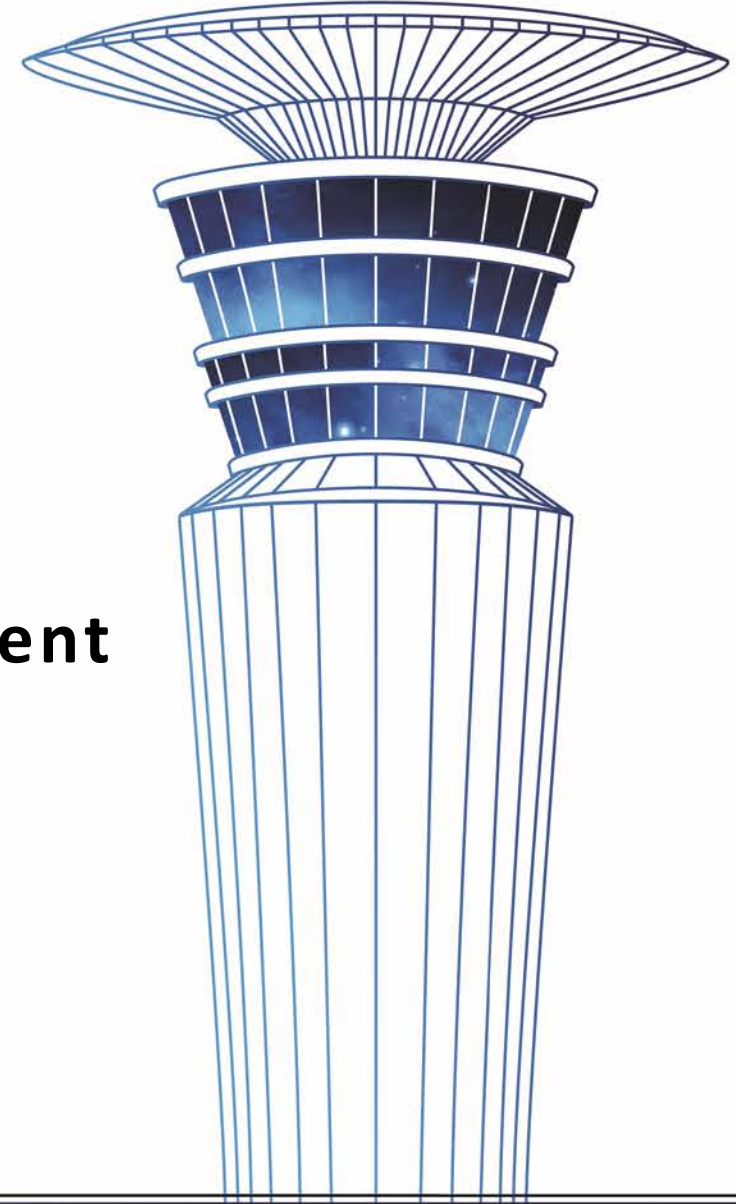




Saudi Arabia

Aeronautical Information Management Transition from AIS to AIM





KSA AIM Global Road Map implementation



Technologies Supporting transition from AIS to AIM



Aeronautical data catalogue overview



KSA Data sets Provision



AIM Future Focus Area



Challenges of Transition

