



dti

**REVIEW OF THE GOVERNMENT'S
MANUFACTURING STRATEGY**

Competing in the Global Economy –
The Manufacturing Strategy
Two Years On









The DTI drives our ambition of 'prosperity for all' by working to create the best environment for business success in the UK. We help people and companies become more productive by promoting enterprise, innovation and creativity.

We champion UK business at home and abroad. We invest heavily in world-class science and technology. We protect the rights of working people and consumers. And we stand up for fair and open markets in the UK, Europe and the world.

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Foreword

Manufacturing matters. It is vital to the economic well-being of our nation. And I am convinced that manufacturing in the UK has a strong long-term future.

The world market for manufactured goods is growing, and will continue to grow. But manufacturing globally is undergoing rapid change. The industrialised countries of Western Europe and North America face increasing competition from lower cost but increasingly sophisticated producers around the world. We must respond positively to the challenge of global change.

Future success for UK manufacturers lies in moving up the value chain. My vision is of a UK manufacturing sector made up of highly skilled, knowledge intensive, highly productive, innovative manufacturing businesses. Businesses delivering high quality goods and services into the global market place, introducing new products and processes, creating new markets.



But this vision can only be fully realised if all of us – Government, business, trade unions, Regional Development Agencies, academia – work together to attain this common goal. The Manufacturing Strategy remains the right framework within which to work to do this.

Much has happened since the Manufacturing Strategy was published in 2002. So it is entirely right that we should step back to take stock of what the Strategy has delivered, and to assess what our priorities should be going forward.

I was particularly pleased that Nick Brayshaw, a member of DTI's Executive Board and Chair of the CBI Manufacturing Council, accepted my invitation to co-ordinate a review of stakeholder views on the Strategy. I am grateful to Nick and all those who spared their time to speak to him or who contributed their views on the Strategy. Their inputs together with Nick's report have helped us greatly in producing this Report.

In assessing our priorities for action going forward, the Government will continue to play an important role in creating the conditions for manufacturing success.

This Report gives many examples of the action we have taken to do this. Innovation and skills are vital issues for manufacturing, and our recently published Innovation Report and Skills Strategy set out our agenda for action in these two areas, from which manufacturing will be a major beneficiary.

We have also established the Manufacturing Advisory Service (MAS), which has enjoyed huge success as a deliverer of practical support to manufacturers. And MAS is an excellent illustration of the increasingly important role now being played by the Regional Development Agencies in taking forward the national manufacturing agenda at regional and local level.

Ultimately, of course, Britain's manufacturing success depends largely on the creativity and dynamism of individual businesses and their employees. All manufacturing companies need to invest, innovate and upskill in order to compete successfully. They need to attract good quality people.

In this Report we present examples of how many UK manufacturing companies are already doing this and are world-beaters. It is up to all of us – not only Government but also business representative organisations, trades unions, academics and other stakeholders – to ensure that all UK manufacturers have the best possible conditions in which to achieve competitive success.

This Report sets out the priorities for action that we need to take – based on what the economic evidence tells us is important for the UK economy, and also on what business is telling us about what works and what doesn't work – to ensure the success of our manufacturing industry.

Delivering on these priorities will be important. To oversee the implementation of the action plan contained in this report we are therefore establishing a new Manufacturing Forum. This will bring together key stakeholders and act as a strong voice for manufacturing industry. It will be jointly chaired by a senior business person and by the Minister for Industry and the Regions, Jacqui Smith.

I commend this Report to all those who wish to see UK manufacturing thrive and prosper.

Rt. Hon. Patricia Hewitt, MP
Secretary of State for Trade and Industry
and Minister for Women and Equality

Executive Summary

The Manufacturing Strategy

Manufacturing matters. It is a vital part of the UK economy, making up a sixth of GDP, and is responsible for over half of UK exports. We published the Government's Manufacturing Strategy in May 2002, setting out a framework of action in partnership between Government, industry, unions and key stakeholders. We identified seven 'pillars' necessary to help build a successful, knowledge-intensive, highly-skilled manufacturing sector:

- **Macroeconomic Stability** – allowing businesses to plan for the long term
- **Investment** – working with modern, efficient processes and equipment
- **Science and Innovation** – helping manufacturers exploit the UK's strong science base to create innovative, high-value products
- **Best Practice** – raising productivity and competitiveness by continuous improvement
- **Skills and Education** – developing a skilled and innovative manufacturing workforce
- **Modern Infrastructure** – providing effective transport and communications network
- **The Right Market Framework** – providing the business environment manufacturing needs to compete globally.

Competing in the Global Economy: The Manufacturing Strategy Two Years On

The Manufacturing Strategy remains the right framework within which to co-ordinate action on manufacturing. Global competition is intensifying and our manufacturers must take advantage of advances in technologies, together with the opening up of world markets, to stay ahead.

After several difficult years, recent figures suggest improving prospects in the sector. Now is the right time to assess what has been achieved, and what remains to be done. Two years after the original Strategy, we present:

- A **review of stakeholder views** on the Strategy, helping to identify priorities in going forward, presented by Nick Brayshaw, DTI independent Board member and Chair of the CBI Manufacturing Council.
- A **brief overview** of the UK manufacturing sector since 2002.
- A set of 'at a glance' **key performance indicators**, designed to monitor the success of the UK manufacturing sector, which will be regularly updated.
- A review of **what has been achieved** in each of the seven pillars since the 2002 Manufacturing Strategy.
- An **action plan**, bringing together key themes identified in the review, and identifying the priorities of Government, industry and key stakeholders in going forward.
- A review of manufacturing in **Scotland, Wales and Northern Ireland**.

Our priorities for the future

We have developed an action plan that sets out the priorities for activity by Government, industry, trade unions, Regional Development Agencies and other stakeholders in key areas where we can most effectively work together to ensure the future success of UK manufacturing. These priority areas are:

- Promoting science and innovation
- High skilled, high performance workplaces
- Encouraging intelligent public procurement
- Encouraging high value added investment
- Promoting best practice
- Improving understanding of manufacturing
- Better regulation
- Modern infrastructure

A new **Manufacturing Forum**, jointly led by industry and government and composed of representatives of Government, trade bodies, unions and industry, will take responsibility for implementing the priorities identified in the report, and co-ordinate industry, stakeholder and Government action.





Manufacturing matters to us all in the UK, but its importance can be hidden by a negative public image. We need to celebrate success better, and recognise the vital contribution that manufacturers are bringing to our economy.

1. Stakeholder Views on the Manufacturing Strategy



Patricia Hewitt invited Nick Brayshaw, a leading industrialist, to co-ordinate stakeholder views on the Manufacturing Strategy. His findings, set out below, identify a number of important issues for UK manufacturing industry, and have helped to shape the Action Plan that appears later in this report.

Secretary of State

You asked me to lead an exercise to consult stakeholders about the Manufacturing Strategy and the priorities we should focus on going forward. This has been a most stimulating project, and I am grateful to all those who gave their time to be interviewed by me or who contributed their views by letter or email (see list at Appendix 3). I am now pleased to report my findings.

It was clear that many stakeholders regarded the Manufacturing Strategy as an established framework within which to take action to support manufacturing. But against this background, a number of consistent themes emerged during my review. These are set out below.

The Image of Manufacturing

Stakeholders pointed to a widespread poor public perception of manufacturing industry as a root cause of a number of problems facing the sector. For example, it hampers recruitment of school leavers and good university graduates into the sector, and contributes to a reluctance on the part of financial institutions and the Stock Market to invest in it.

At the same time, school teachers and pupils have little awareness of the real opportunities available in a career in manufacturing, which as this report elsewhere demonstrates, has a strong future in the UK.

There is no quick answer but I suggest that there are some positive steps that business, unions and Government can take to address this issue. First, by carrying out a co-ordinated programme of research into the issues facing manufacturing industry at national level; second, by actively promoting a positive image of the sector to schools, both to children and teachers; third, by increasing senior Ministerial presence at key manufacturing events, such as the Motor Show or Farnborough – a national programme or calendar of events would help with this; and fourth a public relations campaign to celebrate manufacturing success as a counterbalance to the negative stories which appear in the media.

Business Support

DTI has taken welcome steps to reduce drastically the number of business support schemes that it operates, but many of the stakeholders I spoke to were concerned about the plethora of business support initiatives at the regional and sub-regional level. This causes confusion in the marketplace, while many schemes are clearly sub-optimal and ineffective. The Regional Development Agencies (RDAs) should be tasked with reviewing and rationalising the number of business support schemes in operation at regional and sub-regional level. This will allow public funding to be concentrated on the most worthwhile initiatives, delivering better results to the customer and improving value for money.

Manufacturing Advisory Service

The Manufacturing Advisory Service (MAS) received very positive reports throughout the consultation process. MAS clearly is a success story. Manufacturers like it, and they want to see it continue. But it was apparent that diverging models of operation are being adopted in different regions, which presents the danger that the integrity of the very strong national brand that has been built up in a remarkably short time could be damaged.

A strong national co-ordination function is needed to promote the national framework and brand, while DTI and the RDAs should act to re-establish a single, coherent and consistent MAS model.

There was also an issue in some regions about the relationship between MAS and Business Link. Many manufacturers would prefer MAS to be their single point of access to business support. Government policy however is that generic business support to companies, whatever the sector, should be accessed through Business Link, who will then refer businesses, if they are manufacturers, to MAS for expert advice and support as appropriate. Given that this is the case, it was worrying to learn that in some regions there seemed to be a very low rate of referrals from Business Link to MAS, and vice versa. There is a need to define clearly the respective roles of MAS and Business Link, and to ensure that referrals between the two organisations operate as fully and effectively as possible.

Skills

As with regional business support schemes, I found similar confusion among stakeholders about who is responsible for taking forward the skills agenda, in particular the respective roles of the Sector Skills Councils and the local Learning & Skills Councils. Both networks are perceived to have been rather slow off the mark, and to be supply-driven rather than demand-led.

Manufacturers in general favour a very strong sector focus. The Skills for Business network, comprising the Sector Skills Councils and the Sector Skills Development Agency, is thus a key player in identifying employers' skills needs and ensuring that these are satisfied. Regional Skills Partnerships, which bring together RDAs, Learning and Skills Councils, Sector Skills Councils and Business Link, have a potentially important role in ensuring effective delivery of the sectoral skills agenda at the regional level.

It is perhaps too early to reach definite conclusions about the delivery of the skills agenda given that so much change has occurred. The priority should be to maintain and develop business involvement in organisations such as the Sector Skills Councils. Business must also play its part, by better articulating its requirements and by training employees to higher levels of skills than has hitherto been the norm. Larger companies at the head of supply chains have a particularly important role to play in ensuring that sectors work effectively together and that skills are transferable within sectors.

It is important to attract more high calibre young people into manufacturing. An idea that captured the interest of many of those I spoke to was to write off the student loans of those who achieved chartered engineer status. I therefore recommend this proposal be given careful consideration by Government.

Management and Leadership

Stakeholders in academia and consultancy argued strongly for better management and leadership in manufacturing as a prerequisite for transformational change in the sector. Emphasis should therefore continue to be placed on initiatives to improve management and leadership skills, complemented by action to increase manufacturing's share of university graduates. More networking and mentoring opportunities for management should also be encouraged – a number of MAS Regional Centres have already done good work in this area.

Innovation

Innovation is clearly crucial to the future of UK manufacturing industry. Discussions with stakeholders suggest that while larger companies are capable of forming productive links with the science base without outside intervention, small and medium sized enterprises and middle market manufacturers need the help of brokers or intermediaries to do this.

The MAS has successfully performed such a role in certain regions, and there are cases of individual organisations successfully acting as intermediaries, such as the Warwick Manufacturing Group, Cranfield, Cambridge Institute for Manufacturing and The Welding Institute.

I suggest building on these examples to form a national network of intermediate institutes. These could have a common identity, methodology and targeting, but with regional variations to reflect local circumstances. In addition, consideration should be given to setting up a national database to allow manufacturers to locate providers of technological expertise and capability.

Public Procurement

A consistent and widespread perception of manufacturing stakeholders was that other EU countries seemed to find ways of favouring their own industries in public procurement, whereas this did not happen in UK procurement. Stakeholders were certainly not arguing for 'Buy British' policies, but for public procurement processes to operate in

a way that enables UK industry to compete on a level playing field while ensuring competition and value for money for the taxpayer. The round-table on public procurement and manufacturing that was held in September 2003 was recognised as a significant step, but there was a perception that little progress has been made since then. DTI and Treasury need to revitalise this agenda. There is potential for huge positive benefit in terms of value added and increased innovation.

Capital Investment

UK manufacturers for many years have not invested nearly enough in capital equipment for their businesses. Although this is mainly an issue for industry to address, a consistent message from stakeholders was that Government should also consider what further steps can be taken to stimulate capital investment, particularly early in the business cycle.

Regulation and Red Tape

There was widespread concern among stakeholders about the impact of regulation on UK manufacturing competitiveness. Much originates in Brussels, but the UK approach to implementation was also an issue: particular mention was made in this context of the Emissions Trading Scheme and Working Time Directive.

UK manufacturers compete in a global marketplace and face fierce competition from low cost competitors in industrialising economies who are often subject to far lower regulatory burdens. Policymakers in both the UK and Europe must ensure that regulation does not hinder the global competitiveness of UK manufacturing.

Measures

Part of the confusion surrounding the debate about the real state of UK manufacturing stems from a lack of clarity about the measures used to report on the sector's performance. There is a need to develop a small, simple and broadly understood set of measures that can be reported upon on a regular basis and which can be used to assess our progress on the agenda for the future – the creation of a globally competitive manufacturing sector, focused on high value-added goods and services, and employing a skilled and flexible workforce.

Nick Brayshaw
July 2004

Examples of Intermediaries Working for Manufacturing

The Institute for Manufacturing, part of the University of Cambridge, works closely with industry providing education, research and practical support to companies of all sizes and across sectors. There are around 150 staff and researchers and a wide international academic and industrial network operating through a series of Centres and programmes.

- *Key Centres cover Strategy and Performance, Technology Management, International Manufacturing, Distributed Automation and Control, Production Processes, Economics and Policy*
- *An Industry Links Unit delivers an annual programme of over 80 events, workshops and seminars and a portfolio of tools to help manufacturers improve performance*
- *The Manufacturing Leaders Programme and Automotive Leaders Programme prepare high potential managers for general management positions*

www.ifm.eng.cam.ac.uk

The Warwick Manufacturing Group (WMG), based at Warwick University, is involved in publicly and privately funded research on innovation in products and manufacturing processes, with a focus on research, development and application for a range of industrial sectors – including research in areas such as logistics, manufacturing strategy, supply chain management, benchmarking and business process improvement. Research teams have academic and industrial backgrounds, and industry is closely involved in the delivery of its research, technology transfer and training programmes.

A partnership between WMG, the Premium Automotive Group and Advantage West Midlands Regional Development Agency, with underpinning support from the Engineering & Physical Sciences Research Council, is working to ensure that every link in the automotive supply chain has access to the latest technologies and business techniques.

www.wmg.warwick.ac.uk



Global competition is increasing,
but there is a strong future for
UK manufacturers who take
advantage of rapid advances in
technology and the opening up
of world markets.

2. Manufacturing in the UK

In a world of rapid change and intense global competition, manufacturing remains an integral part of the UK economy and fundamental to our national prosperity.

Manufacturing industry is responsible for a sixth of our national output, accounts for over half of all our exports and undertakes 75 per cent of all business research and development. With a workforce of 3½ million people, and many more employed indirectly through supply chain and service industries, manufacturing is a major contributor to economic activity and employment in almost every part of the UK and it is a major driver of innovation through the economy by introducing new products and processes.

Modern manufacturing is changing rapidly...

The modern manufacturing product cycle can now encompass functions from market research to distribution, branding and after-sales service, through to end-of-life disposal.

The boundary between manufacturing and services is becoming increasingly blurred. For every factory producing machine tools, there is demand for collaboration with designers, software specialists, financial experts, caterers and other service providers.

As new manufactured products are constantly introduced and upgraded, so new services are generated around them. The UK mobile phone market provides an example of this. The mobile phone market has grown exponentially, with the 50 million subscriber mark passed in 2003. New developments such as photo-messaging, e-mail, games and information services are now being delivered around a core highly-designed and attractive manufactured product. And at the same

time a new market in ringtones has emerged – worth an estimated £70 million a year in the UK alone and growing. Yet constant technological innovation also means that products in some sectors are out of date within just a year or two.

Current outlook for manufacturing

Manufacturers throughout the world have faced a difficult period over the last few years, following the sharp contraction experienced in 2001, due to the synchronized downturn in the world economy.

In 2002, UK output, employment, and investment levels were all down on a year earlier, though profits started to recover – edging up from their low point in 2001. Productivity increased marginally as jobs fell at a faster rate than output.

In 2003, as the global economy became more favourable, UK manufacturing output started to recover, growing in each successive quarter throughout the year. Largely as a result of the highly competitive environment faced by manufacturers, employment in the sector continued to contract, with 100,000 jobs lost in the year, though this was half the number of jobs lost in the previous year.

Investment fell through to the third quarter of 2003, but the latest data showed growth in the fourth quarter of 2003, suggesting that the turning point in the investment cycle may have been passed. With output on the rise, and employment down, productivity has increased sharply, by nearly five per cent.

In 2004, the major business surveys are currently positive in their outlook and – together with figures released in June 2004 by National Statistics showing a bigger than expected increase in output between March and April – suggest that the UK manufacturing sector is on the path to recovery.

...and restructuring globally...

As competition escalates in the world marketplace, we are witnessing an extraordinary economic shift, with rapid growth and development across China, India and the former Eastern bloc. The reduction of tariff barriers and transport costs, easier communications and increased capital flows have allowed low wage countries to compete more effectively, shifting production away from advanced industrialised nations such as Britain, the USA and mainland Europe. It is clear that the UK will not be able to compete in all areas of industry – nor should we try. In global terms our wage rates are relatively high. This means that we are unlikely to be able to compete effectively in world markets with mass-produced labour intensive products such as 'high street' clothing, and consumer goods where labour costs are a significant element of the price.

The recently published White Paper, "Trade and Investment: Making Globalisation a Force for Good" analyses the growth of globalisation and the challenges it poses, and sets out how we can ensure that globalisation benefits people in every nation and region of the UK.

... but manufacturing in the UK has a strong future

Manufacturing nevertheless will continue to play a vital role in our economy in the future. But in the face of increasing low-cost competition, firms will need to move up the value-added chain and embrace knowledge-intensive, high-skilled manufacturing to compete more on quality and less on price. The UK has strong assets to help it to do this, such as world-class science resources, skilled and flexible employees, strong associated services in finance and marketing, and excellent international transport links. As the global recovery strengthens, new opportunities will be created for manufacturers to specialise in high quality products to satisfy the more sophisticated demand of rising income customers.

Rapid advances in areas such as information and communications technologies, materials, biotechnology, fuels and nanotechnology are unleashing new waves of innovation. These developments, together with the opening up of world markets to trade, offer great opportunities for our manufacturers to gain substantial competitive advantage. Our leading manufacturers in the UK are already doing this. In sectors such as pharmaceuticals, aerospace, biotechnology, electronics, automotive, and food production, companies are turning technological

change and the increasing openness of world markets to their advantage. New industries are being created – such as biotechnology – and in traditional sectors, like steel and textiles, which have suffered overall decline, there are sub-sectors that have grown and prospered by focussing on unique value and innovation.

Growing markets for manufacturers...

- *The aerospace market is forecast to grow by at least 25 per cent in real terms over the next 20 years, to £250 billion a year.*
- *The pharmaceutical sector has a global market, overwhelmingly in the developed world, worth around £250 billion a year and a growth rate of 4 to 5 per cent a year.*
- *The medical equipment sector is estimated to be worth around £107 billion and set to expand at an annual rate of around 8 to 10 per cent in the next few years.*

The Manufacturing Strategy set the framework for action...

Major opportunities exist for UK manufacturing industry in the global marketplace, but there are also considerable challenges to overcome. That is why in May 2002 we published the Government's Manufacturing Strategy, setting out a framework of action in a partnership between Government, industry, unions, and key stakeholders such as the Regional Development Agencies, to help our manufacturing companies fulfil their potential. In it we identified seven key areas – the 'pillars' of the Strategy – necessary to help build a successful, knowledge-intensive, highly-skilled manufacturing base. The Manufacturing Strategy has since established itself as a widely accepted framework for action. The overall analysis and pillar approach has gained widespread support and consensus, and proven extremely valuable in helping people to work in partnership in taking forward the necessary actions.

