

# Size and health of the UK space industry 2008

## Executive summary



The British National Space Centre (BNSC) is a partnership of seven Government Departments, two research councils, the Met Office and the Technology Strategy Board. It co-ordinates UK civil space activities and represents the UK at the European Space Agency. For more information, visit [www.bnsc.gov.uk](http://www.bnsc.gov.uk)

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Front cover image. Skynet 5  
**Credit:** Astrium

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This document is the Executive Summary of the 2008 Update of the Survey of the Size and Health of the UK Space Industry. It was undertaken by ESYS Limited on behalf of the British National Space Centre (BNSC) and covers the years 2005/6 and 2006/7.

The Size and Health Survey has been undertaken periodically since 1991. In 2001 the scope was expanded to include the downstream sector – the applications and services that use space – and this is the fourth such survey to include this sector. This means the growth of the complete UK Space industry, covering the upstream (providers of space technology) and downstream (users of the technology), can be compared over a period of eight years.

#### Upstream and Downstream market definitions

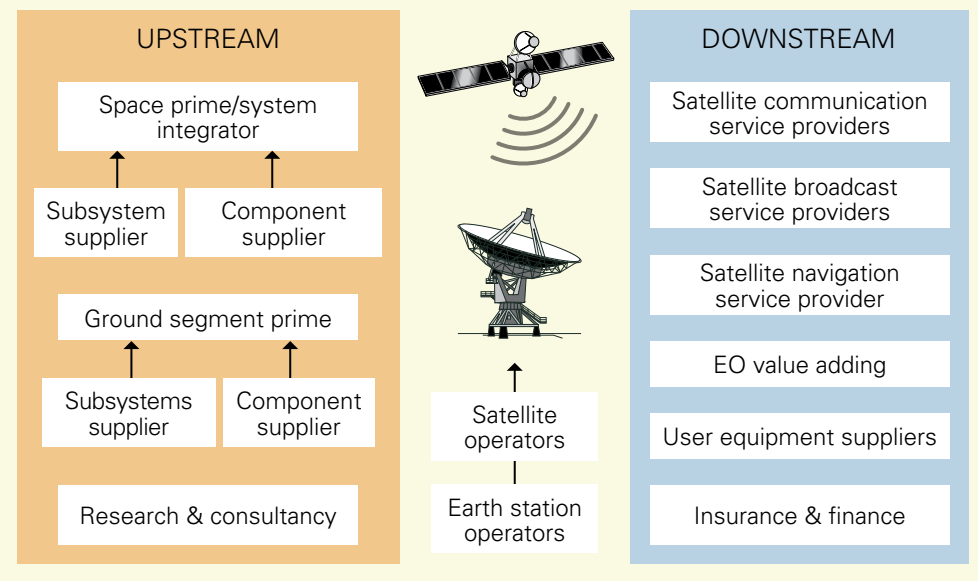


Figure 1

Over 200 companies contributed to the survey, ranging from one man companies up to multi-million pound turnover multinationals. The results were compared to previous surveys and a number of trends identified. A key trend is consolidation in the industry which meant that many participants in previous surveys had merged or been taken over and so did not respond. However an encouraging aspect of the 2008 survey is that 39 companies responded who had not done so before. This indicates that the survey continues to reach out across the UK space industry.

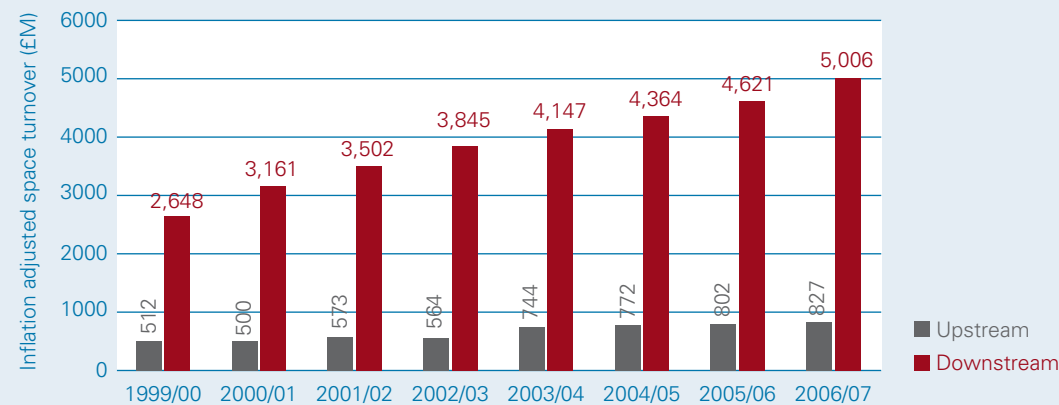
The survey, as well as requesting respondents to give their views of growth prospects in the 2-5 years time frame, were also asked to estimate figures for the current (2007/8) financial year. The overwhelming majority did so, ensuring that the survey provides an up to date view of the state of the industry.

