Safety and Airspace Regulation Group

NATIONAL AIR TRAFFIC MANAGEMENT ADVISORY COMMITTEE

MINUTES OF THE 95th PLENARY MEETING HELD REMOTELY (MICROSOFT TEAMS) ON 11TH APRIL 2024

National Air Traffic Management Advisory Committee 95 – Minutes

Present:

CHAIR

Jon Round   Head, Airspace, ATM & Aerodromes

REPRESENTATIVES OF MEMBER ORGANISATIONS

Mark Swan	ACOG
Tim Thomas	AEF
Adele Gammarano	AOA
Matt Wilshaw-Rhead	AOA
Mark Gibb	AOG
Martin Robinson	AOPA
Andy Ploutarchou	BAE Systems
Mike Thrower	BALPA
Mike Gunston	BBAC
Pete Stratten	BGA
Tim Fauchon	BHA
Rob Hughes	BMAA
Jeff Montgomery	British Skydiving
Mike Pearson	GAA
Tom Hardie	GAA
Hal Newberry	HCAP
Jeremy James	HCGB
Colin Gill	Isle of Man CAA
Simon Tilling	LAA
Francis Richards	Low Fare Airlines
Cdr Crompton	MAA
Gp Capt Whitworth	MoD DAATM
Sqn Ldr Baron	MoD DAATM
Michael Cockcroft	NATS
Cdr Plenty	Navy Command HQ
Timothy Nathan	PPL/IR Europe
Simon Oldfield	UKAB
Dai Whittingham	UKFSC
ATC Officer Fuller	US Visiting Forces UK Rep

CAA STAFF

Jonathan Beadle	NATMAC Secretary
Colin Chesterton	Manager, Airspace Modernisation Delivery
Ben Lippitt	Manager, Airspace Regulation
Kate Bromley-Fox	Manager, AAA Policy
Rob Lewis	Manager, Aerodromes & ATM
Frederic Laugere	Innovation Services Lead
Nigel Ibbetson	Policy Specialist Airspace & ATM
Andrew Belshaw	Principal Future Airspace Tech Systems
Callum Holland	RPAS Sector Lead

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National Air Traffic Management Advisory Committee 95 – Minutes

Adam Godolphin	Manager, Airspace Modernisation Oversight Risk & Benefits
Mike Fox	Future Technology Policy Specialist
Patrick Jalloh	Airspace Modernisation Project Delivery Specialist
Jonathan Axford	Airspace Classification Safety Specialist
Yvonne Owuor	Airspace Regulator, Engagement & Consultation
Michelle Coupar	Airspace Change Account Manager
Jennie Bishop	Principal, Airspace Modernisation Oversight
Abigail Brown	Airspace Modernisation Oversight Associate

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INDEX TO NATMAC 95 MINUTES

ANNEXES:

NATMAC 95 MINUTES

1.   ITEM 1 – INTRODUCTION

1.1   The **Chair** welcomed representatives to the meeting.

1.2   The **Chair** reminded the committee that NATMAC is a formal consultative group (not a decision-making body), and that we hold these meetings to share information on all airspace and air traffic matters. The **Chair** encouraged the committee to raise observations and ask questions throughout the meeting.

2.   ITEM 2 – NATMAC 94 MINUTES

2.1   The **Secretary** confirmed there were no comments made on the minutes from NATMAC 94, and so invited the committee for any final comments.

2.2   The **Chair** mentioned that Tom Hardie (GAA) had not received the minutes from the previous meeting.

                                                          Action: Secretary

2.3   Nothing further was raised so the minutes were accepted as a true record of NATMAC 94.

2.4   The **Secretary** advised the committee that the minutes for NATMAC 94 will be published on the NATMAC CAA webpage.

2.5   **Matt Wilshaw-Rhead** (AOA), raised a question on the action taken from the last meeting on RP3 going into RP4 (Action 11.8 in the NATMAC 95 Progress Report.) The update to the action refers to the economic regulator. However, **Matt Wilshaw-Rhead** highlighted the (EU) 2019/317 regulation that this comes from, spans everything for those that are in scope RP3 units. This was not only an economic regulation, but it also covered areas such as safety, capacity, sustainability, environmental and enroute. **Matt Wilshaw-Rhead** asked where we are going with RP3 for these other elements, and asked if we were responding to the notice for proposed amendment for RP4.

2.6   The **Chair** advised the main currency of the reviews is money which then deals with the other issues that were listed out (safety, capacity, sustainability, environmental and enroute). The **Chair** offered a separate conversation on this subject as the person who was best able to answer this was not on the call.

                                                          Action: Secretary

2.7   **Tim Fauchon** (BHA) asked if there was still going to be an engagement period starting at the end of April for the revision to the SVFR weather limits for the London City CTRs.

2.8   The **Chair** advised this was covered in the NATMAC 95 Chair's Report, and that while the dates may move a little, it will certainly be this coming spring.

3.   ITEM 3 – ACTION LIST FROM NATMAC 94 AND MATTERS ARISING FROM PROGRESS REPORT

3.1   The **Secretary** confirmed that ten actions were raised at NATMAC 94, 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** confirmed that action item 11.8 will be reopened based on **Matt Wilshaw-Rhead's** comments above.

3.3   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   The **Chair** provided a summary of the report.

4.2   The **Chair** invited comments.

4.3   **Matt Wilshaw-Rhead** (AOA) welcomed the last item on the Chair's Report to go towards true north for air navigation, but asked from the AOA's perspective to consider the ground based implications such as processes to realign runways and radar being based on magnetic north.

4.4   **Dai Whittingham** (UKFSC) responded to this by bringing up Zurich airport in Switzerland as an example who have paused re-designating their runways and added that airports with multiple runways will also have to consider picking different directions to label their arrival/departure procedures. **Dai Whittingham** also said flight procedures are designed in true north and then converted to magnetic currently, which won't be required in the future.

5.   ITEM 5 – AIRSPACE MODERNISATION DELIVERY TEAM UPDATE

5.1   **Colin Chesterton** Manager of the Airspace Modernisation Delivery Team presented a brief on Electronic Conspicuity.

5.2   **Tim Fauchon** (BHA) highlighted that EASA are looking at mobile phone technology for EC, and was concerned that another device would be required for aircraft that are transiting between UK airspace and European airspace. **Tim Fauchon** also mentioned that you can't buy a certified ADS-B device to go on a legacy aircraft type and that they would need a carry on device instead.

5.3   **Colin Chesterton** acknowledged the work was not trying to accomplish a one size fits all approach, and that it's unlikely there would be one EC device that fits all types of aircraft and operation.

5.4   **Andrew Belshaw** Principal Future Airspace Tech Systems added that depending on what type of airframe you are flying, the team will be looking at what the most suitable device happens to be to ensure aircraft are electronically conspicuous for the type of airspace that is being used. **Andrew Belshaw** highlighted that all types of airspace was being looked at from Class A to class G.

5.5 **Martin Robinson** (AOPA) asked whether it was the intention to achieve a cooperative surveillance environment throughout the whole of UK airspace system, given that the origins of EC aimed to increase situational awareness and is not a collision avoidance system. **Martin Robinson** was concerned that these devices were being relied upon to provide the solution, and mentioned the rules of the air will require changing to determine who takes what action.

5.6 **Colin Chesterton** said the aspiration would be to have a nationwide picture, but that this would take time to achieve. But shorter term we are targeting specific blocks of airspace as and where it will be required. **Colin Chesterton** also recognised the earlier point on international requirements, and that we are staying close to what is available now in ICAO, and that the airborne part is not the whole solution, and the ground infrastructure must also play a part that will bring together lots of different types of EC to provide a bigger picture via a rebroadcast.

5.7 **Andrew Belshaw** added that for us to assess what is required, the five workstreams that were presented will come together in the final report with safety being the driving factor to determine what it is we need in a particular construct of airspace. **Andrew Belshaw** also said that you may not need a particular type of device in a very quiet bit of airspace such as the north-west of Scotland, but in the South-East of England you might need something all the time.

5.8 **Simon Oldfield** (UKAB) wanted to come back to Martin's point and said there are questions over the accuracy of the information being provided to them on the EC side, particularly on angle of arrival, and so most pilots they have found use EC to cue their lookout, but that does not mean that it can only be used for this purpose. **Simon Oldfield** also said that if pilots cannot visually acquire the aircraft, it should not stop them from changing course if the EC device shows that they are on a collision course, and this is what UKAB are seeing in their reports. **Simon Oldfield** added that we rely heavily on 'see and avoid' in class G airspace in the UK, but that does not mean we need to see something before taking action to avoid it.

5.9 **Mark Swan** (ACOG) asked how closely linked are the EC initiatives to the NATS Openair project, and asked whether to two need to be linked in some way, and what the strategy would be to combine them.

5.10 **Colin Chesterton** highlighted that there is a slide coming up in the presentation that shows how the EC work is also being combined with the detect and avoid work, the UTM work and the system wide information management work (SWIM), and that the consultation responses for OpenAir will be reviewed and the CAA will act accordingly.

