

Automotive Innovation and Growth Team

Executive Summary

May 2002

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Chairman's Foreword

I am pleased to present the final report of the Automotive Innovation and Growth team (AIGT). The report is intended as a summary of our thoughts, presenting the headline findings from the four Project Groups and highlighting their main recommendations. The detailed stand-alone reports prepared by the individual Project Groups are available separately.

Since the AIGT began its work in April 2001 the pressures on the automotive sector have become ever more intense. Some commentators have gone as far as to suggest that the UK is no longer a viable base for volume manufacturing. Predictions of the imminent demise of the UK automotive industry are nothing new but we cannot afford to be complacent, and it is clear that action is needed to ensure that the industry continues to be competitive. Identifying what is required to meet the challenges facing us is at the heart of the work that the AIGT has been undertaking over the past year. I would stress, however, that our overall conclusion is rather different to that of the pessimists: we believe that the industry can have a long term future in the UK provided that industry and Government work together to address the agenda laid out in our reports.

So far the response from Government, industry and other stakeholders of the AIGT process has been immensely positive. There have been clear benefits in bringing key players together and for me perhaps the most important single recommendation is that this process of open discussion of the complex issues facing the sector with the aim of reaching a shared solution must continue. I appreciate that decisions on new expenditure need to be taken by Ministers in the light of other calls on the nation's resources. It is, however, essential that debate is followed by action, and I look forward to agreeing a strategy for taking our recommendations forward.

Acknowledgements and Thanks

Thanks are due to all those who have given their time and expertise so freely to the AIGT project: the Strategy Team members, the individual project group leaders – Nick Fry, of Prodrive, Professor Dan Jones of the University of Cardiff, Steve Parker of Ford and Professor Jim Skea of the Policy Studies Institute - and their teams.

Thanks also to John Whiteman, Andrew Tongue and John Kiff of Automotive Business Research Limited for their input; to Nick Rich of Cardiff Business School for his work in researching the competitiveness of the UK supply chain; to the Society of Motor Manufacturers and Traders for their support, and to all those individuals who attended the meetings we have held in the regions or who responded to our Interim report by writing in with their views. The willingness to support our project has been an impressive reflection of people's preparedness to work together in that ill-defined thing, the public good.

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I have been yet again reminded of the quality of the UK's civil servants, whose thinking and commitment has been essential to taking forward the debate over the future of the sector.

Finally, particular thanks are due to KMPG for seconding John Leech to the DTI's AIGT team and, most importantly, to John personally for his enthusiasm and hard work.

Ian Gibson

SIR IAN GIBSON, CBE
May 2002

Background

The AIGT is the first of a series of Innovation and Growth teams which the DTI is setting up following the March 2001 White Paper on Enterprise Skills and Innovation – Opportunity for all in a world of change (available at <http://www.dti.gov.uk/opportunityforall/index.html>). They are intended to draw on the expertise of all the major stakeholders in a sector with the aim of identifying the key issues which will shape the future of their industry and how the UK can best respond to the competitive challenges which it will face. The decision to give priority to setting up an IGT for the automotive sector reflected particular problems in the government's relations with the sector. Senior industry figures had expressed strong concerns that the Government was failing to understand the strains imposed by the scale and pace of change impacting on the automotive sector. There was a widespread feeling at all levels of the industry that the Government "didn't care" and "didn't understand" the automotive industry. The difficult negotiations over the renewal of the Block Exemption, the EC End of Life Vehicles Directive¹ and other proposals for more regulation left the industry feeling bruised and misunderstood by Government. The decision not to opt for early adoption of the Euro was cited as further evidence of an apparent indifference that was starting to have a major influence on sourcing and investment decisions in global boardrooms. With the industry feeling dissatisfied about a range of issues, DTI was effectively judged to have "failed" in its role as the champion of business within Whitehall.

In considering the challenges and opportunities which face the UK automotive sector and the ways in which it can respond to them, the AIGT has tried to avoid becoming caught up in current controversies. We have not ignored them but our aim has been to look beyond them to the key issues affecting future competitiveness. In making our recommendations we have concentrated on improvements in processes rather than changes in policy. This means, amongst other things, that we have recommended a series of changes intended to enhance the exchange of information and the process of future policy making, for example, in the re-organisation of the DTI Automotive Unit. We make no apology for this – many of the past problems in relationships between the industry and government can be traced to poor communications. It is our strongly held belief that if we do not address this issue the problems will simply recur.

