International Civil Aviation Organization

Second Meeting of the Aeronautical Information Management Digitalization and Planning Task Force (AIMDP TF/2)

(Virtual, 21 April 2026)

Agenda Item 3: AIM digitalization and Planning

STATUS OF THE TRANSITION FROM AIS TO AIM AND DIGITAL DATA SETS PROVISION

(Presented by the Secretariat)

SUMMARY

This working paper presents the results of the survey conducted across MID States to assess the current status of the transition from Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM) and the level of digitalization of aeronautical information management capabilities. The survey was undertaken in direct support of the AIMDP Task Force work programme and, specifically, in fulfilment of Workstream 2 objectives related to regional readiness assessment and gap analysis.

The paper provides a structured analysis of implementation levels across ten digital AIM capability domains, identifies key regional trends and inter-State variability, and presents findings relevant to the planning of targeted capacity-building and implementation support activities. The survey was circulated to all 15 MID States under State Letter AN 8/4 – 25/201, with 13 States providing responses, representing an 87 per cent response rate and forming the analytical basis of this paper.

Action by the meeting is at paragraph 3.

REFERENCES

- AIMDP TF/1 Report, Amman, Jordan, 20–21 January 2025
- MIDANPIRG/22 Conclusions and Decisions
- MID Region AIS to AIM Transition Status Report, March 2026 (MID/AIMDP-TF/WS2/001)

1. INTRODUCTION

1.1 In line with MIDANPIRG/22 outcomes and the work programme established at the first meeting of the AIMDP Task Force (AIMDP TF/1, Amman, Jordan, 20–21 January 2025), the ICAO MID Regional Office circulated a survey to all 15 MID States under State Letter AN 8/4 – 25/201 to assess the current status of the transition from Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM) and the level of implementation of digital aeronautical information management capabilities across the Region.

1.2 The survey is a direct deliverable of Workstream 2 of the AIMDP Task Force, which is mandated to conduct a structured readiness assessment and gap analysis across MID States, monitor implementation progress, and provide the evidence base for regional planning and reporting to MIDANPIRG.

1.3 The survey instrument was structured around ten implementation domains corresponding to the core elements of a mature digital AIM environment, as derived from applicable ICAO Standards and Recommended Practices and regional implementation priorities:

(i) Basic Building Blocks (BBB) — regulatory, procedural, and quality management foundations; (ii) Automation in AIM — data-centric workflows and system integration; (iii) Terrain digital data sets; (iv) Obstacle digital data sets; (v) Electronic AIP (eAIP); (vi) Aerodrome Mapping Database (AMDB); (vii) Electronic charting (eCharting); (viii) NOTAM modernization; (ix) Training in AIM digitalization; and (x) Digital pre-flight briefing.

1.4 A total of 13 MID States provided responses to the survey, representing 87 per cent of all MID States and forming the analytical basis of the regional assessment presented in this paper. Two MID States did not submit responses within the survey period; their implementation status has accordingly not been included in the quantitative regional analysis. The detailed findings, including individual State assessments and domain-level analysis, are contained in the MID Region AIS to AIM Transition Status Report (MID/AIMDP-TF/WS2/001, March 2026), which is provided to the meeting as an associated reference document.

2. DISCUSSIONS

2.1 The transition from AIS to AIM represents a fundamental transformation in the way aeronautical data and information are originated, managed, validated, exchanged, and applied across the aeronautical data chain. It is no longer limited to the digitization of traditional aeronautical information products. It requires the progressive establishment of a data-centric environment grounded in quality-assured aeronautical data, formal arrangements with data originators, automated data processing workflows, structured digital data sets, and improved distribution mechanisms supporting regional and global interoperability.

2.2 This transition is directly aligned with the Aviation System Block Upgrades (ASBUs) framework of the ICAO Global Air Navigation Plan (GANP, Doc 9750, Sixth Edition), which identifies the provision of trusted digital aeronautical information as a foundational enabler for future ATM concepts, including Flight and Flow — Information for a Collaborative Environment (FF-ICE) and Trajectory-Based Operations (TBO).

2.3 Against this background, the AIMDP Task Force survey was designed to establish a reliable regional baseline, identify structural gaps, and inform the development of a differentiated capacity-building and implementation roadmap proportionate to the diverse maturity levels of MID States.

2.3 *Regional Overview*

2.3.1. The survey results indicate that the MID Region has made measurable and meaningful progress in the transition from AIS to AIM; however, the overall level of implementation of digital AIM capabilities across the Region remains at an intermediate stage, with significant work required across most States and most implementation domains.

