



Safety and Airspace Regulation Group

NATIONAL AIR TRAFFIC MANAGEMENT ADVISORY COMMITTEE

MINUTES OF THE 96th PLENARY MEETING HELD AT AVIATION HOUSE ON 10 OCTOBER 2024

National Air Traffic Management Advisory Committee 96 – Minutes**Present:****CHAIR**

Jon Round

Head, Airspace, ATM & Aerodromes

REPRESENTATIVES OF MEMBER ORGANISATIONS

Tim Thomas	AEF
Matt Wilshaw-Rhead	AirportsUK
Martin Robinson	AOPA
Rupert Dent	ARPAS-UK
Capt Spencer Norton	British Airways
Mike Thrower	BALPA
Mike Gunston	BBAC
Pete Stratten	BGA
Tim Fauchon	BHA
Mark Shaw	BHPA
Rob Hughes	BMAA
Jeff Montgomery	British Skydiving
Stuart Stenhouse	Drone Major
Mike Pearson	GAA
Luis Barbero	GATCO
Hal Newberry	HCAP
Jeremy James	HCGB
Colin Gill	Isle of Man CAA
Hugh McConnellogue	Low Fare Airlines
Sqn Ldr Ashley	MAA
Sqn Ldr Baron	MoD DAATM
Michael Cockcroft	NATS
Cdr Plenty	Navy Command HQ
Andrew Sinclair	PPL/IR Europe
Simon Oldfield	UKAB

CAA STAFF

David Woodward	NATMAC Secretary
Colin Chesterton	Manager, Airspace Modernisation Delivery
Ben Lippitt	Manager, Airspace Regulation
Adam Godolphin	Manager, Airspace Modernisation Oversight Risk & Benefits
Stu Lindsey	Head of Airspace Modernisation
Julie Tovey	Principal Airspace Modernisation Programme Oversight
Akhil Sharma	Airspace Specialist (Engagement and Consultation)
Jonathan Smith	Airspace Modernisation Lead
Kevin Woolsey	Head of RPAS
Trevor Arnold	Project Manager FS&I
Alyson Devereux	Airspace Modernisation Programme Principal

National Air Traffic Management Advisory Committee 96 – Minutes**INDEX TO NATMAC 96 MINUTES**

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NATMAC 95 MINUTES

1. ITEM 1 – INTRODUCTION

- 1.1 The **Chair** welcomed representatives to the meeting and emphasised the benefits of meeting in person despite the challenges that are faced in organising a suitable meeting space.

2. ITEM 2 – NATMAC 95 MINUTES

- 2.1 The **Secretary** stated that there was one comment received from **Mark Shaw** (BHPA) related to the removal of BHPA from the NATMAC distribution list. The previous NATMAC **Secretary** has since added BHPA back onto the distribution list with the agreement of the **Chair**. The **Secretary** invited the committee for any final comments. **Mark Shaw** (BHPA) asked for the dates of when BHPA was removed and then added back onto the distribution list.

Action: Secretary

- 2.2 In the absence of further comments, the **Secretary** advised the committee that the minutes for NATMAC 95 will be published on the NATMAC CAA webpage.

3. ITEM 3 – ACTION LIST FROM NATMAC 95 AND MATTERS ARISING FROM PROGRESS REPORT

- 3.1 The **Secretary** confirmed that six actions were raised at NATMAC 95, all of which have been closed off, and are documented in the progress report that was sent out ahead of the meeting.
- 3.2 The **Secretary** invited feedback/comments from the committee on the actions in the Progress Report. No comments or feedback raised.

4. ITEM 4 – CHAIR'S REPORT

- 4.1 In addition to the report, the **Chair** emphasised that significant work is carried out between NATMAC meetings and that it can be difficult to communicate all of it to the committee. Some of the biggest challenges of the organisation are to deliver on the Airspace Modernisation Strategy (AMS), Future Airspace Strategy Implementation (FASI), and Global Air Navigation Plan (GANP) with government having particular focus on AMS and Sustainable Aviation Fuel (SAF) throughout the current parliament as per the Labour manifesto.
- 4.2 The **Chair** stated that CAP 1616 will require an amendment to accommodate UKADS however more detail on the project would be provided as part of a substantive agenda item later in the meeting.
- 4.3 UK carriers will continue to face challenges when operating in Europe and the Middle East due to airspace closures related to ongoing military activity.
- 4.4 The **Chair** emphasised that delays to international travel are not always related to UK Air Traffic Control delays and that many are related to airspace restrictions in other areas of Europe. Despite overall air traffic numbers being 2% to 3% below 2019 numbers, some airports are experiencing traffic levels in excess of 2019 numbers, in particular Bristol Airport. It is expected that the UK will reach or exceed 2019 traffic

levels next summer which will come with the associated challenges in relation to on-time performance.

- 4.5 The final report into the NATS FPL system failure has been completed and has been sequenced for release in November. ([The report can be found here](#)).
- 4.6 The **Chair** invited comments and questions.
- 4.7 **Tim Fauchon** (BHA) stated that CAA consultations often have questions that require a yes or no answer which does not give the responder the opportunity to suggest an alternative. It was suggested that the addition of a single free-text box at the end of the consultation would give the CAA an opportunity to obtain more information in relation to the questions asked. The **Chair** agreed to explore this further.

Action: Chair

- 4.8 **Martin Robinson** (AOPA) asked the **Chair** to comment on the provision of LARS as there are discussions that it may cease to exist. **Ben Lippitt** stated that the LARS review is ongoing and that the options available for FIS are being explored under the AMS. The LARS review focusses on how best to make use of LARS to fill the current gaps in service with the finite funding available. **Martin Robinson** (AOPA) commented that LARS was funded by a rebate from EUROCONTROL and that gaps in the service exist due to gaps in funding. **Stu Lindsey** commented that the cost to Air Traffic Service Units for providing LARS far exceeds the funding available to them therefore it is important to note that LARS is not funded by the rebate but some of the cost of providing a LARS is covered by the rebate.
- 4.9 **Rupert Dent (ARPAS-UK)** raised that the Regulatory Innovation Office (RIO) was announced by the government the day prior to the NATMAC meeting and asked what the impact was going to be on the CAA around future flight. **Kevin Woolsey** stated that the RIO will assist the CAA in aligning with other regulatory areas in a principle led approach rather than through funding. The aim is to draw common conclusions across regulators however it is still in infancy and the scope of the office may change.

5. ITEM 5 – AIRSPACE MODERNISATION DELIVERY TEAM UPDATE

- 5.1 **Trevor Arnold** presented on the Atypical Air Environment.
- 5.2 **Rupert Dent** (ARPAS-UK) commended the CAA and DfT on the Atypical work and stated that both organisations have done well to deliver on the project. A request was then made to give more detail in relation to the linear aspects of the survey areas as well as the specific locations referenced in the presentation. Clarification was sought on how the definitions of these areas will be finalised in the policy. **Kevin Woolsey** emphasised that the policy is aimed at an air risk mitigation rather than a guarantee of separation and that each individual proposed operation will be assessed and approved on individual merits. The RPAS department in the CAA will look at the proposed operation and the mitigations stated in the proposal to assess the limitations to be placed on each operation and that only those compliant with the regulations will be approved.
- 5.3 **Rupert Dent** (ARPAS-UK) stated that infrastructure owners are already starting to raise questions about ground risk mitigation in the vicinity of their infrastructure and whether they have any right to limit access. In the policy document, collaboration with infrastructure owners is encouraged but how can risk be managed? **Kevin Woolsey**

stated that the CAA Office of the General Counsel (OGC) has been consulted throughout the implementation on the policy and that the focus of it is on managing the air risk and not ground risk however operators are encouraged to fly far enough away from infrastructure so as not to put any third parties or infrastructure at risk.

- 5.4 **Mark Shaw** (BHPA) updated the Committee on a discussion that was raised at a meeting related to the Atypical Air Environment Policy. The BHPA Executive is considering whether to share a database of known sites that hand-gliders and paragliders operate from. The concern of the BHPA is that sharing a map with pinpointed sites does not always communicate the true area of operation of the sites as flying activity may take place along a ridge and not just from specific area on the ridge.
- 5.5 **Jeremy James** (HCGB) asked if the air activity taking place under this policy will be notified online for the benefit of other airspace users. **Ben Lippitt** stated that the activity will be notified by Airspace Regulation (Utilisation) by issuing a NOTAM and that all notifications will be assessed by an Airspace Regulator.
- 5.6 **Mike Pearson** (GAA) asked how conformity to the policy will be policed. The **Chair** stated that the Oversight Team will be checking that all operators are conforming to the approval they are given. Assurance will be sought that the mitigation an operator proposes are suitable for the risk of the operation and the application of the mitigations can be checked to ensure compliance. **Kevin Woolsey** emphasised that data can be collected on the operations to check compliance with the approval.
- 5.7 **Matthew Wilshaw-Rhead** (AirportsUK) asked when the industry can expect to see progress being made in terms of interoperability of RPAS with other airspace users and the impact that can have on the ATC position. For example, what will the EC standards be? What will the separation standards be within FRZs? What will the wake turbulence implications be? At present, ANSPs are working on a case-by-case basis however that is not currently sustainable. **Kevin Woolsey** stated that the Atypical policy will still require permission from an ANSP to operate inside an FRZ. **Matthew Wilshaw-Rhead** (AirportsUK) stated that ATCOs have been observing that RPAS passing behind other aircraft are not subject to the wake turbulence separation standards that crewed aircraft are and asked where the threshold will be for defining when an RPAS will require the same or similar separation standards. The **Chair** asked if **Matthew Wilshaw-Rhead** could send a short email to **Chair** outlining the concerns raised.

Action: Matthew Wilshaw-Rhead

- 5.8 **Mike Gunston** (BBAC) asked if balloon operators will be required to check NOTAM information to ascertain whether an RPAS will be operating in the area of departure and intended landing of the balloon. **Kevin Woolsey** emphasised that balloon operators must check NOTAM and that NOTAM notifying of operations under this policy will be contained within the same briefing as all other activity which should be checked by all pilots. It was further emphasised that this policy is about limiting air risk. **Ben Lippitt** stated that the expected numbers of operations under this policy are initially low but confirmed that it is advisable to check NOTAM for any flight. The **Chair** further stated that the work being undertaken under this policy was originally conducted by helicopters and that there are not any known major issues relating to helicopter survey work and balloons. **Mark Shaw** (BHPA) stated that hang-gliders,

paragliders, and sailplanes often fly in the area of intended operation under this policy. The **Chair** acknowledged the comment.

- 5.9 **Colin Chesterton** presented a brief on Electronic Conspicuity.
- 5.10 **Pete Stratten** (BGA) asked at what stage the EC ConOps will be open for public consultation. **Colin Chesterton** stated that the ConOps will be drafted and will then go to the EC Technical Cooperations Group in which the BGA sits. The engagement plan will be dependent on the recommendations of the ConOps and the CAA is aware of the importance of a thorough engagement process. **Pete Stratten** (BGA) raised a concern that UK aviation regulation is developing but that consultation may not be occurring. The **Chair** commented that it is important that the CAA has a clear position on why consultation does or does not occur and asked for any specific issues to be raised via email.
- 5.11 **Tim Fauchon** (BHA) asked if the CAA is also looking at regulatory developments in Europe to ensure that EC devices operating in the UK are also compliant with EU requirements. **Colin Chesterton** confirmed that the CAA is looking at other State requirements and is aiming for similar if not aligned requirements in the UK.
- 5.12 **Jeremy James** (HCGb) further emphasised that operators need to be assured that the equipment being purchased is not just going to satisfy the requirements of the UK but also other State requirements.
- 5.13 **Mark Shaw** (BHPA) asked if the CAA is looking at the EASA ADS-L proposal. **Colin Chesterton** confirmed that the CAA is not pursuing this proposal.
- 5.14 **Matthew Wilshaw-Rhead** (AirportsUK) stated that it is not uncommon for airspace users to ask if controllers can see the aircraft on a surveillance system because they are equipped with FLARM therefore there may be an element of expectation bias with EC. Work on CAP 670 to increase interoperability should be considered. **Colin Chesterton** recognised the point and stated that further work is ongoing around detect and avoid, UTM, and other areas to assist with interoperability.
- 5.15 **Martin Robinson** (AOPA) asked why the UK is not looking at ADS-L as it appears a reasonable solution and that EASA is continuing to work on the project. **Colin Chesterton** explained that provision has been made to accommodate some of the future technologies however they are currently not robust enough to feed into the Air Traffic Control picture hence why they are not currently being explored further.
- 5.16 **Rob Hughes** (BMAA) stated that if a piece of airspace is established close to an existing airfield that requires EC then that would then require users of that airfield to adopt an EC device and that “localised” could result in “mandated”. A question was asked as to what frequencies would be used for EC as the presentation included a milestone related to interoperability of frequencies. **Colin Chesterton** confirmed that the frequencies would be 978 MHz for uncrewed aircraft and 1090 MHz for crewed aircraft. **Rob Hughes** asked if there had been progress on the use of 978 MHz. **Alyson Devereux** confirmed that the CAA is working with Ofcom to enable the use of 978 MHz.
- 5.17 **Colin Chesterton** presented a brief on the Manchester Low Level Route (MLLR).
- 5.18 A question was raised as to why a 40,000kg weight limit was chosen for the proposed Restricted Area and that it felt inappropriate to allow aircraft with such a

MAUW to be flown in the area. **Colin Chesterton** explained that the limit is no different from the airspace today but that the comments will be fed back to the Airspace Classification Principal. (Post-meeting input from the Airspace Classification Team – “We have concluded that, when considered in conjunction with the other restrictions to be implemented alongside this element, the “Small” (MCTOM 40,000kg or less) aircraft category remains an appropriate and safe choice which aligns with design objectives behind this proposal.”)