¹ The European ELV Directive 2000/53/EC was adopted in October 2000.

Design, Development and Manufacturing

After being written off by many in the 1970s the automotive industry in the UK has successfully re-invented itself over the last 20 years. UK car production and sales have reached record levels. Major inward investors have brought with them world best practice in manufacturing – the two most productive car plants in Europe, Nissan in Sunderland and Toyota in Derbyshire, and the most productive truck plant, Leyland, are here. Automotive businesses are leaders in global best practice in many areas of manufacturing, purchasing, product development and logistics and the skills and knowledge of the industry provide a key source for improvement throughout the whole manufacturing sector in the UK. SMMT Industry Forum is a good example of this process; a world leader in the transfer of shop floor best practice with a strong track record of achieving major improvements in productivity, it has provided a model for similar initiatives in other industries, most notably aerospace.

Despite these achievements, however, we all know that the majority of UK based vehicle manufacturers (VMs) including those with outstanding productivity records are making losses. The last few years have seen decisions to close two major assembly plants and threats to the future of several others. These VMs are sourcing vehicles for the UK market from other plants in France, Belgium, Germany and Spain as well as in Eastern Europe and further afield. There has also been a major switch to sourcing parts and materials from abroad – the change in policy at one VM alone will cost the UK supply base £400m per annum. Our estimate is that UK based assemblers will very soon be sourcing well under 50% of their components in the UK. Where UK based suppliers retain work, it is often only by transferring their own purchases abroad. Research commissioned by AIGT has demonstrated that UK based suppliers are not just losing work to low wage countries as is often claimed – much of the business is going to firms elsewhere in Western Europe. The component sector is facing a potential collapse in demand and margin worse than that of the 1980's or 90's.

It is clear that the continuing strength of Sterling against the Euro and concerns about future stability are major factors in the problems facing the industry. Both are major influences in decisions taken by major multi-national groups about where to place work and investments. As recently as the 1990's German and French VMs were looking to increase the amount which they sourced from the UK; these initiatives have now disappeared, replaced by urgent action to resource components into Eurozone plants/businesses. Even where UK operations form part of an established supply chain the weakness of the Euro against the Pound has tilted the playing field sharply against them. Some businesses have already been closed and further closures and job losses are likely. The remaining plants are less likely to get new investment and will inevitably increase their sourcing from outside the UK. There is a serious spiral of decline in which declining volumes and low profitability lead to declining investment which, in turn, makes us less competitive in the future. It will not come as a surprise therefore that there is strong support in the industry for the early adoption of the Euro, albeit at a lower rate than at present.

This is not to say that if the UK were to adopt the Euro all the problems of the industry would be at an end. The AIGT's work has confirmed that, despite the

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excellent work of SMMT Industry Forum there are serious underlying problems which we need to tackle as a matter of urgency. It is clear from the feedback from Tier One suppliers that many of their UK suppliers are falling short in key respects. The major weaknesses highlighted include inadequate investment in both plant and equipment and product development, poor customer focus and a shortage of skills. These developments are exacerbated by the reduction in commitment to supplier development in the UK by the assemblers who are re-sourcing components to plants elsewhere in Europe. UK suppliers continue to have significant strengths, notably established relationships and proximity which ensures shorter lead times, lower inventory costs and lower logistics costs, but these factors will not be enough to give them an edge in what is, and will continue to be, a ferociously competitive market.

High levels of skills are essential if manufacturing firms in high wage areas of the world are to compete in the long term. This is an area where the UK automotive sector continues to lag and measures to raise skills at all levels of the UK workforce must be at the centre of any strategy to enhance the industry's competitiveness. It is clear from our discussions that these will need to go beyond the traditional focus on shopfloor skills, important though this is. This is also the view put to the Secretary of State and her Ministerial colleagues at last year's Manufacturing Summit. We have to accept that an efficient production process is increasingly taken for granted rather than being the competitive differentiator it was in the past. If they are to be fully competitive, firms need to be able to offer innovative products and to have eliminated waste from all aspects of their operations, not just the production area.

