



Space Launch and Orbit Group

Launch session

25 Nov 2021

Welcome

Agenda

- Steering group – introduction (15 mins)
- Terms of reference (15 mins)
- Regulator update (15 mins)
- Airspace (5 mins)
- Next steps discussion (20 mins)
- AOB (5 mins)

Spaceflight Safety and Regulatory Council vs. Space Launch and Orbit Group

Housekeeping

- Please mute microphones
- Please use chat or raise Teams hand for questions
- We will be publishing the slides and actions from this meeting, not verbatim minutes, on our website at [caa.co.uk](https://www.caa.co.uk)

Steering group

Bhavin Vyas Bhavin.Vyas@adsgroup.org.uk

Craig Clark Admin@scottishspace.org

Prof. Hugh Lewis H.G.Lewis@soton.ac.uk

Joanne Wheeler Joanne.wheeler@wearealden.com

Liz Quintana / John Rogers SpacelaunchUK@ofcom.org.uk

Nick Shave Nick.Shave@inmarsat.com

Terms of reference

1. Context
2. Function
3. Governance
4. Membership
5. Working groups
6. Meeting structure

Regulator Update

Regulator update

- Published guidance and licensing statements
- Supplied evidence to the Science & Technology inquiry
- Continued pre-application engagement
- Industry outreach/site visits
- Safety case workshops
- Industry events
 - Westminster Business Forum
 - Ignite21
 - Bremen Space Expo

Licensing - launch, spaceport, ANO, range



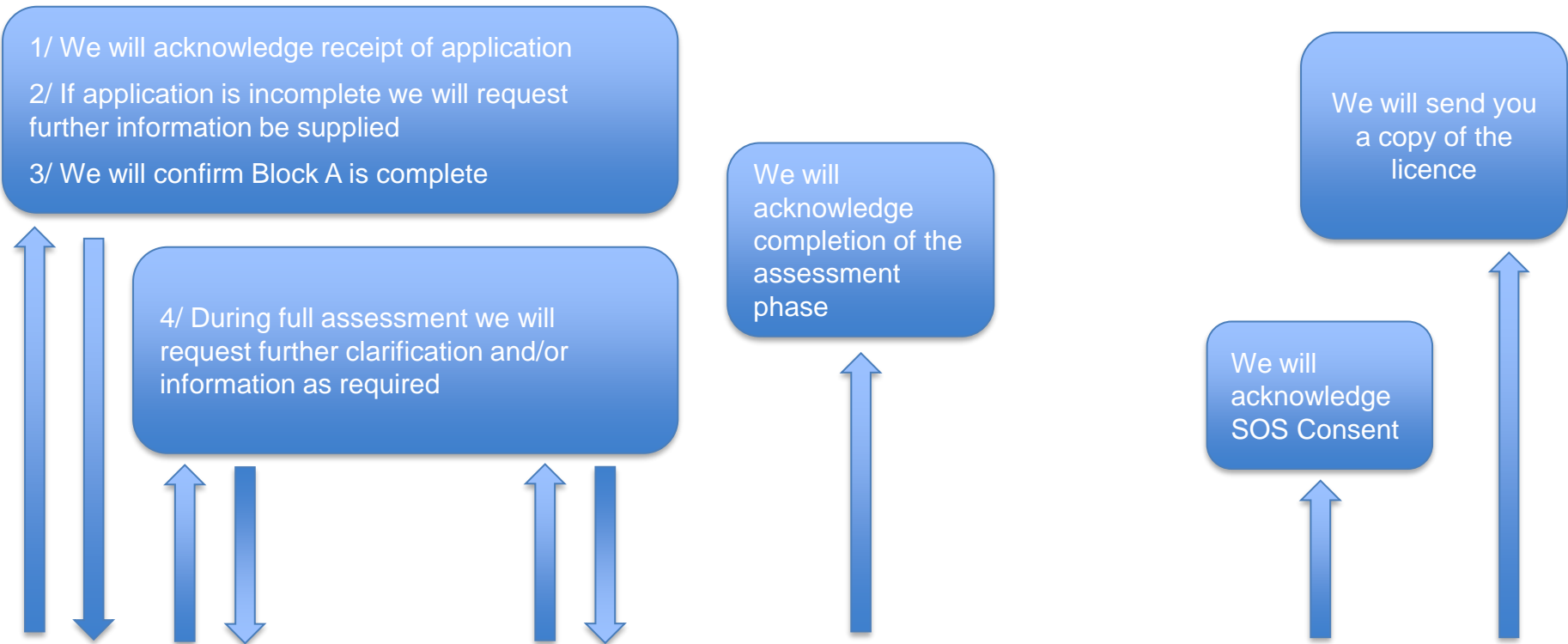
Since becoming the regulator on 29 Jul 21 we have received