- 5.19 **Colin Chesterton** presented a brief on Airspace Infringements.
- 5.20 **Hal Newberry** (HCAP) acknowledged the reduction in infringement numbers was positive but asked what metric the numbers can be measured against considering aspects such as weather. **David Woodward** explained that this is something that the Airspace Infringements Team has explored through an action raised by a Local Airspace Infringement Team (LAIT) related to number of infringements versus hours flown. The difficulty comes from obtaining an accurate number of hours flown as this is not something routinely reported by most GA pilots or operators. The Team attempted to obtain previous years data however the integrity of that data could not be confirmed therefore the hours flown per infringement reported could not be relied upon. An emphasis was made on not only the overall infringement numbers, but the risks associated with the infringements and the result of the occurrence, such as loss of separations reported. The **Chair** further explained the historic difficulty in measuring the rate of infringements.
- 5.21 **Mark Shaw** (BHPA) stated that the BHPA has never been asked to report such numbers but would be happy to provide them.
- 5.22 **Martin Robinson** (AOPA) raised an observation related to a difference in the approach from the CAA with prosecutions versus Just Culture over the past year. The work being undertaken by the Airspace Infringements Team under a Just Culture is good and is supported by AOPA however there are difficulties around the cases being handled by the legal team which is causing him concern due to a lack of engagement. He stated that it reflects badly on the work being undertaken under a Just Culture and that he is aware of a pilot that is not aware of the outcome of a case twelve months after the occurrence date. **David Woodward** explained that reports made under the Alleged Breach of Air Navigation Legislation (ABANL) process go to the Investigations and Enforcement Team (IET) whereas reports made via the MOR scheme go to the Airspace Infringements Team and that most pilots in the community will not be aware of the difference. This means that the perception to most people is that airspace infringements fall solely under the Airspace Infringements Team which is not the case. The **Chair** explained that he is aware of the issue and has engaged with OGC. There is a backlog of cases in IET and recruitment is taking place to add more capacity to the Team.
- 5.23 **Alyson Devereux** presented a brief on AMS Delivery Progress to Date.

BREAK

- 5.24 **Martin Robinson** (AOPA) asked when the Detect and Avoid consultation was conducted and how wide it was.

Action: Colin Chesterton

- 5.25 The **Chair** reiterated an earlier point that 978 MHz is a CAA appointed frequency.

6. ITEM 6 – AIRSPACE MODERNISATION OVERSIGHT UPDATE

- 6.1 **Julie Tovey** presented a brief on NATS and MoD Delivery of AMS.
- 6.2 **Rupert Dent** (ARPAS-UK) asked if conclusions of work undertaken under the AMS support fund get published on the CAA website as it is public money. **Julie Tovey** confirmed that conclusions are published online. **Stu Lindsey** reiterated that they do and that it is important to realise that the AMS support fund is not public money and that it is built from en-route fees paid by airlines and other airspace users.
- 6.3 **Martin Robinson** (AOPA) asked if the UK is getting involved in the development of digital flight rules. **Stu Lindsey** stated that the CAA is interested in digital flight rules as it is a definite enabler for the objectives of the AMS however work has not yet started on it.
- 6.4 **Pete Stratten** (BGA) raised a concern that new airspace is being established under legacy rules and that the enablers for new technology are not being utilised. A further question was raised about whether Farnborough airspace is being looked at by UKADS to integrate Farnborough traffic and Heathrow traffic. **Stu Lindsey** confirmed that airspace that falls under the FASI programme will be under the scope of UKADS should UKADS be approved. **Ben Lippitt** stated that UKADS may also be a tool to assist in developing airspace to accommodate new users (subject to consultation and ongoing development).

7. ITEM 7 – AIRSPACE CHANGE ORGANISING GROUP (ACOG)

- 7.1 **Stu Lindsey** presented a brief on ACOG activities. (ACOG unable to attend the meeting due to illness).
- 7.2 No comments or questions were raised.

8. ITEM 8 – UK AIRSPACE DESIGN SERVICE (UKADS)

- 8.1 **Stu Lindsey** presented a brief on UKADS.
- 8.2 No comments or questions were raised.

BREAK FOR LUNCH

9. ITEM 9 – AIRSPACE CHANGE PROPOSAL UPDATE

- 9.1 **Ben Lippitt** provided a briefing on Airspace Change Proposals (ACP).
- 9.2 A question was asked if TRA and TDA activation would be subject to NOTAM. **Ben Lippitt** confirmed that they would be but only for the period for which they are required, and once activity has been completed the NOTAM would be cancelled.
- 9.3 A further question was raised regarding airspace requirements for Altitude Angel in the Oxford area. **Ben Lippitt** stated that at present, no ACP has been proposed however if airspace is required then it will require an ACP to be submitted and decide upon.
- 9.4 An observation was raised that the Airspace Change Portal can be difficult to navigate and that a graphical representation of ACPs, like how NOTAM can be displayed on a map, would be beneficial. **Ben Lippitt** stated that a work strand related to making the portal more navigable has been proposed and that the feedback will be taken away.
- 9.5 **Rupert Dent** (ARPAS-UK) stated that the number of proposed TDAs has fallen markedly and asked if this was down to project funding. **Ben Lippitt** stated that the reason for the decline is not known.
- 9.6 **Tim Fauchon** (BHA) asked why Blue Light PinS approaches development has been suspended. **Ben Lippitt** stated that the proposals are at different stages with some still sat with the sponsors, some with the IFP designers, and some with the CAA. Work priorities have changed due to a reduction in resource related to the CAA IFP team. Recruitment is ongoing and the IFP team has increased however some of the regulators are required to complete training prior to some of the ACPs progressing. It is envisaged that this will be the end of Q1 2025. Letters are due to be sent to the change sponsors.
- 9.7 **Martin Robinson** (AOPA) stated that the work ongoing within TDAs is usually to prove a business case. When would the CAA state that a trial is no longer temporary and that a permanent structure must be established and what is the process for this? **Ben Lippitt** stated that the CAA does not routinely approve a temporary structure more than once. If a sponsor wants to continue operating, then they must seek a permanent structure through an ACP. **Martin Robinson** asked how much the CAA investigates a sponsors business case to ascertain how long-term the operation is likely to be. **Ben Lippitt** stated that an economic assessment is made with each permanent ACP application as part of the options appraisal.
10. **ITEM 10 – AOB**
- 10.1 Prior to the meeting, **Colin Gill** asked whether the CAA was updating CAP 764: Policy and Guidelines on Wind Turbines. The **Chair** confirmed that the CAP went out for consultation over the summer. The revised version is to be published at the end of November 2024. A lot of positive support was received in relation to the update.
- 10.2 **Mark Shaw** (BHPA) stated that the BHPA Airspace Liaison Officer received several incident reports relating to multiple helicopter overflights of the Westbury hang-gliding and paragliding site during the Glastonbury Festival. The Airspace Liaison Officer suggested that a chart symbol be reintroduced to notify airspace users of the site. **Tim Fauchon** (BHA) suggested that the BHPA talk with the event organisers to include a note in the pilot briefing pack relating the Westbury.

Action: Chair

- 10.3 **Matthew Wilshaw-Rhead** (AirportsUK) requested that the government ban on onshore windfarms being lifted be added to the agenda for NATMAC due to legacy windfarm applications now being submitted again. RenewableUK has been communicating with AirportsUK. The **Chair** asked for a point of contact at RenewableUK to be passed to the CAA. Secondly, **Matthew Wilshaw-Rhead** opined that NATMAC may benefit from a briefing from the CAA on ISMS.

Action: Matthew Wilshaw-Rhead

- 10.4 **Rupert Dent** (ARPAS-UK) stated that when the RAF Red Arrows submitted transit routes that the NOTAM encompasses a large circular area on mapping devices rather than plotting the point-to-point routing. **Ben Lippitt** explained that the Q line in the NOTAM will plot the NOTAM based on the centre point of the activity and radius which encompasses the whole area. **Rupert Dent** asked that **Ben Lippitt** speak with Altitude Angel on this issue therefore the **Chair** asked for a point of contact at the company.

Action: Rupert Dent

- 10.5 **Martin Robinson** (AOPA) asked if the newly appointed Group Director SARG will attend NATMAC. The **Chair** stated that he will join the CAA in January and may wish to continue delegating the Committee to the current **Chair** however he will be invited to the next meeting.

11. ITEM 13 – DATES OF FUTURE MEETINGS

- 11.1 The **Chair** said the date for NATMAC 97 has changed to 3rd April 2025

- NATMAC 97 – 3rd April 2025
- NATMAC 98 – 1st October 2025
- NATMAC 99 – 15th April 2026
- NATMAC 100 – To be confirmed.

Annex B: National Air Traffic Management Advisory Committee 96 - Minutes**NATMAC 96 – ACTION LIST****Actions arising from NATMAC 96**

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| <p>2.1 Mark Shaw (BHPA) asked for the dates of when BHPA was removed and then added back onto the distribution list.</p> | <p>Secretary</p> |
| <p>4.7 Tim Fauchon (BHA) stated that CAA consultations often have questions that require a yes or no answer which does not give the responder the opportunity to suggest an alternative. It was suggested that the addition of a single free-text box at the end of the consultation would give the CAA an opportunity to obtain more information in relation to the questions asked. The Chair agreed to explore this further.</p> | <p>Chair/Secretary</p> |
| <p>5.7 Matthew Wilshaw-Rhead (AirportsUK) asked when the industry can expect to see progress being made in terms of interoperability of RPAS with other airspace users and the impact that can have on the ATC position. For example, what will the EC standards be? What will the separation standards be within FRZs? What will the wake turbulence implications be? At present, ANSPs are working on a case-by-case basis however that is not currently sustainable. Kevin Woolsey stated that the Atypical policy will still require permission from an ANSP to operate inside an FRZ. Matthew Wilshaw-Rhead (AirportsUK) stated that ATCOs have been observing that RPAS passing behind other aircraft are not subject to the wake turbulence separation standards that crewed aircraft are and asked where the threshold will be for defining when an RPAS will require the same or similar separation standards. The Chair asked if Matthew Wilshaw-Rhead could send a short email to Chair outlining the concerns raised.</p> | <p>Matthew Wilshaw-Rhead</p> |

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| <p>5.24 Martin Robinson (AOPA) asked when the Detect and Avoid consultation was conducted and how wide it was. Colin Chesterton to provide this information.</p> | <p>Colin Chesterton</p> |
| <p>10.3 Matthew Wilshaw-Rhead (AirportsUK) requested that the government ban on onshore windfarms being lifted be added to the agenda for NATMAC due to legacy windfarm applications now being submitted again. RenewableUK has been communicating with AirportsUK. The Chair asked for a point of contact at RenewableUK to be passed to the CAA.</p> | <p>Matthew Wilshaw-Rhead</p> |
| <p>10.2 Mark Shaw (BHPA) stated that the BHPA Airspace Liaison Officer received several incident reports relating to multiple helicopter overflights of the Westbury hang-gliding and paragliding site during the Glastonbury Festival. The Airspace Liaison Officer suggested that a chart symbol be reintroduced to notify airspace users of the site. Tim Fauchon (BHA) suggested that the BHPA liaise with the event organisers to include a note in the pilot briefing pack relating the Westbury.</p> | <p>Chair</p> <p>Mark Shaw</p> |
| <p>10.4 Rupert Dent (ARPAS-UK) stated that when the RAF Red Arrows submitted transit routes that the NOTAM encompasses a large circular area on mapping devices rather than plotting the point-to-point routing. Ben Lippitt explained that the Q line in the NOTAM will plot the NOTAM based on the centre point of the activity and radius which encompasses the whole area. Rupert Dent asked that Ben Lippitt speak with Altitude Angel on this issue therefore the Chair asked to be provided with a point of contact at the company.</p> | <p>Rupert Dent</p> |

