



ATC02.8 — Ground-Based Safety Nets

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This objective covers the implementation of Level 2 of the following ground-based safety nets: Area Proximity Warning (APW), Minimum Safe Altitude Warning (MSAW) and Approach Path Monitor (APM).

- Area Proximity Warning (APW) uses surveillance data and flight path prediction to warn the controller when an aircraft is, or is predicted to be, flying into a volume of notified airspace, such as controlled airspace, danger areas, prohibited areas and restricted areas. APW has been identified as an optional system requirement for the implementation of Free Route Airspace (FRA) in Regulation (EU) No 2021/116 (the CP1 Regulation).
- Minimum Safe Altitude Warning (MSAW) is intended to warn the air traffic controller (ATCO) about the increased risk of controlled flight into terrain by generating, in a timely manner, an alert of aircraft proximity to terrain or obstacles.
- An approach path monitor (APM) is intended to warn the ATCO about increased risk of controlled flight into terrain accidents by generating, in a timely manner, an alert of aircraft proximity to terrain or obstacles during final approach.

Before starting first operations, air traffic controllers must receive training, aimed at creating an appropriate level of trust in the concerned safety net. The time-criticality of alerts and the need for immediate attention or action must be well understood, but also the situations in which safety nets are less effective.

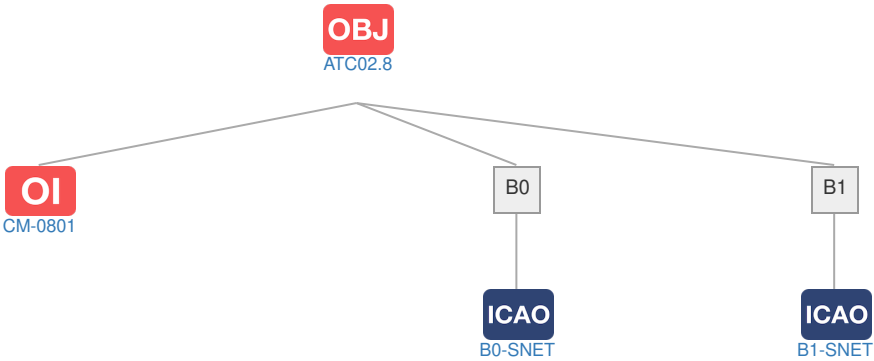
The number of nuisance and false alerts must be reduced to a minimum. Air traffic controllers should be encouraged to report unexpected and unwanted safety nets behaviour and feedback should always be provided.

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 military authorities.

Edition	2022
Stakeholders	Air Navigation Service Provider
Type	SESAR
Scope	ECAC+
Status	Active

Context

Related Elements



Applicability Area(s) and Timescales

Applicability Area: All ECAC States except: Bosnia and Herzegovina, Netherlands. Plus: Israel, Morocco

Timescales	From	By	Applicable to
Initial operational capability	01-01-2009	-	Applicability Area
Full operational capability	-	31-12-2021	Applicability Area

Links to ATM Master Plan Level 2

Operational Improvement Steps

Code	Title	IOC	FOC	Related Elements
CM-0801	Ground Based Safety Nets (TMA, En-Route)	31-12-2006	31-12-2010	  







Links to SESAR Solutions

Code	Title	Program	Related Elements
No record found			

Links to PCP ATM Sub-Functionalities

Code	Title	Related Elements
No record found		

ICAO Block Modules

Designator	Title	Related Elements
B0		
B0-SNET	Ground based safety nets	 
B1		
B1-SNET	Ground-based Safety Nets on Approach	   

References

Applicable legislation

None

Applicable ICAO Annexes and other references

None

Deployment Programme 2022

Family 3.2.1 - Initial FRA

Operating Environments

Terminal Airspace

En-Route

Expected Performance Benefits

Safety	Major safety improvement through the systematic presentation of: <ul style="list-style-type: none">- imminent and actual unauthorized penetrations into airspace volumes to controllers ahead of their occurrence, as provided by APW;- possible infringements of minimum safe altitude to controllers ahead of their occurrence, as provided by MSAW;- deviations from the glide path to controllers, as provided by APM.
Capacity	-
Operational efficiency	-
Cost efficiency	-
Environment	-
Security	-

Stakeholder Lines of Action

Code	Title	From	By	Related Enablers
ASP01	Implement the APW function	01-01-2009	31-12-2021	EN
ASP02	Align ATCO training with the use of APW ground-based safety tools	01-01-2009	31-12-2021	EN
ASP03	Implement the MSAW function	01-01-2009	31-12-2021	EN
ASP04	Align ATCO training with the use of MSAW ground-based safety tools	01-01-2009	31-12-2021	EN
ASP05	Implement the APM function	01-01-2009	31-12-2021	EN
ASP06	Align ATCO training with the use of APM ground-based safety tools	01-01-2009	31-12-2021	EN

Supporting Material

Title	Related SLOAs
EUROCONTROL - GUID-125 - EUROCONTROL Guidance Material for Area Proximity Warning - Edition 1.0 / 05/2009 https://www.eurocontrol.int/sites/default/files/publication/files/20090519-apw-guid-v1.0.pdf	ASP01, ASP02
EUROCONTROL - GUID-160 - EUROCONTROL Guidelines for Minimum Safe Altitude Warning - Part I to III - Edition 1.0 / 01/2017 https://www.eurocontrol.int/publication/eurocontrol-guidelines-minimum-safe-altitude-warning	ASP03, ASP04
EUROCONTROL - GUID-162 - EUROCONTROL Guidelines for Approach Path Monitor - Part I to III - Edition 1.0 / 01/2017 https://www.eurocontrol.int/publication/eurocontrol-guidelines-approach-path-monitor	ASP05, ASP06
EUROCONTROL - Safety Nets - A guide for ensuring effectiveness - August 2017 https://www.eurocontrol.int/sites/default/files/publication/files/safety-nets-guide-august-2017.pdf	ASP01, ASP02, ASP03, ASP04, ASP05, ASP06

Consultation & Approval

Working Arrangement in charge	SAFETY / SPIN SG
Outline description approved in	03/2012
Latest objective review at expert level	04/2012
Commitment Decision Body	Provisional Council (PC)
Objective approved/endorsed in	07/2006
Latest change to objective approved/endorsed in	07/2012