

# The Space Industry Act 2018

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# Introduction – LaunchUK

- **LaunchUK** is the UK Government's programme to realise the ambition of enabling small satellite launch and spaceflight from UK spaceports.
- Global forecasts shows strong demand for commercial satellite launch services from 2020 onwards, and we are working quickly to help UK companies to seize this opportunity from UK Spaceports.





# Introduction – LaunchUK

## What is the UK Government doing?



### Sustainable Market

We are engaging with industry to stimulate sustainable interest in the UK launch market and in the operation and use of UK spaceport services.



### International Engagement

We are learning from other nations' experiences, and will use our global links to help companies who want to operate in the UK.



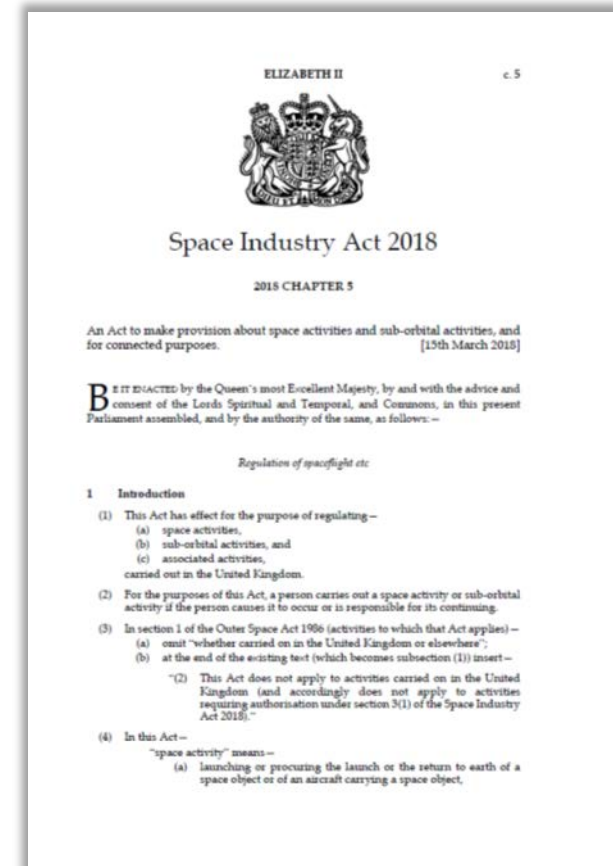
### Regulatory Framework

We are legislating for a new regulatory framework to ensure UK spaceflight activities are safe.



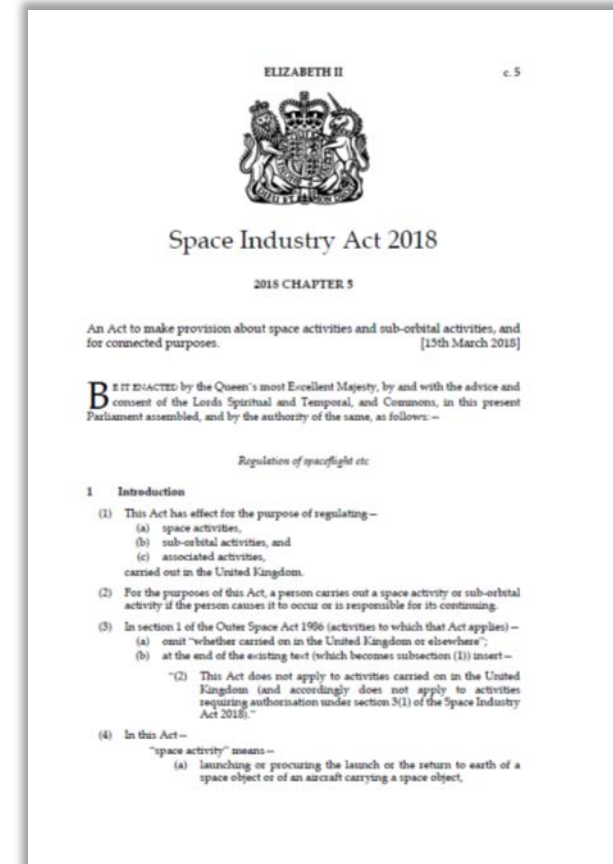
# The Space Industry Act 2018

- **The Space Industry Act** received Royal Assent on 15 March.
- It is a major milestone in establishing the environment for **safe, responsible** and **commercial operations** from UK spaceports.
- It is the result of collaboration across UK Government Departments.
- **Safety** of the uninvolved general public is at the **heart of this Act**.
- The Act's provisions also ensure that spaceflight activity taking place from the UK is carried out in compliance with the **UN space treaties**.



