LAUNCH UK

Produced by:

UK SPACE AGENCY

An executive agency of the
Department for Business, Energy and Industrial Strategy

For further information visit **www.gov.uk** and search 'commercial spaceflight', or email:
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Foreword by Jo Johnson MP

Minister of State for Universities, Science, Research and Innovation

We stand at the dawn of a new and exciting era - a truly exhilarating moment for the UK, and for our relationship with space.

For many years we have been a nation of exploration, science and trade. Our space sector is becoming an increasingly important part of that story. In the seven years since the UK Space Agency was created, the UK has achieved truly phenomenal things on earth, in orbit and beyond.

The traditional space sector is changing, as is the way we access space. Entrepreneurs and innovators are leading a commercial space age fuelled by ground breaking ideas, from reusable technology that's cutting launch costs, to the new satellite constellations that are improving global access to data and communications, genuinely revolutionising Earth observation.

These innovations will generate new commercial opportunities, particularly in countries that can offer low cost access to space.

Our ambition is not modest. We are aiming to be the first country in Europe, which services this launch market, as well as the demand from scientists for opportunities to undertake research in the unique environment of space.

It is therefore essential that we support these innovations and the individuals and organisations who are making them possible.

As our Industrial Strategy outlines, science and innovation are at the heart of our vision for the future of the British economy. I want small satellite launch capability to be a central pillar of our Industrial Strategy, driving growth in the UK economy and the space industry, and bringing prosperity to businesses outside of the traditional space sector.

The government is acting now to support industry to establish these markets in the UK.

We have recently introduced the Space Industry Bill into Parliament, moving forward with the government's work to put in place safe and business friendly regulations.

We are working towards agreements with international partners to ensure that companies based overseas get the approvals they need to bring their launch technology to the UK.

And we have called for proposals for grant funding from the UK Space Agency to support activity to achieve a launch from 2020, helping to get this sector off the ground.

As John F Kennedy said in his famous speech in 1962 when he launched America's ambition to go to the moon: the challenge is one that we are willing to accept, one we are unwilling to postpone, and one we intend to win.

The opportunity that stretches out in front of us will change our view of what is possible, putting the UK at the forefront of a new space age, and bringing jobs and economic benefit to communities eager to be a part of the UK space sector.

Orbit is within reach, and if we work together one day soon we will certainly get there.

"We stand at the dawn of a new and exciting era - a truly exhilarating moment for the UK, and for our relationship with space."

Foreword by Lord Callanan

Parliamentary Under Secretary of State for Aviation, International and Security

"We are now developing regulation which will make the UK the best place in Europe to launch operations and invest in spaceports."

Fifty years ago the first all-British satellite was launched into orbit from California. Forty five years ago the UK's Civil Aviation Authority (CAA) was established. Since that time, the UK's satellite industry and aviation authority have developed a reputation for being world class at what they do.

In setting our ambition for commercial spaceflight from UK soil, we are bringing together the experience, expertise and potential of these two world renowned institutions, and enabling a new capability that we are confident will develop its own world class reputation.

The UK has a long and proud airspace safety record. We have a regulatory regime and a regulator in the CAA, which are amongst the best in the world.

From ensuring the highest levels of safety requirements for commercial airlines to supporting general aviation in emerging markets like drones, the CAA are truly exemplars in how the UK leads the way in regulatory oversight.

We want to bring this internationally recognised, approach, to provide a platform for the development of the commercial space industry across the UK.

So we have brought together the expertise of the UK Space Agency, CAA and the Health and Safety Executive (HSE) to build a strong legal framework for UK based space operations. We are now developing regulation which will make the UK the best place in Europe to launch operations and invest in spaceports.

In pursuit of this, we have introduced into Parliament the Space Industry Bill, which sets out what we believe will be the right regime to allow safe and competitive access to space from the UK, and we will work with the spaceflight industry to ensure this is further reflected in our regulatory approach.

We are already taking the first concrete steps to develop the detailed licensing regimes in secondary legislation, which represents a key stage as we move the UK towards its first space flight launch.

Our legislative and regulatory approach demonstrates the ambition of this government for the UK to lead this new global space age, and more importantly why commercial innovators at the forefront of this incredible industry should develop their business right here in the UK.