The 2008 survey includes information on 208 companies actively involved in the space industry. The companies provided details of their Space Related turnover for the years 2005/6 and 2006/7. For some companies, nearly all their business is space related. For others, the space sector represents less than 10% of their business.

The companies ranged in size from those with a total turnover of less than £100K up to companies with a turnover of over £10 billion. Space related turnover ranged from £10K in one case up to more than £3 billion for a downstream service provider. The total turnover in 2006/7 was £5.8 billion, continuing the trend of steady growth shown in previous surveys. This divided into an upstream turnover of £827 million and a downstream turnover of £5,006 million. The following chart shows the historical trend since the 1999/2000 survey, with all values expressed at 2007 economic conditions:

Figure 2

#### Trend in UK upstream and downstream space turnover 1999-2007



This shows that total turnover grew in real terms by 5% between 2004/5 and 2005/6 and by nearly 8% between 2005/6 and 2006/7. Growth was highest in the downstream sector but the upstream sector showed a 4% growth rate in real terms. Downstream represents 85% of the total turnover, very much in line with previous surveys.

Of the companies involved in the industry, 70% have a space related turnover of less than £1 million but a number of companies have moved into the higher turnover categories of £10-100 million and over £100 million, indicating both growth and consolidation in the industry. The proportion of companies dependent on the space industry for more than 75% of their turnover is similar to previous surveys at around 33%, with 40% of companies deriving less than 25% of their revenues from the space sector.

The upstream turnover at £827 million has increased from £725 million (£772 million inflation adjusted) in the 2006 survey. The business categories used in the 2008 survey are the same as in the 2006 survey, allowing a direct comparison. In the upstream sector, space prime is the leading category but at £289 million is slightly lower than in the previous survey, with the proportion of the total upstream revenue falling from 44% to 36%. However, the space subsystem category has shown a significant rise so that the two categories combined are a similar proportion of the total. This may indicate a change in the nature of the business in the UK with a growing emphasis on the provision of payload subsystems rather than complete spacecraft.

Business categories in the upstream sector

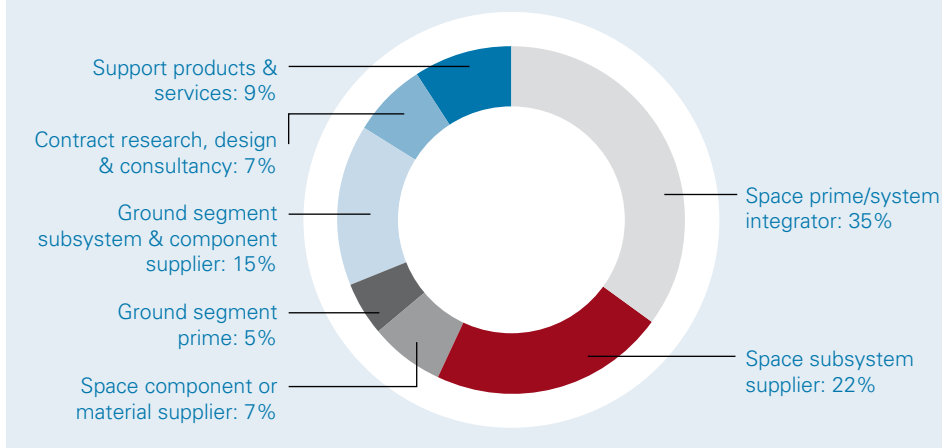
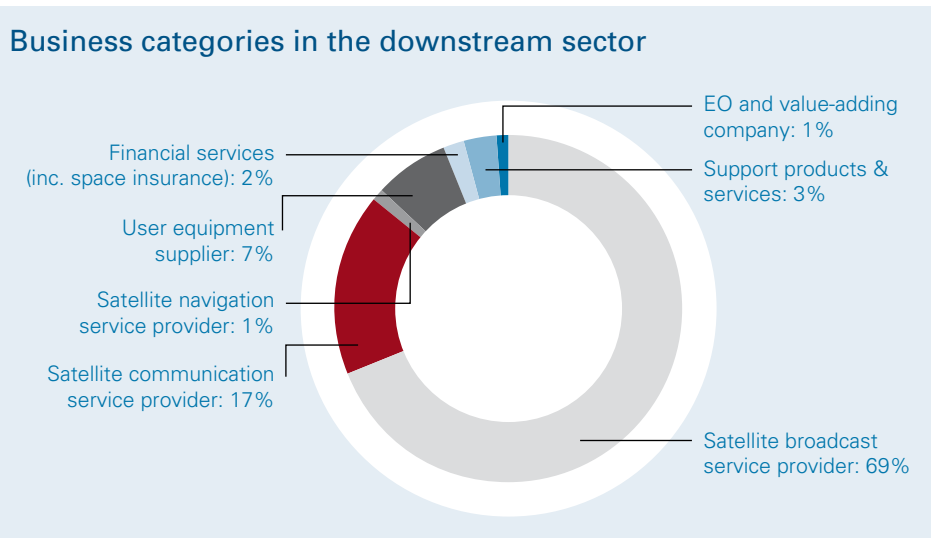