5.11 **Tom Hardie** (GAA) mentioned that within the safety argument there should be a definition of the separation standards, and that these would then dictate what technology can be used to safely achieve them.

5.12 **Andrew Belshaw** acknowledged we are looking at this, and the team are addressing this as part of the safety argument. The question that needs to be answered is, are we trying to provide separation in the conventional manner or are we providing information for pilots to make an informed decision to remain well clear.

5.13 **Colin Chesterton** presented a brief on the Future of Flight work.

5.14 **Pete Stratten** (BGA) had previously seen the 2028 date for routine manned operations of EVTOL taxis, and asked whether these dates and timelines are driving the CAA's priorities.

5.15 **Colin Chesterton** said that the CAA were not a signatory to this, but certainly support the ambition, and is just one of several priorities for the CAA. **Colin Chesterton** also emphasised that GA input on the plan is going to be crucial going forwards, and that this is already happening such as the technical working group that is supporting the work of EC.

5.16 **Jonathan Axford** presented an update on the Manchester Low Level Route work. No questions were asked.

5.17 **Callum Holland** RPAS Sector Lead presented an update on the Atypical Air Environment work.

5.18 **Simon Tilling** (LAA) asked if the policy was looking at airspace below 500ft.

5.19 **Callum Holland** said rather than adopting a strict definition of what would always be classed as Atypical, the policy looks to provide generalised guidance. Operating within 50ft of a building may be classed as Atypical in one area, but there are plenty of examples in the UK where this would not be feasible, and all subject to an assessment. **Callum Holland** highlighted the considered baseline criteria in the policy as within 30m/100ft from any building/structure, within 15m/50ft of any permanent linear structure such as a railway, and at a height not exceeding 15m/50ft above private property. **Callum Holland** added these were the maximum heights that drones would be operating, in response to the question.

5.20 **Cdr Plenty** Navy Command HQ asked if there was a risk that this would exponentially increase the number of requests for the regulation team.

5.21 **Callum Holland** agrees as it creates a new pathway for existing RPAS operators to scale their operations, and this has been factored into the resourcing capabilities within the RPAS sector team, and recruitment is ongoing. **Callum Holland** also added that the ground risk could be increased in any of these environments, and can make the operational authorisation process more complex, and the policy is certainly not a quick fix for scaled BVLOS operations.

5.22 **Martin Robinson** (AOPA) asked whether the CAA has any view as to what the public response/perception would be to this policy around the subject of noise and intrusion given the low level these drones would be operating in.

5.23 **Callum Holland** acknowledges the importance of the point but spoke of a substitution in assets that could offer noise benefits, such as National Grid using a manned asset on the ground to survey the power lines that is far nosier than using an RPAS asset. **Callum Holland** also said that noise would be a considering factor on all atypical applications.

5.24 **Tom Hardie** (GAA) asked if the 100ft figure includes a contingency or is the contingency added on top.

5.25 **Callum Holland** answered that the contingency would be added on top in the region of around 50ft as a maximum value, but this depends on the specific route/environment.

6.   ITEM 6 – INTRODUCTION TO THE INTEGRATION SANDBOX

6.1   **Frederic Laugere** Innovation Services Lead presented an introduction to the temporary reserved area (TRA) sandbox work.

6.2   **Matt Wilshaw-Rhead** (AOA) made an observation that there have been a few examples particularly with the use of SORA, where BVLOS operators will come to an air navigation service provider (ANSP) at short notice stating that they have been engaging with the regulator and have developed a SORA. But SORA is not something that an ANSP will currently utilise and cautioned to be cognisant of the air traffic management side as well as the regulatory SORA side.

7.   ITEM 7 – AIRSPACE CHANGE PROPOSAL UPDATE

7.1   **Ben Lippitt**, Manager Airspace Regulation, provided an overall update on a variety ACPs.

7.2   **Pete Stratten** (BGA) raised a concern that the TDA at Waddington was dependant on a second TDA appearing somewhere else in the UK. Now that the second TDA has been applied for and consulted on, it holds a gun to the process in that the second TDA must be approved because of the dependency between the two TDAs.

7.3   **Ben Lippitt** disagreed with the statement that this holds a gun to the process, as the CAA must make decisions in line with section 70 requirements from the transport act which also includes due consideration for national security requirements and safety. **Ben Lippitt** added that the CAA does attempt to use a joint and integrated approach to management of airspace, and this is regularly discussed with the military.

7.4   **Tom Hardie** (GAA) brought up reported inaccuracies with the CAP 1616 portal from the previous NATMAC meeting and asked if the work to bring this all up to date has been completed, including the CAA webpage for the CAP 725 ACPs which does not match with the slide presented on CAP 725s earlier.

7.5   **Ben Lippitt** answered that a 100% check was done on the portal before Christmas 2023, and that the department are making more checks on this system, with the inclusion of some automation within the process that will help keep the system up to date more quickly. **Ben Lippitt** offered to take the point away on CAP 725 ACPs to be updated.

Action: Secretary

BREAK FOR LUNCH

8.   ITEM 8 – AIRSPACE COORDINATION & OBSTACLE MANAGEMENT SYSTEM

8.1   **Ben Lippitt**, Manager Airspace Regulation, presented a demo of the recently updated ACOMS system.

8.2   **Tom Hardie** (GAA) asked if the tool only supported data input for submitters, or could the submitters look for conflictions within the system itself.

8.3   **Ben Lippitt** answered that it is currently a data input only system, but a business case is being put together for further capabilities within the tool. **Ben Lippitt** added that the rollout of this tool for all remaining aviation activities will be completed by the end of the year.

9.   **ITEM 9 – AIRSPACE CHANGE ORGANISING GROUP (ACOG) BRIEFING**

9.1   **Mark Swan**, Head of ACOG, provided a briefing on ACOG activities.

9.2   **Martin Robinson** (AOPA) asked to what extent can ACOG influence some of the airspace change proposals particularly around the Scottish TMA, as some of these changes are proposing large areas of controlled airspace and if the sponsors are not willing to change their designs, then what can be done.

9.3   **Mark Swan** said the CAP 1616 process is designed to cater for engagement with all stakeholders, with all consultation responses to be adequately addressed, and that the CAA will take a dim view on any consultation that does not do what is expected of it. **Mark Swan** highlighted the reason for getting **Tony Rapson** (ACOG GA Coordinator) on board is to point out where multiple co-dependant ACPs produce a negative impact whether it be noise impacts or unsafe areas for GA activity. **Tony Rapson's** other remit is to look and apply pressure for overall reduction in controlled airspace, but **Mark Swan** said that ACOG is facilitating collaborative change without an executive ability or power to force change or influence.

9.4   **Martin Robinson** (AOPA) asked if there are enough resources being applied to manage the UKs airspace in terms of number of controllers and levels of technology, to allow greater access to cross controlled airspace.

9.5   The **Chair** answered that the lead times on the airspace change proposals should allow for the infrastructure on licenses and air traffic numbers to keep pace, and admitted the current situation is not perfect as there is still a recovery going on but added that we are in better shape this year than in 2023.

9.6   **Tom Hardie** (GAA) asked if the withdrawal of Cardiff airport from the FASI programme was going to be detrimental to the overall project.

9.7   **Mark Swan** answered that he would rather Cardiff Airport had stayed in the programme so that the West sector airspace change can bring greater benefits but added that there is not much that can be done as the airport does not have the funds to continue.

9.8   **Pete Stratten** (BGA) asked if the overall programme was at risk of not being as effective as it could be if airports withdraw from the programme.

9.9   The **Chair** acknowledged that there are a few small to medium sized airports with cash flow concerns to support the programme. The **Chair** said that while the CAA does have the power to force an airspace change, it would be ineffective against an airport that does not have the money to conduct one but added that this was a very live debate, and while it is sub optimal that Cardiff is out of the programme, given the volumes of traffic it is not detrimental to the programme.

10.   ITEM 10 – ICAO FIS ALIGNMENT IMPLEMENTATION

10.1   **Nigel Ibbetson**, Policy Specialist Airspace & ATM, presented an update on the policy work done to date and going forward on alignment to ICAO FIS.

10.2   No comments or feedback raised.

11.   ITEM 11 – AMS ANNUAL PROGRESS REPORT

11.1   **Adam Godolphin**, Manager Airspace Modernisation Oversight Risk & Benefits, provided an overview of the AMS progress report.

11.2   No comments or feedback raised.

12.   ITEM 12 – AOB

12.1   The **Chair** asked if there were any AOB items. **Mike Thrower** (BALPA) had raised three items ahead of the meeting, and **Tom Hardie** (GAA) raised one in the meeting chat, all of which are listed below.

12.2   **Mike Thrower** (BALPA): Are there any plans (in UK or wider Europe) to withdraw Digital ATIS?