One idea, which has attracted some attention recently, is that volume manufacturing in the UK is no longer viable and that the UK should adopt a niche manufacturing strategy building on our strength in the premium manufacturing sector. We do not regard this as a sustainable approach. Many of the UK based component firms survive because their high throughput covers their overhead base. A niche strategy would make these companies increasingly uncompetitive and would either force them to close, to consolidate/rationalise further or to source more from abroad. The AIGT's view is that any of these options would undermine the position of the remaining suppliers as critical mass is lost, and would be likely to involve major job losses. Any strategy must include retention of a volume manufacturing sector as the base for a more profitable premium business.

Although the industry has many strengths there is no doubt that it is facing serious challenges which need to be overcome. We believe that government and the industry should agree a strategy for this sector based on the following:

1. Working with premium manufacturers and their supply chains to establish what activities will support them in sourcing components in the UK.
2. Working with the volume assemblers and their supply chains to identify in detail those activities by government which will facilitate their mid term sourcing of components back into the UK.
3. Establishing training capabilities to address the immediate needs of the component sector as identified through our work, and provide these as proposed in our recommendations.
4. Creating an Automotive Academy of international standing which can take forward the development of lean techniques, not only in manufacturing,

but also throughout the value chain and transfer this knowledge into the UK supply base at management and shopfloor levels.

5. Mapping the key technologies which will underpin future vehicles and ensuring that the UK supply chain is able to meet the demands.

The aim is that by significantly improving the UK's capabilities, longer term sourcing and development decisions will begin to revitalise the sector. Recommendations in all sections of the report address means to support this strategy, but it is important to stress that 1 and 2 in particular require a continuing high-level dialogue with individual businesses as well as at the sectoral level.

Recommendation 1

The SMMT Industry Forum model should be extended to create an Automotive Academy of international standing to provide a comprehensive range of support to greatly enhanced process improvement activities right across the industry.

Support from the Automotive Academy should lead to a step change in the shop floor improvement activities of Industry Forum, expanded to include more advanced process improvement in firms of all sizes. This should extend beyond the shop floor to include topics such as supply chain management, production preparation, new product development and build-to-order capabilities. Building on this experience the Automotive Academy should be responsible for developing, testing and publishing new curriculum and training materials on these advanced techniques, working closely with experts from larger automotive manufacturers. These in turn should provide the basis for the Automotive Academy to develop programmes in advanced process improvement to train the engineers who will deliver and support process improvement in their own firms and in the regions.

The Automotive Academy should become the central point for developing leading edge knowledge and training programmes in process improvement in the UK. It is essential that the Academy works closely with the institutions responsible for delivery and support for spreading process improvement across the industry including SMMT Industry Forum itself. Other key partners would be other Industry Fora in sectors such as construction equipment and aerospace with a common supplier base and regional centres such as The Ford College in Dagenham and learning centres based around the major automotive manufacturers. The Automotive Academy will act as a resource for Regional Development Agencies in developing support for manufacturing in their region, whether through programmes such as Accelerate in the Midlands and Wales, or through the network of Regional Centres of Manufacturing Excellence offering specialist advice to manufacturing firms. It should take the lead in advising them on the design and delivery of process improvement programmes in the regions and should provide support in spreading best practice across the country. We expect that the combined cost of these strands of work will be in the region of £15m over 5 years.

It is essential that the Automotive Academy is in close touch with thinking in the industry and its board should, therefore, be made up of senior figures from the industry on the lines of the board of SMMT Industry Forum. This board should also have responsibility for guiding and evaluating the regional delivery of its agenda.

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In the longer term the Automotive Academy could be linked with the proposed Motorsport Engineering centre and the proposed Centres of Automotive Technology Excellence in low carbon and transport telematics technologies, providing easy interface between leading edge knowledge developers. This will enable the UK to grow sector leadership knowledge drawing on best practice from around the world, with an ability to deliver world-class ideas and knowledge in practice. In addition, once the curriculum has been developed and gained credibility within the industry it is our vision that the material influences university degree course curricula.

Recommendation 2

DTI and Regional Development Agencies should put arrangements in place to fund Supply Chain Groups extending across the UK.

Supply Chain Groups bring firms involved in the production of a particular component together to improve their efficiency. This approach has been developed by SMMT Industry Forum and successfully delivered as part of the Accelerate programme in the West Midlands. The lack of funding in other regions, however, is a significant barrier to realising the benefits of this approach since supply chains inevitably cross regional boundaries. The group recommends that a central funding facility should allow companies whose supply chains extend across regional boundaries to be supported on the same terms as are available in the West Midlands, without expecting individual firms to deal with multiple funding bodies. DTI's Automotive Unit should broker such an arrangement with the RDAs. Depending on take-up, we estimate that this enhancement of support would require funding of the order of £3 m per annum over 5 years.

