USA MOTORSPORT

MARKET RESEARCH REPORT

2002

PREPARED BY

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PREPARED FOR

MOTORSPORT INDUSTRY ASSOCIATION

LIST OF TABLES

LIST OF DIAGRAMS

Motorsport Research Associates were contracted to undertake research on the USA motorsport market. The MIA wishes to identify business opportunities in the USA for companies in the British motorsport, performance engineering and motorsport services sector.

The aims of this study are:

- to provide members of the MIA and others operating in this sector, with an overview of the Scale, Scope and Potential of the USA Motorsport and Performance Engineering Market.
- to identify potential Niches of Business Opportunity for UK Companies.

The objectives of the study are listed in Table 1, along with their fulfilment within the report.

Table 1: Objectives of the study

MIA Objectives	Objective fulfilled in
1 Estimate the Size of the USA Motorsport and Performance Engineering Market	Stage One Section 1.1
2 Establish the USA Motorsport and Performance Engineering Market Segments	Stage One Section 2
3 Establish the USA Motorsport and Performance Engineering Market Trends	1 Overview – Stage One Section 1.1.5 2 Individual Market Segments – see 'Market Trends' section on each segment of Stage One Section 2 3 Appendix Seven
4 Identify Key USA Motorsport and Performance Engineering Suppliers	1 Suppliers to the Individual Market Segments – see 'The UK's place in...' section on each segment of Stage One Section 2 2 Appendix Eight
5 Identify Key USA Motorsport and Performance Engineering End Users	1 General Overview – Section 1.2 2 Segment Overview – see 'Overview' Philosophy of the USA Motorsport Market section on each segment of Stage One Section 2 3 Stage Two – The USA Motorsport and Performance Engineering market – niches of business opportunity
6 Evaluate the USA Motorsport and Performance Engineering Supply Chain	Stage One – Section 3
7 Investigate USA Motorsport and Performance Engineering Business Practice	Stage One – Section 4

Stage 1

SCALE, SCOPE AND POTENTIAL OF THE USA MOTORSPORT AND PERFORMANCE ENGINEERING MARKET

The aim of Stage One was to provide a comprehensive overview of the USA motorsport and performance engineering marketplace. Firstly, it sought to identify, and provide an overview of, each of the market segments in the USA motorsport and performance engineering marketplace. Secondly, it sought to identify the market trends in each segment and identify the UK motorsport and performance engineering industry's market position within those segments. Thirdly, Stage One sought to give a general overview of business culture and the supply chain structure in the USA motorsport and performance engineering industry. Lastly, this stage sought to identify potential niches of business opportunity for consideration in Stage Two of the research.

The information for Stage One was gathered by means of desk-based and field-based research. An Expert Panel, comprised of academics, consultants and industry pundits, met to decide on the organisations and personnel to be contacted for interview, in order that the widest possible spread of information on the USA market could be gathered. 25 Key Informant interviews were conducted (see below). In order to protect sensitive commercial information, interviewees were assured confidentiality:

- Ten interviews with successful UK exporters to the USA motorsport and performance engineering market.
- Ten interviews with USA-based organisations dealing with the USA motorsport and performance engineering industry.
- Five interviews with USA motorsport and performance engineering end-users.

Stage One also included the following desk-based research:

- examination of existing National Survey of Motorsport Engineering and Services questionnaire returns and assessment of other MIA material.
- trawl of UK and USA trade magazines (e.g. Autosport, RaceTech, Racecar Engineering, Performance Racing Industry etc).
- web-searches.
- obtaining published business/market reports in the UK and USA.
- attendance at
  - 2001 PRI Trade Show, Indianapolis
  - 2001 SEMA Show, Las Vegas
  - 2002 Autosport Show, Birmingham

Stage 2

THE USA MOTORSPORT AND PERFORMANCE ENGINEERING MARKET – NICHES OF BUSINESS OPPORTUNITY

Stage One split USA motorsport and performance engineering into various market segments. It also identified which of those segments the UK motorsport and performance engineering industry was particularly well qualified to supply. The expert panel then met again to narrow down the choice of segments for further investigation as niches of business opportunity. The niches were chosen on the basis of market areas that could provide the most potential commercial return for the UK motorsport and performance engineering industry. The panel chose three niches of opportunity.

These chosen niches were researched through a process of 60 structured interviews with USA end users. The interviews covered all of the three chosen niches. Of the 60 interviews, 15 were face-to-face, and 45 telephone-based. Our USA associate, NSJ International, conducted all these interviews in the USA. The interviews were then forwarded to our UK office for analysis.

Information gathered during Stage One of the research was utilised in order to provide potential interviewees for Stage Two. In addition our USA associate, NSJ International, attended the 2002 MIA NASCAR Inward Trade Mission in Charlotte, the 2002 SAE Conference in Detroit and the 2002 World Import Challenge Drag Race Meeting and Show in Houston.

SCALE, SCOPE AND POTENTIAL OF THE USA MOTORSPORT & PERFORMANCE ENGINEERING MARKET

1.1.1

SECTION OVERVIEW - USA ENGINEERING AND SERVICES MARKETPLACE WORTH $16.45B IN 2002

The USA motorsport and performance engineering market was segmented, where possible, on the basis of the type of motorsport competed in by the individual competitor. The method was chosen above any other type of segmentation, for example by USA motorsport business specialism, due to the availability of accepted and reliable published figures for USA competitor demographics.

The method of calculation of market segment values in this section is detailed in Section 1.1.2. The result was triangulated against other forms of available statistics in order to ensure accuracy. This triangulation is detailed in Section 1.1.3.

Utilising these triangulated statistics, the total turnover of the motorsport and performance engineering market in the USA, for both engineering and services, is estimated at $16.45 billion in 2002. The value of each market segment is shown as a percentage of this total in Diagram 1.

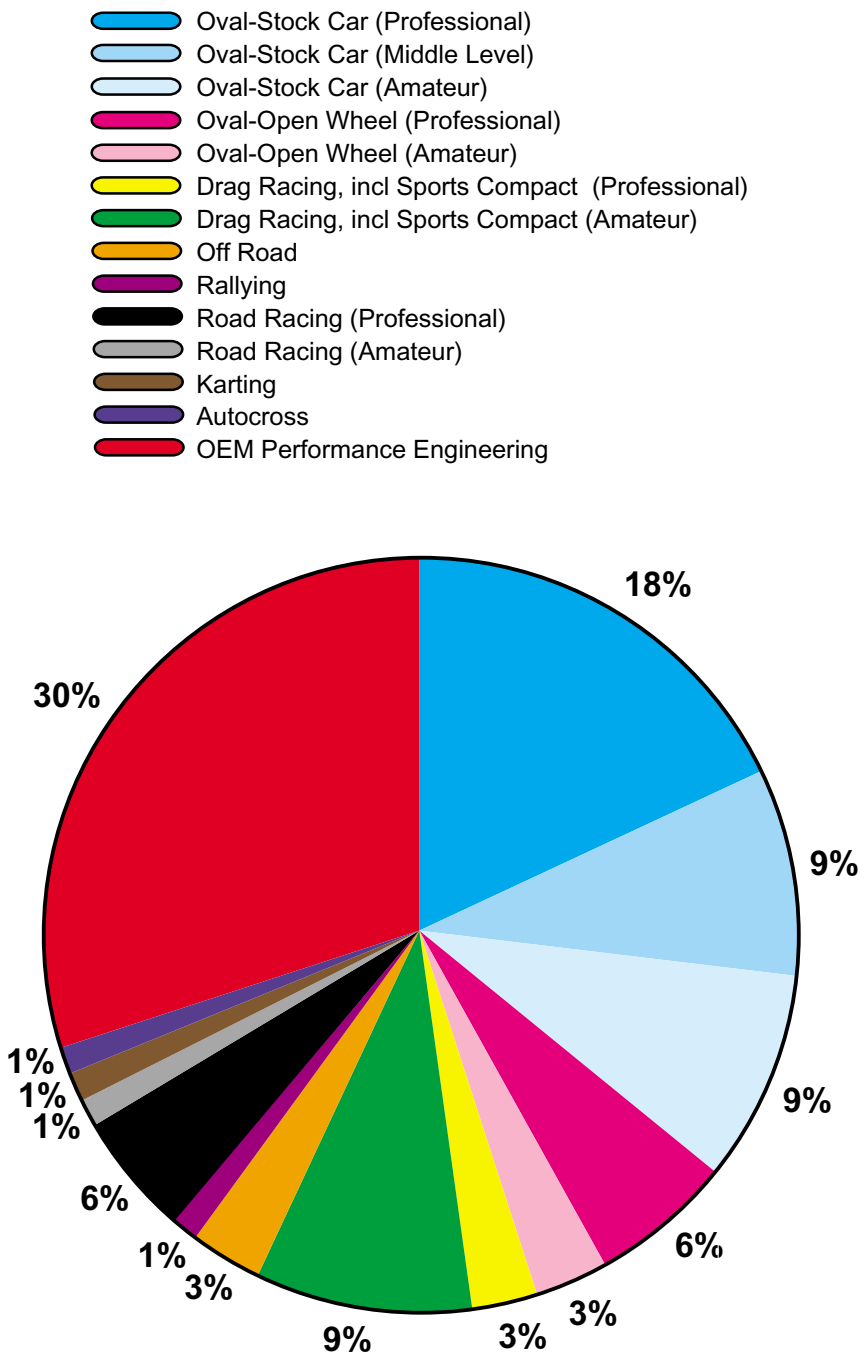
1.1.2

METHOD OF SEGMENT CALCULATION

Given the total value of the USA motorsport and performance engineering marketplace, including both engineering and services, at $16.45 billion in 2002, each market segment was calculated by value as depicted in Table 2.

Table 2 utilises the following method of calculation. Approximate competitor numbers and approximate seasonal budgets per competitor are multiplied to estimate the segment value. To this value is added an estimate of the income generated from the service side of the

Diagram 1
Turnover of USA Motorsport and Performance Engineering by Market Segment



SCALE, SCOPE AND POTENTIAL OF THE USA MOTORSPORT & PERFORMANCE ENGINEERING MARKET

industry in each segment, such as merchandising or track incomes, where such a value is known. Where known, this value has been attributed to the professional levels of each segment, for ease of calculation. It should not be inferred from this that the less professional levels of each segment have no service sector income, merely that breaking down the numbers at the lower levels of each segment becomes extremely difficult to calculate as the required statistics are less readily available.

We estimate that engineering and services components in USA motorsport are split in an approximate ratio of 50:50. A crude estimate of competitor budgets would equal the total engineering spend at this level. A similar amount can be approximated for the service side of the sport, generated, for example, from such activities as merchandising and the income from over 1300 tracks in the USA.

This 50:50 split is based on the finding from the National Survey of Motorsport Engineering and Services that the UK engineering services split was approximately 60:40. Our experts concluded that due to the more complex distribution channels in the USA, and the more spectator orientated motorsport culture, the engineering services split in the USA would be more equal than that in the UK.

Competitor numbers were taken from PRI figures that are widely trusted within the industry. Competitor budgets were taken on an individual basis from our expert interviewee estimates for each segment.

Table 2: The Calculation and Breakdown of Market Segment Value

Description of Market Segment	Calculation of segment value by: • Competitors multiplied by annual budgets • Service Sector estimate at Professional level	Approximate Value of Market Segment ($ billions)
1. Oval – Stock Car		
Professional	• 150 teams multiplied by $3m -$20m budgets • Over $1.2b in merchandise • Approx $1b in track turnover	3
Middle Level	• 5,000 teams multiplied by $100,000 - $250,000 budgets • 0.5b in merchandising / track turnover	1.5
Amateur	• 50,000 - 70,000 cars multiplied by $15,000 -$40,000 budgets	1.5
2. Oval – Open wheel		
Professional	• 25 - 40 teams multiplied by $5m budgets • $0.3b in merchandising/track income • Approx 2000 - 3000 Pro Sprint Cars teams multiplied by $100,000 - $250,000 budgets	1
Amateur	• 50,000 cars multiplied by $10,000 - $40,000 budgets	0.5
3. Drag Racing		
Professional	• 500 teams multiplied by $100,000 - $2m budgets	0.5
Amateur	• 150,000 cars multiplied by $10,000 budgets (av.)	1.5
4. Off Road		
	• 400 Pro teams multiplied by $200,000 - $500,000 budgets • 4800 amateur cars multiplied by $30,000 - $80,000 budgets (av.)	0.5
5. Rallying		
	• 200 Pro teams multiplied by $200,000 - $500,000 budgets • 1000 amateur cars multiplied by $20,000 budgets (av.)	0.1
6. Road Racing		
Professional	• 300 teams multiplied by budgets from $100,000 - $20m • $0.3b (est) in merchandising/track income	0.75
Amateur	• 14,500 cars multiplied by $15,000 budgets (av.)	0.25
7. Karting		
	• 40,000 karts multiplied by $2,500 - $5,000 budgets	0.1
8. Autocross		
	• 85,000 cars multiplied by $3,000 budgets (av.)	0.25
9. OEM Performance Engineering		
	• Expert interviewees estimate	5

SCALE, SCOPE AND POTENTIAL OF THE USA MOTORSPORT & PERFORMANCE ENGINEERING MARKET

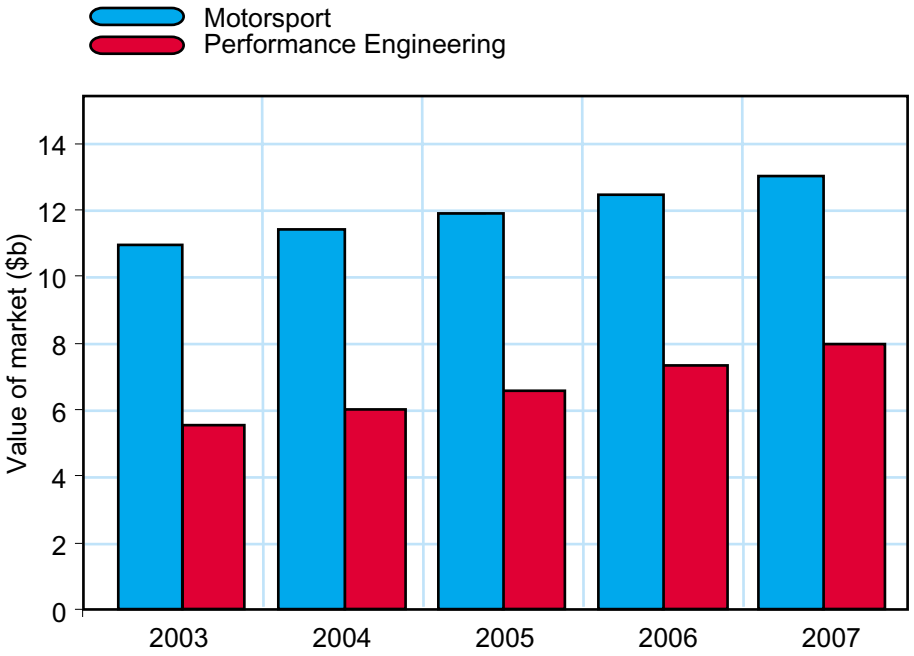
1.1.3

METHOD OF SEGMENT VALUE TRIANGULATION

The cross tabulation of segment value was achieved using the following calculations;

- Using the known number of motorsport and performance engineering businesses and employees (see Appendix One) and dividing this into the estimated market turnover to provide an estimated average turnover figure. This figure was cross checked with the available statistics on average motorsport firm turnover in the UK, extracted from The National Survey of Motorsport Engineering and Services.
- Using published information on the turnover of some USA motorsport and performance engineering companies (See Appendix Three).
- Using published information from SEMA on the trade and retail level sales of USA motorsport and performance engineering businesses (see Appendix One).
- Using published information on the number of motorsport facilities in the USA (see Appendix Two) and some published financial information on the larger track owners (see Appendix Three).
- Our expert interviewees were asked to verify the segment values given their own particular segment experience.

Diagram 2
Future Potential of USA Motorsport and Performance Engineering Market



1.1.4

FUTURE POTENTIAL OF THE USA MARKET

Our expert interviewees were asked to estimate the future growth potential of each segment over the next five years. These results were validated using desk-based research. Both these methods suggest that the future value of the totalUSA motorsport and performance engineering market, from a 2002 total of $16.45b, will increase to $22.1b in 2007, an overall increase of 34%.

As Diagram 2 indicates, the USA motorsport segment is expected to grow from $11.45b of this total in 2002, to $13.1b in 2007, a segment increase of 14%. Performance engineering, by comparison, is expected to grow from $5b in 2002, to $8b in 2007, a segment increase of 60%.

1.1.5

A GENERAL OVERVIEW OF USA MARKET TRENDS

The headline figure of $16.45b is for the combined value of USA motorsport and performance engineering in 2002. This figure has already begun to reflect the changes in the wider economic environment of the last year. Sponsorship and rates of personal income are vital to the growth of motorsport everywhere, not just in the USA. USA motorsport trends are linked very closely to the general economy in the USA, and, in particular, trends in USA advertising.

While the USA has not suffered a recession defined as two negative quarters of economic growth, there is no doubt that the USA has had its first real economic downturn since the early nineties. The fall out from the NASDAQ

SCALE, SCOPE AND POTENTIAL OF THE USA MOTORSPORT & PERFORMANCE ENGINEERING MARKET

crash of two years ago and the aftermath of September 11 have combined to impinge upon the scale and nature of the economic growth from which the USA motorsport market draws its funding.

While current expert estimates suggest that the worst of the economic downturn may be over, the advertising industry in the USA, from which motorsport draws sponsorship, is also in the midst of its worst downturn in a decade. Fuelled by the dot.com boom that pushed advertising's share of GDP through historical cyclical levels, advertising in the USA hit a peak in 2000 that experts say might take up to four years to reach again. USA forecasters expect advertising to pick up again in the last quarter of 2002, but this does not mean that motorsport sponsorship will recover as quickly. Sponsorship is usually the first of the marketing mix to be cut when times are hard, and the last to be reinstated.

USA motorsport gained, in the frenzy of advertising, from two main sources. Firstly, in the form of direct advertising provided from new economy firms seeking to gain market exposure from sports sponsorship. Many of these sponsorship arrangements no longer exist due to the dot.com crash. Secondly, the new economy, as personified by the new media companies, spent hugely on attempts to provide content for their new pathways to the consumer provided by the new economy. These pathways were exemplified by cable or digital TV, 3G mobile phones and more sophisticated internet content.

In the rush for content for these new media firms, televised sports became one of the key ways in which firms sought to gain market share and subscriber numbers. There are many examples of these sorts of deals from both sides of the Atlantic. Today, the amounts paid to televise sport are not delivering the promised end users, and revenue returns, for these media companies. In recent months, the amounts paid for sport by European companies such as ITV Digital (football) and the Kirch media empire (Formula 1 and football) have directly hastened those companies financial problems.

In the USA, motorsport has yet to be affected as directly as sport in Europe by these sorts of overpayments. However, there are signs that, for example, Fox and NBC/Turner are not getting the rewards they would have liked for their six year $2.4b investment in NASCAR. It has been reported that the networks were $100m down on their $400m a year investment due to shortfalls in customers for TV advertising supporting the NASCAR broadcasts. Existing advertising rates had to be hiked to pay for the shortfall. Within NASCAR itself, there are anecdotal stories of budget shortfalls amongst over half the teams, according to our expert interviewees. Some teams have folded due to loss of budgets, and some track owners have had to lay off staff. While TV viewing figures for NASCAR increased last year, due to the more integrated TV scheduling as the result of the Fox/NBC deal, there were also reports that trackside spectator viewing was not the sold out phenomenon that NASCAR has experienced for many years. The potential SMI lawsuit against ISC over a race date monopoly is also not good news for the public profile of NASCAR, given the 'family values' image that NASCAR marketers like to portray.

Outside NASCAR, the continuing rivalries between the IRL and CART series seem to preclude the sort of public profile for single seaters that might generate increased corporate sponsorship. Similarly, sports car racing in the USA is also split between two similar, but competing, series.

Overall, as Diagram 2 indicates, the USA motorsport market is suffering at the moment from the general downturn in advertising. While it may take some time for the sponsorship of 2000 to be available again, clearly as the general economic position of the USA improves, and advertising spend returns, motorsport will be well placed to capture the corporate dollar, as it did so effectively in the previous decade.

While the overall spend on motorsport may have stalled, or even diminished, in the short term, there are some other changes apparent in the USA marketplace that may affect how companies do business with the USA. Firstly, the gradual increase in NASCAR's exposure to high technology engineering solutions may slowly trickle down to lower levels of Stock Car racing, if the price can be kept low enough, therefore greatly expanding the market for such solutions. These solutions affect both the search for extra performance and the search for safety within NASCAR, in the face of some high profile accidents in the series. Similarly, the growth in use of Sports Compact cars, generally Japanese Imports, also reflects the way that some segments of the USA motorsport market are becoming more open to different technologies.

Secondly, as Diagram 2 indicates, the restructuring of USA OEM's caused by increased outsourcing is delivering greater levels of performance engineering expenditure into the marketplace than has historically been the case. Our expert interviewees suggest that this may soon be the largest market segment within the USA motorsport and performance engineering market, and the one showing the fastest growth.

Overall, the forecast is for the USA motorsport market value to remain approximately static in the near future until advertising and sponsorship picks up over the next 18 months or so. There are areas of growth within this forecast, broadly captioned under the remit of advanced engineering for the higher levels of the sport, and advanced engineering at a price for the middle levels. The Sports Compact segment and the Professional and Middle level Stock Car segment could be described in such terms. The main area for substantial segment value growth over the next five years appears to be in the area of outsourced OEM Performance Engineering.

PHILOSOPHY OF THE USA MOTORSPORT MARKET

1.2

PHILOSOPHY OF THE USA MOTORSPORT MARKET

The general philosophy of USA motorsport is quite different to that prevailing in Europe. To caricature, USA motorsport is driven by 'the show', while Europe is driven more by the technology.

Much of USA motorsport utilises what, to European eyes, is old technology. By this we mean carburettor V8's powering tubeframe chassis. This formula encompasses probably three quarters of the competing cars, if not more, in the entire USA.

At the highest level of competition this difference in philosophy can be seen between the top ranking series in the respective countries. In Europe, F1 is king, with huge development budgets and rapid technological innovation. In the USA, NASCAR is king, defined more by the personalities than the innovation on display.