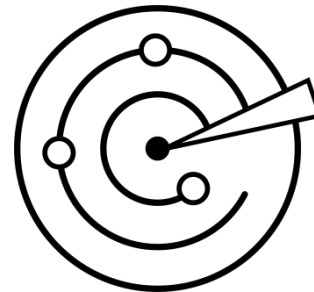
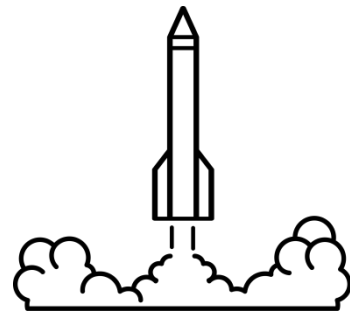
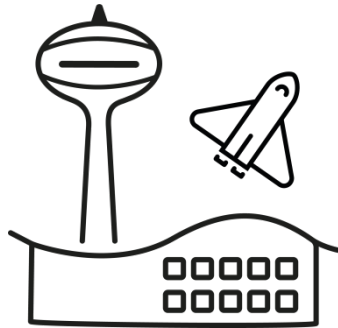
# The Space Industry Act 2018

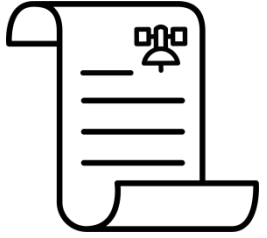
- The Act sets out a **high-level enabling framework** for commercial spaceflight operations.
- It provides a **comprehensive regime** for sub-orbital and space activities **in one place**.
- It draws on **existing space and aviation regulation**.
- The Act contains a number of **delegated powers** to make secondary legislation.
- Secondary legislation is more **flexible** and can be **adapted** to **keep pace** with the development of this **emerging market**.



What activities does the Act regulate?

## Spaceflight and associated activities



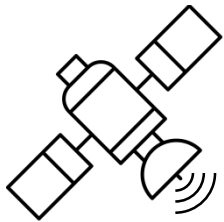


# Regulation of spaceflight etc

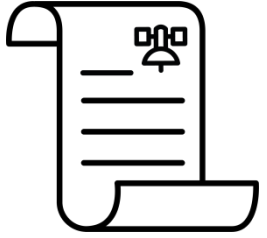
**Spaceflight activities** encompasses both **sub-orbital** and **space activities**:



**Sub-orbital activities** include the launch or procurement of a launch, the operation and return of a craft capable of **operating above the stratosphere** or a balloon capable of **reaching the stratosphere** carrying crew or passengers.



**Space activities** include the launch or procurement of a launch, operation and return of a **space object** or aircraft carrying a space object or outer space activity. **Space object** refers to an object that will go into **Earth orbit or beyond** or the launch vehicle responsible for putting the object into orbit



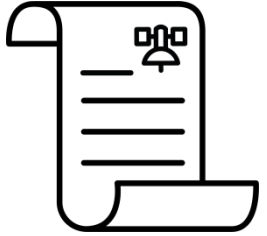
# Regulation of spaceflight etc

## Associated activities:

- Includes the operation of **spaceports** and **range control** services.
- Under the Act any site from which a spacecraft or carrier aircraft intends to launch is considered a spaceport and must be licensed. A spacecraft will only be allowed to land at a licensed spaceport or a mobile installation at sea.
- **Horizontal launch spaceport** refers to a spaceport with a runway - likely to be an adapted, existing aerodrome - suitable for launching spaceplanes and carrier aircraft.
- **Vertical launch spaceport** refers to a site - likely to be a new site - suitable for launching rockets.



# Regulation of spaceflight etc



## *Interaction with the Outer Space Act 1986*

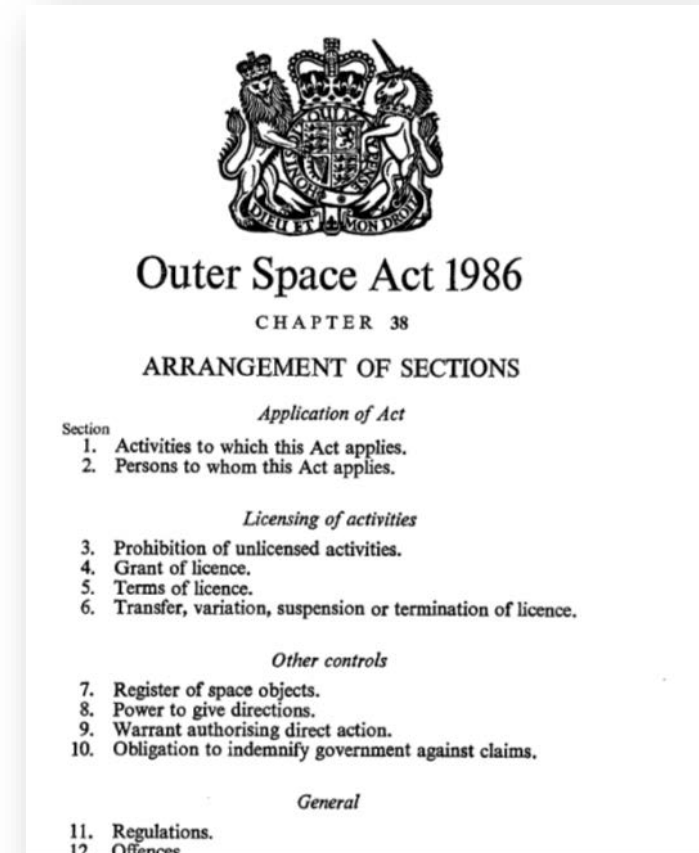
Space Industry Act is now law. However, the provisions will need to be brought into force.