The Seven Pillars:

- *Macroeconomic Stability*
- *Investment*
- *Science and Innovation*
- *Best Practice*
- *Skills and Education*
- *Modern Infrastructure*
- *The Right Market Framework*

REGIONAL SCIENCE AND INDUSTRY COUNCILS



Many of the RDAs have now established Regional Science and Industry Councils to bring expert leadership to the RDAs' activities in science and innovation. These bring together business, education and public sector interests to strengthen strategic thinking on science and technology at a regional level and to enable more effective working across regional boundaries.

The first Council was established in the North West following a review of the regional science base and its linkages to industry in 2000. Northwest Science is chaired by Sir Tom McKillop, and its members include AstraZeneca, Pilkington and Unilever. It aims to take strategic leadership for science in the region and ensure its coherent, active promotion. It produced the first regional science strategy for an English region.

The Council is currently involved in the creation of a 21st century university in central Manchester with £35 million of support from the North West Development Agency, as well as supporting strategic science projects such as the Microsystems Packaging Centre, and supporting major cluster strengthening science projects such as the National Biopharmaceutical Manufacturing facility.

All of the RDAs have agreed to have a Council in place by the end of this calendar year.

www.northwestscience.co.uk

WILLIAMS F1 – A WORLD CLASS COMPANY THE UK'S MOTORSPORTS VALLEY



Founded by Frank Williams and Patrick Head in 1977, WilliamsF1 is one of the world's leading motorsports companies, and a leading member of the world-class cluster of performance engineering and services companies in central England known as Motorsports Valley.

The company employs over 500 people in the design, research, the development, manufacture and racing of cars at Grove in Oxfordshire. A unique feature is its capacity to manufacture almost all the components that make up a race car in-house – over 90 per cent of the bill of materials of each race car is manufactured by the team, with engines supplied by automotive partner, BMW AG. Due to the importance of experimental aerodynamics, WilliamsF1 has recently completed a major capital investment in a second wind tunnel which is the foremost facility of its kind in the world.

Regional Development Agencies in four regions – Eastern, East Midlands, West Midlands and the South East – are currently working to support the development of Motorsports Valley.



...at national, regional and sectoral levels...

This report illustrates the great deal of progress that has been made by Government, business and other stakeholders since the Manufacturing Strategy was published two years ago. The strength of the Strategy is the strategic framework for action in partnership, which has enabled substantial progress at national, regional and sectoral levels, at each of which support for manufacturing is now well established. In addition, effective action at the European Union level and internationally is becoming increasingly important to ensuring that UK manufacturing remains competitive.

Nationally, we have maintained strong macro-economic stability with stable GDP growth, low and stable inflation and interest rates. We extended the R&D Tax Credit, giving a £600 million boost to business, invested almost £2.4 billion in science, including £250 million in research infrastructure, and £50 million in the transfer of knowledge from the science base to industry. The DTI, as the Department with policy responsibility for manufacturing, has itself changed, with a greater strategic focus and priorities based on where it can make the greatest contribution to raising UK productivity. The devolved national administrations are also taking forward much action on the manufacturing agenda.

Regionally, all Regional Development Agencies are implementing plans to deliver the Manufacturing Strategy in their regions, backed with substantially increased funding and greater flexibility in using it (www.rdauk.org). The Manufacturing Advisory Service, now in its second year of providing easily accessible and practical advice to small and medium-sized manufacturers in England and Wales, has delivered a total added value of more than £53 million to firms.

Sectorally, Government and industry have established Innovation and Growth Teams for key sectors (page 32). These look strategically at a specific sector of industry to identify the key issues which will shape its future and decide how the UK can best respond to them. These industry-led task forces are already delivering results such as the Automotive Academy, which was launched in June

2003 to provide a national centre to raise skills and productivity in the automotive industry. In addition, a network of employer-led Sector Skills Councils known as the Skills for Business Network has been established to identify and articulate sectoral skills needs and priorities. DfES and DTI are jointly sponsoring the Network.

...and now with an increasing focus on innovation

Advances in science and technology are providing the opportunities for our manufacturers to compete, by exploiting knowledge, skills and creativity to produce more valuable goods and services. The DTI **Innovation Report**, published in December 2003, highlights the UK's excellent science base and record of accomplishment in invention. But it explains that more needs to be done to ensure the successful exploitation of new ideas. Innovation is not just about science and technology; exploiting ideas can mean harnessing the creativity of individuals within a business or improving the design of products to appeal to a new market. That is why we are now focussing on innovation, to ensure the successful exploitation of new ideas and to secure our future prosperity in the increasingly competitive global market. We are now implementing proposals in the report that will greatly benefit UK manufacturers, including:

- A national **Technology Strategy** to provide a framework for policy priorities and focus support on innovation.
- New **procurement guidelines** to make Government a more intelligent customer and encourage innovation through its supply chain.
- Making it easier for business to protect their ideas through a new strategy being developed by the **Patent Office** to tackle Intellectual Property crime.
- More opportunities created for collaboration between business and the **UK Research Councils** in strategic areas of research.
- Innovation and knowledge transfer made one of the key delivery themes for the DTI's **Business Link** network.
- Steps taken to increase the rate of regional innovation, with **Regional Science and Industry Councils** established in every region.
- Developing a ten-year **investment framework for science and innovation**. The **Technology Strategy** forms one of the key points of this framework.

SP SYSTEMS – DELIVERING HIGH TECH SOLUTIONS TO CUSTOMERS WORLDWIDE



SP Systems was founded on the Isle of Wight in the late 1970s by the company's current Chief Executive and now employs approximately 700 staff worldwide.

SP's initial work was in epoxies for the marine market, but the company's business has expanded dramatically to make it a key player in the global composites industry. It now operates in three industries – marine, automotive and wind energy. In the 1980s, SP was instrumental in driving forward a change in boatbuilding techniques, with some manufacturers moving away from conventional glass reinforced polyester and aluminium to advanced composites.

The company now has operations in Australasia, Spain and North America, as well as a second UK office in Southampton, and in 2002 was acquired by Gurit-Heberlein, a Swiss industrial group. Thanks to a growing involvement in the wind energy industry, SP has managed to increase its turnover from around £6 million in 1994 to approximately £50 million in 2002.

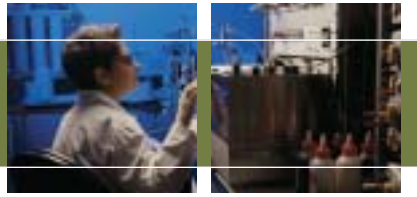
SP believes its approach combining material science, structural design and process engineering is the key to its success. The company prides itself on being able to offer a number of different solutions to customers, including 'off the shelf' materials, complete materials packages, onsite technical support and structural engineering services.

OXONICA – HELPING THE UK TOWARDS A WORLD-CLASS NANOTECHNOLOGY SECTOR



The company was formed in 1999 to commercialise intellectual property developed over seven years at the University of Oxford by Professor Peter Dobson and Dr Gareth Wakefield. The company's strong relationship with the university promotes academic and industrial contact. Employing leading scientists in the key enabling areas of physics, materials science, chemistry and biochemistry, its technology allows it to successfully design, manipulate and engineer certain properties of materials at the nano scale – manipulating and building devices and materials atom by atom.

The company has been particularly successful in applying its scientific expertise to providing solutions to immediate needs. It offers commercial products in the fields of fuel catalysts and personal care including skincare technology for sunscreen products. Its nano fuel products are helping to develop cleaner engines and reduce pollution. In addition the company is developing a suite of products for diverse sectors including medical diagnostics and security. It now employs 29 people.



We believe there are excellent opportunities for many more UK manufacturing companies to compete on the basis of innovative products and services. The actions we have taken as part of the Manufacturing Strategy, including investment in the science base and creating the right environment for innovation, provide the essential foundations for this progression.

In this Report we look at the wide range of achievements across all the pillars of the Strategy, reviewing the progress that has been made and the milestones that have been reached, and we set out our priorities and actions for the future, together with key performance indicators to track the performance of the UK manufacturing sector.

REGIONAL DEVELOPMENT AGENCIES SUPPORTING MANUFACTURING

- **Advantage West Midlands**, the University of Warwick's Warwick Manufacturing Group and Ford Motor Company's Premium Automotive Group are investing £70 million in the creation of a new International Automotive Research Centre based at Warwick University. The Centre will be responsible for developing and promoting state-of-the-art skills and technology for the UK's automotive industry.
- **East of England Development Agency** has helped retrain over 1,500 Vauxhall employees.
- **East Midlands Development Agency** has launched the Innovation Factory as a new feature of the Manufacturing Advisory Service in the region. The Innovation Factory stimulates and enables innovation using a toolkit of techniques developed specifically for manufacturing SMEs.
- **London Development Agency** – in partnership with Ford – established the Centre for Engineering and Manufacturing Excellence, which will support over 1000 students.
- **The North West Development Agency** contributed £11.2 million towards a Core Technology Facility at the Manchester biotechnology incubator, providing 10,500m² of high tech start-up business space. NWDA has also committed to a £15 million Fund for North West Science for three years from October 2004/05.
- **OneNorthEast's** Strategy for Success has established investment company Nstar, which has attracted £33 million, predominantly from the European Regional Development Fund, to use as venture capital-style equity finance for early-stage technologies.
- In the South East, Enterprise Hubs have successfully facilitated knowledge transfer from universities and research institutes into 700 incubator-based and 600 externally networked companies. Funding and partnership by the **South East England Development Agency** have also delivered training to 3,292 people in high-skill technology areas – composites, opto-electronics and rapid prototyping.
- **South West Regional Development Agency** helped secure a £16 million investment at Tripos Receptor Research in Bude, creating 146 high-skill research posts, and is supporting the aerospace sector with a £2.7 million specialised LEAN programme.
- **Yorkshire Forward's** Advanced Manufacturing Park will create a high-tech hub for the regional Advanced Engineering and Metals cluster, creating 4,500 jobs on the former Orgreave colliery site in Rotherham.

BMW HAMS HALL MANUFACTURING EXPANSION



The £400 million **BMW** engine plant at Hams Hall in the West Midlands was launched in January 2001 and has quickly established itself as a major player in the company's international production network. It has become a major asset for the region and the UK – the only country in which all three of BMW's premium brands have a manufacturing presence. Annual production is set to increase from 140,000 units per year to well over 300,000 units per year in the next five years. As well as producing the current BMW four-cylinder petrol engines for BMW 3 series models and the new BMW 1 series, the Hams Hall plant will also assemble a new family of smaller, four-cylinder petrol engines currently being developed for future variants of the MINI. Current business activities and future developments will result in over 1,000 jobs, including support services in the local area.

"Increasing our production and expanding our operations at Hams Hall makes good sense. From the start, we have been able to achieve exceptional quality standards and demonstrated the ability to match the quality levels of the BMW engine plants in Germany and Austria. We've made substantial productivity gains over the past three years, improving our position in an increasingly competitive global industry. Investing in people's skills, qualifications and personal development is the foundation for our success. We've introduced innovative working practices, flexible working time models and new processes and forms of organisation to ensure continuous improvement and enable us to react swiftly and flexibly to changing market requirements."

Harald Krueger, Plant Director at Hams Hall.


THE PHARMACEUTICAL SECTOR A GROWTH AREA FOR UK MANUFACTURING



- All the world's leading pharmaceutical companies have significant manufacturing or research and development operations in the UK.
- The sector employs 83,000 people across all business segments.
- The UK is the world's largest exporter of pharmaceuticals by value.
- In 2003, exports and the trade surplus hit record levels of £11.8 billion and £3.1 billion respectively.
- UK R&D spend totalled £3.5 billion in 2003, exceeding by far that in any other European country.
- 25 of the world's 100 best-selling medicines were discovered and developed in the UK.

In May 2003, Anglo-Swedish **AstraZeneca** inaugurated a £90 million manufacturing expansion at its Avlon Works in Somerset. The investment comprises two new buildings and associated infrastructure for the manufacture of the active ingredient for the company's new cholesterol-lowering drug, **Crestor**.

- AstraZeneca is one of the world's leading pharmaceutical multinationals, employing 60,000 staff worldwide.
- The organisation has significant knowledge-driven operations in the UK, with over 10,000 staff across manufacturing, R&D, sales and administration. From 1999 through until 2006, AstraZeneca will have committed around £1 billion to investment in the UK, principally in R&D, and manufacturing.
- Close links between the company's UK R&D and manufacturing centres play an important part in ensuring an efficient transfer of new compounds from the laboratory to the production line.



A new scoreboard of performance indicators shows the health of UK manufacturing clearly and at a glance.

3. Key Performance Indicators



One of the strong findings of our review of external stakeholders was the need for a set of headline Key Performance Indicators that allow a qualitative and quantitative assessment of the climate of the UK's manufacturing sector – and help us to monitor its performance and the effectiveness of the actions of Government, business and others in supporting the sector.

Working with stakeholders including the TUC, CBI and EEF, and drawing on the expertise of consultants KPMG LLP, we have developed a set of Key Performance Indicators, which:

- Are specific to manufacturing
- Are measurable over time
- Allow continuity and annual updating
- Can provide an international comparison of the UK's performance

The aim is to provide an 'at a glance' view of the current state of manufacturing, with the emphasis on simplicity rather than comprehensiveness.

The measures we have chosen are:

- **Output** shows the level of value added of the UK manufacturing sector. It is calculated by subtracting the value of inputs from the value of outputs, and is indexed using 1990 as the base year.
- **Investment** shows the level of new investment in the UK manufacturing sector, and is indexed using 1990 as the base year.

- **Innovation** uses Business Enterprise Research and Development spend in manufacturing businesses as a proxy for innovation in UK manufacturing, and is indexed using 1990 as the base year.
- **Productivity** uses labour productivity, on the output per hour measure, as a proxy for total productivity in UK manufacturing. It is calculated by dividing total manufacturing output by total hours worked, and is indexed using 1993 as the base year.
- **Profitability** is measured using the rate of return. This is calculated by dividing total industry profits by total industry capital, and is expressed as a percentage.
- **Skills** shows the proportion of qualifications at different levels held by the UK workforce.

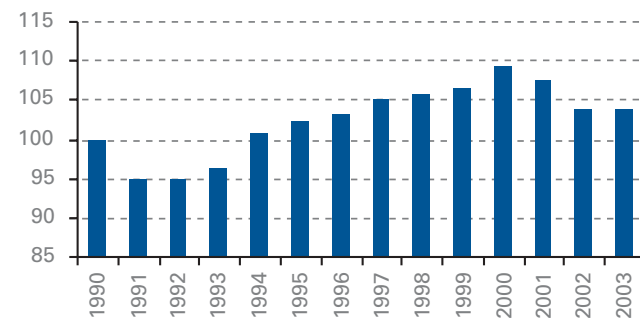
The first scorecard of indicators is given below. We will publish an update on the DTI manufacturing website www.dti.gov.uk/manufacturing in 12 months. Comments on the indicators can be sent to manufacturing.strategy@dti.gsi.gov.uk

There is a great deal of information behind each of the indicators we have chosen. In 1999 DTI developed a set of 'UK Productivity and Competitiveness Indicators' covering these areas, which provide a rich assessment of the strengths and weaknesses of the UK economy and allow a benchmarking comparison with our main international competitors.

www.dti.gov.uk/competitiveness

Government is currently considering identifying a more focussed and stable set of national productivity indicators which would allow changes in performance to be identified and provide an early warning of where policy action is needed. www.dti.gov.uk/economics/indicatorsconsultation.html

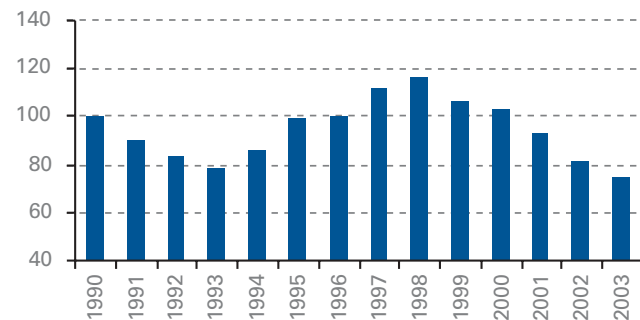
OUTPUT
INDEX: 1990 = 100 Source: ONS



The background of global economic instability meant that manufacturing output in the UK in 2003 was flat, rising by only 0.2 per cent. This performance was in line with that of the US and Germany, but above that of France.

Recent business surveys from the CBI, EEF and Chartered Institute of Purchasing and Supply, point to an improving outlook for output as world conditions strengthen.

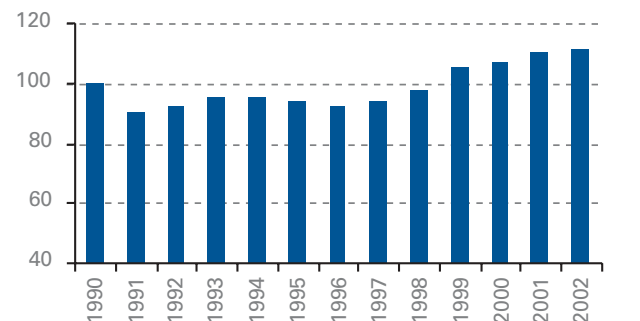
INVESTMENT
INDEX: 1990 = 100 Source: ONS



Manufacturing investment in the UK has historically been low relative to that in our main competitors, and has fallen steadily by nearly 40 per cent since 1998.

But there may be signs of the end of the long downturn in investment, with the recent business surveys being more positive in their outlook.

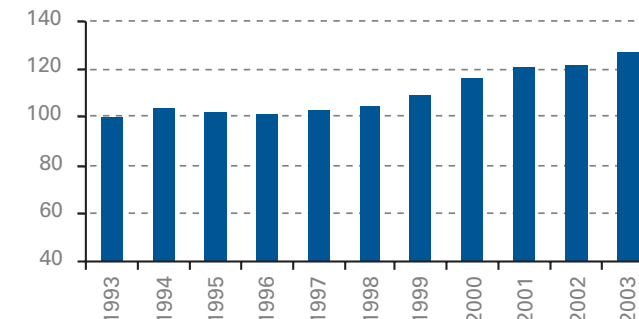
INNOVATION (BUSINESS R & D)
INDEX: 1990 = 100 Source: ONS



Manufacturers' investment in research and development in the UK has increased in real terms, but with lower levels of expenditure as a share of Gross Domestic Product compared to our main industrial competitors, particularly the US and Germany.

Business research and development data for 2003 will be published in November 2004.

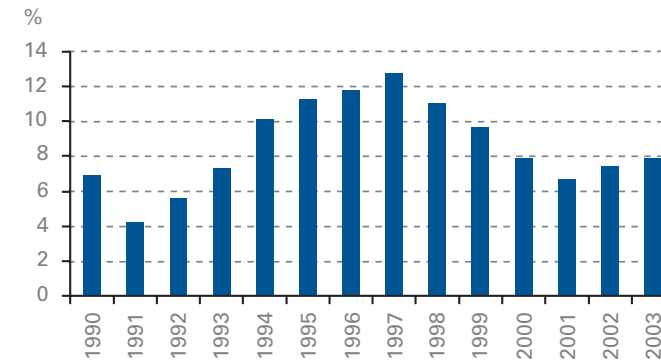
PRODUCTIVITY
INDEX: 1993 = 100 Source: ONS



Productivity has steadily improved, rising by nearly 5 per cent in 2003, though this was mainly due to manufacturers producing the same output in 2003 as in the previous year but with fewer employees.

UK manufacturing productivity remains significantly lower than in France, Germany and the US.

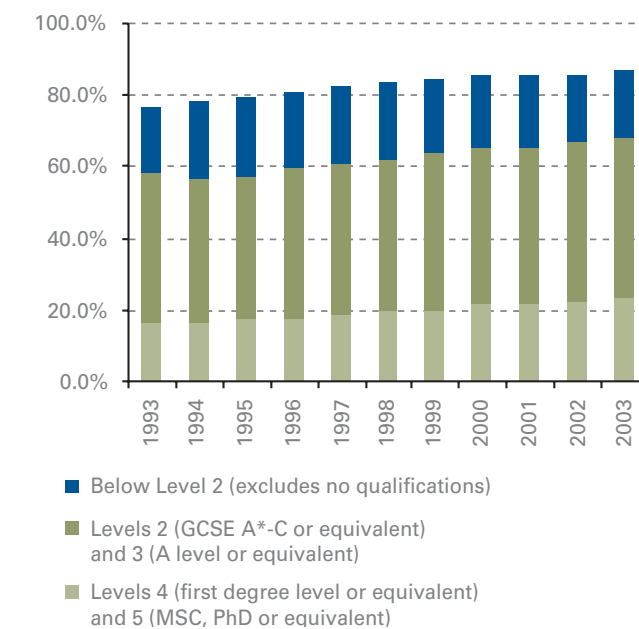
PROFITABILITY
Source: ONS



Manufacturing profits increased throughout 2003, improving from the bottom of the current business cycle in 2001.

