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UNITING AVIATION

# NAT 2030 Vision Overview

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**North Atlantic (NAT) 2030 Vision Workshop**

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## **NAT 2030 VISION STATEMENT**

**Through collaboration, the North Atlantic Region leads the way in the provision of safe Oceanic Air Traffic Management Services by leveraging emerging technologies in the North Atlantic in order to realize maximum efficiencies and ensure optimized seamless airspace provision.**



## AGREED NAT 2030 VISION FIVE HIGH LEVEL PRINCIPLES:

- a) Respond to changing traffic profiles in a safe, efficient and sustainable manner based on agreed performance based measurable criteria. Meet, and where possible, exceed the NAT Safety Targets.
- b) Enhance and develop the NAT airspace to safely and effectively integrate all anticipated airspace users, while aligning with the Global Air Navigation Plan (GANP) and Global Aviation Safety Plan (GASP), as required.
- c) Utilise operational and technological developments to improve safety, service delivery and efficiency of operations.
- d) Implementations should be based on business analysis encompassing safety, service and environmental benefits, cost and practicality.
- e) Include all stakeholders, and, when relevant, military authorities, in a collaborative decision making process to effect change.



## NAT 2030 VISION GOALS and OBJECTIVES

Goal 1	Objective
<b>Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”</b>	Take full account of the other regional environments such that we have seamless operational boundaries.



## NAT 2030 VISION GOALS and OBJECTIVES

Goal 2	Objective
<b>Enhanced resilience and predictability of the NAT wide operations.</b>	<ol style="list-style-type: none"><li data-bbox="710 369 1819 514">1. Weather and other operational impacting events are managed through appropriate and agreed plans with minimum of operational impact.</li><li data-bbox="710 558 1819 703">2. That operations consistently adopt across the NAT, new advanced tools to enhance proactive management of potentially operational impacting events.</li><li data-bbox="710 746 1819 892">3. The NAT Contingency procedures shall be continually reviewed to take account of the developing understanding of advancements in aircraft/new entrants technical resilience.</li><li data-bbox="710 935 1819 971">4. Resilience of communications infrastructure is ensured.</li></ol>



## NAT 2030 VISION GOALS and OBJECTIVES

Goal 3	Objective
<b>Continued cooperation with all adjacent regions and industry wide stakeholders to achieve seamless boundaries.</b>	All stakeholders will be engaged in the development and implementation of the Development Roadmap to ensure all operational and technical capabilities are appropriately exploited.



## NAT 2030 VISION GOALS and OBJECTIVES

Goal 4	Objective
<b>The NAT operations takes account of both the prevailing and forecast operational and stakeholders' capabilities and implements proportionate performance based outcomes.</b>	<ol style="list-style-type: none"><li data-bbox="710 369 1819 521">1. New technology will be supported by an agreed Concept of Operations and a safe and cost-effective solution.</li><li data-bbox="710 565 1819 718">2. The NAT will optimize utilization of current capabilities whilst ensuring all new developments do not inadvertently impact prevailing capabilities.</li><li data-bbox="710 762 1819 860">3. The development roadmap will be continually validated to ensure it remains relevant.</li></ol>



## NAT 2030 VISION GOALS and OBJECTIVES

Goal 5	Objective
<b>The NAT technology roadmap is aligned to the practical capabilities that will exist to 2030.</b>	Maximised benefits from available technologies.



## NAT 2030 VISION GOALS and OBJECTIVES

Goal 6	Objective
<b>Safety, Service, Value and Environment benefits are measurable using representative metrics and are part of not only the business case for all developments but are used to monitor the NAT performance.</b>	Performance based metrics and meeting the NAT safety targets, including TLS, as well as any other future performance targets.