- 13 pre-applications (5 launch, 4 ANO, 3 spaceport, 1 range)
- 2 full applications (1 launch, 1 spaceport)

We have 2 applications that have been started on the portal, but not yet submitted

We are anticipating up to 4 applications in the next 2 months

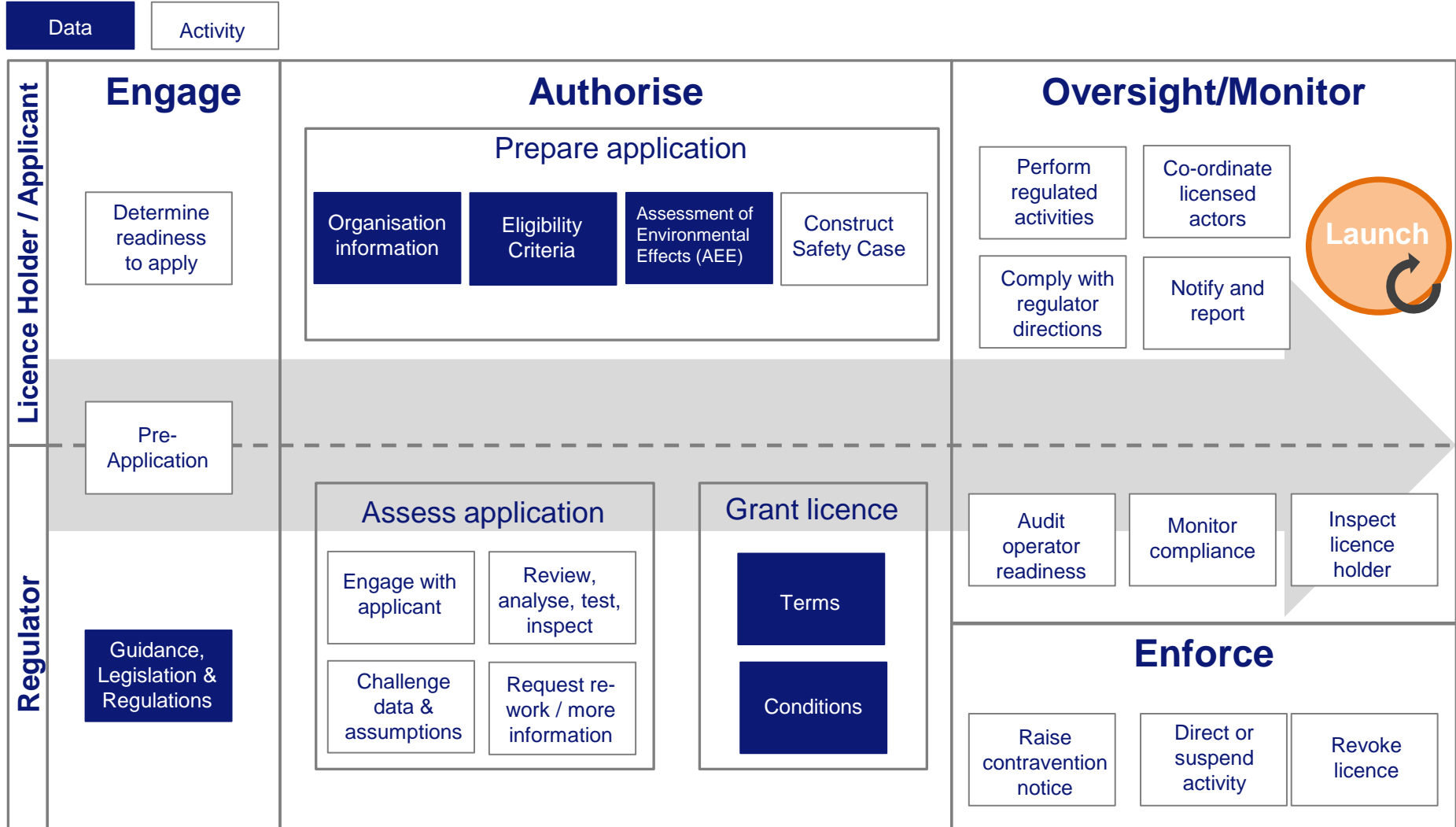
Launch licence application process



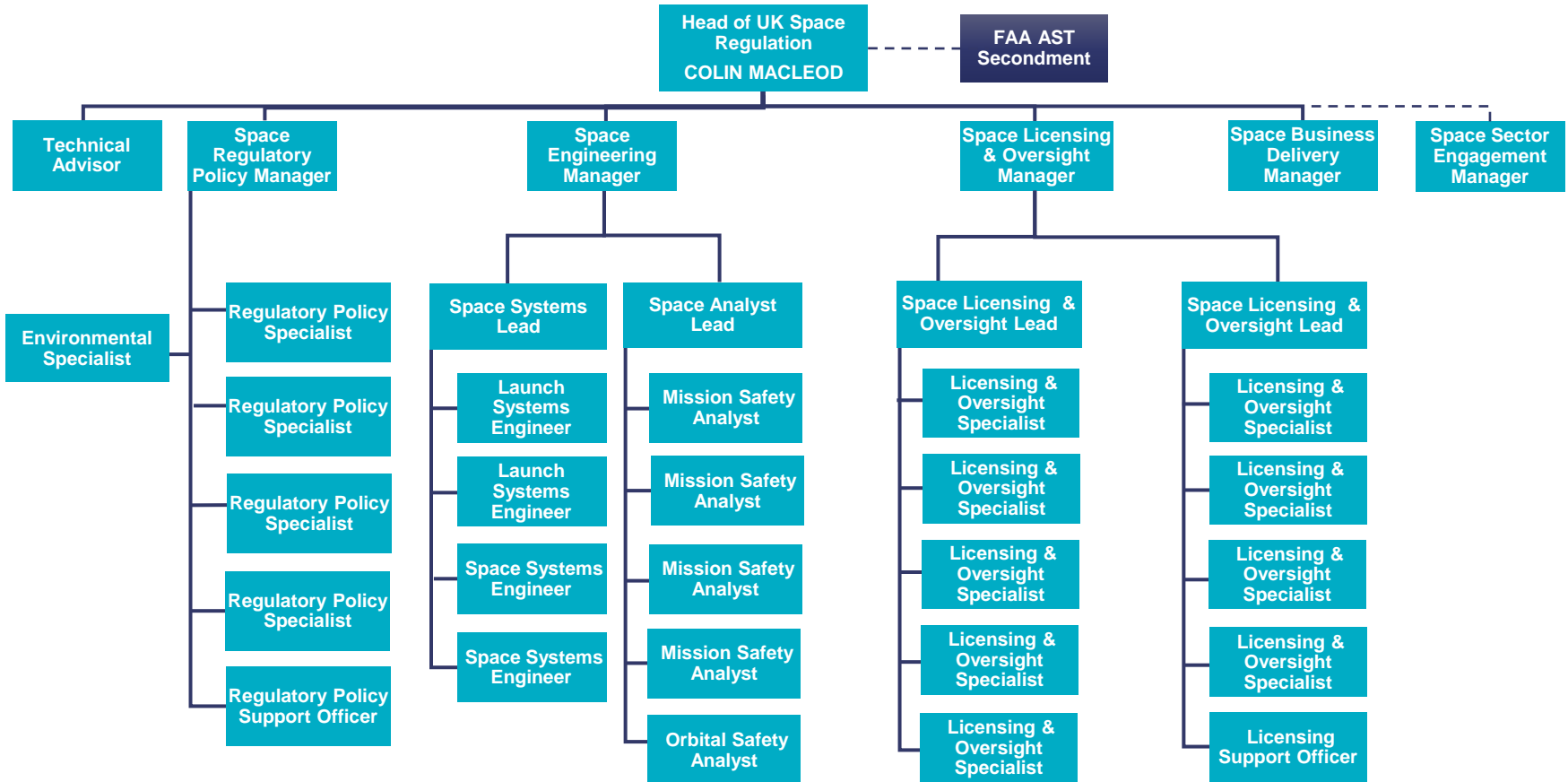
A	B	C	D	E	F	
Initial Screen	Assessment	Conclusions Meeting	Senior Sign-off	Statutory Consultation	Secretary of State Consent	Licence Issue