Technology

The increasing sophistication of vehicle technology and pressure for suppliers to take on more responsibility for research and development means that technological capabilities are becoming increasingly important as a source of competitive advantage. Whilst there are many UK companies and research institutes with deservedly high international reputations, the overall research intensity of the industry in the UK is below the international average. To some extent this is inevitable since there is a natural tendency for inward investors to retain research and development near their home base. Even allowing for this, however, we are clear that the UK industry needs to improve its performance if it is to succeed.

The Foresight Vehicle programme is the UK's flagship automotive R & D programme. It was launched in November 1997, since when it has funded 108 projects with over 400 participants. Total funding is £75m, of which 56% is from business; the DTI has contributed £3.5m. All projects are collaborative undertakings between business and academia; the great majority of them are led by industry.

As part of the AIGT review process, views were sought on Foresight Vehicle from a wide range of institutions and individuals resulting in a wide range of divergent comments. The programme has clearly been successful in building relationships between many of the key players in the field of automotive technology in both the public and private sectors. Although the programme is intended to fund pre-competitive research, it is starting to establish a track record of projects being commercially exploited. All this has been achieved at a relatively modest cost with the DTI funding triggering a much greater level of investment by other partners. These are not insignificant successes, but they need to be set against a strong undercurrent of concern that Foresight Vehicle is concentrating too much on "blue skies" projects, which lack clear commercial objectives. The programme appears to have failed to make much impact on the majority of the key decision takers in the UK industry.

The balance of evidence is that Foresight Vehicle has established a strong structure for future automotive R & D in the UK but that more needs to be done to ensure that the programme produces significant commercial benefits.

Recommendation 3

The Foresight Vehicle programme should be refocused with a strong emphasis on the potential for commercial exploitation (within the constraints of the State Aids rules). The objectives of programmes of projects should be more closely defined and, whilst remaining pre-competitive, should demonstrate good prospects of a commercial outcome in a realistic timeframe, perhaps through demonstrator vehicles.

A refocused Foresight Vehicle programme has the potential to enhance significantly the competitiveness of the industry in the UK. In global terms, however, it is a relatively modest initiative and it is essential that it is supplemented by additional effort in key areas. We regard Low Carbon & Fuel Cell technologies and Transport

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Telematics & technologies as the priority areas for further work. Both have the potential to make major changes in the way in which vehicles are designed and used and their integration is key to sustainable mobility. Whilst they are already the subject of major research initiatives there remain many questions to be answered, with scope for the UK industry to establish a lead in key niches. Powertrain examples include technologies on the development path to fuel cell electric vehicles such as hybrid systems, power electronics and control, drives and motors, catalysts, fuel storage and handling. For telematics key technology areas will include sensors, data fusion, information and communications and infrastructure systems. In both powertrain and transport telematics there is a critical mass of UK firms and research institutions with the necessary expertise to help establish the UK as a major centre of research and future commercial exploitation, building on existing strengths. Government has a key role to play in helping to develop these strengths by preparing and disseminating data and analysis on these new technologies, and bringing them to the attention of key players. The aim would be to help demonstrate the advantages of collaborating to form and build new technology supply chains. It is, of course, for companies to decide for themselves on what their strategies should be, but in our view there is an important role for Government to play in brokering the transfer of knowledge for the benefit of the UK as a whole.

Recommendation 4

The UK should establish two Centres of Automotive Excellence and Development to take forward work on Low Carbon and Fuel Cell technologies, and on Transport Telematics and Technologies for sustainable mobility.

The two centres should be co-located to ensure that potential synergies are realised. The Low Carbon/Fuel Cell centre will need to work closely with the Low Carbon Transport Partnership (cf below). The Automotive Centres and the Foresight programme should be co-ordinated by a board made up of senior industry figures and representatives of SMMT and the DTI. It is estimated that the two centres will require a total budget of £15m over 5 years.