We want to ensure that the UK is the best place in Europe for spaceflight operations for generations to come.

Introduction by Ross James

Commercial Space Director, UK Space Agency

My earliest memories of space are of daring missions of science and discovery at a time when access to space was a heroic and expensive venture. The cost of accessing space is still extremely high - a barrier for new space businesses to overcome and a throttle on the growth potential of the global space market. I believe for those who are born today, access to space will seem much more commonplace. It is thrilling to think about the space age that is yet to come: regular intercontinental travel in a matter of hours; cutting edge science free from gravitational restraint; the ability to float weightless, high above the Earth, marvelling at our beautiful planet; smaller, smarter satellites which regularly travel to, and return from orbit; a wide range of new satellite services which serve the right people, at the right time, in the right location; and bold and daring science missions which will test our understanding of the universe and allow us to explore areas as yet unknown.

As CEOs, officials, engineers and scientists, we are entrusted with realising this future, because we are the generation who can make it a reality. We must have the foresight to respond to opportunity, the confidence to act with eager ambition and the trust in each other that we might press at the frontiers of satellite launch, spaceflight and scientific endeavour together.

I was fortunate enough to spend time with many industry leaders at our LaunchUK event on the 21st of February. The commitment and enthusiasm of all those present was evident in every conversation I had. More impressive still were the conversations people were having with each other. Spaceports and launch operators discussing operating plans, scientists and satellite manufacturers exploring new ideas, CEOs and engineers sowing the seeds of innovation. It is clear to me that a community exists which is ready and eager to pursue satellite launch and spaceflight together, and the UK Space Agency stands ready to advise, support and enable your collective ambition.

We have already taken bold steps to open up commercial satellite launch and spaceflight in the UK and enable the development of new markets and opportunities.We have introduced the Space Industry Bill, the result of collaboration between the Department for Transport, Civil Aviation Authority and the UK Space Agency, with the support of the Health and Safety Executive. We have called for joint proposals from a potential UK spaceport and launch or sub-orbital flight operators, against which we have made available grant funding. We are working with international partners to enable technology transfer and launch operations in the UK, and we are working with teams all across the UK government, industry, academia and the world to achieve our aim.

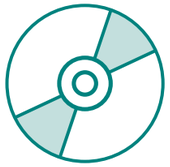
I hope that this work demonstrates our understanding of the opportunity, affirms our ambition to pursue it and states our plans for doing so. It is our belief that there is no better place to invest in the future of the space sector, and the coming age of commercial launch and spaceflight, than the UK.

"...there is no better place to invest in the future of the space sector, and the coming age of commercial spaceflight, than in the UK."

The Global Context

A new commercial space age

1998



Compact Disc
600mb

2006

Memory Stick
32gb

2012

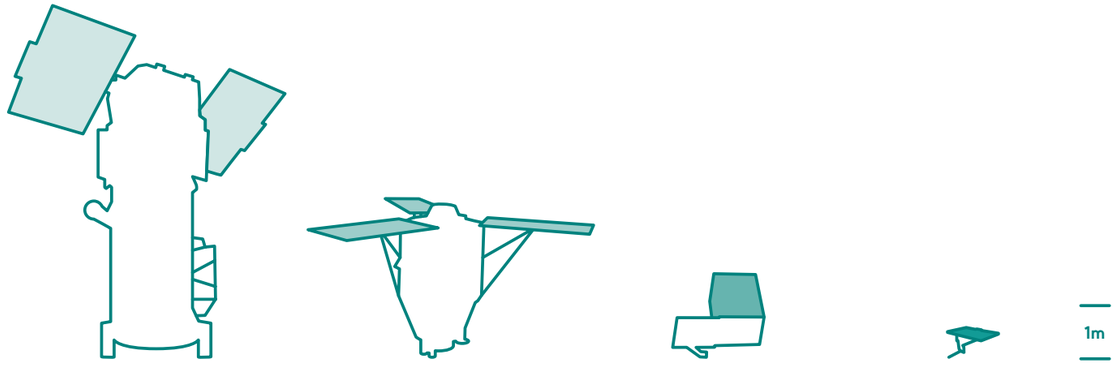
SD Card
128gb

Not since the space race of the last century has the space sector experienced such a period of rapid and exciting change. As the cost of key technologies has reduced, the possibilities for innovative scientific and commercial endeavours have dramatically increased. A truly global commercial space age is emerging, filled with opportunity, and driven by a desire to solve grand challenges, create innovative commercial ventures and explore new frontiers.