12.3   The **Chair** detailed a response from **Rob Lewis** Manager Aerodromes & ATM as follows:

The difficulty comes from the acronym. D-ATIS has been used to been Digital, Datalink or Departure depending upon which ANSP you are talking to. Datalink ATIS is easy to distinguish because the data is transmitted otherwise than via VHF. Digital ATIS is a digitised recording broadcast over VHF using a standard VHF transmitter (the digital element replacing traditional analogue tape recordings). Departure ATIS is a reduced range (digital or analogue) ATIS providing only departure information. It was common in the days of 25kHz channel assignments because of the scarcity of channels.

There are no known plans to withdraw the voice recording of the meteorological information (Digital ATIS), but individual ANSPs may choose to replace such systems with (for example) datalink ATIS as their businesses require. If ANSPs do make this change then it would be a change to the functional system, for which a notification (Form SRG1430) would be required.'

12.4   **Mike Thrower** (BALPA): A number of operational difficulties were experienced during the last-named storm with airport closures and some domestic flights having to divert overseas (with some passengers stuck owing to not having passports in their possession) – have lessons been leaned to improve future planning and contingency measures in advance of known named storms occurring?

12.5   The **Chair** acknowledged the disruption that such storms bring with them especially with the number of diversions / rejected diversions, but has not come across this as a challenge as the remit and focus of work is around flight safety to ensure aircraft land safely in such conditions.

12.6   **Mike Thrower** (BALPA): Are there any plans to update Plan 39 (mass diversion plan for London airports during bad weather/ATC failure, etc.)? If so, active pilot input in the discussions would be helpful.

12.7   The **Chair** said this is a complex piece of work, but the work is underway to update Plan 39, with various working groups looking at it and all headed up by NATS, and the airlines are heavily involved in this piece of work which will encourage pilot input.

12.8   **Tom Hardie** (GAA), asked in the meeting chat if an organisational diagram could be made available for the airspace side of the CAA.

12.9   The **Chair** took it as an action to prepare a diagram for the Airspace, Air Traffic Management and Aerodromes Department (AAA), and will also ask the AMS team to provide something similar from their team, this is to share the manager's names with the NATMAC committee or to put these up onto the NATMAC webpage.

Action: Secretary

12.10   The **Chair** acknowledged the departure of **Dai Whittingham** (UKFSC) and advised for his replacement to be made known to the NATMAC secretary to be added to the distribution list.

Action: Secretary

13.   ITEM 13 – DATES OF FUTURE MEETINGS

13.1   The **Chair** confirmed that the next NATMAC will be held face to face at Aviation House.

13.2   The **Chair** said the date for NATMAC 97 may need tweaking if in conflict with the Easter holidays.

Action: Secretary

- NATMAC 96 – 10th October 2024
- NATMAC 97 – 3rd April 2025
- NATMAC 98 – 9th October 2025

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Annex B: National Air Traffic Management Advisory Committee 95 - Minutes

NATMAC 95 – ACTION LIST

Actions arising from NATMAC 95

2.2	The **Chair** mentioned that Tom Hardie (GAA) had not received the minutes from the previous meeting.	**Secretary**
2.5	**Matt Wilshaw-Rhead** (AOA), raised a question on the action taken from the last meeting on RP3 going into RP4 (Action 11.8 in the NATMAC 95 Progress Report.) The update to the action refers to the economic regulator. However, **Matt Wilshaw-Rhead** highlighted the (EU) 2019/317 regulation that this comes from, spans everything for those that are in scope RP3 units. This was not only an economic regulation, but it also covered areas such as safety, capacity, sustainability, environmental and enroute. **Matt Wilshaw-Rhead** asked where we are going with RP3 for these other elements, and asked if we were responding to the notice for proposed amendment for RP4. *The above Action item was originally raised at NATMAC 94 as Action 11.8 and has now been reopened.*	**Secretary**
7.5	**Ben Lippitt** answered that a 100% check was done on the portal before Christmas 2023, and that the department are making more checks on this system, with the inclusion of some automation within the process that will help keep the system up to date more quickly. **Ben Lippitt** offered to take the point away on CAP 725 ACPs to be updated.	**Secretary**
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Annex C: National Air Traffic Management Advisory Committee 95 - Minutes

NATMAC 95 – 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
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
ATSOCAS	Air Traffic Services Outside Controlled airspace
ATM	Air Traffic Management/Movement
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	Her Majesty's Treasury
ICAO	International Civil Aviation Organisation
IFP	Instrument Flight Procedures
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

National Air Traffic Management Advisory Committee (NATMAC) Meeting
NATMAC 95 Thursday 11th April 2024

NATMAC 95 Agenda

- **11:00 - Meeting Start / Introduction**
- 11:05 – Minutes of NATMAC 94
- 11:10 – Action List / Progress Report
- 11:15 – Chair's Report
- 11:30 – Airspace Modernisation Delivery Team Update
- 12:15 – Introduction to the Integration Sandbox
- 12:35 - Airspace Change Proposal Update
- *12:55 to 13:25 – Lunch*
- 13:25 – Airspace Change Organising Group Briefing
- 13:45 – ICAO FIS alignment implementation
- 13:50 – 2023 AMS Annual Progress Report
- 14:00 – Any Other Business
- **14:05 – Wrap Up**

Airspace Modernisation Delivery Team Update
Colin Chesterton
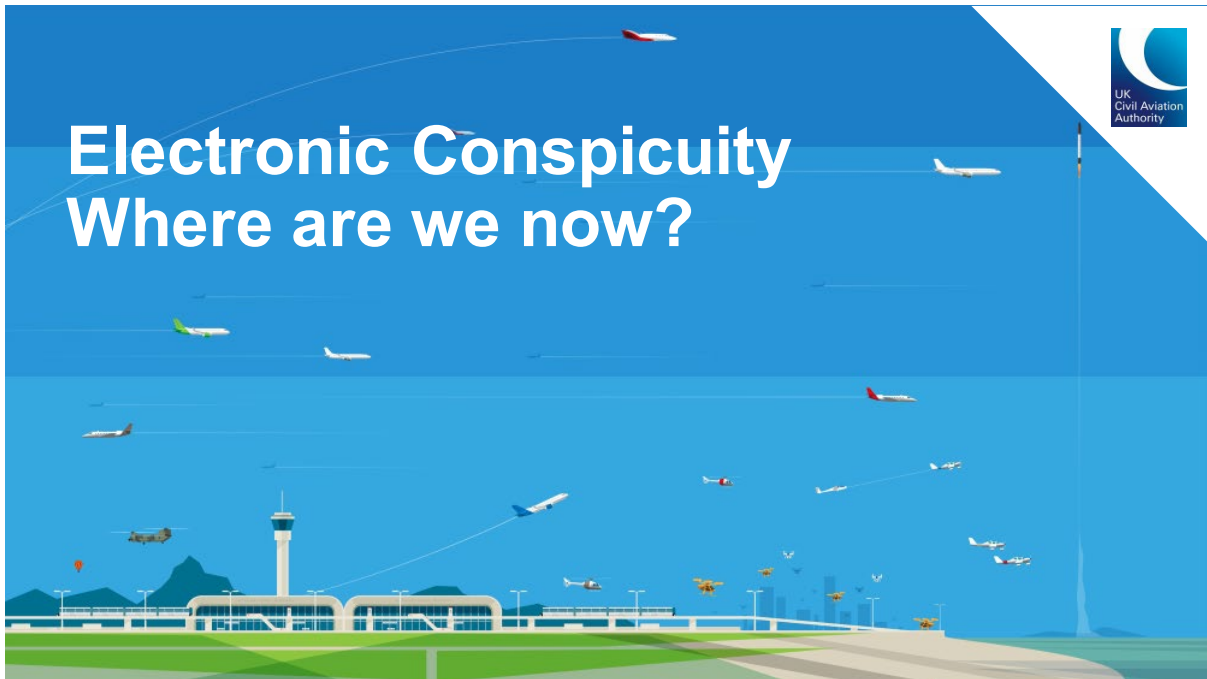
Electronic Conspicuity
Where are we now?

Deliverables from Con Ops Supplier

The CAA was tasked by DfT to "develop Surveillance specifications that take into account future requirements for all aviation including drones and not be an unintended barrier to innovation in future electronic conspicuity functionality"

Workstream 1: Capacity modelling for 1090MHz and 978MHz	**Workstream 2:** Probability of detection for 978MHz and 1090 MHz	**Workstream 3:** Airspace risk	**Workstream 4:** Airspace Architecture	**Workstream 5:** Human Factors

Workstream 6: Report
Scope: Will bring together all the above studies into a concise report

Workstream 1: Capacity modelling for 1090MHz and 978MHz

Assessing the capacity limits for ADS-B

This workstream will allow all stakeholders to have confidence that the planned use of ADS-B will have the capacity to cope with the numbers of airframes in the worst-case scenario.

Workstream 2: Probability of detection for 978MHz and 1090 MHz

Will internal antennas be reliable enough / what are the considerations for best installation?