Annex C: National Air Traffic Management Advisory Committee 96 - Minutes**NATMAC 96 – GLOSSARY**

(This Glossary is not necessarily limited to acronyms used in these Minutes, but is intended to assist members with the variety of NATMAC correspondence promulgated)

AAA	Airspace, ATM & Aerodromes
ACOG	Airspace Change Organising Group
ACP	Airspace Change Process
ADS-B	Automatic Dependent Surveillance – Broadcast
ADS-L	Automatic Dependent Surveillance – Light
AIP	Aeronautical Information Publication
	Administrative Incentive Pricing (spectrum)
AIMWG	Aeronautical Information Management Working Group
ANSP	Air Navigation Service Provider
AIWG	Airspace Infringement Working Group
AMS	Airspace Modernisation Strategy
ATM	Air Traffic Management
ATWP	Air Transport White Paper
ATZ	Aerodrome Traffic Zone
AWG	Airlines Working Group
BVLOS	Beyond Visual Line of Sight
CMIC	Civil/Military Interface Committee
DMO	Delivery Monitoring and Oversight
DfT	Department for Transport
DGCA	Director General of Civil Aviation
EASA	European Aviation Safety Agency
EHS	Enhanced Mode S
ELS	Elementary Mode S
ECAST	(EASA) European Commercial Aviation Safety Team
EGAST	(EASA) European General Aviation Safety Team
FAA	Federal Aviation Authority
FAB	Functional Airspace Block
FAB EC	Functional Airspace Block Europe Central
FASI	Future Airspace Strategy Implementation
FFC	Future Flight Challenge
FIS	Flight Information Service
FUA	Flexible Use of Airspace
GAWG	General Aviation Working Group
HMT	His Majesty's Treasury
ICAO	International Civil Aviation Organisation
IFP	Instrument Flight Procedures
LARS	Lower Airspace Radar Service

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NATS	National Air Traffic Services
NPA	Notice of Proposed Amendment (EASA)
NSA	National Supervisory Authority
PinS	Point in Space
PPR	Planned and Permanent Redistribution of air traffic
PRC	EUROCONTROL Performance Review Commission
PRNAV	Precision Area Navigation
PSSTG	Public Sector Spectrum Test Group
RPAS	Remotely Piloted Aircraft System
RMZ	Radio Mandatory Zone
RICBAN	Regulatory Information and Co-ordination Board Area North-West
SARG	Safety & Airspace Regulation Group (CAA)
SASWG	Spectrum & Surveillance Working Group
SBAS	Satellite-Based Augmentation System
SES	Single European Sky
SES IR	SES Implementing Regulation
SESAR	Single European Sky ATM Research Project
SESAR JU	SESAR Joint Undertaking
SSC	Single Sky Committee
TDA	Temporary Danger Area
TMZ	Transponder Mandatory Zone
UAM	Urban Air Mobility
UAS	Unmanned Aircraft Systems
UAV	Unmanned Aerial Vehicle
UTM	UAS Traffic Management
WRC	World Radio Conference

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Aviation House – Fire & Security



SECURITY

- Visitors passes to be worn and visible at all times .
- Visitors to always stay within the advised conference designated areas, which will include access to toilets and the restaurant (if applicable). Visitors should not enter offices or the rest of the building unless authorised and escorted by CAA staff.
- Keep personal possessions with you. An unattended bag or case is not only vulnerable to theft but may also be the cause of a security alert.

FIRE

- No alarm tests are expected. If you discover a fire shout “ **FIRE**” and sound the alarm.
- If the Fire Alarm sounds (two tone claxon) the building will be evacuated via the nearest fire exit and CAA staff will accompany visitors to safely exit the building and proceed to the furthest point of the visitors' car park at the front of Aviation House, to await further instructions from the fire marshal.
- Fire exits (stairwells) are located in the four corners of the building. Lifts cannot be used, nor the balconies crossed to exit. Do not stop to collect personal belongings and do not re-enter the building until told to do so.
- If you require medical assistance at any time please speak to CAA staff or call Security 03301 383326. Or in an emergency, call 999.



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National Air Traffic Management Advisory Committee (NATMAC) Meeting NATMAC 96 Thursday 10th October 2024



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NATMAC 96 Agenda

- **10:00 - Meeting Start / Introduction**
- 10:05 – Minutes of NATMAC 95
- 10:10 – Action List / Progress Report
- 10:15 – Chair's Report
- 10:30 – Airspace Modernisation Delivery Team Update
- 11:15 – Airspace Modernisation Oversight Update

Coffee Break

- 12:00 - Airspace Change Organising Group Briefing
- 12:20 – UK Airspace Design Service Briefing

Lunch

- 13:15 – Airspace Change Proposal Update
- 13:35 – Any Other Business
- **13:45 – Wrap Up**

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Chair's Report

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Atypical Air Environments

NATMAC Update

Trevor Arnold



Together we will

- Do the right thing
- Never stop learning
- Build collaborative relationships
- Respect everyone

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Atypical Air Environments – Overview



- AAE policy concept enables UAS BVLOS operations in **non-segregated airspace**
- The CAA's **policy concept outlines guidance for operators** along with operational, strategic, and technical mitigations which may be necessary
- This is a **new, innovative concept** for the CAA and airspace users
- As such, a key feature will be for **operators to share data with the CAA** to enable our joint understanding to mature and evolve
- Operating within an AAE **removes the need for a TDA or TRA to be established**

There is no single definition for an AAE however, it can be considered as a volume of airspace within which it can be reasonably anticipated that there will be a greatly reduced number of conventionally piloted aircraft due to the close proximity of specific ground infrastructure.



Atypical Air Environments – Examples



- The following **examples of what may be considered an AAE** are to be used as a guide.
 - Within 100ft of any building or structure.
 - Within 50ft of a permanent, above ground level, linear structure. For example, a railway, road, or powerline.
 - Within the confines of private property at a height not exceeding 50ft. For example, an industrial site where security personnel use a UA for perimeter inspection.
- An AAE is **specific to a geographical location and the infrastructure** it is established around.
- Whilst there is no single definition of what would be routinely accepted as an AAE, applicants will initially be required to **define the precise route / Area of Operation (AO)**.



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Atypical Air Environment

10/10/2024

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Atypical Air Environments – Additional Mitigations



Pre-tactical Flight Route Notification

- NOTAM recognised as the default mechanism
- All reasonable steps to notify and coordinate activity with other flying operators that may occur within the AAE



Electronic Conspicuity

- ADS-B transmitter and receiver, or transceiver, functioning in accordance with RTCA standards



Safeguarding Operations within Controlled Airspace

- Co-ordination with relevant ATC service provider



High Intensity Anti-Collision Lighting

- Operated throughout a flight by day or night.



Containment of the UA within an Atypical Air Environment

- Technically robust containment solution to ensure a breach of the operational volume is mitigated as far as reasonably possible



Collision Avoidance within an Atypical Air Environment

- "...the RP shall: ... avoid the risk of collision with any manned aircraft and discontinue the flight when continuing it may pose a risk to other aircraft..."

If an Operator does not believe some or any of them are required, or that others are more suitable for their operation, the ORA must clearly set out why

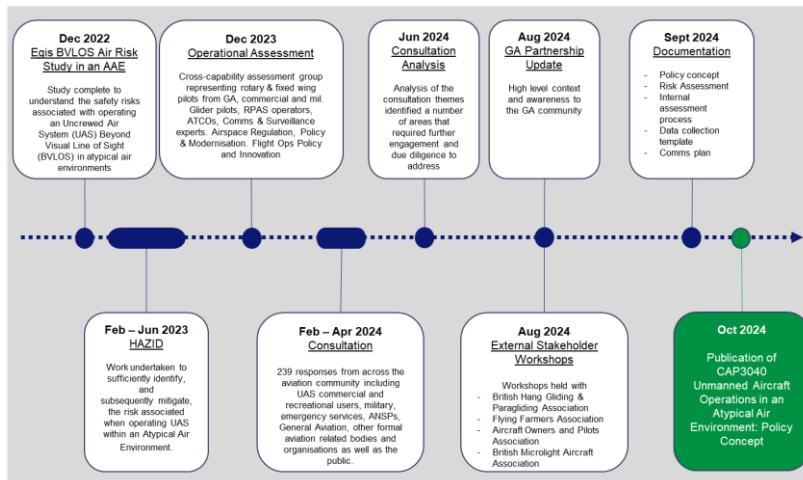


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How did we get here?



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Consultation outcome



- **239 responses** from across the aviation community
- We engaged directly with key stakeholder groups to **discuss feedback and evolve the policy concept**.
- Recognise that it is not a one size fits all policy and will initially be more useful to some operators than others.
- Safe operations are achieved by identifying and assessing safety risks and addressing them with **effective and proportionate mitigations**.
- All airspace users have to be considered, many of whom have differing operational priorities.
- As a community, **we have to pay considerable attention to detail** when integrating the new into an existing and mature aviation environment.

CAP3036 will provide greater detail into our consultation response



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Concept evolution through active safety management



Policy concept

Launch policy concept to enable BVLOS operations within non-segregated airspace

Test & Evaluate

Through collaboration with operators, data analysis, and ongoing test and evaluation we can monitor and continually learn about the safety and appropriateness of mitigations employed

Evolve

Using this learning we can evolve the policy concept accordingly to ensure we continue to scale these operations in a safe and deliverable way

This approach will benefit from collaboration to support the ongoing safety monitoring and evolution of the policy concept



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Atypical Air Environments – Summary



- Applications will be considered in accordance with the published policy concept
- UAS operators will be required to evidence that **appropriate arrangements and risk mitigations are in place** and detailed within their Operational Risk Assessment (ORA)
- **Early liaison with the infrastructure owners and the CAA (via bvlos@caa.co.uk) is encouraged**
- AAEs within the UK is an innovative concept for the CAA as well as airspace users who will operate in or around them.
- This policy concept supports enabling BVLOS UAS operations in non-segregated airspace in the Specific Category.
- This policy will **evolve as our understanding matures** As such, the CAA will closely monitor use and liaise with operators to conduct Test and Evaluation.



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Atypical Air Environment

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Thank you

Any questions?

Together we will



Do the
right thing



Never stop
learning



Build collaborative
relationships



Respect
everyone

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Electronic Conspicuity Project - NATMAC 96

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EC Project Summary



The EC project will deliver the concept of operations for carriage, usage and performance of interoperable EC solutions and associated surveillance.

This will evolve the current limited use of EC and aims to increase safety and enable the integration of crewed and uncrewed aircraft in support of the objectives of the Airspace Modernisation Strategy (AMS).

The project will also need to ensure that the CAA as a regulator is adequately informed and prepared to ensure adherence to the policy changes and new regulatory parameters once the policy has been adopted (i.e. in BAU).

Within EC there are several issues that need to be solved:

No agreed standards for the carriage, usage and performance of EC devices

Different EC solutions being used by different aviation sectors

Current EC systems are ineffective in reducing NMAC/MAC risks in uncontrolled airspace

No accepted EC technology for integrating new airspace users

Not all the current EC solutions being used in UK airspace are interoperable

EC solutions not effective at reducing infringements



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EC Project - Key Milestones



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EC Project – Concept of Operations Development



What will be delivered in the ConOps?

The EC ConOps will detail what EC equipment will be needed in different constructs of airspace and the rationale for doing so.