2.3.2. Based on the responses of the 13 participating States, the regional average implementation rate across all ten survey domains is assessed at 59 per cent, with an estimated 41 per cent of the overall regional implementation programme remaining to be completed. This result reflects a Region that has advanced beyond the initial stages of AIM awareness and planning, but has not yet achieved the consistent, operational digitalization required to support a fully data-centric and interoperable AIM environment.

2.3.3. The distribution of responding States across four implementation maturity levels is summarized in the table below:

Maturity Level	Score Range	MID States	Count
Mature	75% – 100%	Qatar (89%), Saudi Arabia (86%), Bahrain (83%), UAE (82%), Kuwait (78%)	5
Advanced	55% – 74%	Egypt (60%), Sudan (58%), Jordan (55%)	3
Developing	30% – 54%	Libya (49%), Oman (47%), Lebanon (42%), Iraq (36%)	4
Initial	0% – 29%	Syria (1%)	1

2.3.4. The five States in the Mature band collectively demonstrate that a high level of digital AIM implementation is operationally achievable within the MID Region, and that the necessary governance, institutional, and technical conditions can be successfully established. These States constitute important regional reference cases and potential sources of structured peer support and knowledge transfer to less advanced States.

2.4 *Implementation Trends by Domain*

2.4.1. Analysis of results across the ten survey domains reveals a consistent and structurally significant pattern: implementation levels are considerably stronger in foundational and governance-oriented domains than in operational digital AIM services and advanced data set capabilities. Domain-level regional averages are presented in the Table below.

Implementation Domain	Regional Average	Performance Band
Basic Building Blocks (BBB)	93%	Strong
Training	88%	Strong
Obstacle data sets	83%	Strong
Electronic AIP (eAIP)	80%	Strong
Electronic charting (eCharting)	66%	Moderate
Terrain data sets	65%	Moderate
Automation in AIM	62%	Moderate
Digital pre-flight briefing	50%	Weak
Aerodrome Mapping Database (AMDB)	42%	Weak
NOTAM modernization	41%	Weak
Regional Overall Average	59%	

2.4.2. Strong implementation domains. Basic Building Blocks achieve the highest regional average at 93 per cent, confirming that the majority of MID States have established the foundational regulatory, procedural, and quality management arrangements necessary to underpin AIM operations in accordance with ICAO Annex 15 and PANS-AIM. Training (88%), obstacle data (83%), and eAIP (80%) similarly reflect areas of relative regional strength, indicating that the transition from paper-based to electronic publication and the establishment of training arrangements are broadly advanced across the Region.

2.4.3. Moderate implementation domains. Terrain data (65%), automation in AIM (62%), and eCharting (66%) represent areas of meaningful but incomplete progress. These domains are at intermediate implementation stages across many States, confirming that investment and development activity is underway but has not yet been brought to full operational completion.

2.4.4. Weak implementation domains. Digital pre-flight briefing (50%), AMDB (42%), and NOTAM modernization (41%) are assessed as the three most critical regional implementation gaps. These are not only the lowest-scoring individual domains; they also represent the elements of the digital AIM

environment most directly associated with the delivery of real-time, operational digital services to end users — the "output" end of the aeronautical information chain. The combination of low scores across all three areas confirms that, while MID States have made reasonable progress in establishing foundational and data origination elements, the transition to fully operational digital AIM service delivery remains substantially incomplete at the regional level.

2.4.5. The structural gap between strong foundational domain performance (BBB, training, obstacle, eAIP averaging above 80%) and weak operational service domain performance (briefing, AMDB, NOTAM averaging below 45%) is a defining characteristic of the Region's current AIM implementation profile. This gap should be the primary basis for prioritizing future investment, technical assistance, and regional cooperation activities.

2.5 *Variability Across States*

2.5.1. The survey results reveal substantial variation in AIM implementation maturity across MID States, with overall scores ranging from 89 per cent (Qatar) to 1 per cent (Syria) a spread of 88 percentage points. This degree of variability reflects differences in institutional capacity, financial and human resources, operational environment, and the pace at which individual States have been able to progress through the AIS-to-AIM transition.

2.5.2. Several observations are particularly relevant in this regard:

(a) States in the Mature band : Qatar, Saudi Arabia, Bahrain, UAE, and Kuwait , have demonstrated that advanced levels of AIM digitalization, encompassing governance, digital data sets, electronic publication, automation, charting, and operational services, are collectively achievable within the MID operational context. Their experience represents directly applicable reference material for less advanced States.