Figure 3

The proportions in the other categories are identical to the 2006 survey with the exceptions of contract research, design and consultancy that has seen a significant decline, an issue noted in individual returns from companies active in these sectors; and support products and services which has grown, reflecting growth in instrumentation, test and the provision of contract staff to the major companies.

The picture in the downstream sector is similar to previous surveys with the dominance of broadcast services to the consumer sector, predominantly Direct to Home satellite television.

Figure 4



However, the proportion has fallen due to the significant rise in revenues in the satellite communications services sector, where growth was detected in all the companies. A number of companies also entered the survey for the first time.

In the other sectors, navigation service provision is beginning to appear and the financial services sector has declined slightly, reflecting a reduction in satellite insurance premium revenues between the 2006 and 2008 surveys.

The largest customer group is the commercial sector, accounting for just over 80% of the business, although the consumer customer proportion is lower than in the 2006 survey reflecting the rise in commercial satellite communications business. There has also been a significant rise in the amount of business with military customers.

Market share by customer type

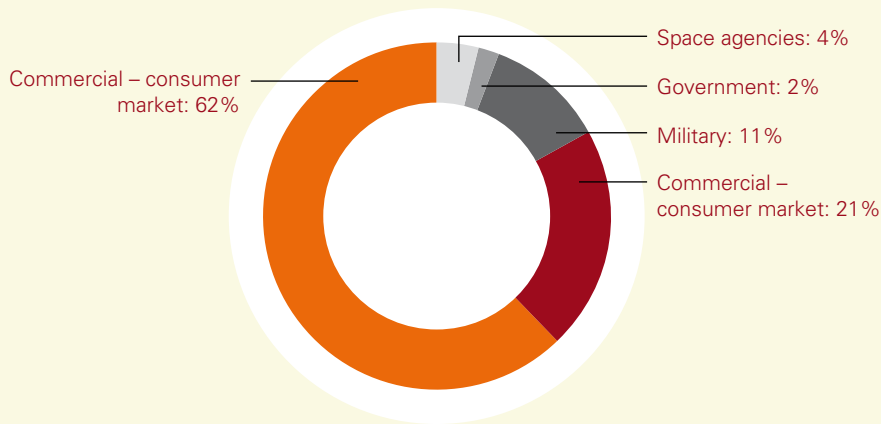


Figure 5

Work with Space Agencies was 25% higher than in the 2006 survey and the total for institutional customers (civil and military) was £972 million, up more than 50% from the last survey.