In NASCAR, a manufacturer that is lagging in performance can receive a technical rules break in the week between races. This would be unheard of in Europe. NASCAR keeps a level technical playing field for the benefit of the spectators, while in Europe spectators are expected to be entertained more by the technology on display.

When British motorsport firms engage with this different USA mindset, the key difference to bear in mind is that the latest white-hot European technology is unlikely to be of much use to most of the market. What will be of interest to the 'marketing mindset' of the USA end user is likely to be the selling of race proven technology, which will give more performance for the dollar.

This has three outcomes for the marketing strategies of British companies trying to access the USA market;

- At the top of the pyramid of USA motorsport (CART, IRL, increasingly NASCAR) there is a growing space for the use of technology to optimise the racing package, as a 'British F1 mentality' transfers into the USA motorsport mindset.

- In the middle of the market place, there is the possibility of offering an incremental increase over existing products. Volumes of sales are likely to be much larger than the top end professional series. For example, perhaps 20,000 individual middle level stock cars compared to the 1,000 individual cars within NASCAR's top three series. The price for these products can be higher, but the technology involved must not be too big a step from that already in use. Geographical and series niches might provide appropriated scenarios for entry in to this market.

- At the bottom of the scale, at the amateur level of competition, the British manufacturer is unlikely to be able to match the home-grown, low-tech, value-for-money USA manufacturers. The one instance where this might not be true is in areas of motorsport culturally different to the mass of the USA market, where technology is more valued than is normally the case.

THE USA MARKET SEGMENTS • OVAL RACING - STOCK CAR

2.1

OVAL RACING - STOCK CAR

2.1.1

OVERVIEW

Table 3 summarises the Stock Car segment in the USA. Stock Car racing is comprised of mainly showroom-looking V8 engined saloon cars. It is the largest single group of motorsport competitors and has the largest spectator following in the USA. NASCAR is at the professional top end of the Stock Car segment. NASCAR is also the only truly national stock car formula, and it dominates USA motorsport TV coverage.

Table 3: Overview of Stock Car Segment

Description of Market Segment	Examples of Series in this Segment	Value of Market Segment ($ billions)
Oval – Stock Car		
Professional	Winston Cup Busch Craftsman Truck	3
Middle Level	NASCAR Regional Regional Late Model	1.5
Amateur	IMCA, WISSOTA	1.5

Top End Professional – NASCAR National Series

NASCAR sanctions thirteen series across 2,200 events at 135 tracks. All but one are for closed wheel. The top three series (Winston Cup, Busch and Craftsman Truck) are national series. The rest are mainly regional, utilising similar regulations to the top series. It has been estimated that there are 800-1000 cars competing in the three national series. Teams have up to 10 cars per driver, as each car is purpose built for a certain type of track. The top three series are detailed in Table 4.

Table 4 : NASCAR Top Three National Series (Source: NASCAR website)

	No. Races in 2002	No. Regular Drivers in 2002	Series Details
Winston Cup	36	47	NASCAR's top national series
Busch	34	52	Similar to Winston Cup but less powerful
Craftsman Truck	22	49	Winston Cup engines in Pickup based bodies

NASCAR is the second most popular TV sport in the USA behind the NFL. Last year, it announced a new 6-year $2.4b deal to televise the sport, and in 1999 it was estimated that NASCAR merchandise alone produced $1.2b in revenue. Some collated facts and figures about the bigger national NASCAR organisations are shown in Appendix Three. It should be noted that the majority of NASCAR businesses are not listed companies.

Middle Level – Professional and Semi -Professional

NASCAR are also involved in organising this middle level of stock car racing. Eight of their categories cater for these regionally based series, called NASCAR Touring. The NASCAR Touring series are detailed in Appendix Four.

Many other series are involved at this regional level. It has been estimated there could be as many as 5,000 teams operating at this level of racing. Other middle level series, utilising Late Model cars and racing on short asphalt ovals, are listed in Appendix Five. It should also be noted that there are approximately thirty series, with a similar geographic dispersal, running Late Model Cars on dirt short ovals, rather than the asphalt series, listed in Appendix Five.

To give an example of this middle ranking series, the USAR will be outlined in more detail. USAR was set up as a direct marketing tool of 'Hooters' restaurants. It runs a tube frame chassised, steel bodied V8 stock car, on paved ovals of 1 mile or less. It has a 14 event Southern Division and a 13 event Northern Division, culminating in a 5 race run-off between the two series. The series has 160 one-car teams operating on a yearly budget of $250,000 each. The series acts as a professional series in its own right, but also as a feeder series for the higher NASCAR ranks.

Lower Level – Amateur and Semi-Professional

The entry level for oval racing is mainly comprised of modified tube frame chassised, steel-bodied V8 stock cars run on short dirt, and paved, ovals. The lower level of these Weekly Racing Series are generally organised around a particular

THE USA MARKET SEGMENTS • OVAL RACING - STOCK CAR

local track. They usually comprise approximately three classes, with ascending higher technical specification between the classes. Most local tracks might run one or two events a week, attracting perhaps 80 cars.

At the top end of this lower rung, NASCAR runs a system of points classification called the NASCAR Weekly Series. This allows drivers to compete regionally, or even nationally, with drivers who they rarely compete with directly. More than 50,000 cars could be involved in competing at this level of racing.

One of the most successful organisers, drawing together some of the very diverse regulations and geography of this grassroots level racing, is the IMCA (International Motor Contest Association).

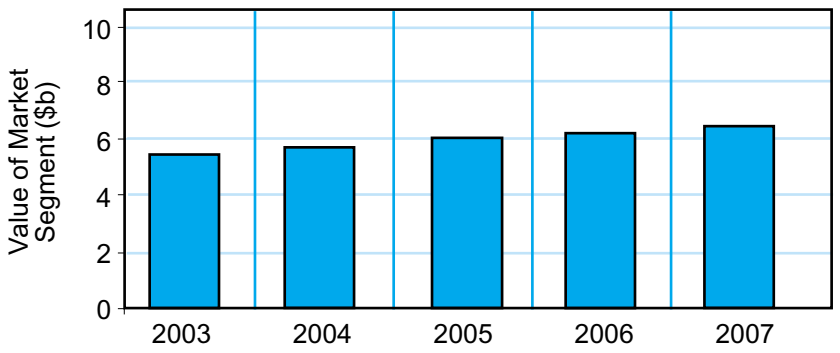
The IMCA runs in 30 states on 200 tracks including both dirt and asphalt tracks. The organisation has 6000 licence holders, who generally race two nights a week at tracks within 40 miles of their home. The IMCA has five classes, with a lightly modified Hobby Stock Class at the bottom stretching to a Modified class with looser technical regulations at the top. Generally, however, technical regulations are very tight, with the innovative 'engine claim' rule allowing any competitor to claim the engine of another competitor, if that competitor finished in the first 4 of a race. A complete new car is around $20,000 and running costs are likely to be in the same bracket.

2.1.2

MARKET TRENDS

Diagram 3

Future Potential of the Oval Racing Stock Car Segment



In oval racing, the professional stock car series, like NASCAR, have the biggest commercial impact in USA motorsport. While the USA recession seems to have taken the edge off the highly impressive growth rates of the past few years, it is likely that NASCAR will continue to grow once corporate America starts spending money on advertising again. This is indicated in Diagram 3 above. Growth is likely to remain static, or even decrease slightly, until new sponsorship starts flowing into the sport in 18 months or so.

One political stumbling block to this growth could be the lawsuit that shareholders of Speedway Motorsports Inc (SMI) have taken out against NASCAR. The France family not only control NASCAR, but also the International Speedway Corporation (ISC), a track owning organisation. NASCAR awards ISC around 50% of Winston Cup events, and SMI around 25%. SMI shareholders have filed a lawsuit against NASCAR claiming that NASCAR gave a verbal agreement to SMI for two Winston Cup races at one of SMI's tracks, (the Texas Motor Speedway). NASCAR refutes this. It is possible that the row could escalate to a referral to the USA equivalent of the Monopolies and Mergers Commission. The stability of NASCAR, and its market potential, could be threatened if such action took place.

NASCAR has traditionally been a technically conservative series. In the last decade that attitude has slowly changed. European firms are gradually entering the market with more advanced equipment than their USA counterparts. One reason for this is the increasing amount of money in NASCAR over the last decade. As NASCAR grew from a regional series to a national series, so the sponsors changed from a Southern base to more national, Fortune 500 type, companies. A top line Winston Cup car will now cost approximately $20m a year to run, double that of five years ago, and quadruple that of ten years ago.

This increase in finance has led to an F1 style trickle up of resources as teams increase in professionalism to match their funding. The older, technically conservative, way of going racing is slowly giving way to a more open attitude towards the way in which new technology can lead to competitive advantage. This change in attitude should not, however, be overestimated. Entrenched regulatory paradigms, organised by NASCAR's technical committees, and the strength of

existing suppliers' marketing relationships means change, in European terms at least, is slow.

A further way in which NASCAR is changing is the increased concentration on safety. A number of high profile accidents, particularly Dale Earnhardt's death at Daytona in 2001, have focused NASCAR on the safety aspects of their sport. NASCAR vehicles are technologically simple in many ways to European eyes, and advanced technology is one way in which safety in stock car racing might be improved.

There are a number of examples of the way technology might help the safety issues present in stock car racing. First is the use of advanced materials and construction to help the structure of the car survive a high impact situation. The work, financed by Humpy Wheeler of Texas Motor Speedway, on the 'Humpy Bumper', demonstrates this kind of research. Second, the increasing role of technology in safety matters is shown by the use of advanced data acquisition, the 'black box', in understanding the dynamics of the accident during and after it has occurred. Third, is the use of aerodynamic research to further understand the way these large, heavy vehicles interact on the racetrack at extremely high speeds. Fourth, is the attempt to develop a barrier system for racetracks so as to minimise the impact of forces when these heavy, fast moving cars hit the concrete retaining walls of an oval.

Within the lower reaches of stock car racing trends are fairly static. There is a slow trickle down of technical innovation from the professional series as lower ranking teams buy equipment from higher-ranking teams. One future trend in the lower levels of stock car racing, beside the trickle down of components that improve the performance of the vehicle, is likely to be the trickle down of the safety advances made by NASCAR.

2.1.3

THE UK'S PLACE IN THE STOCK CAR SEGMENT

Domestic USA firms supply the vast majority of stock car racing, from professional to amateur. At the amateur level, there is virtually no market share from overseas firms. In the middle level series there are some overseas component suppliers, while at the top level of professional stock car racing there is the most impact from non-USA firms.

British firms already have a strong presence, compared to other overseas firms, as non-indigenous suppliers to professional stock car racing. It seems clear that professional stock car racing could also be a further expanding market for British firms, as USA teams increase in professionalism to match their budgets.

The areas in which British firms can impact this market, are dependent on the tight regulatory nature of the USA stock car series and the existing strengths of domestic USA-based suppliers. This has three potential outcomes for British firms to sell to USA end users. One outcome is the supply of specialist components within the slightly less restrictive regulatory environments of NASCAR, that currently allow some small leeway of technical innovation. The nature of British firms' impact in this niche market lies not just in the supply of the components, however, but also in the supply of extensive technical support for those components. The relationships being built up between the USA end user and the British supplier mean that the better quality component includes a high level of technical feedback that cannot be at arms length. This requires the British firm to station personnel in the USA as part of the service required to stay ahead of the competition.

The second area in which British firms are beginning to have an impact is in the supply of technical equipment and services to improve the existing regulatory package. This approach provides technical equipment and services to measure the small incremental changes allowed within the regulations by highly technical research and simulation models. This equipment and services is more likely to be found in Britain than domestically, due to the generally more advanced and better-funded high tech motorsport companies to be found in the UK's 'Motorsport Valley'. The areas of research and testing are twofold. One is in the area of Mechanical Engineering Development, for example with Test and Motion simulation (e.g. 7-post rigs) and modelling software (e.g. CAD, FEA, CAE). Another area is Aerodynamic Research; particularly utilising advanced wind tunnels and computational fluid dynamics (CFD).

The third area in which British firms are beginning to have an impact is in the supply of safety equipment and services. This is to satisfy the increasing concerns over safety when racing heavy, high-speed vehicles on ovals lined with concrete walls. The likely opportunities for British firms are to be found in the areas of supplying data acquisition to measure/record the dynamics of the accident, and to help with the supply of engineering services to increase the safety aspects of the vehicles. The first builds on expertise in data acquisition already on display in the USA stock car market from existing British suppliers. The second builds broadly into the sorts of engineering services already described above. For example, these services will supply the end user with data in modelling the dynamics of accidents on sophisticated computer software.

At the level of the basic, technologically simple components like spaceframes, wheels, and body panels, for example, the sheer size and experience of the USA race industry means that British firms are unlikely to be able to match their pricing structure. British firms must be able to offer an innovative product, but not be too expensive or too advanced to scare the end user away.

This means that British firms can offer the USA stock car market two sorts of product.

One is the offer of a level of technology at a price that only the bigger budgets teams and formulae can afford. In this section is the engineering, safety and aerodynamic research mentioned earlier. The second product British firms can offer is a lower level of technology, yet still at a higher price than available from domestic firms in the USA. This must offer enough gains for the USA end user to justify a higher price than for a similar product from an indigenous supplier.

For these reasons, in the middle levels of stock car racing, the lower budgets of the teams means the likelihood of success for British suppliers is less. They will be unable to afford the engineering and aerodynamic research mentioned earlier, and only perhaps a small fraction (10%?) could afford more advanced components on offer from British firms.

While the latter 10% may still be a significant number of teams on a national basis, supply problems mean that reaching this 10% is likely to be very difficult. USA racing series are geographically dispersed and fragmented, making the problem of accessing the market very difficult. In addition, the components that British firms will be able to market are likely to be those needing some degree of technical support to justify their higher price. Supplying this support for a new product is likely to be very difficult when the geography of the USA is taken into account. It should be noted that each USA motorsport segment, even within the same geographical region, is likely to have its own distributors. Therefore, trying to lower costs by finding a common distributor in one region to access both the stock car market and the drag racing market, for example, will be a difficult task.

At the amateur level of stock car racing, British firms' impact is likely to be low. The low budgets and low technology of these lower ranking series means that competing with indigenous suppliers will be a difficult process.

2.2.

OVAL RACING - OPEN WHEEL

Table 5: Overview of the Oval Open WheelSegment

Description of Market Segment	Examples of Series in this Segment	Value of Market Segment ($ billions)
Professional	IRL World of Outlaws	1
Amateur	ASCS plus local organisers	0.5

2.2.1

OVERVIEW

Open wheel racing on ovals in the USA is generally split into three categories. The first category is the IMS (Indianapolis Motor Speedway) IRL (Indy Racing League) series. This series is a direct competitor for the CART (Championship Auto Racing Team) Champcar series (see section 2.6), but races only on ovals. IRL cars race in a professional, national series of approximately 15 races, attracting 25 cars per race. The cars are European style (and built) carbon fibre monocoque single seaters, utilising a purpose built 3.5 litre V8 race engine, many of which are designed and built in Britain. In comparison to Champcars, IRL cars are not as technologically sophisticated as their technical regulations are designed to keep down cost. The main race in the IRL series is the Indianapolis 500, the largest one-day motorsport event in the world. From 2002 the IRL also has a junior feeder formula called the Infiniti Pro Series. It is a one-make chassis and engine series, utilising Dallara chassis and Nissan Infiniti engines.

Below the IRL are two series, with more similarities to each other than they have to the IRL. The first of these uses larger cars generically known as Sprint Cars. The second uses smaller cars known as Midgets. Sprint Cars are open-wheeled tube frame chassis with domestic V8 engines. They are normally classified according to engine capacity; 410 cubic inches, 360 and 305. The larger the engine capacity the bigger the budget needed. Midgets are smaller versions of Sprint Cars, generally with 4 cylinder engines but with the same sort of tube frame chassis. Both classes run on paved and dirt ovals of ½ mile or less.

In the Sprint Car category, the most high profile national series utilises the 410 class. This is the main place that the 410 cars race, due to their expense. The most famous of the 410 organising bodies is the World of Outlaws (WoO) Series, followed by the All Stars Series. The WoO races at 70 events in 41 states with a prize fund of $10m.

The next category of Sprint Car is the less expensive, and increasingly popular 360 class. The main organising bodies here are USAC (United States Automobile Club) and the ASCS (American Sprint Car Series).

USAC runs national and regional series for two categories of Sprint Car and one category of Midgets. Their top national series called 'Silver Crown' runs 12-15 races a season for 45-60 entrants, each with annual budgets of $100-150,000. Their middle national series, entitled 'Sprint Cars', runs 30 races with 25-40 entrants and $100-150,000 budgets. Their last national category, 'Midgets', runs 25-30 races, with 25-40 entrants on budgets of $50-100,000.

The ASCS is a Midwest based regional Sprint Car Series. ASCS sanctions 60 races a year with 1500 teams. Three-quarters of these teams are amateur. Budgets average $40,000 a year for each team. Sprint Car regulations vary from track to track, and region to region, but ASCS rules are being adopted more generally across the USA, whether the track is an ASCS member or not. There are also around 50 smaller Sprint Car organisers.

2.2.2

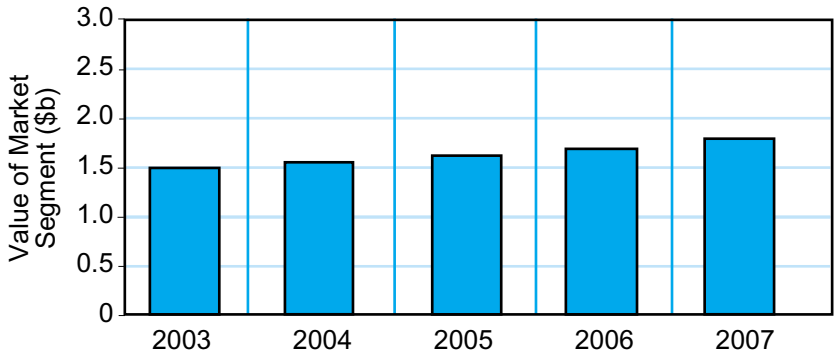
MARKET TRENDS

Within the Open Wheeled Oval Racing category, the Sprint Car segment is fairly static at the professional level, while much the same can be said of amateur level open wheel racing. However, within the professional level of open wheel racing, IRL is currently experiencing high growth and will add much of the turnover depicted in Diagram 4 above.

In 1996, Tony George, owner of the Indianapolis Motor Speedway, removed the Indianapolis 500 from the CART schedule. He cited three main reasons for this; the growing cost of competing in CART, the lack of opportunity for USA drivers in CART, and the increasing distancing of CART from oval racing towards road and street courses. George set up the oval based IRL series around its showpiece event, the Indianapolis 500. Technical regulations were set to produce lower cost racing with the result that the two series shortly became technically incompatible. Due to the place of the Indy 500 in USA sports culture, the centrepiece event of USA open wheel racing was lost from CART. Over the last 6 years an increasingly divisive CART/IRL war has split USA open wheel racing to the benefit of neither series.

Recently, CART has managed to hasten its own problems with a series of marketing, technical and management decisions that have not increased its attraction to USA audiences. Increasingly over the past 2 years, existing CART teams have begun to cross over to IRL, with the major defection of Penske this year highlighting the level of team dissatisfaction within CART. In the short term it appears that Tony George's IRL may be winning the war for the hearts and minds of USA open wheel racing.

Diagram 4
Future Potential of the Oval Racing Open Wheel Segment



While IRL technical regulations are more restrictive than CART, the closeness to European style regulations and technology levels, in comparison to NASCAR, has always meant a high degree of involvement for the technology led European firm in this arena.

2.2.3

THE UK'S PLACE IN THE OPEN WHEEL SEGMENT

Within the Open Wheel segment, two distinct areas arise for the UK supplier. The close nature of the professional, Open Wheel IRL market to a European regulatory environment, and the budgets available, mean that IRL is a strong market for European suppliers. In contrast, the professional open wheeled Sprint Car market, and the amateur open wheel market, has virtually no overseas penetration at all.

The Open Wheel, Professional Sprint Car segment is a low technology formula relying on V8 engined, spaceframe chassis. While its higher-level competitions, like the World of Outlaws series, are well funded, there is no current non-indigenous motorsport firm involvement at any level. The cost of supply of advanced technical services would be beyond the reaches of the budgets of these teams, but it appears there may be some room for the sorts of service-rich components mentioned in the stock car section above.

For example, the synergies between stock car components like brakes, clutches, hydraulic transfer, gearbox components and data acquisition, and those same components in Sprint Car, at least on the surface, appear quite close. While UK firms do get involved in supplying these components to stock cars, it seems that the budgets and technology level of Sprint Cars, while similar to a middle ranking stock car series, might offer a potential opportunity to the UK supplier, especially if the firm has a presence already in the USA market.

At the amateur level of open wheel racing, it is unlikely that UK firms would be able to compete in what is a very price conscious, low-tech market.

In the open wheel professional segment of the IRL, as mentioned, overseas firms enjoy a large, virtual monopoly position in the market. This is due to IRL being a very hi-tech market in comparison to most of USA racing, with a very similar regulatory environment to that existing in European single seat racing. The engine suppliers are mainly British, gearboxes are all from one British firm and chassis are British or Italian. Component suppliers like brakes and data acquisition are also British.

One comment mentioned by our interviewees, was that IRL would increase in specialisation, as it became more professional and gained access to bigger budgets. This would lead to an increase in demand for technical and engineering services like aerodynamic research and test and motion simulation.

However, this scenario depends on the ability of the USA to support two single seat series at the high budget level capable of buying these services. Historically, with the popularity of NASCAR with corporate America, this has not occurred. It is more likely that the existing professional teams from CART, like Penske, will gravitate to the most successful series bringing their existing technical relationships with them. Other teams, who at the moment do not have the budget of the bigger teams, will either be forced out, or forced to compete in a lower level series, like the newly introduced IRL feeder series called Infiniti Pro. Conceivably, if the IRL series becomes more successful, lesser teams might actually migrate back to CART, if the competition from larger teams is less strong there. In order for the smaller teams to be able to buy the technical services that Britain can supply, there needs to be a general increase in the profile of series, like the IRL, in order to attract the corporate dollar.