Manufacturing profitability has been under intense pressure and is well below the profitability of the service sector. It is consistently lower, on average, than in the US and Germany.

SKILLS (QUALIFICATION LEVELS)
Source: DfES




There have been some improvements at all skills levels, with a decline in the proportion of the labour force without qualifications and an increase in both intermediate and higher level skills.

But there remains a large proportion of the workforce with low basic literacy and numeracy skills.

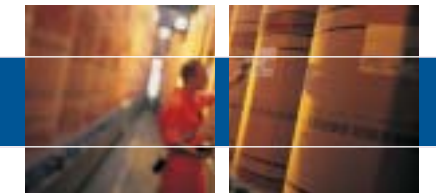
We gratefully acknowledge the contribution of Sam Daish of KPMG LLP to the development of the Key Performance Indicators.

4. The Manufacturing Strategy Two Years On



The Government's Manufacturing Strategy established an agreed framework of key areas for action. Two years on, much has been achieved across each of these areas.

PILLAR 1 MACROECONOMIC STABILITY



Strategic importance for manufacturing

Macroeconomic stability is critical for manufacturing success. It allows individuals and businesses to plan more effectively for the long term, improving the quality and quantity of investment in physical and human capital; and it helps to raise productivity and sustainable rates of growth and employment.

Large fluctuations in output, employment and inflation add to the uncertainty for firms, consumers and the public sector, and can reduce the economy's long-term growth potential.

What we said we would do

We said we would maintain long-term economic stability through the Government's macroeconomic framework, based on the principles of transparency, responsibility and accountability.

In particular, we would:

- Maintain economic stability
- Maintain the monetary policy framework, ensuring low and stable inflation
- Maintain a new framework for fiscal policy, based on clear and precise objectives and strict rules, to ensure sound public finances

What we have put in place

Economic stability

The domestic stability delivered by the Government's macroeconomic framework has meant that the UK economy has stood up well to the significant challenges facing the world economy over recent years.

While many of the world's major economies have experienced recession, the UK grew continuously throughout the global downturn that began in 2001. The UK is the only G7 economy not to have experienced at least one quarterly contraction in output over the last three years, with GDP now having grown for 47 consecutive quarters – the longest unbroken expansion since quarterly records began five decades ago.

- UK GDP growth in 2003 (estimated to be 2.3 per cent) was significantly higher than our European competitors (estimated to be at 0.4 per cent for the Euro area as a whole).
- Employment has increased by over 1.9 million since Spring 1997, with employment rising and unemployment falling in every region.
- The working age employment rate is close to record highs of 74.9 per cent, while the unemployment rate stands at 4.7 per cent close to its lowest levels since the 1970s.

Low and stable inflation

- The UK is enjoying the longest period of sustained low inflation since the 1960s.
- Interest rates are close to historically low levels: less than half the level in the late 1980s and early 1990s, when rates peaked at 15 per cent for a year and remained in double figures for four years.

Sound public finances

- Public sector debt is low and expected to be stable through to the end of the cycle, stabilising at just over 36 per cent of GDP, thereby meeting the sustainable investment rule of the framework for fiscal policy.

Priorities for the future

As noted above, the domestic stability delivered by the Government's macroeconomic framework enabled the UK economy to cope well with the global slowdown that resulted in many of the

world's major economies, including the US, Japan, Italy and Germany, moving into recession.

However, the UK together with all other major economies experienced a recession in the manufacturing industry during the recent global slowdown. The economic outlook is only now starting to show concrete signs of recovery as strengthening world conditions resulting from diminished global uncertainties are expected to boost growth in manufacturing output. The UK, because of strong economic fundamentals, is well placed to gain from the world economic recovery and from the continued development of a bigger global market for British goods.

We will continue to work with industry and other stakeholders to ensure that we build on our success in achieving macroeconomic stability, with the other pillars of the Manufacturing Strategy, to ensure a sustained recovery and a long-term successful manufacturing sector.

PILLAR 2 INVESTMENT



Strategic importance for manufacturing

Modern manufacturing is critically dependent on investment for successful performance. Investment in capital equipment, leading edge technology, and the development of skills creates a virtuous circle, which drives up performance.

Investment can also produce spillover benefits for other firms as they learn of new ways to improve production. For example, inward investment makes an important contribution to strengthening the UK manufacturing sector in terms of the transfer of skills and new processes and the spread of best practice and new technologies.

What we said we would do

We said we would provide an overall business climate that is conducive to firms deciding to invest. And, where the market does not function properly in providing the necessary capital for

investment, we would take forward a range of targeted measures to encourage markets to allocate capital to manufacturing investment projects more effectively.

In particular, we said we would:

- Improve access to finance for small and medium sized enterprises through the tax system and through direct support.
- Establish **Regional Venture Capital Funds** in the English regions to address the equity gap and help small growing businesses to access the growth capital they need.
- Take forward the **Early Growth Funding** initiative over three years to provide risk capital to business start-ups and other businesses in the early stages of growth to realise their full potential.
- Encourage greater levels of investment in research and development.

BRINTONS INCREASING RESPONSIVENESS



Brintons is the largest Axminster carpet weaver in the world, with manufacturing plants in six countries, most recently in India. The privately owned family business has a strong engineering heritage and an enviable financial strength. Brintons were the sole supplier of rich wool Axminster carpet for the new luxurious Queen Mary II passenger liner, launched in 2004, and won the coveted Manufacturing Excellence Award, MX2001.

With the 90s' recession, Brintons refocused, creating an environment in which skills, enthusiasm and commitment flourish and communication, empowerment and continuous improvement thrive. Whilst continuing to develop and build their own world-leading looms, the focus now is on cycle compression and increasing responsiveness.

Brintons' vision for the future, supported by patented technology under development, sees the opportunity to offer customers individually designed carpets manufactured to order and delivered to suit one room.

DUNLOP AEROSPACE LEVERAGING THROUGH TECHNOLOGY



Dunlop Aerospace Braking Systems in Coventry recently announced an £8 million investment in world-beating technology, including a £1.5 million Regional Selective Assistance grant from regional development agency Advantage West Midlands.

The company is a market leader in innovation and product development, the only British company in the £1.36 billion a year aerospace wheel and brake sector. Their past innovations include disc brakes, anti-lock brakes, carbon-carbon friction materials and electrically-actuated brakes.

Their new investment will be spent on three new process facilities for designing and manufacturing lightweight, high-strength aerospace components for the world's major aircraft manufacturers – enabling improvements in fuel economy, range of flights and payload. The company is working in collaboration with leading UK research and development establishments, including the materials expertise at Birmingham University.

It is hoped that the technological breakthrough will consolidate the Midlands' reputation as a major player in the global aerospace industry, eventually creating hundreds of jobs in the supply chain.

What we have put in place

Improving incentives for investment

- The starting rate of corporation tax was cut from 10 per cent to zero in the 2002 Budget and there have been major reforms to improve capital gains tax.
- We have increased the thresholds for small and medium-sized enterprises to the maximum allowed under EU regulations, doubling the amount of investment eligible for first-year capital allowances.

- We have made permanent 40 per cent first year capital allowances for small and medium-sized enterprises' spending on plant and machinery. From April 2004, for this one year, the rate for small businesses was increased from 40 per cent to 50 per cent.

Regional Venture Capital Funds

- **Regional Venture Capital Funds** have now been established in each of the nine English regions to target the equity gap faced by many new and small firms with high growth potential. The first fund became operational in January 2002 and the final fund in July 2003.



Early Growth Funding

- We have developed the **Early Growth Funding** programme, which is now making risk capital investments in amounts averaging between £50,000 and £100,000.
- We have published outline details of the pathfinder round of **Enterprise Capital Funds**

Research and Development incentives

- We have introduced **R&D Tax Credits** and promoted the value of research and development and investment for company performance through improved annual R&D and Value Added Scoreboards.
www.inlandrevenue.gov.uk/randd

DTI Business Support

- As part of the simplification of DTI business support schemes, we have introduced strategically effective investment products such as:
 - The **Small Firms Loan Guarantee**, which helps viable small firms access loans where conventional finance is unavailable because of a lack of collateral.
 - **Selective Finance for Investment in England** for all businesses located in or considering locating to one of the Assisted Areas

Public Procurement

- We have put public procurement high on the Government's agenda and put in place a large programme of procurement improvement activity.

Exports and overseas investment

- **UKTrade & Investment (UKTI)**, the Government's export and investment organisation, has been re-structured into a primarily sector-focused organisation, delivering its services mainly through its regional network to give the best possible help to UK firms who want to enhance their

competitiveness and start to export, or who need help entering new markets. It also markets the UK abroad as an investment location, and in recent years has put in place new inward investment resources in key locations such as Stockholm, India and Houston.

www.uktradeinvest.gov.uk

- We have just agreed an ambitious programme of measures to ensure that **Export Credits Guarantee Department (ECGD)** can deliver a first-rate service to UK exporters through better customer service, improved pricing and cover. A new framework for a Trading Fund has been agreed. This will introduce a new governance structure, new operating disciplines, and new risk management policies in line with best commercial practice; there will also be greater transparency in reporting and accounting procedures which will all help assure taxpayers that they are getting value for money. ECGD's customers will be invited to contribute to a consultation on the Trading Fund, following the launch of a pilot Trading Fund in April 2005. This will give them the opportunity to influence how ECGD can deliver a top-class service to UK exporters before the Trading Fund is launched in 2007.

www.ecgd.gov.uk

Results

We are beginning to see results from the measures we have established to help small and growing businesses access the growth they need:

- The nine **Regional Venture Capital Funds** now have over £250 million under management with 143 investments made in 107 companies by the end of March 2004.
- 34 investments have been made through the **Early Growth Fund** programme totalling over £4 million.
- Take up of the **Small Firms Loan Guarantee** is up 52 per cent in the last year, with £409 million guaranteed in 2003/04 alone.
- **UKTrade & Investment** has helped around 20,000 businesses annually to sell and invest overseas, whilst also attracting high quality foreign investment to the UK. The UK has consistently been the number one location in Europe for inward investment, increasing its share from 19 per cent in 2002 to 23 per cent in 2003.

Making public procurement work for UK manufacturers

The UK public sector procures around £125 billion a year of goods and services. The Government wants UK manufacturers to be able to compete successfully for public contracts – both in the UK and in Europe. Although public sector procurement is rightly made on the basis of good value for money, purchasers and suppliers alike recognise that current practice can be improved in everyone's interests.

*A large programme of procurement improvement activity is underway to achieve this. In the last year, reports have been published that identify ways to improve procurement. Good practice is being developed in long-term capacity planning and a strategic approach to markets (as set out in a recent report by Sir Christopher Kelly, **Increasing Competition and Improving Long-Term Capacity Planning in the Government Market Place**), by reducing red tape and barriers for small firms, and identifying areas where public procurement can be structured to allow innovative solutions.*

An important aspect of the Kelly report, which is now being enacted, is that public sector organisations should engage with industry at the planning stage before procurement starts to enable industry to gear up to meet the public sector's requirements. This practice plus the strategic and systematic approach to markets advocated by Kelly should help to level the playing field.

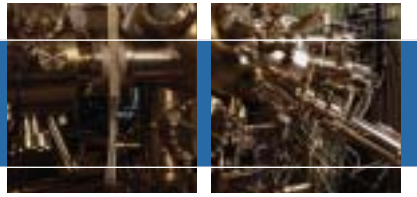
In February 2004 Alan Wood, Chief Executive of Siemens UK, launched a joint HM Treasury and DTI consultation process to identify the barriers faced by British businesses in accessing the estimated £1,000 billion per annum European market in public procurement. He will report in summer 2004.

Under its defence industrial policy www.dti.gov.uk/aerospace/policy.htm, the Government is working closely with the defence industry to improve its defence procurement. At a senior level joint workshop in September 2003 with industry, the Government agreed to be more open about future military procurements so that industry can better plan future capabilities to meet these requirements, to work closely with industry to de-risk projects, and to work together to improve procurement project management skills in the Ministry of Defence and industry

As a result of all these activities, manufacturers will see significant benefits, including:

- *For the first time seeing what the public sector intends to buy in major markets over the longer term in order to plan their bidding strategies. The first market is property and construction, with results due at the turn of the year.*
- *Being approached earlier in the procurement process to input ideas.*
- *More predictable procurement timescales, and fewer projects with unreasonably long bid times.*
- *Smaller suppliers will be able to view opportunities through a single portal.*

www.supplyinggovernment.gov.uk
www.ogc.gov.uk



- In 2003/04 ECGD provided guarantees and insurance to a range of UK exporters in the civil, aerospace and defence sectors. This supported £2.9 billion worth of capital goods and project export business and investments to 44 countries.

But as can be seen in the Key Performance Indicators (page 19), investment in UK manufacturing is a long-term weakness, reflecting the UK's history of growth instability.

Priorities for the future

We will continue to work with industry to encourage investment, to increase the stock of physical capital, including through more efficient capital markets. And we will drive forward action on the procurement agenda with industry and other stakeholders, where good progress is already being made, and where more can be achieved to greatly benefit manufacturers.

Action for Government

- Continue to improve the climate for investment by maintaining a platform of macroeconomic stability, promoting flexibility in capital markets and addressing specific market failures in planning.
- Roll out the new business support product **Selective Finance for Investment in England**.
- Once state aid clearance has been achieved we will launch the competitive bidding process for a pathfinder round of **Enterprise Capital Funds** that will improve access to growth capital for small firms looking to raise relatively modest sums for investment.

- Implement enhancements we have confirmed to the tax incentives to invest under the **Venture Capital Trusts, Enterprise Investment Schemes and Corporate Venturing Scheme**.
- Drive forward the Government's plans for encouraging innovation in public procurement outlined in the DTI's **Innovation Report**. Achieve a more attractive marketplace for all suppliers to government with successful delivery and better value for money.
- **UK Trade & Investment** will continue to promote UK overseas sales and investment, and to attract more high quality foreign investment, so that over the period 2004/06:
 - At least 30 per cent of new-to-export firms are assisted in improving their business performance within two years.
 - At least 50 per cent of established exporters are helped to improve their business performance within two years.
 - At least 70 per cent of firms receiving assistance with major overseas projects report that UKTI help was a significant factor.
 - UK share of European Union foreign direct investment is the best in Europe (currently 22 per cent).

Action for Business & Stakeholders

- Industry to seize opportunities to undertake innovative, high value-added investment in new products, processes, and skills.

TOYOTA MANUFACTURING UK LTD INVESTING IN CAPACITY

Toyota Manufacturing UK is investing around £50 million in its UK car manufacturing plant at Burnaston, Derbyshire, boosting annual production capacity from 220,000 to 285,000 Avensis and Corolla vehicles. Toyota's decision to increase their investment and recruitment at Burnaston affirms Toyota's commitment to manufacturing in the UK. Toyota Motor Corporation has already invested £1.7 billion into its UK manufacturing operations. Since start of production in 1992, Toyota Manufacturing UK has built over 1.6 million vehicles at Burnaston and over 1.5 million engines at Deeside, north Wales.

"This new investment is further endorsement of the commitment and dedication of our members to building superior quality cars and reflects the importance of the UK to Toyota's growth in Europe. It's a great opportunity for Toyota Manufacturing UK and its members."

Bryan Jackson, Managing Director, Toyota Manufacturing UK

KROHNE RESEARCH AND DEVELOPMENT LEADS TO NEW MANUFACTURING UNIT

Krohne, a privately-owned German company, employs 1,500 people worldwide. The company develops and manufactures high technology process control instrumentation, a leader in flow measurement devices.

In 1991, with an existing team of experienced engineers and the capabilities and knowledge base of UK universities for collaborative research, Krohne's UK sales company in Wellingborough, Northamptonshire established a research and development team to develop a new generation of products – now a full manufacturing company.

- A new factory was built in 1994, since expanded twice.
- About 95 per cent of its output is exported globally.
- Research and development has expanded – new products created 100 per cent growth in 2003.
- Further expansion is anticipated.

"Britain offers unrivalled access to the very best research and development facilities, while the UK Government actively encourages partnerships between academics and businesses. Sophisticated business networks across the country put manufacturing companies locating in the UK in contact with leading practitioners in the industry."

Nigel Vaughan, Managing Director, Krohne Limited

PILLAR 3 SCIENCE AND INNOVATION



Strategic importance for manufacturing

Innovation is the successful exploitation of ideas and a catalyst for growth. It is key to our economic success and critical to UK manufacturing because it can help to deliver higher value-added products; new, cleaner and more efficient production processes; and improved business models.

Improved innovation performance by industry – underpinned by sustained investment in the UK's excellent science, technology and engineering base and the successful transfer of good ideas from universities and other research organisations – will play a key role in helping to bridge the productivity gap with our major international competitors.

What we said we would do

We said we would lead a much more strategic and forward-looking Government approach to encouraging and facilitating innovation in manufacturing. In particular, we said we would:

- Continue to support basic science by investing in the science base.
- Foster knowledge transfer to help commercialise the benefits of this research.
- Lower the cost of innovation through the R&D Tax Credit.
- Improve the focus of Government support for innovation.
- Use the new Government focus to identify new or emerging technologies which have the potential to transform products, processes, and services.

What we have put in place

Supporting the Science and Research Base

- The Science Budget has been doubled from £1.3 billion in 1997/98 to £3 billion in 2005/06, and in June 2004 we announced a **Ten-Year Science and Innovation Investment Framework**, giving a sustained long-term boost to funding for science.

Fostering knowledge transfer

- Significant extra resources have been put into the transfer of knowledge from the science base through such schemes as **University Challenge**, **Science Enterprise Centres** and the **Higher Education Innovation Fund**.
- A key recommendation from the Innovation Report was to introduce the **Technology Strategy**, which Government and its agencies will use to steer investment in the UK and European research and development programmes. The Strategy is business led – important to ensure business demands are fed through into the science base – and will also inform the future development of innovative public procurement, technical regulation, measurement and product standards – all the policy levers available to stimulate innovation.
www.dti.gov.uk/technologystategy
- The Technology Strategy will direct the delivery of the associated **Technology Programme** via two new DTI business support products: Collaborative Research & Development and Knowledge Transfer Networks.

- **Collaborative Research & Development** provides part-funding for collaborative research and development projects, to encourage businesses to be more effective – and collaborative – at exploring ideas at an early stage of development, with a view to commercialisation.
- **Knowledge Transfer Networks** provides financial support to organisations or groups of organisations that have the capability to establish or enhance networks. This could, for example, be used to join up existing knowledge transfer facilities or services. The wider business community will benefit by being able to access the knowledge, information and contacts the networks gather, stimulating innovation.

www.dti.gov.uk/technologyprogramme

- The **LINK Manufacturing Initiative** brought together the science base and businesses in collaborative research in areas important to future manufacturing success.
- **Innovative Manufacturing Research Centres** have been set up to carry out cutting edge research with industry.
- We have set up **Innovation & Growth Teams** across key manufacturing industries to tackle strategic challenges and opportunities.

Lowering the cost of innovation

- The **R&D Tax Credit** has been introduced for all companies, including a new definition of qualifying research and development, which came into effect in April 2004, and extending the credit in Budget 2004 with a further £35 million of support. The new definition is clearer and easier to use, and now a wider range of costs will qualify for the tax credit. The credit supplies £600 million of Government support for business research and development.