Market share by customer location

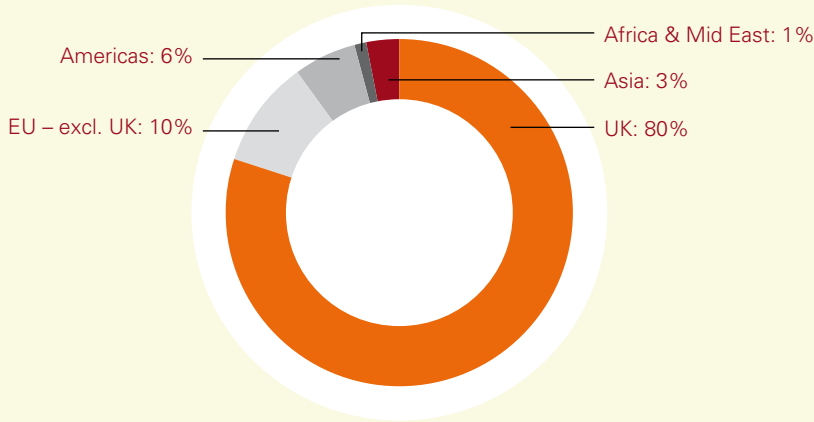
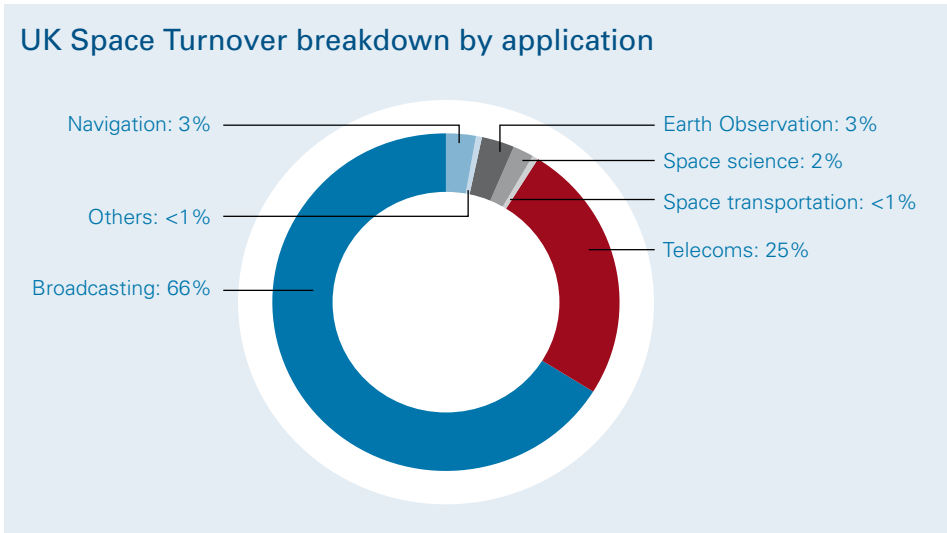


Figure 6

Most of the work was UK based reflecting the strong consumer sector, with Europe being the main non-UK customer. A major proportion of this being related to work with the European Space Agency. The United States is the next major export destination but with Asia showing growth since the previous survey.

Applications identify where the product or service will be used in the market. The same application breakdown is used as in previous surveys to allow comparison.

Figure 7



Broadcast, mainly the supply of satellite television services and equipment continues to be the dominant application, but the share of turnover has declined from 72% to 67% with telecommunications rising from 20% to 25%. The rise in telecommunications reflects growth the satcoms sector generally.

As both sectors have grown in the two years this means that growth in the telecommunications sector has been particularly high. The other applications that have shown significant growth, albeit from a relatively low revenue base, are navigation and space science. The growth in navigation is as expected as the Galileo programme progresses.

Employment in the UK Space Sector has risen by 16% since the last survey, to 18,873, divided into 5,816 in the upstream sector and 13,057 in the downstream. This means that most of the growth in employment has been in the downstream. However, since the last survey there has still been 3% growth in the upstream sector, although the number employed remains below the 2002/3 peak.