Table 6: Overview of the Drag Racing Segment

Description of Market Segment	Examples of Series in this Segment	Value of Market Segment ($ billions)
Professional	NHRA IHRA	0.5
Amateur	NMRA IDRC	1.5

2.3

DRAG RACING

2.3.1

OVERVIEW

Drag racing in the USA is generally split along three lines, Professional, Sportsman and the amateur racer. The Professional racers are those competing in National Championships in very specialised, very expensive, purpose built cars. Sportsman racers compete more generally at a regional level in highly modified saloon cars. The amateur racer competes at their local drag strip in a less modified road car. This lower level of competition can be unlicensed and left to a local track to organise.

At the professional end of the scale, the main organising bodies are the NHRA (National Hot Rod Association) and the smaller IHRA (International Hot Rod Association).

The NHRA claims to be the world's largest motorsport organising body, with 32,000 licence holders competing in 4,000 events at 144 tracks. Its Top Series is the professional Powerade Nationals, competing at 23 events, of four days duration, across the USA. This series has a high TV profile, leading to drag racing being the second most popular form of motorsport in the USA (after NASCAR).

The other national NHRA series is the 10 round Summit Sports Compact series. This caters for the rapidly growing market for modified Japanese cars and is the first national series to cater for this category. This is also known as the 'Import Market', due to the preponderance of non-indigenous cars used.

On the next rung down on the NHRA ladder, are the seven regional Sportsman Series. These are geographically organised series, where 90% of NHRA members will compete. Most teams will be semi-professional, or amateur, in nature. The NHRA also organise a Junior Drag Racing League, utilising half scale dragsters for children aged between 8 and 17. This has 4,000 competitors at 130 tracks.

In contrast, the IHRA is the next largest drag racing organiser. It has 9,000 licence holders, 5% of whom compete in a televised, 12 race, professional, national series across five classes. The rest, the 'Sportsmen', compete at a regional level across nine classes. The IHRA sanctions races at 82 tracks across the USA.

At the lower level of drag racing are the huge numbers of amateur racers. Numbers at this level may exceed 100,000 cars and drivers. This category includes drivers competing at local drag strips on a Saturday night, but also the increasing number of 'Test and Tune' nights. The latter are similar to 'track days' in the UK, and allow the amateur to drive a car, unlicensed, at a local venue.

2.3.2

MARKET TRENDS

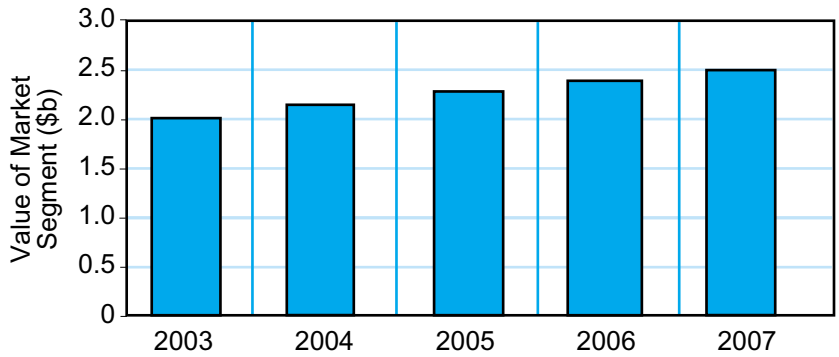
Diagram 5 provides an estimate that professional levels of drag racing will carry on growing, once the general USA economy enables advertising budgets to increase again. At the amateur level, we anticipate that the sport will also carry on growing, particularly within Sports Compact, as personal disposable income begins to increase in the aftermath of the economic downturn.

At the professional level of drag racing, the sport continues to have high levels of TV coverage and sponsor input, second only to NASCAR. The NHRA's loss of Winston as its primary sponsor seems to have been overcome with the announcement of Coca-Cola's GATORade brand as a replacement. Increasing TV coverage for the professional series of NHRA and IHRA continues to indicate that drag racing is growing at the professional level.

Nevertheless, it is the lower levels of drag racing that are of as much interest. The grassroots of drag racing is showing a sustained increase in the number of amateur enthusiasts becoming involved. At this level of competition two strands stand out, indicating divergent demographic interests in the drag racing grassroots fraternity.

Firstly, is the resurgence in popularity of One-Make competitions. Principal here are competitions for the Ford V8 Mustang, which due to its availability and price, has galvanised the Domestic drag-racing market. The NMRA (National Mustang Racers Association) are the main organisers, with a seven event national series attracting 300 competing cars. Budgets in this series can range from $60-$400,000. One-off events by other organisers, or series finals, can attract up to 1,500 cars and 30,000 spectators. The demographics of this revival are based on an increasing affluence of older racers (35-55 years old) in drag racing's traditional strongholds, and reflecting the traditional domestic marques chosen for competition.

Diagram 5
Future Potential of the Drag Racing Segment



The second fast growing grassroots segment is the increasing popularity of Sports Compact (or Import) drag racing. Most of the cars are Japanese, particularly the Honda Civic and Acura Integra, although the Ford Focus is increasingly popular. This sport grew from the West Coast, where many of these imported cars came into the country. The demographics are entirely different to most other forms of drag racing. Most of these enthusiasts are young (16-25 years old) non-whites, reflecting the California demographic in which the phenomena originated.

There are two main national drag racing series for these cars. Firstly, the NHRA organises a ten round national series called the NHRA Summit Import Drag Racing Series. It is claimed that rounds of this series attract 20,000 spectators and up to 1,000 cars. Secondly, the IDRC (Import Drag Racing Circuit) organises a fifteen round national series. IDRC meetings attract 500 cars and up to 18,000 fans.

These two trends indicate two distinct approaches to the sorts of technological paradigm inherent in the grassroots of drag racing. On the one hand is the interest in buying and modifying traditional large V8 engined, technologically simple cars from domestic USA manufacturers. On the other, is a younger, technologically more astute audience, interested in using up to date technology like computers, fuel injection and turbochargers to modify their cars. To caricature a little; the domestic drag racer relies on the tried and tested approach to performance based on cubic inches, while the Import racer relies more on a technology led approach.

2.3.3

THE UK'S PLACE IN THE DRAG RACING SEGMENT

Drag racing at the professional level is almost all supplied by indigenous USA suppliers. There are consequently very few British companies involved. Our interview respondents intimated that they foresaw few opportunities in the near future for British companies at the professional level of drag racing. In fact some mentioned that, technologically, drag racing was less open to change than even stock cars.

At the amateur level of drag racing the traditional domestic V8 engine market is

again mainly supplied by the indigenous industry. British companies are not involved at this level of the sport and there seems little hope that this would substantially change in the near future.

However, the fastest growing section of USA amateur drag racing is the Sports Compact market. This is composed mainly of imported Japanese cars and so the level of non-USA suppliers is correspondingly strong. British firms are already involved in this sector (occasionally via Japan), mainly in the areas of engine, gearbox and clutch technology.

There are two good reasons to believe that this market segment might offer strong opportunities for British firms in the years ahead. Firstly, the cultural affinity of the demographic audience for this sort of car is much closer to that already existing in Europe. Sports Compact fans are generally younger, ethnically diverse, brand conscious and technologically aware. These characteristics play right into the hands of the hi-tech expertise of many of the firms from the UK motorsport industry, and are in contrast to the prevailing technological culture of the majority of the rest of the USA amateur drag racing market.

The second reason for the potential in this segment, is the existing expertise of these firms with Japanese cars. The most demanding level of competition in the world for Sports Compact cars is the World Rally Championship (WRC). Within this series, Japanese manufacturers have been very successful, particularly Mitsubishi and Subaru. However, both these manufacturers subcontract their competition car development to British specialist firms; respectively Ralliart Europe and Prodrive. In addition to the WRC, the British Touring Car Championship has a long history of successful Japanese manufacturers involvement, particularly Nissan, Toyota and Honda, again built and run through British subsidiaries. Many of the components sold in Japan for the Sports Compact motorsport market were, in fact, developed, or made, in Britain.

Due to the high rates of computer technology existing in Japanese OEM cars, the market audience is already more computer literate than most. Many existing Japanese OEM cars are more easily tuned by a laptop than with bolt on aftermarket engine accessories. Existing UK experience of small, turbocharged four cylinder engines is at a greater level than currently to be found in the USA. The products that this market would be interested in are specialist components like brakes, clutches, gearbox, gearbox components, hydraulic transfer equipment, engine components, fuel injection, engine management and turbochargers. Much of this equipment is simply not yet made in the USA. The other area of British expertise in this segment is data acquisition. Computers and electronics are at a relatively low level in much of amateur drag racing, but the technologically savvy audience existing for the Sports Compact market could make the supply of data acquisition a lucrative area of opportunity.

2.4.

OFF ROAD

2.4.1

OVERVIEW

The Off Road market segment in American motorsport caters for 4 wheel drive vehicles (USA Land Rover equivalents), USA pickups and highly specialised niche 'buggy' vehicles. Due to the sort of terrain needed, the sport is concentrated in the Mid-West and the Southwest. The Federal Bureau of Land Management owns much of the land used.

The differences between this category and rallying, are twofold. First, Off Road racing is comprised of 'laps' of a course, ranging between 35-100 miles per lap. Rallying uses one-off special stages. Second, most of the cars are USA built. The sort of competition and the type of vehicle used are quite close to the format of the Paris-Dakar Rally.

The main organising body for Off Road is SCORE International Off Road Racing. SCORE run a 6 race series, of which half the events are run in Southern Nevada, and half in Baja California. The famous 'Baja' race is part of this series. SCORE races feature 17 pro classes for cars and trucks in USA races and 7 more pro classes for motorcycles and ATVs for the three races held annually in Mexico. Races in the USA average 150 entries, and 225 in Mexico.

Other organisations include the Best in the Desert Series, who run four events a year in Nevada, and CORR (Championship Off Road Racing). CORR differ from the previous two organisations in that although they use the same sort of vehicles, they compete on short tracks, much like rallycross does in Europe. CORR have a 14 round series based around Wisconsin and Michigan.

Table 7: Overview of the Off Road Segment

Description of Market Segment	Examples of Series in this Segment	Value of Market Segment ($ billions)
Off Road	SCORE CORR	0.5

2.4.2

MARKET TRENDS

In the Off Road segment, trends are fairly static apart from the growing interest in a form of stadium racing, more suitable for television coverage, and promoted by CORR. In Diagram 6 we predict fairly similar levels of turnover over the next five years.

2.4.3

THE UK'S PLACE IN THE OFF ROAD SEGMENT

The Off Road market is mainly comprised of USA suppliers. Foreign imports to the market do exist, but are mainly to service the modification of Japanese vehicles used in Off Road competition. British entrants in this market are correspondingly few, although the Japanese connection may be one area in which existing British experience of modifying small capacity Japanese engines might be utilised. Our interviewees did suggest that there might be a market for some British goods in this segment, principally in the area of components like clutches, gearbox components, hydraulic transfer and gearboxes. However, the number of participants in this area is quite small, compared to other segments like stock car. The one factor in its favour may be that due to the terrain requirements of the events, Off Road competitions do tend to be concentrated in the California - Nevada area of the USA. This could indicate that reaching the end users via distributors is not such a geographically dispersed affair as exists in some other segments.

2.5.

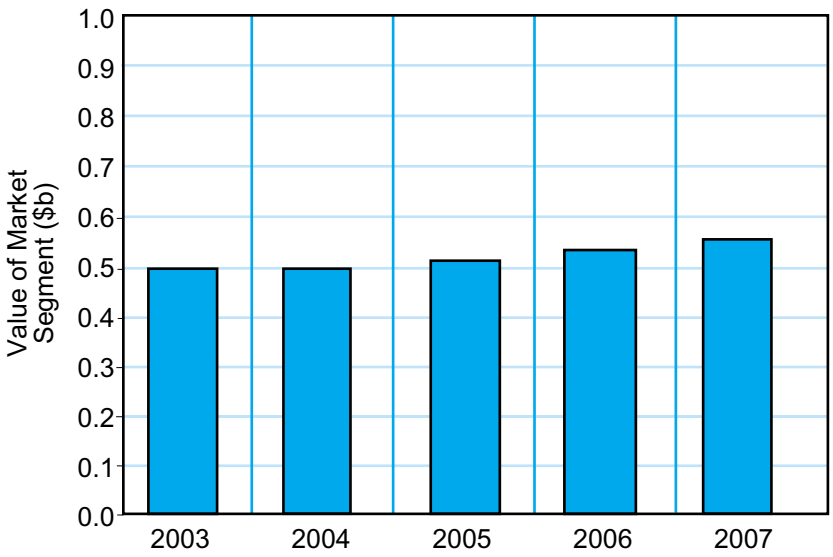
RALLYING

2.5.1

OVERVIEW

Special stage rallying in the USA is organised along similar lines to that in the UK. The SCCA (Sports Car Club of America) is the main organising body. The

Diagram 6
Future Potential of the Off Road Segment



SCCA organises regional championships, called ClubRally, and a national series, called the ProRally Series.

The SCCA has 1200 competitors for its rally programmes. The regional ClubRally series are for amateurs and semi-professionals, while the National ProRally series is for professional teams.

In the ClubRally Series there are approximately 35 events spread over seven regional championships. The highest placed finishers in each regional series all meet in one event to find the National ClubRally champion.

ClubRally events have five different classes from 'Production' to the highly modified 'Open' class. The ProRally Series has those same five classes, but adds the FIA's Group A and N classes. There are ten ProRally events that attract approximately 80-120 cars each.

Another rally organising body is the ARSG (American Rally Sport Group) of Nevada. This is a much smaller organisation that organises one big event a year, and a few smaller local ones.

Table 8: Overview of the Rallying Segment

Description of Market Segment	Examples of Series in this Segment	Value of Market Segment ($ billions)
Rallying	SCCA ProRally	0.1

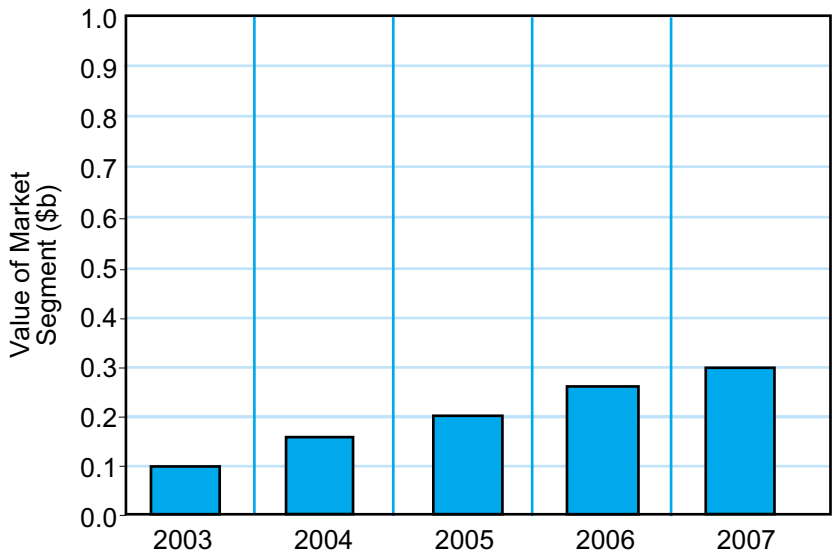
2.5.2

MARKET TRENDS

Rallying is the fastest growing form of motorsport outside NASCAR, according to the SCCA. We reflect this in the growth figures indicated in Diagram 7. As the growth of the WRC brings in more manufacturers, so the SCCA ProRally Series has also grown and expanded in popularity. One of the main reasons for this is the increasing participation of Japanese manufacturers at the top level of USA rallying. Reflecting the same demographics as demonstrated by the growth of Sports Compact drag racing, firms like Subaru and Mitsubishi are fielding importer run works teams in the SCCA ProRally Series. While in the early stages of development, there is no doubt that the continued success of Sports Compact cars in the USA market will lead to these cars eventually being used at the lower levels of the USA rallying market.

One of the interesting future trends of this segment will be if the huge popularity of Sports Compact (Import) Drag Racing can be transferred to rallying. Many of the Sports Compact audience are young adults, and it is possible that as the Drag Racing market matures, some of this audience may graduate to other forms of motorsport. Road racing, as seen in the next section, is already growing in the Sports Compact categories, and if rallying could appeal to the technically literate, brand conscious Sports Compact Drag Racing audience, then its growth potential could be very significant.

Diagram 7
Future Potential of the Rallying Segment



2.5.3

THE UK'S PLACE IN THE RALLYING SEGMENT

At the professional level of the USA rallying segment, non-indigenous suppliers are very apparent. Many of the cars used at this level are Japanese Sports Compacts similar to those used in the WRC. Consequently many British firms are already involved at this level of USA motorsport. British firms are at an advantage in this market, not just because of the Japanese connection, however. Rallying is still a comparatively new sport in the USA, and many of its influences are European, if not British, in origin. This stretches not just from the areas of component supply, but also through the organisational structure of the events themselves.

Firms, like Prodrive, already have a big presence in the USA professional rally market and its USA-based team has won the SCCA ProRally championship. As the stature of the championship increases, and more USA teams use contemporary WRC technology, British suppliers' role in the market can only increase. This role could encompass the wide array of specialist components and services currently in use in European rallying. Future prospects look bright for this segment if rallying continues to grow in popularity, even though it is starting from a relatively low baseline.

Amateur rallying in the USA currently utilises older technology than existing at the professional level. Some vehicles are European in origin, reflecting the newness of rallying in the USA and European rallying tradition. In the future, as technology filters down from the professional levels, the amateur levels of USA rallying could prove lucrative for British firms.

2.6.

ROAD RACING

2.6.1

OVERVIEW

Road racing in the USA is the category most similar to European style racing. Professional road racing is split amongst several organising bodies and disciplines, as is Amateur road racing.

Table 9: Overview of the Road Racing Segment

Description of Market Segment	Examples of Series in this Segment	Value of Market Segment ($ billions)
Professional	CART ALMS	0.75
Amateur	SCCA Porsche One Make	0.25

Professional Road Racing

CART (Championship Auto Racing Teams) is an international series catering for carbon fibre monocoque single seaters currently powered by turbocharged V8 racing engines. Chassis are built in Britain, while engines come from Britain and Japan. CART has a 20 race international schedule, with 11 races in the USA, and has fields of 20 cars. Team budgets run to the tens of millions of dollars. The IRL is the major competitor to CART.

CART also has two domestic, lower level, single seat series for professional teams. Both series are for identical engines and chassis. The lower category is Barber Dodge Pro, while the intermediate category is Toyota Atlantic.

In the sportscar arena there are two main organisers. The first is Professional Sports Car Racing Inc who are mainly known for organising the American Le Mans Series (ALMS). ALMS is a 10 race series, based in North America, for professional sportscar teams running to Le Mans regulations. Professional Sports Car Racing Inc also sanction three support series for the ALMS; the Panoz Racing Series for one-make Panoz sportscars, the Historic IMSA GTP Challenge for historic sportscars, and the Star Mazda series, for identical Mazda powered single seaters.

The second main sportscar organiser is the Grand American Road Racing Association (GARRA). This organisation is closely connected to ISC, run by the France family that control NASCAR. They sanction three main road racing series. One is a 10 race national series for sportscars similar to the ALMS, but without the factory involvement occurring in ALMS. This is called the Rolex Sports Car Series and their main event is the Daytona 24 Hours. The second series runs the same 10-event schedule and is called the Grand-Am Cup Street Stock Championship. The Grand-Am Cup organises events among street stock cars with liberal modifications. The third series is slightly different to the first two. This is because the series is sanctioned by GARRA, but organised and administered by Formula Motorsports Inc. This series is called FF2000 Zetec, and it has a 14 race national series. The series utilises tubeframe single seaters, mainly made in Europe, and is recognised as a key feeder category to the higher levels of professional single seater racing like CART.

The last of the major professional road race organisers is the SCCA. SCCA Pro Racing has three main areas of competition encompassing 800 licence holders. The three categories are Trans-Am, World Challenge and Pro Spec Racer. Trans-Am cars are highly modified, V8 tube frame cars with composite bodies representing road-going cars. It is the longest running road racing series in the USA, comprising 11 rounds across the country. World Challenge Cars are split into two classes; production based sportscars, and production based touring cars, also racing in 11 rounds across the USA. Pro Spec Racer features identical sportscars all made by an SCCA subsidiary. It is the national series of the SCCA's amateur racing Spec Racer Class.

Amateur Road Racing

Amateur road racing in the USA has many sanctioning bodies, but the SCCA sanctions 60% of the competitors. In the main, the other sanctioning bodies are historic racing and one-make organisations.

The SCCA has 24 categories of amateur road racing, stretching from single seaters, to sportscars and saloons. The SCCA has 10,000 licence holders in this category, a third of whom compete in the single seater categories.

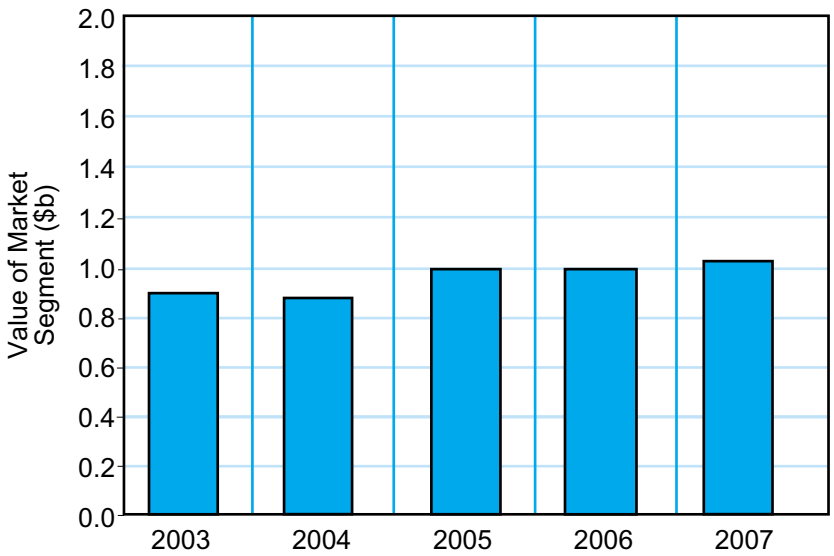
Another smaller, but similarly broad based organising body, is NASA (National Auto Sport Association), which grew out of running track days. In terms of numbers, the one-make car organisers like the Porsche Club of America, BMW and Viper are also large. The Porsche Club, for example, has 1600 road racing licence holders. It estimates that 250 cars compete at each of its 26 events.

