



# AOM21.2 — Free Route Airspace

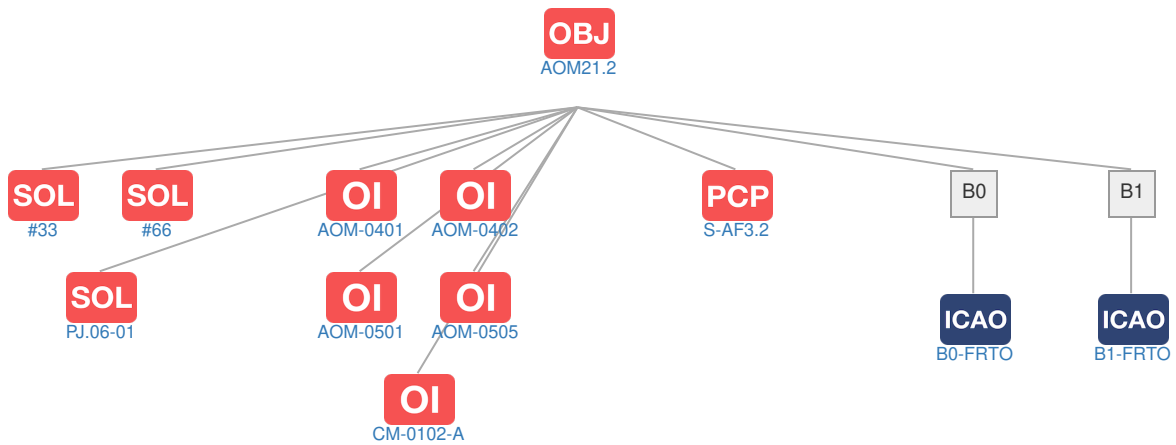
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*NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to MIL Authorities.*

<b>Edition</b>	2019
<b>Stakeholders</b>	Air Navigation Service Provider / Airspace Users / Network Manager
<b>Type</b>	PCP
<b>Scope</b>	ECAC+
<b>Status</b>	Active

## Context

### Related Elements



## Applicability Area(s) and Timescales

**Applicability Area:** All ECAC States except: Azerbaijan, Belgium, Luxembourg, Netherlands. Plus: Morocco

Timescales	From	By	Applicable to
Initial operational capability	01-01-2015	-	Applicability Area
Full operational capability	-	31-12-2021	Applicability Area

## Links to ATM Master Plan Level 2

### **OI** Operational Improvement Steps

Code	Title	IOC	FOC	Related Elements
AOM-0401	Multiple Route Options & Airspace Organisation Scenarios	-	-	<b>OI</b> <b>OBJ</b> <b>ICAO</b>
AOM-0402	Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routing Options	-	-	<b>OBJ</b> <b>ICAO</b>
AOM-0501	Free Routing for Flights both in cruise and vertically evolving within low to medium complexity environments	31-12-2020	01-10-2025	<b>SOL</b> <b>OI</b> <b>EN</b> <b>OBJ</b> <b>DS</b> <b>PCP</b> <b>ICAO</b>
AOM-0505	Free Routing for Flights both in cruise and vertically evolving within high and very high complexity environments in Upper En Route airspace	31-12-2026	31-12-2030	<b>SOL</b> <b>OI</b> <b>EN</b> <b>OBJ</b> <b>DS</b> <b>PCP</b> <b>ICAO</b>
CM-0102-A	Dynamic Sectorisation based on complexity	-	-	<b>SOL</b> <b>OI</b> <b>EN</b> <b>OBJ</b> <b>DS</b> <b>PCP</b> <b>ICAO</b>

### **SOL** Links to SESAR Solutions

Code	Title	Program	Related Elements
#33	Free Route through Free Routing for Flights both in cruise and vertically evolving above a specified Flight Level	SESAR1	<b>SOL</b> <b>OI</b> <b>OBJ</b> <b>DS</b> <b>EOC</b> <b>PCP</b> <b>ICAO</b>
#66	Automated Support for Dynamic Sectorisation	SESAR1	<b>SOL</b> <b>OI</b> <b>OBJ</b> <b>DS</b> <b>EOC</b> <b>PCP</b> <b>ICAO</b>
PJ.06-01	Optimized traffic management to enable Free Routing in SESAR 2020 Wave 1 high and very high complexity environments.		<b>SOL</b> <b>PJ</b> <b>OI</b> <b>OBJ</b> <b>DS</b> <b>EOC</b> <b>PCP</b> <b>ICAO</b>

### **PCP** Links to PCP ATM Sub-Functionalities

Code	Title	Related Elements
S-AF3.2	Free Route	<b>SOL</b> <b>OI</b> <b>EN</b> <b>OBJ</b> <b>ICAO</b>