Environment

In recent years the automotive industry has been affected by a wide range of environmental policy measures almost all of which have been developed at the EU level. Environmental policy has influenced product design, forced technological development and added costs. Concern about climate change is leading to particular attention being given to low carbon vehicles which has been highlighted in the Government's Powering Future Vehicles consultation document. The debate about environmental regulation and competitiveness has often been characterised by a strong polarisation of views. Environmentalists have been sharply critical of what they see as special pleading by business. Industry, in turn, has argued that costs imposed by environmental regulations damage competitiveness.

More recently it has been argued that regulatory interventions can actually enhance competitiveness by stimulating innovative activity in companies and creating "first mover advantage". Whilst we should be cautious about accepting this theory uncritically it has undeniably had a positive impact in encouraging industry and environmental groups to explore a common agenda, as their work together in AIGT has shown. Whilst differences of perspective will always remain there is now enough common ground for a constructive dialogue to take place.

It is clear from past experience that environmental policies and regulations do affect the competitiveness of both companies and countries, creating winners and losers. Unrealistic timetables for the implementation of new regulations or implementation in a way that imposes greater burdens here than in other countries can cause significant damage to competitiveness, sometimes with little in the way of compensating environmental benefits

The environmental/competitiveness implications of implementing EU measures at the national level need to be carefully considered and full advantage should be taken of the leeway available when transposing and implementing measures so as to secure both environmental and competitiveness benefits. For this process to work there needs to have been a careful mapping of those sectors of the UK industry that might be affected and a critical assessment of competences and the ability to respond. This cannot be done overnight and it is essential that the government and industry work together with others to anticipate emerging environmental challenges and to create and foster innovative potential and competences. These are the key to realising "first mover advantage" as new environmental priorities emerge. An enhanced understanding of the threats and opportunities represented by environmental policy will also help the UK in the key role of exerting influence over all stages of policy development in Brussels; there is a particular need to work with the European Commission early on before the shape of draft directives becomes locked in. All of this work needs to be underpinned by a continuing frank and open dialogue between government, the industry, NGOs and other groups.

Because of the breadth of the environmental agenda the AIGT followed a case study approach looking in detail at Integrated Product Policy, the Low Carbon Economy and Mobility Services as examples of the types of challenge that the industry faces. Integrated Product Policy (IPP) is a new approach to environmental policy which is intended to switch emphasis to the impact which products will have on the

environment through their whole lives rather than concentrating on “point sources” of pollution seen in isolation. As such it will affect the whole way in which environmental policy is made for the automotive industry as well as other sectors. The challenges of creating a low carbon economy and finding new ways of providing people with mobility are the two greatest environmental challenges facing the industry. By taking this approach, we hope, not only to set out a way forward in the three areas selected for study but to demonstrate how industry, government and others can work together to meet future environmental challenges.

Recommendation 5

A Low Carbon Transport Partnership should be established as suggested by the Powering Future Vehicles Consultation document.

The partnership should be tasked with taking the lead in the transition to a low carbon future for the automotive sector. There is a strong consensus in the industry that hydrogen based fuel cells are a key technology for the future. We therefore strongly urge that hydrogen/fuel cells are given priority. The partnership should involve senior figures from industry, government, research organisations and NGOs. It should be supported by dedicated secretariat and have significant resources to fund research projects on technical and commercial issues. An early priority should be to commission research into the impact which new fuels and technologies would have on the competitiveness of the UK automotive supply base and the potential for undertaking initiatives to encourage the development of these technologies in the UK. It is essential that Government is willing to support the partnership’s work by setting targets as well as through research funding.

Recommendation 6

A pilot mobility services project should be undertaken in London and one other city with the aims of accelerating the adoption of low pollution vehicles and demonstrating new approaches to providing mobility.

This would require the involvement of vehicle firms able to provide electric or other low pollution vehicles, the local authorities, central government, finance companies, infrastructure providers and firms specialising in logistics and support. The aim would be to move the mobility services concept from being a niche product sold on its environmental benefits alone to something with a much wider appeal, which will reduce emissions and lead to competitiveness benefits. It is essential that the project is undertaken on a substantial scale to allow service providers to identify the operational infrastructure required to support the new technology and develop new service packages for consumers. This programme will also provide opportunities for UK based businesses and institutions to assess the detailed product requirements in low carbon vehicles, and how competitive advantage for the supply base in these technologies can be most effectively developed.