This workstream aims to model the radiation patterns in a range of airframe scenarios. The aim is to assess the best compromise between installation cost and adequate reliability.

Workstream 3: Airspace risk

What is the risk in the airspace now / What will be the risk in the future?

This workstream aims to characterise the UK airspace risk today. We can then model the risk for future operations and use that risk to build a safety case. This will allow a decision to be made on the Detect and Avoid / EC solution we need in each case.

Workstream 4: Airspace architecture

What is the infrastructure / whole system concept needed to support EC deployment?

This workstream aims to give options for several different scenarios and what will be required in each case.
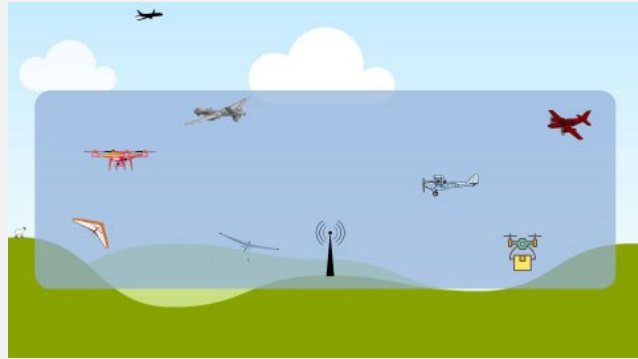
Workstream 5: Human Factors

What effects do Human Factors have on the whole EC system?

We have already conducted a brief HF study. This study will cover a more in-depth look at the Human Machine interface as well as dealing with RPAS HF.

Workstream 4: Airspace architecture

Future of Flight

April 2024

Together we will

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

The FFIG and the Future of Flight Plan

The DFT set-up the Future of Flight Industry Group (the FFIG) in early 2023, to bring together government, industry and other key stakeholders to collaborate on the development and delivery of a Future of Flight Plan that will accelerate the growth of Future of Flight safely and securely in the UK

UK Future of Flight Action Plan

By 2030, the UK will be a leader in emerging aviation technologies, with a sustainable industry and thriving ecosystem at home and UK companies providing a range of services around the world. UK industries and the public will enjoy economic, social and environmental benefits thanks to the widespread availability of these technologies within our economy, communities and transport networks.

NATS · Bristow · Skyports INFRASTRUCTURE · aerospace defence security space ADS · Joby AVIATION

LOGISTICS UK · VERTICAL · UKRI UK Research and Innovation · ALTITUDE ANGEL · DRONE INDUSTRY ACTION GROUP

CATAPULT Connected Places · AEROSPACE TECHNOLOGY INSTITUTE · Local Government Association · Regional & Business Airports Group · BBGA BRITISH BUSINESS & GENERAL AVIATION ASSOCIATION

UK Civil Aviation Authority · ARPAS-UK Association of Remotely Piloted Aircraft Systems · Department for Transport

*The Action Plan is sponsored by the **Future of Flight Industry Group**. Chaired by the **Aviation Minister** and **Senior Industry Representative** – it has the above **membership**.*

Future of Flight Action Plan

UK FUTURE OF FLIGHT

Airspace

At the core of the Airspace Modernisation Strategy (AMS) is the safe integration of all future airspace users alongside existing users. We will continue to work closely with the delivery of the AMS to ensure the requirements of new owners and operators are fairly considered and supported to meet the timescales sought by industry

UAS

For UAS, our SOs relate to achieving routine operations beyond the pilot's visual line of sight (BVLOS). These operations are currently only carried out in segregated airspace, due to unmitigated risk of mid-air collision resulting from the lack of approved solutions for UAS to see, be seen by and avoid other aircraft in the absence of an onboard pilot. Enabling BVLOS operations at scale by mitigating this risk will broaden the range of potential uses and deliver the significant benefits of UAS.

(SO 1) Demonstration
BVLOS UAS operations in non-segregated airspace
UAS operating BVLOS will move away from segregation from other airspace users to accommodation alongside them in new airspace structure and existing ones supported by new services, expanding UAS potential applications and uses.

(SO 3) Routine
BVLOS UAS operations in integrated airspace at scale
BVLOS operations will be routine across the country, using significant blocks of controlled, uncontrolled and service supported airspace, providing UAS' full potential range of applications including inspections, surveillance, critical health care and emergency response.

2024 | 2025 | 2026 | 2027 | 2028 | 2030

eVTOL

For eVTOL, our SOs are focused on delivering initial, and then routine operations carrying passengers or cargo and achieving demonstrations of autonomous operations – during which the aircraft is operating without pilot intervention in the management of the flight. These SOs set out a clear pathway from the current innovation phase to an industry delivering services at scale.

(SO 2) In Operation
Piloted eVTOL flight
The UK will see cargo and passenger operations by eVTOL aircraft for the first time, capitalising on new infrastructure, regulation and technology supported by existing airspace operating and aerodrome rules.

(SO 4) Routine
Piloted eVTOL flight operations
Commercial cargo and passenger operations by eVTOL aircraft will occur at scale from nationwide networks comprising adapted existing aerodromes and new vertiports.

(SO 5) Demonstration
Autonomous eVTOL flight
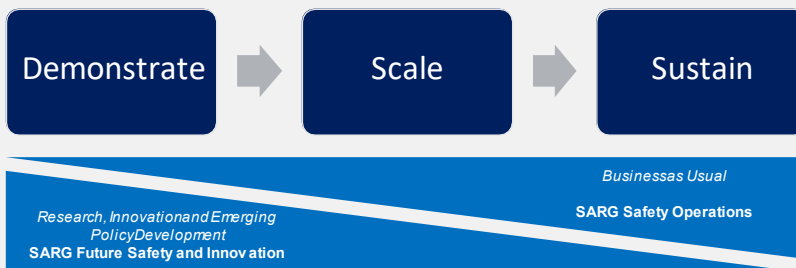These operations will offer a path to scaled commercial activity and longer-term sustainable operations.

High Level Strategy

UK Civil Aviation Authority

Delivery horizons provide clarity on accountability during the 'Future to BAU transition'

Demonstrate → Scale → Sustain

Business as Usual
SARG Safety Operations

Research, Innovation and Emerging Policy Development
SARG Future Safety and Innovation

Airspace Deliverables for SO3
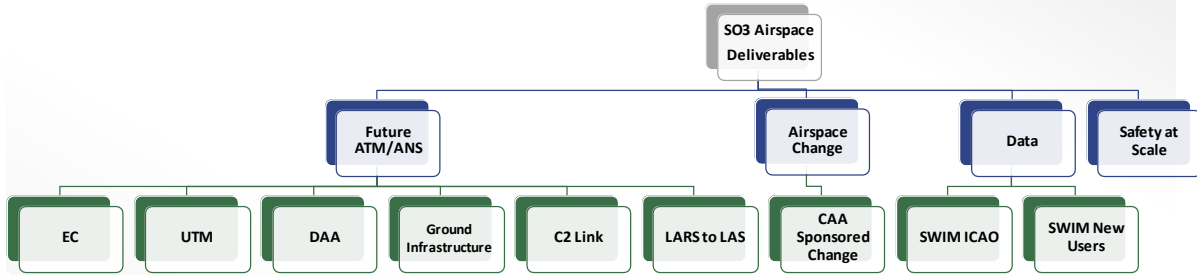
Airspace Classification Review

UPDATE

THE MANCHESTER LOW LEVEL ROUTE

Why the MLLR must change

Class D Exemption Expiry

MAC Risk

Airspace Infringements

Ability to land safely

Proposed Solution Elements

| Reclassification to Class G | Raising the altitude available to 1500ft | Implementation of a Restricted Area | Increasing the width of the MLLR |

Increasing the width of the MLLR

Next steps

Public Consultation	Submit proposed changes	Decision by the CAA	Implementation
April 2024	June 2024	July 2024	October 2024 or Spring 2025
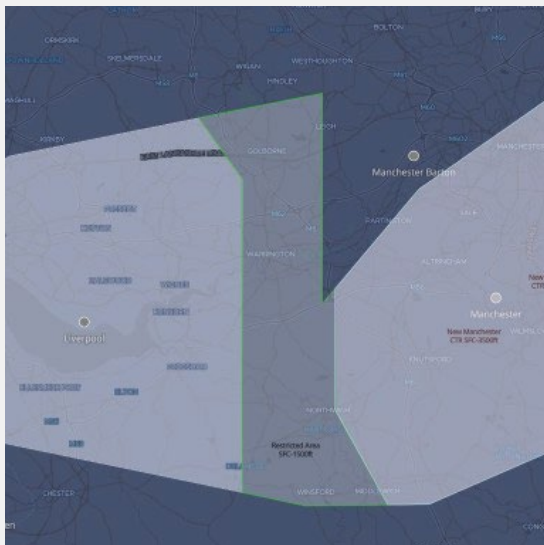
Atypical Air Environment

April 2024

Together we will

Do the
right thing

Never stop
learning

Build collaborative
relationships

Respect
everyone

Atypical Air Environment

- The challenge of scaled, sustainable BVLOS.