Including:

- Decisions the CAA needs to make for EC.
 - When these decisions needs to be made.
 - Who needs to make these decisions.
- Detail the principles for how EC devices are installed and used
- Details the standard of performance required of EC devices
- Detail what policy changes are required and when they are needed
- What are the safety implications.
- What new training is required for pilots (crewed and uncrewed).
- What engagement and education is needed with industry.
- What are the Human Factors considerations for EC.
- Summarises the outputs from the EC Studies once complete



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MLLR – October NATMAC Update

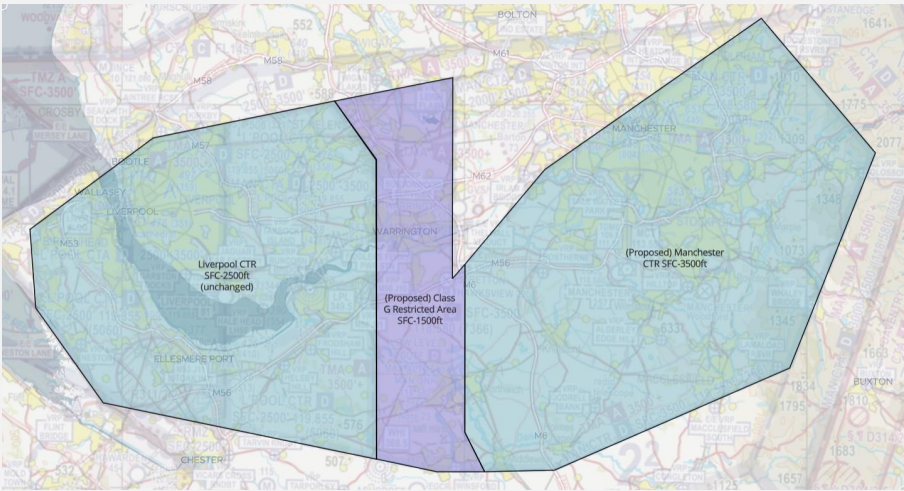
Proposal: North West Transit Corridor



Re-classify former MLLR airspace as Class G	Widen airspace 0.65NM to the east in southern half of former MLLR	Base of controlled airspace above Class G of 1500ft AMSL	Introduce an RA to the entire Class G conversion which permits flight to:
<ul style="list-style-type: none">• No service provided to aircraft operating into or out of Manchester airport (for which a Class D CTR is designed) in today's MLLR, therefore no requirement for Class D.	<ul style="list-style-type: none">• Northern half is already wider to the east beneath Manchester CTA 5 (base 2000ft).• Proximity of Liverpool Airport and its approach and departure paths prevents westerly extension. (CAP1991 cannot amend these routes.)	<ul style="list-style-type: none">• This represents an increase of 200ft over today's available airspace.• Proximity of Liverpool Airport approach and ILS path to Runway 27 prevents any further vertical increase.	<ul style="list-style-type: none">• Aircraft operating with a maximum 140kts IAS (as today's MLLR ops).• Aircraft with MCTOM of 40,000kg (no current restriction on weight but will ensure only smaller appropriate aircraft use the airspace).• Aircraft operating with a minimum of 5KM visibility (as today's MLLR ops).• Aircraft operating on either Liverpool or Manchester QNH (only Manchester permitted currently).

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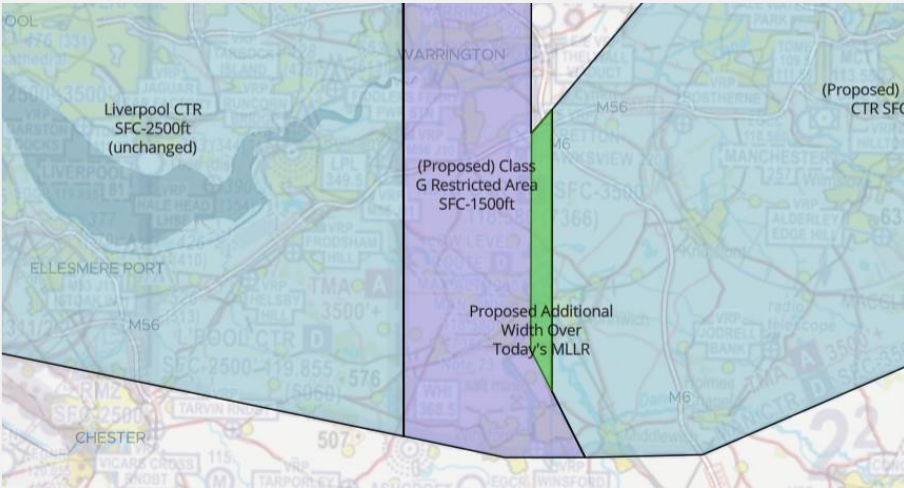
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Proposed Class G Restricted Area

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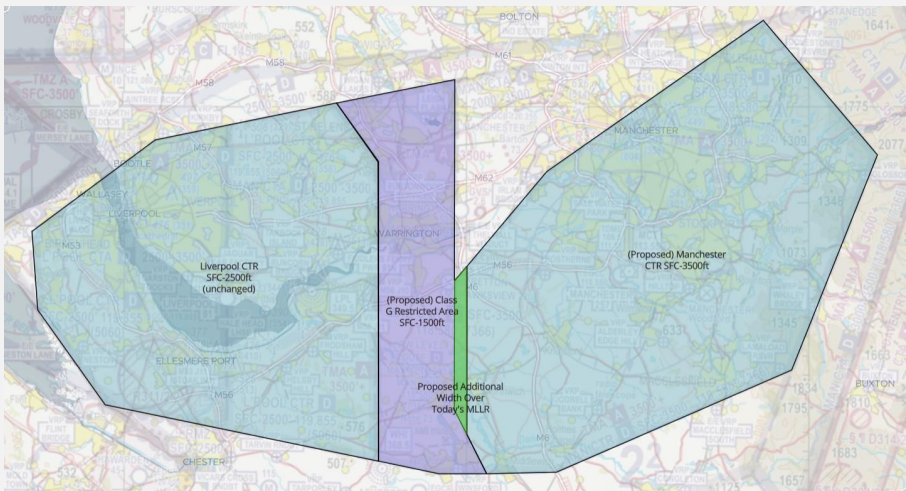
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Increased width south of M56

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Increased width south of M56

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Year	Number
2021	1064
2022	1384 (1037)
2023	1229 (907)
2024 (to 31 Aug)	878 Down by 3%

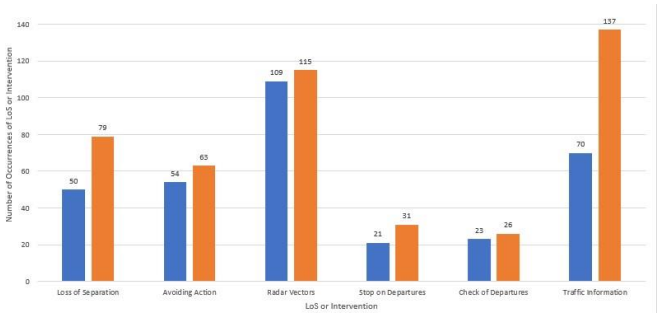


	2021	2022	2023	2024
January	18	75	69	62
February	19	58	69	48
March	39	105	70	55
April	101	114	127	92
May	109	174	143	163
June	146	167	190	168
July	137	182	117	154
August	136	168	121	136
September	106	117	120	99*
October	106	103	98	
November	103	76	71	
December	44	45	34	

*up to
27 September
2024 (113)

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Reported Losses of Separation & Implementation of Safety Measures



	Losses of Separation	Avoiding action	Radar Vectors & Stops in climb/descent	Stop of Departures	Check on departures	Traffic Information
To 26 Sep 2023	7.75%	6.18%	11.27%	3.04%	2.55%	13.43%
To 26 Sep 2024	5.12%	5.32%	11.05%	2.56%	2.35%	7.16%
Trend	↓	↓	↓	↓	↓	↓

Strategy Update

- **Detailed analysis** of all AI occurrences
 - Military & Foreign pilots.
 - PBO based on emerging risks (areas and operators).
- Continued **education and information** using Airspace & Safety Initiative website www.airspacesafety.com
 - Occurrence narratives.
 - FMC detailed communications.
- **LAITs**
 - Currently 14 teams.
 - More than 30 meetings attended in 2024.
 - Call for more GA pilot to join.
- **AI briefings/Engagement**
 - Face-to-face or via Teams available as required
 - 9 to date in 2024:
 - 7 to GA pilots.
 - 2 to ANSP.
 - 3 scheduled in Autumn/Winter.
 - Attendance at 5 trade shows/GA events.

CAA AI Prevention Strategy – TMZ/RMZ

- As part of the AMS implementation TMZ and RMZ will become a more widely used UK airspace structure. In preparation:
- TMZ:
 - Animation to explain TMZ supported by:
 - Refresh of existing AI prevention information relating to Stansted TMZ (<https://airspacesafety.com/flying-in-the-stansted-area/>).
- RMZ:
 - Animation to explain RMZ supported by:
 - Refresh of existing/new AI prevention information relating to Hawarden RMZ inc:
 - New Occurrence narrative;
 - Hotspot narrative; and
 - Aide memoir card.

CAA AI Prevention Strategy – UAV/RPAS



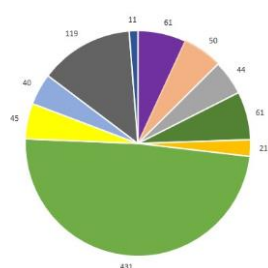
- Project underway to scope requirements of AI Team taking ownership of the UAV/RPAS AI portfolio:
- Project Considerations/Enablers:
 - Jurisdiction.
 - MAC Risk.
 - Remote ID.
 - Reporting mechanism.
 - Consistent.
 - Relevant.
 - AI Team establishment.
 - Manage strategy.
 - Infringements review and actions process (akin to CAP1404)

CAA Post-infringement Action 2024

To 4 October 2024

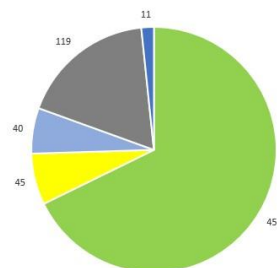


	TOTAL	%
No AI	61	6.9
Unknown	50	5.7
AI but NFA	44	5.0
Military	61	6.9
Student	21	2.4
Education Letter	431	48.8
Online Tutorial & Test	45	5.1
Practical Training	40	4.5
AIAC	119	13.5
Provisional Suspension	11	1.2
	883	100



When Pilot Action/Inaction identified as Root Cause

	TOTAL	%
Education Letter	452	67.8
Online Tutorial & Test	45	6.7
Practical Training	40	6.0
AIAC	119	17.8
Provisional Suspension	11	1.6
	667	

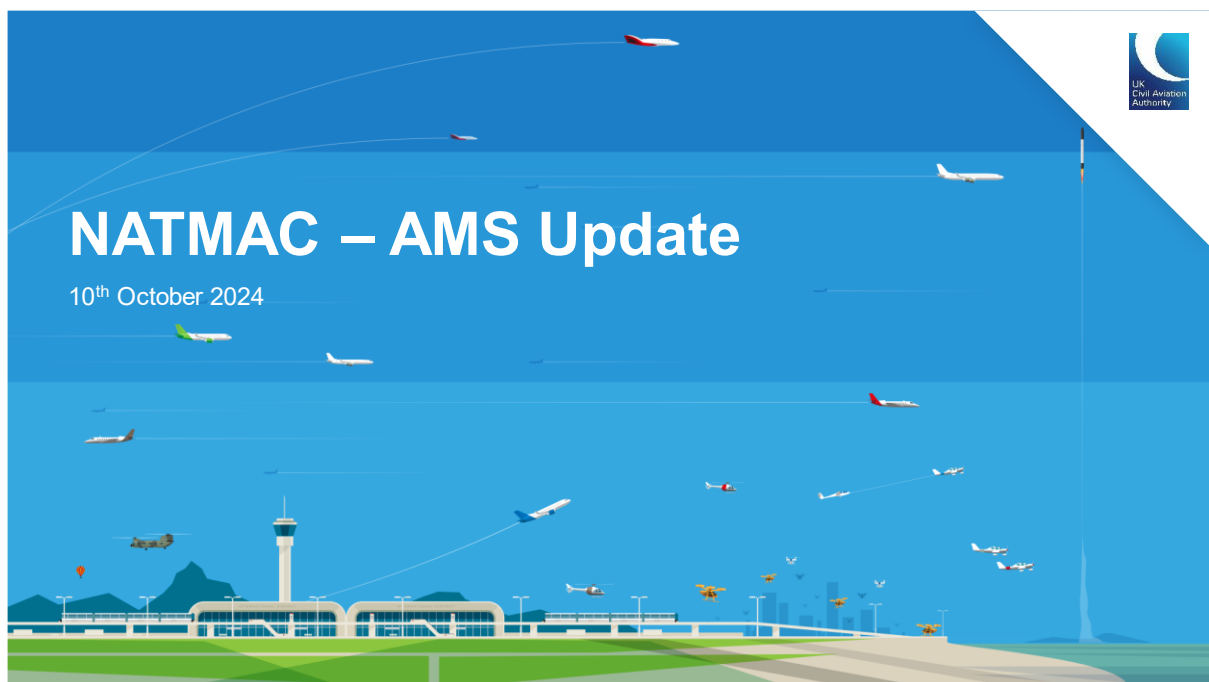


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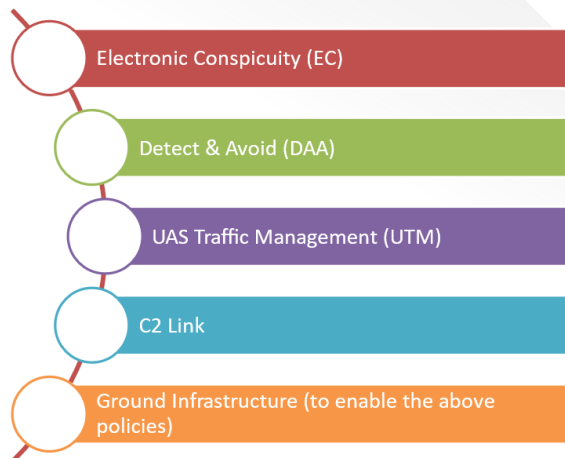
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AMS Delivery Approach

Following the publication of the [AMS Part 3 – Delivery Plan](#) in August 24 we are now focused on delivery.