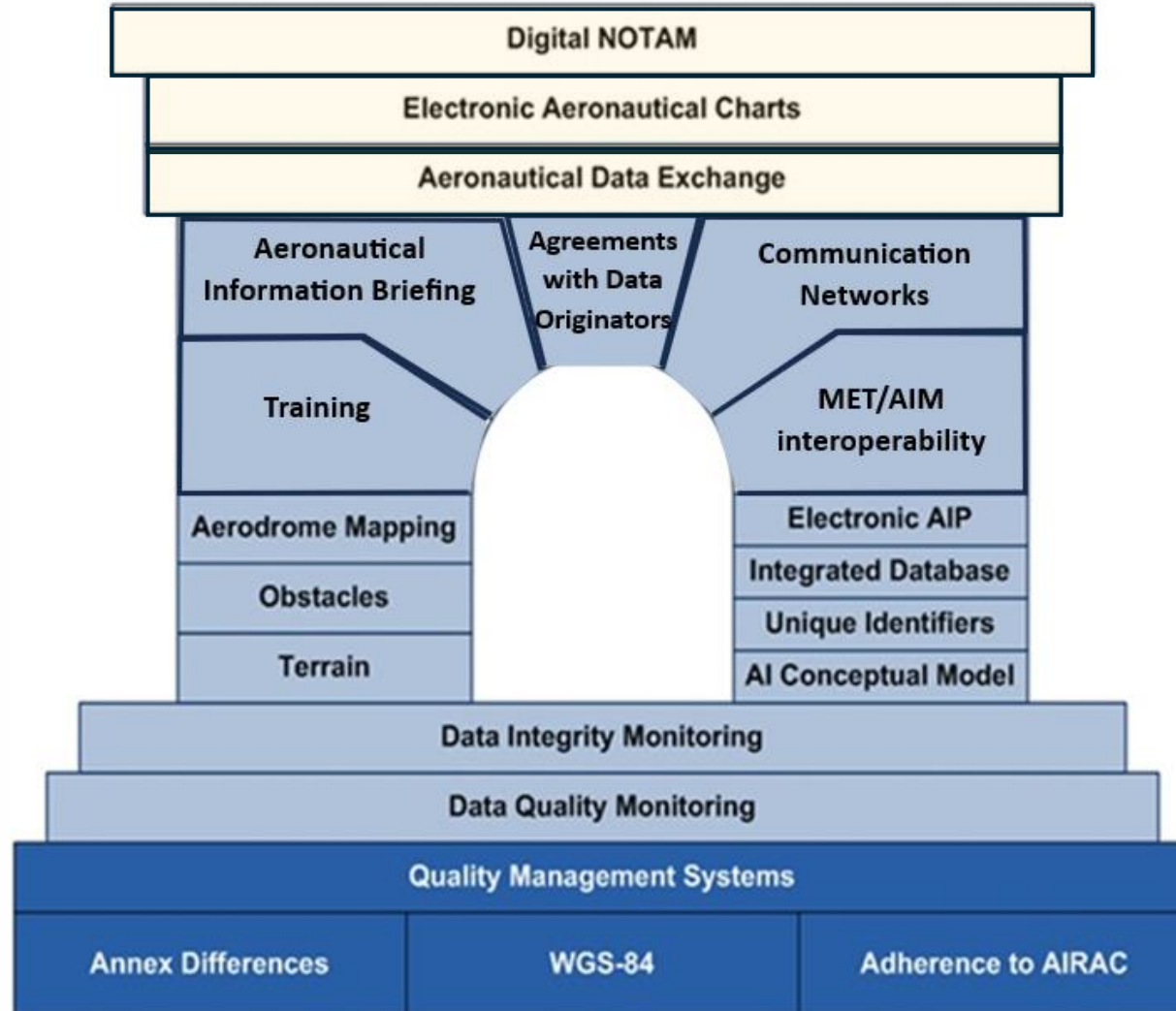


KSA AIM Global Road Map implementation

Phase 3
Information Management

Phase 2
Going Digital

Phase 1
Consolidation



SANS AIM

On Progress

Implemented

Implemented



Electronic AIP (eAIP)



**Centralized aeronautical databases
& automated validation systems**



Standards and references Applied:



GACAR Part 175



ICAO Annex 15



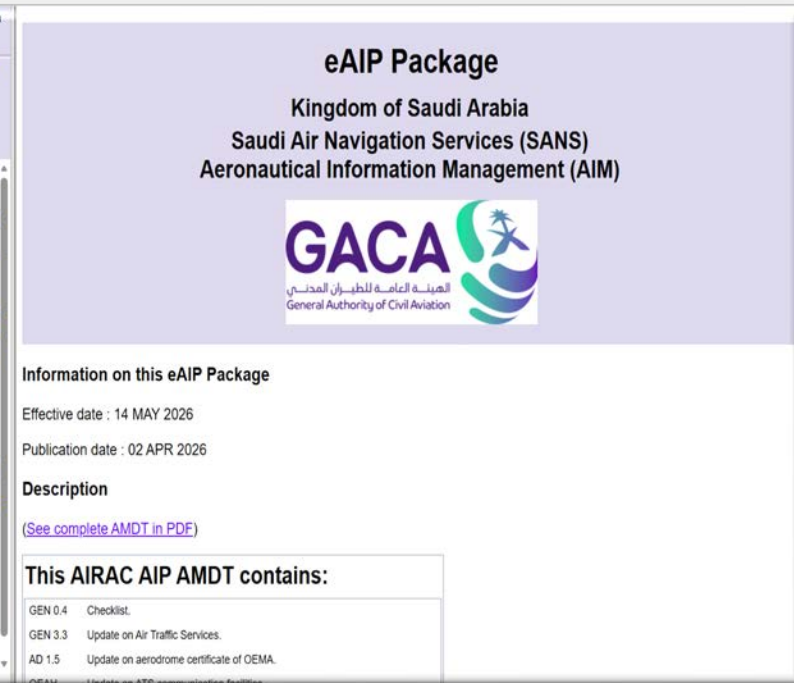
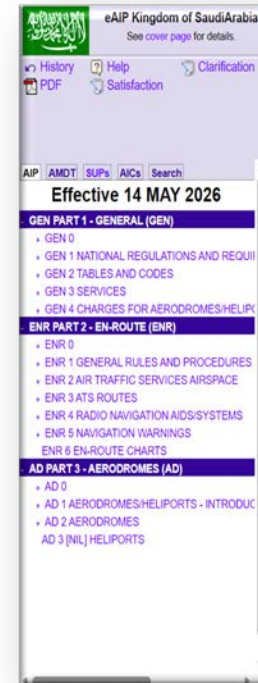
PANS-AIM



ICAO GANP



**AIXM (Aeronautical Information
Exchange Model)**



Aeronautical data catalogue overview



Introduce the Aeronautical Data Catalogue, a tool in support of implementing the data-centric



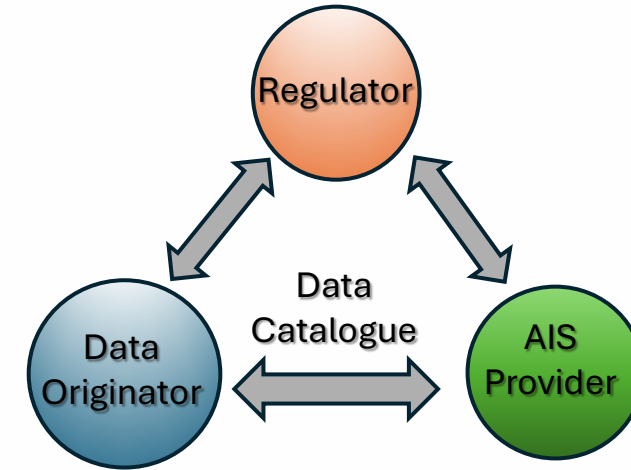
Common language for the data-centric Environment.



Common defined AIM data scope.



Focus on data and data quality Requirements.



