Regulation & Legislation Workstream
Plenary Event #3

Alden Buildings
London | 5th June 2019

Welcome, introductions & aims

Nicola Higgins | UK Space Agency

About today

Aim: To continue our series of regular engagement events

- We will update you on the current development of legislation and consulting plans
- We will set out the position of our Target Operating Model work
- Look at the developing regulation model

The small print: No part of the discussions held (unless otherwise noted) should be taken as a reflection of developing or future government policy or legislation, and any decisions taken by any individual or organisation on the basis of any information they hear or see at these meetings are taken at their own risk

Agenda

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13:30	**Welcome, introductions and aims**	Nicola Higgins | UK Space Agency
13:40	**Who we are and what we do**	Nicola Higgins| UK Space Agency
13:50	**Opportunities to engage with us**	Colin Macleod | UK Space Agency
14:00	**Legislation update**	Paul Cremin | Department for Transport
14:30	**Regulation update: our work to create an effective and proportionate safety regime**	Tobias Lin | UK Space Agency, and Chris Burn | PA
15:20	**Reflecting on your feedback and Expert Panel**	Colin Macleod | UK Space Agency
15:50	**Closing remarks**	Nicola Higgins | UK Space Agency
16:00	**Close**	

Recap of who we are and what we do

Nicola Higgins| UK Space Agency

Who we are


UK SPACE
AGENCY


Department
for Transport


Civil Aviation
Authority

Our teams

LAUNCH UK

Incentivising the market
Focusing on growing the UK's national capabilities through the building and infrastructure of spaceports and developing the UK supply chain in launch services

Legislation
Ensuring that all required legislation and guidance to enable spaceflight and associated activities in the UK is in place

Regulation
Establishing the identity of the regulator ensuring an efficient and robust regime for safe spaceflight and associated activities in the UK

International engagement
Responsible for government to government agreements to enable spaceflight activities from the UK, including with neighbouring countries and the US

How we are developing the regulator

We have three core teams working together to develop the new UK space Regulator. These are working in collaboration with colleagues from CAA, DfT and HSE.

- Chief Engineer's Team
- Regulation Team
- Legislation Team

Opportunities to engage with us

Colin Macleod| UK Space Agency

Opportunities to engage with us

- 17 July Plenary Session, Harwell. Topics covered: liabilities and security
- 13 August Plenary Session, Glasgow. Topics covered: environmental assessment
- September Plenary Session (final details TBC) Topics covered: spaceports and orbital
- October Plenary Session (final details TBC)
- November Plenary Session (final details TBC)
- 1-2-1 engagements
- Consultation early 2020

- Email spaceflight@ukspaceagency.gov.uk

Legislation update

Paul Cremin| DfT

Since the Space Industry Act obtained Royal Assent…

- We have been building on the framework we established in the Act
- Over 20 work packages across CAA, DfT, UKSA and HSE to deliver regulations, impact assessments and guidance.
- Lawyers are currently drafting regulations for the majority of these work packages. Some have been drafted and are awaiting clearance.
- Policy leads are working with analysts to assess the impacts of our policies.
- Regulatory teams and technical experts are helping to develop guidance materials.
- In future sessions we will be seeking your input on these products.

Drafting SIs: Outline Plan

Start Point: Relevant Approved Policy Instruction(s) all complete by Oct 2018

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50 weeks/11.5 months

93 weeks | 8 weeks | 9 weeks | 12 weeks

- Develop Policy Instructions
- Drafting Statutory Instruments
- Impact Assessments
- Guidance Material

Initial Legal Clearance

Consultation Policy Clearance

Consultation Q1 2020

Refine Drafts

Internal/SB => OGDs => Min write round => Responses => Min write out => Publish

SI

47 weeks/11 months

4 weeks | 16 weeks | 8 weeks | 6 weeks | 2 weeks | 3 weeks | 6 weeks

Analysis of Consultation; Instruct changes

Legal Revisions to SI

Govt Responses

Legal Clearance

Clearance: Internal Min RPC RRC

Final Check, Print & Validate

JCSI Clearance

Parliamentary Process (Affirmative; Parly time dependant)