Distribution, Competition and Consumer

Drawing on data provided by Automotive Business Research Limited, a detailed report has been prepared which covers all aspects of the existing car distribution system in the UK. The conclusion is that the UK has been through a period of change, which is set to continue, and perhaps accelerate, following the recently published proposals from the European Commission on the review of the Block Exemption. The detailed report outlines a number of scenarios, which give an indication of possible changes and how these might affect the distribution and retail of cars in the UK. The conclusion is that whilst it is hard to predict exact trends, further, potentially radical, change is reasonably certain.

Recommendation 7

A working group should be established to monitor developments during this period of change in order to maximise the benefits of change and innovation to the UK as a whole.

The Group's membership should be drawn from Government, manufacturers, franchised dealers, independent dealers, parts suppliers and consumer representative bodies. They would need to consider, amongst other things, how regulation and market developments might impact on consumers; how new technology will change downstream operations (eg servicing and repair); how to implement "lean distribution"; how to benchmark performance at the retail level; how to encourage training and up-skilling of staff in the retail sector; and how the distinctive qualities of the UK retail sector could be leveraged for competitive advantage within the wider European market.

DTI Automotive Unit

The main responsibility for meeting competitive challenges will always rest with the industry itself but Government also has an important role to play. The core role of the DTI Automotive Unit must be to act as the interface between the industry and government ensuring that industry's views are fully represented in the policy making process. This cannot be achieved unless the Automotive Unit maintains a comprehensive knowledge of what is going on in the industry as a whole and the major factors driving its future.

Organisation

Responsibility for the automotive industry within the DTI has in recent years been handled by separate sections dealing with vehicle manufacturers and components suppliers respectively. In recent years these teams have formed part of the Department's Engineering Industries Directorate. It has been agreed that a new, stand-alone Automotive Unit will replace this structure from April 2002. The new Automotive Unit will include secondees from industry and will also increase its presence outside London. As part of the reorganisation, teams will be established to deal with analysis, communications with the industry, technology, policy & regulatory issues.

The priority of the new unit will be to establish and develop an enhanced analytical capability providing government with a detailed understanding of major current and future issues, and seek to ensure that the UK provides a supportive environment for the automotive industry. In order to achieve this it will develop a regular high-level dialogue with all parts of the industry. In particular it will seek to establish closer links with dealers and components suppliers matching those with the vehicle manufacturers. The unit will continue to promote initiatives to support the industry where a clear need has been identified, working with Regional Development Agencies, the Welsh Development Agency and other partners.

It is our vision that this process of dialogue and analysis will make the Automotive Unit a highly valued resource of informed opinion on industry trends both at UK level and globally.

Cross-Whitehall communication

As well as an improved and better-focused communications strategy between DTI and industry, the AIGT process has demonstrated the need for greater cross-Whitehall working. Teams need to be established to deal with issues that cut across Departments, skills and education being a good example, but equally true of a number of other issues. Far too often we have found that a number of officials in a number of Department have an interest in an issue from the policy perspective, but there is no real framework for agreeing priorities or actually delivering policy improvements on the ground. Most importantly, no one Department is readily identified as leading. This is confusing for all and works against DTI representing industry's case effectively within Government –

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The industry wants, and deserves, an Automotive Unit with a clear leadership role and a strong voice in Whitehall. The communication/analysis roles described above provide the basis for this to be undertaken in a way that adds value rather than just an additional hurdle. It is our recommendation that all policy-makers dealing with issues likely to have a significant impact on automotive sector should consult the Automotive Unit, whatever Department of State initiates or leads the project. This is no more than industry colleagues in Germany, France or Spain are able to rely on today, although with a less informed forecasting capability than we expect DTI to develop.

It is essential that we acknowledge the threats facing the industry in the UK and that work starts immediately to create the knowledge and performance that will enable UK automotive businesses to recreate themselves as they did in the 80's. Innovation, high productivity, the environmentally responsible provision and use of motor vehicles and the freedom to experiment with approaches to vehicle/service supply to provide the best possible value to the end user are all essential parts of the agenda. If we work together to address them, the automotive industry in the UK can have a bright future.

1) The Automotive Industry Worldwide - An Overview

A globalised industry dominated by a few firms

Over 80% of world car production is accounted for by six major global groups (dominated by the USA and Japan). Consolidation in the commercial vehicle sector has gone even further, with five major groups dominating the global markets for trucks and buses. A similar process has occurred in the component sector, which is increasingly dominated by large multi-national firms, which seek to establish a leading position in key technologies. Yet in all parts of the industry some smaller independent companies continue to survive, and indeed thrive, in particular sectors of the market.

