



# INF07 — Electronic Terrain and Obstacle Data (eTOD)

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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:** EASA Opinion 02/2018 has been published on 08/3/2018 and the amended Regulation 2017/373 (Part-AIS) is envisaged to be published in the OJEU in the second half of 2019, replacing EU Regulation 73/2010.

|                     |  |
|---------------------|--|
| <b>Edition</b>      | 2019   |
| <b>Stakeholders</b> | Regulator / Air Navigation Service Provider / Airport Operator |
| <b>Type</b>         | SESAR  |
| <b>Scope</b>        | ECAC+  |
| <b>Status</b>       | Active   |

## Context

### Related Elements



## 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    | -          | 31-05-2018 | 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 |                  |

## 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: No associated data

## References

### Applicable legislation

EU Regulation 73/2010 - Requirements on the quality of aeronautical data and aeronautical information for the Single European SkyEU  
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 2019

-

### Operating Environments

Airport  
Terminal Airspace

## Expected Performance Benefits

|                               |   |
|-------------------------------|---|
| <b>Safety</b>                 | 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). |
| <b>Capacity</b>               | -   |
| <b>Operational efficiency</b> | -   |
| <b>Cost efficiency</b>        | -   |
| <b>Environment</b>            | -   |
| <b>Security</b>               | -   |

## Stakeholder Lines of Action

| Code  | Title   | From       | By         | Related Enablers |
|-------|---|------------|------------|------------------|
| REG01 | Establish National TOD policy   | 01-11-2014 | 30-11-2015 |                  |
| REG02 | Establish TOD regulatory framework  | 01-05-2015 | 31-12-2017 |                  |
| REG03 | Establish oversight of TOD implementation   | 01-06-2015 | 31-12-2017 |                  |
| REG04 | Verify the regulatory compliance of TOD implementation  | 01-12-2017 | 31-05-2018 |                  |
| ASP01 | Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy       | 01-11-2014 | 30-11-2015 |                  |
| ASP02 | Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework | 01-05-2015 | 31-05-2018 | EN               |
| APO01 | Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy       | 01-11-2014 | 30-11-2015 |                  |
| APO02 | Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework | 01-05-2015 | 31-05-2018 | EN               |

## Supporting Material

| Title   | Related SLoAs   |
|---|---|
| EASA - Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014<br><a href="https://www.easa.europa.eu/system/files/dfu/2014-012-R-Annex%20to%20ED%20Decision%202014-012-R.pdf">https://www.easa.europa.eu/system/files/dfu/2014-012-R-Annex%20to%20ED%20Decision%202014-012-R.pdf</a>   | APO01,<br>APO02,<br>REG01,<br>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<br><a href="https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0373&amp;from=EN">https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0373&amp;from=EN</a> | REG02   |
| EC - EU Regulation 139/2014 Requirements and administrative procedures related to aerodromes<br>-   | APO01,<br>APO02,<br>REG01,<br>REG02                               |
| EC - Regulation (EU) No 73/2010-(OJ L 23, 27.1.2010, p.6) - Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information 01/2010<br><a href="http://publications.europa.eu/en/publication-detail/-/publication/97b943f4-8e7a-4c6e-9350-982f0efa31ac/language-en">http://publications.europa.eu/en/publication-detail/-/publication/97b943f4-8e7a-4c6e-9350-982f0efa31ac/language-en</a>  | APO01,<br>APO02,<br>ASP01,<br>REG01,<br>REG02,<br>REG03,<br>REG04 |
| EUROCONTROL - GUID-0158 - Terrain and Obstacle Data Manual - Edition 2.1 / 11/2015<br><a href="https://www.eurocontrol.int/sites/default/files/publication/files/EUROCONTROL%20Terrain%20and%20Obstacle%20Data%20Manual%20v2.1.pdf">https://www.eurocontrol.int/sites/default/files/publication/files/EUROCONTROL%20Terrain%20and%20Obstacle%20Data%20Manual%20v2.1.pdf</a>   | APO01,<br>APO02,<br>ASP01,<br>REG01,<br>REG02,<br>REG03,<br>REG04 |
| EUROCONTROL - National TOD Policy template<br>-   | REG01   |

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

## Consultation & Approval

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