Into Force

Legal Lead

Policy Lead

The regulations will be contained in 5 statutory instruments:

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The ‘Jumbo’ SI:

Duties and supplementary powers (‘members of the public’)

Licensing eligibility criteria

Range licensing

General licensing provisions

Launch licensing (risk)

Spaceport licensing

Mandatory conditions

Persons appointed to carry out regulator's functions

Informed consent

Training

Spaceport safety

Spaceflight activities safety

In orbit operations safety

Security

Monitoring and enforcement

Liabilities

Insurance

Offences

Charging

Appeals

Accident investigation

Commencement

Guidance Considerations

Spaceport

- s.1 – Introduction
- s.2 – Duties & Supplementary Powers
- s.3 – Prohibition of Unlicensed Spaceport
- s.8 – Grant of Terms of Licences
- S.10 – Grant of Spaceport Licence
- S.11 - Environment
- s.12– Terms of Licences
- s.13 - Conditions of licences
- s.14 – Licence granted for Specified periods
- s.15 – Transfer Variation, Suspension, Revocation or Termination

s.18 – Training, qualifications & Medical Prohibition of Unlicensed Spaceport
s19 - Safety
s23 – Security
s26 – Monitoring & Enforcement
s34-37 – Liabilities
s38 – Insurance
s.54 – Offences
s.60 – Appeals
s.62 - Charging

Range

- s.1 – Introduction
- s.2 – Duties & Supplementary Powers
- s.3 – Prohibition of Unlicensed Spaceport
- s.5 – Range
- s.6 – Range Control Services
- s.7 – Provision of Range Control Services
- s.8 – Grant of Terms of Licences
- s.12– Terms of Licences
- s.13 - Conditions of licences

s.14 – Licence granted for Specified periods
s.15 – Transfer Variation, Suspension, Revocation or Termination
s.18 – Training, qualifications & Medical Prohibition of Unlicensed Spaceport
s19 - Safety
s23 – Security
s26 – Monitoring & Enforcement
s34-37 – Liabilities
s38 – Insurance
s.54 – Offences
s.60 – Appeals
s.62 - Charging

Accident Investigation

Operator (Launch)

- s.1 – Introduction
- s.2 – Duties & Supplementary Powers
- s.3 – Prohibition of Unlicensed Spaceport
- s.8 – Grant of Terms of Licences
- s.9 – Grant of Operator Licences (Safety)
- S.10 – Grant of Spaceport Licence
- S.11 - Environment
- s.12– Terms of Licences
- s.13 - Conditions of licences
- s.14 – Licence granted for Specified periods

s.15 – Transfer Variation, Suspension, Revocation or Termination
s.18 – Training, qualifications & Medical Prohibition of Unlicensed Spaceport
s19 - Safety
s23 – Security
s26 – Monitoring & Enforcement
s34-37 – Liabilities
s38 – Insurance
s.54 – Offences
s.60 – Appeals
s.62 - Charging

Operator (Orbital)

- s.1 – Introduction
- s.2 – Duties & Supplementary Powers
- s.3 – Prohibition of Unlicensed Spaceport
- s.8 – Grant of Terms of Licences
- s.9 - Grant of Operator Licences: (Safety)
- s.12– Terms of Licences
- s.13 - Conditions of licences
- s.14 – Licence granted for Specified periods

s19 - Safety
s23 – Security
s26 – Monitoring & Enforcement
s34-37 – Liabilities
s38 – Insurance
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Regulation update: our work to create an effective and proportionate safety regime

Tobias Lin | UK Space Agency **and Chris Burn** | PA

Anticipated Regulatory Principles

- **AIM**: Being assured with respect to safety whilst balancing regulatory burden on licensees and regulator.
- **HOW:** Operate as an 'outcomes based' regulator which focuses on the potential licensees' ability to deliver safe outcomes. This is opposed to a 'prescription based' approach, which focuses on adherence to a prescribed set of rules and conditions.
- **WHY?** Outcomes based regulation is deemed to drive a more holistic consideration of safety out with a mechanic regulatory regime, whilst supporting innovation and new entrants to the market
- As such, potential licensees will need to demonstrate to the Regulator that safe operations is a key outcome of their licensed activities. They can do this by showing that risks posed by undertaking their activities are managed to be As Low As Reasonably Practicable (ALARP).
- The regulator anticipates an ongoing relationship with licensees throughout the licensing and space activity lifecycle.