The retail sector contrasts with this picture, still largely organised along national lines. Retailers are also consolidating, fuelled by increased competitive pressures resulting from new channels to market such as the internet and growth in imports.

Increasing sophistication

The industry is technologically advanced, both in terms of manufacturing processes and in its products. It is characterised by economies of scale and low unit costs, despite the increasing complexity of the fundamental product. Manufacturers are seeking to differentiate their products through technology and branding to restore margins particularly by applying electronics to vehicles. The proportion of electronics in the average vehicle may well double from the current level of around 20% over the next ten years, particularly in the areas of management systems and telematics. The engine management system alone can be at least 10% of the value of the car. Suppliers are taking on an increased responsibility for product development, design and sub-assembly as the manufacturers focus on core capabilities

A key force driving technological change is environmental regulation. The industry has made major strides in the areas of emissions control and safety, but will face pressures for further improvement.

Intense competition

The industry suffers from global over-capacity and with manufacturing best practice rapidly diffused around the world, the fight to build or retain market share is relentless and competition fierce. Lean production is not enough; companies are striving to improve profitability by building desirable brands, through excellence in design, engineering and marketing. In Europe last year, Ford and General Motors made losses of \$1bn and \$463m respectively. They are both in the throes of substantial programmes to cut their overcapacity, through plant closures and other rationalisation. Honda, Nissan and Toyota have also been making losses in Europe, despite their impressive record on productivity. The current economic slowdown, which many commentators expect to worsen, may well lead to further reductions in both the

United States and Europe. The pressures on suppliers, which were already intense, are likely to increase yet further.

2) **The Automotive Sector in the UK - Key Facts**

- There is only one UK-owned volume car manufacturer, MG Rover, and as a result there are occasional suggestions that the automotive sector has ceased to matter. This overlooks the fact that the UK provides a manufacturing base for 7 of the world's leading volume vehicle manufacturers, 9 commercial vehicle production facilities, 17 of the world's top tier one suppliers, and around 20 of the world's leading independent automotive design engineering firms. We are host to more global volume car manufacturers than any other country in Europe.
- Turnover of the UK automotive sector as a whole is £45billion, contributing approximately 1.5% of GDP and employing some 715,000 people – both directly in vehicle manufacturing and in the supply and distribution chain. About half of added value comes from manufacturing and assembly, which represents about 15% of total UK manufacturing value added.
- Exports totalled nearly £20bn in 2000, greater than in any other manufacturing sector. 65% of UK automotive output is exported; conversely, 74% of UK car registrations are imports. This is a highly (and increasingly) globalised industry, with complex supply chains, which reach across countries and even continents.
- Despite more than doubling output in the last 25 years, the UK tends to lag behind the major car producing countries in terms of productivity. However, we do boast the two most productive car plants in Europe (Nissan in Sunderland and Toyota in Derbyshire), plus Leyland (the most productive truck plant).
- Rates of return on capital of the UK vehicle and component industry are currently very low, with many large companies making losses reflecting a wider problem in Europe and worldwide.
- The UK sector's particular strengths include design engineering, especially advanced technology in motorsport. We are home to the most successful global motorsport cluster, which commands 80% of the world market. Constructors including McLaren, Williams, Benetton, Stewart, BAR, Jordan, Lola, Prodrive and Reynard and engine designers and manufacturers such as Cosworth, Ilmor and Hart are all based in the UK, meeting the requirements of teams in Formula 1, CART, Formula 3000, the World Rally Championship, GT and Touring Cars.
- The UK is also increasingly becoming a centre for engine production (with recent decisions by Ford, BMW and Toyota to invest in significant engine production facilities here), and in "premium" cars (from the new Mini,

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through Jaguar and Range Rover and super-luxury cars such as Bentley and Aston-Martin.

