allowances scheme for approved energy efficiency measures;
- support research, development and demonstration projects; and
- contribute to the development of a long term strategy to move the UK towards a low carbon economy, ready to respond to the climate change challenges and opportunities which lie ahead beyond 2010.

4.36 By supporting renewable energy in the UK, we can also ensure that British industry is well placed to exploit the growing global demand for renewable energy technology.

We will embark on a major initiative with industry and others to achieve a UK solar photovoltaic demonstration programme in line with those of our main competitors.

4.37 Solar photovoltaic (PV) systems, which generate electricity from daylight, are a renewable energy form with enormous potential. Their current contribution to energy supplies is small, but growing rapidly with the aid of substantial support and investment around the world. PV tiles and modules can be incorporated into the roofs of homes and the facades of offices, enabling buildings to generate their own electricity.

4.38 The programme we propose, subject to approval by the European Commission, will establish the UK as a credible player in the PV market, alongside Germany (100,000 roofs by 2007) and Japan (70,000 roofs by 2002). It will encourage R&D and manufacturing investment in this field in the UK. We will also encourage British industry to move direct to the innovative thin-film technologies, which have greater potential for cost-reduction than existing technologies, thus giving them a lead in exploiting overseas markets as well.

4.39 Social housing refurbishments will be one of the key target groups for this programme. We can use PV to help alleviate fuel poverty as well as helping us to achieve security of energy supply and environmental objectives.

4.40 We also need to take advantage of the opportunities offered by market liberalisation, advances in technology and the development of renewable generation. The Government has established an industry wide working group to examine how the commercial and regulatory environment will need to adapt to enable industry to

take advantage of these changes.

4.41 The Group published its report on 17 January 2001, recommending a wide range of actions to encourage the development of renewable energy and combined heat and power, by enabling small scale generation to be connected to the local distribution network. The Group has now put its report out to consultation until early March, and will then finalise its recommendations.

Broadband

4.42 Broadband networks will give us the next leap forward in communications capability. Whether provided by cable, fibre, upgraded copper lines, wireless or satellite, they support the services which modern businesses need to stay competitive, including always on access to the Internet, high quality video transmissions and rapid exchange of bulk data. DTI research shows that businesses with an Internet connection using digital technology are 80 per cent more likely to engage in e-commerce than those with just an analogue connection to the public telephone network.

4.42 *Our goal is for the UK to have the most extensive and competitive broadband market in the G7 by 2005, with significantly increased broadband connections to schools, libraries, further education colleges and universities. As an initial step, we will:*

- *set up a new £30 million fund over the next three years to support innovative schemes to meet local requirements, to see how we can ensure that as many people and businesses as possible across the UK have access to affordable broadband services; and*
- *use more effective procurement of the public sector's broadband requirements to improve value for money, encourage the private sector to speed up further roll-out, and in particular to drive broadband into rural areas. We will start with an audit of bandwidth requirements in 100 market towns.*

4.43 We are also publishing *UK Online: the broadband future* (available online at www.e-envoy.gov.uk), a report to the Prime Minister by the e-Minister and e-Envoy, on how we can achieve this aim. The report outlines the steps we will take to ensure a competitive and dynamic market in broadband services, offering value and choice to businesses and consumers in the UK.

4.44 If we are to make the most of communications technology, we must ensure that as many people and businesses as possible across the UK can access affordable broadband services, especially small businesses. We will identify how best to achieve this in every part of the country. A new fund of £30 million over the next three years will support the Regional Development Agencies and devolved administrations in taking forward innovative schemes to meet local requirements for extending broadband networks, building on international best practice. The Countryside Agency will monitor the roll-out of broadband in rural areas, and we will take this into account in developing policy.

4.45 We will promote industry investment in higher bandwidth services so that as many people as possible can receive, and send, complex data services such as video. We will redouble our efforts to ensure that the regulatory environment provides the maximum degree of encouragement for investment in such services. This will include vigorous action to complete the unbundling of BT's local loop and to

release more radio spectrum.

4.46 We must keep up our investment in broadband for key parts of the public sector. The Government's objective is world class broadband links for all schools. The DfEE is already investing nearly £80 million from the Standards Fund over 2000-02 to start providing schools systematically with broadband access to the Internet.

4.47 We have commissioned a study from NM Rothschild to consider how we can ensure schools reap the benefits of leading technology in the long term most cost effectively as demands for bandwidth grow. The study will report later this month and we will then take decisions that will ensure that we achieve our objective.

4.48 We will also ensure that we make the most of public investment in broadband. Around £500 million is likely to be invested over the next three years to provide broadband connectivity to schools, colleges, universities, libraries, hospitals, doctors' surgeries, police stations, UK online centres and other public sector locations. We will identify ways of aggregating this public sector demand, particularly with a view to facilitating broadband roll-out in regions where broadband companies may otherwise find it uneconomic to do so. To assist this, the Countryside Agency will fund a 'health check' for 100 market towns to identify their needs. This will include the current and future availability of broadband services, and an audit of the potential public/private sector demand for broadband in each town.