### **ICAO** ICAO Block Modules

Designator	Title	Related Elements
B0		
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories.	<b>OI</b> <b>OBJ</b>
B1		
B1-FRTO	Improved Operations through Optimized ATS Routing	<b>SOL</b> <b>OI</b> <b>OBJ</b> <b>PCP</b>

## References

### Applicable legislation

- Regulation (EU) No 677/2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010
- Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

### Applicable ICAO Annexes and other references

Annex 11, Doc 4444

### Deployment Programme 2019

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### Operating Environments

Terminal Airspace

En-Route

Network

## Expected Performance Benefits

<b>Safety</b>	Although the main benefits are expected in the area of environment the FRA implementation has the ambition to at least maintain the current level of safety.
<b>Capacity</b>	Increased through better airspace utilisation to and reduced controller workload.
<b>Operational efficiency</b>	Savings in route distances and fuel efficiency through increased use of preferred flight profiles.
<b>Cost efficiency</b>	-
<b>Environment</b>	Reductions in emissions through use of optimal routes.
<b>Security</b>	N/A

## Stakeholder Lines of Action

Code	Title	From	By	Related Enablers
ASP01	Implement procedures and processes in support of the network dimension	01-01-2015	31-12-2021	<b>EN</b>
ASP02	Implement system improvements	01-01-2015	31-12-2021	<b>EN</b>
ASP03	Implement dynamic sectorisation	01-01-2015	31-12-2021	<b>EN</b>
ASP04	Implement procedures and processes in support of the local dimension	01-01-2015	31-12-2021	<b>EN</b>
ASP05	Implement transversal activities in support to operational deployment of FRA (validation, safety case and training)	01-01-2015	31-12-2021	
USE01	Implement system improvements	01-01-2015	31-12-2021	<b>EN</b>
USE02	Implement procedures and processes	01-01-2015	31-12-2021	
USE03	Train aircrews and operational staff for FRA operations	01-01-2015	31-12-2021	
NM01	Implement system improvements	01-01-2015	31-12-2019	<b>EN</b>
NM02	Implement procedures and processes	01-01-2015	31-12-2017	<b>EN</b>

## Supporting Material

Title	Related SLoAs
EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 - European Airspace Design Methodology - Guidelines - 2.0 / 12/2018 <a href="https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-part-1">https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-part-1</a>	ASP01, ASP03, ASP04, ASP05, NM01, NM02, USE02
EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 2 - European ATS Route Network - Version 2019-2024 - June 2019 / 07/2019 <a href="https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-part-2">https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-part-2</a>	NM02
EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 3 - Airspace Management Handbook - Guidelines for Airspace Management - 5.5 / 11/2017 <a href="https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-part-3">https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-part-3</a>	NM02
EUROCONTROL - GUID-161 - EUROCONTROL Guidelines for Area Proximity Warning (APW) - Part I to III - 1.0 / 01/2017 <a href="https://www.eurocontrol.int/publications/eurocontrol-guidelines-area-proximity-warning-apw-part-i-iii">https://www.eurocontrol.int/publications/eurocontrol-guidelines-area-proximity-warning-apw-part-i-iii</a>	ASP02
EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.3 - OJ 2011/C 146/11 / 12/2017 <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-line-data-interchange-oldi">https://www.eurocontrol.int/publication/eurocontrol-specification-line-data-interchange-oldi</a>	ASP02
EUROCONTROL - SPEC 139 - EUROCONTROL Specification for Medium-Term Conflict Detection - Edition 2.0 / 03/2017 <a href="https://www.eurocontrol.int/sites/default/files/publication/files/EUROCONTROL-SPEC-0139%20MTCD%20Ed%202.0.pdf">https://www.eurocontrol.int/sites/default/files/publication/files/EUROCONTROL-SPEC-0139%20MTCD%20Ed%202.0.pdf</a>	ASP02
EUROCONTROL - SPEC 142 - EUROCONTROL Specification for Monitoring Aids - Edition 2.0 / 03/2017 <a href="https://www.eurocontrol.int/sites/default/files/publication/files/EUROCONTROL-SPEC-0142%20MONA%20Ed%202.0.pdf">https://www.eurocontrol.int/sites/default/files/publication/files/EUROCONTROL-SPEC-0142%20MONA%20Ed%202.0.pdf</a>	ASP02

## Consultation & Approval

<b>Working Arrangement in charge</b>	NETOPS
<b>Outline description approved in</b>	03/2013
<b>Latest objective review at expert level</b>	05/2013
<b>Commitment Decision Body</b>	Provisional Council (PC)
<b>Objective approved/endorsed in</b>	07/2013
<b>Latest change to objective approved/endorsed in</b>	07/2014