2.6.2

MARKET TRENDS

As depicted in Diagram 8, on the facing page, turnover in the Road Racing segment is foreseen to decrease over the

Diagram 8
Future Potential of the Road Racing Segment



next few years. A slight recovery from 2006 may be possible. This is dependent on increasing numbers and professionalism of amateur road racing, a possible recovery of CART, together with a general recovery in the USA economy and advertising budgets.

At the professional level of road racing, the major negative trend is the continuing battle between IRL and CART (see Section 2.2.2). Other trends in professional road racing are the increasing move to one make chassis and engine formulae in the single seat category, mirroring similar changes in Europe's road racing categories. Barber Dodge Pro and Toyota Atlantic are two such spec chassis and engine series. In sports car racing, a similar situation exists as that between CART and IRL. Two series, the ALMS and GARRA series ostensibly cater for differing budget levels of professional sports car series. However, splitting the two sports car series in this way, is to the benefit of neither.

At the amateur level of road racing trends are fairly static apart from in one area. This is the increasing (25% a year) use of Sports Compact cars at the amateur level, mirroring the national automotive trend towards smaller, lightweight, more technologically advanced vehicles. While there are domestic manufacturers involved, the Ford Focus for example, most sports compact cars are from Japanese manufacturers.

2.6.3

THE UK'S PLACE IN THE ROAD RACING SEGMENT

The CART series is still the premier road racing series in the USA. Due to the similar regulatory environment this series shares, with Europe, the level of non-USA firms involved in CART is high, and the majority of these are British. All the chassis come from the UK, as do the gearboxes, data acquisition and some of the brakes and engines. Many of the teams also utilise the specialist engineering and aerodynamic services that UK firms offer, like wind tunnel testing and test and motion simulation.

The future of this part of the road-racing segment is difficult to predict (see Section 2.2.2), as many CART teams are migrating towards the IRL series. This is due to the current strength of the IRL, with the Indy 500 event as its centrepiece, and due to political problems within CART. It is likely that British component and services suppliers in this segment will continue to keep business if CART teams migrate to IRL, because they will continue to utilise those services whilst in the IRL. However, it is difficult to foresee the combined IRL/CART market segments increasing overall unless both CART and IRL jointly gain a higher profile in the battle for the USA corporate advertising dollar - which appears unlikely.

At the lower levels of single seat professional road racing, the similarity to European series sees a continued strong European manufacturer presence. At this level, the UK industry dominance is less marked. The feeder series to CART are Toyota Atlantic, Barber Dodge Pro and Formula 2000. These first two series are one make chassis and engines. Toyota Atlantic chassis and engines are built in the USA; in Dodge, the chassis are British while the engines come from the USA. In Formula 2000, Britain has a strong presence that is sometimes threatened by other European manufacturers. In the future, it is possible that when the one make formula regulations come up for renewal, British suppliers may be successful in bidding for the production rights.

In other levels of road racing, USA suppliers have more of a stronghold. In Trans Am, for example, many components come from the USA, as do chassis and engines. Trans Am rules rely on V8 engined spaceframe chassis, something of a USA speciality. While British component supply here is strong, it is difficult to foresee any change in the ability of British firms to supply the market. In Sports Car racing, the European supplier element is strong. Chassis are Italian and British, although there are some key USA players. Engine supply is more strictly split between Britain and the USA. Like Trans Am, British component supply is strong in

this area, with significant UK presence in, for example, brakes, gearboxes, and data acquisition. Again while a strong market for the UK, it is difficult to foresee any major change in demand unless Sports Car racing increases its presence on the USA television stage.

Below sportscar racing there is the production racing series organised by the SCCA and GARRA. The GT series of these championships compete with an equal mix of USA and German cars, while the Touring series compete with a mixture of imported cars from Germany and a strong Japanese presence. Due to the similarity of regulations to British series, like the British Touring Car Championship, some of the cars competing in the Touring series are fully built in the UK. British component supply is already strong and is likely to remain that way, with data acquisition and brakes having a strong UK presence. The obvious potential increase in market for UK suppliers in the segment is the increasing use of Japanese Sports Compact cars in the Touring series, where Britain already has a strong level of expertise.

The amateur level of road racing mirrors the same mixture of indigenous and non-USA suppliers as in the professional levels of road racing. In the single seat categories there is a high level of UK involvement in both chassis manufacture and component supply. Domestic manufacturers are present in supplying chassis at this level of racing, but in comparison to their UK counterparts, tend to be smaller firms producing smaller runs of cars. Popular UK components sold in this market are typically data acquisition, gearboxes and brakes. In the non-single seat categories, the growing trend is again the use of Sports Compact cars in production car classes, an area which could be very fruitful for UK firms given their existing expertise.

Table 10: Overview of the Karting Segment

Description of Market Segment	Examples of Series in this Segment	Value of Market Segment ($ billions)
Karting	WKA IKF	0.1

2.7.

KARTING

2.7.1

OVERVIEW

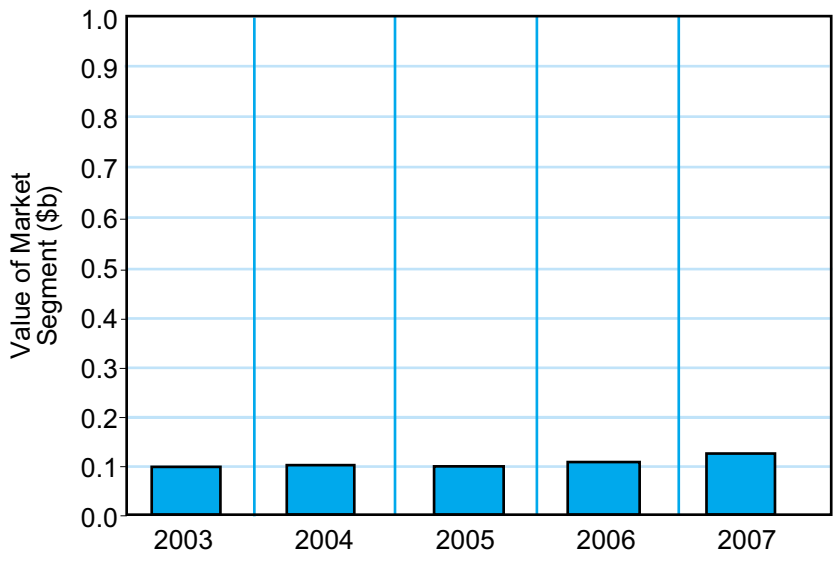
Karting in the USA is less professional than that in Europe. Most karters do not run under the auspices of an organising body, but run instead in 'outlaw' series. These series are usually organised at the level of the individual track owner.

Of the estimated 40,000 karters in the USA, 80% compete on oval tracks, whether dirt or paved. In Europe the 2 stroke is the common engine, whereas in the USA the 4 stroke is far more common.

Less than 20% of USA karting is powered by 2 strokes. Road racing is most popular on the West Coast, whereas in the Mid West and the South, oval racing is more popular. There are hundreds of classes and many regional variations to USA karting.

The WKA (World Karting Association) is the largest sanctioning body with 10,000 licence holders. It holds national championships and regional championships across all the categories of USA karting; dirt oval, paved oval, road racing, endurance and gearbox/non-gearbox. The IKF (International Kart Federation) is another large organiser, with the same sort of geography/class structure as the WKA. There are many

Diagram 9
Future Potential of the Karting Segment



more kart organisers operating on a regional level, or operating nationally but within one class, like SKUSA (SuperKarts USA), who deal purely with gearbox karts.

2.7.2

MARKET TRENDS

In Diagram 9, opposite, we do not foresee any significant increase in value in the segment. Karting is generally seeing a move away from 2 stroke engines towards more environmentally clean 4 strokes, and this is reflected in the karting segment of USA motorsport. Concurrent with these changes is an increasing interest in using this more environmentally friendly technology in an indoor environment. The USA has far less indoor karting facilities than are present in Europe.

2.7.3

THE UK'S PLACE IN THE KARTING SEGMENT

Most suppliers in the karting segment are indigenous. There is one large domestic engine manufacturer, and one medium size manufacturer, that supply the majority of the market, while most chassis are made locally. Overseas manufacturers are involved in supplying some engines, mainly Japanese, while some tyres are also sourced from Japan. Some of the top end kart road racing uses the best Italian equipment, reflecting the presence of Italian manufacturers in many countries. British suppliers are scarce in karting in the USA. The growth of indoor karting in the USA may be a potential market for UK suppliers, for example, through the development of 'clean' propulsion technology for the indoor environment.

Table 11: Overview of the Autocross Segment

Description of Market Segment	Examples of Series in this Segment	Value of Market Segment ($ billions)
Autocross	SCCA	0.25

2.8

AUTOCROSS

2.8.1

OVERVIEW

Autocross is known in the UK as Autotest. Although a strictly amateur sport, it is the grassroots from which competitors can move into other, more expensive and complex categories, as well as being an end result in itself. Autocross is run on temporary paved courses, such as can be marked out in a large car park, for example. The main organising body here is the SCCA.

The SCCA has 15,000 licence holders competing in 1,200 SCCA licensed events across the USA. The SCCA organises national and regional championships. Local events might attract a hundred cars, while larger events might attract several hundred. National level 'Run-offs', combining the best of the regional series, can attract up to a thousand cars.

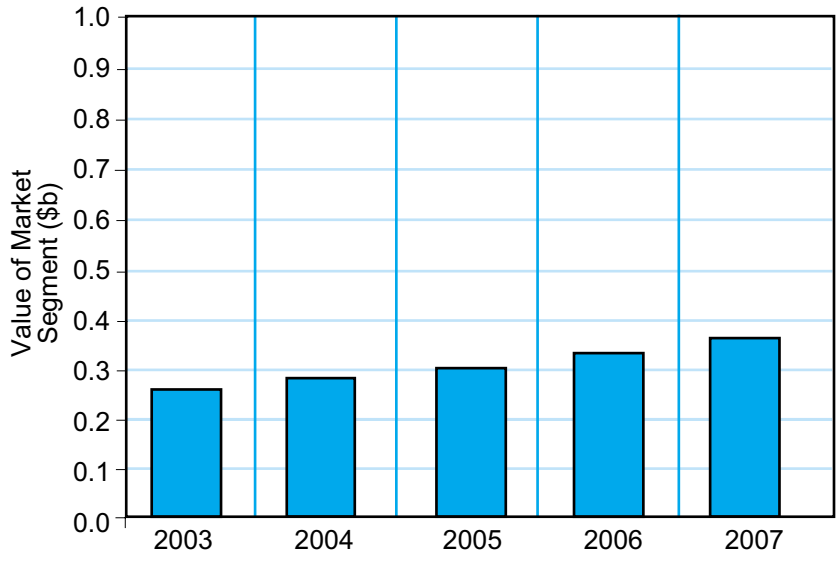
There are many unlicensed events outside the SCCA structure, but most utilise the SCCA rulebook.

2.8.2

MARKET TRENDS

In Diagram 10 potential growth in the sector comes from the increasing use of the Sports Compact (Import) car. This may lead to a growth in competitor numbers, due to the demographics of Sports Compact delivering a new audience for Autocross.

Diagram 10
Future Potential of the Autocross Segment



In Autocross, other trends are fairly static apart from regulation changes allowing two cars to compete on mirror image tracks at the same time (much like a European Rallysprint circuit, but on tarmac).

2.8.3

THE UK'S PLACE IN THE AUTOCROSS SEGMENT

While Autocross has many competitors in the USA, it is strictly an amateur sport. The suppliers to the market are dependent on the origination of the existing OEM manufacturer in a segment with a high content of modified road cars. While many of these cars will be domestic, a growing part of this segment is comprised of competitors utilising Sports Compact cars. As with Sports Compact Drag Racing and Road Racing, the likelihood is that British firms' existing competence in this area could be utilised to increase sales to the segment. Autocross users would be interested in the sorts of specialist components like brakes, clutches, gearbox, gearbox components, hydraulic transfer equipment, engine components, fuel injection, engine management and turbochargers. The problem in accessing these users is that as this is an amateur sport and the distribution channel selected to get the products to market would need to be large and complex, and correspondingly expensive, to set up and maintain.

2.9.

USA OEM PERFORMANCE ENGINEERING

2.9.1

OVERVIEW

In the USA, the OEM's involvement with motorsport currently occupies two distinct roles. The first role is the OEM's involvement in the motorsport series themselves. The second is the use of motorsport firms as 'performance-engineering' consultants in more mainstream road car production. In this sense, motorsport is the public brand of performance engineering, where performance engineering represents high value added, low-volume manufacturing, through the combined application of high technology engineering disciplines and creative design.

In the first role, OEM's are involved to varying degrees in supplying equipment and running teams in USA motorsport. For example, in stock car oval racing, most USA manufacturers (Pontiac, Chevrolet, Ford, Dodge) are involved in running teams at the top level of NASCAR. Their involvement in stock car oval racing series outside NASCAR is also apparent, but at a lower level. In the amateur stock car series, OEM's are involved mainly as suppliers.

In open wheel racing, OEM's are mainly involved as engine suppliers only, as the type of car has less obvious connection to an OEM street car. In drag racing, OEM's main involvement is as suppliers and series sponsors, particularly GM and Daimler-Chrysler. Within rallying there is little domestic OEM involvement, as yet, but in Off-Road, Ford and GM supply and sponsor teams.

Road racing shows little domestic OEM involvement, particularly compared to the involvement of non-USA OEM's like Toyota, Honda and Audi. There is no OEM involvement in Karting or Autocross. More details of OEM involvement in USA motorsport can be seen in Appendix Six.

The second role of motorsport within OEM's is in the role of performance engineering. In this case, a motorsport firm would use its motorsport involvement to highlight the consultancy work that it could undertake for an OEM's road-car production. The work involved could be rapid prototyping for an OEM road-car project, where the motorsport specialist could achieve faster project turnaround than the larger OEM. For example, Pratt and Miller, a USA firm in Michigan, are involved in this form of work for GM, and Roush Industries in Detroit perform the same services for many USA OEM's.

2.9.2

MARKET TRENDS

Diagram 11 depicts our expert interviewees' estimates that OEM Performance Engineering outsourcing may increase by as much as 10% per annum over the next five years. The general trend over the last decade in worldwide OEM manufacturing, has been the vertical disintegration of the production process. Vehicle manufacturers are becoming 'assemblers' more and more as they outsource. The context of this change is a 25% overcapacity in USA vehicle manufacturing capacity and probably more than 30% in Europe.

The USA industry is currently trying to counteract this overcapacity by shutting indigenous facilities. For example, Ford is closing five USA plants over the next few years. Given this global change towards outsourcing, expectation is that the future shape of USA car manufacturing will also have to change radically. One likely scenario is that the OEM's identity as sophisticated 'metal bashers' will disappear to be replaced by companies that concentrate on designing, engineering and branding. The remainder of the process will be outsourced.

Table 12: Overview of the OEM Performance Engineering Segment

Description of Market Segment	Examples of Series in this Segment	Value of Market Segment ($ billions)
OEM's	not applicable	5

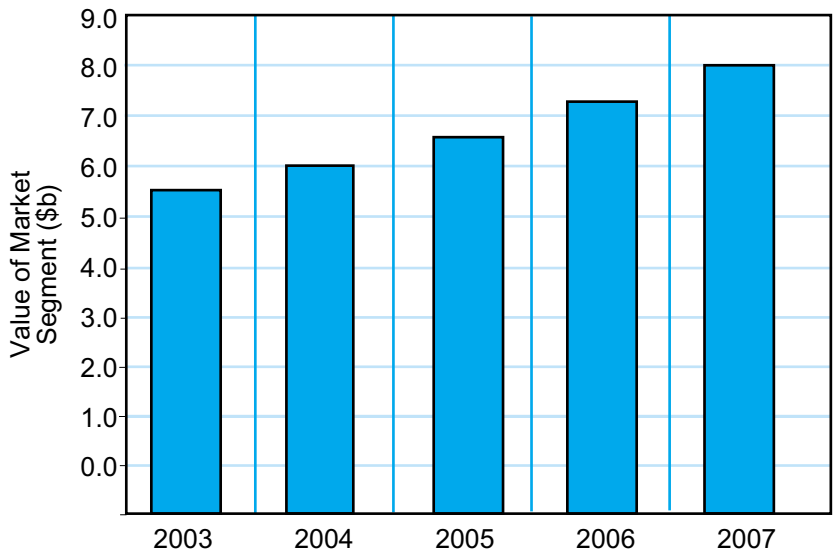
There are many examples of this outsourcing already in the European specialist road car industry. The term Performance Engineering has been coined to outline the sorts of benefits that OEM's can inherit when working with motorsport orientated firms, and there are a number of British and European firms that currently fall into this category. For example TWR with Renault and the mid-engine Clio; Valmet, a Finnish firm, and the Porsche Boxster; and Prodrive with Subaru and MG.

The redefinition of this OEM supplier relationship is dependent on the OEM collaborating at all levels with the supplier. This is a change away from the early nineties, USA OEM supplier strategy of squeezing cost savings out of the supplier relationship. Instead the relationship now needs to focus more on improving the transfer of knowledge, and hence innovation, between OEM and supplier in order to increase the value of the 'brand'.

The USA OEM's have stayed in profit, in the nineties, more through the spectacular growth of the Sports Utility Vehicle (SUV) market, rather than any restructuring of the industry. Now even that segment of the market is being threatened, with Japanese OEM's opening SUV factories in the USA. Japanese OEM's have already redefined their industrial structure to take account of more efficient OEM-supplier relationships. USA OEM's are relying on the profits from SUV's to counteract an otherwise uninteresting product range. This factor is partly responsible for the niche success of the Japanese Sports Compact market. In terms of engineering, branding and design, the Japanese firms are some way ahead of the domestic USA competition in this segment.

USA companies will have to become more responsive to customer demand, rather than making large numbers of vehicles and getting rid of them by heavy discounting. This change in direction will lead to smaller, more flexible factories than prevalent currently within USA OEM's. It will also lead to the outsourcing of specialist cars and services as seen in Europe, as small specialists produce knowledge intensive, branded cars for larger OEM's.

Diagram 11
Future Potential of the OEM Performance Engineering Segment



2.9.3

THE UK'S PLACE IN THE USA OEM PERFORMANCE ENGINEERING SEGMENT

The future direction of USA OEM manufacturing will continue to be towards a vertically disintegrated production system. This will create smaller, more flexible factories assembling the final product, and a network of specialist and knowledge intensive suppliers. Britain's motorsport industry is well placed to take advantage of this opportunity, given the obvious geographic concerns.

Britain's motorsport industry has a long history of the knowledge intensive firm-supplier relationships needed for this Performance Engineering collaboration. More recently firms like Prodrive, TWR, Lotus and Ricardo are utilising their motorsport experience to move into the supply of specialist services, and indeed whole vehicles, to the OEM industry.

The distance from Detroit to the UK may be a serious stumbling block in this process. Our USA interviewees indicated that some Detroit based OEM's like to deal with specialists, locally based in Detroit, even to the exclusion of other specialists in the USA. However, the history and level of British motorsport firm involvement in OEM Performance Engineering may go some way to overcome this particular disadvantage.

THE USA MOTORSPORT SUPPLY CHAIN

3.0

THE USA MOTORSPORT SUPPLY CHAIN

The sheer size of the USA motorsport market means that setting up any kind of supply chain is a difficult process. USA manufacturers generally supply many large regional warehouse distributors. Local race shops then deal directly with the regional warehouse distributor, rather than directly with the manufacturer. In addition, each specialised segment of motorsport within a geographic area, for example oval or drag, will have its own specialist supplier. The sales channels of each of these segments will rarely overlap, leading to further fragmentation of the supply chain.

This warehouse to smaller supplier form of delivery system can work well when the amount of technical input into the product sold is fairly low. When the relationship between end user and supplier needs to be more two-way, then a closer relationship and shorter supply chain needs to be in operation.

This shorter supply chain is normally in existence where the relationship between manufacturer and end user is one of more continuous innovation. Another reason for this shorter supply chain, is when the manufacturer is attempting to access a new market, and needs plenty of feedback to help design and develop a new product.

The warehouse system works well for the majority of the USA motorsport market. This is because USA motorsport is generally more static technically, although the upper reaches of professional road racing, and increasingly NASCAR, are becoming more open to innovation. The static nature of innovation means that there does not need to be a particularly close relationship between manufacturer and end user.

Given this general overview of the USA supply chain there are three main methods suggested by our interview respondents to supply the USA market:

1 Sell direct to end user

This method is the primary one suggested, where the product is being sold more on performance than price. In this case a British manufacturer would build up a technical relationship with a proven team in a category. This close relationship would normally mean the presence of the British firms' personnel at test days and race meetings, in order that technical feedback between manufacturer and end user is at its greatest. This direct relationship increases the chance of the product's innovatory features being successful, due to the hands on, 'tacit knowledge' gained. Also many interview respondents mentioned that other teams then exhibited a 'me too' behaviour, where the new product's perceived success became a requirement of other teams in the category.

2 Set up own USA based subsidiary

This option seems to be the preferred middle way between a close technical partnership and the 'hands-off' distributor. Where the product is technically advanced, but not necessarily developing at a fast rate once it leaves the manufacturer, then the use of a subsidiary seems to be appropriate.

The inventory presence of a specialised subsidiary can be vital where required lead times for the supply of items is short. Although transatlantic delivery can now be next day, the professional end of the sport can demand this to be faster. Some UK manufacturers have set up subsidiaries in the main USA motorsport hubs, like Indianapolis for CART/IRL and Charlotte for NASCAR.

3 Independent Distributor

This is the option preferred by most of the USA industry for its own domestic market. UK exporters dealing at the lower end of the market, suggested that, in some circumstances, an independent distributor can work because at that level 'Americans like to deal with other Americans'. Where a product is stable and not subject to rapid innovation, this method of supplying the market can work well for the domestic manufacturer, and the UK.