Work is underway on the following projects. These projects have been grouped as a programme to ensure dependencies and resources can be managed effectively to deliver the best outcomes overall.



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AMS Delivery –Key Updates

UAS Traffic Management (UTM)

- Engagement with UTM Service Providers and existing ANSPs to determine the applicability of the existing ATM framework to UTM is underway
- Responses from participants are under review and will be used to determine the scope of workshops to be held over the next few months

Detect and Avoid (DAA)

- DAA Policy Concept was published for consultation Jul 24, consultation has now closed and the responses are under review
- Next stage is to trial the policy through ongoing sandboxes to develop further learnings and iterate as required

MAC Research

- Academic research commissioned to determine the severity of a mid-air collision between crewed and un-crewed platforms, to inform a number of the policies being developed
- This will involve a literature review of existing research, to determine the applicability to UK airspace then carry out further testing as required

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Introduction

In 2017, the Secretary of State for Transport tasked the UK Civil Aviation Authority with preparing and maintaining a co-ordinated strategy and plan for the use of UK airspace for air navigation, including for the modernising of such airspace.

The UK CAA reports to the Secretary of State for Transport annually on the delivery of the Airspace Modernisation Strategy. This presentation provides summary of the progress made against the Airspace Modernisation Strategy up Quarter 3 2024.

The latest version to a guide to the AMS can be accessed here:

[A guide to the Airspace Modernisation Strategy\(caa.co.uk\)](https://www.caa.co.uk/airspace-modernisation-strategy)



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Progress Status

Definitions

Strategic Progress:

This is the long-term plan and covered in the AMS Strategy that is split into 3 parts: Part 1 (Strategic Objectives and Enablers) explains the strategy's objectives (the ends), a high-level overview of what will enable those objectives to be fulfilled (the enablers or ways), and governance arrangements for overseeing delivery. Part 2 covers the delivery elements and Part 3 (Deployment) describe the short-term ambition and explain how the strategy is being delivered.

Delivery Progress: Shows the delivery status of the AMS delivery elements currently in progress.



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Progress up to Q3 2024



Delivery Progress is focused on a 0-2 year lookahead



Strategic progress is focused on a 2+ year lookahead



Green indicates element is on track to be completed on time
Amber indicates merit to reviewing element deadlines
Red indicates significant risk to element not being completed in expected timescale



Progress is getting worse; severity is trending up



Progress is getting better; severity is trending down



Progress is steady



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Element #1 Trajectory Based Operations

Delivery Progress vs
2023



Strategic Progress




Free Route Airspace

The design for Free Route Airspace Deployment 3 completed in Q2 2024 and is ready for validation. Plan for this deployment is on pause and NERL are seeking clarification of their Long -Term Investment Plan to determine feasible development and implementation windows whilst awaiting output from DP En Route – Transformation Programme. It is decided that FRA D3 will not deploy ahead of DP En Route Stream 1. NERL expect to update customers on progress in October.

MoD reviewing Temporary Reserved Areas in support of NATS Scottish and Manchester Terminal Manoeuvring Areas. ITEC Version 2 is the key enabler for Trajectory Based Operation within UK Airspace. NATS are responsible for providing capability to MOD EnRoute .




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Element #2

Terminal Airspace Re-design

Delivery Progress vs 2023



Strategic Progress



North of England Cluster

Inclusion of Doncaster - Sheffield and impacts to be included in cluster plan

Department for Transport drafted Manchester Terminal Manoeuvring Area options paper regarding funding issues. Ministerial consideration to take place in September 2024.

Anticipated request Leeds - Bradford stage 2 gateway date of February 2025.

South – East Cluster

Completion of London Airspace South public engagement exercise & submission of iteration three of the Masterplan. AR currently examining submission.

Heathrow passed stage 2 gateway. Gateways agreed for Southend, Bournemouth & Farnborough (Oct – Nov 2024).

NERL co-ordinating separately with CAA surrounding split/ re -scope of ACP and its associated consultation (UKADS).

MoD Airspace Change Proposal for RAF Northolt passed stage 2 gateway (FASI). It will be incorporated into UK Airspace Design Service in spring 2025 due to dependencies on Heathrow

South of Scotland Cluster


Iteration 3 of Masterplan submitted. Awaits stage 3 decision end - September.

West of England Cluster

Still awaiting Exeter funding decision and cluster programme plan. Exeter stage 2 gateway booked for March 2025. Bristol work progressing well.

The RAF Fairford Remotely Piloted Aircraft Systems airspace change proposal completed in May and was first activated in August 2024. MoD working on post implementation review.


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Element #3

Network Management

Delivery Progress vs 2023



Strategic Progress



Queue and Capacity Management

NATS (En Route) plc deployed Arrival Manager Head Branch (AMAN) in April 2024 but faced several problems after deployment which led to reverting back to previous systems to ensure the safety of ongoing operations. NATS (En Route) plc is working to resolve these and re -implement.

Priority given to Time Based Separation Projects which are going to be deployed based on the previous version of Arrival Manager.

A validation simulation for Heathrow Time Based Separation completed in April 2024 and Heathrow pairwise is expected for Q4 2024. Validation simulation two for Time Based Separation Advanced Mixed Mode at Gatwick completed in April 2024, NATS (En Route) plc has reported deployment indicating window of Q4 2024 to Q1 2025.


Advanced Flexible Use of Airspace

RAF Fairford faces challenge of implementing the advanced flexible use of airspace in relation to operating large Remotely Piloted Aircraft Systems. The airspace change proposal was approved by the CAA in May 2024, however there is a lack of policy or solution for aircraft flying above 50,000ft, necessitating an appropriate airspace structure. Successful delivery is dependent on MoD airspace change proposal sponsors meeting their gateways and sharing necessary information to enable NATS (En Route) plc to work efficiently.

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Element #6

Data Services

Delivery Progress vs 2023

Strategic Progress

➡

⬇

Deployment Point En Route and Voice Programme


This programme aims to replace the aging system and introduce new tools and concepts through staged approach known as Streams, whilst prioritising resources and maintaining 24/7 operation.

Stream 1 – Prestwick Centre Upper Airspace Full Operational Mode date is subject to review and replan, unlikely to meet Q2 2026. Recovery work is underway and revised schedule to be shared in October.

Stream 2 – Platform Ready For Use (RFU) and Technological Services Readiness – delayed to Q3 2025, schedule is being negotiated with suppliers, BT and CGI, and expectations to complete Full Mode Operations by Q3 2025.

Stream 3 – Second Voice System in the Swanwick Temporary Ops Room – delivered Q4 2023.

Stream 4 – Main Voice System Full Operational Service brought forward to Q4 2025 remains priority but might move later due to supply chain challenges.



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AMS Support Fund Update

Total ASF Pot (Current funds + Paid to date)	Current funds in ASF pot	Committed Spend (all projects)	Paid to date (%)
£9.5m	£6.7m	£4.2m	£3m (71%)

Today

Project	Sponsor	Cost	2024												2025	
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
Fair and Equitable Distribution of Aircraft Noise	Gatwick Airport	£240K	4													
ScTMA Cumulative Impact Assessment	Glasgow and Edinburgh	£350K		3												
Digital Transformation of Airspace Management	Airspace Unlimited Scotland	£377K	4	6	7	8	9	10								
Enhanced Use of Flight Intent Data	Skyverse	£209K		1		2		3	4							
Fuel-efficient Delay Absorption	GE Aerospace	£357K				1		2,3			4, 5, 6 (MAR'25)					
Next Generation Airspace Operations and Surveillance	LiveLink Aerospace	£748K		1		2		3		4						
Project Dragon's Eye	Snowdonia Aerospace	£198K				1		2		3 (4 trials until SEP'25)						
Digital Airspace Quantification to support risk-based integrated air operations	HexCam Ltd	£305K			1	2	3A				4A, 4B, 5, 6 (JUN'25)					
Advanced Drone Airspace Management	envAero	£266K			0		1, 2, 3		4,5		6, 7, 8					

➤ Four new projects

- Flight Path Design Visual Repository (Tetra-Tech & Trax)
- Performance-based Navigation Arrivals Optimisation (Gatwick Airport)
- Electronic Conspicuity Interoperability Test Programme 3 (Aviation Innovation Centre)
- Reduced Departure Divergence (Gatwick Airport)

➤ All projects in the onboarding stage

➤ October 2024 call for proposals problem statements (themes) are on the website

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AMS Support Fund Update

October 2024 – Call for Proposals

We are particularly interested in projects that focus on:

Innovative Surveillance Technologies: Development or improvement of radar systems, satellite -based tracking, drone detection, and other monitoring technologies to ensure real -time situational awareness across UK airspace.

Data Integration and Analytics: Approaches that consolidate airspace surveillance data from multiple sources (civilian, military, and commercial) into a unified, actionable system. Use of artificial intelligence (AI) and machine learning (ML) to analyse and p redict patterns of behaviour within airspace.

Cybersecurity in Airspace Surveillance: Addressing vulnerabilities in surveillance systems to prevent unauthorized access, hacking, or data manipulation, with a focus on safeguarding national security.

Remote and Autonomous Systems: Solutions involving unmanned aerial vehicles (UAVs), autonomous drones, or other robotic systems to support persistent and cost -effective surveillance operations.

Environmental Monitoring and Compliance: Research related to the integration of environmental surveillance, including emissions monitoring and protection of sensitive areas, to support regulatory compliance and sustainable air traffic management.

Sustainability: Exploring how to measure, quantify, and assess the impacts that AMS has/will have/can have on Environmental Sustainability aspects.

AMS Strategy Support Fund link: [Airspace Modernisation Strategy Support Fund | Civil Aviation Authority \(caa.co.uk\)](https://caa.co.uk/ams-strategy-support-fund) .

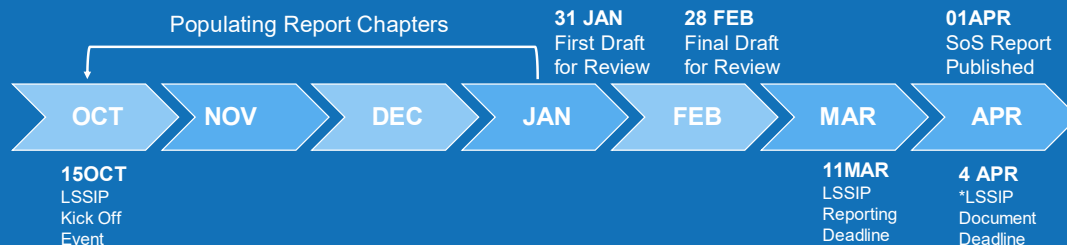
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2024 Annual Progress Report Timeline

incl. Local Single Sky Implementation Plan



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Questions?

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ACOG
Benefit Strategy
Measuring impact of the FASI programme

50

ACOG

The slide features a background image of a sky with clouds and a contrail from an aircraft. The text is centered and reads "ACOG Benefit Strategy" in large font, with "Measuring impact of the FASI programme" below it. The slide is numbered "50" and has the "ACOG" logo in the bottom right corner.

