AIRSPACE MODERNISATION STRATEGY – REFRESH

44th Annual Meeting between Airport Consultative Committees (UKACCs)

STUART LINDSEY
HEAD OF AIRSPACE MODERNISATION
CIVIL AVIATION AUTHORITY

Civil Aviation
Authority

Scope

AMS Refresh

Steps to date

ICAO GANP

Next Steps

Airspace Modernisation Strategy Refresh - Overview

- DfT and CAA commitment
- Stakeholder Engagement
- International Obligations – ICAO Global Air Navigation Plan (GANP)
- AMS Strategic Objectives and Delivery Plan
- Public Consultation

AIRSPACE MODERNISATION STRATEGY

ENDS

WAYS & MEANS

STRATEGY

Part 1: Strategic objectives and enablers

required outcomes for a modernised airspace and the supporting high-level enablers
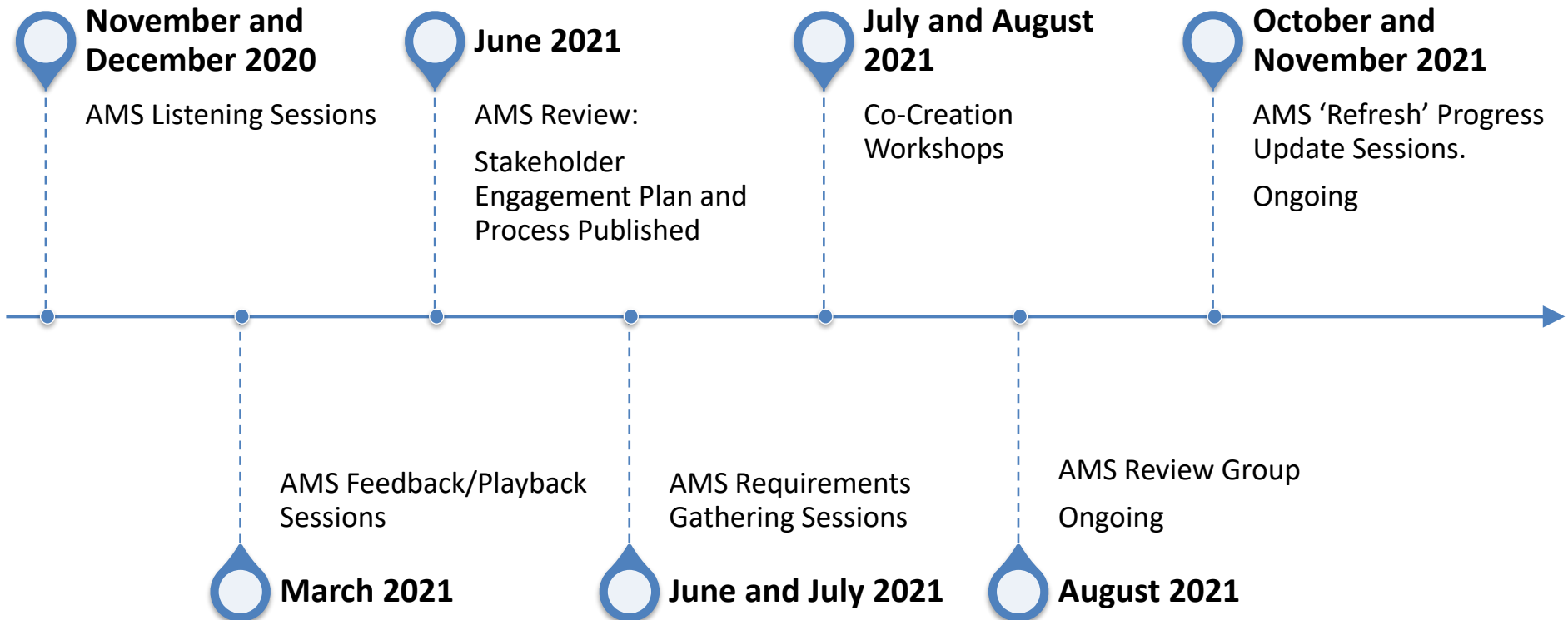
DELIVERY

Part 2: Delivery elements

the design, operations and technology needed to deliver a modernised airspace

Part 3: Deployment

timelines and delivery plans for each element

Annex: Governance structure

Steps to Date

November and December 2020

AMS Listening Sessions

June 2021

AMS Review:

Stakeholder Engagement Plan and Process Published

July and August 2021

Co-Creation Workshops

October and November 2021

AMS 'Refresh' Progress Update Sessions.