4.49 We also recognise that infrastructure on its own is not enough; we need to address a range of wider issues if the rollout of broadband is to be a success. Content is a key driver of the take-up of digital technologies. We have a thriving digital content industry, made up of Internet publishers, new interactive media and computer games developers and others, and we will continue to support its development. We will work with the industry, primarily through the Digital Content Forum, to ensure that the content sector seizes the opportunities offered by broadband. Pilot programmes will be developed to stimulate the development of local broadband content.

4.50 Development of broadband applications could also be held back if there were a shortage of suitably qualified engineers or of those with the mix of creative and technical skills needed to create broadband content. These issues are addressed in Chapter 2.

4.51 The Government will continue to work closely with industry to identify the critical issues and develop solutions. We will establish a UK online Broadband Stakeholder Group, chaired by the e-Minister, as the focus of this work. We will initiate a major programme of research to inform future policy as the broadband market develops, and be prepared to take further action if this proves necessary.

Digital Television

4.52 We also need to make sure that Britain leads the world in the development of digital television, and that every community shares in its benefits. Digital television will transform the communications services available in the home. Using technology that people understand and are comfortable and confident with, we will be able to provide a learning resource and communications centre in every livingroom. It puts control of viewing in the hands of viewers rather than broadcasters. Choice will increase, and the potential of teletext will be unleashed by use of graphics and high speed updates. Combined with a phone line, it can give everyone access to the Internet in their living rooms, stimulating computer literacy in the population as a

whole. It will offer new Internet-based learning opportunities and interactive services, making e-shopping and e-banking more attractive for many people and opening up new opportunities for business products and services.

4.53 Ensuring that we are at the forefront of digital television will help our broadcasting and communications industries improve their competitive position, extend consumer choice through e-commerce and open up new learning opportunities for everyone.

Our aim is for the UK to have the most dynamic and competitive market for digital TV in the G7, as measured by take up, choice and cost. As the first part of our strategy to achieve this, we will:

- *bring together key public and private sector stakeholders to develop a comprehensive digital TV action plan;*
- *work with the broadcasters and others to launch a series of digital TV projects in 2001, giving participating communities the opportunity to help shape the future of digital TV;*
- *work with the broadcasters to promote public understanding of the benefits digital TV can offer; and*
- *work with the industry to ensure clearer and more informative labelling of digital TV services and equipment.*

4.54 Our broadcasters, manufacturers and retailers have put the UK at the forefront of the digital TV revolution. We will capitalise on this through a range of new initiatives. DTI and DCMS will work with key players in the public and private sector to develop a comprehensive action plan to maximise the benefits of digital TV. This will involve broadcasters (such as the BBC and ITV companies, Channel 4, Channel 5, BSkyB, OnDigital, NTL and Telewest), transmission companies (such as Crown Castle), equipment manufacturers (such as Pace and Sony), retailers (such as Dixons) and consumer/viewer groups (such as the Consumers' Association). Discussions with these organisations have indicated a clear interest in working together to develop such a plan and have uncovered a wealth of positive ideas and scope for creating a powerful and effective public/private partnership.

4.55 We will launch several small scale pilot projects offering free conversion to digital TV to defined communities, in partnership with the Independent Television Commission and the industry, to understand better the use that people will make of the new technology, including those who only want free-to-air services. These projects will include access both to free-to-air digital TV channels and to interactive services, including the Internet.

4.56 We will start by offering conversion to a small number of households and build up rapidly to convert a wider community of a thousand or more households. Those taking part in the projects will be given intensive support so that we can establish viewer requirements and assess whether they are being met by the equipment and services under development. As a result, the communities selected will have an opportunity to help shape the future of digital TV.

4.57 In parallel, we will develop a clear labelling scheme, in consultation with the industry, to ensure everyone understands what services are available and what equipment they need. We will also review the potential impact of digital TV on energy use in the home and how we can ensure that equipment is as energy efficient as possible.

4.58 Together with the broadcasters (particularly the BBC, ITV and Channel 4) we will also promote public understanding of the benefits of digital TV. This work will complement the industry’s marketing of pay-TV services by focusing on the other benefits of digital TV, such as extra free-to-air channels, interactive services and Internet access.

4.59 The digital infrastructure and e-business will create many opportunities to secure greater resource efficiency and environmental improvements, but we cannot take these potential benefits for granted. The Government, together with an industry consortium, is therefore supporting a project, Digital Futures, to advise on how to secure these gains.

Model of e-adoption ladder

Adapted from Cisco led Information Age Partnership study on e-commerce in small business



Enabling e-business

4.60 As well as developing the communications infrastructure needed to compete in the future, we need to ensure that business makes the most of the opportunities it offers. This is not just a matter of connecting to the Internet or having a website, important though that is. It is also about changing the ways in which businesses organise themselves and how they work with customers, suppliers and other partners, as illustrated above.