- The 'Atypical Air Environment' concept. What it is and is not.

- 18-month programme of detailed, SME led hazard analysis and policy development.

- Six-week public consultation on policy proposal, closed 2nd April. 242 respondents.

- Next steps.

Questions?

Introduction to the Integration Sandbox

Briefing Session

11th April 2024

Delivering the Vision

UK Future of Flight Action Plan

5 Delivering the Vision

Strategic Outcomes

Achieving our vision of unlocking the full range of services and benefits offered by Future of Flight Technologies entails collaborating to deliver key Strategic Outcomes (SO).

Airspace
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SO 5 Demonstration
Autonomous eVTOL flight
These operations will offer a path to scaled commercial activity and longer-term sustainable operations.

CAP 2616

- Full detail of the Sandbox Application Call and the application process can be found in CAP 2616: Regulatory Sandbox for the development of capabilities to integrate Uncrewed Aerial Systems (UAS) in unsegregated airspace.

Objectives of the Integration Sandbox

- Demonstrate and validate any specific technologies, airspace management procedures and Air Traffic Services (ATS) provisions, and flight operation procedures that may enable the safe and managed integration of BVLOS UAS and crewed aircraft.

- Enable participants to progress beyond segregation towards integration of BVLOS UAS flights with crewed aircraft and deliver integrated use of airspace.

- Enable the CAA to validate the use of the airspace policy concept with real world use cases to evidence how it supports and enables the accommodation phase.

How the sandbox works

Organisations apply to be part of the sandbox.

Organisations are then selected based upon criteria and best fit.

IAS and SMEs work closely with the selected organisations to progress them towards the desired outcomes.

We are expecting to onboard six organisations, across three tranches.

CAA key learnings to achieve

| ATS (ATM/UTM) provision considerations | Electronic Conspicuity (EC) | Detect and Avoid (DAA) | TIS-B |
| Communication, Navigation, Surveillance & Spectrum | Command & Control (C2) | Remote Pilot Competency | |

OFFICIAL- Named Parties Only

Outcomes for organisations

- Receive support in progressing towards integrated BVLOS operations in unsegregated airspace

- Test and develop technical and operational solutions to integration

- Collect data and evidence to support the construction of a safety argument

- Work collaboratively alongside the CAA to support the development of CAA policy for Integration of BVLOS activities

- Organisations will benefit from the learnings the CAA has gathered the previous sandbox activities

New trials move the UK closer to allowing everyday drone deliveries and flying beyond visual line of sight | Civil Aviation Authority (caa.co.uk)

OFFICIAL- Named Parties Only

Airspace Policy Concept: Airspace Requirements for the Integration of Beyond Visual Line of Sight (BVLOS) Unmanned Aircraft

CAP 2533 - Airspace Policy Concept

Segregation, Accommodation, and Integration

Segregation – Required for operations where the UAS cannot take action to avert a collision with another aircraft, and/or there is no assurance that it will not be operated in such proximity to other aircraft as to create a collision hazard

Accommodation – An option when the BVLOS UAS can demonstrate a capability to be aware of the position of other aircraft and have a capability to take appropriate action to avoid the risk of collision with those aircraft. However, the UAS may not necessarily operate within the accepted 'ruleset'. The BVLOS UAS may be integrated with other permitted airspace users within the TRA managed by the ANSP and supported by specific airspace management arrangements and procedures.

Integration - The BVLOS UAS is capable of operating in the same environment as other airspace users, without the need for additional requirements to be placed upon them to address their specific operating characteristics. Essentially, the BVLOS UAS must be able to comply with, or demonstrate equivalence with all the applicable requirements.

CAP 2533 - Airspace Policy Concept

- CAP 2533 was developed because it was recognised that segregated operations in Danger Areas would not further the development of safe integration solutions for unmanned aircraft.

- An airspace environment was required that could enable the transition out of segregation to start to develop the Accommodation Phase.

- It was determined that Temporary Reserved Areas (TRA) could be used for that purpose:

  'Temporary Reserved Area (TRA)' - an airspace that is temporarily reserved and allocated for the specific use of a particular user during a determined period of time, and through which other traffic may or may not be allowed to transit in accordance with the air traffic management arrangements notified for that volume of airspace

- The TRA is effectively an airspace 'wrapper' that enables an operational solution to be designed that effects safe managed integration of manned and unmanned aircraft within it.

- Most importantly, it must be recognised that it is not the airspace in and of itself that makes the operation safe. It is the equipment, technology and associated operational procedures within that airspace that will provide a safe operation.

CAP 2533 - Airspace Policy Concept

- Standard ICAO classes of airspace are governed by a comprehensive set of rules specific to the particular class of airspace concerned. Those rules place requirements and obligations on all parties that operate within it, and the agencies such as ANSPs that manage it. These rulesets are a major element of the safe operation of that airspace.

- It is recognised that in most cases, UAS cannot comply with all the requirements of those rulesets in standard classes of airspace.

- The establishment of the TRA enables air traffic management arrangements and operational procedures to be put in place which may be different to the standard ruleset of the airspace, but which facilitates the safe operation of the TRA.

- Nevertheless, it is considered that there are some minimum Rules of the Air requirements that UAS operators must be able to satisfy to operate outside segregated airspace in a TRA. These are:

  (a) SERA.3201 – requires the pilot-in-command to take such action, including collision avoidance manoeuvres based on resolution advisories provided by airborne collision avoidance system (ACAS) equipment, as will best avert a collision.

  (b) SERA.3205 - requires that an aircraft shall not be operated in such proximity to other aircraft as to create a collision hazard

CAP 2533 - Airspace Policy Concept

Applying CAP2533 in the Sandbox

- Each TRA will be a trial operation and will require an operational proposal that considers <u>all</u> the aircraft that will be flying in it and will detail how those operations will be safely accommodated.

- This will require the BVLOS operator and the associated ANSP to look at the demands of the various operations and determine how they will all be able to safely co-exist in the TRA, both under normal conditions and if unexpected situations or emergencies arise.

- How that will be achieved will depend on multiple factors including (but not limited to)

 ATC service

 Air Traffic Management arrangements

 Surveillance capability

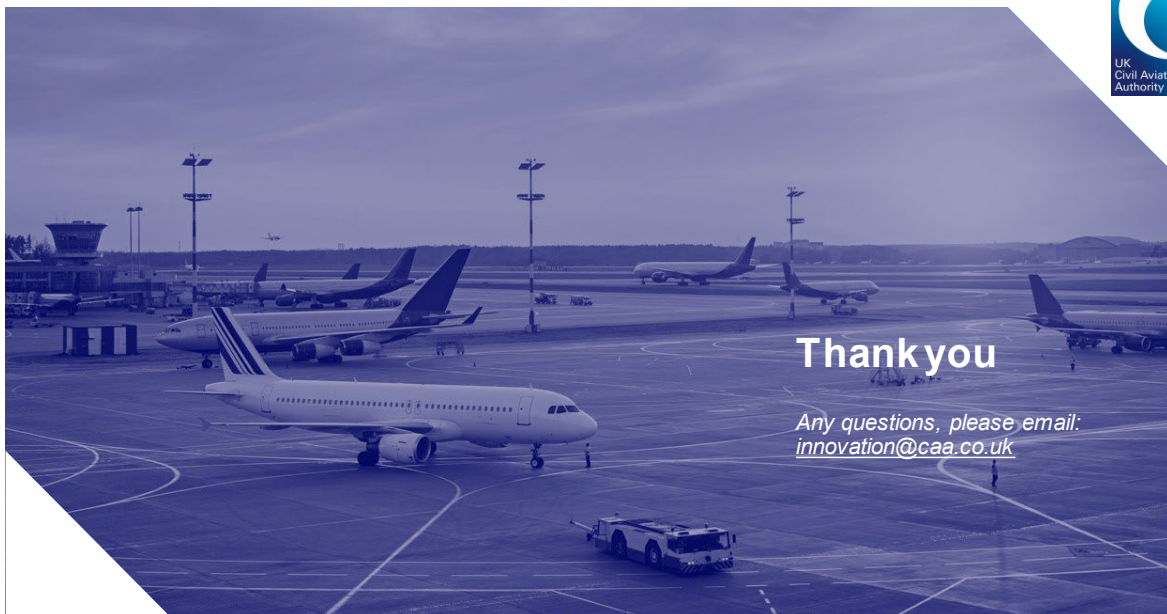 Conspicuity performance of all aircraft operating in the TRA