The problem with this supply chain is that the lower reaches of the USA distribution system are geographically dispersed, and even fragmented between segments within that geographic region. This can lead to great difficulty for the UK-based company to reach the end user. Some interviewees suggested that the complexity of this form of supply chain could lead to USA distribution costs being 40-45% up on manufacturer costs.

4.0

DOING BUSINESS WITH THE USA

4.1

BUSINESS CULTURE

Due to the shared language and culture, the USA is one of the easier overseas markets to access for UK motorsport companies. For example, our interview respondents mentioned that payment schedules from USA buyers are good, and that buyers are open and easy to get along with. However, there were a number of points raised in interviews that bear highlighting.

First, it should be noted that USA manufacturers, who are likely to be in competition with UK companies, are likely to have a much closer relationship with USA organising bodies. This is most important to note in technically restrictive formulae like NASCAR. This is because NASCAR is technically run by committee consensus as well as rulebook definition, although, of course, the rulebook is always present.

In this instance, a UK firm bringing a more technically advanced product to the market, will not only have to persuade the teams to accept that product, but also the rule makers that the product should be allowed in. Obviously, the closer the relationship the manufacturer has with the organising body, the easier it will be to conduct negotiations over acceptability.

The second point is the litigious nature of USA society. Interviewees pointed out that business negotiations can be more protracted than in Europe, due to the extra complications of USA legal requirements. However, they also suggested that in general terms the extra costs incurred were more in setting up contracts rather than actual legal claims after the fact.

Lastly, interviewees pointed out that any previous, non-USA based motorsport reputation, could have little meaning in the USA. USA buyers, particularly in oval racing, see their own categories as unique enough to require an overseas manufacturer to build a new USA reputation, before being accepted into the USA motorsport community.

Some interviewees suggested that setting up a USA subsidiary, rather than dealing solely through a distributor, was one way of proving your worth to the USA buyer. Setting up in the USA was seen to be a way of showing serious intent of staying in the market, rather than being a 'fly by night' operator. Another way of doing this is to buy in USA marketing expertise, with a knowledge and level of contacts in the market, that can help overcome the cultural difference.

In this instance, the European method of a UK manufacturer advertising 'Formula 1 success' might actually be counter productive. USA end users, unaccustomed to F1, may see this form of involvement as of little relevance to their own formulae, and even culturally arrogant in assuming that F1 success could translate across to USA formulae.

4.2

PRODUCT LIABILITY

Product liability claims in motorsport are more prevalent in the USA than in any other country. However, product liability was not viewed as a large problem in dealing with the USA market by our interviewees. While the need for product liability insurance inevitably pushed costs up, USA competitors would be equably liable to pay these costs.

The main point from our interviewees, is to ensure that motorsport products sold are strictly for motorsport use only. If products are also sold for the high performance road car market, there is a much higher chance of being liable for a product liability claim. Most UK motorsport manufacturers are strict in ensuring that their products never reach the road. Some UK products are sold on by third parties for road use, but are never sold direct from the UK company, or their USA subsidiary. This is to ensure a USA located 'buffer' exists, in the likelihood that a claim is made from the road use of the UK product. The USA third party would then be liable for the claim, rather than its original UK manufacturer.

SELECTING THE NICHES OF BUSINESS OPPORTUNITY FOR THE UK MOTORSPORT AND PERFORMANCE ENGINEERING SECTOR

5.0

SELECTING THE NICHES OF BUSINESS OPPORTUNITY FOR THE UK MOTORSPORT AND PERFORMANCE ENGINEERING SECTOR

5.1

OVERVIEW

Stage One provided an overview of market scale, scope and trends. Stage Two involved the detailed investigation of three selected Niches of Business Opportunity. The following section outlines the process of this selection. In summary, the recognised competences of the UK Motorsport and Performance Engineering industry were cross-referenced with identified market trends, and established knowledge, of the USA market segments outlined in Stage One. This provided the expert panel with several choices of market niches for further consideration and research.

5.2

THE DECISION MAKING PROCESS

Market niches for investigation were chosen using the following method:

An 'expert' panel:

- agreed an initial set of UK Motorsport and Performance Engineering competences.
- using the results from Section One research, cross referenced this list of competences against potential to gain USA market share and opportunities (see Table 13).
- chose three Niches of Business Opportunity for the UK Motorsport and Performance Engineering Industry.

The process of selection was aided by the production of a SWOT analysis depicted in Table 14.

Table 13

Core UK Competences and USA Market Segments

Core British Motorsport Industry Competences relevant to the USA market	Sports Compact	Oval Racing Professional & Middle Level Series	OEM Performance Engineering	Open Wheel IRL / CART	Open Wheel Sprint
Specialist components					
Data Acquisition (see Note 1 below)	●	●			
General Motorsport Components (see Note 2 below)	●	●		●	●
Access to specialised equipment and services					
Mechanical Engineering Development (see Note 3 below)		●	●	●	
Aerodynamic Research (see Note 4 below)		●	●	●	

Table 14

SWOT Analysis of UK Motorsport and Performance Engineering in the USA Market

Strengths

1 Technological sophistication of UK industry compared to USA. More specifically;

- Data Acquisition
- Specific Components
- Mech. Eng. Development
- Aerodynamic Research

2 Existing strength of the cluster in Motorsport Valley e.g. scale, scope, organisational flexibility.

3 International presence and reputation including within segments of the USA market.

Weaknesses

1 Underdeveloped UK Motorsport Service sector in general e.g. insurance, transportation, marketing.

2 Costs of production for basic components compared to USA.

3 Distance from/non-location in market.

4 Geographical diversity of USA supply chain.

Opportunities

1 Higher performance products and engineering services (based on technology). More specifically in;

- Sports Compact.
- Oval Racing – Stock Car; Professional and Middle Level Series.
- OEM – Performance Engineering.
- Open Wheel – IRL.

2 Restructuring of USA OEM's towards more flexible production systems and rising levels of outsourcing.

3 Safety push in NASCAR.

Threats

1 IRL v CART.

2 Sponsorship slowdown.

3 NASCAR cost cutting and spec parts.

4 Development of alternative cluster in the USA. e.g. Clemson University's $100m investment.

5 Product liability.

6 Expansion of oval racing in Europe.

7 'Not located here' syndrome.

FOOTNOTES

Note 1-Data Acquisition; from 'intelligent' instrumentation to full two-way telemetry systems.
Note 2-Motorsport components; including brakes, clutches, gearbox, gearbox components, hydraulic transfer, suspension components, fuel cells, engine components, fuel injection, engine management, turbochargers, safety equipment and exhausts.
Note 3-Mechanical Engineering Development; Test and motion simulation (e.g. 7 poster rigs), modelling software (e.g. CAD, FEA, CAE).
Note 4-Aerodynamic Research; Wind tunnels (e.g. moving ground plane), computational fluid dynamics.

THE USA MOTORSPORT AND PERFORMANCE ENGINEERING MARKET - NICHES OF BUSINESS OPPORTUNITY FOR UK COMPANIES

Stage Two:

THE USA MOTORSPORT AND PERFORMANCE ENGINEERING MARKET – NICHES OF BUSINESS OPPORTUNITY FOR UK COMPANIES

The three niches of business opportunity for the UK motorsport and performance engineering industry were chosen as:

1 - Sports Compact (Import) Drag Racing

2 - Professional Level Stock Car (Winston Cup, Busch, Craftsman Truck)

3 - OEM Performance Engineering.

Our USA associate, NSJ International, carried out sixty End User interviews in the USA. One third of these were carried out face to face, with the remainder, by telephone.

1.0

THE SPORTS COMPACT (IMPORT) DRAG RACING NICHE

1.1

CORE BRITISH COMPONENT COMPETENCES AND END USERS USAGE RATES

The expert panel designated twelve areas of British competence in component manufacture for this niche. The USA End Users were asked to rate their purchasing frequency of items within each area of British industry competence. The results are seen in Table 15, right.

1.2

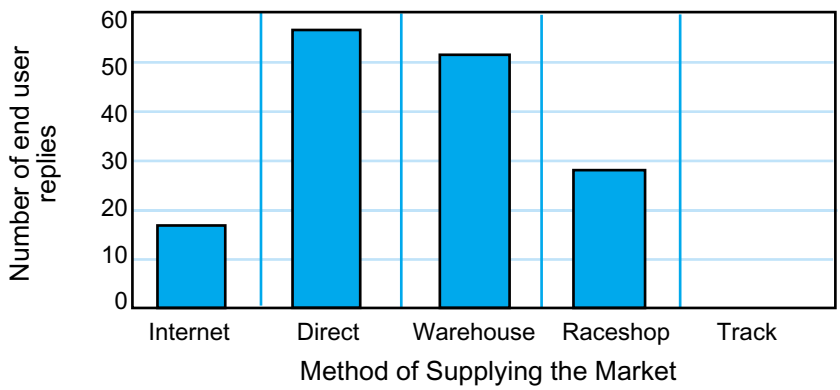
MOST POPULAR WAY OF SUPPLYING THE MARKET IN SPORTS COMPACT DRAG RACING

In the twelve areas of component competence outlined previously, the End Users were asked to identify the most popular method of supplying the Sports Compact Drag Racing market (Diagram 12).

Table 15:
Core British Component Competences and End User Usage Rates in Sports Compact Drag Racing

Core British Component Competences	USAGE RATE Never	Low	Medium	High
Data acquisition	●			
Engine components			●	
Fuel injection		●		
Brakes				●
Clutches				●
Gearbox components		●		
Engine management		●		
Turbocharger		●		
Suspension components				●
Instruments			●	
Safety equipment		●		
Exhausts				●

Diagram 12
Most Popular Source of Supply for Sports Compact, Drag Racing, End Users



THE USA MOTORSPORT AND PERFORMANCE ENGINEERING MARKET - NICHES OF BUSINESS OPPORTUNITY FOR UK COMPANIES

1.3

CORE BRITISH COMPONENT COMPETENCES AND FUTURE END USER BUYING PATTERNS

USA Sports Compact Drag Racing End Users were asked their future buying rates in each of the twelve areas of British competence over the next five years (Table 16).

1.4

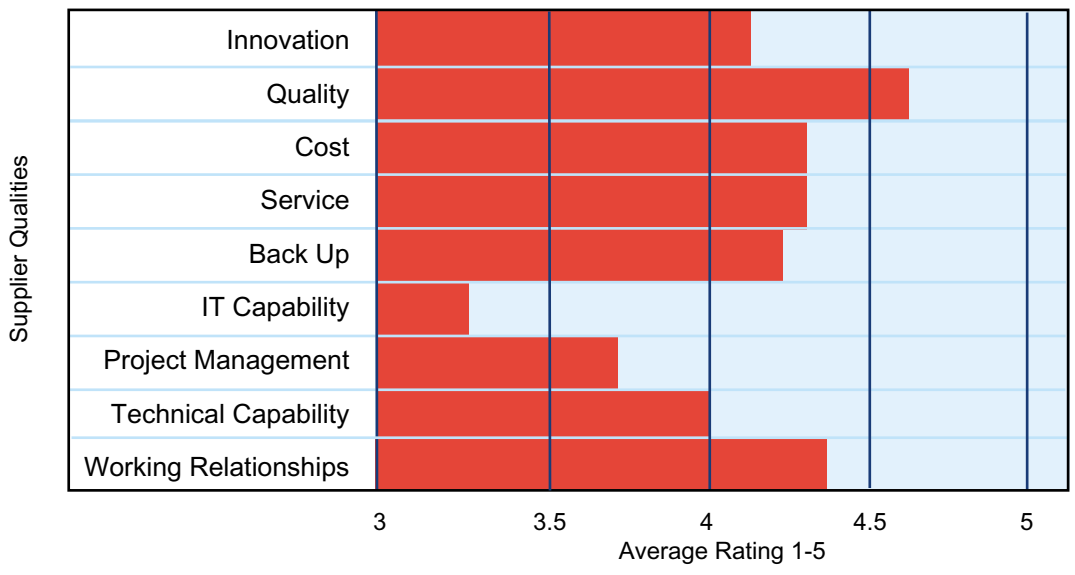
CURRENT SUPPLIER RATING BY THE END USER

USA Sports Compact Drag Racing End Users were asked to rate their current suppliers in a number of areas on a scale from 1 to 5, where 5 was the highest rating (Diagram 13).

Table 16:
Core British Component Competences and Future End User Buying Rates in Sports Compact Drag Racing

Core British Component Competences	Future Increase in Purchasing?	
	Yes - Increase	Yes - Significant Increase
Data acquisition	●	
Engine components		●
Fuel injection	●	
Brakes		●
Clutches		●
Gearbox components	●	
Engine management		●
Turbocharger		●
Suspension components		●
Instruments		●
Safety equipment		●
Exhausts		●

Diagram 13
Supplier Rating: Sports Compact Drag Racing



THE USA MOTORSPORT AND PERFORMANCE ENGINEERING MARKET - NICHES OF BUSINESS OPPORTUNITY FOR UK COMPANIES

1.5

WHY AND HOW END USERS DECIDE TO BUY NEW COMPONENTS

USA Sports Compact Drag Racing End Users were asked why (Diagram 14), and how (Diagram 15), they went about buying and sourcing new components from suppliers.

1.6

PERCEPTIONS OF BRITISH COMPANIES AND THE BEST WAY TO SUPPLY THE SPORTS COMPACT DRAG RACING SEGMENT

USA Sports Compact Drag Racing End Users were asked, firstly, of their perceptions of British companies already supplying the segment (Diagram 16). Secondly, they were asked how they thought British companies should best supply the market (Diagram 17).

1.7

BEST INFORMATION SOURCES AND INFLUENCES IN SPORTS COMPACT DRAG RACING

USA Sports Compact Drag Racing End Users were asked to identify where they obtained the latest information on the Sports Compact Drag Racing market (Diagram 18).

Diagram 14

What prompts you to buy new Components?: Sports Compact Drag Racing

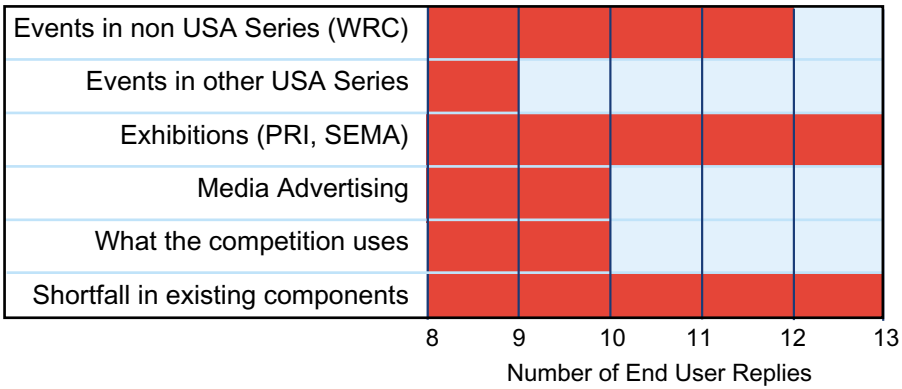


Diagram 17

Best Way for UK Companies to Supply the Market in Sports Compact Drag Racing

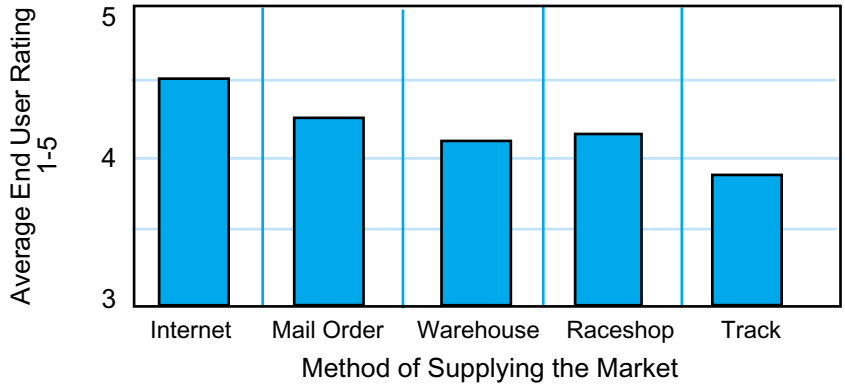
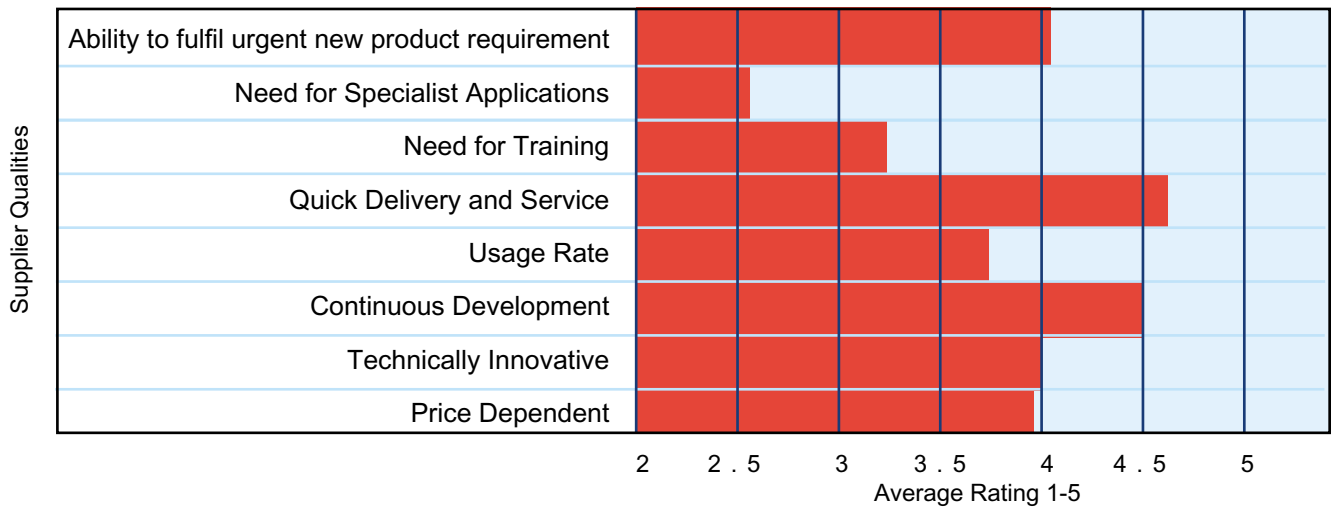


Diagram 15

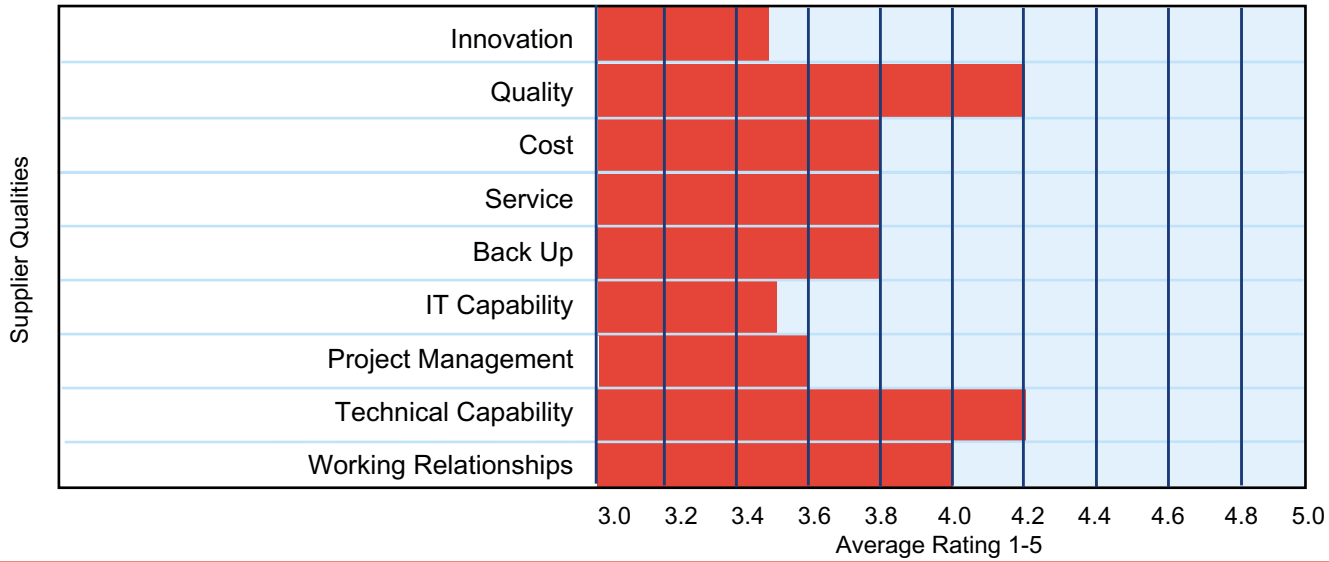
Current Supplier Rating: Sports Compact Drag Racing End Users



THE USA MOTORSPORT AND PERFORMANCE ENGINEERING MARKET - NICHES OF BUSINESS OPPORTUNITY FOR UK COMPANIES

Diagram 16

Capability of UK Companies Already in the Sports Compact Drag Racing Segment



1.8

FUTURE PRODUCT DEMAND IN THE SEGMENT

Sports Compact Drag Racing End Users were asked:

Q: "If there was one new product you were seeking in the next two years, what would it be?

The top three answers were:

- Bolt on turbochargers and superchargers.
- Body Kits.
- Transmission upgrades.