Ongoing

AMS Feedback/Playback Sessions

March 2021

AMS Requirements Gathering Sessions

June and July 2021

AMS Review Group

Ongoing

August 2021

Direction of 'refreshed' AMS

Based upon Stakeholder Engagement & Requirements Gathering Sessions;

- Environmental Factors (Noise, CO2 and Air Quality) become overarching principles

- Align new AMS to ICAO Global Air Navigation Plan (GANP)
  - Fulfil the UK obligation to GANP requirements
  - AMS written to enable GANP and UK specific modernisation requirements
  - Direct UK Rulemaking process

ICAO Global Air Navigation Plan (GANP)

- What is GANP?
- Purpose and provision
- Aviation System Block Upgrade (ASBU)
- UK implementation
- Further reading;
  https://www4.icao.int/ganpportal/

ICAO ASBU Threads

CNS technology and services

ASUR	Surveillance systems	Technology	
COMI	Communication infrastructure	Technology	
COMS	ATS Communication service	Technology	
NAVS	Navigation systems	Technology	

Operational

ACAS	Airborne Collision Avoidance System (ACAS)	Operational	
ACDM	Airport Collaborative Decision Making	Operational	
APTA	Improve arrival and departure operations	Operational	
CSEP	Cooperative Separation	Operational	
FRTO	Improved operations through enhanced en-route trajectories	Operational	
GADS	Global Aeronautical Distress and Safety System (GADSS)	Operational	
NOPS	Network Operations	Operational	
OPFL	Improved access to optimum flight levels in oceanic and remote airspace	Operational	
RATS	Remote Aerodrome Air Traffic Services	Operational	
RSEQ	Improved traffic flow through runway sequencing	Operational	
SNET	Ground-based Safety Nets	Operational	
SURF	Surface operations	Operational	
TBO	Trajectory-based operations	Operational	

Information

AMET	Meteorological information	Information	
DAIM	Digital Aeronautical Information Management	Information	
FICE	Flight and Flow Information for a Collaborative Environment (FF-ICE)	Information	
SWIM	System Wide Information Management	Information	

ICAO ASBU Thread & Element example

SWIM	System Wide Information Management		Information	📄 ⌃

ELEMENTS

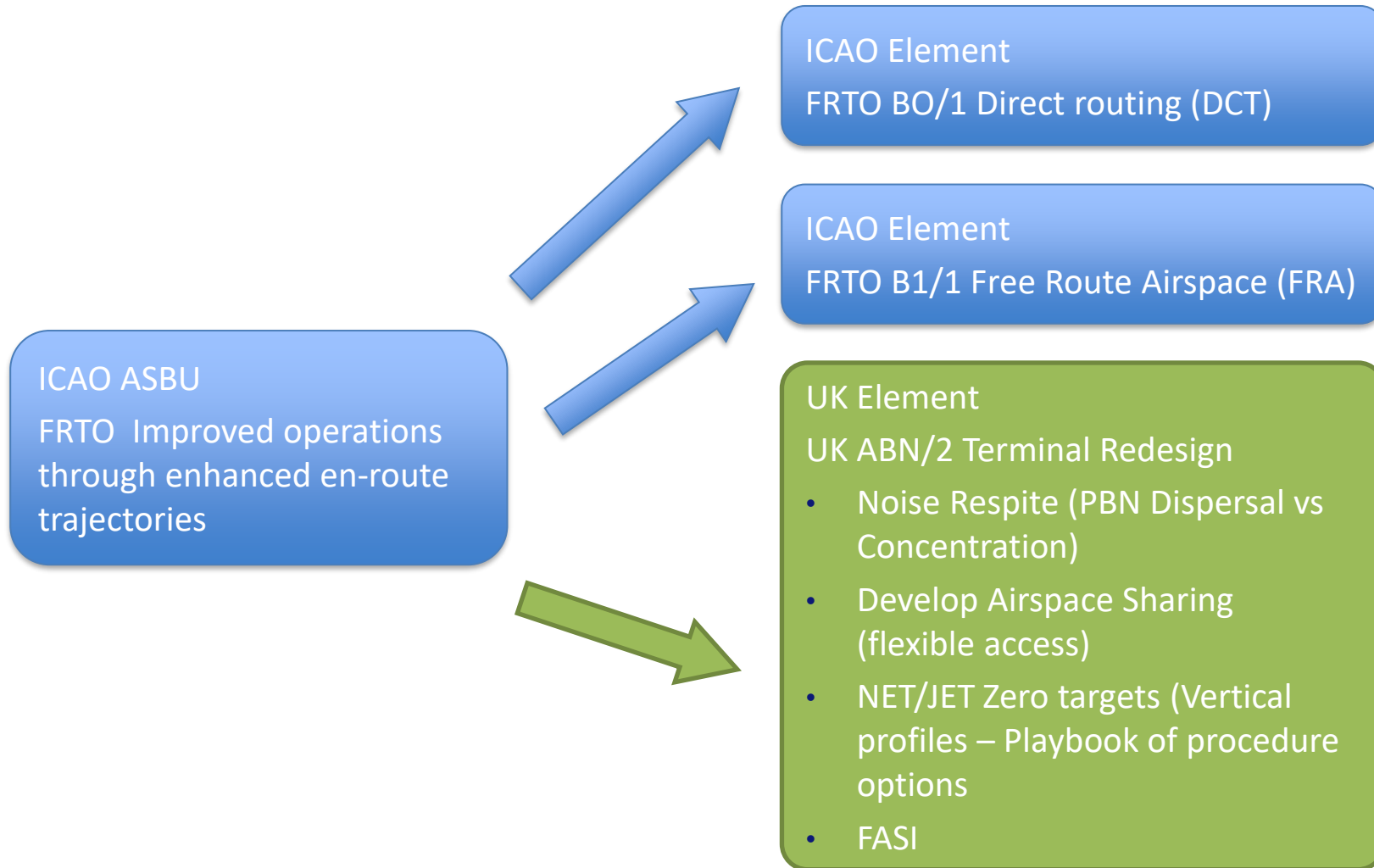| Element ID	Title
SWIM-B2/1	Information service provision
SWIM-B2/2	Information service consumption
SWIM-B2/3	SWIM registry
SWIM-B2/4	Air/Ground SWIM for non-safety critical information
SWIM-B2/5	Global SWIM processes
SWIM-B3/1	Air/Ground SWIM for safety critical information