Demand for data is growing globally, and the satellite industry is uniquely positioned to meet this need to collect and communicate data about and around our world. Data is one of the most important commodities of the 21st Century. It fuels our economies, enriches our societies and unlocks potential. Data is the raw material from which entrepreneurs are building new enterprises, the lens through which scientists are expanding human knowledge, and the tool with which governments are crafting better policies and services for their citizens.

Data and access to it is fundamental to modern economies, a lifeline to rural communities and a crucial tool for addressing the challenges of the 21st century. Access to data is fast becoming a necessity all over the world, whether it is banking in rural Africa, navigating shipping lanes in South East Asia or monitoring deforestation in the Americas. It is satellites that are able to meet these needs, and more.

Large geo-stationary satellite services like satellite television have for decades allowed news, entertainment and information to be spread to millions of people around the world,overcoming the limitations of fixed infrastructure and remote geography.



WorldView-3

Operator: **Digital Globe**
Weight: **2,900kg**
Cost: **$420m**

Pleiades-1A

Operator: **CNES/Airbus D&S**
Weight: **940kg**
Cost: **$424m**

Skysat

Operator: **Skybox Imaging**
Weight: **120kg**
Cost: **$20m**

Dove

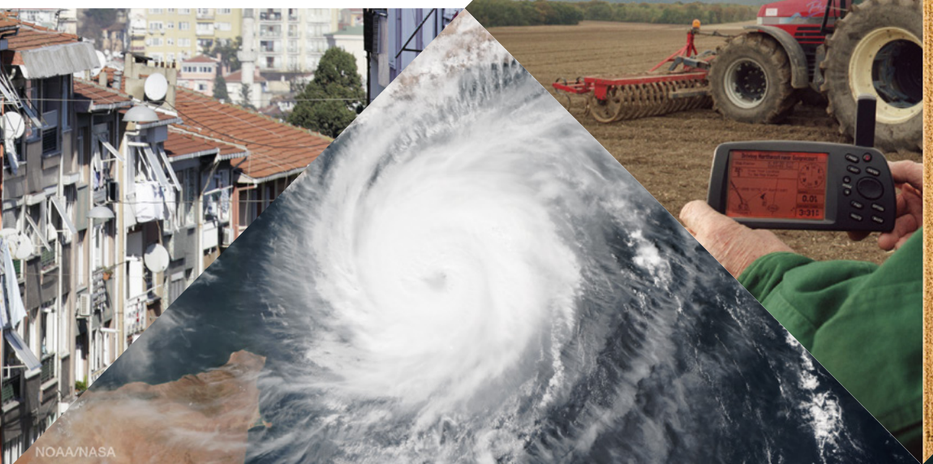
Operator: **Planet Labs**
Weight: **5kg**
Cost: **$60k**

Small satellites have evolved from being simple technology demonstrators, to highly capable operational vehicles, able to perform a range of tasks at a fraction of the cost of larger assets. The miniaturisation of key technologies, improving efficiency of components and standardisation of many satellite parts, is reforming both the capability and economics of small satellites.

Small satellites are making it possible for companies to develop a wealth of new applications for global customer communities. For example, Earth observation, remote sensing and satellite navigation are helping farmers all over the world get the most from their fields.

The UK, with its growing space industry, is particularly vibrant in the small satellite sector. The UK government recognises the potential of this technology, to both the digital economy and the industries and services it supports. Increasingly affordable satellite technology enables start-ups, scientists and established companies to exploit an orbital vantage point, and create powerful applications that benefit businesses, governments and people all over the planet. Overcoming barriers to growth in this market and enabling low cost access to space are fundamental to Keeping the UK at the forefront of the global space sector.

"The UK, with its growing commercial space industry, is particularly vibrant in the small-satellite sector."