Items
Table A 1-1 Aerodrome/Heliport data
Table A1-2 Airspace data
Table A1-3 ATS and other routes data
Table A1-4 Instrument flight procedure data
Table A1-5 Radio navigation aids/systems data
Table A1-6 Obstacle data
Table A1-7 Geographic data
Table A1-8. Terrain data
Table A1-9. Data types
Table A1-10 Information about national and local regulation, services and procedures

GACA
General Authority of Civil Aviation

GACAR PART 175 – AERONAUTICAL INFORMATION SERVICES & AERONAUTICAL CHARTS

TABLE OF CONTENTS
Part 175 – Aeronautical Information Services & Aeronautical Charts

SECTION ONE – GENERAL REQUIREMENTS	8
§ 175.1 Applicability	8
§ 175.3 Service provider restrictions	8
§ 175.5 Demonstration of compliance	8
§ 175.7 Facilitation and cooperation	8
§ 175.9 Findings and corrective actions	9
§ 175.11 Immediate reaction to a safety problem	9
§ 175.13 Occurrence reporting	9
§ 175.15 Contingency plan	9
§ 175.17 Open and transparent provision of services	9
§ 175.19 Change management procedures	10
§ 175.21 Changes to AIS and Aeronautical Charts systems	10
§ 175.23 Safety, support, assessment and assurance of changes to AIS and Aeronautical Charts systems	11
§ 175.25 Continued activities	11
§ 175.27 Personnel requirements	11
§ 175.29 Staff operational competence	12
§ 175.31 Function requirements	12
§ 175.33 Record keeping	13
§ 175.35 Acquisition materials	13
§ 175.37 Arrangements with foreign states	14
§ 175.39 Data error detection and authorization	14
§ 175.41 Error reporting, assessment, and corrective actions	14
§ 175.43 Data quality limitations	15
§ 175.45 Publication of information on unlicensed and helicopter landing sites not eligible for certification under GACAR Part 175, Part 178 and Part 177	15
§ 175.47 Identification of data quality limitations	15
§ 175.49 Acceptance of aeronautical information and aeronautical data	15
SECTION TWO – AERONAUTICAL INFORMATION SERVICES (AIS)	17
SUBPART A – GENERAL SPECIFICATIONS	17
§ 175.57 Aeronautical Information	17
§ 175.59 Common reference system for air navigation	17
§ 175.61 Miscellaneous specifications	18
SUBPART B – RESPONSIBILITIES AND FUNCTIONS	19
§ 175.63 Responsibilities	19
§ 175.65 AIS Provider responsibilities and functions	19
§ 175.67 Exchange of aeronautical data and aeronautical information	20
§ 175.69 Copyright	21
§ 175.71 Data accuracy	21
SUBPART C – AERONAUTICAL INFORMATION MANAGEMENT	22
§ 175.73 Information management requirements	22
§ 175.75 Data integrity monitoring and assurance	23
§ 175.77 Data quality requirements	24
§ 175.79 Aeronautical data and aeronautical information verification and validation	25
§ 175.81 Data error detection	25
§ 175.83 Use of information	25
§ 175.85 Quality management system	25
§ 175.87 Human factors considerations	26

Page 1
GACAR Part 175 UNCONTROLLED DOCUMENT WHEN DOWNLOADED VERSION 6.0
Consult the GACA website for current version



Publication of AIP digital data sets

- ✈ Air traffic services (ATS) airspace (type, name, lateral limits, vertical limits, class of airspace);
- ✈ Special activity airspace (type, name, lateral limits, vertical limits, restriction, activation);
- ✈ ATS route and other route (designator, flight rules);
- ✈ Route segment (navigation specification from point to point, track, length, upper limit, lower limit, minimum en-route altitude (MEA), minimum obstacle clearance altitude (MOCA), direction of cruising level, required navigation performance);
- ✈ Waypoint – en-route (identification, location, formation);
- ✈ Aerodrome/heliport (ICAO location indicator, name, designator IATA, served city, certified ICAO, certification date, certification expiration date, control type, field elevation, reference temperature, magnetic variation, reference point);
- ✈ Runway (designator, nominal length, nominal width, surface type, strength);
- ✈ Runway direction (designator, true bearing, threshold, take off run available (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA), landing distance available (LDA));
- ✈ Final approach and take-off (FATO) (designation, length, width, threshold point);
- ✈ Touchdown and left-off (TLOF) (designator, centre point, length, width, surface type);
- ✈ Radio navigation aid (type, identification, name, aerodrome/heliport served, hours of operation, magnetic variation, frequency/channel, position, elevation, magnetic bearing, true bearing, zero bearing direction);





The AIP Data Sets file will have the following name structure:
"OE_AIP_DS_Variant_YYYYMMDD.xml", where:



AIP_DS is a fixed text (meaning "AIP Data Set").