Improving the focus of Government support

- The **Innovation Report, Competing in the global economy: the Innovation Challenge**, was published in December 2003 following a review of our policies to support innovation. The challenge is to create the conditions where all our firms put innovation at the centre of their strategies for the future. The report sets out a detailed strategy and action plan to improve the UK's innovation performance, complemented by a comprehensive review by Richard Lambert of business-university collaboration.

www.innovation.gov.uk
www.ost.gov.uk

In addition to the Technology Strategy the Innovation Report makes a number of recommendations including:

- Using public procurement to stimulate innovation
- Working with the Department for Education and Skills (DfES) to deliver the Skills Strategy
- Developing a strategy to tackle intellectual property crime
- Making innovation a key deliverable for Business Links
- Assisting RDAs in setting up Regional Science and Industry Councils

Innovative Manufacturing Research Centres

The Innovative Manufacturing Research Centre at University College London focuses on translating exciting discoveries in the life sciences into practical outcomes more rapidly and at lower cost. Its work is helping to bring a new generation of human therapeutic proteins to the market, as well as addressing materials for gene therapy and for vaccines.

The trials applied to increasingly complex new medicines are extraordinarily rigorous (over 90 per cent of candidates fail) and expensive (typically costing £500 million). This makes it unrealistic to run large-scale manufacturing trials until very late in development. The limited lifetime of patents means any delay at this stage is serious. Microbiochemical engineering studies, and models of the whole bioprocess, are therefore used at the Centre to identify possible performance and critical process issues in advance. This reduces the number of experimental trials – and hence the time and cost – required to bring a product to the market.

The Centre collaborates with UK-based pharmaceutical, biotechnology, contract manufacturing and supply companies. Participating companies contribute to a £3 million research programme funded by the Engineering & Physical Sciences Research Council and the DTI. In return, they take part in tests of the new process tools at their own sites and attend regular briefings on research. They also have particularly good access to high calibre, trained potential staff from the college.

Innovation & Growth Teams

Innovation & Growth Teams (IGTs) are industry-led task forces with membership drawn from all key stakeholders - business, unions and Government. Each team looks strategically at a sector to identify the key issues that will shape its future and to decide how the UK can best respond to the competitive challenges that the sector will face. Manufacturing sectors that have been – or are – the subject of an IGT include automotive, aerospace, bioscience and electronics. Examples of achievements so far include:

- Following a report by the Automotive IGT, the launch in 2003 of an **Automotive Academy** – a national centre with regionally-based spokes to raise skills and productivity in the automotive industry. www.automotiveacademy.co.uk
- A new **Chemistry Leadership Council**, established following the Chemicals IGT report in 2003, focuses on innovation and science priorities, establishing a Chemicals Innovation Centre, future skills needs, sustainable development and industry reputation. www.chemistry.org.uk
- Following publication of the Aerospace IGT in 2003, a **National Aerospace Technology Plan** was produced for the acquisition and demonstration of new technologies needed to develop competitive aerospace products and to meet future environmental challenges. www.dti.gov.uk/aerospace/aigt.htm
- Following the **Environmental Goods and Services IGT**, DTI and Defra have set up the **Environmental Innovations Advisory Group**, which is tackling barriers to the development and take-up of innovative environmental technologies, and is focusing on regulation, procurement as well as the underpinning skills and technologies. This work has already helped secure the European Commission's agreement to review state aid guidelines impacting on the environmental industry sector and is raising the industry's profile with the Sector Skills Councils. www.jemu.org.uk/igt

Results

We are beginning to see results from the work across this Pillar:

- We have seen an increase in **knowledge transfer** activity, with 213 new spin-off firms set up in 2001/02. There were 248 in 2000/01, and 203 in 1999/2000, compared to 70 a year on average in the previous five years. Income from contract research rose from £188 million in 1996/97 to £328 million in 2001/02.
- There has been a move in the right direction with UK business **research and development investment**. After a steady period of decline from 1.5 per cent of GDP in 1981 to 1.16 per cent in 1997, research and development investment increased to 1.24 per cent in 2002.

But we know that although we have some manufacturing sectors in the UK that lead the world in innovation, such as aerospace, pharmaceuticals and biotechnology, measures of innovation show that the UK's overall performance is well behind that of the US and roughly equal to the EU average.

Priorities for the future

To maintain our strength in modern manufacturing we need a stronger innovation performance, creating and developing new high tech industries and upgrading existing sectors.

We will work with all stakeholders to develop more effective partnerships between Government, the science base, Regional Development Agencies and other key stakeholders to harness our resources more effectively in raising the UK's innovation performance.

Action for Government

- Further enhance our science, engineering and technology base through the **Ten-Year Science and Innovation Investment Framework**.
- DTI, HM Treasury and the Inland Revenue will work to further promote **R&D Tax Credits** to business, building on the recent enhancements to the tax credits and simplification of the definition of R&D.
- Help raise business performance by implementing the **Innovation Report Action Plan** – there are currently 60 projects underway, ensuring that innovation is embedded across all policy areas.

- Cross-departmental Ministerial Group on **Innovation and the Knowledge Economy** led by the Secretary of State for Trade and Industry to monitor progress on the the innovation agenda across Government.
- Deliver the **Technology Strategy**, including delivery of the Knowledge Transfer Networks and Collaborative research & development grant schemes; and the formation of a business-led Technology Strategy Board by November 2004.
- Regional Development Agencies to lead in developing **regional priority clusters** and **regional knowledge transfer** and **innovation networks** including effective **Regional Science and Industry Councils** or equivalent bodies in every region by December 2004 to co-ordinate and improve collaboration between the science base and industry.
- Work with industry, unions and other stakeholders to deliver on the outcomes of the successful sectoral **Innovation & Growth Teams**, and establish a **Materials Innovation and Growth Team** by October 2004.
- Expand the DTI-based team of **International Technology Promoters** to improve business access to technology transfer opportunities from overseas. www.globalwatchonline.com/itp

Institute for Bioinformatics – bringing new technologies to the market

The Institute for Bioinformatics (IfB) is being developed in north east England to create world-class bioinformatics technologies specifically intended for commercial exploitation, enabling the development of the region as a driving force in this growing industry sector.

IfB will focus on the creation of tools for the analysis and modelling of biological complexity. These tools will be used to enable major advances in medicine and healthcare delivery. IfB will bring research, clinical and business strengths together in a unique way, building on the expertise of the universities in the region with the market understanding of businesses, to enable the development of new bioinformatics to meet market needs in a rapid manner.

IfB is being advanced by a regional consortium comprising One NorthEast (the Regional Development Agency for north east England), Nonlinear Dynamics (one of the UK's leading bioinformatics companies), and the universities in the region. In addition to pump-priming investment from DTI, financial support is being provided by One NorthEast.

UNILEVER GLOBAL INNOVATION



Unilever is a major manufacturer in the UK, with world-class innovation and manufacturing, and UK sales of almost £2.5 billion. Laboratories at Port Sunlight in north west England are the principal driver of global innovation in Unilever's Home and Personal Care products, as well as a major manufacturing facility. The research and development specialists housed there work closely with product developers and marketers across Unilever to conceive, create, and deliver new brand opportunities such as Persil Tablets and Dove Deodorant.

Unilever works closely with other research and development facilities in the region, particularly the Universities of Liverpool and Manchester. In conjunction with other major international players such as AstraZeneca and BNFL, they are also working with the North West Development Agency and the regional science council, Northwest Science, to create a strong culture of innovation and entrepreneurship in the region.

Action for Business & Stakeholders

- Business to increase investment in higher value-added products and processes and encourage spread of best practice in the supply chain to ensure the benefits of innovation are pulled through at all levels.
- The **Innovation Stakeholder Group** will provide a forum for stakeholders to work with Government on delivering on innovation. Members including CBI and TUC will be able to help Government prioritise actions and will help promulgate innovation messages out to their networks.
- Full participation by industry, universities and other world-class intermediaries in international, European and UK-based technology transfer networks and collaborative research and development programmes.
- Industry and other stakeholders to work with Government on the outcomes of the Innovation & Growth Teams.
- Industry to engage fully in development of the **Ten Year Science and Innovation Investment Framework** and the **Technology Strategy**.
- Industry and other stakeholders to participate in **Regional Science and Industry Councils**, led by Regional Development Agencies.
- Industry representative bodies to help publicise the benefits of the **R&D Tax Credit** and maximise take-up.

High Performance Workplaces: working together to drive innovation

High Performance Workplaces get the most from every part of a business, and in particular from its people, by creating a valued, diverse and involved workforce. The promotion of High Performance Workplaces is a key element of the DTI's approach to supporting business best practice.

Evidence shows that there is a clear link between innovation and high performing workplaces, where good managers inspire their employees and create a workplace culture in which new ideas are encouraged and rewarded. In turn, employees who are motivated and valued can play a vital role in contributing to the success of the business.

We have committed to build on the work already taken by the TUC and CBI on productivity to establish an Innovation Stakeholder Group, with joint union-business leadership. This will undertake work to identify how the innovation agenda can be spread through Britain's workplaces. We will continue to encourage the growth of high performing organisations by educating business, both employers and employees, about the role of innovation.

THOMAS SWAN & CO ENVIRONMENTALLY FRIENDLY INNOVATION

The UK is at the forefront of research, development and education in 'green' environmentally friendly chemistry. Now Thomas Swan & Co in north east England has developed revolutionary technology and built a 'world's first' chemical manufacturing plant that uses supercritical carbon dioxide to replace less environmentally-friendly organic solvents, which generate greater amounts of waste. A supercritical fluid is a gas that is compressed and heated so that it shows some of the properties of both a liquid and a gas at the same time.

The plant is the first full-scale multi-product, continuous process facility using supercritical fluids and can produce up to 1,000 tonnes of speciality chemicals per year.

"Green chemistry is not just altruism, it also makes sound economic sense. Generating waste is expensive, particularly in advanced economies with stringent environmental legislation."

Professor Poliakoff FRS, University of Nottingham

PUREBREATHE SUCCESS BY DESIGN

PUREbreathe was developed to protect outdoor exercisers from the potentially harmful effects of airborne pollutants without the inconvenience and dampness associated with existing anti-pollution masks that cover the face. It is a low-cost plastic device containing high-tech filters that can be interchanged depending on the season and the type of pollution the user faces, and is worn in the mouth in a similar fashion to a snorkel. Designed both to look good and to be comfortable to wear, it is made from low energy recyclable materials. The key to PUREbreathe is a partnership that combined an understanding of a market need and the expertise to meet it (Brunel University's Department of Sport Sciences), with innovative design (Royal College of Art). The device is on display as part of the Science Museum's 'Science of Sport' exhibition until September 2004.



RENISHAW PLC WORLDWIDE REPUTATION

Renishaw was established in 1973 by Sir David McMurtry and John Deer, following Sir David's development of the world's first three-dimensional touch trigger probe. It is a world leader in precision measurement and calibration devices for industry and its products are split into seven main categories: co-ordinate measuring machine products, digitising and dental systems, machine tool products, calibration systems, position encoders, spectroscopy, and styli for probes.

The company has a worldwide reputation for quality and innovation, and is regarded as one of the most dynamic companies in the engineering sector. It has received many awards including ten Queen's Awards. Renishaw received the category award for Product Innovation in the Institution of Mechanical Engineer's Manufacturing Awards in 2000, 2001 and 2002, and then sponsored this category of the Awards in 2003 and 2004 to encourage others to adopt a similar approach to innovation.

To provide marketing and technical support for its customers worldwide, Renishaw has established subsidiary companies in over 20 countries, in addition to a global network of distributors. Turnover was over £100 million in 2002/03. The company employs 1,600 people, including 1,200 in the UK.

PILLAR 4 BEST PRACTICE



Strategic importance for manufacturing

Adopting global best practice delivers business benefits that can be channelled into innovation and investment and in turn into profitable products and process improvements. It engenders a culture of continuous improvement, increasing competitiveness and productivity. The CBI's National Manufacturing Council estimates that if UK firms adopted the best practice levels of their competitors, the UK could increase GDP by around £60 billion.

What we said we would do

Best practice initiatives have a proven track record of success, and we said we would maintain and expand them. In particular, we said we would:

- Set up the **Manufacturing Advisory Service** to deliver practical help to manufacturing SMEs in England & Wales.
- Expand the **Partnership Fund** to establish up to 150 projects promoting innovation and workplace partnership.
- Extend the reach of the successful business-led **Industry Forum** lean manufacturing initiative into more sectors.
- Support continuous improvement of the delivery of best practice advice, using tools and techniques working in partnership with the TUC, CBI and key stakeholders to enhance the **Fit for the Future** campaign.

What we have put in place

- We set up all ten Regional Centres of the **Manufacturing Advisory Service** by November 2002. www.mas.dti.gov.uk
- In April 2004, introduced the new **Achieving best practice in your business** products, **Access to best practice** and **Support to implement best practice**, building on the success of **Fit for the Future**, **UK Online for Business**, and other best practice initiatives, to help SME's to become more successful by applying best practice. These can be accessed at www.dti.gov.uk/bestpractice or by contacting Business Link on 0845 600 9006.

- The **Partnership Fund** was developed as an essential part of the Government's non-legislative approach to promoting high performance workplaces. Through the fund, we disseminated key messages about the importance of workplace partnerships to a wide audience, and gave support to 249 individual workplace projects worth £8.4 million and to strategic partnership projects worth £3.8 million.
- Following the announcement of £20 million support for best practice at the Manufacturing Summit in December 2001, we extended the **Industry Forum** best practice model to four more sectors, extending its reach to 16 sectors in total.

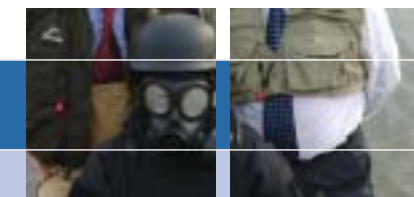
Results

- The Manufacturing Advisory Service has become a huge success as a source of practical help to manufacturers throughout England and Wales.
 - By March 2004 MAS had responded to almost 27,000 enquiries, carried out over 6,400 free diagnostic and advisory visits, and completed more than 1,400 in-depth consultancy projects.
 - MAS has generated average 'added value' to manufacturing companies of £102,000 a year, with total 'added value' to all companies from MAS interventions reaching £53 million by March 2004.
 - Customer satisfaction averages 86 per cent.
- **Industry Forum** programmes are now seen as 'engines for change' in their sectors.
 - Around 1,700 companies have participated in IF programmes.
 - All sectors to which Industry Forum was extended report significant productivity improvements in participating firms – for example:
 - Companies in the construction equipment sector have already identified savings and efficiency improvements, worth over £12 million.
 - Companies in the chemicals processing sector achieved savings of £61 million.
 - In the metals sector, the average improvement in people productivity was 38 per cent.

- Overall, every £1 of public money spent has yielded benefits for business of between £5 and £10 per company.
- An evaluation of the **Partnership Fund** in 2002 found that workplace partnership had changed attitudes and behaviours and contributed directly to business improvements and improvements in union-management relationships. For example:
 - Absenteeism reduced in one private sector organisation from 4.8 per cent to just over 2 per cent; and in a privatised utility, from 7 per cent to 4 per cent.
 - High levels of labour turnover in an engineering SME reduced by 8 per cent.

- Disputes resolved relatively painlessly, and handled before they could escalate by improved steward-manager working relationships.
- Cost savings achieved through informal, quicker resolution of disputes.

Although a great deal has been achieved, particularly through the success of the **Manufacturing Advisory Service**, more needs to be done – by Government, business and other stakeholders – to encourage UK manufacturing businesses to adopt best practice in all aspects of their operations so that they can respond successfully to the global challenges the sector faces.



ENGLANDS SPECIALIST SAFETY EQUIPMENT A WORLD'S FIRST

Birmingham-based **Englands Specialist Safety Equipment** has achieved a world first with the help of **MAS West Midlands**. The **Inflatable Body Armour System** is a unique jacket which incorporates a life jacket with added armour to protect the wearer from bullet and fragmentation attack. MAS put **Englands** in touch with the plastics and rubber technology organisation, **RAPRA**, who helped with material selection and sampling, and with experts at the **Royal Military College and Cranfield University**, where further stringent trials and ballistics tests were carried out. As a result, **Englands** won two awards for innovation and a **Queen's Award**, and secured orders worth £500,000 from the Middle and Far East. Their equipment has already saved 29 lives.

"MAS-WM advisers have proven business experience, which gave us even greater confidence when applying for assistance. Using excellent guidance and support we have successfully applied the design and textile experience of two local firms to transform very good products into the very best."

Andrew Kerr, Director



INNOVATIVE TECHNOLOGY LTD MANAGING THE VOLUME GROWTH

Innovative Technology designs and manufactures low cost bank note validators. Employing 150 people, it has sales offices in Spain, North and South America, and Germany. The business has grown rapidly, with sales of 50-60,000 units a year increasing to 200,000 a year. Yet improvements were needed.

An expert adviser from **MAS North West** worked with key individuals from the company to analyse the operation and plan and support the implementation of the improvements, using **Lean Manufacturing** techniques to reduce production queues and improve flows. With employees being trained to bolster the on-site project work, the company is intent on driving further waste out of the business. Widespread improvements have resulted in substantial savings, with total benefits of well over £1 million.

Priorities for the future

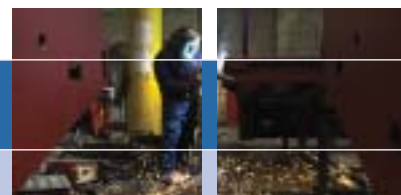
Action for Government

- DTI and the RDAs will work together to build on the success of the Manufacturing Advisory Service, to improve its effectiveness and impact. We aim by March 2005 to raise the total value added from MAS since its launch to £93 million by:
 - Providing information and advice to 33,500 manufacturing companies
 - Undertaking 10,250 diagnostic visits to small and medium-sized manufacturing companies
 - Carrying out 2,285 in-depth consultancy projects
- Drive forward delivery of DTI's new **Achieving Best Practice in your Business** products, carrying out 10,000 free diagnostics a year through Business Link, and supporting 2,000 in-depth consultancy projects, and extending support in due course to best practice projects involving businesses in a supply chain.
- Build on the success of the Partnership Fund by continuing to support projects to promote High Performance Workplaces through the new **Achieving Best Practice in your Business** products, and by supporting further major Strategic Partnership projects, focusing on regional and sectoral priorities agreed with unions and business.

- RDAs to lead a review of business support in the English regions in line with taking on responsibility for contracting Business Link services from April 2005 resulting in a more streamlined and coherent portfolio of business support in the English regions by March 2007.

Action for Business & Stakeholders

- Industry to continually benchmark performance, looking to adopt best practice from both inside and outside the manufacturing sector, and rigorously embed lean techniques and more sustainable methods of production.
- Regional business support intermediaries to assist Regional Development Agencies in the review of business support in the English regions.
- Industry to use the new **Achieving best practice in your business** products, including using the DTI Benchmark Plus diagnostic to allow them to compare business performance against similar businesses and identify areas of weakness
- Trade unions and business organisations to help ensure maximum buy-in to High Performance Workplace projects, including helping to identify priorities for Strategic Partnership projects.



TRIO DESIGN & ENGINEERING LTD SMOOTHING THE FLOW

Trio Design & Engineering designs and manufactures dry waste handling equipment, employing 110 people at its headquarters in Gloucester, with a similar number around the UK. An evaluation identified opportunities to improve manufacturing process flow, workplace layout and organisation, and materials management. **MAS South West's** 'plug simulation' game, simulating a complete manufacturing process, introduced three teams from all over the business to Lean Manufacturing tools, to help them identify the role they had in making change happen. The workplace was reorganised, and a kitting area was set up, ensuring on-time materials delivery. As a result, productivity has risen 33 per cent, materials movements have gone down 30 per cent and floorspace utilisation has improved by 30 per cent. Working capital has reduced by £30,000. In addition, the project has led to improved team working and involvement.

"The MAS-SW adviser had worked in a similar environment to ours – a massive benefit. We've never experienced anything like this before. Generally people don't like change but the workforce have been converted because they can see immediate results."

MANUFACTURING ADVISORY SERVICE

The Manufacturing Advisory Service (MAS) has been a huge success story since its launch in 2002. It is now playing a key role in helping UK manufacturers share knowledge so they can improve their productivity and compete in an increasingly competitive global economy.

Key to its success are the manufacturing specialists who deliver MAS, who are passionate about manufacturing. They understand how to bring their experience into companies and how to make their suggestions work in practice.

MAS provides specialist manufacturing advice through:

- **MAS Regional Centres**, established through partnerships between DTI and the RDAs, delivering the MAS in association with Business Links
- A national network of **Centres of Expertise in Manufacturing** working independently with manufacturers and carrying out work for the Regional Centres where a company needs more specialist support
- A **MAS website** providing access to all parts of the MAS nationally, with sources of information for manufacturers.