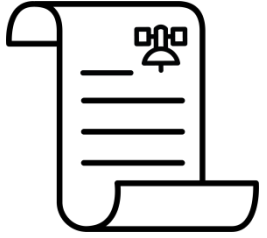
The **Outer Space Act 1986** will regulate activities carried out by UK entities **overseas**:

- Launch and procurement of launch of a space object
- Operation of a satellite in orbit

The **Space Industry Act 2018** will regulate activities carried out from the **UK**:

- Launch (space or sub-orbital)
- Procurement of a launch (space or sub-orbital)
- Operation of a satellite in orbit
- Operation of a spaceport
- Provision of range control services





# Regulation of spaceflight etc

## Section 2 – Duties and supplementary powers of the regulator

- This section sets out the overarching duties and powers of the regulator in carrying out its functions.
- **Subsection (1)** provides that the **duty of securing public safety** is the **priority**.
- **Subsection (2)** sets out the other factors that the regulator must take into account. This includes **the international obligations** of the UK including the **UN space treaties** and **space debris mitigation guidelines**.

## Section 3 – Prohibition of unlicensed spaceflight etc

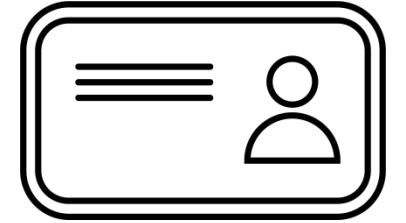
- This section prohibits the carrying on of spaceflight activities and the operation of a spaceport in the UK without a licence.

## Section 7 – Provision of range control services

- This section prohibits the provision of range control services without a licence.

**Anyone who acts without a licence commits an offence.**

# Licences



These sections relate to licences for spaceflight and associated activities.

- **Section 8(2)** states that a regulator may only grant a licence if it is consistent with the **international obligations** of the UK.
- **Section 9** provides that a regulator may only grant a licence if risk assessments are conducted for those taking part in the spaceflight activities and if risks to the general public are as low as reasonably practicable and acceptable.
- **Section 11** requires an assessment of environmental effects before granting a spaceport licence or an operator licence that authorises launches.
- **Section 13** provides that licences can be granted subject to conditions. An indicative list is set out in Schedule 1. This includes conditions relating to compliance with **space debris mitigation guidelines** and to ensure compliance with the **international obligations of the UK**.

# Exercise of regulatory functions by bodies other than the Secretary of State

- The Secretary of State is the default regulator under the Act.
- The UK Space Agency, acting on behalf of the Secretary of State already licences satellite launch (overseas) and the in orbit operation of satellites.
- The UK Space Agency will continue to licence activities regulated under the Outer Space Act 1986 and will also licence UK spaceports capable of vertical launch and space activities carried out in the UK under the Space Industry Act 2018.
- **Section 16** enables the appointment of non-Government bodies to exercise regulatory functions instead of or alongside the Secretary of State.
- This section will be used to appoint the UK's Civil Aviation Authority to regulate sub-orbital activities and spaceports capable of horizontal launch.
- Commercial spaceflight is in its very early stages and this enables us to draw on the CAA's regulatory expertise in aviation.

## Categories of regulated operations



Vertical  
launch



Horizontal  
launch to  
orbit



Single stage  
to orbit space  
planes



Horizontally  
launched  
sub-orbital  
spaceplane



High Altitude  
Balloons



HSE oversees all safety on the ground



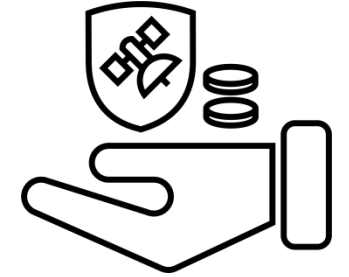
UKSA regulates all vertical spaceports,  
launch vehicles, in orbit operations and tracking into orbit