Variant is a mandatory element, and it can take one of the following values:

- » FULL - when the file contains a complete AIP data set or a subset thereof.
- » DIFF_BL - when the file contains an AIP Data Set Differences variant coded with BASELINE TimeSlices.
- » DIFF_DELTA - when the file contains an AIP Data Set Differences variant coded with PERMDelta TimeSlices.
- » SUP - when the file contains a Supplementary AIP Data set.

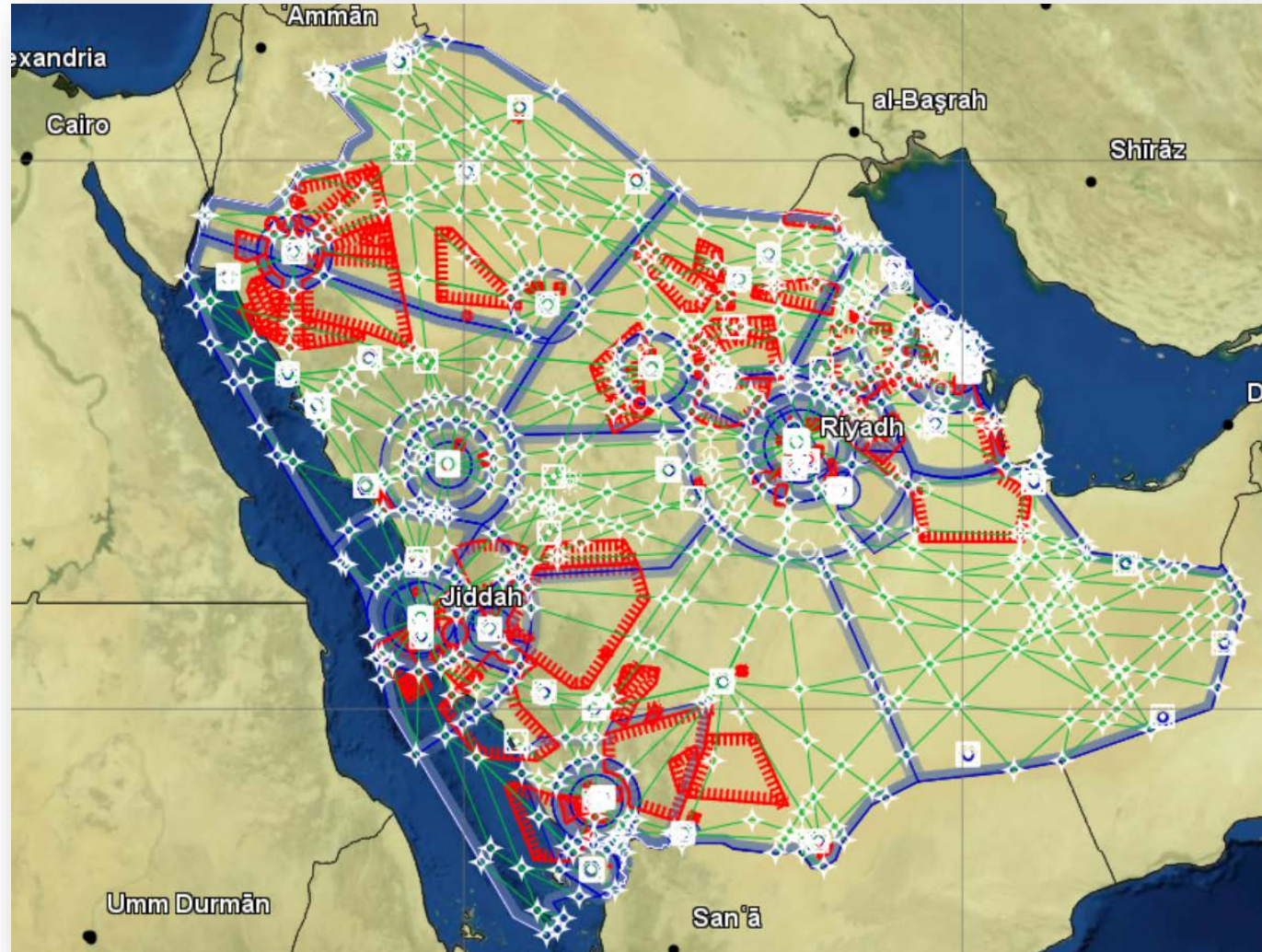


YYYYMMDD is the start of effective date in the format year, month, date.



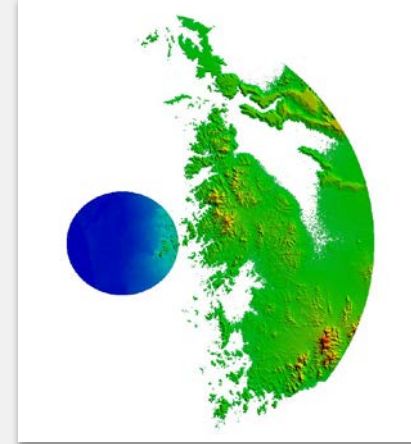
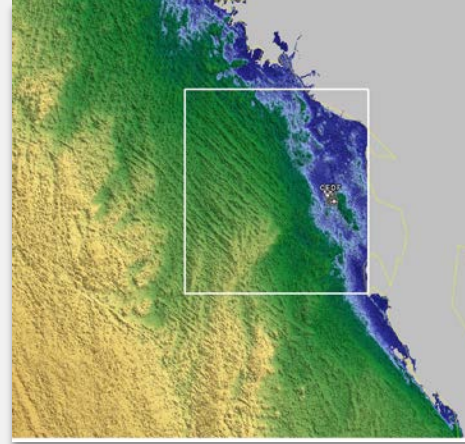