Applications supported by small satellites

Agriculture
Precision farming
Crop health mapping

Forestry
Forest stock mapping
Illegal deforestation

Risk Management
Urban growth
Land cover classification

Disaster Monitoring
Flooding and drought monitoring
Relief effort targeting

Defence and Security
Tracking flows of goods and people
Infrastructure monitoring

Maritime
Ship detection
Oil spill monitoring

Natural Resource Management
Water resource management
Mining

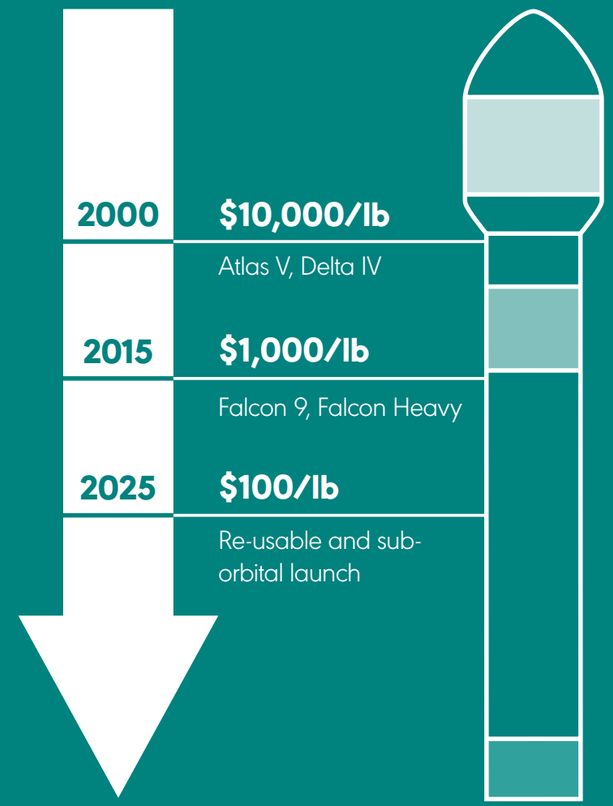
Alone, small satellites are powerful, affordable orbital platforms. In constellations, they can provide extraordinary global capabilities. One such example is global broadband coverage. New plans for constellations of small satellites are likely to fuel a global market for launch that could exceed £25 billion in revenues over 20 years. Nowhere in the world is this market fully exploited, as low cost access to space remains a significant barrier.

The potential of small satellites and constellations has not gone unnoticed. Entrepreneurs, engineers and investors have set out to tackle the last significant impediment to this market: regular, dependable, low cost access to space. A global shift towards a more diverse, commercial launch market has ignited a race to produce dependable and cost efficient launch vehicles. A mix of new entrants and established operators gives this dynamic market the potential to disrupt traditional launch services. As this market matures, rising launch availability and decreasing costs should accelerate growth across the small satellite sector, leading to a flood of new services, data and applications.

Small satellites are not the sole beneficiary of new launch technology. People will soon be able to benefit from new sub-orbital space opportunities too. Space has always caught the public imagination. The opportunity to float weightless high above the Earth, taking in a view only accessible through extraordinary feats of engineering, has only been available to about 550 people in the last 60 years. In the next 10 years that number could more than double, as commercial operations of sub-orbital flights start in earnest. A number of companies are working on vehicles that will offer trips past the 100km Karman line, and hundreds of people have pre-booked places on these sub-orbital flights.

Scientists too will benefit from these flights. Microgravity is a unique and valuable environment in which to undertake scientific research. Suborbital flights will give scientists more regular opportunities to access microgravity environments, and the chance to accompany their experiments and record results, providing greater opportunities to expand the boundaries of human knowledge and make new discoveries.

The decreasing cost of launch



“The world needs more commercial gateways to space, accessible to companies, governments and scientists alike.”