NAT 2030 VISION GOAL				
Goal-1	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
<b>Progress</b>				
<b>Discussion</b>				

Prioritisation: (1 to 5): One (Essential/Benefit);  
Two (Preferred) Three (Enhancement)  
Four (New); Five (Desirable but not 1 - 4)

Feasibility/Timeline: (1-3): One (2021 -2023),  
Two (2023 – 2026), Three (2026 – 2031)



<b>Goal-1</b>	<b>Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>1-1</b>	Ensure optimal use of the currently available technology as this will continue to be in use by 2030. Pursue further improvements to FANS 1/A.	2	2023-2026	TIG/IMG
<b>Progress</b>				
<b>Discussion</b>				



Goal-1	Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
1-2	Prepare for ATN B2	4	2026-2031	NAT TIG
Progress				
Discussion				



<b>Goal-1</b> Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”				
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>1-3</b>	Reduce the footprint of the OTS (lateral, vertical and time period)	2	2023-2026	POG/TIG IMG/SOG
<b>Progress</b>	<ul style="list-style-type: none"><li>2022: The vertical footprint of the OTS has been reduced by removing FL310, FL320 and FL330.</li><li>2022: The NAT OTS Focus Group (NOD FG) continues its work on NAT OTS re-evaluation</li></ul>			
<b>Discussion</b>				



Goal-1	Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
1-4	Consider the use of User Preferred Routings (UPR)	2	2023-2026	POG/TIG IMG/SOG
Progress	<ul style="list-style-type: none"><li>2022: NAT POG proposal to amend NAT Doc 007 with User Preferred Route (UPR) guidance for Bodø, Shanwick and Santa Maria.</li></ul>			
Discussion				



Goal-1	Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
1-5	Only apply speed restrictions when needed for separation (OWAFS)	1	2021-2023 <del>4</del>	POG/SOG/IMG
Progress	<ul style="list-style-type: none"><li>• 2021: Oceanic clearances still include assigned Mach number and ATC issues a clearance to RESUME NORMAL SPEED after oceanic entry whenever possible.</li><li>• The final step in OWAFS implementation will take place in Q2 2024 when oceanic clearances are discontinued, and the norm becomes that aircraft enter the NAT Region on normal speed.</li></ul>			
Discussion				



Goal-1 Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”				
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
1-6	Discontinue oceanic clearances	1	2021-20234	POG/SOG/IMG
Progress	<ul style="list-style-type: none"><li>• 2021: Concept of operations is complete.</li><li>• 2022: Documentation changes have been drafted and agreed in POG (Doc 7030, Doc 007, new OPS Bulletin).</li><li>• NAT Regional safety case approval by NAT SOG December 2022.</li><li>• Implementation is expected in Q2 2024.</li></ul>			
Discussion				



Goal-1	Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
1-7	Strategic vs Tactical control/Reduced conflict probe horizon (The use of reliable communications and surveillance to eliminate the need for clearances to define conflict-free profiles which extend all the way to landfall. Rather, conflicts will be progressively resolved over the duration of the flight.)	2	2021-2023	POG/IMG
Progress	• 2022: Discussed at POG/14			
Discussion				



<b>Goal-1</b>	<b>Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>1-8</b>	Dynamic Airborne Rerouting Procedure (DARP)	1	2021-2023	POG/TIG/IMG
<b>Progress</b>	<ul style="list-style-type: none"><li>2022: NAT POG/14 agreed to document current NAT ANSP DARP capabilities in NAT Doc 007.</li></ul>			
<b>Discussion</b>				



<b>Goal-1</b>	<b>Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>1-9</b>	Consider RVSM above FL410	3	2021-2023	OPDLWG ATMOPS POG/TIG/IMG SOG/SASP
<b>Progress</b>	<ul style="list-style-type: none"><li>2022: NAT POG/14 Statistics on flight level usage were presented. Next step for POG/15 is to create a comprehensive statistics package of flight level usage for the NAT and seek inputs from aircraft manufacturers.</li></ul>			
<b>Discussion</b>				



<b>Goal-1</b>	<b>Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>1-10</b>	Consider formation flights	5	2026-2031	POG/TIG IMG/SOG
<b>Progress</b>				
<b>Discussion</b>				



<b>Goal-1</b>	<b>Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>1-11</b>	Self-Separation	4	2026-2031	POG
<b>Progress</b>				
<b>Discussion</b>				