UK AMS Threads & Elements

Aircraft Based Navigation

Element ID	Title	AMS 2018 Initiative & Dependencies
UK-ABN/1	Trajectory Navigation	2/7/8/14
UK-ABN/2	Terminal Re-design	4/5/14
UK-ABN/3	Network Management	3/6
UK-ABN/4	Integration	3/9/10/11

Airspace Management

Element ID	Title	AMS 2018 Initiative & Dependencies
UK-AM/1	Airspace Management	3/9/10/11
UK-AM/2	Data Services	13/15
UK-AM/3	Future Surveillance & Spectrum	11/12
UK-AM/4	Integration of CNS & S	12/13/14/15
UK-AM/5	Aircraft Capabilities	New

ICAO/UK Aircraft Based Navigation Element example

ICAO ASBU

FRTO Improved operations through enhanced en-route trajectories

ICAO Element

FRTO BO/1 Direct routing (DCT)

ICAO Element

FRTO B1/1 Free Route Airspace (FRA)

UK Element

UK ABN/2 Terminal Redesign

- Noise Respite (PBN Dispersal vs Concentration)
- Develop Airspace Sharing (flexible access)
- NET/JET Zero targets (Vertical profiles – Playbook of procedure options
- FASI

New proposed Aircraft Based Navigation Elements

UK-ABN/2 Terminal Re-design

- Noise Respite (PBN Dispersal vs Concentration)
- Develop Airspace Sharing (flexible access)
- NET/JET Zero targets (Vertical profiles – Playbook of procedure options)

UK-ABN/4 Integration

- Lower airspace flexible access (Airspace switched on when required)
- Drone (BVLOS), Urban Air and Space access

New proposed Airspace Management Elements

UK-AM/1   Terminal Re-design

- New Lower Airspace Service (LAS). Planned to be service delivery and enabler for flexible access - intermediate service until technology and equipment update allows autonomous flight.
- Develop Airspace Sharing (flexible access)
- NET/JET Zero targets (Vertical profiles – Playbook of procedure options)

UK-AM/3   Future Surveillance & Spectrum

- Cooperative Surveillance and future EC specifications Drone

Adding Some Detail and Painting a Picture

- AMS will provide more detailed timelines and delivery plans for individual elements;

    - Provides a framework for workstreams within other parts of the CAA

    - Drives and prioritises Rulemaking effort to support change

- Storyboards covering multiple scenarios will be produced to describe the vision for various sectors

Next Steps

👥	November and December 2021	AMS 'Refresh' Progress Update Sessions Internal Consultation
👥	January 2022	Public Consultation
📚	Q2 2022	Publication of revised AMS

Questions?