ACOG Benefit Strategy

What

An ACOG initiative established to quantify and measure the impact of interdependent airspace change against AMS objectives at a national level

How

1. Provide a universal performance baseline and set of metrics to quantify benefit.

2. Detail the total benefit, both proposed and planned, at a system level.

3. Identify additional opportunities for benefit realisation.

Why

Programme	Benefit Strategy			
Cluster	CAF/Benefit Strategy			
Deployment	CAF		CAF	
ACP	CAP1616	CAP1616	CAP1616	CAP1616

Quantification of benefit

Quicker

AMS Objective
Simplification

Demonstrates the change in delay and therefore the improvement in journey time

Quieter

AMS Objective
Environment

Measurement of impact change from aircraft noise

Cleaner

AMS Objective
Environment

How has CO₂e output changed

Accessible

AMS Objective
Integration

How has access to airspace changed for all users

Optimal

AMS Objective
Simplification

What has been the impact to capacity as a result of airspace change

Intended use

Primary	Measuring, assessing, and quantifying the impact of airspace change of the ACOG programme
Secondary	Supporting other parties in identifying areas of potential additional benefit

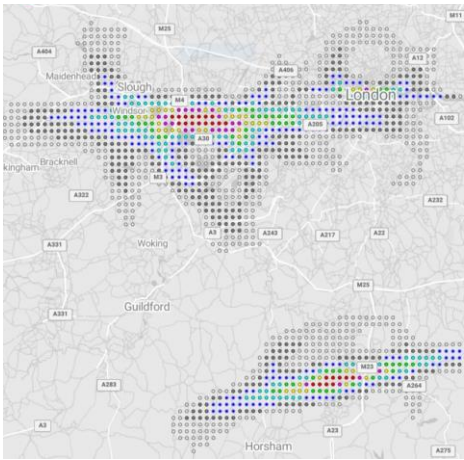
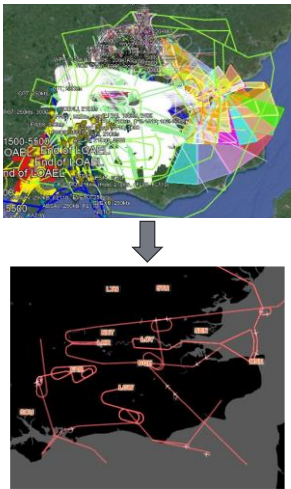
In-depth capability with a broad technical foundation



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Visualisation of Change and Benefits



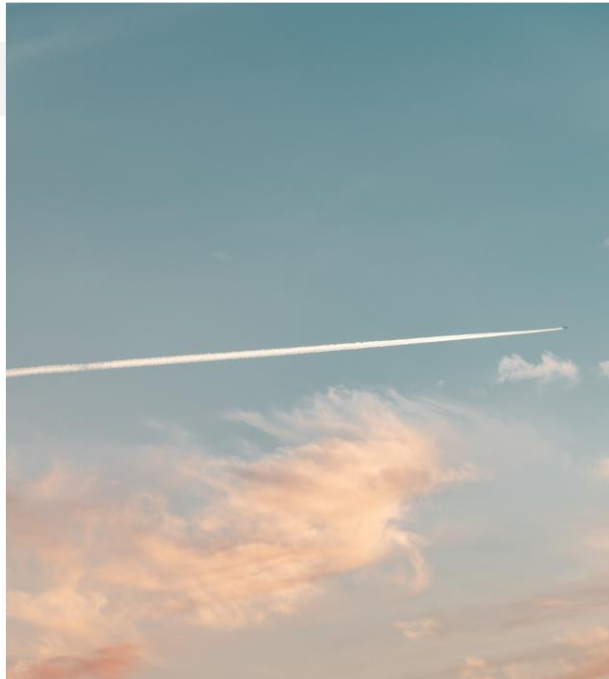
54



Vision

- **Expanded analytical capability**, beyond conventional airspace users.
- **Benefit optimisation**: using technology to increase benefit realisation within existing processes.
- Ensuring compatibility with future performance schemes, to align with the **wider AMS**

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Questions?

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POLICY IN DEVELOPMENT

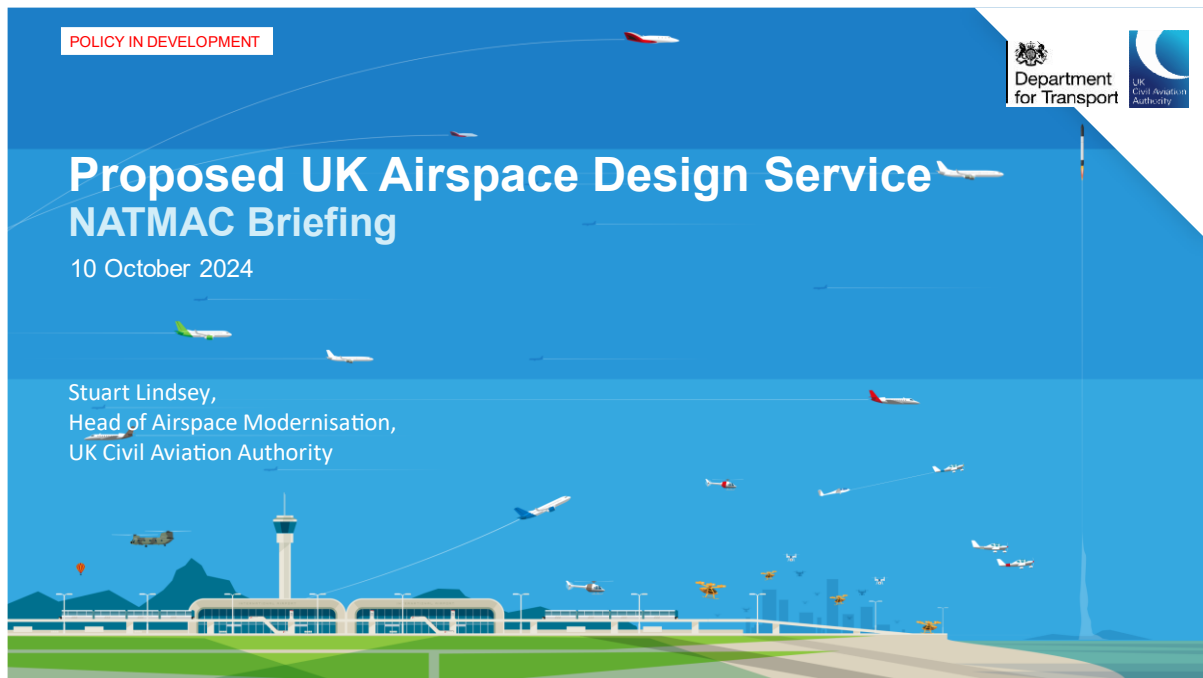
Department for Transport
UK Civil Aviation Authority

Proposed UK Airspace Design Service

NATMAC Briefing

10 October 2024

Stuart Lindsey,
Head of Airspace Modernisation,
UK Civil Aviation Authority



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POLICY IN DEVELOPMENT

Agenda



Housekeeping and introductions



Recap on UKADS
Short brief on the proposals on which DfT/CAA are likely to consult



Next steps



November 2024

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POLICY IN DEVELOPMENT



Housekeeping and introductions

IMPORTANT NOTE

- These slides have been shared to continue our open and transparent approach to engagement
- These slides indicate a proposed direction of travel – no final decisions have been made, including on the key question of who might take on this role
- Before reaching any decision, and subject to Ministerial approval, we expect to run a formal consultation on proposals later in 2024



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POLICY IN DEVELOPMENT



Outline of the UKADS (previously Single Design Entity)

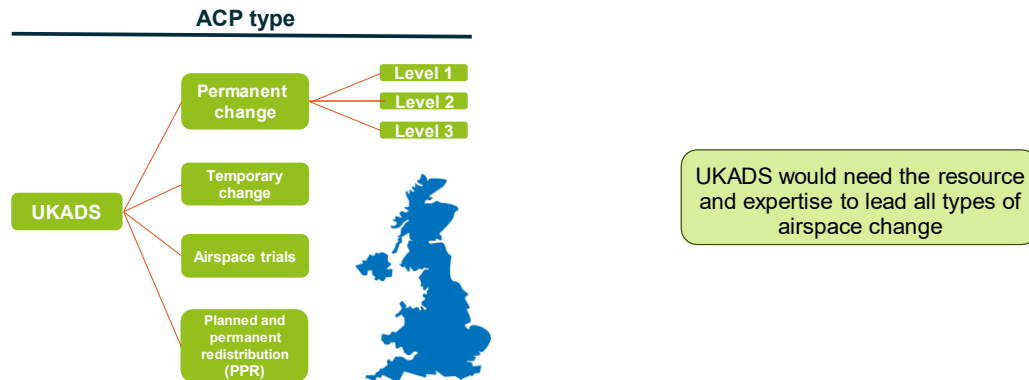
- Airspace modernisation is long overdue. There is general agreement that the current airspace change model is putting its delivery at risk. The London cluster of the masterplan is the priority.
- A new model is needed whereby a single entity is responsible for designing UK airspace – a **UK Airspace Design Service (UKADS)**. This would be in line with the approach taken in other countries including Western Europe, the US and Australia.
- Stakeholder input is key. So far:
 - Phase A workshops – Listening (September 2023)
 - Phase B workshops – Testing options (December 2023)
 - Bilateral meetings
- A joint consultation by DfT and CAA will seek views on what the UKADS could do and how we might set it up, in two phases.



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POLICY IN DEVELOPMENT

To achieve the necessary holistic approach, UKADS would eventually take on all ACPs UK-wide...



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POLICY IN DEVELOPMENT

...and taking on all UK ACPs requires a two-phase approach



First phase – UKADS1

- In the **first phase**, the initial operating model for the UKADS function ('**UKADS1**') would be established ASAP. We propose this is **tasked to NERL** through a change to its air traffic services licence.
- UKADS1's initial focus would be to sponsor **all London cluster ACPs** within the London TMA region and forming part of the airspace change masterplan.
- Subject to UKADS1's capability and capacity, the DfT and CAA may expand its scope in the future.
- Suitable governance would be crucial to ensure UKADS1 is impartial and delivers what is needed and on time.



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Second phase – UKADS2

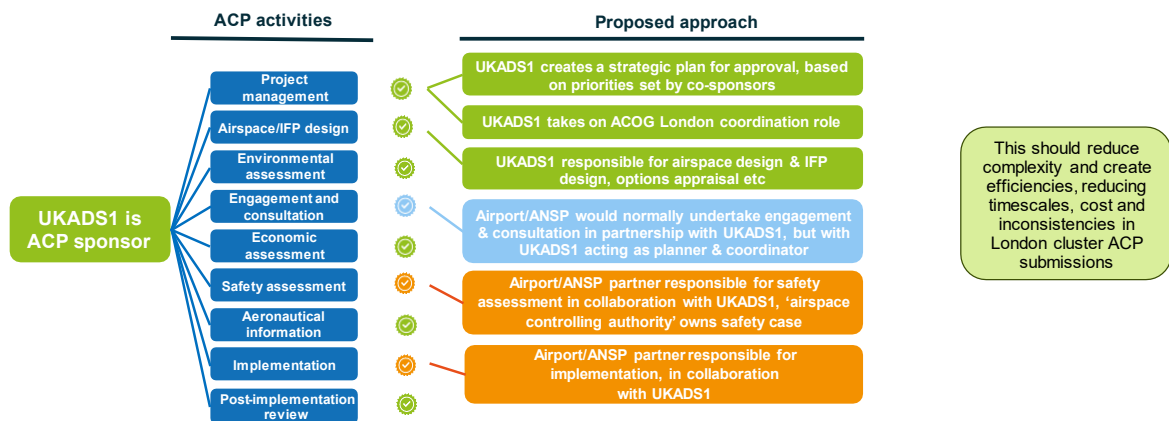
- The **second phase**, being developed in parallel but necessarily on a longer timeframe, would be to establish the end-state operating model ('**UKADS2**') potentially sponsoring all ACPs in the UK, including national changes for which there is no obvious sponsor at the moment.
- Using UKADS2 to progress an ACP could become mandatory. This would be most likely to achieve a consistent, holistic approach to modernising UK airspace using the best tools and skills to create high-quality ACPs that are optimised from a system perspective.
- UKADS2 would be likely to require primary legislation. It would take account of lessons from a review of the first phase. It could be a new or existing organisation.
- We are not making detailed proposals for UKADS2 in this consultation – we would consult again.



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POLICY IN DEVELOPMENT



As sponsor, UKADS1 would take on most aspects of the CAP 1616 process



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POLICY IN DEVELOPMENT



Governance of UKADS1

- Governance arrangements must be sufficiently robust to provide the necessary visibility and oversight for DfT/CAA to hold the NATS Board to account for UKADS1's performance.
- UKADS1 must be (and be seen as) transparent, fair, impartial and effective in progressing its strategic workplan without the potential for conflicts of interest.
- Before NERL could commence providing airspace design services through UKADS1, we would need to amend the Air Navigation Directions, create a new statutory instrument and modify NERL's air traffic services licence to add airspace design services as a specified service.
- UKADS1's strategic priorities would be set and regularly reviewed by DfT/CAA with transparent progress reporting.
- Subject matter experts from airports, airlines and other key stakeholders including consumer representation, would provide oversight and scrutiny of UKADS1's work through an advisory board or similar forum.

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POLICY IN DEVELOPMENT



A new UK Airspace Design Charge & Support Fund for UK ACPs

- A mechanism that only addresses funding for UKADS1 and London cluster ACPs is not sufficient because of the wider implications this has for other ACPs.
- Alongside our UKADS proposal, we therefore propose to reform the funding of ACPs more widely, not just those sponsored by UKADS.
- We would do this by creating a new **UK Airspace Design Charge** paid by airspace users.
- This new charge would:
 - meet the efficient costs of NERL to provide an airspace design service through UKADS1, and
 - capitalise a new **UK Airspace Design Support Fund** to cover relevant costs of the sponsors of eligible UK airport ACPs that are outside the scope of UKADS1.
- CAA would need to consult separately on the proposed Charge, Fund, NERL licence etc.



