INF07 — Electronic Terrain and Obstacle Data (eTOD)

Download Progress Report

This objective has been introduced in order to aid the States in establishing a robust framework that will ensure the timely provision of electronic terrain and obstacle data (TOD)

ICAO Annex 15, Aeronautical Information Services, and ICAO Doc. 10066 PANS-AIM requires the States to provide TOD for their own territory and to announce it in the national AIPs. TOD is sub-divided into four areas:
• Area 1 - the entire territory of a State
• Area 2 - the terminal control area
• Area 3 - aerodromes/heliport area
• Area 4 - CAT II or CAT III operation area

States need to assess the existing national regulations and policies, including the safeguarding of aerodromes and obstacle permission processes, in order to evaluate their suitability in relation to the electronic terrain and obstacle data requirements of ICAO Annex 15 and PANS-AIM and to allocate responsibilities.

In addition, States will need to create capabilities for the origination, collection, exchange, management and distribution of the digital terrain and obstacle information in the form of digital datasets. This implies the establishment of efficient and reliable processes (e.g. data acquisition, cross-border provision, data validation and verification, data maintenance, data storage, data transmission, and oversight, etc.) ensuring the provision of up-to-date data which meets the operational requirements in support of an enhanced overall situational awareness and separation assurance and at the same time complies with the requirements of EU Regulation 73/2010 on the quality of aeronautical data and aeronautical information for the Single European Sky.

The operational capability dates given for this objective are not meant to replace, amend or modify in any way the deadline for implementation of the ICAO Annex 15/and PANS-AIM requirements for electronic terrain and obstacle data (TOD). The aim of this objective is to ensure that all States of the ECAC area provide the required TOD as soon as possible in line with the ICAO Annex 15/and PANS-AIM.

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.

NOTE: EU Regulation 73/2010 has been replaced by COMMISSION IMPLEMENTING REGULATION (EU) 2020/469 of 14 February 2020 amending Regulation (EU) No 923/2012, Regulation (EU) No 139/2014 and Regulation (EU) 2017/373 as regards requirements for air traffic management/air navigation services, design of airspace structures and data quality, runway safety and repealing Regulation (EC) No 73/2010

Edition	2022
Stakeholders	Regulator / Air Navigation Service Provider / Airport Operator
Type	SESAR
Scope	ECAC+
Status	Active

Context

Related Elements

OBJ
INF07

EN
AIMS-16

Applicability Area(s) and Timescales

Applicability Area: All ECAC States except: Maastricht UAC. Plus: Israel, Morocco

Timescales	From	By	Applicable to
Initial operational capability	01-11-2014	-	Applicability Area
Full operational capability	-	31-12-2018	Applicability Area

Links to ATM Master Plan Level 2

EN Enablers

Code	Title	IOC	Related Elements
AIMS-16	Electronic Terrain and Obstacle Data (TOD)	31-12-2023	STK OI EN OBJ DS

SOL Links to SESAR Solutions

Code	Title	Program	Related Elements
No record found			

PCP Links to PCP ATM Sub-Functionalities

Code	Title	Related Elements
No record found		

ICAO Block Modules: No associated data

References

Applicable legislation
COMMISSION IMPLEMENTING REGULATION (EU) 2020/469 of 14 February 2020 amending Regulation (EU) No 923/2012, Regulation (EU) No 139/2014 and Regulation (EU) 2017/373 as regards requirements for air traffic management/air navigation services, design of airspace structures and data quality, runway safety and repealing Regulation (EC) No 73/2010; EU Regulation 139/2014 - Requirements and administrative procedures related to aerodromes
Applicable ICAO Annexes and other references
Annex 15 - Aeronautical Information Services
Annex 14 - Aerodromes Volume I Aerodrome Design and Operations
Annex 11 - Air Traffic Services
Annex 4 - Aeronautical Charts
ICAO Doc 9137 - Airport Services Manual Part 6 Control of Obstacles
Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014
EUROCONTROL - Terrain and Obstacle Data Manual (Edition 2.0, 11/2011)
EUROCONTROL - Specifications in support of EU Regulation 73/2010 implementation (eAIP, DAL, DQR, AIX, DO)
EUROCONTROL - Specification for Minimum Safe Altitude Warning
EUROCONTROL - Specification for Approach Path Monitoring
EUROCAE - ED 98 - User requirements for terrain and obstacle data
EUROCAE - ED119 - Interchange standards for terrain, obstacle, and aerodrome mapping data
ISO 19100 series: Geographic information
Deployment Programme 2022
-
Operating Environments
Airport
Terminal Airspace

