smartETOD is the smart way of managing electronic terrain and obstacle information. In the past, collecting and managing eTOD data used to be complex and expensive. It required GIS experts and database experts and afterwards the data was hidden away in storage silos and not easily accessible for users. smartETOD changes that.

**smartETOD changes the game**

The application makes it possible to integrate information provided by surveyors into your aeronautical information management environment. Through its user-friendly and easy to learn HMI (Human-Machine Interface), complex geographical processing required for handling terrain and obstacle data is more easily accessible for AIM operators without requiring deep GIS knowledge.

Combined with smartGIS (browser based GIS Viewer and Editor), the geo data distribution capabilities of smartETOD make geospatial information immediately accessible for users within or outside your organisation. Systems can be integrated using standards based (ISO, OGC) interfaces, while physical operators can directly view the data in their browsers.

ETOD related tasks can be facilitated through the Frequentis workflow management tool (smartWFM) in order to ensure seamless traceability of geo information from data originators through the ANSP’s processing to the intended users of the information. It tracks and documents geospatial processing steps.

**smartETOD at a glance**

- Terrain data repository
- Geo data visualisation for terrain and obstacles
- Geospatial Data Catalogue

**Key features**

- Browser-based management HMI
- Fusion of information from different data sources
- smartGIS 2D and 3D visualization
- Handling of Terrain and Obstacle data
- Workflow Integration
- Processing of many different terrain data formats
- Map server for geo data distribution
- ISO Meta Data Management
- Standards based integration with 3rd party systems
- Validation of ICAO Annex 14 compliance of terrain and obstacle data
Benefits

**AIXM Obstacles –GIS terrain**
Obstacle information is structured and can be stored as AIXM 5.x features. That means that obstacles have a unique identification, a geometry, an organisation responsible for them and other structured information that describes them. Obstacles are directly stored as highly structured data in the Frequentis AIXM 5.x data stores (smartDM and CADAS AIMDB) and can be managed and visualised together with terrain information in smartETOD.

**Management HMI**
smartETOD offers a convenient, browser-based management HMI (Human Machine Interface), where operators can create workspaces containing related geo information data. The management HMI allows the users to upload and collect information and initiate sophisticated, pre-defined processing queues. Users can rely on the embedded intelligence to apply the correct processing steps for their geo data. In order to allow immediate quality checking, smartGIS, allows users to visualise stored terrain data and contour lines.

**Technical specifications**

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Map types</td>
<td>2D, 3D via embedded WebMap/WebGIS viewer</td>
</tr>
<tr>
<td>Application compatibility</td>
<td>Open Geospatial Consortium (OGC) applications</td>
</tr>
<tr>
<td>WebMap supported content</td>
<td>Terrain, contour lines, data groups and ICAO Areas and Surfaces</td>
</tr>
<tr>
<td>Interoperability with other Frequentis products</td>
<td>smartCharting, smartGIS, smartWFM, smartDM, CADAS</td>
</tr>
</tbody>
</table>