 Traffic mix

 UAS/remote pilot station technical capability

 Operational procedures of all parties

Thank you

Any questions, please email:
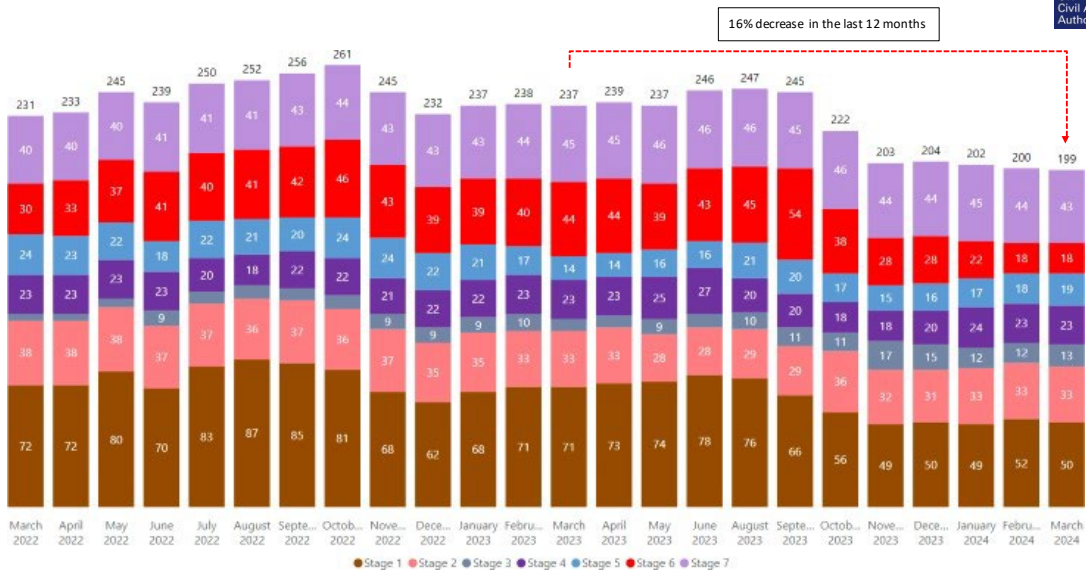*innovation@caa.co.uk*

NATMAC 95 – Thursday 11th April 2024

Airspace Change Proposal Update
Manager Airspace Regulation – Ben Lippitt

Dataset: 21st March 2024

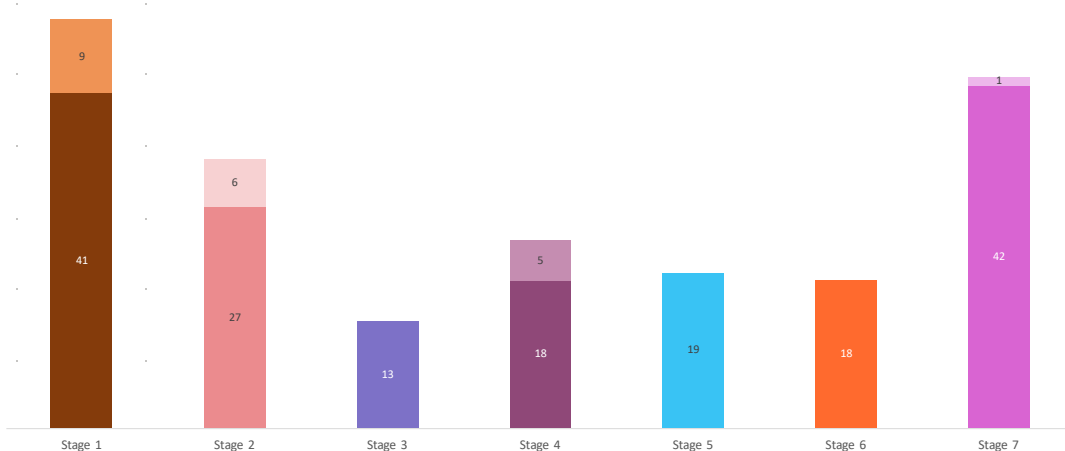## Trend Analysis (2 Years) – Live Airspace Change Proposals

16% decrease in the last 12 months

Stage 1 ● Stage 2 ● Stage 3 ● Stage 4 ● Stage 5 ● Stage 6 ● Stage 7

Current Stage of Airspace Change Proposals ('In Progress' and 'Paused')

Stage 1: 41, 9
Stage 2: 27, 6
Stage 3: 13
Stage 4: 18, 5
Stage 5: 19
Stage 6: 18
Stage 7: 42, 1

ACP Types year on year comparison
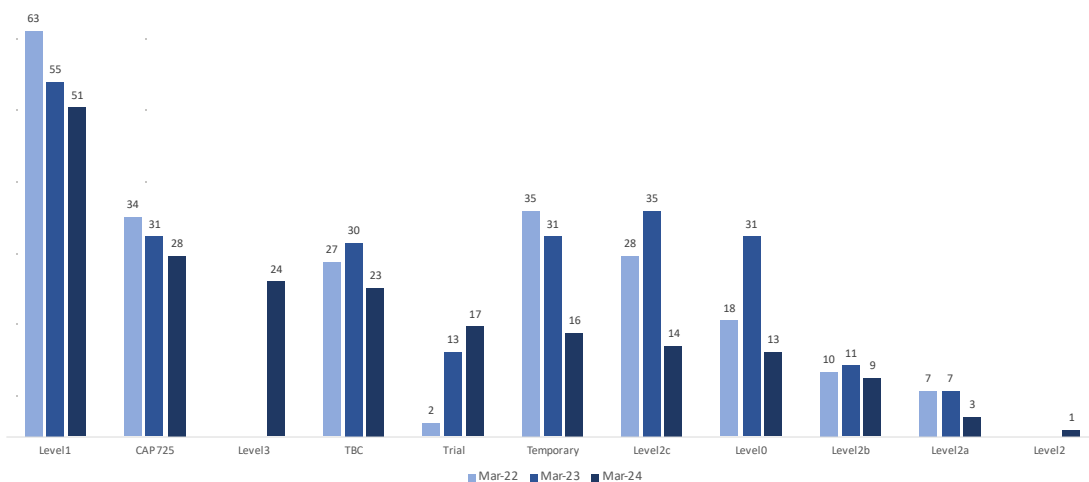
Type	Mar-22	Mar-23	Mar-24
Level1	63	55	51
CAP725	34	31	28
Level3			24
TBC	27	30	23
Trial	2	13	17
Temporary	35	31	16
Level2c	28	35	14
Level0	18	31	13
Level2b	10	11	9
Level2a	7	7	3
Level2			1

CAP 725 Airspace Change Proposals

CAP 725 total is 28 (26 ongoing & 2 paused)
- Pre-decision (with Sponsor): 1 (Stapleford)
- Decision Stage (with CAA): 6
- Implementation (post decision): 1
- Post Implementation Review: 18

Post Implementation Review

- ACP-2013-07 Farnborough: PIR completion due Q3 2024

Airspace Change Programmes
Future Airspace Strategy Implementation (FASI)

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

- Heathrow R2 (Gateway June 2024)
- Bournemouth (Gateway TBC)
- Farnborough (Gateway Oct 2024)
- Southend (Gateway TBC)

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

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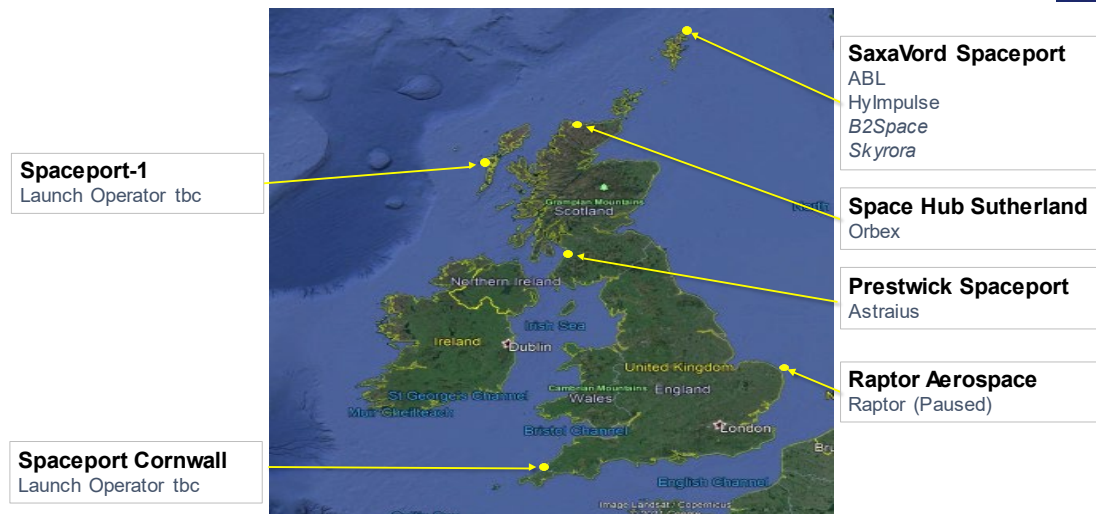- LAMP2 D1.2 (Gateway TBC)
- LAMP2 D1.1 (PIR TBC)

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 Sept 2024)
  - Glasgow (Gateway Sept 2024)
  - NERL ScTMA (Gateway Sept 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 May 2024)
  - 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
ACPs Ongoing

Spaceport-1
Launch Operator tbc

Spaceport Cornwall
Launch Operator tbc

SaxaVord Spaceport
ABL
HyImpulse
B2Space
Skyrora

Space Hub Sutherland
Orbex

Prestwick Spaceport
Astraius

Raptor Aerospace
Raptor (Paused)

Airspace Change Proposals
Space Launches

Spaceport-1 (North Uist – Outer Hebrides)

ACP-2021-037 Spaceport-1 TDA

- Permanent (ACP-2021-012):
- Currently in Stage 3 (Consultation launched on 20 March 2024)
  - CAA Decision expected December 2024
  - Target AIRAC 04/2025

- Temporary (ACP-2021-037):
  - Paused by Change Sponsor in August 2023 due to the delay in gaining final planning consent (achieved in late July 23) and uncertainty regarding rocket providers obtaining the necessary permissions/approvals to launch.