<b>Goal-1</b>	<b>Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>1-12</b>	Accommodation of new entrants – supersonic aircraft	3	2026-2031	POG/IMG/SOG
<b>Progress</b>				
<b>Discussion</b>				



<b>Goal-1</b>	<b>Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>1-13</b>	Accommodation of new entrants – UAS, UTM and balloons	3	2026-2031	POG/IMG/SOG
<b>Progress</b>				
<b>Discussion</b>				



<b>Goal-1</b>	<b>Ensure as far as possible that all NAT developments are implemented in the context of “seamless boundaries.”</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>1-14</b>	Accommodation of new entrants - operations above FL460.	3	2026-2031	POG/IMG/SOG
<b>Progress</b>				
<b>Discussion</b>				



Goal-2	Enhanced resilience and predictability of the NAT wide operations.			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
2-1	Communication systems resilience – SATVOICE Migration from HF Voice to SATVOICE as backup to FANS	2	2023-2026	POG/TIG/IMG
Progress	2022: Initial information material discussed at NAT TIG/14.			
Discussion				



Goal-2	Enhanced resilience and predictability of the NAT wide operations.			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
2-2	Communication systems resilience – Digital HF developments	3	2026-2031	POG/TIG/IMG
Progress				
Discussion				



Goal-2	Enhanced resilience and predictability of the NAT wide operations.			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
2-3	Communication systems resilience – Space Based VHF	3	2021-2023	POG/TIG/IMG
Progress	2022: Initial information material discussed at NAT TIG/14.			
Discussion				



<b>Goal-2</b>	<b>Enhanced resilience and predictability of the NAT wide operations.</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>2-4</b>	Improvements to end-to-end performance to meet at least RCP 240 and including their associated SRs	1	2023-2031	POG/TIG
<b>Progress</b>	This is an ongoing objective of the NAT TIG work programme.			
<b>Discussion</b>				



Goal-2	Enhanced resilience and predictability of the NAT wide operations.			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
2-5	Improvements to end-to-end performance to meet at least RSP 180, including their associated SRs	1	2023-2031	TIG
Progress	This is an ongoing objective of the NAT TIG work programme.			
Discussion				



Goal-2	Enhanced resilience and predictability of the NAT wide operations.			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
2-6	NAT Contingency procedures shall be continually reviewed (every Spring).	1	2021-2031	POG
Progress	<ul style="list-style-type: none"><li>2022: Comprehensive amendments to NAT Doc 006.</li></ul>			
Discussion				



Goal-2	Enhanced resilience and predictability of the NAT wide operations.			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
2-7	Ensure systems cybersecurity and resilience.	1	2021-2031	POG/TIG/IMG/S OG
Progress	2020: Cybersecurity workshop 3-4 March 2020. 2022: NAT SPG/58 agreed to conduct a NAT Cybersecurity workshop in the first half of 2023.			
Discussion				



Goal-2	Enhanced resilience and predictability of the NAT wide operations.			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
2-8	Consider space weather factors as part of contingency procedures.	2	2021-2023	POG
Progress	2022: NAT POG/14 proposes to add space weather contingency procedures to NAT Doc 006. 2022: NAT POG/14 proposes establishment of a NAT Space Weather Exercise Steering Group.			
Discussion				



Goal-3	Continued cooperation with all adjacent regions and industry wide stakeholders to achieve seamless boundaries.			
	Potential Improvement	Prioritisation	Feasibility Timeline	NAT Sub-Group
3-1	The ICAO Aviation System Block Upgrades (ASBU) document will be reviewed at every Spring IMG.	1	2021-2031	IMG
Progress	2023: First review will be done in spring 2023.			
Discussion				