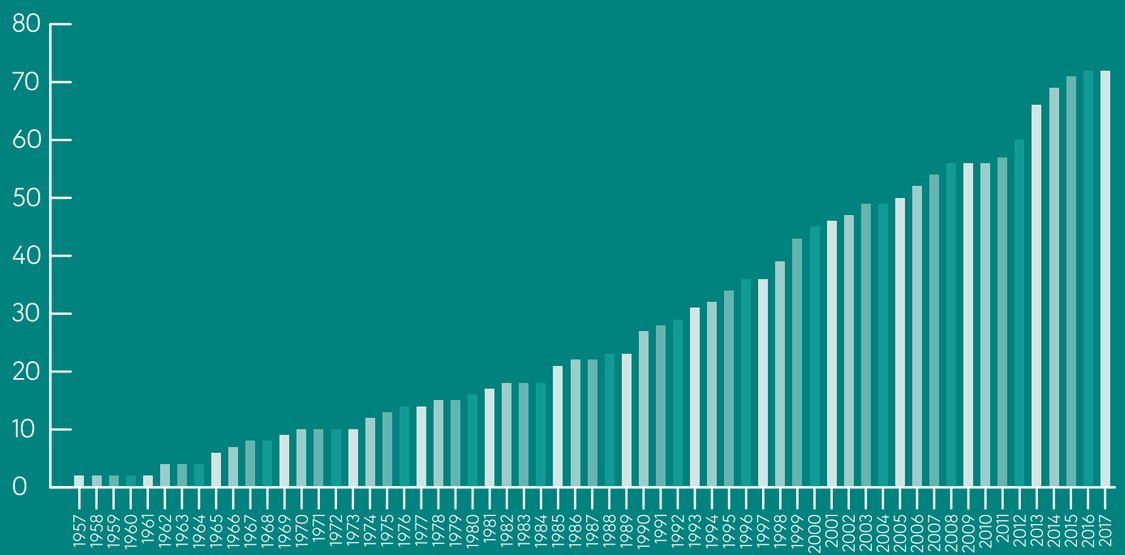
We are in a global space age. From customers to suppliers, the space industry is globalising, creating new and exciting collaborations, as well as competition for missions, markets and discoveries. Space is no longer the preserve of those countries with the deepest pockets or longest heritage. Established institutions face increasing competition from emerging agencies and commercial enterprises. Emerging economies recognise the strategic value of space, both in access to and deployment of satellite provided services; and inspirational missions of science and discovery.

Access to space, the enabling environment for all of this activity, will remain the single greatest barrier to growth. The world needs more commercial gateways to space, accessible to companies, governments and scientists alike, if it is to make the most of the opportunity presented by this new space age.

Accessing space remains a great engineering challenge, which requires safe, responsible and accountable operations and close cooperation between all those involved. Emerging launch technology and market potential are set against the enduring nature of space launch, which is high risk and high cost. Space is the most remote environment to operate in, and access remains one of humankind’s greatest engineering achievements. High standards are paramount in overcoming the engineering challenges, and the same is true for the legal and financial challenges when launching into space. Nations which establish comprehensive and clear regulatory standards will give confidence to investors, a stable environment for operators and assurance to the general public about the safety and security of launch operations.

Number of countries with satellites

Data source: Seradata



We are at the dawn of a commercial space age full of opportunity. An age with the potential to improve the lives of people across our planet, grow the global space sector by tens of billions of pounds, and generate hundreds of new businesses and thousands of jobs.

An age in which the UK will reach for the stars from its own shores, championing commercial innovation and scientific endeavour.

The UK is ready to make the most of the opportunities presented by commercial access to space. We are committed to creating safe, competitive and sustainable markets for the launch of small satellites and operation of suborbital flights. The UK is one of the best places in the world to run a commercial space business.

The United Kingdom, the place for space

Why the UK is the best place for commercial space

The Heritage

For centuries, space has played an important role in the UK. As an island nation, our maritime industries have historically depended on the celestial landscape for navigation. Today, our shipping industry still looks skyward, but instead of tracing the stars, satellites supply the services they need to safely and efficiently chart the seas. The UK has long recognised the important role space plays in enabling economies, furthering knowledge and inspiring the next generation of scientists and engineers.

The UK has a long heritage in the space sector. Building on the UK's aviation pedigree, our scientists built, launched and tracked satellites and developed new rockets in the early days of space exploration, and continued to play a fundamental role as the global space sector matured. The UK was one of the founding members of the European Space Agency, and collaboration remains a hallmark of the UK space sector. In December 2016 we committed more than 1.4 billion Euros to European Space Agency programmes.

The UK has established itself as a world leader in the design, build and commissioning of satellites, a trademark maintained to this day. Many British satellites have far exceeded their original operational lifespan, and many more satellites continue to be built in Britain off the back of this impressive track record. The UK's small satellite sector in particular is thriving, with a large share of the world's small satellites produced in the UK. And since its inception in 2013, the Satellite Applications Catapult has helped many organisations to exploit space data to benefit industries as diverse as maritime, transport and energy.