UK Space Industry employment trends

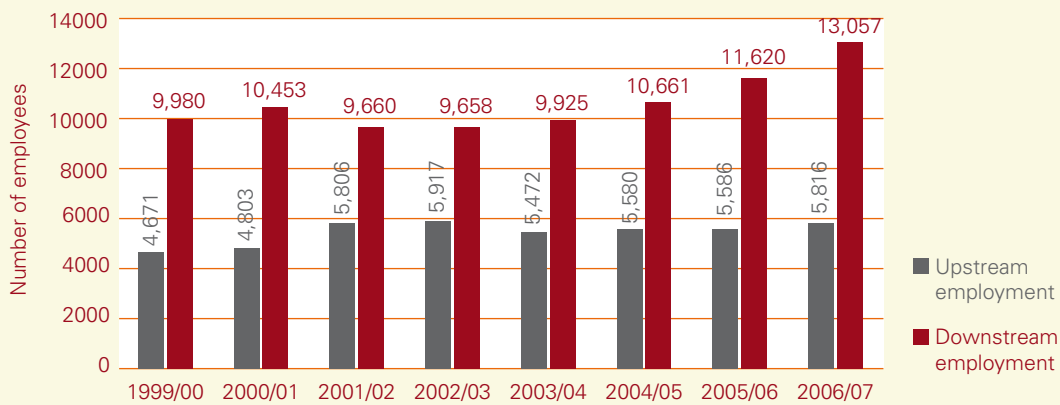


Figure 8

The downstream sector continues to show significant growth, up 22% since the previous survey and considerably higher than the previous peak in 2000/1. Most of the growth has been in the telecommunications sector and the broadcast equipment sector.

The split of employment between the sectors is as expected and in line with previous surveys:

Upstream employment breakdown in the UK Space Industry

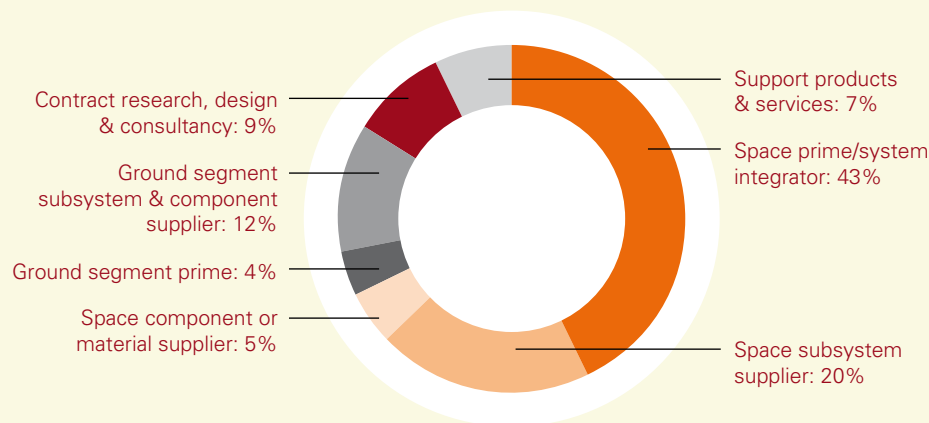
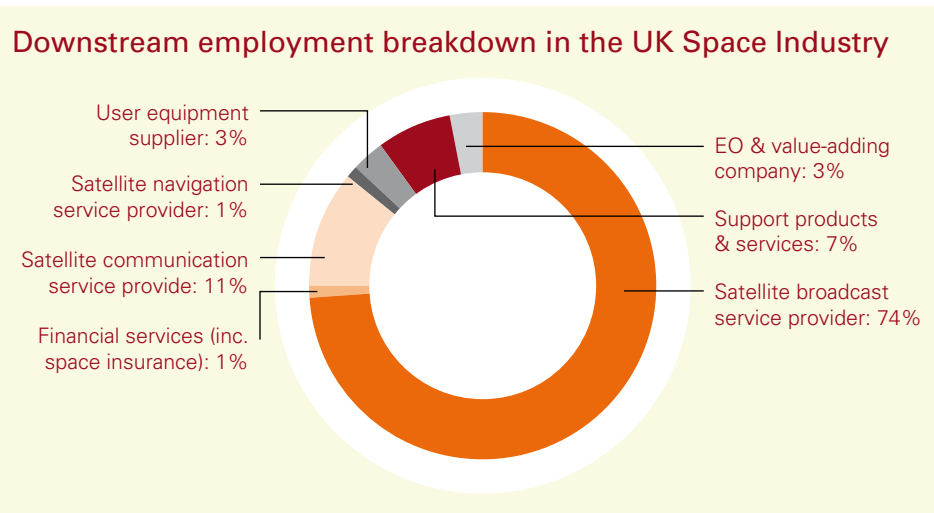


Figure 9a

Figure 9b



In the upstream, space segment prime and subsystem supplier provides almost two thirds of the employment. In the downstream, broadcast dominates employment but with a growing role for satellite communications service providers.

Value added turnover per employee, that takes account of the proportion of work a company subcontracts, remains stable at £91K per employee in the upstream, compared to £92K in the 2006 survey. For the downstream the number has declined from £160K per employee to near to £150K.

The sector remains one of highly skilled staff with nearly 60% of staff in the upstream sector having a first degree, with a third of those having a second degree. In the downstream, the EO, navigation and supports services showed a workforce of whom over two thirds have at least a first degree.