- Investment by global Tier 1 companies such as TRW, Johnson Controls, Lear Corporation, Magneti Marelli, Denso, Visteon, Delphi and Thyssen has had a similar positive effect on the quality of the UK supplier base. An estimated 7,000 automotive component companies operate in the UK, 90% of which are SMEs. Turnover in the UK components sector in 1999 was about £12bn.
- Linked to this strong manufacturing base, there is growing global demand for the design engineering skills of UK-based companies such as Ricardo, Prodrive, TWR Engineering, Cosworth Technology, Lotus Engineering Millbrook, MIRA, Hawtal Whiting and MSX International. British designers are to be found in almost any automotive styling studio in the world.
- Inward investment in UK manufacturing continues; notable recent examples include the decisions by Nissan, Honda and Toyota to increase their investments, plus increased investment by Ford in both Jaguar (Halewood and Coventry) and Land Rover, while GM have invested £130m to produce the next X83 van at IBC Luton. However, concerns about the unfavourable £/Euro exchange rate are already causing many vehicle manufacturers to source an increasingly large proportion of their components from elsewhere in Europe and may threaten the prospects of future investment. Recently, some commentators have also expressed concern that the position of the UK as a base for volume manufacturing may be under threat.
- The UK retail sector is characterised by a high number of traditional franchised dealership groups and a few newer independent internet and import businesses. The EU's review of Block Exemption due to expire in September 2002, the UK Competition Commission's review of new car pricing, the emergence of new channels to market such as the internet and the changing ownership of retail operations mark this a period of uncertainty for the sector.
- Road transport contributes to emissions of the greenhouse gases associated with climate change and emissions of local air pollutants, which can damage health and the environment. Emissions from transport have fallen by around 50% since 1990, despite the growth in traffic and are expected to fall by another 25% over the next five years as a result of the spread of new technology driven by more stringent European emissions standards. There are however increasing concerns about the health effects of smaller particles, which are also emitted by petrol engines. Vehicles are becoming more fuel-efficient – by 2008 the average new car sold in Europe should be 25% more fuel-efficient than the average in 1995. Growing congestion, however, is costing the UK economy billions every year.

ANNEX B

Strategy team members

Chairman

Sir Ian Gibson

Members

Mike Baunton, Perkins Engines

Mike Beasley, Jaguar

Jonathan Browning, GM Europe

Hugh Chambers, Prodrive

Richard Clowes, GKN

John Cushnaghan, Nissan

Tod Evans, Peugeot

Sir Ken Jackson, Amicus

Professor Dan Jones, University of Cardiff Business School

Graham Smith, Toyota

Alex Stephenson, Advantage West Midlands

Government Departments represented

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Willy Rickett, Department of Transport Local Government and the Regions

Philip Rutnam, HM Treasury

Project Team

Nigel Goulty, DTI

John Leech, on secondment to DTI from KPMG

Tracy Vegro, DTI

Project Groups membership

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Richard Clowes, GKN
John Cushnaghan, Nissan
Peter Dallaway, DTI Automotive Unit
Dr. Nick Owen, DTI economist
Nick Rich, Cardiff Business School

2. Technology - leader Nick Fry of Prodrive

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Chris Bowden, DTI Automotive Unit
Professor Geoff Callow, MIRA
Dean Gilmore, PRTM Consultants
Professor Andrew Graves, University of Bath
Paul Nash, UYT
Ashley Roberts, DTI Automotive Unit
Anthony Smith, formerly of Ricardo
Dr. Mike Sporton, Grentek

3. Environment – leader Professor Jim Skea, Policy Studies Institute

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Ted Cantle, Director IDEA
Duncan Corrie, DTI Automotive Unit
Dr. Stephanie Coster, Department of Environment, Food and Rural Affairs.
Ruth Curry, Cabinet Office Regulatory Impact Unit
Andrew Davis, Environmental Transport Association
Paul Everitt, Society of Motor Manufacturers and Traders
Mark Gaynor, Department of Transport Local Government and the Regions
Tony Hams, Green Alliance
Roger Higman, Friends of the Earth
Michael Massey, DTI Environment Directorate
Richard Mills, National Society of Clean Air
Jonathan Murray, Energy Saving Trust
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Don Potts, Volvo
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AUTOMOTIVE INNOVATION AND GROWTH TEAM

4. Distribution, competition and consumer – leader is Steve Parker of Ford

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Sarah Chambers, DTI Automotive Unit

Barbara Habberjam, DTI Consumer Affairs

Karl Ludvigsen, Ludvigsens

Graeme McCabe, Cabinet Office Regulatory Impact Unit

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Professor Jim Saker, Ford Faculty at Loughborough University

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Robin Woolcock, VW