Proposed Core Values

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We are easy to engage

To get to the heart of the challenge

We are open-minded

To find safe solutions to achieving missions

We collaborate

To find the best regulatory solution

We are responsive

To the emerging nature of the space industry

Regulatory Landscape

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Categories of regulated operations				
				
Vertically launched sub-orbital and orbital rockets (UKSA)	Air launched sub-orbital and orbital rockets (UKSA & CAA)	Horizontally launched orbital spaceplanes (UKSA & CAA)	Air and horizontally launched sub-orbital spaceplanes (CAA)	Sub-orbital balloons (CAA)

UKSA regulates all rockets (whether sub-orbital or orbital), vertical launch spaceports and associated range control.

CAA regulates sub-orbital spaceplanes & balloons and associated spaceports and range control. They also regulate airspace and carrier craft under existing legislation.

Launch Regulation Model (high-level)

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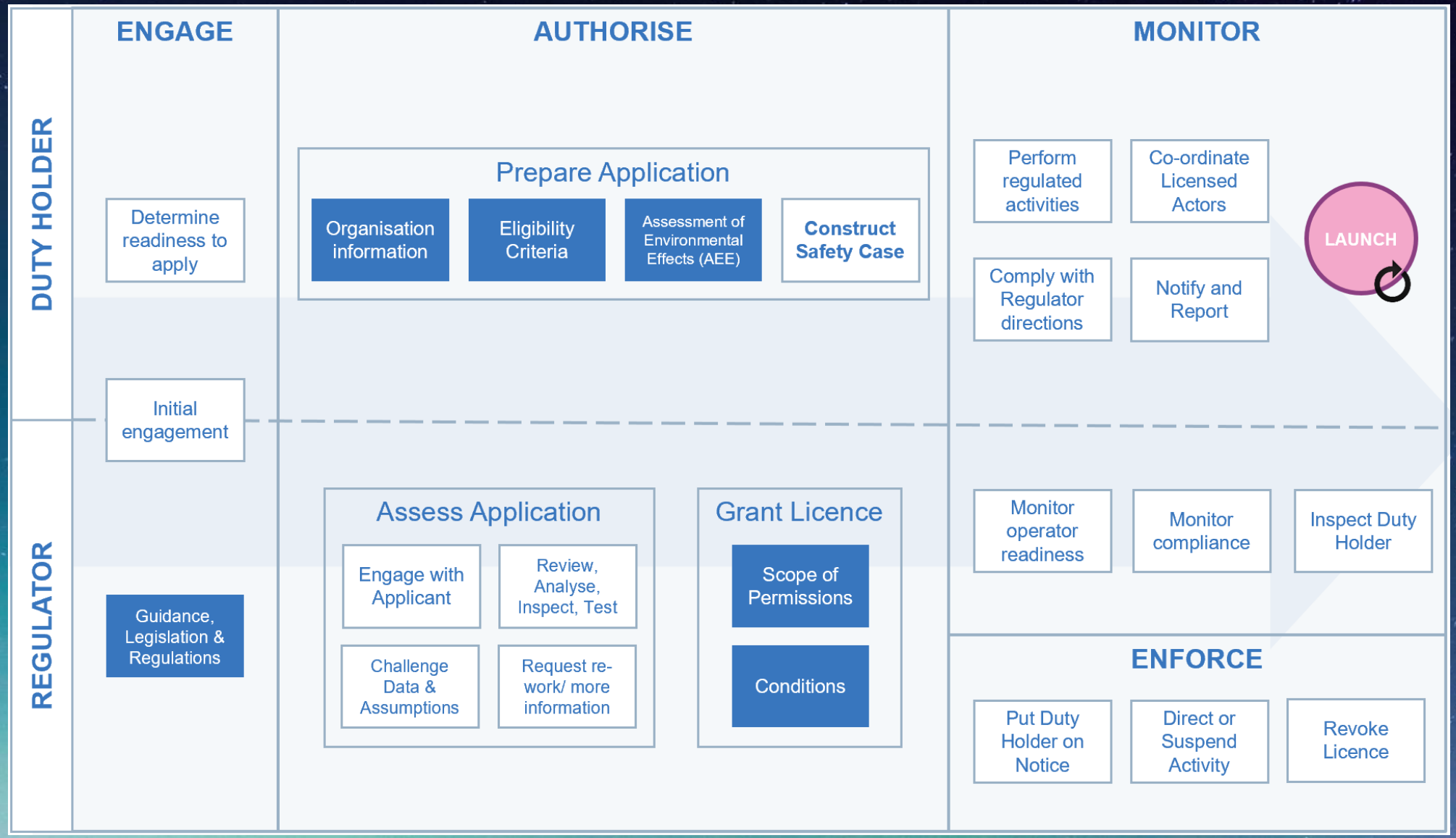