Employment in the space sector remains concentrated in the South of England, with over 50% of space sector companies in London and the South East and a further 25% in the South West. There is a small but growing contingent in the East Midlands (6%) and a number of companies in Scotland (5%).

Companies were asked what areas they felt they were experiencing skill shortages. The responses were not surprising with engineering disciplines (electrical, mechanical and systems) heading the list followed by graduates with numerate degrees. Several companies also saw a growing need for software engineering in the future.

The 2008 survey also requested information of R&D spend following the introduction of this data in the 2006 survey. The R&D spend was assessed on the basis of the amount a company spent from internal funding and the amount spent from external sources such as space agency R&D funding:

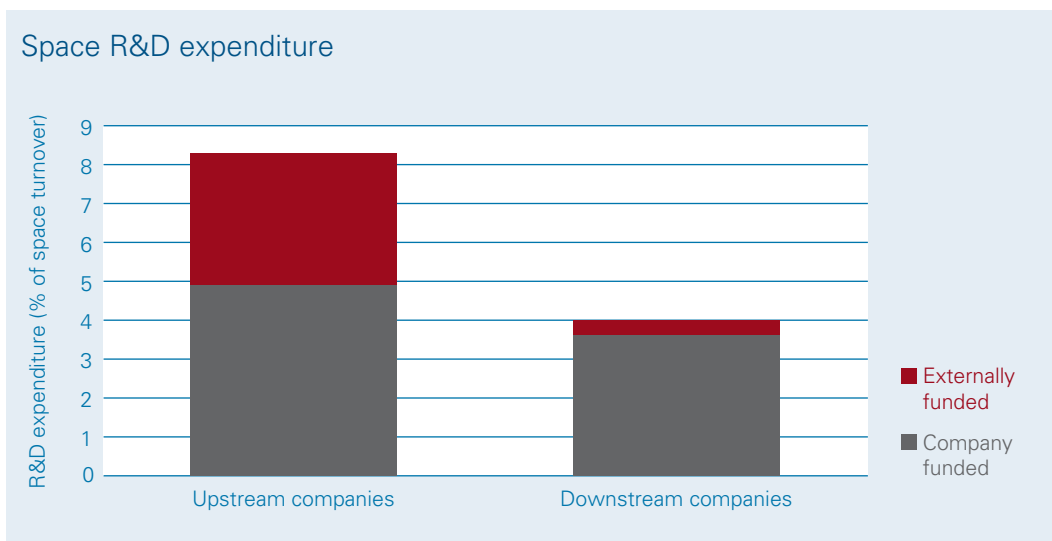


Figure 10

The result is in contrast to previous years in the upstream sector. In the 2006 survey, the total spend was 14.1% in the upstream with a company contribution of 2.5% of turnover. In the 2008 survey, the total figure is down to 9% but with just under 5% company funded. This indicates that although R&D funding in the upstream has been more difficult to acquire, companies have used their own resources to continue R&D activities. It is also notable that the turnover of contract research companies in the upstream sector has declined which tends to re-inforce this picture. The R&D turnover reduction between the 2006 survey and the 2008 survey is £30 million.