Airspace Change Proposals
Space Launches

SaxaVord Spaceport (Shetland Islands)

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

- Permanent (ACP-2017-79):
  - Consultation closed 12 June 2023
  - Currently in Stage 5 (CAA Decide)
  - CAA Decision expected 31 May 2024
  - Target AIRAC 09/2024

- Temporary (ACP-2021-090):
  - Paused in Stage 5 (CAA Decide)
 - Pending outcome of permanent ACP decision
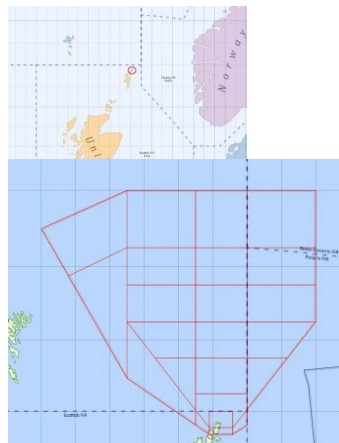
Airspace Change Proposals
Space Launches

Space Hub Sutherland
(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 TBC
 - Target AIC/AIRAC TBC

ACP-2019-04 Space Hub Sutherland
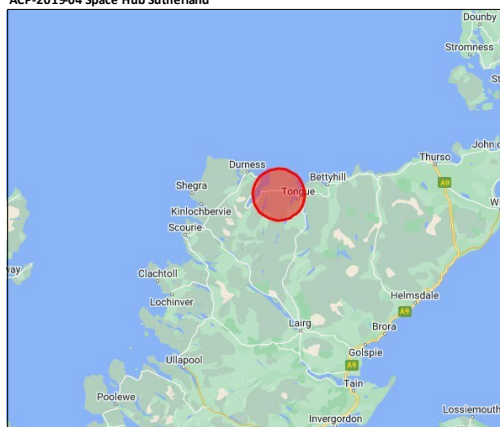
Airspace Change Proposals
Space Launches

HyImpulse (Shetland Islands)

- Temporary (ACP-2021-058):
  - Paused by Change Sponsor in February 2024
  - Since the location of the Change Sponsor's first launch has been moved from the UK to Australia, HyImpulse elected to pause ACP-2021-058 with the intent to resume their temporary ACP for a possible second launch of SR75 from the UK in Q4 2024.

ACP-2021-058 HyImpulse TDA
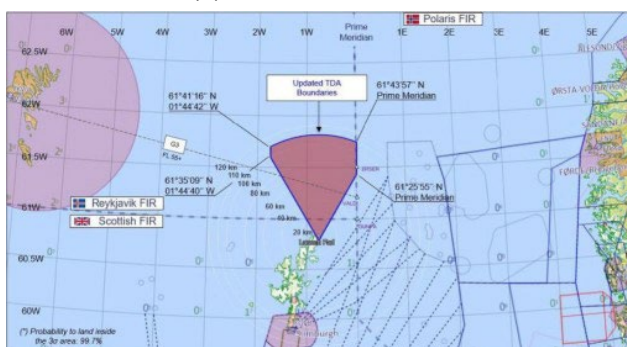
Temp/Trial ACPs approved in last 6 months

- **ACP-2021-030 – Radnor BVLOS**

ACP approved 10/10/2023

- **ACP-2020-047 Enabling T&E activity of Protector**

ACP approved 01/03/2024

- **ACP-2023-066 – TDA for Unmanned Aircraft Operations in South North Sea**

ACP Approved 06/03/2024

TRA Sandbox Applications

- **ACP-2022-081 Establishment of a TRA at Cranfield Airfield**
  - Current stage: Assessment Meeting yet to be held

- **ACP-2023-048 Westcott TRA Trial**
  - Current stage: Assessment Meeting held Jan 2024. Timeline TBC.

- **ACP-2023-061 London Health Bridge – Guy's and St Thomas' NHS Foundation Trust**
 - Current Stage: CAA Decide (Stage 5). CAA Decision due 12 April 2024.

Airspace Coordination and Obstacle Management Service (ACOMS) ACOMS

- ACOMS went live to the following:
  - o Crane and Obstacle Sponsors – 28 Feb 2023
  - o All Airspace Regulators – 30 Oct 2023
  - o Limited RPAS community - 28 Feb 2024
- Stable system
  - o Regulators - 99.9% availability
  - o Customer Portal (CAA wide) – 98% availability
- Development continues for the remaining circa 90 activities regulated by the department
- RPAS community ramp up commences post trial following feedback review
- ACN submissions set to be the next developed
- Wider UAA activities developed towards the end, why?
  - o Allow gradual portal ramp up
  - o Release during a non-peak period
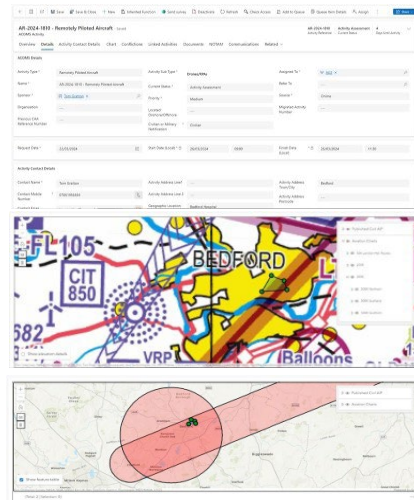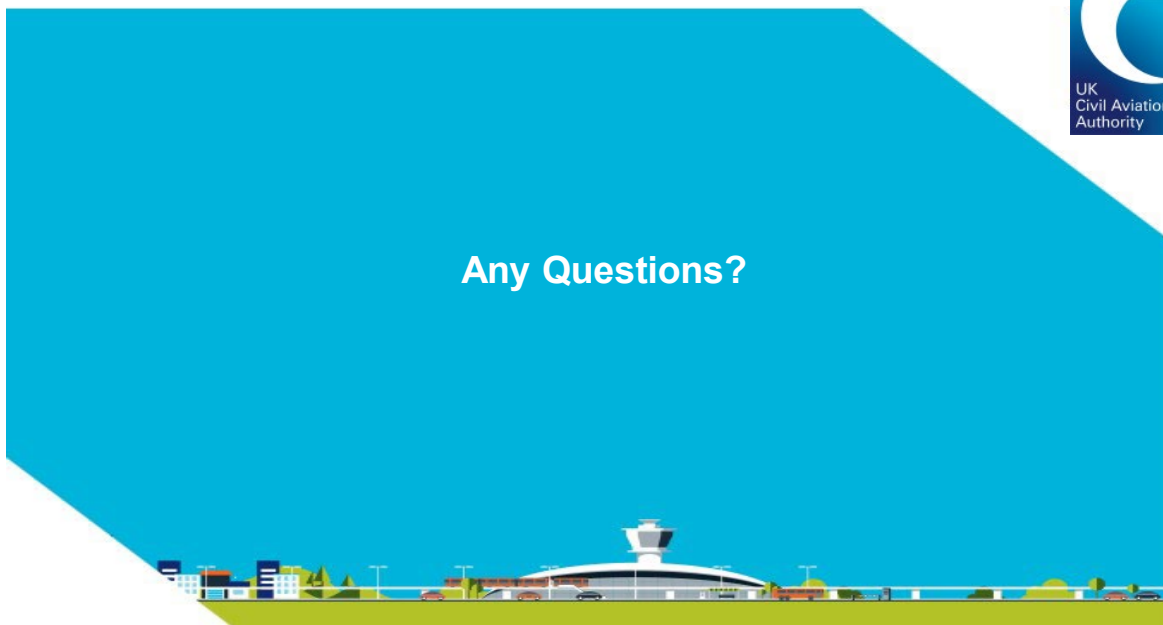
Any Questions?

Break for Lunch

12:55 – 13:25

OFFICIAL- Named Parties Only

ACOG Update

Mark Swan - Head of ACOG

NATMAC Meeting - 95

April 24

ACOG

AGENDA

- Masterplan Iteration 3
- Programme coordination
- Communications and Engagement

Masterplan Iteration 3

ACOG Airspace Change Organising Group

ACOG

Masterplan Iteration 3 Development Update – Q1-2024

Q1-24 UPDATE

- Integration issues with the Scottish TMA ACPs prompted significant revisions to the system-wide design, delaying Public Engagement & the MP It.3.