MAS offers manufacturers the following key services:

- First level support through the 10 **Regional Centres** via phone or email
- A free one-day on-site manufacturing **diagnostic visit** by a qualified MAS consultant to review a company's entire manufacturing operation
- Follow-up: Regional Advisers supported by **Centres of Expertise in Manufacturing**, delivering typically up to ten days' in-depth consultancy – to introduce lean manufacturing techniques, for example, make product or process innovations, obtain design advice.
- **Best practice** activities through Regional Centres – open events, training and workshop activities for manufacturers across their regions

www.mas.dti.gov.uk

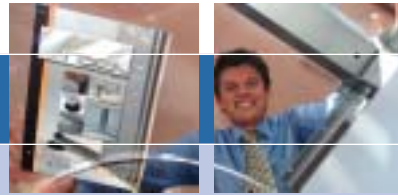


SEA OTTERS BOATS LTD IMPROVING DELIVERY AND SERVICE

Sea Otter Boats has 25 staff, many ex-miners, in Staveley, Chesterfield. They design and build small narrow, corrosion-free aluminium boats – working vessels or pleasure boats.

The company requested **MAS East Midlands'** help to improve customer delivery requirements and reduce bottlenecks on the shop floor. The MAS productivity expert assessed manufacturing procedures, helped improve workflow, eliminating regular production bottlenecks, and advised on supply chain rationalisation. Improvements were made in production management and cost control, so that productivity can now be measured. As a result individual performance figures can now be monitored, and production is now accurately costed and improved by better management. A review of purchasing policy, and rationalisation of suppliers, has resulted in approximate cost savings of £9,000 per annum, while streamlining production and reducing build time by around 8 per cent has led to further savings estimated at £15,000 a year.

RACK SYSTEMS (ENGINEERING) LTD TRAINING THE WORKFORCE



Rack Systems (Engineering) Limited, based in north Yorkshire, manufactures components and sub-assemblies for the office furniture industry, recently optimising design and manufacturing strengths to develop and launch the stylish 'Beam System' range. **MAS Yorkshire & Humber** were called in to train the workforce in lean manufacturing techniques and help it achieve increased operational efficiency. Senior management and shop floor 'Lean Leaders' were trained first, with the latter ultimately responsible for implementing Lean across the company. The results were impressive, with labour productivity increasing by over 15 per cent, lead times reduced from four to two weeks, and reduced set-up and changeover times. Rack Systems is now nearing sales of £2 million a year.

'The project has made a significant difference across the board – we are cleaner, tidier and more efficient. Rack can now achieve more with less, what more could a company want?'

Richard Field, Managing Director

ART MARKETING LTD REORGANISING & UP-SKILLING

Art Marketing, based in Hertfordshire and the Isle of Wight, is a leading manufacturer of picture frames, canvases, mirrors and clocks, selling to UK and international retailers. **MAS East's** expert in lean manufacturing provided a low-cost 'Step Change' service to identify weaknesses and suggest improvements. He conducted two events during which the Art Marketing production team realised that by reorganising the floor layout, establishing a service schedule and upskilling staff they could maximise use of their machines. The benefits were immediate, with 20 per cent improvements in productivity and in on-time delivery. Team work and staff morale have both improved, space is used more efficiently, and proper financial controls are now in place. Art Marketing has consequently been able to take on work it couldn't previously have coped with.

"The process focused all levels of management around key problems and their causes. Now we're focused on making sure materials reach the production line on time. The help we have received is fantastic."

Geoff Heald, Operations Director

GLASS TRAINING LTD - HOW PARTNERSHIP IN THE WORKPLACE BENEFITS EVERYONE



Glass Training Ltd, the national training organisation for the glass industry, ran its formal partnership programme from July 2002 to December 2003 as part of a campaign to promote National Vocational Qualifications (NVQs) throughout the industry. The programme, now set to continue into the foreseeable future, was set up in co-operation with four major glass manufacturers.

Employees at all levels across the four companies completed NVQs in areas such as management, manufacturing, customer service and health and safety. Empowering staff to choose and analyse aspects of their own work, the initiative allowed them to make their own improvements for a safer and more efficient working life, and brought operational benefits for the companies – a 50 per cent reduction in scrap wastage which created significant cost savings, shortened turn-round times and improved product quality for customers.

Senior TGWU shop steward, David Arrowsmith, said: *"The working environment is now safer, cleaner and more pleasant for the workforce. And, this programme also means that management can measure and recognise an individual's improvement efforts – and recognition is always good for morale."*

SERTEC LTD THE POWER OF SUPPLY CHAINS



Accelerate, the West Midlands' dedicated automotive supply chain initiative, has helped over 400 companies improve QCD (Quality, Cost & Delivery) performance through its Supply Chain Improvement Programme. In a supply chain improvement project, one central company invites eight key suppliers to take part. Accelerate provides up to £150,000 towards the delivery of the programme by an experienced consultant, who benchmarks performance and facilitates learning workshops for the chain. The shared knowledge is transferred to participating companies through a nominated change agent.

Sertec Ltd, the largest independent pressworking company in the UK, is a prime example of success in improving a supply chain. In 2002, the company began working with PDS Consultants to develop a strategy to allow it to compete effectively in the global market. By involving its supply chain in customer-focused activities, Sertec and its partners secured major improvements in sales, cost control, quality and scheduling, and a 60 per cent increase in delivery performance. Sertec recently secured the Ford Gold Worldwide Excellence Award, the only UK firm to achieve this industry-leading honour, one of 12 winners globally.

"Accelerate and PDS Consultants have been instrumental in ensuring that we are not only in a position to compete on a global stage, but actually lead by example."

Graham Mosedale, Group Managing Director

PROCESS INDUSTRIES BENCHMARKING FOR SUCCESS

After a process of manufacturing assessment and benchmarking with PICME, the Process Industries Centre for Manufacturing Excellence, East Midlands company Fisher Scientific, a producer of high purity laboratory and process chemicals, identified increased plant utilisation, reduced lead times and reduced waste as the main areas where improvements could be made. The cross-functional Fisher team worked in-depth with PICME on plant waste reduction, decreasing this by over 80 per cent for the company's highest volume product and demonstrating a potential of 60 per cent greater manufacturing capacity and 70 per cent reduction in manufacturing lead times for the company. The company also averted a planned capital spend by using an existing plant vessel more effectively.

"I was hugely impressed by how quickly our team moved from regarding this as an improvement project through to the delivery of real bottom-line financial benefits."

David Bryson, General Manager, Fisher Chemicals

SUSTAINABLE PRODUCTION VITAL TO THE FUTURE OF UK MANUFACTURING

A recent study of the Environment Agency for England and Wales estimated that the total cost to manufacturing industry of wasted natural resources is around £3 million a year (equivalent to about 7 per cent of total manufacturing profit). Greater resource efficiency, together with sound environmental management, is therefore vital to the future success of UK manufacturing.

The **Envirowise** programme was established to help companies share best practice on waste minimisation, enabling business to realise substantial bottom line benefits while benefiting the environment. Since it was established in 1994, the programme has helped UK industry to make resource efficiency savings of £1 billion through the sharing of best practice. It provides businesses with a range of free services, including independent and confidential advice through a helpline (0800 585794); case studies, best practice guides and reference notes which can be accessed through the website www.envirowise.gov.uk; access to free regional training workshops and events; on-site FastTrack waste review visits for small firms; and on-site DesignTrack visits which focus on reducing the whole life environmental impact of a specific product.

The measures that businesses need to take to obtain substantial paybacks can be very simple. The small manufacturing company, Kappa Packaging, carried out a waste review which showed that its existing waste data were incomplete. It introduced a straightforward waste reporting system to provide adequate records of process waste and to achieve greater control of waste arisings. And continuous improvement teams undertook a range of projects to reduce waste and achieve performance targets. As a result, process waste was reduced by over 10 per cent, and cost savings of over £199,000 a year – over £1,000 per employee – were realised.

PILLAR 5 SKILLS AND EDUCATION

Strategic importance for manufacturing

Skills are a major driver of productivity. Analysis by the National Institute of Economic and Social Research shows that up to 20 per cent of the productivity gap between the UK and France and Germany is a direct result of lower skill levels and poor demand for higher-level skills from employers.

What we said we would do

We said we would take action to close the productivity gap by:

- Raising the demand for, and ensuring better use of skills
- Making training and education provision at national, regional and local levels more responsive to the needs of employers
- Emphasising the relationship between skills and innovation in raising productivity

What we have put in place

Improving the co-ordination and leadership of the sector skills agenda

- Formed the **Skills Alliance** to bring together Government, employers and trade unions to focus efforts on the skills employers need, and ensure a better match between the demand for skills and the supply of provision to meet that demand.
- Strengthened the UK-wide Skills for Business network by developing employer-led **Sector Skills Councils through the Sector Skills Development Agency**, which is co-sponsored by DfES and DTI. Up to 25 Councils will be in place by the end of 2004/05, covering around 85 per cent of the UK workforce, to ensure that skills provision responds to sector priorities. www.ssda.org.uk/ssc/ssscouncil.shtml
- Started to establish Sector Skills Council-led **Sector Skills Agreements** to underpin effective collective action on sector skills priorities. Pathfinder agreements in the science, engineering and manufacturing technologies sectors will be completed by December 2004.

- Begun to establish **Regional Skills Partnerships** to improve the link between skills demand and supply by integrating the work of the key agencies in each of England's regions, including local Learning & Skills Councils, Small Business Service, JobCentre Plus and the Skills for Business Network. Partnerships will be completed in all England's regions by April 2005.
- Supported a new SSC-led **Engineering and Manufacturing Standards and Skills Forum** to raise the understanding of the contribution of standards and skills to success, champion workforce development strategies and foster coherent approaches to skills and business capacity issues.

Addressing leadership and management skills issues

- Published research on inspirational leadership to help top managers benchmark themselves against the best in their field.
- Introduced new occupational standards for leadership and management, in April 2004.
- Begun piloting a new scheme to help improve leadership and management in SMEs.

Attracting more young people into manufacturing

- Through the **Connexions-Direct** website, provided a searchable database – **Jobs4U** – which has details of over 600 career options, including many in engineering and manufacturing. www.connexionsdirect.com
- Promoted the new work-focused Higher Education qualification, the **Foundation Degree**: higher level knowledge and work-based skills in programmes designed and delivered in partnership with employers.
- Established a network of 26 **specialist engineering colleges** focusing on science, mathematics, and design and technology, raising standards in engineering and technology for students across all abilities.

Helping employees and employers get the right skills at the right time

- Set up **Employer Training Pilots** to make it easier for local employers and employees to obtain training that meets their needs. 12 are currently in operation in local areas, increasing to 18 by September 2004. The pilots will continue through to 2005/06.
- Strengthened the role of **Union Learning Representatives** to encourage the low-skilled to take up learning, with statutory rights to paid time off to perform their duties. Leading manufacturing sector unions such as Amicus, GMB and the T&G are working with employers in many workplaces to develop networks of ULRs. Additional funding announced in the 2003 budget, and statutory rights giving them clear rights to paid time off to perform their duties, will help ensure a stronger role.

Improving vocational qualifications and workplace-based training programmes

- Identified further improvements to make Modern Apprenticeships meet employers' needs fully, and to foster seamless progression opportunities for young people with the ambition and ability to go on to Higher Education.
www.learnndirect-advice.co.uk/

Results

- The number of **Modern Apprenticeships** trainees grew from 75,800 in 1997 to 255,500 in 2004 – a quarter of all 16 year olds have at least started a Modern Apprenticeship by the age of 21.
- With a total of over 60,000 learners and 10,000 employers involved in **Employer Training Pilots**, this demand-led approach is already starting to influence the supply side, with colleges and other providers delivering more flexible training solutions.
- Over 6,000 young people are now working towards the new **Vocational GCSE in Engineering** at 335 schools, colleges and Group Training Associations. Vocational GCSEs offer young people the opportunity to study

subjects such as engineering, manufacturing and business alongside the traditional curriculum – and help them relate what they are learning to the world of work. They can lead on to further study, including vocational A levels and Modern Apprenticeships.

- There are now over 6,500 **Union Learning Representatives**.
www.learningservices.org.uk

Despite the progress that has been made, much remains to be done – by business, Government and other stakeholders – if UK manufacturing is to achieve the high skilled, high performance workforces and workplaces that will ensure its global competitive success.

Priorities for the future

Action for Government

Government will focus increasingly on the demand-led agenda, so that we can respond better to the needs of employers and relate skills development more closely to productivity. We will focus on the following key areas:

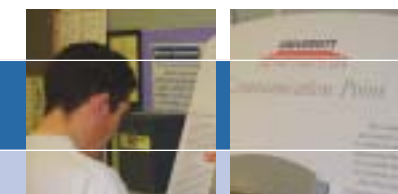
Improving the co-ordination and leadership of the sector skills agenda

- Through the new **Regional Skills Partnerships**, establish credible networks between regions and sectors capable of understanding employers' changing skills needs and of influencing the provision of skills.

Leadership and Management skills

- Subject to the completion of pathfinder programmes, roll out a **Leadership and Management Programme** across England – by September 2004 – to help managing directors of small and medium-sized companies undertake personal training or development.
- Launch the national **Inspired Leadership Index** – by December 2004 – so that leaders and top managers can compare their own leadership skills and values.

UNIPART ADVANCED LEARNING SYSTEMS LIFELONG LEARNING



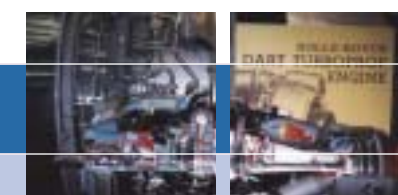
Unipart Advanced Learning Systems (UALS), the consultancy arm of The Unipart Group of Companies, specialises in transferring Unipart's long experience in engaging employees in lifelong learning to other companies. Last year, six companies within the ceramics sector in the Midlands began adopting the Unipart model as part of an industry-wide learning project.

Key to the project is creating a learning network for companies to create and share knowledge through an internet portal. Using web-based tools, companies are encouraged to develop their own e-learning content to support the industry's business requirements. Sponsored by the local regional development agency, Advantage West Midlands, the project – **The University on the Shop Floor** – has already delivered results including:

- Establishing company learning centres
- Developing IT training programmes
- Introducing knowledge management skills
- Training continuous improvement teams in participating companies

UALS has also created the **Leisurelearn** online learning site for suppliers and customer partners of Unipart's leisure division.

ROLLS-ROYCE SKILLS ACQUISITION AND RETENTION



Rolls-Royce plc has long experience of running **Learning & Resource Centres** for its employees – involving co-operation between the company's management and trade unions, and a mixture of job counselling and sophisticated internet CV-posting and job-matching to place employees.

This experience has been instrumental in the development of an important initiative which helps engineers who face redundancy to transfer into new jobs, and to enhance their skills preventing loss to the engineering industry. The initiative – called the **Midlands Engineering Industries Redeployment Group** – has been developed in collaboration with the Derbyshire Learning & Skills Council, the trade union Amicus, and a number of companies from other sectors including automotive, rail and energy. Initial figures suggest that at least 20 per cent of those who would normally be lost to the industry will be retained.

Attracting young people into manufacturing

- Carry out an **end-to-end review** of careers education & guidance for 11-19 year olds to make sure the right systems are in place to help young people make informed employment choices.
- Update the booklet, **Working in Manufacturing**, published through the Connexions service, to encourage young people to consider the sector as a career option.
- Improve employers' involvement in education – from 2005/06, the new **Enterprise Education** entitlement to provide all GCSE/Key Stage 4 pupils with the equivalent of five days' activity to develop their business skills.
- Review the effectiveness of **Education Business Link** – establishing an improved structure and management by September 2005.

Helping employees and employers get the right skills at the right time

- Increase the number of **Employer Training Pilots** from 12 to 18 by September 2004, and complete the trial during 2005/06.

Improving vocational qualifications and workplace-based training programmes to meet the needs of manufacturing employers

- Develop a flexible and transparent system of **vocational qualifications**, based around a new apprenticeship system with an enhanced strategic role for Sector Skills Councils – by March 2005 achieving improvements to apprenticeships that meet the needs of employers.

- Work with business to identify vocational intermediate skills priorities (for Level 3 – corresponding to A-level or equivalent – and above), which will have priority access to Learning & Skills Council funds, and invest in **Centres of Vocational Excellence** to address Level 3 skills requirements.
- Develop the network of **Engineering Specialist Schools** focusing on science, mathematics and design and engineering and technology.

Action for Business & Stakeholders

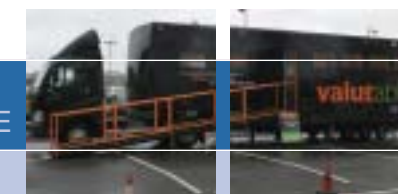
Industry to fully promote the benefits of upskilling the workforce and lifelong working throughout the supply chain, and to implement the latest best practices in the high performance workplace.

Industry to work with other stakeholders to help attract the share of talent necessary for future competitiveness, in particular through increased activity in schools.

- Industry to work with Sector Skills Councils and the Learning & Skills Council to develop apprenticeships that fully meet its needs.
- Industry to participate with local Education-Business partnerships and other Education Business Link networks.
- UK-wide qualification regulators and funding agencies, the Sector Skills Development Agency and the Learning & Skills Council to work with Government to progress aims.
- Industry and other stakeholders to work with the Regional Skills Partnerships (on completion of their prospectuses) to address issues of concern.
- Industry to participate in a new initiative to improve leadership and management in SMEs.

www.lsc.gov.uk/national

JOBCENTRE PLUS HELPING LABOUR MARKETS ADJUST TO CHANGE



While job losses in manufacturing may catch the headlines, many job opportunities are still being created. When the labour market functions well, vacancies can be filled quickly, recruitment problems and bottlenecks avoided, and inflationary wage increases prevented. This is where Jobcentre Plus comes in – matching people to jobs. Manufacturing employers can also help the market to function better by promoting flexible and diverse forms of employment that enable a wider range of people with appropriate attributes and skills to be recruited.

The **Rapid Response Service (RRS)** is an exceptional intervention by Jobcentre Plus to improve the functioning of the local labour market where the size of the redundancy is so large that it would swamp its normal functioning. It is in simple terms an assisted job search programme, providing a fast, cohesive and effective response to redundancies and recruitment difficulties, moving people quickly into new jobs and preventing them from becoming detached from the labour market. It also contributes to regional work on employment skills, minimising the number of redundancy and recruitment situations that might be considered 'emergencies'. In its first 19 months the RRS gave support to 163 manufacturing redundancies in England, helping 12,000 people with on-site information, advice and guidance, skills training analyses and job-focused training.

Jobcentre Plus is also involved in regional labour market initiatives. The **Hotspots Group** in the East Midlands is an employer-led action group set up to reduce the impact of market failure by predicting future problems and growth trends in the region's labour market. Activities range from providing on-site advice and guidance (such as signposting to other sources), to retraining or even accessing an internet-enabled mobile learning centre, the Learning Lorry.

EMPLOYER TRAINING PILOTS



Employer Training Pilots (ETPs) aim to find ways to provide training that is more accessible and responsive to the needs of local employers. Led by local Learning & Skill Councils, they deliver a package of support to business including free or subsidised training for employees, paid time off work for training, financial support to employers to compensate them for providing paid time off, and free information, advice and guidance for employers and employees taking part in the scheme.

ETPs work with employers to target the low-skilled section of the work force. Employers identify skills gaps which affect their productivity, decide which type of training they require, and the ETP makes it happen.

Twelve pilots are now running in 12 areas across England, with a further six planned to launch by September 2004. So far over 60,000 learners and 10,000 employers – mostly small and medium sized firms – are involved. The pilots will continue through to 2005/06. This demand-led approach is already starting to influence the supply side, with colleges and other providers delivering more flexible training solutions. Employers not previously engaged with developing their workforce are now closing skills gaps and improving productivity. Employer Training Pilots also are helping trade union members to access training and are encouraging new agreements between employers and unions to develop learning within the workplace.

THE AUTOMOTIVE ACADEMY SUPPORTING BRITAIN'S MOTOR INDUSTRY

The Automotive Academy is designed to enhance the skills, productivity and competitiveness of Britain's motor industry. Supported by the country's leading automotive companies, the Academy was established following the Automotive IGT report to develop a national approach to training in the industry and to 'validate' approved courses, providers and assessors. It promotes skills improvement at all levels, from shop floor right through to the boardroom, encompassing technical, leadership, management and support programmes.