Publication of AIP digital
data sets

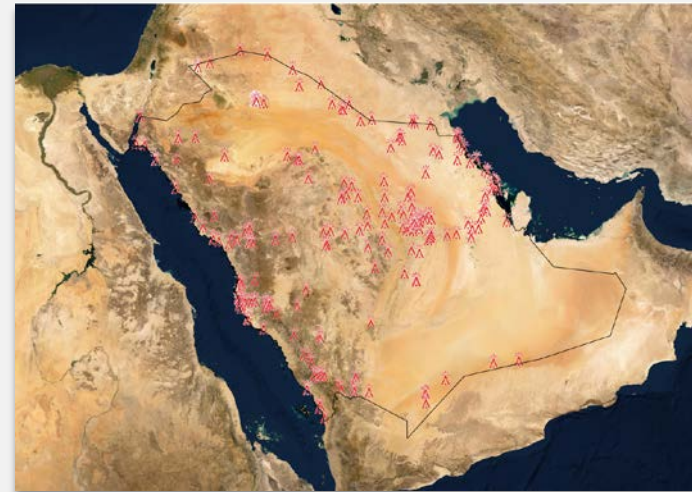




**Publication of Terrain data sets
for Area 1 and Area 2**



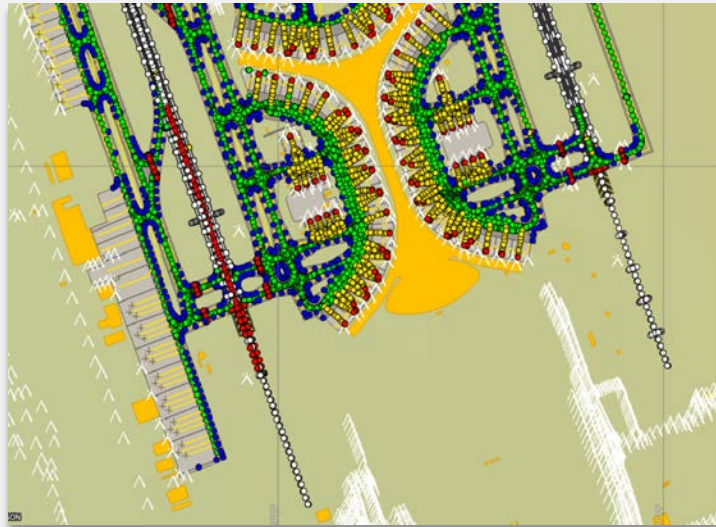