CAA regulates all airspace, spaceplanes and horizontal spaceports

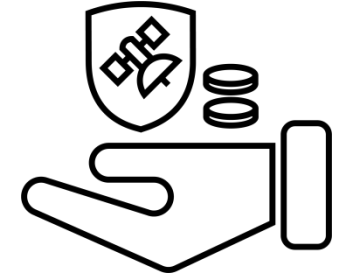


# Liabilities, indemnities and insurance



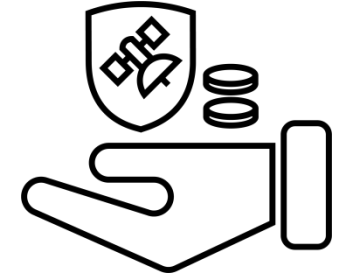
- **Section 34** places a strict liability for injury or damage caused by a craft or space object of an operator carrying on spaceflight activities in the UK. The uninvolved **general public** suffering injury or damage can bring a claim against the operator without having to prove fault.
- **Section 36** places a liability on an operator carrying on spaceflight activities to **indemnify the UK Government** or listed person or body for **any claims brought against them** for loss or damage caused by those activities.
- **Section 37** protects the Secretary of State, a regulator and other bodies who may carry out functions under the Act from liability in respect of spaceflight activities, except in the case of **wilful misconduct** or **gross negligence**.

# Liabilities, indemnities and insurance



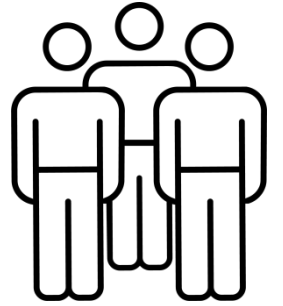
- In **section 12(2)** there is a power to specify a limit on an operator's liability to indemnify the UK Government under section 36.
- In **section 34(5)** there is a power to make regulations to limit the amount of liability of an operator for injury or damage to third parties.
- **Call for evidence** issued on 27 March 2018 on the issue of liabilities for launch from the UK.
- Where these liabilities are limited **Section 35** provides a power to the Secretary of State to **indemnify an operator** for claims against it that exceed their insurance cover.
- There is also a **duty on Government** to indemnify a claimant where injury or damage exceeds an operator's limited liability.

# Liabilities, indemnities and insurance



- Finally **Section 38** provides a power to make regulations to require holders of licences and others engaged in spaceflight activities **to be insured**.
- This applies to **all activities regulated** under the Act – operation of a spaceport, provision of range control services, launch from the UK and in orbit operations.
- Call for evidence issued on 27 March 2018 also covers questions on insurance.

# Next Steps



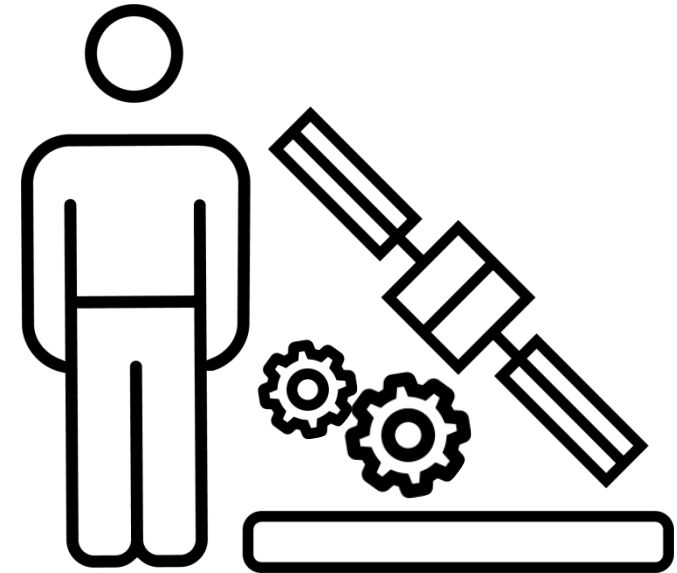
- The Act provides an **important and timely step** towards realising commercial satellite launch from the UK, with a modern, safe and supportive regulatory framework.
- Work has been ongoing to develop the detailed regulations to implement the Act.
- We will be **working closely with industry, academia and the public over 2018** with the aim of consulting on draft regulations in 2019.
- The public call for evidence on liabilities, insurance and charging is an important step forward in this engagement.

# Next Steps

In the meantime, work continues on policy currently being developed under the **Outer Space Act 1986**.

## *Traffic Light System for Licensing:*

- Pre-application stage for licensing.
- Gives prospective licence applicants a pre-application status:
- **Red**, **Amber** or **Green** indicating the likelihood of a licence being granted.
- Continues to be piloted.





# Next Steps

*Insurance and liability requirements for in orbit activities.*

- New approach – insurance required to cover each occurrence of third party damage rather than each satellite licensed.
- Means that operators with more than one satellite, may be able to cover all of their licensed satellites under a single fleet third party insurance policy.





## Questions?