DTI support has helped establish the central administrative hub at the Birmingham Business Park, with delivery spokes to be rolled out across the regions. The first two spokes in the Midlands and North East of England are already up and running with support from the respective RDAs.

The Academy plans to be fully open for business in October 2004. Pilot programmes for team leaders (developed jointly by Nissan and the Society of Motor Manufacturers and Traders Industry Forum) and for Automotive Leaders (developed by the University of Cambridge) are already underway.

www.autoindustry.co.uk

SECTOR SKILLS COUNCILS RAISING SKILLS FOR MANUFACTURING

Sector Skills Councils (SSCs) are independent, UK-wide organisations developed by groups of influential employers in industry or business sectors of economic or strategic development. SSCs are employer-led and actively involve trade unions, professional bodies and other stakeholders for the sector. They give responsibility to employers to provide leadership for strategic action to meet their sector's skills and business needs. 23 SSCs will be in place by the end of 2004, covering almost 90 per cent of the UK workforce, to ensure that skills provision responds to sector priorities.

SEMTA is the sector skills council for science, engineering and manufacturing technologies, representing a wide range of sectors, covering aerospace, electrical engineering, electronics (including semiconductors), mechanical engineering and metal trades, motor vehicles, shipbuilding, biotechnology, nanotechnology, mathematics and forensic science.

SEMTA helps these manufacturing and engineering sectors in a number of ways:

- researching and identifying skills requirements and training needs
- representing the industry's training needs to Government
- promoting Government initiatives including NVQs and SVQs, the New Deal and Investors in People
- developing national training models, including modern apprenticeships
- promoting engineering careers to young people
- encouraging and supporting lifelong learning
- helping companies access European and national funding for training
- developing occupational standards and products to support training and development

www.ssda.org.uk/ssc

www.semta.org.uk

PILLAR 6 MODERN INFRASTRUCTURE



Strategic importance for manufacturing

UK manufacturing needs an efficient transport and telecommunications infrastructure if it is to be fully productive and globally competitive. Better transport allows for faster and more reliable movement of people and goods. And globally competitive telecommunications, especially in broadband, enable better communications with suppliers and customers, cutting cycle times and costs and improving productivity.

What we said we would do

We said we would progress the **10-Year Transport Plan** to modernise Britain's transport system, including investments in rail and strategic roads, and take forward a strategy to increase broadband penetration, bringing broadband to the greatest number of people at the lowest cost.

What we have put in place

- We followed through on the **10-Year Transport Plan** with an unprecedented commitment to delivering improved transport through over £180 billion of sustained, long-term funding. £260 million a week is now being spent on transport – a 43 per cent increase in real terms compared to the previous decade, delivering significant improvements to our roads and railways.

Railways

- Section 1 of the Channel Tunnel Rail Link – the first major new rail link in over a century – was opened in September 2003, on time and on budget.
- 1,500 new railway vehicles entering service in the last two and a half years.
- Upgrade of the West Coast Mainline – Europe's busiest passenger route – well under way.
- A Train Protection and Warning System has been fitted to entire national railway network
- 850 miles of track were replaced in 2003/04

Roads

- M6 toll road – the **Midlands Expressway** – was opened, ahead of schedule and on budget, easing pressure on a crucial part of the national motorway network
- 97 trunk road improvements to tackle safety and congestion
- 18 key road improvement schemes completed in 2002 and 2003
- programme of **Multi-Modal Studies** to develop sustainable long-term solutions to problems in key parts of the strategic road network.

ROLLING OUT BROADBAND FOR BUSINESS SUCCESS

State-of-the-art wireless technology is delivering broadband to the **Rotherwas Industrial Estate** on the outskirts of Hereford as part of a £13 million programme by the regional development agency, Advantage West Midlands. Company bosses at Rotherwas formed the **South Wye Business Partnership** to mount a broadband campaign after it became clear the BT exchange was too far away to get broadband ADSL services on site.

'It is having an immediate impact on business. It has made our internet search for suppliers and products quicker, it is easier to download big files and it allows us to budget for a fixed IT cost rather than the fluctuating cost of ISDN.' Gary Wallace, AK Industries Ltd.

'With just under 100 staff, we need to be innovative, nimble and flexible. The speed of broadband has had an immediate effect – the ability to transmit data is terrific. We can now send our three-dimensional design plans direct to customers instead of copying onto disk and posting it.'

Debbie Gittoes, Arctic Circle – manufacturers of high quality refrigeration plant for supermarkets.

Aviation

- We published the **Air Transport White Paper** in December 2003 – setting out the Government's views on future airport capacity.

London

- The overall funding for Transport for London has almost doubled from £1,183 million in 2000/01 to £2,225 million in 2004/05
- We set up a Public Private Partnership delivering £16 billion investment to maintain and modernise the Tube

Broadband

- We helped businesses to understand the contribution broadband can make to their competitiveness through the **UK online for business** awareness programme, now rolled into the new **Achieving Best Practice in Your Business** business support product (page 79)
- We established the **Broadband Aggregation Programme** – setting up nine new bodies from October 2003 in the regions – to bring broadband availability to more communities and businesses across the UK by aggregating public sector demand for broadband.

www.broadband.gov.uk

Results

- Railway passenger numbers up 25 per cent on 1997
- The West Coast Mainline Upgrade will mean that by winter 2004 – the journey time between Manchester and London will be cut by half an hour, as will the fastest journey time between Glasgow and London.
- Since 1997, 19 new railway stations have been built (including Heathrow Terminal 4 and Heathrow Central), and 9 re-opened.
- The amount of freight moved by rail has increased by 24 per cent since 1997.
- Over 1,700 additional weekday train services compared to 1997.
- Availability of broadband in the UK has grown to over 85 per cent, with the proportion of internet-connected businesses using broadband rising from 50 per cent in 2002 to 63 per cent in 2003.

- The UK's position in the G7 has risen to third for competitiveness of its broadband networks, and joint third with the USA for extensiveness of broadband coverage.

Much has been achieved – but there is a long history of underinvestment in the transport infrastructure, and addressing this is a long-term challenge. To ensure that UK manufacturing industry is able to compete successfully against global competition, we need to continue to strengthen the national and regional transport infrastructure, and to continue to improve our telecommunications infrastructure.

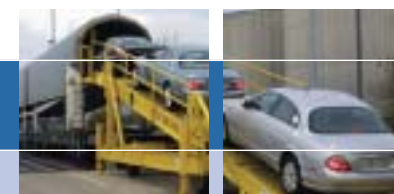
Priorities for the future

Action for Government

Ensure an efficient infrastructure environment for manufacturing through:

- Publishing a **new Transport Strategy** document in Summer 2004 that will review and roll forward the 10 Year Plan for Transport and look forward over the next 30 years
 - Supporting this new strategy with a sustained real-terms increase in funding for transport
 - Through the **Rail Review**, looking at the structural and organisational changes needed to enable the rail industry to deliver more effectively for its customers.
 - Continue to increase **broadband penetration**, contributing to making the UK the best place in the world for e-business.
 - Increasing the availability of affordable broadband in the UK, and continuing to strive for best value for the public sector through our broadband **Regional Aggregation Bodies**.
- ### Action for business & stakeholders
- Industry to work with RDAs to define regional priorities necessary for manufacturing competitiveness.
 - Industry to work with the public sector to bring broadband to every community by 2005.

JAGUAR CARS LOGISTICS EFFICIENCIES



The new £10 million railhead at Jaguar Cars' Castle Bromwich plant in the West Midlands is delivering significant logistics efficiencies and environmental benefits. Thanks to these improvements, some 45 million truck miles are expected to be taken off the UK road network over the next 10 years. Together with the similar rail terminal at Jaguar's Halewood plant on Merseyside, – over 70 million truck miles are projected to transfer from the roads to the rail network over the same period.

- The railhead comprises two new rail sidings and an 18-acre terminal facility capable of holding 1,600 finished vehicles for marshalling/despatch to Jaguar's 63 overseas markets.
- Up to 50,000 vehicles built at Jaguar's Castle Bromwich and Browns Lane sites will leave the terminal each year, making it one of the busiest heavy-freight railheads in the country – 75 per cent of them for export.
- For the sixth year running, Jaguar Cars was named National Champion in the Green Apple Awards 2003, which recognise Britain's greenest companies.

THE NORTHERN WAY WORKING TOGETHER – A REGIONAL PARTNERSHIP

The three Regional Development Agencies (RDAs) covering northern England have started work on a vast growth corridor stretching from Hull to Liverpool and from Sheffield to Newcastle. **The Northern Way** will counterbalance the draw of London and the South East by developing the North's own strengths and by regions working better together.

The Northern Way was launched by the Deputy Prime Minister, John Prescott, in February 2004. It will build on the collaborative work that these three RDAs already do in promoting northern England to inward investors. The next step will unite the economic strengths and assets of the three regions, learning from best practice.

A representative steering group led by former Yorkshire Forward chairman, Sir Graham Hall, is developing a strategy focusing on key work areas in which the regions can better collaborate to add value. To turn **The Northern Way** into reality the Government will work with the RDAs and planning bodies to exploit the existing infrastructure of airports, motorways, rail links and ports, to raise skill levels, to encourage enterprise, investment and innovation and to get people into employment.

www.thenorthernway.co.uk

PILLAR 7 THE RIGHT MARKET FRAMEWORK



Strategic importance for manufacturing

Successful modern manufacturing requires competitive and dynamic markets and motivated, well-informed and confident participants – business, consumers, employees, and investors. The Market Framework covers competition, within the UK and from abroad, company, consumer and employment law, and the burden and scope of regulation.

What we said we would do

We said we would work to make the UK the best place in the world to do business, a place where manufacturing innovates and thrives. In particular, we said we would:

- Strengthen the competition regime in the UK for new and existing manufacturers by introducing a new **Enterprise Act**.
- Champion economic reform in Europe to ensure the EU will offer manufacturing companies a large and competitive market in which to compete.
- Actively promote free and fair world trade and play a major role in world trade negotiations to continue to open up markets to UK businesses.
- Strengthen our focus on better regulation and reduce the burden of regulation, particularly on small firms.
- Reform the planning system to meet real business needs.

What we have put in place

Improving the competition regime

- We strengthened the UK's competition framework by introducing the **Enterprise Act 2002**. The provisions of the Act, together with increases in resources for the competition authorities, provide a new competition framework which will support the competitive intensity of the UK economy and bring down barriers to innovation.

www.dti.gov.uk/ccp

- The modernisation of the EC competition regime has further strengthened the enforcement of competition law by placing national competition authorities and courts in the driving seat. It brings enforcement closer to home and our competition authorities will have a stronger role in ensuring that markets across Europe work fairly for everyone.

Economic reform in Europe

- We are pursuing the 'Lisbon Agenda', working towards Europe becoming the most competitive and knowledge-based economy in the world by 2010. DTI works across the EU institutions to influence the industry policy agenda. The Secretary of State for Trade and Industry is the lead UK Minister in the Competitiveness Council, which has been granted a cross-cutting remit to look at all policies that could impact on competitiveness.

www.dti.gov.uk/ewt/euintro.htm

Free and open trade

- We are working to improve the efficiency and effectiveness of markets worldwide, participating in international trade negotiations through the EU and challenging unfair trade practices. As an example, sustained pressure on the US Administration recently saw the removal of the steel tariffs the Administration had imposed.
- In July 2004 the Government published a White Paper, "Trade and Investment: Making Globalisation a Force for Good", setting out current trends in trade, the challenges and opportunities that they bring to the UK, our overall policy goals for the international trading system, which is crucial for UK prosperity and is an important part of delivering our development goals and how Government can help companies reach global markets, particularly through the work of UK Trade and Investment.

Better regulation

We are making progress on the better regulation agenda:

- In December 2003 we published an updated **Regulatory Reform Action Plan**. Around 300 of the 650 deregulatory measures benefiting the public and private sectors have been implemented.
www.cabinet-office.gov.uk/regulation/rrap
- In response to a recommendation by the independent Better Regulation Task Force, from April 2004 we have introduced two **common commencement dates** for employment regulations. The Small Business Service is currently consulting on expanding the scheme to other policy areas.
- In March 2004 the Chancellor announced that the Prime Minister is to chair the **Panel for Regulatory Accountability**. The Panel will scrutinise all new regulatory proposals that are likely to impose a major burden on business, based on thorough impact assessments approved by the Cabinet Office.
- We continued to champion the better regulation agenda in the EU and have started to see some results: the Commission has begun to use impact assessments and consultation in the development of all its proposals, and the Council and Parliament will also look at the effect of major changes they propose.
- At the European level, virtual EU sub-groups have been established to develop competitiveness impact assessment in EU policy making and to look at considering the cumulative impact of legislation on the automotive sector.
- We are working with industry to develop joined up sectoral approaches, such as the **Vehicle Industry Policy and European Regulation (VIPER)** group, where industry and Government can come together and agree action on the wide range of policy and regulatory issues affecting the sector.
- In February, Ireland, the Netherlands, Luxembourg and the UK launched a Four-Presidency initiative to help drive forward EU regulatory reform in 2004 and 2005.

Planning

- We are working to ensure we deliver a simpler, more flexible and transparent planning system, with the first **Planning Act** for more than a decade. The Act introduces a simpler plan making system at regional and local level which will allow all those in the business community with an interest in regional and local development plans to make effective and high quality contributions. This includes making the Regional Development Agencies statutory consultees on major planning applications to ensure the economic and competitiveness issues are taken into account by local decision makers.
- Alongside the Act, investment in the **Planning Delivery Grant** has been increased, and we are undertaking wide-ranging revision to national planning guidance.

Results

We are beginning to see results across this pillar. For example, we have greatly strengthened our input to the better regulation agenda, both domestically and in Europe. We have made major improvements to the way DTI is organised, to build a more efficient and effective information channel between Government and industry, so that Government decisions really take account of the needs of business. In addition to a better dialogue with industry, we have also developed focused sectoral Government and industry groupings which provide an in-depth understanding of the likely impact of proposed regulations.

Good examples of the results of this work are:

- In 2001 the European Commission published a White Paper outlining a new **EU Chemicals Strategy** proposing a single system to regulate chemicals. As a result of strong input from DTI working together with industry, the regulations have been substantially revised with estimated direct costs to business reduced by some £10.6 billion with still more to discuss.
- DTI's **Bioscience Unit** has worked with industry to influence a range of complex and technical EU regulations to ensure that they are based on sound science and are measurable and enforceable. UK Government adaptation of legislation and regulations related to stem cell research has put the UK in a leading position internationally, attracting top scientists in this area to the UK.

Business surveys indicate that the UK continues to be doing well compared with its main competitors as a place to do business.

- The OECD Economic Survey of the United Kingdom, published in January 2004, commented "Competitive pressures appear to be relatively strong in the UK, with economic and administrative regulations inhibiting competition and barriers to trade among the lowest in the OECD."
- The World Bank's "Doing Business in 2004," published in October 2003, named the UK amongst ten countries – out of 130 – with the least regulation.
- A KPMG survey, published in February 2004, concluded that the UK had the lowest cost structure among the seven European countries it studied. For competitiveness the UK ranked first in Europe and third overall of eleven countries studied (UK, USA, Australia, Canada, France, Germany, Iceland, Italy, Japan, Luxembourg, Netherlands).

Priorities for the future

Successful joint industry and Government involvement in the better regulation agenda is set to increase. We will make strong and effective use of the Prime Minister's involvement in the new arrangements linked to the **Panel for Regulatory Accountability**, announced in Budget 2004.

We will be driving the better regulation agenda as a priority for the forthcoming UK presidency of the EU. The UK has continued to champion this agenda in the EU and the focus has sharpened considerably. The Commission has begun to use impact assessments and consultation systematically in the development of all its proposals and the Council and Parliament will also look at the effect

of major changes that they propose. The UK and other Member States are working with the Commission to make a competitiveness test part of the assessment process so that business impacts are fully understood.

Actions for Government

- We will seek to promote industry competitiveness, and competitiveness impact assessment, across the EU policy agenda, including through the EU Competitiveness Council and its working groups.
- Working with other member states, we will lead on a project to develop a systematic competitiveness impact assessment for use in EU policy making.
- We will actively participate in a German-led working group to examine the impact of regulation on the competitiveness of the automotive sector.
- We will develop a new planning policy statement (PPS4) on Planning for Economic Development by mid-2005, which will provide guidance on promoting sustainable economic development through encouraging the right development in the right place.

Actions for business & stakeholders

- To participate in, and lead as necessary, sectoral better regulation initiatives that are developing (e.g. VIPER) and work with Government to produce robust evidence to support key policy positions.
- Further develop European industry networks and build capacity for influencing the European policy debate.
- To engage with regional and local planning bodies to ensure business views are fully captured in regional spatial strategies and local development documents.

SINGAPORE FOODS THE RIGHT BUSINESS ENVIRONMENT



Singapore Food Industries (SFI), the leading integrated food company in Singapore, set up International Cuisine Ltd in the UK in 1991. Now the UK's largest and fastest-growing branded chilled ready meal manufacturer, its New Covent Garden brand has almost 50 per cent of the UK fresh soup market.

The UK was an ideal first overseas location, with:

- A market for SFI's food processing and distribution business
- A familiar business and operational environment – easier for navigating legal and administrative systems
- Lower start-up costs given similarities between Singapore and the UK
- A well-developed national cold chain infrastructure from manufacturer to distributor and retailer, bringing down business costs

"The UK system is more transparent than most other countries. Everything is above board. The UK Government has played an active role in facilitating operations by overseas companies, in regional development assistance and employment grants. SFI is keen to expand its UK business, confident that it will be able to leverage its UK experience and geographical proximity to make good headway in the European market."

Peter Tay, President and CEO, SFI

VIPER ADDRESSING THE REGULATORY CHALLENGE

The DTI-led VIPER group (Vehicle Industry Policy and European Regulation) provides a forum in which the Automotive industry and Whitehall Departments come together to discuss and agree action on a diverse range of policy and regulatory issues affecting the automotive sector.

VIPER is delivering:

- A joined-up approach through which the industry and Government add value to the other policy and legislative processes
- An early warning mechanism for industry and other stakeholders (crucially, before officials reach the stage of putting pen to paper), on emerging policy and regulatory ideas
- An up-to-date list of the top 30 or so key policy and regulatory issues bearing on the industry/business sector
- A collaborative way of working, agreed between Government Departments
- A network of identifiable policy makers across Whitehall
- Early input of industry views and concerns on the likely impacts and effects of policy and regulatory proposals



The new Manufacturing Forum will drive forward the priorities identified in the review of the Strategy and act as a strong voice reflecting manufacturing's vital importance to our economy.

5. The Manufacturing Strategy Action Plan

The Action Plan sets out the priorities for activity over the next two years by Government, industry, trade unions, the Regional Development Agencies and other stakeholders in key areas where we can most effectively work together to ensure the future success of UK manufacturing.

The overall aim of the Action Plan

Our vision is of a highly productive UK manufacturing sector competing successfully in the global market through high value, knowledge intensive products and processes, creating new markets, and delivering a huge boost to our prosperity.

Professor Michael Porter has described the overall transition that our manufacturing sector needs to make to achieve this:

"We find that the competitiveness agenda facing UK leaders in Government and business reflects the challenges of moving from a location competing on relatively low costs of doing business to a location competing on unique value and innovation."⁽¹⁾

A co-ordinated response

The priorities for action have been identified through the Stakeholder review of the Strategy, further discussion with our industry partners, and also drawing on the economic evidence published by DTI⁽²⁾.

www.dti.gov.uk/economics

Government has already laid the foundations of the necessary response to these challenges in areas such as macroeconomic stability, fiscal policy, competition policy, and trade policy. We are also responding strategically through implementing the Innovation Report Action Plan www.dti.gov.uk/innovationreport and the Skills Strategy www.dfes.gov.uk/skillsstrategy. As part of this, we want to use public procurement to stimulate innovation. And we are working with industry to ensure that the regulatory environment takes account of the global environment in which manufacturing operates.

Whilst Government plays the key role in influencing the environment in which business operates, ultimately the success of UK manufacturing in producing world-leading products rests with industry. Industry needs to invest in R&D, and

technology; to have a continuing commitment to skills development and education; continually benchmark performance, adopting latest best practice and production techniques; and, actively promote a positive image of manufacturing.

Stakeholders such as trade unions have a key role to play in working with industry in areas such as procurement, skills, ensuring innovation in the workplace, and promoting a positive image of manufacturing.