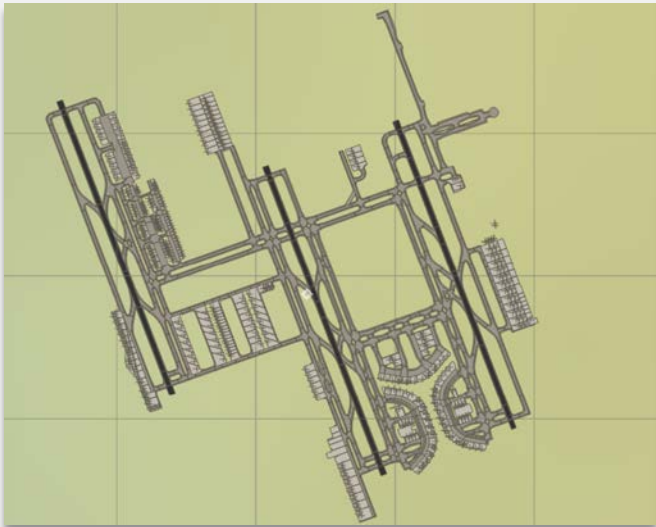
**Publication of obstacle data sets
for Area 1, Area 2 and Area 3**





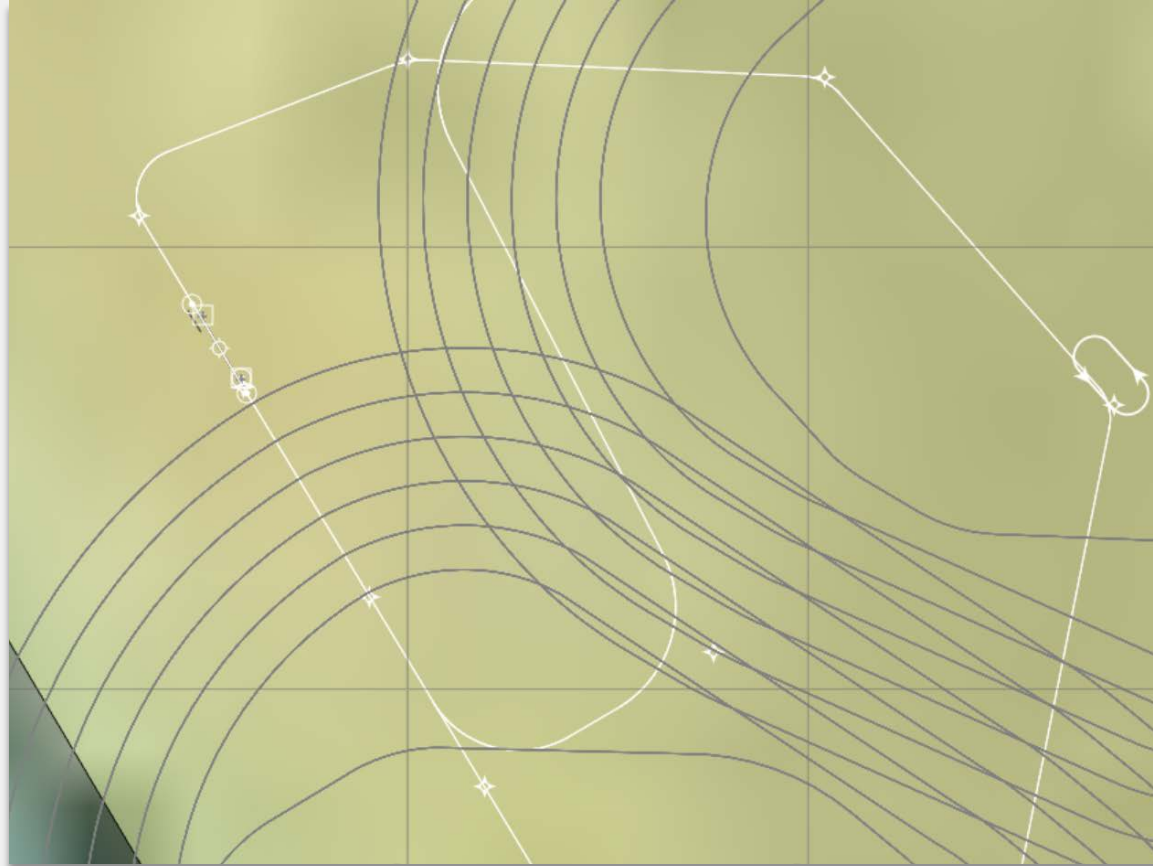
Aerodrome Mapping Data Base management (AMDB digital Data sets):