1.9

ADVICE FOR BRITISH COMPANIES

Sports Compact Drag Racing End Users were asked:

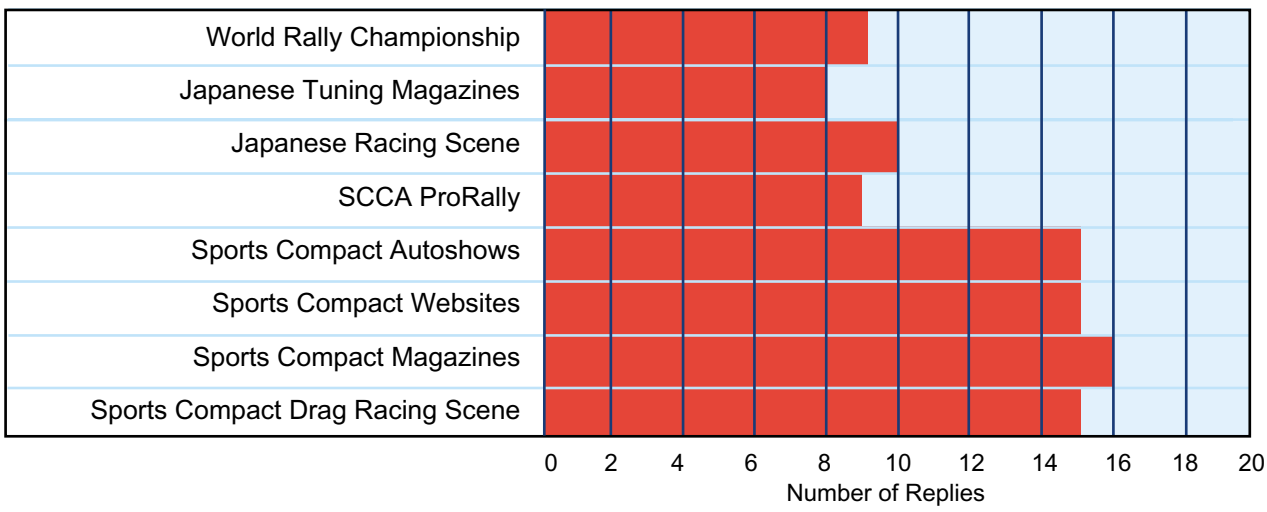
Q: "What would be the best piece of advice you would give to a British company entering the market?"

The top three answers were;

- Understand the unique Sports Compact (Import) culture.
- Utilise heavy advertising and promotion in the specialist Sports Compact media.
- Race your product in the Sports Compact Drag Racing Series.

Diagram 18

Best Information Sources and Influences in Sports Compact (Import) Drag Racing



PROFESSIONAL LEVEL STOCK CAR NICHE

2.0

PROFESSIONAL LEVEL STOCK CAR NICHE

2.1

CORE BRITISH COMPONENT COMPETENCES AND END USERS USAGE RATES

The expert panel designated seven areas of British competence in component manufacture. The USA Professional Level Stock Car End Users were then asked their purchasing frequency of items within each area of these British industry competences. The results are seen in Table 17.

2.2

CORE BRITISH TESTING AND DEVELOPMENT SERVICES AND END USER USAGE RATES

The expert panel designated five areas of British Testing and Development Services competence. The USA Professional Level Stock Car End Users were then asked to rate their purchasing frequency of services within each area of these British industry competences. The results are seen in Table 18.

2.3

MOST POPULAR WAY OF SUPPLYING COMPONENTS TO THE PROFESSIONAL LEVEL STOCK CAR MARKET

In the seven areas of component competence outlined in Section 2.1, the Professional Level Stock Car End Users were given five choices of supply chain preference (Diagram 19).

Table 17

Core British Component competences and End User Usage Rates in Professional Level Stock Car

Core British Component Competences	USAGE RATE Never	Low	Medium	High
Brakes				●
Clutches			●	
Gearbox			●	
Gearbox Components			●	
Instruments			●	
Hydraulic Transfer				●
Suspension Components			●	

Table 18

Core British Testing and Development Services and End User Usage Rates in Professional Level Stock Car

Core British Testing and Development Competences	USAGE RATE Never	Low	Medium	High
Aerodynamic Research				
Wind Tunnels			●	
CFD		●		
Mechanical Development				
Data acquisition			●	
Test and motion simulation		●		
Modelling Software		●		

Diagram 19

Most Popular Source of Supply of Components to Professional Level Stock Car End Users

PROFESSIONAL LEVEL STOCK CAR NICHE

2.4

MOST POPULAR WAY OF SUPPLYING TESTING AND DEVELOPMENT SERVICES TO THE PROFESSIONAL LEVEL STOCK CAR MARKET

In the five areas of Testing and Development services outlined in Section 2.2, USA Professional Level Stock Car End Users were given five choices of supply chain preference (Diagram 20).

2.5

CORE BRITISH COMPONENT COMPETENCES AND FUTURE END USER BUYING PATTERNS

The Professional Level Stock Car End Users were asked their future buying rates in each of the seven areas of British component competence over the next five years (Table 19).

2.6

CORE BRITISH TESTING AND DEVELOPMENT SERVICES AND FUTURE END USER BUYING PATTERNS

The Professional Level Stock Car End Users were asked their future buying rates in each of the five areas of British Testing and Development Services over the next five years (Table 20).

2.7

CURRENT SUPPLIER RATING BY THE END USER

The Professional Level Stock Car End Users were asked to rate their current suppliers in a number of areas on a scale from 1 to 5, where 5 was the highest rating (Diagram 21).

2.8

HOW END USERS DECIDE ON COMPONENT SUPPLIERS

The Professional Level Stock Car End Users were asked why (Diagram 22), and how (Diagram 23), they went about buying and sourcing new components from suppliers.

Table 19

Core British Component Competences and Future End User Buying Patterns in Professional Level Stock Car

Core British Component Competences	Future Increase in Purchasing?		
	No	Yes Increase	Yes Significant Increase
Brakes		●	
Clutches		●	
Gearbox		●	
Gearbox Components		●	
Instruments		●	
Hydraulic Transfer		●	
Suspension Components		●	

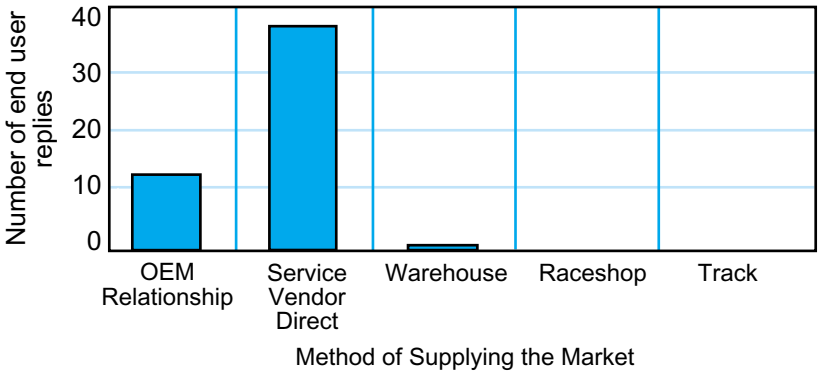
Table 20

Core British Testing and Development Services and Future End User Buying Patterns in Professional Level Stock Car

Core British Testing and Development Services	Future Increase in Purchasing?		
	No	Yes Increase	Yes Significant Increase
Aerodynamic Research			
Wind Tunnels		●	
CFD		●	
Mechanical Development			
Data Acquisition		●	
Test and Motion Simulation		●	
Modelling Software		●	

Diagram 20

Most Popular Source of Supply of Testing and Development Services for Professional Level Stock Car End Users



PROFESSIONAL LEVEL STOCK CAR NICHE

Diagram 21

Current Supplier Rating: Professional Level Stock Car End Users

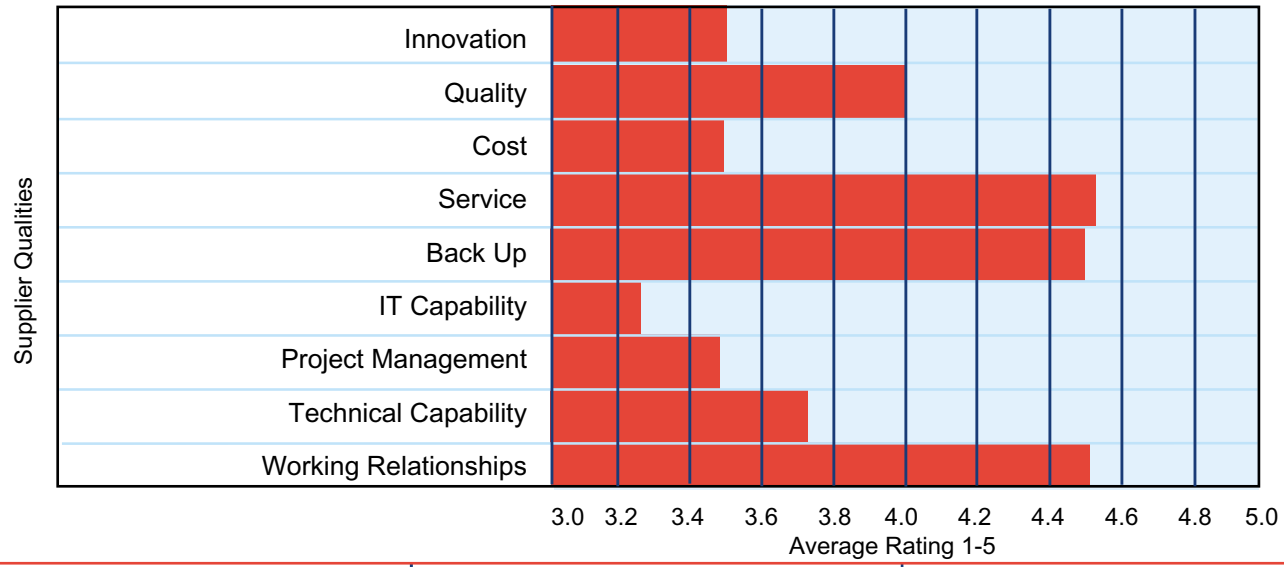


Diagram 22

What prompts you to buy new Components?: Professional Level Stock Car End Users

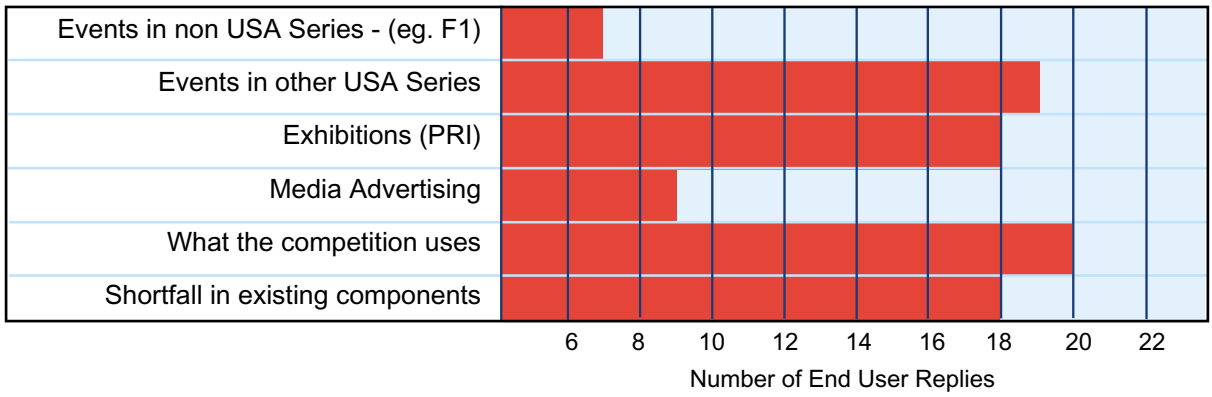
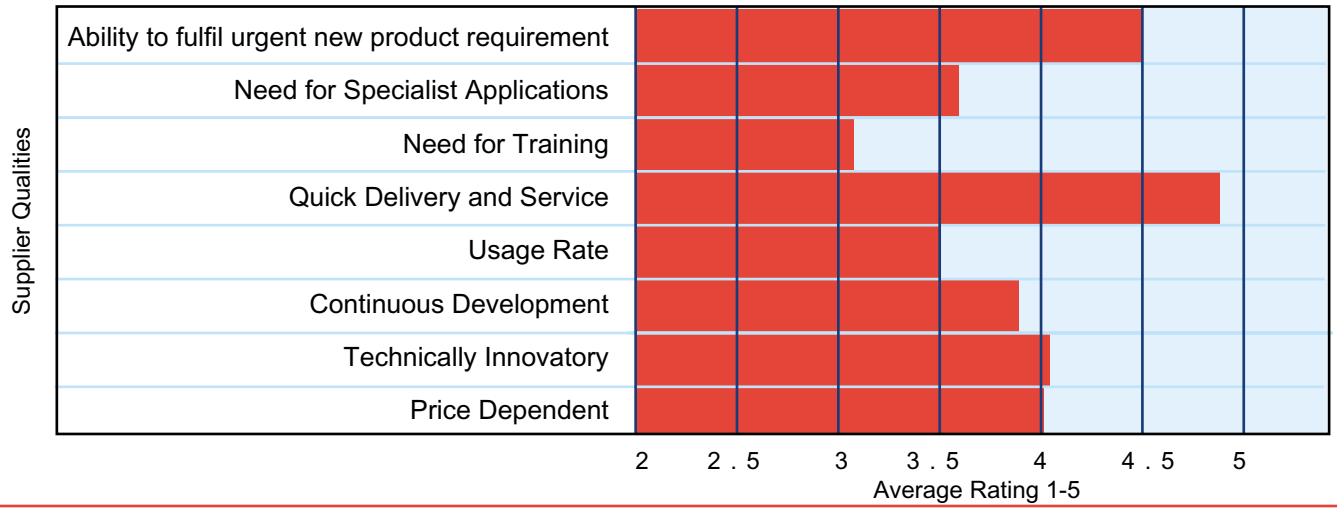


Diagram 23

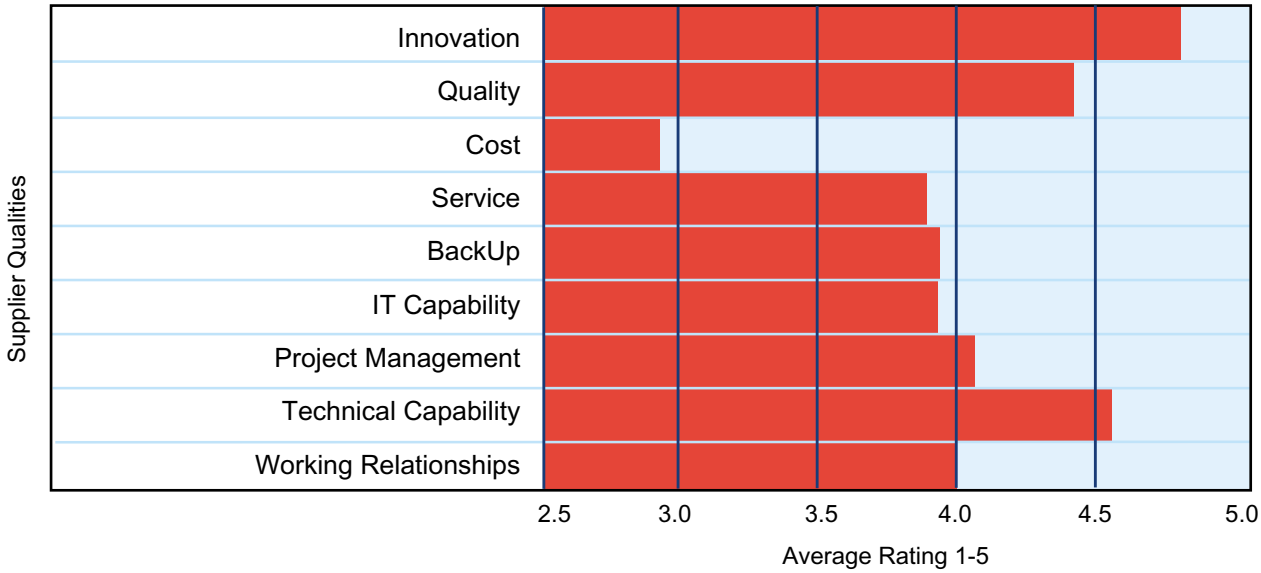
What Supplier Qualities are the End Users looking for?: Professional Level Stock Car



PROFESSIONAL LEVEL STOCK CAR NICHE

Diagram 24

Perception of UK Companies already in the segment: Professional Level Stock Car End Users



2.9

PERCEPTIONS OF BRITISH COMPANIES AND THE BEST WAY TO SUPPLY THE PROFESSIONAL LEVEL STOCK CAR SEGMENT

USA Professional Level Stock Car End Users were asked, firstly, of their perceptions of British companies already supplying the market (Diagram 24). Secondly, they were asked how they thought British companies should best supply the market (Diagram 25).

2.10

FUTURE PRODUCT DEMAND IN THE SEGMENT

Professional Level Stock Car End Users were asked:

Q: "If there was one new product you were seeking in the next two years, what would it be?"

Their top three answers were;

- Improved safety related components and services.
- Engine related performance improvements.
- Better heat transfer capabilities.

2.11

ADVICE FOR BRITISH COMPANIES

Professional Level Stock Car End Users were asked:

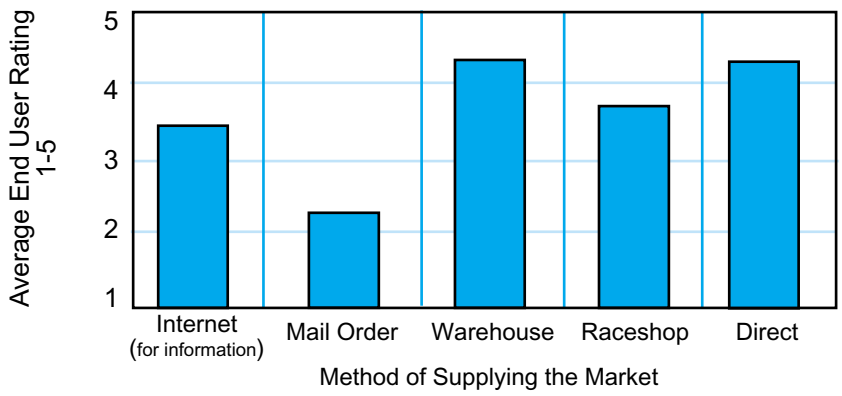
Q: "What would be the best piece of advice you would give to a British company entering the market?"

The top three answers were;

- Provide good USA distribution and service
- Don't be intimidated by technical restrictions in the rulebook.
- Employ a 'local' who understands stock car culture.

Diagram 25

Best way for UK Companies to supply the market: Professional Level Stock Car End Users



OEM PERFORMANCE ENGINEERING NICHE

3.0

OEM PERFORMANCE ENGINEERING NICHE

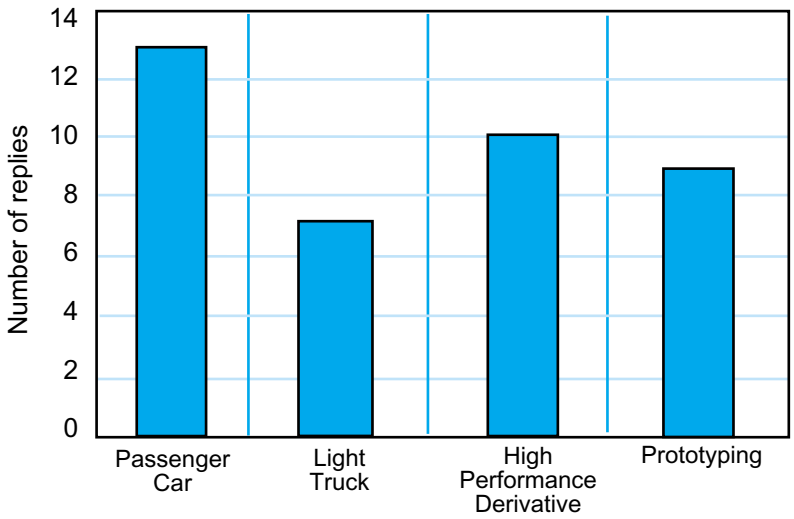
This report has defined Performance Engineering as high value added, low-volume manufacturing, through the combined application of high technology engineering disciplines and creative design.

3.1

OEM VEHICLE APPLICATION OF PERFORMANCE ENGINEERING

USA OEM End Users were asked to identify the vehicle application in which the capabilities of Performance Engineering were utilised (Diagram 26).

Diagram 26
OEM Vehicle Application for Performance Engineering



3.2

OEM ENGINEERING APPLICATION OF PERFORMANCE ENGINEERING

USA OEM End Users were asked to identify the most common engineering application of services bought from Performance Engineering companies (Diagram 27).

3.3

OEM'S RATING OF PERFORMANCE ENGINEERING COMPANIES' BUSINESS STRENGTHS

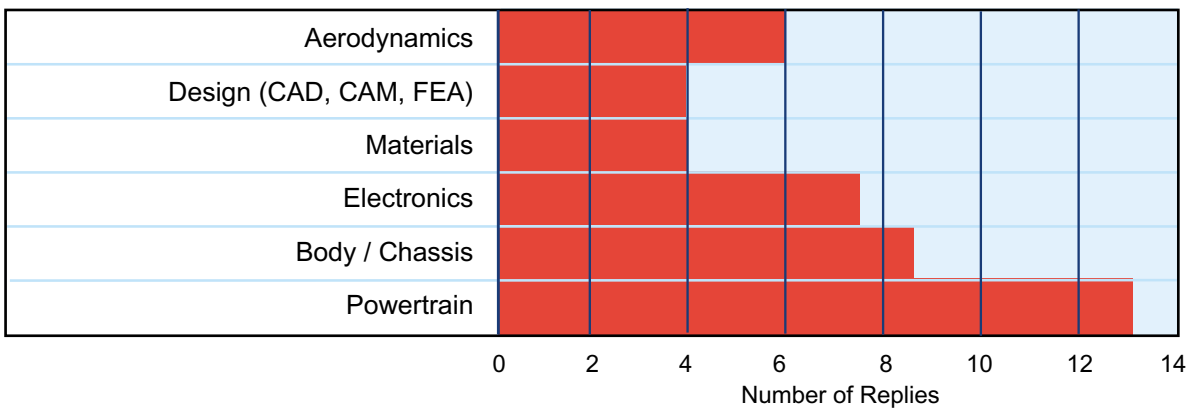
OEM End Users were asked to rate the importance of technological competence, speed of working, and engineering expertise when choosing to work with a Performance Engineering company (Diagram 28).

3.4

OEM PERCEPTION OF UK PERFORMANCE ENGINEERING TECHNICAL EXPERTISE

USA OEM End Users were asked to rate UK Performance Engineering in a number of specific areas of technical expertise (Diagram 29).