The Ambition

The UK is ready to become the next great gateway to space, the first commercial hub for satellite launch and spaceflight, and the most attractive nation on the planet for developing new satellite services. The UK space sector has been preparing for commercial launch for decades. It has been building globally respected small-satellite businesses. It has been fostering companies to exploit small satellite technologies, and deliver innovative satellite enabled services to a global customer base. And it has been waiting for the opportunity that new launch capabilities provide to bridge the gap and complete the satellite value chain in the UK.

The UK has made a long term commitment to grow the UK space sector, and commercial launch and spaceflight is a core driver of this growth. The UK government invested £5 billion in civil space activity between 1995 and 2015. Independent research has estimated that the return on public space investments such as these is at least £6 for every £1 invested. Our goal is to grow our share of global space activity to 10% of the global market by 2030, and we are working closely with industry and academia to make this happen.

To unlock further growth opportunities, we want to capture a share of the emerging small satellite launch and sub-orbital flight markets, by enabling this commercial activity in the UK from 2020. We are working hard to achieve this goal and our on-going commitment is reflected by our increasing support and investment.

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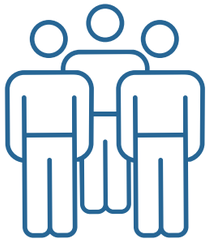
£5bn

in civil space activity between 1995 and 2015.



"Our space investments build capability, advance scientific knowledge, and generate strong economic return for the UK."

The Support

The UK government is driving efforts to exploit and benefit from investment in space technologies and satellite applications. The UK Space Agency, and its partners across the UK government, are committed to ensuring space investments build capability, advance scientific knowledge, and generate strong economic return. We are focused on building a strong, successful and sustainable space sector.

The UK space industry is configured for the coming commercial space age, and its supporting institutions, associations and relationships have developed with that in mind. Public money is used to catalyse our industry, accelerate growth, hasten discovery and attract further investment. Our space industry is not underwritten by its Space Agency, it is boosted by it.

There are a wide range of opportunities and organisations available to support space based companies in the UK. From enterprise zones which offer incentives such as reduced taxes, simpler planning rules and financial benefits, to innovation funding and research grants from research councils, agencies and investment funds. From trade associations and professional bodies who connect and represent space in the UK, to catapults and dedicated science facilities which foster growth and innovation. The UK space sector is a close community, supported by a well-connected and proactive UK Space Agency and backed by a government with a long-term commitment to strong, sustainable growth in the space sector.

Commercial satellite launch and spaceflight is supported by dedicated government programmes, and a broad base of government and industry support. Enabling and establishing small satellite and sub-orbital flight markets is a priority for the UK government, and we continue to take a range of supporting actions:

- The UK government is working across a range of departments to achieve the UK's commercial launch and spaceflight ambitions, including the UK Space Agency (which has recruited its largest dedicated team for this purpose), Department for Transport, Civil Aviation Authority, Ministry of Defence, Foreign and Commonwealth Office, Department for Business, Energy and Industrial Strategy, Department for International Trade and Health and Safety Executive.
- We are working with industry to develop new legislation and regulation dedicated to supporting safe, sustainable and competitive commercial launch and spaceflight markets that will make the UK an attractive place for responsible commercial operators.
- We have called for industry proposals for grant funding to develop new capabilities enabling launch in the UK, potentially worth millions of pounds up to 2020, and are offering advice and support to those interested in the opportunities offered by UK launch.
- We have already invested over £1 million to support industry research to develop and test plans for UK launch activities.
- We have invested nearly £300,000 to support UK-based scientists to develop new experiments for sub-orbital spaceflights.
- We are using our strong international trade, security and diplomatic ties to help overseas companies to secure approvals from their government to operate in the UK.
- We are generating global awareness of the opportunity for commercial launch and spaceflight in the UK through our #LaunchUK campaign, including through our successful Launch UK event on the 21st of February 2017, attended by leading figures in the global space community.