»» Validation of Aerodrome Mapping data sets in progress





Instrument Flight Procedure Data sets





SWIM Implementation

»» Four-phase plan builds capability progressively from governance and pilots to production services and a governed aviation data economy

Phase 0 - Mobilisation, Governance & Regulatory Alignment

A set of workstreams that collectively deliver the Phase 1 “start conditions.”

Phase 1 - Foundations & Pilot Services

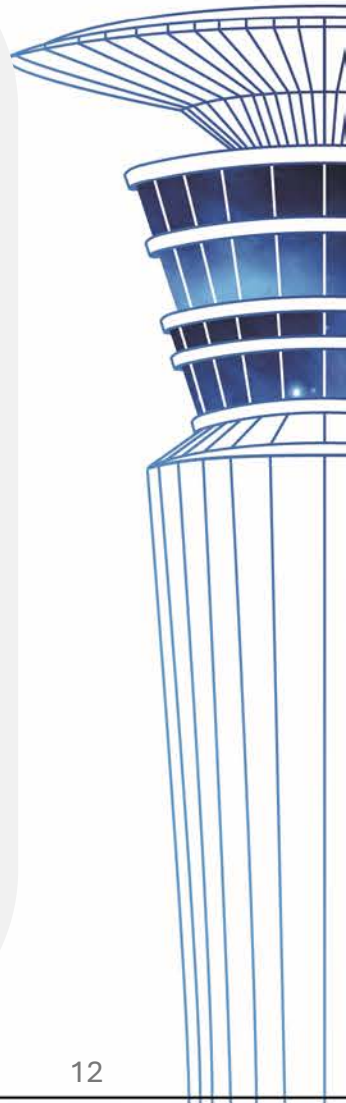
SWIM moves from “designed” to “working” through controlled pilots: platform + registry + first services + early adopters

Phase 2 - Production SWIM & Service Expansion

SWIM becomes national-grade operational infrastructure and expands services into core network domains

Phase 3 - Advanced Capabilities

Transformation completes — SWIM becomes the information backbone that enables full FF-ICE/TBO and a governed aviation data economy





Main challenges of Transition from AIS to AIM:

- » Interoperability and Standardization
- » Data Quality and Integrity
- » Staff training requirements
- » Cybersecurity concerns





Thank you