How implementation of the Action Plan will be monitored

We are establishing a Manufacturing Forum, which will be jointly led by Government and Industry. The Forum will provide a key mechanism for co-ordinating and driving forward the implementation of the Action Plan, and will monitor delivery by Government, industry and others. Some of these actions will affect the wider economy, not just manufacturing. But this Plan and the Forum that will monitor its delivery provide a unique focus on the impact on manufacturing of the many actions being taken by Government and other stakeholders.

To help them to do this the Forum will make use of the Key Performance Indicators we have devised (page 19) to assess progress against a small, simple and easily understandable set of regular measures.

Timescale, milestones and outcomes

The Action Plan covers a wide range of priority areas. In some areas, such as Best Practice and Public Procurement we should start to see improvements in the short-term as action is taken forward. In other areas, such as investment and infrastructure, there are long-standing weaknesses which will require sustained action over a longer period.

The Action Plan identifies some of the key milestones that we anticipate will be reached. We expect that the Forum will refine the specific milestones and outcome measures as they review the Plan and take into account the results of Spending Review 2004.

⁽¹⁾ DTI Economics Paper No. 3 "UK competitiveness: moving to the next stage" by Porter, Michael E. and Ketels, Christian H.M.

⁽²⁾ Such as DTI Economics Paper No.7 - "Competing in the Global Economy - The Innovation Challenge"

1. Promoting Science and Innovation

Overall Outcome: :The generation of world class research activities leading to the creation of globally competitive, high value added, products and processes

Key Performance Indicators: Innovation, investment, skills and productivity (page 19)

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
1.1 Further enhance our science, engineering and technology base through a Ten-Year Science and Innovation Investment Framework .	Industry to work more closely with the science base, not only to support company-specific products and business development, but also secure future skills and competencies within the industry.	World-class research at the UK's strongest centres of excellence. A dynamic research base. Greater collaboration between universities and business as an impetus to innovation. Better commercial translation of leading edge technologies. A more responsive supply of science, technology, engineering, mathematics skills to the economy.
1.2 Help raise business performance by implementing the Innovation Report Action Plan . www.dti.gov.uk/innovationreport Cross Government Ministerial group chaired by Secretary of State to drive forward implementation of the Innovation Report Action Plan and embed innovation at the heart of policy making across Government.	Industry, union, trade association, RDA and academic participation in the Innovation Stakeholder Group to support the delivery of the Innovation Report Action Plan.	See the Innovation Report Action Plan. This includes 60 projects being delivered across Government. Key actions from the Innovation Report Action Plan are included below where they are priorities for manufacturing.
1.3 DTI, HM Treasury and the Inland Revenue to work to promote further the R&D Tax Credit to business, building on recent enhancements to the tax credits and simplification of the definition of R&D. www.inlandrevenue.gov.uk/randd	Help publicise benefits of R&D Tax Credit and maximise take-up.	Increased level of high quality research and development by UK companies.

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
1.4 Develop the new DTI-led Technology Strategy , including delivery of the Knowledge Networks and Collaborative R&D business support products. www.dti.gov.uk/technologystrategy	Full participation by industry, universities and other world-class intermediaries in international, European and UK based technology transfer networks and collaborative R&D programmes.	Help create new networks for emerging and disruptive technologies and through collaborative R&D, exploit key technologies to help create world-beating products and processes, with pan-sectoral applications. <i>Form the business-led Technology Strategy Board by November 2004.</i>
1.5 RDAs will develop clusters and regional knowledge transfer and innovation networks that reflect regional priorities and enable linkages to national and international networks.	Business to work with RDAs to establish the most appropriate networks and encourage greater participation.	Contribution to selection of technology priorities will be made through the Regional Innovation Science and Technology Group.
1.6 Establish plans and goals for Research Councils to increase the rate of business interaction and knowledge transfer.	Business to work with RDAs to establish the most appropriate networks and encourage greater participation.	<i>Plans in place by December 2004.</i>
1.7 All regions to establish a business-led Science and Industry Council to provide advice and expertise to the development of regional Science and Innovation policy.	Business will be invited to join Councils by the relevant RDA.	<i>All Science and Industry Councils established by end December 2004.</i>
1.8 Work with stakeholders to deliver on the outcomes of the successful sectoral Innovation and Growth Teams (IGTs).	Work with Government to deliver on the outcomes of the IGTs. Both in terms of sector-specific actions and those common across sectors.	Barriers to growth identified and tackled in key manufacturing sectors, resulting in practical and measurable improvements in performance against international competitors.
1.9 Establish a Materials Innovation and Growth Team .	Participation of key materials producers and users, unions, academics, and other research providers.	<i>Launch in October 2004. Interim Report in March 2005. Report in September 2005.</i>
1.10 Expand DTI-based team of International Technology Promoters (ITPs) network and increase the number of outward secondments. www.globalwatchonline.com/itp	Industry to increase knowledge of technological developments, advanced skills, and scientific advances through the GlobalWatch Service including use of ITPs and outward secondments.	Improved access to technology transfer opportunities from overseas sources. <i>Increase the number of ITPs from 16 to 22 by the first quarter of 2005/2006.</i> <i>Increase the number of outward secondments to at least 120 by the end of 2005/2006.</i>

2. High Skilled, High Performance Workplaces

Overall Outcome: Raising demand for, and better use of skills in UK Manufacturing, through more responsive provision of training and education at national, regional and local levels, thereby raising productivity.

Key Performance Indicators: Skills (page 19)

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
2.1 Improve the coordination and leadership of the industry awareness, schools and sector skills agenda at national and regional level to respond more effectively to the current and future needs of manufacturers.	The Skills for Business network of SSCs to work to raise the understanding of the drivers of manufacturing success. Industry to promote the benefits of upskilling the workforce and life-long learning throughout the supply chain, and implement the latest best practice to address workplace performance issues.	<i>During 2004/05 – establish a full SSC network.</i> Increased employer demand for and investment in higher skills.
2.2 Review effectiveness of Education Business Link (EBL) structures and management. www.dfes.gov.uk/ebnet	Contribute to Review and work with local Education Business Partnerships and EBL networks.	<i>Establish improved EBL structure and management by September 2005.</i>
2.3 Develop a flexible and transparent system of vocational qualifications . www.dfes.gov.uk/nvq	UK-wide qualification regulators and funding agencies, SSDA and LSC to work with Government to progress aims.	<i>Revitalised system of vocational qualifications by 2010. This includes new system of credits giving learners and employers more flexibility in achieving qualifications and clear progression routes for core occupational qualifications.</i>
2.4 Work with industry to promote and develop work-based vocational programmes such as a new suite of apprenticeship programmes . www.realworkrealpay.info/employer	Industry to work with SSCs and LSCs to develop apprenticeships to fully meet their needs.	<i>March 2005: achieve employer-recognised improvements to apprenticeships and follow up to the Equal Opportunities Commission report on occupational segregation.</i> <i>28 per cent of young people between 16 and 21 into apprenticeships by end 2005.</i>

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
2.5 Address management and leadership skills issues in manufacturing.	Collaborate in new initiative to improve management and leadership in SMEs.	<i>Achieve national rollout of the Management and Leadership programme by September 2004.</i> <i>December 2004: Launch Inspired Leadership Index.</i>
2.6 Through the Regional Skills Partnerships (RSPs) , establish credible networks between regions and sectors capable of understanding employers' changing skills needs and influencing the provision of skills.	Industry and other stakeholders to work with RSPs to address issues of concern.	Regional structure capable of delivering what employers want, reducing duplication of effort, with integrated delivery of skills, employment and business support.
2.7 Increase the number of Employer Training Pilots (ETPs) to make it easier for employers to obtain training that meets their needs. www.etp.lsc.gov.uk	Employers to participate fully in the local pilots.	Increased demand for skills, filling of skills gaps, influencing supply side to deliver solutions that meets employers' needs and ensuring skills are deployed effectively in the workplace. <i>18 pilots in operation by September 2004.</i> <i>Trial completed during 2005/06.</i>
2.8 Careers Guidance for young people. Connexions publications will be updated and an End-to-End Review of careers education and guidance (CEG) completed. www.connexions.gov.uk	Sector Skills Councils consulted and employers contacted to provide case studies to inform young people's careers decisions. End-to-End Review consultation includes employer bodies, CEG practitioners and young people.	To be announced.
2.9 Continue to support the establishment of specialist science and engineering colleges .	Schools applying for specialist status need to secure financial sponsorship from private sector.	Profile of engineering as career option raised, encouraging more young people to study engineering post-16 in both further and higher education.

3. Encouraging Intelligent Public Procurement

Overall Outcome: A more coherent, transparent and predictable public procurement process resulting in innovative bids from UK manufacturers and better value for money for the public sector.

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
<p>3.1 Drive forward the Government's plans for encouraging innovation in public procurement outlined in the Innovation Report.</p> <p>Healthcare Industry Task Force to influence the NHS market access for suppliers of healthcare equipment and materials.</p> <p>Collaborate with NHS Estates to identify barriers and facilitators to innovation through construction procurement and client gains delivered.</p> <p>Bring together suppliers and public purchasers to encourage innovative procurement - first conference, NHS Innovation Forum, held at the DTI on 9 June 2004.</p>	<p>Manufacturers to promote and demand good procurement practice throughout the supply-chain.</p> <p>Industry to work with Government on pilots that, within the framework of EU regulation, demonstrate the potential that exists for innovation in public procurement.</p>	<p><i>Following publication of Office of Government Commerce (OGC) "Capturing Innovation" guidance in April 2004, Departments to report progress to Ministers on implementation by October 2004.</i></p>
<p>3.2 Increased ability of UK companies to bid successfully for public procurement contracts, by implementing the recommendations of the Office of Government and Commerce (OGC) report on competition and capacity planning in the Government market place (the Kelly Report). www.ogc.gov.uk</p>	<p>All stakeholders continue to work with Government to deliver outcomes of OGC's Competition and Capacity Planning action plan.</p> <p>Better forward planning by industry and a more professional approach to bidding for contracts.</p> <p>Actively pursue both inward and outward secondments with spending departments to build sector knowledge and understanding between government procurers and industry.</p>	<p><i>OGC to collate public sector demand information and analyse supplier capacity in first "Kelly" market (Property and Construction) by end September 2004.</i></p> <p><i>Decisions to be made on changing the shape of public sector demand and/or shape of supply market in the Property and Construction sector by December 2004.</i></p> <p><i>Demand information relating to Property and Construction to be shared with industry from December 2004.</i></p> <p><i>OGC to establish sustainable processes and procedures, in supply and demand matching, to transfer to other sectors by December 2004.</i></p>

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
<p>3.3 Enable SME participation, including as sub-contractors, in relation to the BRTF/SBC report Government Supporter and Customer?</p>	<p>Industry to work with the public sector to enable SME opportunities.</p>	<p><i>OGC to develop and embed best practice in Supply Chain Management by December 2004.</i></p>
<p>3.4 Investigate barriers faced by UK industry when it seeks public procurement opportunities elsewhere in the EU (through the Wood Review).</p>	<p>Industry to rise to the opportunities presented by the "Wood Review".</p>	<p><i>'Wood Review' to report its recommendations in September 2004.</i></p>

4. Encouraging High Value Added Investment

Overall Outcome: Improve the investment performance of UK manufacturing industry.
Key Performance Indicators: Investment and profitability (page 19)

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
<p>4.1 Maintain a stable macro-economic environment within which industry can invest with confidence.</p>	<p>Seize opportunities to undertake innovative investment in new products, processes and skills.</p> <p>Capitalise on increased macro-economic stability by investing appropriately in innovation, capital and skills on a medium to long-term horizon.</p>	
<p>4.2 Roll out new Selective Finance for Investment in England. (See Chapter 6 for action in Devolved Administrations.)</p>	<p>Industry to take advantage of investment opportunities.</p>	<p>New investment in the English regions that leads to long-term improvements in productivity, skills and employment.</p>
<p>4.3 Launch competition to operate pathfinder Enterprise Capital Funds when EU state aids clearance has been achieved. www.sbs.gov.uk/financegap</p>	<p>Industry to take advantage of investment support.</p>	<p>To be announced.</p>
<p>4.4 Implement enhancements we have confirmed to the tax incentives to invest under the Venture Capital Trusts and Enterprise Investment Schemes.</p>	<p>Industry to take advantage of investment incentives.</p>	<p>To be announced.</p>

5. Promoting Best Practice

Overall Outcome: UK manufacturers continuously improve through adoption of global best practice.

Key Performance Indicators: Output, productivity and skills (page 19)

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
<p>5.1 Increase the effectiveness, breadth of service, and market penetration in the regions of the successful Manufacturing Advisory Service (MAS).</p> <p>DTI and the RDAs will work together to build on the success of the Manufacturing Advisory Service, to improve its effectiveness and impact.</p> <p>www.mas.dti.gov.uk</p>	<p>Industry to continually benchmark performance looking to adopt best practice from both inside and outside the sector throughout the business.</p>	<p><i>Targets for 2005:</i></p> <ul style="list-style-type: none"> • Provide information and advice to 33,500 companies. • Diagnostic visits to 10,250 SME companies. • 2,285 in-depth consultancy assignments. • Total value of interventions by end 2005 (since launch) of £93 million.
<p>5.2 Take forward the delivery of the Achieving Best Practice in Your Business products.</p> <p>www.dti.gov.uk/bestpractice</p>	<p>Rigorously promote and adopt best business practices, and support the DTI's campaign to get the core messages through to businesses large and small.</p> <p>Adopt a range of tools and techniques designed to increase the value of products and reduce waste and variability.</p>	<p>Through Business Links to carry out:</p> <ul style="list-style-type: none"> • 10,000 free diagnostics and • 2000 in-depth consultancy projects, including • 80 each of major supply chain and high performance workplace projects. <p>To promote best practice in lean techniques, business relations, high performance workplace, skills, and e-Business, so that at least 25,000 businesses a year make a real step change in their performance by adopting best business practice.</p>
<p>5.3 RDAs to lead review of business support in the regions in line with their assuming responsibility for contracting Business Link services from April 2005.</p>	<p>Regional business support intermediaries to assist the RDAs in the rationalisation of business support in their regions.</p>	<p><i>A significantly more streamlined and coherent portfolio of business support delivered to businesses in the English regions by March 2007.</i></p>

6. Improving Understanding of Manufacturing

Overall Outcome: Well-publicised and received programme of research that effects real changes in stakeholder attitudes towards manufacturing over the next 10 years.

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
<p>6.1 Through the new Manufacturing Forum, work in partnership with the CBI, EEF, TUC, RDAs and others to coordinate research efforts to raise levels of understanding about the drivers of manufacturing success, drawing on the issues identified in this progress report.</p>	<p>Work with Government on the research programme through the Manufacturing Forum to examine the effectiveness of existing programmes, steer future research programmes and disseminate results.</p> <p>Help attract the share of talent necessary for future competitiveness by a better co-ordinated and monitored activity in schools for teachers and pupils.</p>	<p>Improved, more positive role for UK manufacturing sector.</p> <p>An increase in talented young people choosing manufacturing-related disciplines as a career path.</p>

7. Better Regulation

Overall Outcome: Better-focused European and domestic policies that properly take account of competitiveness impacts both within the EU and globally.

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
7.1 Strengthen engagement in the European policy debate at the earliest possible stage.		<i>UK, Ireland, the Netherlands, Luxembourg and the UK launched a 4 Presidency Initiative to help drive forward EU regulatory reform in February 2004.</i>
7.2 Government in conjunction with the Better Regulation Task Force and the Small Business Council to represent the voice of business at the Prime Minister's Panel for Regulatory Accountability .	Identify specific outdated or conflicting regulation that inhibits business success and work with Government to rationalise and improve existing regulation.	<i>Meetings of the Panel in July and September/October 2004.</i>
7.3 Extending the principles of VIPER , consider which additional sectors might benefit from a greater degree of Government/industry policy discussion.	Participate in, and lead as necessary, sectoral better regulation initiatives (e.g. VIPER) and work with Government to produce robust evidence to support key policy positions.	Principles of VIPER embedded as best practice.
7.4 Consult on the possibility of extending common commencement dates for employment legislation to other policy areas such as health and safety.	Participate in consultation.	<i>Common commencement date consultation ends on 3 September 2004.</i>
7.5 Seek to promote industry competitiveness and competitiveness impact assessment across the EU policy agenda; including through the EU Competitiveness Council and its working groups.	Further develop European industry networks and build capacity for influencing the European policy debate.	<i>Specific projects on the auto industry and on impact assessment of the Services Directive for by September 2004.</i>
7.6 Conduct cross-Departmental pilot projects on the impact of environmental regulation (including voluntary measures) on innovation in different industries.	Industry providing source information and participating in projects. Further consultation to take place after results are published.	<i>IPPC Directive project complete by September 2004. Vehicle emissions project completed by October 2004.</i>

8. Modern Infrastructure

Overall Outcome: An efficient transport and broadband infrastructure that underpins business competitiveness and is better tailored to regional priorities.

Action for Government (including RDAs)	Action for Industry and stakeholders	Key Outcomes and Milestones
8.1 Ensure an efficient transport infrastructure for manufacturing through providing a sustained real-terms increase in transport funding, and setting the framework for this investment with a new Transport Strategy that will review and roll forward the 10 Year Plan for Transport.	Industry and RDAs to work together to identify regional priorities necessary for manufacturing competitiveness.	<i>New Transport Strategy to be published in Summer 2004 following the transport review.</i>
8.2 Ensure that the UK has the most extensive and competitive broadband market in the G7 by 2005, contributing to making the UK the best place in the world for e-business. www.dti.gov.uk/telecoms/broadband.html	Industry to work with the public sector to bring broadband to every community by 2005.	<i>Broadband to be available to more than 95 per cent of addresses by 2005.</i>



In Scotland, Wales and Northern Ireland manufacturing is fundamental to overall economic development.

6. Manufacturing in Scotland, Wales and Northern Ireland

SCOTLAND



*The Scottish Executive's overall approach to economic development is set out in **The Way Forward: Framework for Economic Development in Scotland** (2000) and its enterprise strategy is detailed in **Smart Successful Scotland** (2001). To reflect future economic challenges both documents are currently being refreshed.*

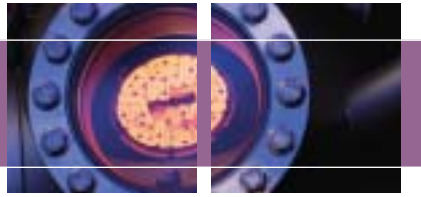
*Manufacturing is one of the foundations on which the Scottish economy is built. It contributes around 20 per cent of Scottish Gross Domestic Product (GDP) and provides over 250,000 jobs. The importance of manufacturing in Scotland and the challenges it faced were recognised when the Scottish Executive reconvened the Scottish Manufacturing Steering Group. Their 2003 report, **Nurturing Wealth Creation**, represented the views of industry, business and trade organisations, and trade unions. The Scottish Executive accepted and has started to implement most of their recommendations.*

What has happened since 1999?

Manufacturing in both Scotland and the UK, in common with other developed economies, endured difficult conditions in the period since 1999. However, the problems for manufacturers in Scotland were deeper than those experienced by the UK as a whole. This was due to the global economic downturn and structural developments in certain key product markets, particularly electronics, which provided a significant source of demand for Scottish output. These developments affected Scotland more strongly than the UK, given manufacturing's higher contribution to GDP in Scotland.

Output (as measured by GDP) fell in both the Scottish and UK sectors, though the level of decline in Scotland was significantly higher. Between 1999 and 2003, Scottish manufacturing output fell by 13.6 per cent, at an average annual rate of 3.6 per cent per annum. This contrasts with the UK position, where output has fallen by 2.5 per cent over the period at an average annual rate of 0.6 per cent. These figures are also influenced by the differing lengths and strengths of each sector's recession.

Employment has also fallen significantly in each sector over the period. The decline in Scotland has been relatively more severe than for the UK as a whole. However, Scotland has largely been able to maintain its share of manufacturing employment relative to its share of UK population.