Expected Performance Benefits

Safety	The availability of quality-assured electronic terrain and obstacle data from the State's authoritative sources will significantly improve situational awareness with respect to terrain or obstacle hazards, separation assurance and the visualization of approaches in challenging terrain environments, and thereby contribute to increased safety levels and performance in airborne and ground-based systems (e.g. EGPWS, MSAW, APM, SVS, A-SMGCS and Instrument Procedure Design).
Capacity	-
Operational efficiency	-
Cost efficiency	-
Environment	-
Security	-

Stakeholder Lines of Action

Code	Title	From	By	Related Enablers
REG01	Establish National TOD policy	01-11-2014	01-01-2019	
REG02	Establish TOD regulatory framework	01-05-2015	01-01-2019	
REG03	Establish oversight of TOD implementation	01-06-2015	01-01-2019	
REG04	Verify the regulatory compliance of TOD implementation	01-12-2017	01-01-2019	
ASP01	Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy	01-11-2014	01-01-2019	
ASP02	Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework	01-05-2015	01-01-2019	EN
APO01	Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy	01-11-2014	01-01-2019	
APO02	Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework	01-05-2015	01-01-2019	EN

Supporting Material

Title	Related SLoAs
EASA - Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 https://www.easa.europa.eu/document-library/acceptable-means-of-compliance-and-guidance-materials/group/adr---aerodromes#group-table	APO01, APO02, REG01, REG02
EC - COMMISSION IMPLEMENTING REGULATION (EU) 2017/373 - (OJ L 62, 8.03.2017, p. 1) - COMMISSION IMPLEMENTING REGULATION (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 03/2017 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0373&from=EN	REG02
EC - EU Regulation 139/2014 Requirements and administrative procedures related to aerodromes -	APO01, APO02, REG01, REG02
EC - REGULATION (EU) 2020/469 of 14 February 2020 - COMMISSION IMPLEMENTING REGULATION (EU) 2020/469 of 14 February 2020 amending Regulation (EU) No 923/2012, Regulation (EU) No 139/2014 and Regulation (EU) 2017/373 as regards requirements for air traffic management/air navigation services, design of airspace structures and data quality, runway safety and repealing Regulation (EC) No 73/2010. 01/2010 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R0469	APO01, APO02, ASP01, REG01, REG02, REG03, REG04
EUROCONTROL - GUID-158 - Terrain and Obstacle Data Manual (TOD) - Edition 3 / 05/2021 https://www.eurocontrol.int/publication/eurocontrol-terrain-and-obstacle-data-manual	APO01, APO02, ASP01, REG01, REG02, REG03, REG04
EUROCONTROL - National TOD Policy template -	REG01

Title	Related SLoAs
ICAO - Annex 14 - Aerodromes, Volume I and II https://store.icao.int/	APO01, APO02, REG01, REG02, REG03, REG04
ICAO - Annex 15 - Aeronautical Information Services https://store.icao.int/	APO01, APO02, ASP01, ASP02, REG01, REG02, REG03, REG04
ICAO - Annex 4 - Aeronautical charts https://store.icao.int/	APO01, APO02, ASP01, REG01, REG02, REG03, REG04
ICAO - Doc 10066 - Air Navigation Procedures for Aeronautical Information Management https://store.icao.int/	APO01, APO02, ASP01, ASP02, REG01, REG02, REG04
ICAO - Doc 9137-Part 6 - Airport Services Manual - Part 6 - Control of Obstacles - Edition 2 / 12/1983 https://store.icao.int/	APO01, APO02, REG01, REG02
ICAO - Doc 9734 - Safety Oversight Manual - Edition 2 https://store.icao.int/	REG03, REG04
ICAO - Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information https://store.icao.int/	APO01, APO02, ASP01, ASP02, REG01, REG02, REG03, REG04

Consultation & Approval

Working Arrangement in charge	AIM / SWIM
Outline description approved in	09/2013
Latest objective review at expert level	05/2014
Commitment Decision Body	Provisional Council (PC)
Objective approved/endorsed in	07/2014
Latest change to objective approved/endorsed in	-