Diagram 27
OEM Engineering Application of Performance Engineering



SCALE SCOPE AND POTENTIAL OF THE USA MOTORSPORT & PERFORMANCE ENGINEERING MARKET

Diagram 28

OEM Rating of Performance Engineering Business Strengths

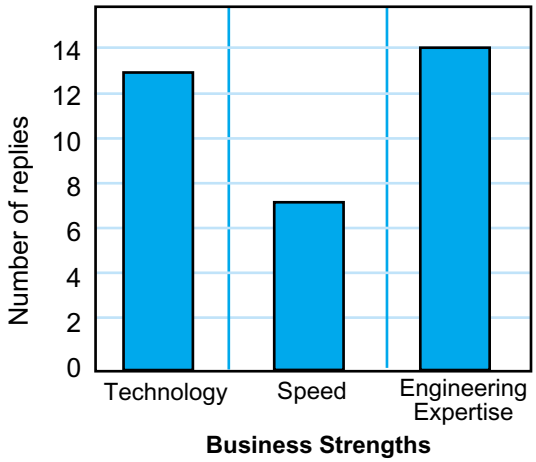


Diagram 29

UK Performance Engineering Expertise

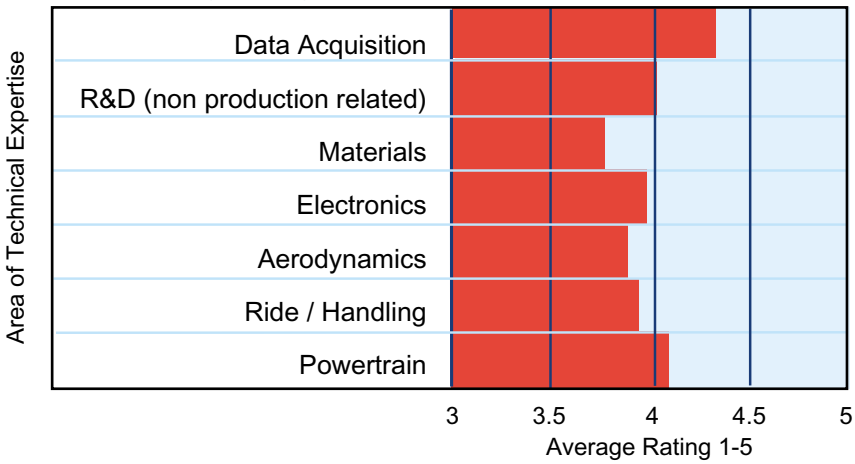
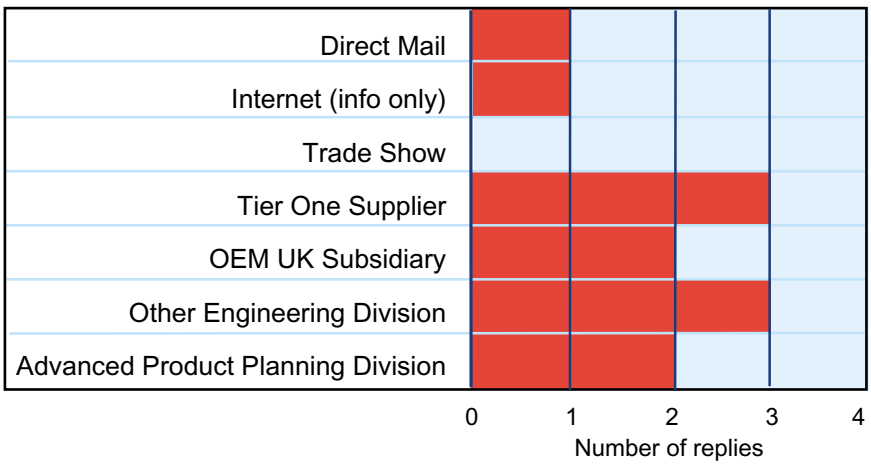


Diagram 30

Best way for UK Performance Engineering Company to link with USA OEM



3.5

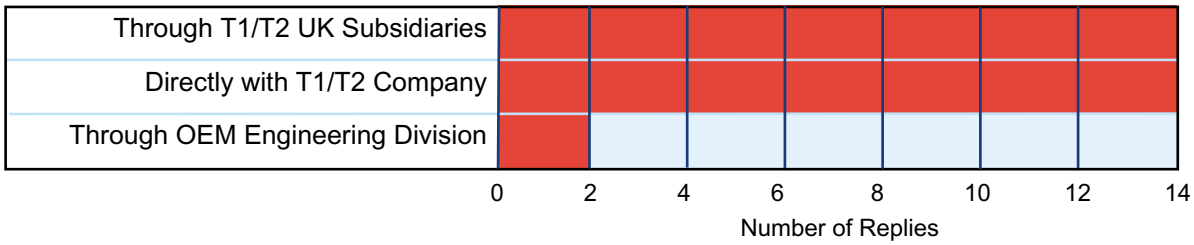
LINKING WITH A USA OEM MANUFACTURER

OEM manufacturers were asked to define the most successful method by which a UK Performance Engineering company could establish links with them (Diagram 30).

OEM PERFORMANCE ENGINEERING NICHE

Diagram 31

Best way for UK Performance Engineering Company to link with USA Tier 1 / Tier 2 Supplier



3.6

LINKING WITH A USA TIER 1/TIER 2 SUPPLIER

USA Tier 1 and Tier 2 suppliers were asked to define the most promising method by which a UK Performance Engineering company might establish links with them (Diagram 31).

3.7

MARKET TRENDS FOR OEM PERFORMANCE ENGINEERING OUTSOURCING

USA OEM End Users were asked to evaluate whether their demand for outsourced performance engineering service providers would be likely to change over the next five years and, if so, to what extent? (Diagram 32).

3.8

USA OEM CRITERIA FOR WORKING WITH A PERFORMANCE ENGINEERING COMPANY

USA OEM End Users were asked how important six specific criteria were in deciding whether to work with a UK or a USA performance engineering company (Diagram 33).

Diagram 32

Market Trends for OEM Performance Engineering Outsourcing

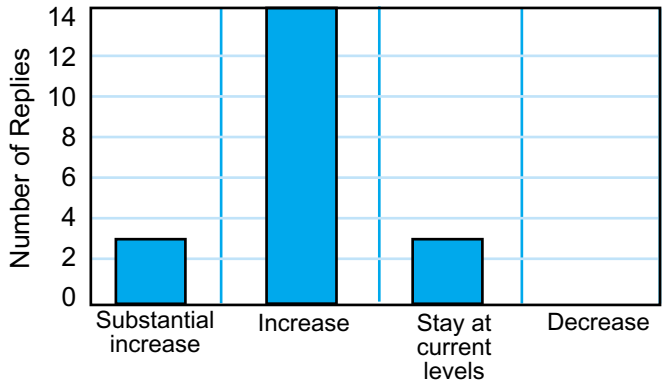
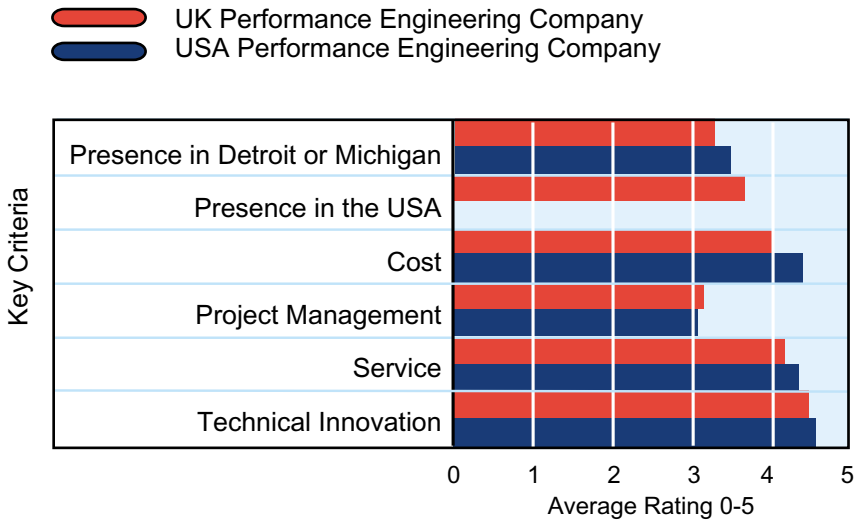


Diagram 33

USA OEM Criteria for Working with a Performance Engineering Company



3.9

FUTURE PRODUCT DEMAND IN THE SEGMENT

OEM Performance Engineering End Users were asked:

Q: "If there was one new product you were seeking in the next two years, what would it be?"

The top three answers were;

- Composite chassis.
- Hybrid powertrains.
- Low cost on board diagnostics .

3.10

ADVICE FOR BRITISH COMPANIES

OEM Performance Engineering End Users were asked

Q: "What would be the best piece of advice you would give to a British company entering the market?"

The top three answers were;

- Partner with a USA company with a good reputation and connections.
- Link with a T1 supplier by marketing the ability of motorsport performance engineering.
- Utilise existing OEM motorsport contact.

USA MOTORSPORT

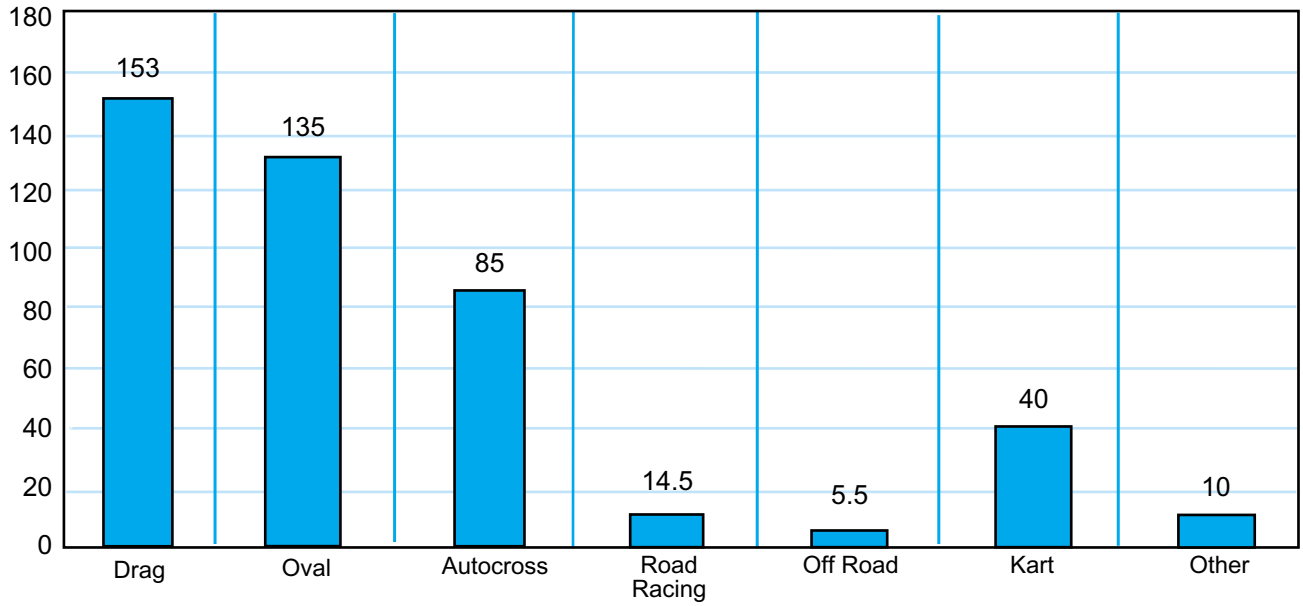
APPENDICES

2002

STATISTICS ON MOTORSPORT IN THE USA

1.

THE NUMBER OF USA MOTORSPORT COMPETITORS BY SEGMENT IN 2001 (IN 000'S)



Market Segment (Source: PRI)

2.

ORGANISING BODIES AND TRACKS

There were 1322 tracks in the USA in 2001 (excluding kart tracks for which no numbers were available) ranging from road-courses, to ovals, and to drag strips. See the maps on the following pages for a breakdown, by state, of these facilities, and a detailed breakdown in Appendix Two. These facilities hold competitions sanctioned by 197 organising bodies (Source: National Speedway Directory 2001).

3.

INDUSTRY SIZE AND LOCATION

The motorsport industry in the USA is estimated at 24,000 businesses (source: PRI), in both engineering and services. The total number of employees in the industry is estimated at 120,000 (source: PRI). The USA motorsport industry is located in two main areas. One area in Indianapolis, around the Indianapolis Motor Speedway which consists mainly of open wheel teams and their suppliers.

The other is in North Carolina. Clemson University, claim that about 65% of the nation's race car teams, including most NASCAR teams, are located in the 'motorsport corridor', running roughly from Atlanta to Mooresville, N.C., just north of Charlotte.

STATISTICS ON MOTORSPORT IN THE USA

4.

SEMA SALES FIGURES

USA Manufacturers Level Sales of Aftermarket Products, by Market Segment (in $ Billions)
(Motorsport in Italics)

Segment	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Specialty Accessories and Appearance	1.85	1.83	2.07	2.42	2.68	2.97	3.23	3.59	3.97	4.44	4.83
Racing and Performance	*1.33*	*1.25*	*1.30*	*1.41*	*1.43*	*1.49*	*1.52*	*1.57*	*1.66*	*2.00*	*1.74*
Wheels/ Tyres and Suspension	1.17	1.11	1.21	1.31	1.36	1.51	1.57	1.69	1.84	1.73	2.12
TOTALS	**4.35**	**4.19**	**4.58**	**5.14**	**5.47**	**5.97**	**6.32**	**6.85**	**7.47**	**8.17**	**8.69**

Source: SEMA Website

USA Retail Level Sales of Aftermarket Products by Market Segment (in $ Billions)

Segment	1998	1999	2000
Specialty Accessories and Appearance	11.40	11.84	13.82
Racing and Performance	*5.20*	*8.70*	*4.98*
Wheels/Tyres and Suspension	4.60	4.22	6.07
TOTALS	**21.20**	**24.76**	**24.87**

Source: SEMA Website

USA TRACKS BY STATE (2001)

APPENDIX TWO

USA TRACKS BY STATE (2001) – MAPS OF TABLE ON FOLLOWING PAGES

State	Population (m) in 2000	Drag Strips	Permanent Road courses	Ovals (all surfaces)	State Total (see Note 2)
Alabama	4.4	17	2	30	49
Alaska	0.6	2	0	5	7
Arizona	5.1	3	1	10	14
Arkansas	2.7	4	0	17	21
California	33.9	13	7	45	65
Colorado	4.3	4	5	11	20
Connecticut	3.4	0	1	3	4
Delaware	0.8	1	0	5	6
Florida	16.0	12	5	28	45
Georgia	8.2	11	2	25	38
Hawaii	1.2	4	1	3	8
Idaho	1.3	2	0	9	11
Illinois	12.4	7	2	40	49
Indiana	6.1	8	3	47	58
Iowa	2.9	4	0	46	50
Kansas	2.7	5	1	29	35
Kentucky	4.0	9	0	30	39
Louisiana	4.5	5	0	10	15
Maine	1.3	2	0	8	10
Maryland	5.3	5	0	3	8
Massachussetts	6.3	0	0	2	2
Michigan	9.9	8	3	38	49
Minnesota	4.9	3	1	32	36
Mississippi	2.8	9	0	16	25
Missouri	5.6	7	0	31	38
Montana	0.9	2	0	8	10

USA TRACKS BY STATE (2001)

APPENDIX TWO

USA TRACKS BY STATE (2001) – MAPS OF TABLE ON FOLLOWING PAGES

State	Population (m) in 2000	Drag Strips	Permanent Road courses	Ovals (all surfaces)	State Total (see Note 2)
Nebraska	1.7	2	0	22	24
Nevada	2.0	3	1	11	15
N. Hampshire	1.2	1	2	14	17
N. Jersey	8.4	3	0	6	9
N. Mexico	1.8	5	2	11	18
N. York	19.0	6	3	46	55
N. Carolina	8.0	17	1	37	55
N. Dakota	0.6	2	0	14	16
Ohio	11.3	11	2	36	49
Oklahoma	3.5	4	1	24	29
Oregon	3.4	6	1	12	19
Pennsylvania	12.3	6	2	51	59
Rhode Island	1.0	0	0	1	1
S. Carolina	4.0	9	1	20	30
S. Dakota	0.8	2	0	12	14
Tennessee	5.7	14	1	31	46
Texas	20.9	21	5	50	76
Utah	2.2	3	0	3	6
Vermont	0.6	0	0	3	3
Virginia	7.1	10	0	19	29
Washington	5.9	4	3	15	22
W. Virginia	1.8	2	1	11	14
Wisconsin	5.4	3	1	42	46
Wyoming	0.5	1	0	7	8
TOTAL	**281.4**	**282**	**61**	**1029**	**1372**

FOOTNOTES

Note 1: Only the above-mentioned states have listed motorsport facilities.

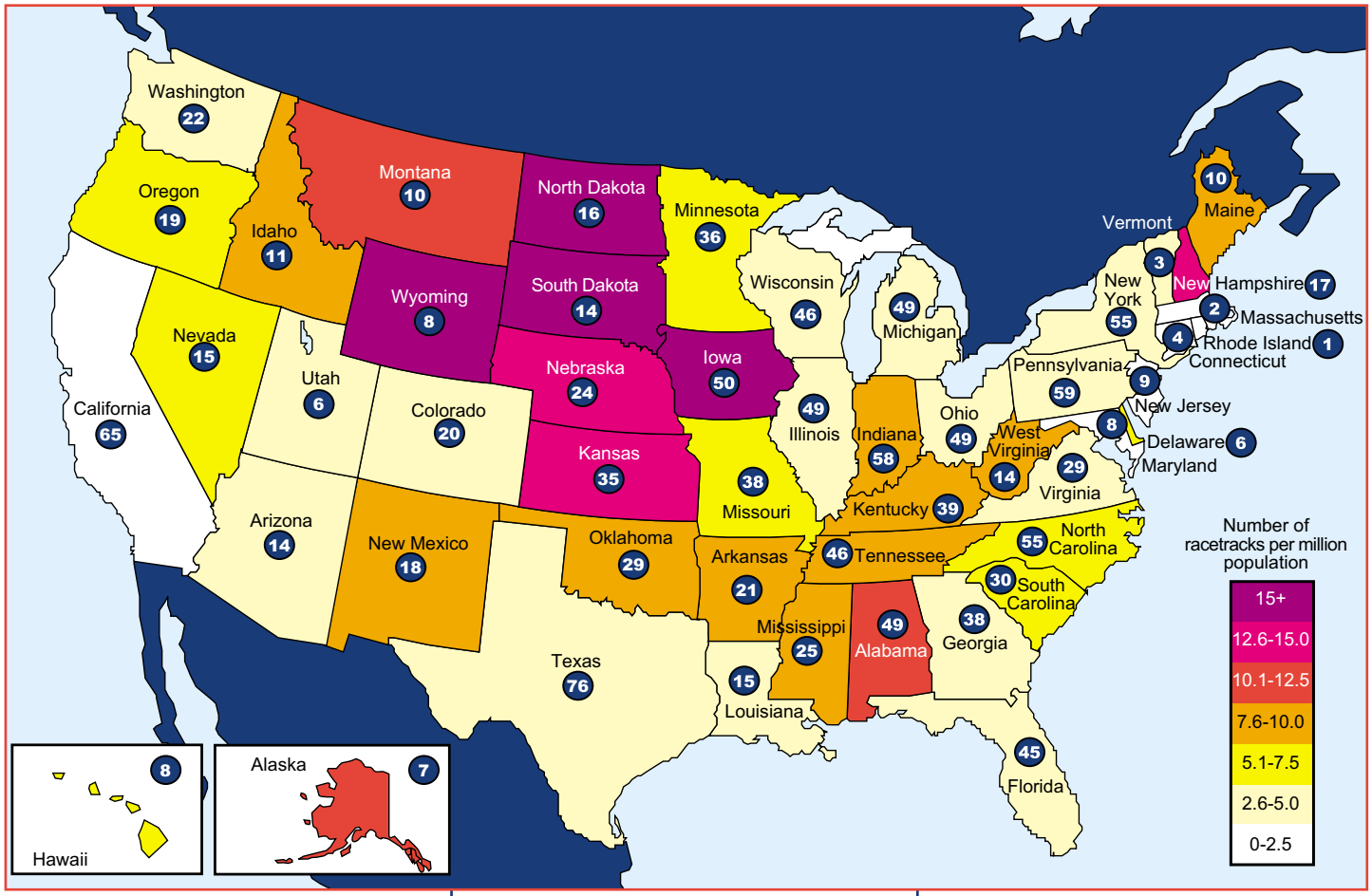
Note 2: There are 1322 separate motorsport facilities in the USA in 2001. The figure of 1372 indicates the 50 facilities which have dual, or occasionally triple, track usage, ie. drag and road, or oval and drag etc.

Note 3: Does not include tracks utilised for karts only (oval or road).
Source of figures: National Speedway Directory 2001.