<p><b>Goal-4</b></p>	<p>The NAT operations takes account of both the prevailing and forecast operational and stakeholders’ capabilities and implements proportionate performance-based outcomes.</p>			
	<p><b>Potential Improvement</b></p>	<p><b>Prioritisation</b></p>	<p><b>Feasibility Timeline</b></p>	<p><b>NAT Sub-Group</b></p>
<p><b>4-1</b></p>	<p>Space-based ADS-B surveillance (work already in progress)</p>	<p>1</p>	<p>2021-2023</p>	<p>POG/TIG</p>
<p><b>Progress</b></p>	<p><b>Implementation status:</b>          Bodø: Entire Bodø FIR from surface to FL 100.          Iceland: Entire Reykjavik CTA except below F255 south of 70N.          Shanwick: Entire Shanwick FIR from 100 to 60.000 feet          Gander: Entire Gander CTA from surface to 60.000 feet.          Santa Maria: Q2 2023          New York OCA East, not available.</p>			
<p><b>Discussion</b></p>				



<b>Goal-4</b>	<b>The NAT operations takes account of both the prevailing and forecast operational and stakeholders' capabilities and implements proportionate performance-based outcomes.</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>4-2</b>	Use of aircraft downlink parameters (i.e. pilot selected level)	2	2023-2026	POG/TIG/IMG
<b>Progress</b>				
<b>Discussion</b>				



<b>Goal-4</b>	<b>The NAT operations takes account of both the prevailing and forecast operational and stakeholders' capabilities and implements proportionate performance-based outcomes.</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>4-3</b>	Implement SWIM and FF-ICE	3	2026-2031	ALL
<b>Progress</b>				
<b>Discussion</b>				



<b>Goal-4</b>	<b>The NAT operations takes account of both the prevailing and forecast operational and stakeholders' capabilities and implements proportionate performance-based outcomes.</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>4-4</b>	Address the regulatory oversight of CSPs and SSPs;	1	2021-2023	TIG OPDLWG IMG/SOG
<b>Progress</b>	2022: Discussed at NAT SOG/26. Action on states to provide feedback			
<b>Discussion</b>				



<b>Goal-5</b>	<b>Our technology roadmap is aligned to the practical capabilities that will exist to 2030</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>5-1</b>	The ICAO Aviation System Block Upgrades (ASBU) document will be reviewed at every Spring IMG.	1	2023 <del>1</del> -2031	All Groups
<b>Progress</b>	2023: First review will be done in spring 2023.			
<b>Discussion</b>				



<b>Goal-6</b>	<b>Safety, Service, Value and Environment benefits are measurable using representative metrics and are part of not only the business case for all developments but are used to monitor the NAT performance.</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>6-1</b>	NAT Safety Targets	1	2023-2025	All Groups
<b>Progress</b>				
<b>Discussion</b>				



<b>Goal-6 Safety, Service, Value and Environment benefits are measurable using representative metrics and are part of not only the business case for all developments but are used to monitor the NAT performance.</b>				
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>6-2</b>	Horizontal Flight Efficiency	1	20223-2025	All Groups New Group Required
<b>Progress</b>				
<b>Discussion</b>				



<b>Goal-6</b>	<b>Safety, Service, Value and Environment benefits are measurable using representative metrics and are part of not only the business case for all developments but are used to monitor the NAT performance.</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>6-3</b>	Vertical Flight Efficiency	1	20223-2025	All Groups New Group Required
<b>Progress</b>				
<b>Discussion</b>				



<b>Goal-6</b>	<b>Safety, Service, Value and Environment benefits are measurable using representative metrics and are part of not only the business case for all developments but are used to monitor the NAT performance.</b>			
	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>6-4</b>	Cost per 100KM (\$)	1	20223-2025	All Groups New Group Required
<b>Progress</b>				
<b>Discussion</b>				



<b>Safety, Service, Value and Environment benefits are measurable using representative metrics and are part of not only the business case for all developments but are used to monitor the NAT performance.</b>				
<b>Goal-6</b>	<b>Potential Improvement</b>	<b>Prioritisation</b>	<b>Feasibility Timeline</b>	<b>NAT Sub-Group</b>
<b>6-5</b>	Monitoring, reporting and verification of CO <sup>2</sup> emissions in accordance with Annex 16, Volume IV, and the Environmental Technical Manual (Doc 9501), Volume IV.	1	20223-2025	All Groups New Group Required
<b>Progress</b>				
<b>Discussion</b>				



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