Launch 9 - 18 Months

Regulatory model for launch



Our Space Regulation team



commercialspaceflight@caa.co.uk

Space Analysis Team

Robert Garner – Space Analysis Lead

- Joined CAA in May 2020
- Mission safety analyst at UKSA leading flight safety analysis aspects and technical insight into policy
- PhD student at Uni of Strathclyde
- MPhys physics with space science from Uni of Leicester

Role of space analysis

- Assessing analysis used in licence applications
- Performing independent analysis used to make assessment decisions
- Making insurance requirement determinations
- Providing evidence to policy teams in CAA and HMG

Capabilities

- Launch vehicle trajectory modelling
- Flight safety analyses
- Orbital safety and sustainability analysis

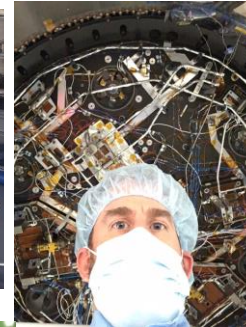
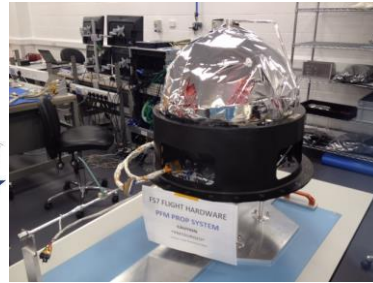
Space Systems Team

Andy Devereaux
Space Systems
Lead



ThalesAlenia
a Thales / Leonardo company Space

SURREY
SATELLITE TECHNOLOGY LTD



Credit: Thales Alenia Space



Credit: CSG/Arianespace



EADS
ASTRIUM

AIRBUS
DEFENCE & SPACE

- Joined CAA Space Regulation team in June 2021.
- Provide technical support and oversight to commercial space licensing activities
- Support continuous team development
- Manage and coordinate skills and resource needed to technically assess the various different types of space launch/return, orbital/sub-orbital, spaceport and range operator license applications.
- Background and Experience
- BSc degree in Physics with Space Science University of Southampton, 1999
- 21+ years of experience in the space industry as a propulsion engineer and manager.
- Extensive experience in design, manufacture and test of in-space chemical and electric propulsion systems for spacecraft.
- Specialist knowledge in propulsion testing, satellite AIT, GSE and launch site hazardous operations/fuelling activities