- ACOG led ScTMA Lessons Learned Review informed best practice guide.

- The revised ScTMA Programme, agreed with ACP Sponsors, Public Engagement Exercise recently completed: submission of the MP It.3 will be end Apr 24.

- London Airspace South (GAL) carve out in progress – PEX also recently completed; on schedule

LOOKAHEAD

- Manchester TMA system-wide design ATC simulations in Jun 2024, enabling Public Engagement and MP It.3 development; some issues need to be resolved prior to Jun

- ACOG await Industry wide LTMA SDE consultation material from co-sponsors end Apr/beginning May 24

- The LTMA Airport ACP Sponsors continue to refine their low-altitude airspace design options in preparation for the integration phase.

- West cluster – plan re-baselined following Cardiff Airport's withdrawal.

UK Airspace Change Programme Coordination

**ACOG** Airspace Change Organising Group

ACOG

Airspace Change Programme Coordination Update - Q1-2024

Q1-24 UPDATE

- Best practice guide issued to sponsors for feedback.

- ACOG's airspace design and visualisation software tool (Volans) developing a single national repository for all FASI airports. Will enable benefits management strategy and public engagement; airports will have access and control rights.

- Meeting with FAA to discuss metroplexes and complex airspace design, integration and communication aspects; share and explore best practice.

LOOKAHEAD

- ACOG positioned to engage in the SDE consultation.

- ACOG to coordinate further CAF reviews and analysis in support of the ScTMA and MTMA system-wide proposals during and Q1/2/24.

- CAF review of LTMA interdependencies at lower altitudes will be supported by the collation of Airport ACP options data in the ACOG version of the Volans tool during Q1/2/24.

Page 6

Communications & Engagement

ACOG Airspace Change Organising Group
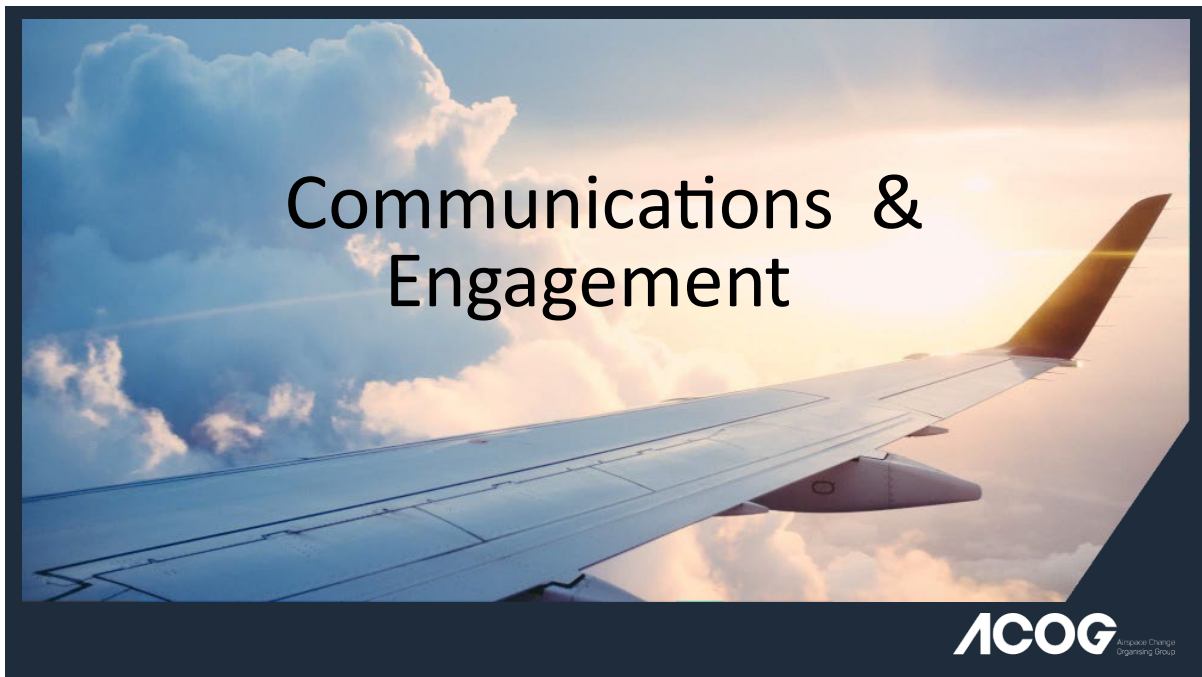
ACOG

ACOG Communications and Engagement Update - Q1-2024

Q1-24 UPDATE

- ACOG's Public Engagement Exercises for ScTMA and LAS completed. Muted response, as expected. Opportunity to brief MPs. Some media coverage inc. Sunday Times and Scotsman.

- ACOG undertook a series of focus group and polling around people's attitudes towards airspace modernisation, with broadly positive results.

- ACOG conducted its quarterly meeting of the Community Advisory Panel to help shape the approach to engagement with local stakeholders.

LOOKAHEAD

- Parliamentary engagement inc receptions/ drop-in sessions will be stepped up over coming months ahead of a GE.

- ACOG will publish engagement report from PEXs in coming weeks, ahead of Masterplan publication.

- Public Engagement Exercise for MTMA expected later this year (discussions around Liverpool funding key to this)

- ACOG's One Sky One Plan campaign will continue to make national case for change and help improve understanding/ awareness.

ICAO FIS ALIGNMENT IMPLEMENTATION – Nigel Ibbetson

Airspace Modernisation Strategy Annual Progress Report

NATMAC 95 - 11th April 2024

Adam Godolphin

Risk and Benefit Manager – Airspace Modernisation Oversight

Introduction

In 2017, the Government updated CAA's strategic role for airspace modernisation by issuing new Air Navigation Directions. Consistent with our role as specialist aviation regulator and our statutory responsibilities, we are required to prepare and maintain a co-ordinated strategy and plan for the use of UK airspace for air navigation, including for the modernisation of the use of such airspace.

Our Airspace Modernisation Strategy responds to that requirement, setting out the detailed elements that the industry must deliver, to achieve the objectives envisaged in the current Government policy.

To establish the means of delivering modernised airspace, such as the resources needed, the strategy requires the entities responsible for delivering the elements to draw up delivery plans, with progress overseen by the CAA.

The CAA must report to the Secretary of State annually on the delivery of the strategy and for the 6th time now the Airspace Modernisation Annual Progress Report fulfils that requirement.

The report is produced by the Airspace Modernisation Oversight team. The team is sat within the CAA's Communications, Strategy and Policy Department and is independent from the CAA delivery teams.

Category	AMS delivery elements	2018 AMS initiatives further developed through these elements
Aircraft-Based Navigation	UK-ABN/1. Trajectory-based operations	2, 7, 8, 11, 14
	UK-ABN/2. Terminal airspace redesign	4, 5, 14
	UK-ABN/3. Network management	3, 6
	UK-ABN/4. Integration	3, 9, 10, 11
Airspace Management	UK-AM/5. Airspace management	
	UK-AM/6. Data services	13, 15
	UK-AM/7. Future surveillance and spectrum	11, 12
	UK-AM/8. Integration of communications, navigation, surveillance & spectrum	12, 13, 14, 15
	UK-AM/9. Aircraft capabilities	New

Overarching principle: Implementing government policy on minimising the environmental impacts of aviation within the context of supporting a strong and sustainable aviation sector

CAP 2600 Airspace Modernisation – 2023 Progress Report covers the delivery monitoring period of 1st January – 31st December 2023

JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC

Content overview

UK Civil Aviation Authority

Chapter 1 – Progress Overview

AIRCRAFT-BASED NAVIGATION

Element 1 – Trajectory based operations
Element 2 – Terminal airspace redesign
Element 3 – Network management
Element 4 - Integration

AIRSPACE MANAGEMENT

Element 5 – Airspace management
Element 6 – Data services
Element 7 – Future surveillance and spectrum
Element 8 – Integration of communications, navigation, surveillance & spectrum
Element 9 – Aircraft capabilities

Chapter 2 – AMS Co-sponsor activity

AMS delivery governance
AMS Part 3 development
Single Design Entity
Airspace Modernisation Strategy Support Fund

Chapter 3 – AMS strategic risks and mitigations

AMS scope and delivery model
Delivery of the Masterplan and Airspace Change Proposals of Element 2
CAA resource
Future of Flight Challenge

Feedback on the Annual Progress Report can be submitted to airspace.modernisation@caa.co.uk

UK Civil Aviation Authority

Any Other Business?

Wrap Up & Dates of future NATMAC meetings

- NATMAC 96 - 10th October 2024
- NATMAC 97 – 3rd April 2025 – **NEW DATE**
- NATMAC 98 – 9th October 2025