4.61 It is up to each individual business to adapt the tools of e-commerce and e-business to enhance its efficiency and trading capability. But identifying the opportunities and making the leap are major challenges. This is where Government can help.

Delap and Waller

Delap and Waller is a firm of mechanical and electrical consulting engineers with regional offices in Belfast, London, Derry, Dublin, Cork and Sligo employing 150 staff. It saw the opportunity to share information better between staff in its different offices and with customers in order to streamline its business processes and provide speedier and more efficient services for clients.

It installed a Wide Area Network (WAN), remote access and desktop and video conferencing. These now enable it to form virtual teams from across its offices and wider within its sector when bidding for new work. Integrating the technology throughout the business was responsible in part for a £600,000 (almost 15 per cent) increase in turnover against difficult trading conditions. According to MD Liam O'Hagan, "This will allow us to offer better service to our customers and also liaise more closely with project partners and the supply chain."



UK online for business, the Government programme which helps firms get online, will spend an additional £30 million over the next three years to help businesses move beyond having a website or trading online to transform themselves through the effective use of ICT. The Government will also use its procurement programme to encourage businesses to take up e-business technologies.

4.62 The Government is providing a package of support for small businesses to increase their capability to use ICT. As a result, small enterprises wanting to improve their ICT equipment and skills can benefit from the following:

- a dedicated service through UK online for business advisers in every Business Link that will provide impartial, practical, hands-on advice and assistance for small firms to help them use ICT in their business. Under this programme Business Links will develop a range of services tailored to meet the differing needs of individual small firms;
- a range of showcasing, demonstrators and other best practice activities giving practical examples of the business benefits from using ICTs;
- 100 per cent first year capital allowances for investment in computers, software and Internet-enabled mobile telephones over the next three years;
- guidance and support services tailored to the needs of individual sectors and regions.

4.63 DTI is also working with members of the Information Age Partnership, involving the UK's leading suppliers of ICT equipment and services, and with other UK online for business partners to highlight the benefits of information age technologies. This will include an E-Business Improvement Week, offering:

- free initial advice from Partnership members;
- seminars and workshops; and
- industry open days.

4.64 The Government has provided an additional £30 million for UK online for business to extend these activities. This will enable UK online for business to work with industry and others to help put British business into the lead in the emerging new ways of working online, moving beyond just having a website or trading online to transforming business practices.

4.65 The Government will also use its procurement programme to encourage businesses to take up e-business technologies and practices. All tendering for government contracts will be conducted online by 2002. The Office for Government

Commerce, Department of Trade & Industry, Small Business Service and key purchasing departments will work together to develop learning opportunities and advice for smaller businesses, to enable them to use Internet technologies to participate in a wide range of procurement activity. As purchasers, these departments will also promote the use of e-tendering in ways which will actively encourage smaller businesses to bid for contracts electronically.

4.66 We will also open up opportunities for the private sector to develop products using Internet technology to simplify business dealings with Government, such as payroll and tax or VAT returns. To achieve this we will open up access to the 'back offices' of government departments to those potential providers, where appropriate using the new Government gateway to ensure security and privacy. We will continue our drive to modernise the delivery of other public services, as we have with NHS Direct.

4.67 As a result, we want UK industry to be a world leader in key sectors through the take-up of e-business practices and new online ways of working. We want more extensive use of e-business in all sectors to help close the productivity gap between the UK and our main competitors.

4.68 We must also create an environment which nurtures new and emerging Internet based businesses. The Government is therefore launching a £5 million Internet mentoring initiative to help Internet start-ups and established small and medium sized firms who want to make the Internet their primary means of doing business. Under the initiative, companies will be able to access tailored business advice via a new interactive web portal. The initiative also includes an Internet incubator fund which will stimulate the creation of new regional incubators specifically to support and nurture new e-businesses, particularly in areas where they currently have less support.

4.69 We also need to do more to give consumers the confidence to make use of these new technologies. Growth in this form of commerce is currently being held back by a lack of confidence in the integrity of online markets. We will help the private sector to develop the TrustUK scheme, which approves good e-commerce codes of conduct. Internationally, we will develop better collaboration between enforcement agencies in different countries, especially in those countries where British consumers are most likely to shop over the Internet.

4.70 We have already established arrangements - amongst the first of their kind - with the US Federal Trade Commission on co-operation against Internet crime. This year we will sign agreements with Canada and Australia. We will also launch a UK Dispute Resolution Clearing House - as part of a Europe wide scheme giving consumers access to alternative dispute resolution schemes across the European Union.

Consumers Driving Innovation and Competitiveness

4.71 Knowledgeable and demanding consumers are a positive force in promoting competitiveness. As markets become global, consumers are becoming more sophisticated and more demanding: demanding value for money, expecting quality and design, searching wider markets.

4.72 To ensure that consumers have the knowledge they need to act as a spur to innovation and quality we are raising the profile and quality of consumer education

and advice. We will set up Consumer Support Networks throughout the UK, which will provide quality assured, better co-ordinated and more accessible advice services for consumers.

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