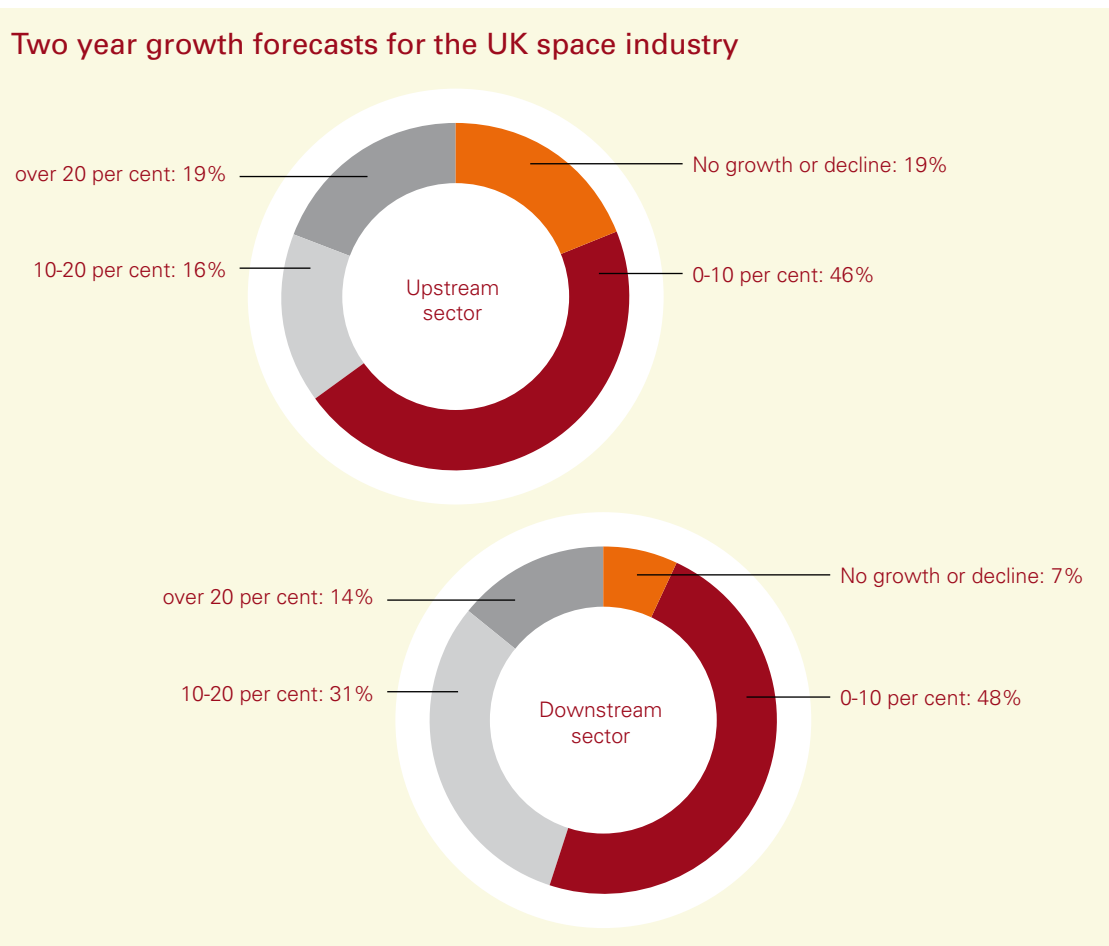
For the downstream, the numbers at just over 4% are much lower and in line with the 2006 survey. As in that survey, most of this is from company sources with only 0.5% from external sources. This is because the majority of the turnover in the downstream is from the commercial sector where the customers do not generally fund suppliers' R&D expenditure.

The Size and Health of the UK Space Sector survey has now maintained a common format covering a period of eight years. The sector continues to grow in both the upstream and downstream, with turnover approaching £6 billion and nearly 19,000 directly employed by the industry. The recent growth in employment numbers in the downstream has been at a faster pace than revenue growth. This may reflect changes in the employee balance more than an indication of reducing turnover. It may also indicate the pressures on margins in the commercial telecommunications sector.

There has been a change in the nature of the industry with a decline of some of the 'larger' SMEs and the growth of some of the larger companies. This reflects a period of consolidation in the industry and the number of companies featured in the previous survey that have merged or been taken over. An encouraging sign is that 39 new companies entered the survey this year, many of them formed within the past two years which indicates the dynamic nature of the business.

Most companies in the survey have an optimistic view of the future, looking to the two year horizon:

Figure 11



This shows that the largest proportion of companies are looking at 0-10% growth over the next two years but with a notable number predicting growth of over 10%. Many of these are small companies but there are still a number of large companies in the survey predicting growth over the two years of more than 20%. Overall, 80% of upstream companies and 93% of downstream companies are predicting growth in the next two years.

The survey also asked companies to estimate their turnover for 2007/8 and a significant proportion of the respondents did so. The aggregate turnover growth for this proportion was over 5% for the current financial year, under-pinning the two year projections and indicating the confidence in the sector. The five year projections continued this trend, again with some notable high growth predictions from the larger companies, indicating that the industry is looking forward to a period of sustained growth up to 2013.



**British National Space Centre**

c/o DIUS Public Communications Unit  
Castle View House  
East Lane  
Runcorn WA7 2GJ

Tel: +44 (0)870 001 0336

Email: [bnscinfo@bnsc.gsi.gov.uk](mailto:bnscinfo@bnsc.gsi.gov.uk)

[www.bnsc.gov.uk](http://www.bnsc.gov.uk)