New legislation

Grant funding

International agreements

No 1

Fewest barriers to entrepeneurship in the world

Strong and flexible labour market

The UK is the easiest major economy in Europe in which to do business

The Environment

Space is well integrated into the UK economy, and we are ready to seize the opportunities of the future. Today, the UK space industry has a 6.5% share of the global space economy and we aim to reach 10% by 2030. Our space sector, already worth £13.7 billion pa, helps support more than £250 billion in the UK economy though satellite services. In 2014/15 the UK space industry spent £415 million on R&D, which reflects the ambition of an industry in which the majority of companies expect to see their income grow in the next three years.

The UK is a great place to start and run a space business. The UK has a talented workforce and the right skills, a simple and competitive tax rate system and a transparent regulatory system making it easier to do business. The UK is the number one destination for inward investment in Europe.

International companies move to the UK because they want:

- Innovation: Innovation lies at the heart of our culture. British ideas and inventions have helped shape our world: from the telephone to the World Wide Web.
- Entrepreneurship: You can now set up a company in Britain in less than two weeks.
- Creativity: The UK has the largest creative sector per head in the world.
- Knowledge: We have four of the top ten universities in the world.

We have set out to create the world's most user friendly regulation for satellite launch and spaceflight, ensuring we achieve the right balance of safety, sustainability and support. We want the experience of applying for a licence in the UK to be simple and seamless, and to take place though a single access portal. Applicants won't have to approach multiple regulators, which we know can be a frustrating, time consuming and expensive. Instead there will be one unified front door, with all the regulators connected seamlessly in the background. We believe this alone puts us ahead of other regulators in this field.

We have a strong local customer base – for both small satellite launch and suborbital flights. The UK is home to world leading small satellite companies. We offer a uniquely supportive environment, with dedicated funding and support to commercialise satellite data and encourage innovative applications through the Satellite Applications Catapult and Innovate UK.

The UK leads the world in science and research – and a recent call for micro-gravity research proposals demonstrated strong demand for sub-orbital spaceflight opportunities

The UK is already one of the most popular locations in the world for tourists, home to a large number of potential participants and spectators of spaceflight, and a global leader in the provision of hospitality services.

The right geography. From the UK it is possible to launch into a range of valuable polar and sun-synchronous orbits. These are set to be increasingly popular for future communications and imaging satellites. The latest research forecasts that more than 80% of nano-satellites launched in the next three years will go into polar or sun-synchronous orbits (up from less than 40% in the last three years). And overall, if major launch plans announced so far proceed, the number of launches of small satellites up to 500kg into one of these orbits could increase nearly fourfold by 2025.

The UK's long coastline and island location provides several possibilities for safe spaceport sites using both the horizontal and vertical models – and several sites are pursuing spaceport development plans backed by strong local support.

Wherever you are based in the UK, you are only ever a few hours from industrial centres, world class service providers, cultural centres and global logistic hubs.

The UK has access to a world of opportunity. The UK's global relationships give us access to global markets, financing and supply chains: from established markets in Europe and the United States, to emerging and maturing markets in Africa and Asia. The UK is well placed to connect to global suppliers and consumers, and by locating your business in the UK you can benefit from the same support to increase exports as UK companies.

8th

8th most competitive country in the world

£919m annually

Saved by UK-based businesses from reductions in red tape

The Capability

The UK has an impressive heritage in engineering and high-tech industries and is home to world-leading manufacturing companies. Our space manufacturing industry is worth £1.2 billion – half of which is involved in making satellites, payloads, spacecraft and subsystems.

UK companies are in particular renowned for designing and manufacturing small satellites. But UK companies are involved across the full service chain:

- System level - for complete turn-key communications satellite systems.
- Sub-system level - spacecraft platforms, payloads and antennas, network and service management.
- Equipment level - avionics, high power amplifiers, terminals.
- Consultancy services - technical, operational, design and regulatory.

"UK companies are renowned for designing and manufacturing small satellites."

"The UK space sector benefits from a highly skilled workforce and strong pipeline of talent."

The UK space sector benefits from a highly skilled workforce and strong pipeline of talent. The UK space industry employs a highly skilled workforce of 38,500 people. 75% of the space industry workforce in the UK hold a university degree or higher qualification and our industry is almost three times more productive than the UK industry average.