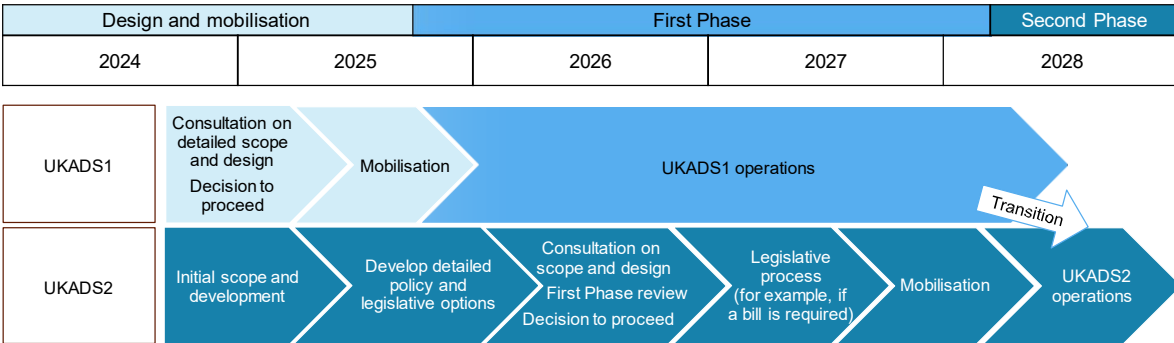


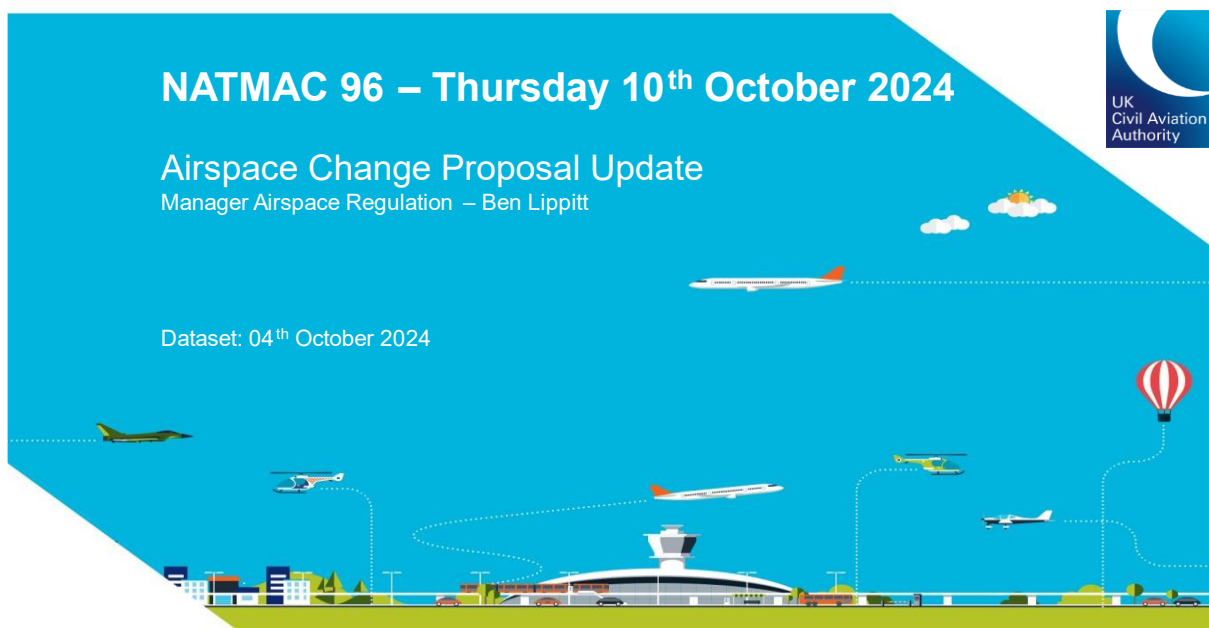
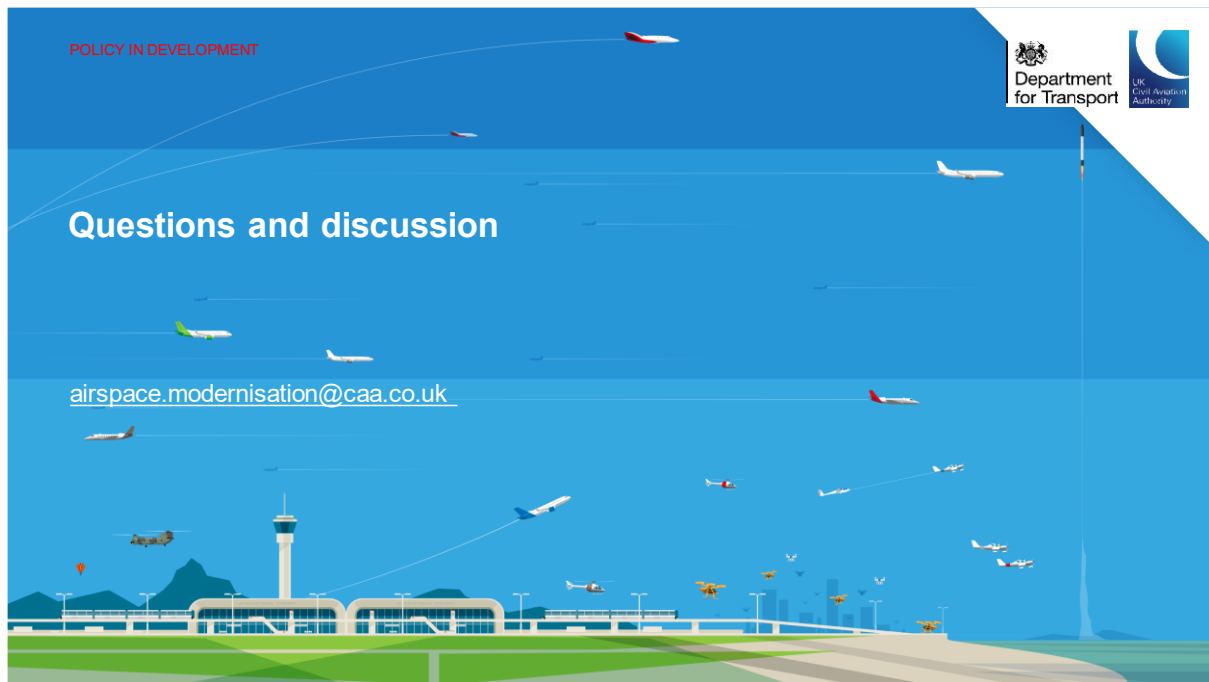
The consultation

- **Formal consultation** on a UKADS proposal would, subject to Ministerial approval, occur later in 2024, covering:
 - the overall concept of a UKADS
 - the scope of the UKADS’s responsibilities (whether geographically or in terms of the types or process stages of ACPs)
 - a proposed two-phase approach of UKADS1 and UKADS2
 - funding UKADS1 and other airspace design change through a UK Airspace Design Charge and UK Airspace Design Support Fund
 - suitable governance to ensure UKADS1 is impartial, delivers what is needed and on time
 - how to transition ACPs to UKADS1 from the current approach
 - the potential for changes to the CAP 1616 airspace change process where needed to support the UKADS proposals
 - the proposition for the end-state UKADS2, which could eventually become solely responsible for progressing changes in all UK airspace design.
- No decisions have been made.



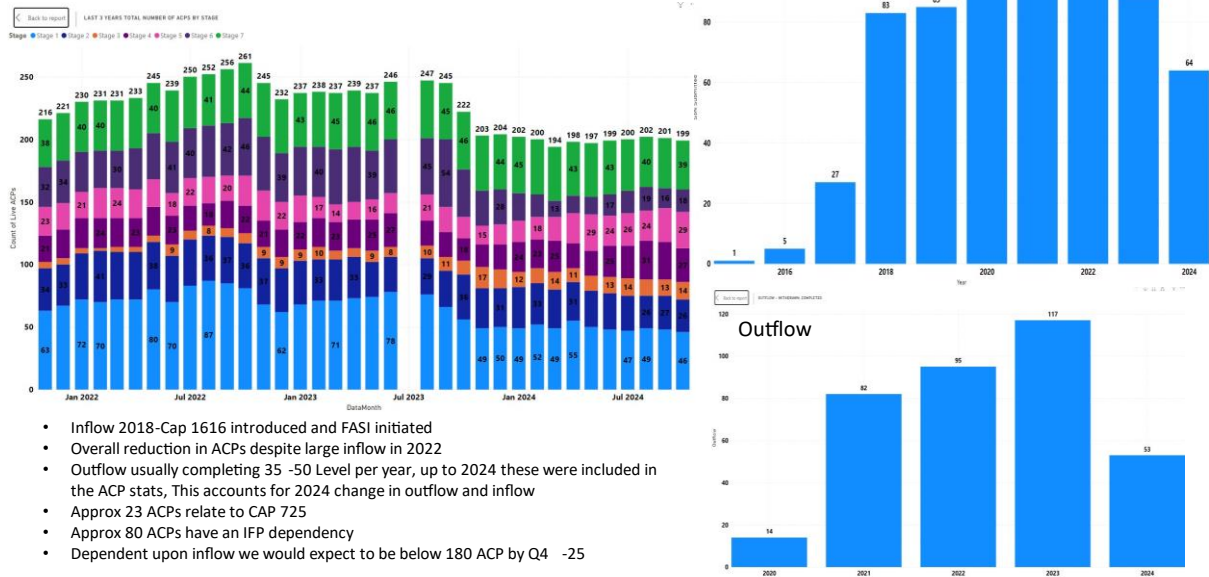
Next steps / proposed timeline





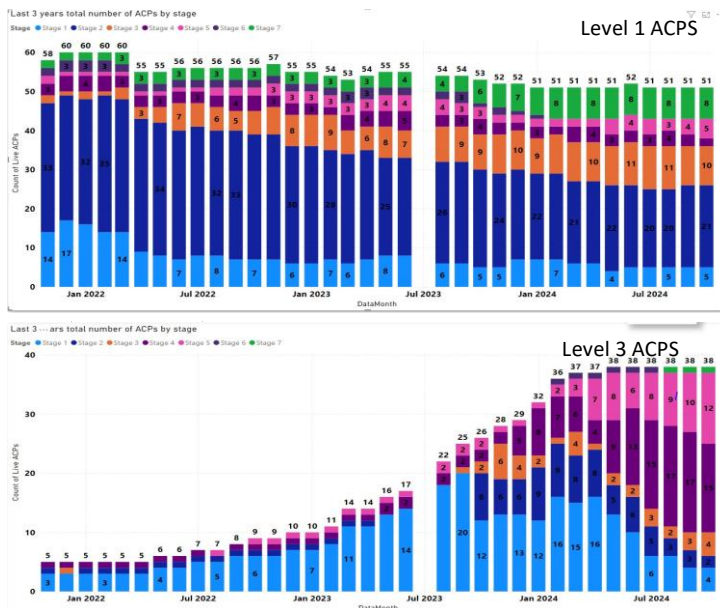
November 2024

Trend Analysis – Airspace Change Proposals v Flow



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Airspace Change Proposals by Level



- Reduced total Level 1 changes since 2022
- Low number of level 1 ACP in the early stages

- Level 3 introduced in Jan 24 as part of V5 updated of CAP 1616
- Existing ACPS mapped across.
- We are seeing an increase in Level 3 changes, where the colour differential indicates the increased speed through the process.
- We expect further acceleration aligned to IFP resource

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CAP 725 Airspace Change Proposals

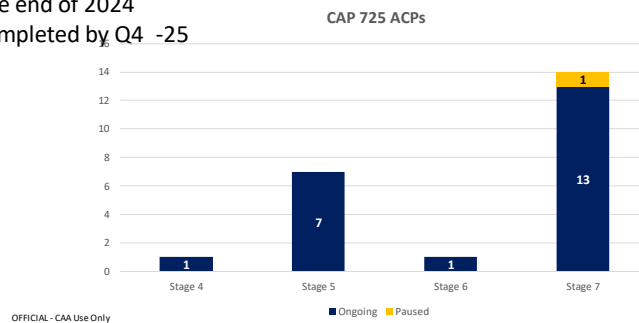


CAP 725 total is 23 (22 ongoing & 1 paused):

- Pre-decision (with Change Sponsor): 1 (Stapleford IAPs)
- Decision Stage (with CAA): 7 (Inverness, St Mary's, Belfast Int, Southend, Haverfordwest, Hawarden, Teesside)
- Implementation (post decision): 1 (Inch TMZ)
- Post Implementation Review: 13

Significant Post Implementation Review

- ACP-2013-07 Farnborough: PIR completion due end of 2024
- Expect remainder of existing Stage 7s to be completed by Q4 -25

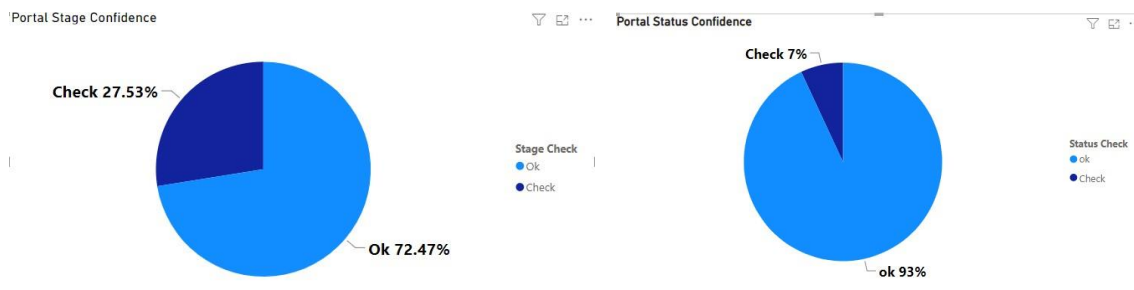


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Portal Status Check



- 100% check completed in Apr 24
- Resource has now been onboarded to support this task
- Portal check has been emphasised within the Gateway check as well as being built into a monthly status check
- Ongoing work to better connect the portal with our planning tools



Airspace Change Programmes Future Airspace Strategy Implementation (FASI)



▪ 'LTMA' Cluster

- 15 ACPs currently within this Cluster
 - 15 'In Progress',
 - 3 in Develop & Assess (Stage 2)
 - 12 in Consult (Stage 3).

