Case 4 Space
Presentation notes

Introduction slide

Good morning Ladies and Gentlemen
And thank you for taking 10 minutes out from viewing this wonderful exhibition to turn your attention to UK Space.

As shown very clearly in the video, space technology and services is at the heart of our daily lives whether business or personal and this will continue as traditional services such as satcoms and broadcasting are complimented by positional and timing and longer term observational services coming of age in the next 10 years.

However, I and my colleagues across industry and academia, are concerned that UK decision makers and the general public are not aware of what we have accomplished in space and what, exciting opportunities exist for the UK if we raise our ambitions in Space now.

To raise this awareness the UK Space community has collaborated to produce a 2006 Case4Space which will be completed in July.

This is timely as it will inform the Governments Comprehensive spending review and also feed into a new space strategy to be produced early next year.

Slide 1

To structure the Spending review Treasury has to set out 5 key challenges facing the UK in the next 5-10 years.

Space technology has a role to play in all of these challenges through keeping the UK at the forefront of solar system and earth sciences, through to positional services and mobile technology assisting the elderly to stay in their own homes longer. Britain needs to innovate to prosper and Space innovation and its spin-offs can play a significant role in that prosperity.

The benefits of Space are threefold

- Firstly….. Economic benefit through wealth creation wealth creation
- Secondly…. Policy benefit in areas such as transport, security, climate change
- And of course, Thirdly .. Support to the world class solar system and earth sciences we have in the UK

Slide 2

In economic terms, our 16000 direct high tech jobs underpin some 70,000 in the broader economy and generates some £6.6bn of GDP. We are the most skilled UK manufacturing workforce with 2/3rd of employees with a first degree.

The global space market is growing, this is why growing economies such as INDIA and CHINA are investing 5-10 times as much as we in the UK to catch us up – they see the potential.

At present, we have the lead in a number of area – a serves of 1sts

-1st PFI for military telecoms in paradigm
– city financed £1.3bn of debt

- 1st global mobile broadband services
- BGAN by Inmarsat
- over a $1bn investment in satellite and ground infrastructure
- 1st Public and private funding arrangement with ESA to fund Hylas
- first flight of a disruptive flexible payload technology and SSTL
- 1st to pave the way for commercial low-cost satellites with its successful Disaster Monitoring Constellation

And the role of Government in these "firsts" was interesting.

DTI acted as a venture capitalist, if you like, due to the risk profile and the under valued risk-return value chain. DTI provided 50% R&D funding material by Industry ahead of the market finance I've mentioned. DTI figures state that the return was 7:1 for every £ invested.

Slide 3

The most obvious policy effect of Space is in environmental monitoring. Space technology is key to improving our understanding and modelling of climate change and in the future monitoring globally countries/regions effects on the world's environment.

Policy benefits, like this are not well articulated across Government and sometimes local decisions are taken on investment by departments. I was particularly disappointed with the process that saw DEFRA decide to offer only a minimal subscription to the flagship European Global Monitoring programme GMES. We need to find a way to fund technology programmes properly up-front so that user departments can draw the benefits downstream. Asking user departments to take the lead on Space technology programmes is proving a step too far for joined up Government today.

Slide 4

Transport policy is a major issue for the UK over the next 10 years – a real challenge to continue economic growth without the massive cost of transport infrastructure renewal.

The increasing accuracy and assurance of combining GPS and Galileo and mobile phone technology allows space to make a real policy different in the transport.

There is no doubt in my mind that assured positional and timing services can be at the heart of road charging solutions for the UK.

This industry needs to articulate what it can do to help and offer value for money solutions which also have lower environmental impact.

Slide 5

The role of space technology and services in military SATCOM is known and seen as a force multiplier.

It is surveillance satellites which can offer the UK its next advantage but there is a reluctance to recognise that owning assets rather than reliance of the US is strategic for Britain. The complimentary nature of surveillance satellites and UAVs are obvious . However, the success of Topsat on observational smallsat has renewed the debate and we hope to see a change in UK strategy here soon.

It is interesting to note that many nations, not just major powers, have surveillance satellite programs underway – for a mix of civil and military uses.

Just as an example, I now understand Algeria has the ability to scan the UK twice a day.

Slide 6

And we should not forget the Governments challenge to increase the percentage of students taking Science, Engineering and Maths at A level.

Clear evidence exists that Space is inspirational to young children (along with dinosaurs), teenage children and some middle-aged children.

The research councils are doing a great job with limited resources to spread the word but more resources are needed in this area.

Pilot projects in NI and Scotland are starting to show that investment in space courses in schools pays dividends in STEM subjects at A levels.

Slide 7

So, my message - UK space technology and services is successful and is contributing to wealth creation, public good and world class UK Science.

I would like to see the UK raise its ambition in Space – not on National prestige issues like Human space flight, Space stations, launches, etc but things that make a real difference on earth.

The role of Government in this is threefold:

1)In Science, the model works. Research Councils understand how space helps them achieve world class science and where it does it invests appropriately.
2)In policy areas, such as security, transport, climate change, foreign and the role of satellite technology and services is not well understood and this needs to change and a number of studies properly evaluating the use of space needs to be implemented.
3)And in wealth creating, real benefits can accrue to the economy if the Government would increase its role as venture capitalist investing in R&D that underpins strong business propositions for the UK.

And personally, I believe to underpin real success in the three roles above there is a fourth – a small national technology fund to help foster innovation in the UK space technology for the longer term.

What we don't want is a subsidy – UK space is a success story – investing in the success will produce great returns to the UK in the future.

Thank you for your attention and enjoy the rest of the exhibition.