Possible Transition states for the regulator

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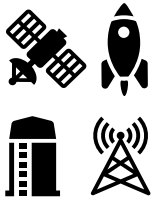
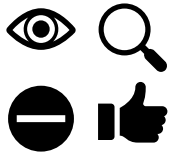
	TS1: Assess feasibility Productionised "Traffic light" feasibility assessment available to all potential participants (integrated in-orbit & new)	**TS2: pre- licensing support** Minimum capability to provide pre-application support to potential applicants	**TS3: Spaceport and range** Minimum capability to authorise and monitor and enforce (review, analyse, inspect, test) static licence types	**TS4: Launch & Orbit** Minimum capability to authorise, monitor (post-hoc) and enforce launch licence
What can applicants do? 	*I can determine the feasibility of determine the feasibility of my port, range, launch or orbit activities*	*I can engage with the Regulator as a critical friend, sharing plans and receiving challenge to help shape my thinking prior to licence application*	*I can apply for a Spaceport or Range Control Service licence*	*I can apply for a licence to launch a space vehicle and payload, conduct the activity and be appropriately monitored*
What can the regulator do? 	*We've expanded our orbit 'traffic lights' approach to work across launch, spaceport and range, so we have the capability to support the whole market*	*Gain awareness and visibility of the plans of applicants through 1:1 engagements, aiming to improve the quality of formal application submissions*	*Our people feel confident and supported in assessing port and range licence applications utilising defined processes*	*Our people feel confident and supported in assessing a specific launch licence and associated in-orbit licence(s)*

Time

M
V
R

A high-level view

Jan 2021
MVR Established

2019	2020	2021

The legislation is due to be done by the end of 2020. We are currently working on drafting the SIs and guidance

As we can't work on applications before then, but we have two things we are working towards:

- Traffic lights
- 1-2-1 engagements

Legislation due to be finalised by end of 2020

For more information, see our website

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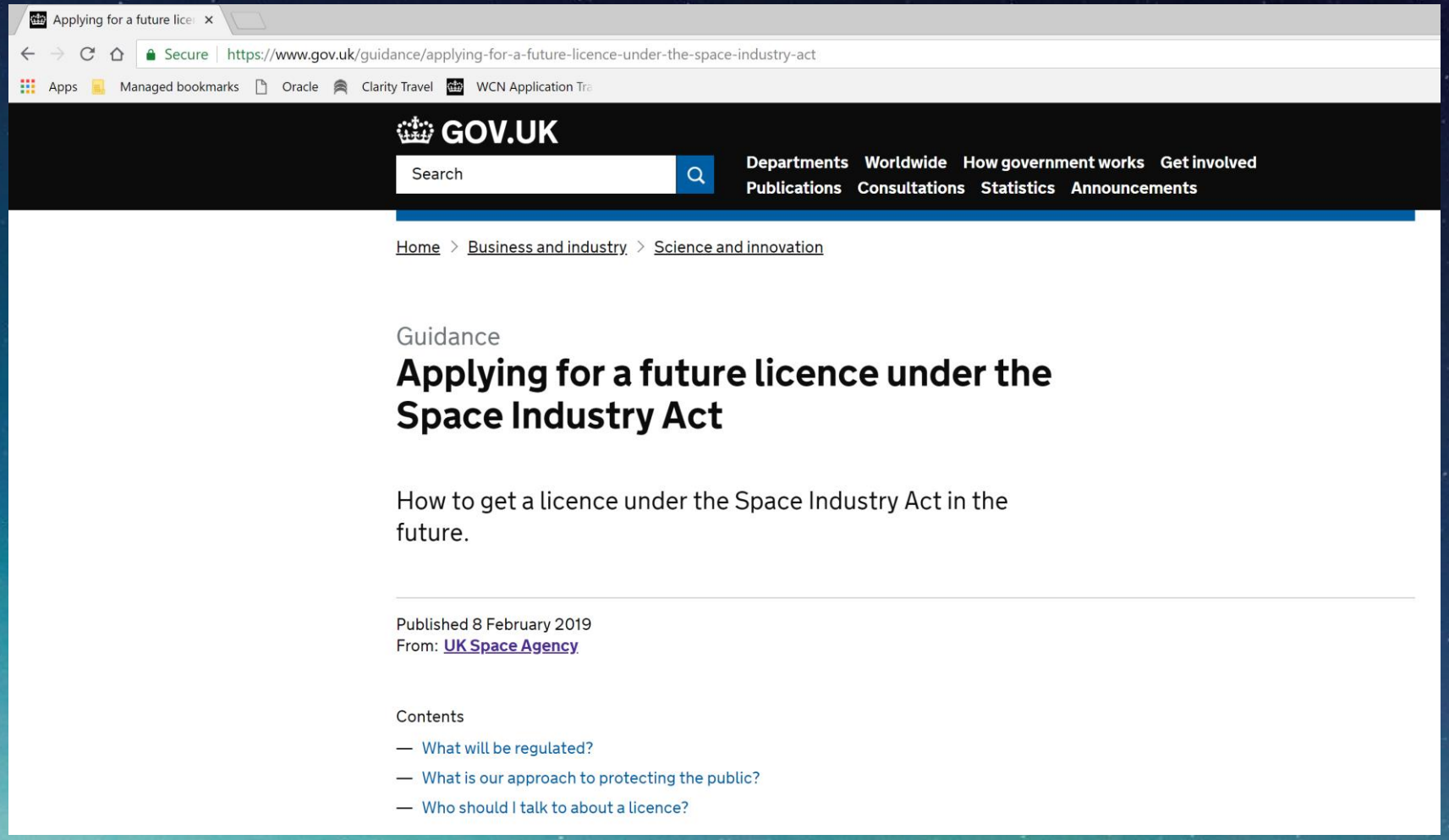

Reflecting on your feedback and topics to discuss

Colin Macleod| UK Space Agency and expert panel

Questionnaire response: your priorities

Transparent processes

Predictable

Timely decision making

Proportionality of administrative burdens

Ability to engage at an early stage

Consistency in regulations cross departments, agencies and authorities

Flight and ground operations liability/indemnity insurance

Commercial competitiveness

Future-proofing

Launch licensing

Pragmatism

Speed of application of license application and assessment

Streamlined and efficient

Offshore jurisdictions

Spaceport safety

Flexibility

Range safety

Clear focus on safety of the public

Pragmatism

Questionnaire response: your concerns

High costs

Requirements to deal with multiple government agencies/bogies

Permanent limits on payload mass, launcher dimension, restrictions on operation location

High-risk licensing process

Effort

Indefinite timelines for approvals

Insurance obligations

Limited flexibility

Slow responses

Lack of clarity of process

Questionnaire response: additional feedback

There should be an incremental or evolutionary approach to developing regulations that can be evolved

Early and ongoing engagement with industry is key

Embrace US Technology and advice

Key differentiators include automation, transparency, efficiency, repeatability

The regulator should be able to work with players to explore and enable, while ensuring appropriate safety and standards

Linkage with Scottish Government and regulations

We need to agree a standard set of terms and definitions

So, what's next?

- We are working on:
  - The regulatory model
  - The necessary guidance, processes and teams that we'll need to put in place
  - And the secondary legislation

Closing remarks

Nicola Higgins| UK Space Agency

Thank You

https://www.gov.uk/guidance/how-we-are-promoting-and-regulating-spaceflight-from-the-uk