- Bournemouth (Gateway Dec 2024)
- Farnborough (Gateway Oct 2024)
- Southend (Gateway Oct 2024)

- Southampton (Gateway TBC)
- Heathrow R2 (Gateway TBC)
- Gatwick (Gateway Jan 2025)
- LAMP2 D2 (Gateway Jan 2025)
- LAMP2 D3 (Gateway TBC)
- LAMP2 D4 (Gateway TBC)
- Manston (Gateway TBC)
- Northolt (Gateway TBC)
- Biggin Hill (Gateway TBC)
- Stansted (Gateway TBC)
- Luton (Gateway TBC)
- London City (Gateway TBC)

▪ 'WTA' Cluster

- 4 ACPs currently within this Cluster
 - 4 'In Progress', 0 'Paused'
 - 1 in Develop & Assess (Stage 2)
 - 2 in Consult (Stage 3)
 - 1 in Stage 6 (Implement).

- Exeter (Gateway Mar 2025)
- Bristol (Gateway TBC)
- LAMP2 D1.2 (Gateway TBC)
- LAMP2 D1.1 (PIR TBC)

*Cardiff – removed from airspace change Masterplan coordinated process in July 2024

Airspace Change Programmes Future Airspace Strategy Implementation (FASI)



▪ 'ScTMA' Cluster

- 4 ACPs currently within this Cluster
 - 4 'In Progress', 0 'Paused'
 - 4 in Consult (Stage 3).

- ~~Aberdeen~~*
- Edinburgh (Gateway Oct 2024)
- Glasgow (Gateway Oct 2024)
- NERL ScTMA (Gateway Oct 2024)

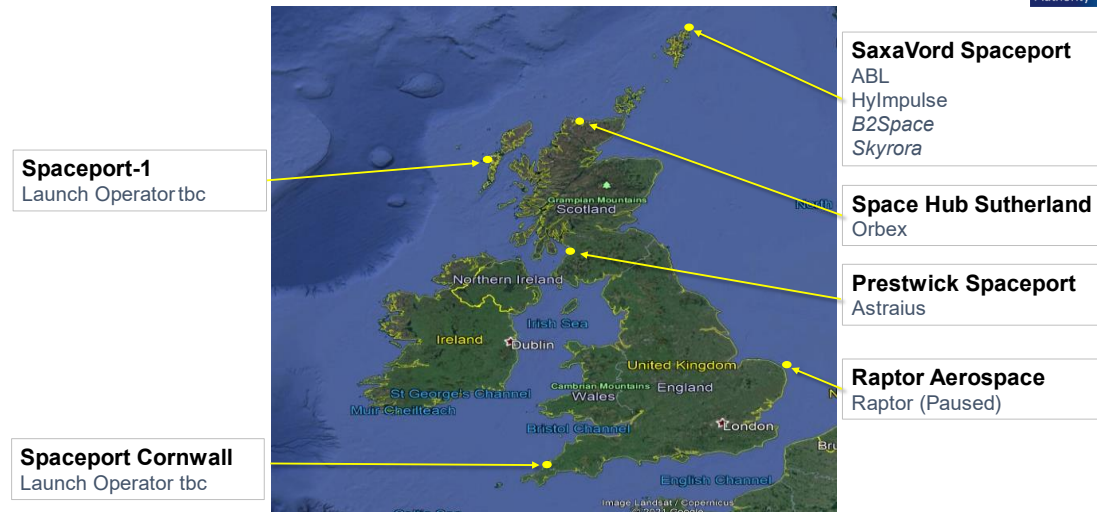
▪ 'MTMA' Cluster

- 5 ACPs currently within this Cluster
 - 5 'In Progress', 0 'Paused'
 - 1 in Develop & Assess (Stage 2)
 - 4 in Consult (Stage 3).

- Leeds Bradford (Gateway Feb 2025)
- Liverpool (Gateway June 2025)
- East Midlands (Gateway June 2025)
- NERL MTMA (Gateway June 2025)
- Manchester (Gateway June 2025)

*Aberdeen – removed from airspace change Masterplan coordinated process in Sept 2023

Space Launch Sites Ongoing ACPs



Airspace Change Proposals Space Launches



Spaceport-1 (North Uist – Outer Hebrides)

- Permanent (ACP-2021-012):
- Currently in Stage 4 (Consultation closed May 2024)
 - CAA Decision expected April 2025
 - Target AIRAC 07/2025
- Temporary (ACP-2021-037):
 - Paused by Change Sponsor in August 2023 due to the delay in gaining final planning consent (achieved in late July 2023) and uncertainty regarding rocket providers obtaining the necessary permissions/approvals to launch.

ACP-2021-037 Spaceport-1 TDA



Airspace Change Proposals Space Launches



SaxaVord Spaceport (Shetland Islands)

- Permanent (ACP-2017-79):
 - Consultation closed June 2023
 - Currently in Stage 5 (CAA Decide)
 - CAA Decision currently Paused to allow further development of the required operational LoAs and international agreements
- Temporary (ACP-2021-090):
 - Paused in Stage 5 (CAA Decide)
 - Pending outcome of permanent ACP decision

Final proposed airspace design
ACP-2017-79 SaxaVord Spaceport permanent



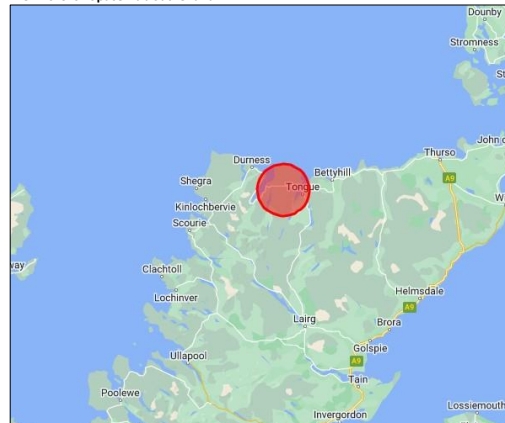
Airspace Change Proposals Space Launches



Space Hub Sutherland (Orbex) (A' Mhòine Peninsula)

- Permanent (ACP-2019-04):
 - Paused by Change Sponsor in February 2024 (Stage 2 Develop & Assess)
 - Pending outcome of Trial ACP results
- Trial (ACP-2023-046):
 - Assessment Meeting held in February 2024
 - CAA Decision expected February 2025
 - Target AIC/AIRAC May 2025

ACP-2019-04 Space Hub Sutherland

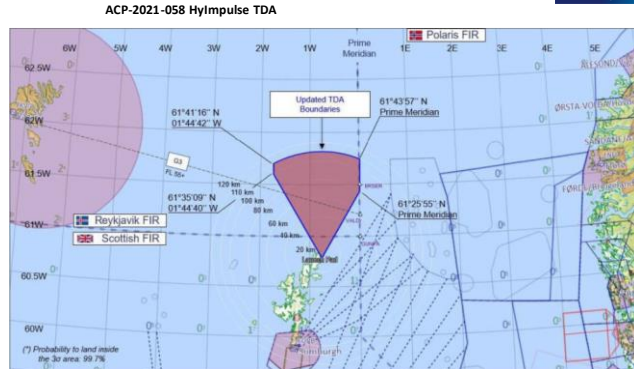


Airspace Change Proposals Space Launches

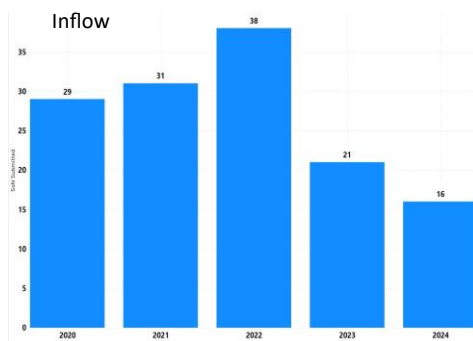


Hylmpulse (Shetland Islands)

- Temporary (ACP-2021-058):
 - Paused by Change Sponsor in February 2024. Following a successful test launch in Australia, HIT intend to return to SVS to continue their launch campaign in Q3/4 2025. It is anticipated that this campaign will use the notified SVS airspace.

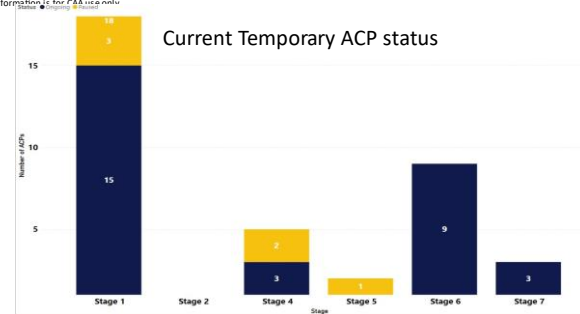


TDA related Statement of Needs submitted to CAA overtime

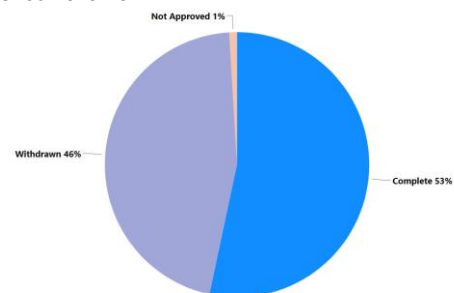


- Overall reduction in RPAS related ACPs submitted since 2020
- Significant number of those submitted have been withdrawn by the Sponsor at Stage 1

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Outflow for the period 2020-2024



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Temporary/Trial ACPs approved in last 6 months

- **ACP-2023-083 TDA BVLOS Operations in Northern North Sea (Flylogix)**

ACP approved April 2024

- **ACP-2022-049 Orkney Islands - TDA BVLOS Demonstration of Cargo UAV (Windracers)**

ACP approved May 2024

- **ACP-2022-104 CAELUS D – Lothian Region (AGS Airports Ltd)**

ACP approved June 2024

Future Flight Challenge

- **ACP-2024-005 TDA BVLOS Operations in the Central North Sea (Flylogix)**

ACP approved June 2024

Innovation Sandbox

- **ACP-2022-103 CAELUS Trial C – Ayrshire and Arran (AGS Airports Ltd)**

ACP approved August 2024

- **ACP-2023-061 London Health Bridge – Guy's and St Thomas' NHS Foundation Trust (Apian)**

ACP approved August 2024. Approval conditions met in September 2024.

- **ACP-2022-102 CAELUS Trial B – Grampian Region (AGS Airports Ltd)**

ACP approved October 2024

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Ongoing Temporary Reserved Areas Sandbox Applications

- **ACP-2022-081 Establishment of a TRA for Trials of Manned and Unmanned Integration (Cranfield)**

- Current stage: Assessment Meeting held in July 2024. Timeline TBC

- **ACP-2023-048 Westcott TRA Trial**

- Current stage: Assessment Meeting held Jan 2024. Timeline TBC.

- **ACP-2024-001 BVLOS Loss in Segregated Airspace**

- Current stage: Stage 3 Engagement and Consultation

- **ACP-2024-035 NPAS BVLOS**

- Current stage: Stage 3 Engagement and Consultation

- **ACP-2024-041 Integrated BVLOS operations at Kirkwall Airport**

- Current stage: Assessment meeting scheduled for 22 Oct 24.

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Any Questions?



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Any Other Business?

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Dates of future NATMAC meetings

- NATMAC 97 – 3rd April 2025
- NATMAC 98 – 1st October 2025
- NATMAC 99 – 15th April 2026