USA RACETRACKS BY STATE (2001)

Map 1

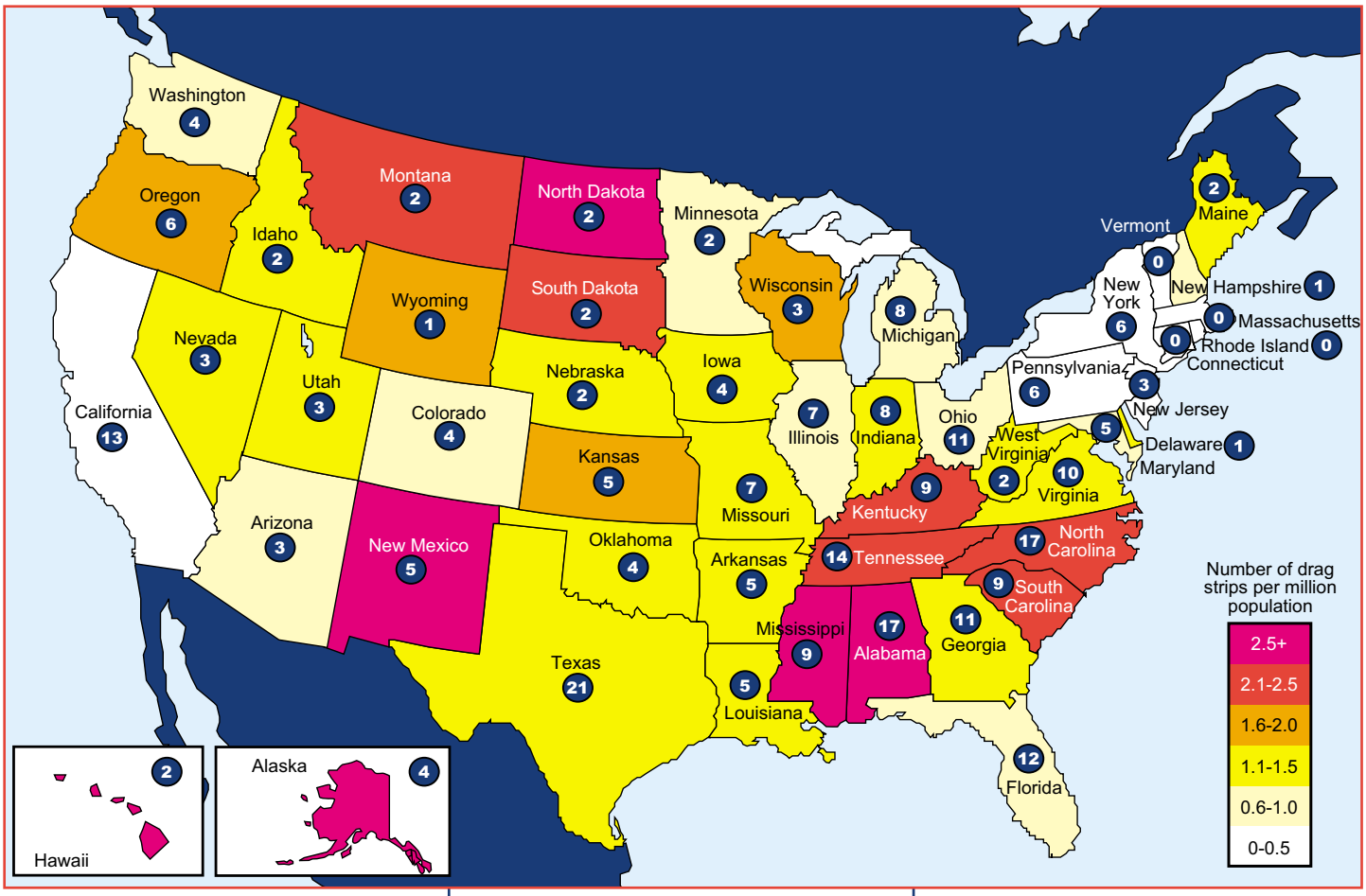
Map showing the number of racetracks per state, and number of racetracks per million of the population



USA DRAGSTRIPS BY STATE (2001)

Map 2

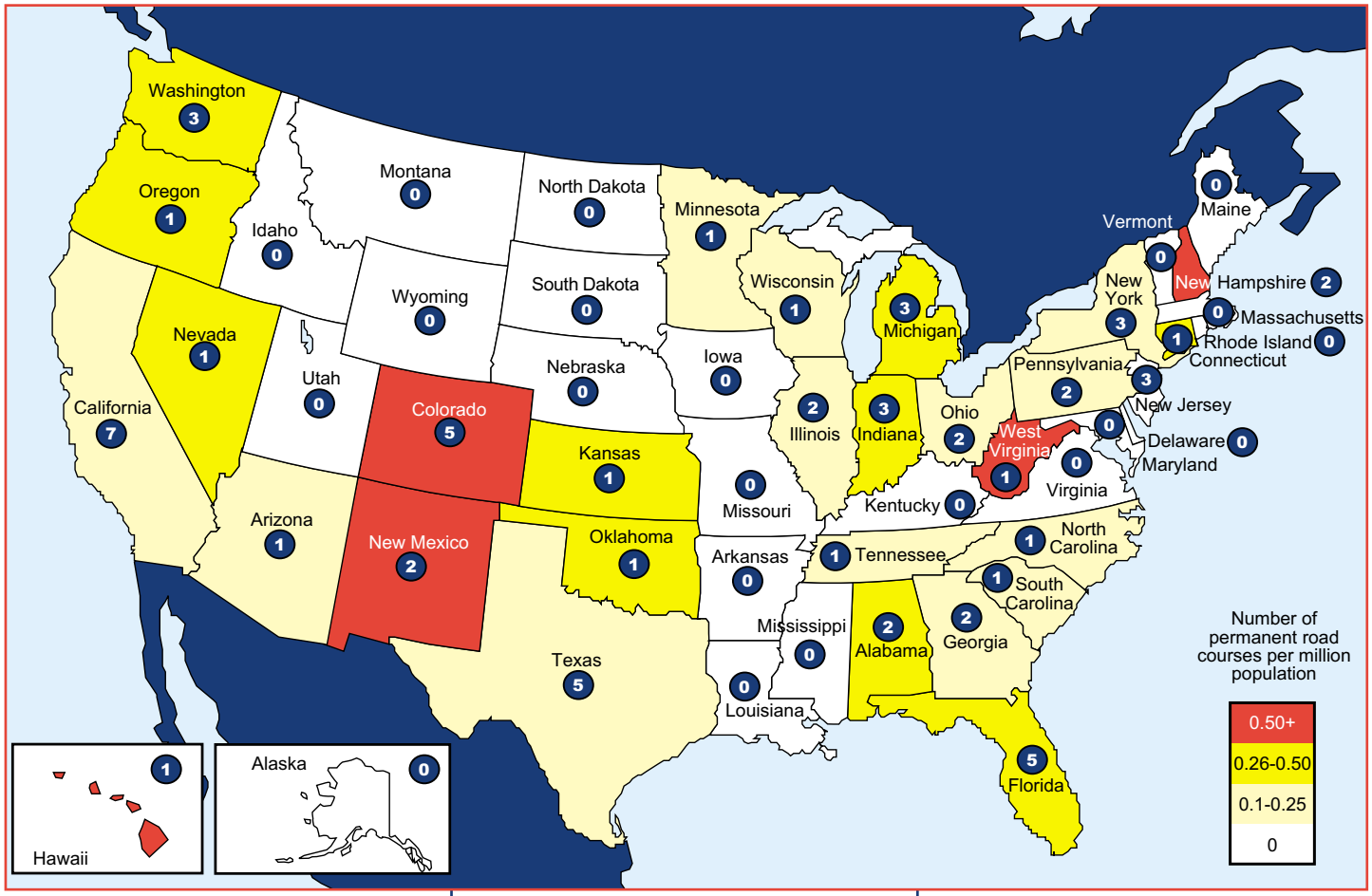
Map showing the number of dragstrips per state, and number of dragstrips per million of the population



USA PERMANENT ROAD COURSES BY STATE (2001)

Map 3

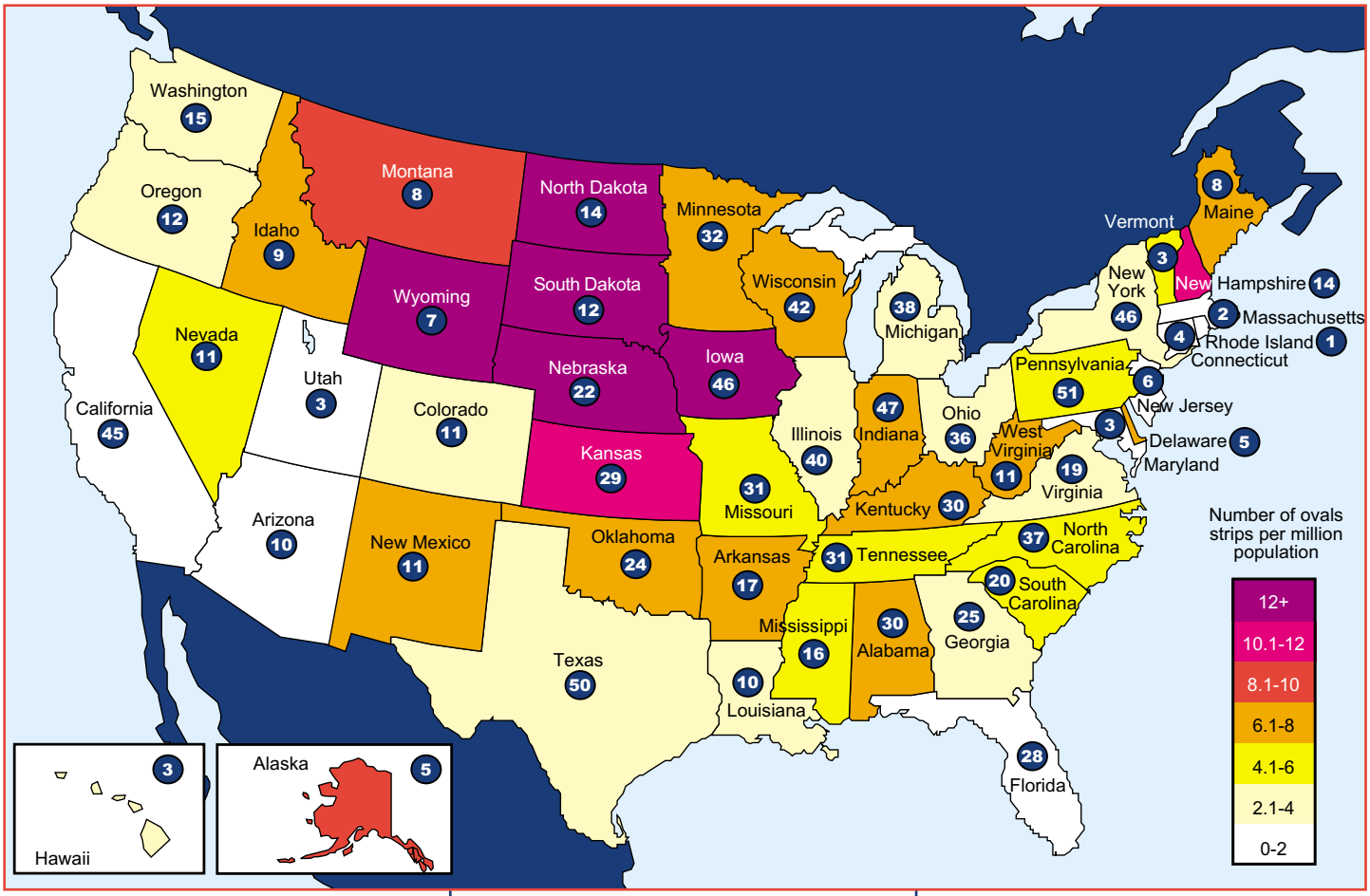
Map showing the number of permanent road courses per state, and number of permanent road courses per million of the population



USA OVALS BY STATE (2001)

Map 4

Map showing the number of ovals per state, and number of ovals per million of the population



TURNOVER AND EMPLOYEES FOR SOME NASCAR COMPANIES

Company Name	Most recent turnover figures ($ million)	Most recent employee figures	Notes
1. Track Owners These 3 organisations effectively control the majority of the top end series NASCAR fixtures.			
International Speedway Corporation (ISC)	528.5	Unknown	Owned by France family who also run NASCAR. Roger Penske major shareholder after selling his tracks to ISC in 2001. 12 tracks.
Speedway Motorsports Inc (SMI)	400	680	6 tracks including the Texas Motor Speedway.
Dover Downs Entertainment Inc	300	Unknown	5 tracks
2. Teams			
Roush Racing Inc	115	400	Runs 8 teams in top 3 NASCAR categories
Dale Earnhardt Inc	Unknown	240	
Joe Gibbs Racing	Unknown	170	
Bill Davis Racing	Unknown	125	
Richard Childress Racing	Unknown	275	
Source: bizjournals.com (USA business website)			

NASCAR TOURING SERIES

NASCAR Touring Series	Number of Races in 2002	Number of Regular Drivers in 2002	Series Details
Busch North	18	41	The Busch North Series is NASCAR's premier Regional Series, featuring full-bodied stock cars in the North East of the USA.
Winston West	10	42	Based in the West Coast and Rockies.
Raybestos Brakes Northwest	15	21	This series, based in the USA Northwest, is one of four NASCAR regional touring series, along with the Hills Bros All Pro Series, Featherlite Southwest Series, and RE/MAX Challenge Series, that features Late Model cars under one blanket of rules that allows them to compete on a regional basis as well as at national events that highlight each of the four series.
Hill Bros All Pro	13	37	See above. Series based in the South of the USA.
Featherlite Southwest	14	44	See above. Series based in the Southwest of the USA.
RE/MAX Challenge	13	24	See above. Series based in the Midwest and Rocky Mountain States
Featherlite Modified	19	36	Operating as the oldest division of NASCAR, this series is the only open-wheeled series in the NASCAR Touring Division. Based in the North East of the USA.
Goody's Dash	14	50	This series is for scaled down versions of a NASCAR Winston Cup car. All the other Touring Series utilise V8 engines while this series uses 4 and 6 cylinder engines. Series based in the South of the USA. Seems to be the only NASCAR Series with Japanese manufacturer involvement, with Toyota Racing Developments successful participation with a Celica.
Source: NASCAR website			

LATE MODEL ASPHALT SERIES IN THE USA

Name of Series	Number of Races in 2002	Geography of Series in the USA
American Challenge Series	11	South
American Canadian Dodge Tour	16	North East
ARCA RE/MAX Series	22	Mid West and South
American Speed Association Racing Series	20	National
FASCAR Goodyear Late Model Challenge	11	Florida
Florida Pro Series	12	Florida
Shooter's Iceman Super Car Series	9	North Central
Intermountain Late Model Series	12	Rockies
CRA Sunoco Super Series	19	Mid West
Main Event Racing Series	13	Mid West
Planet Pages Mid West All Star Racing Series	14	Mid West
Planet Pages Mid-American Stock Car Series	14	Mid West
Pro All Star Series	13	North East
USAR Hooters Pro Cup Series	32	South and Mid West
ROMCO Super Late Model Series	13	Texas
Checkered Flag/Gagel's Late Model Sportsman	15	South
Southern All Stars Asphalt Series	21	South
SRL Wild West Shootout	12	California
Racecar Engineering Sunbelt Super Series	11	Florida
Wisconsin Challenge Series	7	Wisconsin
UARA Southern Touring Auto Racing Series	12	South
Unsanctioned One Off Races	45	National

Source: Series Websites.

DECISION MAKERS AND OEM RELATIONSHIPS

Market Segment	Major Decision Makers	Relationship to OEM's
1. Oval Racing		
(a) Stock car - Pro	NASCAR, Track owners (ISC, Speedway Motorsports Inc, Dover Downs), Teams (Roush, Hendricks, Yates, etc), Manufacturers (see right)	**High** Dodge, Pontiac, Chevrolet, Ford all heavily involved.
Stock car - Middle	As Above	**Medium** most USA OEM's involved but at a lower level than NASCAR.
Stock car - Amateur	NASCAR and local promoters	**Low** suppliers only
(b) Open wheel - Pro	IRL - Indianapolis Motor Speedway, Penske	**Medium** IRL Engine supply (Chevrolet, Toyota, Nissan)
Open wheel - Amateur	Local organisers and teams	**Low** component supply only
2. Drag Racing		
(a) Professional	Main Organiser (NHRA) and track owners	**Medium** GM and Daimler Chrysler involved as sponsors.
(b) Amateur	NHRA plus local promoters, Sports Compact culture	**Medium** Ford, Toyota, Chevrolet
3. Off Road	Organisers (SCORE, CORR)	**Medium** Ford, Chevrolet and Toyota.
4. Rallying	SCCA, Importers of Japanese manufacturers; Subaru, Mazda, Mitsubishi	**Medium** Japanese importers like Mazda, Subaru and Mitsubishi involved at ProRally level. No domestic USA involvement.
5. Road Racing		
(a) Professional	Indianapolis Motor Speedway, Panoz.	**Medium** Japanese and European importers; Honda, Toyota, Audi. Some USA; Ford, GM.
(b) Amateur	Organiser (SCCA)	None
6. Karting	Engine manufacturer (Briggs and Stratton)	None
7. Autocross	SCCA, Sports Compact culture	None

USA MARKET TRENDS

Market Segment	Potential overall growth of segment over next 5 years	Potential growth of British industry's share of sector over next 5 years	Latest Developments in segment
1. Oval Racing			
(a) Stock car - Pro	**Static in short term** but increasing?	**High** componentry, engineering consultancy, aerodynamic consultancy, data logging.	**Political** possible monopoly complaint against NASCAR from SMI. **Technical** F1 'trickle up' occurring as bigger teams become more professional and sponsorship money gravitates upward. Slowly becoming more open to new technology. Safety; data logging and crushable structures.
Stock car - Middle	**Static**	**Medium** trickle down from above areas	As above
Stock car - Amateur	**Static**	**Low**	Static
(b) Open wheel - Pro	IRL-**High** Sprint Cars - **Static**	IRL – **High** Sprint Cars - **Low**	IRL: CART teams migrate to IRL, increasing professionalisation of latter. Sprint Cars - static
Open wheel - Amateur	**Static**	**Low**	Static
2. Drag Racing			
(a) Professional	**Medium**	**Low** transmissions, data logging.	Increasing use of electronics and data logging
(b) Amateur	**High**	**Medium** Sports Compact	Growth of grassroots, particularly Ford Mustang and Sports Compact Market (Japanese cars and Ford Focus).
3. Off Road	**Static**	**Medium** - transmissions	Growth of more TV friendly 'stadium racing'.
4. Rallying	**High**	**High** Japanese imports	SCCA ProRally taking off. Growth of Japanese Sports Compact.
5. Road Racing			
(a) Professional	Political situation makes it hard to judge	No growth but already a virtual monopoly	CART v IRL, continuing fragmented sportscar series
(b) Amateur	**Low**	**Low**	Production car racing on the increase, particularly Japanese Sports Compact.
6. Karting	**Low**	**Medium** - 'clean' technology	Indoor Karting
7. Autocross	**Medium**	**Medium** Japanese Sports Compact	Two cars competing on mirror image courses concurrently. Increasing use of Japanese Sports Compact.
8. OEM Performance Engineering	**High**	**High**	Outsourcing of supply chain, particularly in specialist vehicle segments.

INDIGENOUS AND OVERSEAS SUPPLIERS IN THE USA MARKET

Market Segment	Indigenous or imported?	Major USA Suppliers	UK suppliers and level of involvement	Threat to UK from USA?
1. Oval Racing				
(a) Stock car - Pro	**Indigenous** apart from, brakes (UK and Italy), hoses (UK) data logging (UK), some aerodynamics (UK)	Teams/Constructors - Yates, Roush, Hendrick, Earnhardt, Gibbs, Davis etc, Gearboxes - Jericho, Tex, Chassis – Laughlin Racing Products, Hess	**Medium** Brakes, clutches (AP, Alcon), Hoses (Goodridge), Data acqusition (Pi) Aerodynamic research (Reynard)	**Possibly** Brakes, clutches
Stock car - Middle	**Mainly indigenous**	Engines - Automotive Specialists, Clements. Chassis - Laughlin Racing Products, Hess, Chas Howe. Components – Bassett, Circle, Willwood, Performance Friction	**Low** Brakes (AP, Alcon) Hoses (Goodridge)	**No**
Stock car - Amateur	**Indigenous**	AFCO, Sierra Products CB Products plus local suppliers	**None**	**No**
(b) Open wheel - Pro	IRL – Chassis (UK/Italy) Engines (Japan, USA, UK) Gearbox (UK) Brakes (UK) Sprint Car - indigenous	IRL – none significant Sprint Car Chassis – Maxim, Eagle, J&J, Avenger, Twister. Engines – Gurdy, Westmore, Don Shaver, Kistler.	IRL – Chassis (G-Force) Engines (Ilmor) Gearbox (Xtrac) Brakes (AP, Alcon) Sprint Car - None	**No**
Open wheel - Amateur	**Indigenous**	As Sprint Car above	**None**	**No**
2. Drag Racing				
(a) Professional	**Mainly indigenous**	Summit Racing, Jeg's, Moroso, Holley, Screaming Eagle, Mopar, Hoosier	**None significant**	**Possibly** expansion of series into Europe
(b) Amateur	Both – Domestic cars indigenous, Sports Compact imported (Japan)	Jackson Racing, Summit Racing, DC Motorsport, Tripoint Engineering	**Low** imported Japanese cars only (Helix, Quaife, Goodridge)	**Possibly** Japanese Sports Compact market
3. Off Road	**Mainly Indigenous**	Baja Racing Products, Race Ready Products, Four Wheel Parts	**Low** Land Rover, transmissions.	**No**
4. Rallying	**Both** Domestic cars indigenous Sports Compact imported (Japan and UK)	Prodrive USA, TAD Motorsports, AV Motorsports, Cascade.	**Medium** Prodrive involved, Goodridge	**No**

Continued overleaf

INDIGENOUS AND OVERSEAS SUPPLIERS IN THE USA MARKET

Market Segment	Indigenous or imported?	Major USA Suppliers	UK suppliers and level of involvement	Threat to UK from USA?
5. Road racing				
(a) Professional	**Both** UK chassis, engine, brakes, data acquisition.	Haas, Panoz, Riley and Scott, Motorsports Spares, Swift, Womack Engineering, Roush, Sunbilt	**High** Chassis (Reynard, Lola) Engines (Cosworth, Ilmor) Gearbox (Xtrac, Ricardo Gemini, Hewland) Data acquisition (Pi) Brakes (AP, Alcon)	**No**
(b) Amateur	**Both** European chassis in single seater category, incl UK	Carbir, Swift, Citation, Hayashi, Predator, KBS, Gunn	**Medium** Chassis (Van Diemen, Ralt) Gearbox (Hewland) Data acquisition (Pi)	**No**
6. Karting	Chassis – indigenous apart from top end road racing. Engines – indigenous except for Yamaha imports	Briggs and Stratton, Tecumseh	**None**	**Possibly** four stroke technology
7. Autocross	**Both** Dependent on location of OEM	Summit, Jeg	**Low** Japanese Sports Compact	**No**
8. OEM Performance Engineering	**Both**	Roush, Pratt and Miller, McLaren Performance (USA).	**Medium** Prodrive, Zytec, Lotus, Ricardo, Reynard, Ilmor, Xtrac.	**No**

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The aim of the MIA is to provide a service and give advice to companies in the industry, and promote and protect their interests. We also provide information, assistance and encouragement to our membership in all aspects of business development, particularly in export sales opportunities and in liaison with government. We promote the achievements of our members, and those of the industry, to the business and general media.

The MIA was founded in 1994 and now has over 240 members, who transact over £5 billion of motorsport business worldwide.

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