Encouraging young people to engage with Science, Technology, Engineering and Mathematics (STEM) is crucial to growing the pool of talent needed to support the future space sector. The UK space sector works together to exploit the inspirational and educational opportunities presented by space activity. For example British ESA astronaut Tim Peake's mission to the International Space Station resulted in over a million UK school children participating in space-related educational activities.

Companies looking to establish and grow their space business in the UK will have access to a healthy supply of talented scientists, engineers and entrepreneurs, who are graduates of world leading universities and apprentices of our high performing industry.

Principia Mission post flight tour visits Belfast

Size & Health of the UK Space Industry 2016

£13.7bn
Total Income in 2014/15

6.5%
Share of global space economy in 2014/15

38,500
Employees in 2014/15

2.7x
Labour productivity compared to UK average

8% Space Manufacturing

15% Space Operations

74% Space Applications

3% Ancillary Services

6.5%
Annual growth rate 2012/13 – 2014/15

£415m
R&D expenditure in 2014/15

3 in 4
Employees holding a university degree or higher qualification

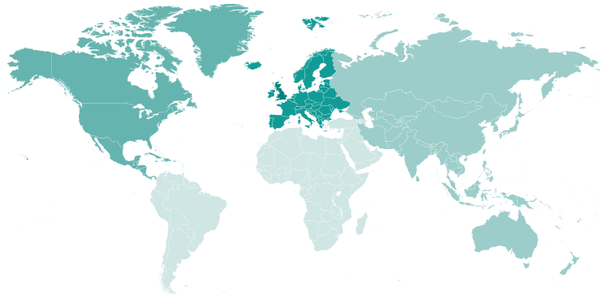
£5.0bn
Exports in 2014/15

49% Rest of Europe

19% North America

16% Asia-Pacific

16% Other



Regional employment

26% London

23% South East

18% Scotland

33% Other

Wider UK GDP* supported by satellite services

£5.1bn
Direct contribution of the UK space industry to UK GDP

More than **£250bn**

Telecommunications · Navigation · Earth Observation · Meteorology

7 in 10
Organisations expect income growth over the next three years

LE London Economics

Note: Based on analysis of 697 UK-based space-related organisations.
Source: London Economics (2016) *Size & Health of the UK Space Industry*.
*UK non-financial business economy only. Owing to complexities in measuring their Gross Value-Added (GVA) accurately, this figure excludes: financial services and insurance, public administration and defence, public provision of education, health and all medical and dental practice activities (this restriction is a feature of the ONS Annual Business Survey data series employed).

UK SPACE AGENCY

Roadmap to launch

How the UK will create safe, competitive and sustainable launch markets

We want to turn the UK into a global hub for commercial small satellite launch and spaceflight, and create opportunities for those keen to join our thriving space sector.

To do this we have a three-staged plan to capture, develop and grow the commercial space launch market:

Stage 1: Market Capture (Today to 2020)
In stage 1, we will seek to capture a share of the emerging global commercial small satellite launch market. Our focus will be on creating the conditions necessary for the market to flourish in the UK, and supporting those early adopters who wish to invest in the UK opportunity. Our objective is to achieve an initial commercial launch from a UK spaceport from 2020.

We will do this by:

- developing a safe, competitive and sustainable regulatory environment;
- building on our globally respected licensing regime;
- delivering targeted market stimulation;
- promoting the UK launch market;
- generating the necessary international approvals to import and operate launch technology in the UK;
- support and promote the first launches from the UK.

Stage 2: Market Development (2020 to 2025)
Following the first launches we will continue to develop the market to ensure it becomes firmly established in the UK. We will encourage additional spaceport and operator enterprises to come forward where there is demand, and build skills and capabilities in the UK supply chain. We will also work to realise benefits to local communities around spaceports, and to ensure the advantages of domestic access to space are being felt across the UK space sector.

Stage 3: Market Leadership (2025 onwards)
Once the UK is established as a successful, reliable and sustainable commercial gateway to space, with integrated supply chains and strong national and international demand, and as a world leading regulator of commercial spaceflight, we will look to grow the global market by pursuing new opportunities. We will scan the horizon for new technologies and ensure we are enabling the early adoption of innovation and new services. We will work to ensure the UK commercial spaceflight benefits from sustainable, resilient growth.