What has been achieved and what we plan to do

Investment

- **Business Gateway** provides a clear and accessible single entry point for all business support activity in the Scottish Enterprise area. A similar single entry point operates in the Highlands & Islands.
- Between 1 July 1999 and 31 March 2004, businesses in the Scottish manufacturing sector have been offered over £335 million through **Regional Selective Assistance**. These offers relate to projects with planned investment of over £1.6 billion with the aim of creating or safeguarding over 40,000 jobs.
- The **Scottish Co-investment Fund (SCF)**, a £45 million equity investment fund administered by Scottish Enterprise. Targeted at the current equity gap of up to £500,000, SCF is a market-driven product that encourages the private sector to find and fund existing and new ambitious small businesses at the early equity stage of development. It runs on purely commercial grounds with no subordination or guarantees and looks to substantially increase the numbers of private sector investors active in the Scottish market. To date 26 deals to a value of £12.1 million have been completed, made up of £3.2 million SCF and £8.9 million private sector input.

Science and Innovation

- Scottish Enterprise has invested £450 million to create three **Intermediate Technology Institutes**, focusing on key areas of strength and opportunity for Scotland: Life Sciences, Energy and Techmedia. These provide centres for identifying, commissioning and supporting the diffusion of market-focused pre-competitive technology and offer opportunities for commercialisation and knowledge transfer between the science base and industry. The **SMART** and **SPUR** grants programmes, provide an increasing number of manufacturing companies with support for innovative activity
- The independent **Scottish Science Advisory Committee**, established under the auspices of the Royal Society of Edinburgh, advises Scottish Ministers on science strategy, priorities and policy. Their first report, **Science Matters: Making the Right Connections for Scotland**, was published in January 2004.

Best Practice

- With the support of Scottish Enterprise, **CompetitiveScotland.com** provides a forum for the exchange of ideas and knowledge and encourages members to apply best practice in all aspects of manufacturing.
- Following the Scottish Manufacturing Steering Group's **Nurturing Wealth Creation** report, the Executive is reviewing support to Scottish manufacturing to see how to encourage investment in improved manufacturing processes and the adoption of best practice to increase productivity.
www.scotland.gov.uk/library5/lifelong/ncwr-00.asp

Skills and Education

- **Life Through Learning; Learning Through Life**, the Executive's lifelong learning strategy, was published in February 2003. By 2005/06 the Executive will be investing £1.9 billion per annum in learning.
- The **Make it in Scotland** programme was initiated in 2000 as a result of a recommendation **Scottish Manufacturing Steering Group**. The Group, involving leading representatives in industry identified improving the image of manufacturing, including challenging misconceptions and stereotypes, as a key issue.
- Piloting **Business Learning Accounts**, funding of up to £7,500 will be available to encourage small manufacturers to train and develop staff and so develop their business.

Modern Infrastructure

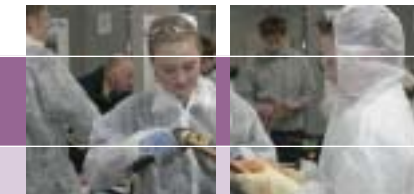
- With Scotland geographically at the periphery of Europe, infrastructure links are particularly important. The Executive is investing almost £1 billion per annum by 2006 to transform Scotland's transport by the end of the decade.

The Right Market Framework

- The Executive is working to reduce regulatory impact to a minimum and improve the regulatory environment. The first annual report on the activities of the **Improving Regulation Unit** will be published shortly.

Forward Look

- The Executive is clear that manufacturing has a positive future in Scotland but that industry, not Government, needs to drive this forward. The Executive will be working closely with stakeholders to provide the right framework to make this happen.



MAKE IT IN SCOTLAND ADDRESSING THE IMAGE PROBLEM

Make it in Scotland is a national initiative delivered by Careers Scotland to improve the image of manufacturing, raising awareness, interest and understanding amongst young people, predominantly 13-14 year olds, and teachers.

All secondary schools throughout Scotland are invited to participate in a road show event with 'icebreakers' delivered by professional motivators, followed by workshops with focussed hands-on activities facilitated by employees of manufacturing businesses. Preparatory lesson plans which fit into the curriculum are delivered before and after an event.

Make it in Scotland has grown from a successful pilot in 2001 with three schools, 500 pupils and 10 businesses, to the 2003/04 session where 400 organisations and over 60,000 pupils from over 90 per cent of Scotland's secondary schools took part.

WALES



The Welsh Assembly Government's economic development strategy, **A Winning Wales**, sets out the priorities to be addressed to transform the Welsh economy, including measures geared to help the manufacturing sector maintain and develop its competitive edge. In particular, it highlights the need for more research, development and innovation.

www.wales.gov.uk/themesbudgetandstrategic/content/neds/awinningwales-0302-e.pdf

In January 2004, Andrew Davies, the Welsh Assembly's Economic Development Minister invited representatives of the manufacturing sector to meet with him to discuss current issues impacting upon the competitiveness of the sector and to determine whether existing public sector support in Wales could be made more effective. **A Task and Finish Group** was created and charged with investigating further the key issues of concern and with making recommendations on how best the Welsh Assembly Government might fine-tune its support for the sector accordingly. The Group published its report on 27 May 2004 and its recommendations are currently under consideration by the Welsh Assembly Government.

What has been achieved and what we plan to do

Investment

- The Welsh Assembly Government administers **Regional Selective Assistance** and the **Assembly Investment Grant**, both of which support capital investment projects in the Assisted Areas that create new jobs or safeguard existing ones. The manufacturing sector has benefited significantly from these schemes in the last year.

Science and Innovation

- **Wales for Innovation**, the Assembly Government's Innovation Action Plan, supports the transition from a traditional, investment-driven manufacturing environment, towards one that is innovation-driven and generates higher value-added products and services.

Best Practice

- The Welsh Assembly Government maintains an ongoing dialogue with the manufacturing sector, both through its **Business Partnership Council** and directly.
- **Sector Fora** cover key sectors such as electronics, automotive and aerospace, providing opportunities for company representatives to network and share best practice.
- An in-depth research programme, currently being rolled out, will develop a more strategic approach to the needs of several key manufacturing sectors during 2004.
- Research into the technology sector has been completed and a strategy document shared with the sector.

Skills and Education

- The **Future Skills Wales** study focuses on understanding skills requirements and is central to the working group's review of support for the sector in Wales.

Modern Infrastructure

- The **Transport Framework for Wales** policy aims to develop a better co-ordinated and sustainable transport system that supports economic growth and local communities.
- The £115 million **Broadband Wales Action Plan**, launched in July 2002, has the potential to impact significantly on business competitiveness.

The Right Market Framework

- **Wales Trade International (WTI)** was formed in 2000 to promote international trade in Wales and act as the driving force in establishing strategic business alliances between Welsh companies and their counterparts world-wide. A key objective is to find smarter ways of connecting Wales to international business opportunities with the aim of at least matching the UK export growth rate. WTI works very closely with UK Trade & Investment and their network of posts across the world.

ACCELERATE WALES



Accelerate Wales, an industry-led initiative to raise the performance of the Welsh automotive sector, is supported by the Welsh Automotive Forum, managed and funded by the Welsh Development Agency, with a significant contribution from the Objective One European Regional Development Fund and the Welsh Assembly Government.

It was set up to help develop and strengthen automotive supply chains so companies could become more competitive and win more business. A key objective is to encourage Tier One or lead suppliers to buy locally. With funding from Accelerate Wales, lead companies have appointed supply chain champions whose role is to work with their supply chain companies to develop best practice and drive forward improvement.

Accelerate Wales has already exceeded most targets to be achieved by 2006. In its three years it has:

- Helped create 650 new jobs
- Safeguarded almost 2,000 jobs
- Helped automotive supply chain companies win £106 million of new business

NORTHERN IRELAND



Despite the recent decline in some traditional manufacturing sectors, manufacturing output in Northern Ireland has increased. Invest NI, Northern Ireland's economic development agency, continues to promote innovation in all its aspects, stimulate higher levels of research and development and design and improve knowledge transfer.

What has been achieved and what we plan to do

Investment

- Companies are being helped to build their capability through research & development, innovation, technology transfer, marketing and skills development. The agency provides tailored business solutions and where finance is needed helps its clients explore commercial avenues before using public resources.
- **Invest NI** is committed to the development of a vibrant local venture capital market. It recently published **Venture Capital – Our Approach**, explaining the need for government intervention at an institutional level, where necessary facilitating the creation of new venture capital funds; and also at an individual company level, through direct equity participation, to address any remaining gaps in the market.

Science and Innovation

- **think|create|innovate: The Regional Innovation Strategy for Northern Ireland**, was published in June 2003, with a view to co-ordinating and sustaining a systemic approach to innovation and research & development across all sectors of Northern Ireland's economy and society with the overarching objective of making Northern Ireland a genuinely world-class innovating region. It identifies four key priorities:
 - To create a coherent research & development and innovation infrastructure

- To enhance the use of research & development and innovation by the business sector
- To develop a culture of innovation and enterprise
- To sustain the regional innovation system
- **The Research & Technological Development Centre of Excellence Programme** has established 18 company and university-based Centres of Excellence, with investment of over £100 million in both established and emerging technologies, including electronics, communication and IT and nanotechnology.
- Three Funds specifically support innovation and knowledge transfer:
 - The **Proof of Concept Fund** supports the development of ideas from university research & development into industry.
 - The **Higher Education Innovation Fund** will promote and support an enhanced university/industry interface.
 - The **NITECH Fund** is designed to increase the level of knowledge and technology transfer into the commercial environment.
- An enhanced action plan now sets out a strategic framework and a prioritised list of initiatives to demonstrate the benefits and applications of design principles to at least 150 companies through events, case studies and the media.
- **24 Knowledge Transfer Partnerships** help businesses develop and grow by accessing knowledge and expertise in UK universities, colleges and research organisations. A further five are under negotiation.
- Partnerships are being promoted between Northern Ireland universities and international research institutions through **Technology Missions**. A telecommunications mission to Asia and nanotech missions to Boston and Tokyo have already taken place.

Best Practice

- Invest NI has supported the development of the **UK Micro- and Nanotechnology network**, to provide a forum for exchange of knowledge and best practice.
- The **Manufacturing Technology Partnership**, with assistance from Invest NI, provides support for technology transfer in smaller companies in Northern Ireland. Its **Technology Advisory Service** helps small business focus on innovation and provides project management, monitoring and links with universities and further education colleges.

Skills and Education

- The Department for Employment & Learning is developing a **Skills Strategy** and has reviewed Further Education and Modern Apprenticeships.

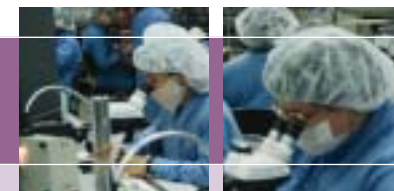
Modern Infrastructure

- An integral feature of Northern Ireland's **Regional Development Strategy** was the production of a Regional Transportation Strategy, with a **Belfast**

Metropolitan Transport Plan and Regional Strategic Transport Network Transport Plan to be published in 2004.

- Over £55 million of **Strategic Road Improvement** schemes have been completed in the past two years, schemes to the value of £50 million are currently under construction and further schemes to the value of £350 million are expected to be built in the next five years.
- Northern Ireland has a fully digital, fully fibre optic **communications network** providing a minimum of 2.5 Gigabits per second (Gbps) capacity expandable up to 100Gbps. There are telecom links to the rest of the UK and Ireland by undersea and underground cables as well as radio and microwave technology providing secure, resilient and high capacity connections to the rest of the world. The Department for Enterprise, Trade and Investment has recently awarded a contract for the delivery of 100 per cent broadband access to every business and household in Northern Ireland by December 2005.

RESEARCH & TECHNOLOGICAL DEVELOPMENT (RTD) CENTRES OF EXCELLENCE MAKING THE MOST OF NEW TECHNOLOGIES



Delivered by Invest Northern Ireland, the RTD Centres of Excellence programme supports the establishment of research & development Centres that will enhance the capability of industry and universities to grasp the opportunities offered by new technologies.

The programme aims to:

- Stimulate world-class research and innovation
- Incubate start-up and spin-out companies
- Create opportunities for the commercial exploitation of intellectual property rights and know-how

It will develop a new generation of high technology engineers and entrepreneurs to carry out leading edge, industrially exploitable and commercially focused research that will improve the competitiveness of Northern Ireland industry. The programme is expected to result in a total public/private sector investment in excess of £100 million.

The Queen's University Belfast, Institute of Electronics, Communications and Information Technology RTD centre of excellence is a world-class research centre. It will build on research from the School of Electrical and Electronic Engineering and the School of Computer Science and enable Northern Ireland to take full advantage of the fundamental changes in the electronic, telecommunications and computer industries in recent years.



7. Appendices



1 – Sources of further information

GOVERNMENT

The Department of Trade & Industry (DTI)

DTI promotes the interests of UK manufacturers in government, and co-ordinates business support products in England. Within the DTI, sector units including Aerospace, Automotive, Chemicals, Bioscience, Materials and Engineering, Construction, Marine and Electronics act as a point of contact for industry.

www.dti.gov.uk

- **DTI Manufacturing website**
Links to sector units, updates on implementing the manufacturing strategy and contact details for the DTI manufacturing team.
www.dti.gov.uk/manufacturing
- **DTI Publications orderline**
Several of the reports referred to in this document are available to order, in addition to DTI publications on best practice, regulation for businesses and setting up companies.
www.dti.gov.uk/publications
- **DTI Innovation website**
The government's innovation strategy.
www.innovation.gov.uk
- **DTI Enquiry Service**
First point of contact for both general and technical business enquiries
enquiries@dti.gov.uk
Telephone: 020 7215 5000

The Department for Education and Skills

Responsible for developing and implementing the strategy for education and training, including modern apprenticeships and initiatives for lifelong learning, in England.

www.dfes.gov.uk

The Office of the Deputy Prime Minister

Responsible for policy on housing, planning, devolution, regional and local government and the fire service. It also takes responsibility for the Social Exclusion Unit, the Neighbourhood Renewal Unit and the Government Offices for the Regions.

www.odpm.gov.uk

The Department for Transport

Responsible for the UK transport strategy. Its objective is to oversee the delivery of a reliable, safe and secure transport system that responds efficiently to the needs of individuals and business whilst safeguarding our environment.

www.dft.gov.uk

The Department for Work and Pensions

Responsible for delivering support and advice through a modern network of services to people of working age, employers, pensioners, families and children, and disabled people.

www.dwp.gov.uk

- **JobCentre Plus**
Operates benefit and employment services. Includes the Rapid Response Service, which assists people affected by significant redundancies to make a successful transition into quality jobs.
www.jobcentreplus.gov.uk

HM Treasury

Aims to raise the rate of sustainable growth and achieve rising prosperity and a better quality of life, with economic and employment opportunities for all.

www.hm-treasury.gov.uk

Northern Ireland

In Northern Ireland the Department of Enterprise, Trade and Investment (DETI) is responsible for economic development policy and a range of related activities.

www.detini.gov.uk

- **Invest Northern Ireland**

Northern Ireland's Economic Development Agency

www.investNI.com

REGIONAL DEVELOPMENT AGENCIES

Responsible for administration of MAS and Business Link, as well as running a range of schemes to promote regional economic development and economic regeneration in the English regions.

www.rdauk.org

DEVOLVED ADMINISTRATIONS

The National Assembly for Wales

Responsible for the administration of business support, and devolved government policy including skills, legal framework and infrastructure, in Wales.

www.wales.gov.uk

The Scottish Executive

Responsible for government policy in Scotland. It aims to ensure long-term sustainable economic growth and has a range of policies in place aimed at increasing productivity levels.

www.scotland.gov.uk

SUPPORT FOR MANUFACTURERS

Manufacturing Advisory Service

A range of tailored consultancy to small manufacturing businesses in England and Wales.

www.mas.dti.gov.uk

Business Link

Practical help and advice for businesses in England.

www.businesslink.gov.uk

RELEVANT BODIES/ORGANISATIONS

CBI

CBI represents companies from all sectors of UK business: small and large, from manufacturing to retailing, agriculture to construction, Hi-Tech to finance, transport to consultancy.

www.cbi.org.uk

EEF

EEF, the manufacturers' organisation, has a membership covering manufacturing, engineering and technology-based businesses and represents the interests of manufacturing at all levels of government.

www.eef.org.uk

TUC (Trades Union Congress)

TUC brings Britain's unions together to draw up common policies; it lobbies the Government to implement policies that will benefit people at work and campaigns on economic and social issues.

www.tuc.org.uk

2 – The DTI's Business Support Solutions: practical help for business

Succeeding through innovation			
The product	Who is it for?	What does it provide?	Notes
Knowledge Transfer Networks	All businesses wanting to grow by exploiting technology.	A grant to an intermediary to set up a network in a priority technology area, bringing together businesses, universities and others with an interest in technology applications.	1
Collaborative Research and Development	All UK-based businesses wishing to exploit technology.	Funding for collaborative R&D projects between businesses, universities and other potential collaborators.	1
Grant for Investigating an Innovative Idea	Small businesses wishing to exploit an innovative idea.	Reimbursed consultancy to help businesses get advice on the steps needed to implement their ideas.	2
Grant for Research and Development	Small businesses with an innovative product or technology.	A grant to help businesses carry out R&D that could lead to a technologically innovative product or process.	2
Knowledge Transfer Partnerships	All businesses needing expert help to innovate.	A grant to cover part of the cost of using a person to transfer and embed knowledge into a business from the UK knowledge base via a strategic project.	
Achieving best practice in your business			
Access to Best Business Practice	All businesses wishing to find out how to improve their performance through better ways of working	Materials on best practice, networking events, organised visits to businesses successfully implementing best practice	
Support to Implement Best Business Practice	Small businesses wanting practical help in implementing best practice. (Also open to larger firms for certain projects.)	A free diagnostic run by a Business Link adviser, with subsidised consultancy for selected projects	2
Raising finance			
Small Firms Loan Guarantee	Small businesses with viable proposals unable to obtain conventional loans because of a lack of security	A government guarantee covering 75% of the loan, encouraging commercial lenders to provide loans to businesses lacking security. Borrowers pay DTI a premium of 2% pa in return for the guarantee	3
Regional investment			
Selective Finance for Investment in England	All businesses located in or considering relocating to one of the 'Assisted Areas'	A grant towards a project's capital cost, subject to criteria on productivity, job numbers and quality, and need.	2

Notes:

- 1 The DTI is delivering the Technology Strategy and Programme through these products. Applications can only be made in the priority technology areas specified by the Strategy. More details are available at www.dti.gov.uk/technologyprogramme
- 2 Available in England only. In many cases similar schemes are offered by the appropriate organisations in Scotland, Wales and Northern Ireland. All other solutions are UK-wide.
- 3 The DTI also funds various programmes to provide SMEs with better access to venture capital.

3 – Contributors to Nick Brayshaw’s stakeholder review

Accelerate Partnership	Manufacturing Advisory Service
Advantage West Midlands	Manufacturing Foundation
ArvinMeritor	Manufacturing Institute
Bank of England	The Manufacturing Technologies Association
BMW Group	McKinsey and Company
British Bankers’ Association	North West Development Agency
British Marine Federation	One North East
British Plastics Federation	Packaging & Industrial Film Association
British Rubber Manufacturers’ Association	PDA Ltd
British Soft Drinks Association	Pilkington
CBI	Portmeirion Potteries Ltd
Confederation of Shipbuilding & Engineering Unions	Proskills
Conquest Business Media	Pyro-Foam
Cookson Precious Metals Ltd	Radshape Sheet Metal Ltd
Corus Group	RCS Ltd
Creative Manufacturing Systems	SEMTA
Defence Manufacturers’ Association	Shipbuilders & Shiprepairers Association
East of England Development Agency	Skillfast UK
East Midlands Development Agency	Small Business Service
EEF	Society of British Aerospace Companies
Engineering & Machinery Alliance	Society of Motor Manufacturers & Traders Ltd
Federation of Environmental Trade Associations	South East of England Development Agency
Finance & Leasing Association	South West Regional Development Agency
GAMBICA	Technical Textiles Industry Group
GMB	T & G Union
Improve Ltd	Thales Group
Institute for Manufacturing	Trades Union Congress
Lean Enterprise Academy	TWI
Learning & Skills Council	Warwick Manufacturing Group
Leeds Manufacturing Institute	Welsh Development Agency
Linde Severnside Ltd	Yorkshire Company Services
London Development Agency	Yorkshire Enterprise Group
Made in London (London Chamber of Commerce & Industry)	Yorkshire Forward

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4 – Acknowledgements

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 Chapter 1 - TWI Ltd
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 Chapter 4 - Hone-All Precision Ltd

Chapter 5 - Hone-All Precision Ltd
 Chapter 6 - John Crane UK
 Appendices - John Crane UK

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