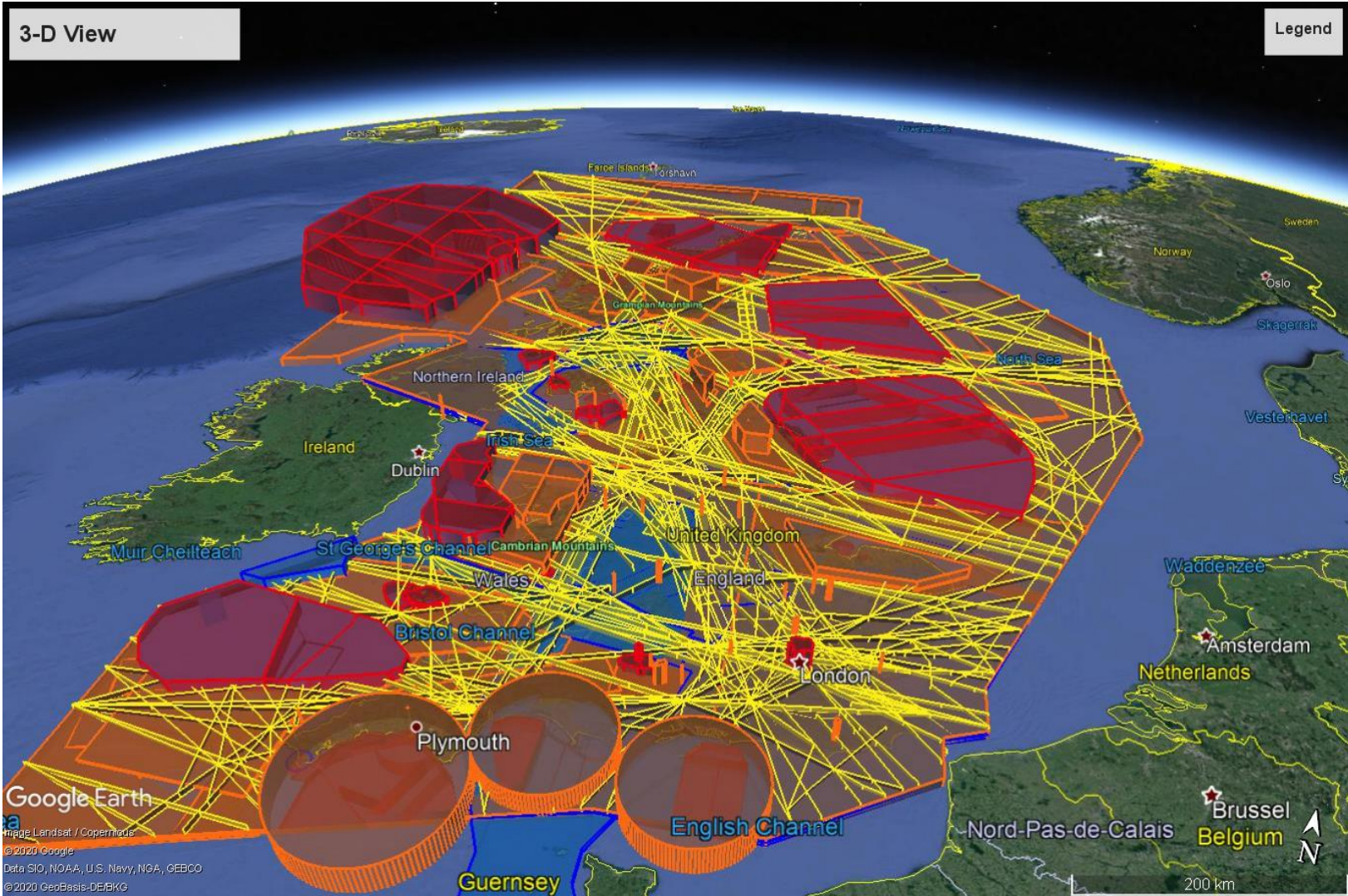
The CAA Airspace Change Process

Al Burgess
Technical Airspace Regulator

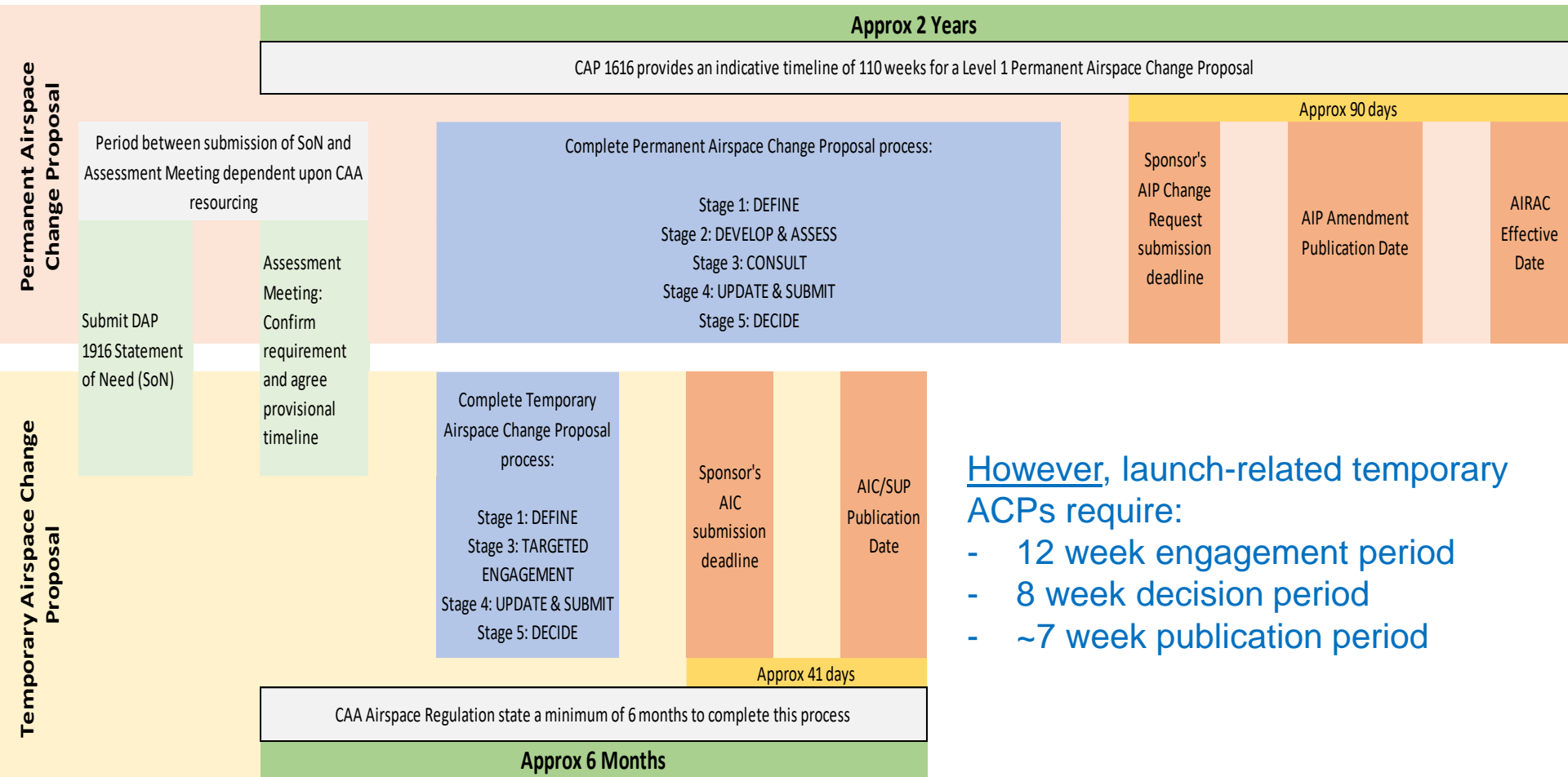
email: alan.burgess@caa.co.uk

Tel: 0330 138 2170

Why the Airspace Change Process?



Why apply as early as possible?



However, launch-related temporary ACPs require:

- 12 week engagement period
- 8 week decision period
- ~7 week publication period

Permanent Applications in Progress



- ACP-2017-79: SaxaVord Spaceport
 - In 'Stage 2 – Develop & Assess'
 - Currently Paused
- ACP-2019-04: Space Hub Sutherland
 - In 'Stage 2 – Develop & Assess'
 - Timeline amendment in progress
- ACP-2021-12: Spaceport 1
 - In 'Stage 2 – Develop & Assess'
 - Stage 2 Gateway: April 2022
- ACP-2020-093: Raptor Aerospace
 - In 'Stage 1 – Define'
 - Timeline amendment in progress

Further details available on the
CAA's Airspace Change Portal:

airspacechange.caa.co.uk

Temporary Applications in Progress

- ACP-2021-058: HyImpulse at SaxaVord Spaceport
 - Target AIC Publication: June 2022
- ACP-2021-037: Spaceport 1
 - Target AIC Publication: June 2022
- ACP-2021-031: Virgin Orbit from Spaceport Cornwall
 - Southerly trajectory
 - Target AIC Publication: June 2022
- ACP-2021-068: Virgin Orbit from Spaceport Cornwall
 - Northerly trajectory
 - Target AIC Publication: June 2022

Further details available on the
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Questions?

Al Burgess
Technical Airspace Regulator

email: alan.burgess@caa.co.uk

Tel: 0330 138 2170

NATS Price control (NR23)

NATS latest price control period NR23 is currently under consultation

NR23 is discussing possible space charges for the period 2023 - 2027

NERL must submit key building block data to CAA by **10 Dec** and its NR23 business plan by **7 Feb 22**

We strongly encourage any engagement on space charges happens as soon as possible – and absolutely before the business plan submission

Given the short timescales all contributions should be specific and relevant

For more information on NERL governance, timescales and how to contribute please contact: nr23.customerconsultation@nats.co.uk

Next steps



Next steps - stages of work

Areas of focus for the next 12 months

- The SPLOG will meet every four months, next meeting Mar 22 in person with virtual links
- Please send questions or agenda item suggestions to a steering group member best suited to your area
- Early engagement and pre-application

Possible working groups

AOB