(b) States in the Advanced and Developing bands : Egypt, Sudan, Jordan, Libya, Oman, Lebanon, and Iraq , exhibit varied internal profiles, with strong performance in foundational domains often contrasting sharply with limited progress in NOTAM modernization, AMDB, and briefing automation. This pattern is consistent across multiple States and suggests that structural barriers specific to these high-complexity, operationally oriented domains are not being adequately addressed through existing implementation pathways.

(c) NOTAM modernization is the single lowest-scoring implementation domain across the Region and remains a critical gap even among several Mature-band States. This anomaly suggests that NOTAM digitalization faces specific technical, procurement, or regulatory barriers that require dedicated attention at both the national and regional levels, including a structured regional approach to modernization planning.

(d) Oman presents a structurally distinctive and cautionary profile: near-complete regulatory and publication implementation (Basic Building Blocks 98%, eAIP 97%) is accompanied by near-zero terrain data (10%), AMDB (0%), and eCharting (21%) scores. This profile illustrates the risk of uneven implementation along the AIM data chain and underscores the importance of a balanced, end-to-end approach to AIM development at the national level.

(e) Syria records a score of 1 per cent, reflecting extraordinary circumstances that are not comparable to those of other States in any maturity band. Syria's situation requires a specifically tailored, long-term support approach , beginning with institutional stabilization and foundational AIM capacity reconstruction rather than standard AIM digitalization programming.

2.5.3. The significant diversity of implementation profiles across MID States confirms that no single, uniform approach to AIM development is appropriate for the Region as a whole. Regional implementation frameworks and support mechanisms must be designed to accommodate a wide range of starting points, implementation rates, and available resources.

2.6 *Key Observations*

2.6.1. The following key findings are drawn from the survey results:

(a) The MID Region has achieved a regional average AIM implementation rate of 59 per cent across 13 responding States, indicating meaningful but incomplete progress toward a fully digital AIM environment;

(b) Five States have achieved Mature-band status (above 75%), demonstrating that a high level of AIM digitalization is achievable in the MID context and providing a reference basis for regional peer-support mechanisms;

(c) The three most critical regional gaps are NOTAM modernization (41%), AMDB (42%), and digital pre-flight briefing (50%), which collectively represent the most significant barriers to the completion of the end-to-end digital AIM service chain in the Region;

(d) A structural imbalance exists between strong foundational implementation (governance, QMS, eAIP, training) and weak operational service delivery (NOTAM, AMDB, briefing), confirming that the Region's primary implementation challenge is no longer foundational awareness but the completion of advanced digital AIM capabilities;

(e) Inter-State variability : ranging from 89% to 1% is the defining characteristic of the regional landscape and necessitates a maturity-tiered, differentiated approach to capacity-building and implementation support; and

(f) Two MID States did not respond to the survey, representing a gap in the regional evidence base that should be addressed through direct follow-up engagement prior to AIMDP TF/3.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the results of the AIS to AIM transition and digitalization survey in the MID Region as presented in this working paper and detailed in the Appendix A- MID Region AIS to AIM Transition Status Report (MID/AIMDP-TF/WS2/001, March 2026);
b) acknowledge the current level of implementation and variability among States;
c) task the Capacity-Building Roadmap workstream to develop a tailored implementation support plan, based on the survey results (including workshops, training courses and Go-Teams); and
d) Agree that progress against the regional implementation baseline established by this survey be formally reviewed at each subsequent AIMDP Task Force meeting, using a consistent monitoring framework to be developed by the WS5: Progress Monitoring Mechanism.

AIS to AIM Transition and Digitalization Status Report

Document Reference: MID/AIMDP-TF/WS2/001

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Date: March 2026

Prepared by: ICAO MID Regional Office — AIMDP Task Force, Workstream 2

Document History

Version	Date	Description
1.0	March 2026	Initial edition based on 13 State survey responses

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List of Abbreviations

Abbreviation	Meaning
AIM	Aeronautical Information Management
AIMDP TF	AIM Digitalization and Planning Task Force
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIS	Aeronautical Information Services
AISP	Aeronautical Information Service Provider
AMDB	Aerodrome Mapping Database
AIXM	Aeronautical Information Exchange Model
BBB	Basic Building Block
eAIP	Electronic Aeronautical Information Publication
GANP	Global Air Navigation Plan
GATMOC	Global Air Traffic Management Operational Concept
ISO	International Organization for Standardization
KPI	Key Performance Indicator
MID	Middle East
MIDANPIRG	Middle East Air Navigation Planning and Implementation Regional Group
NOTAM	Notice to Airmen
SWIM	System Wide Information Management
WS2	Workstream 2

Executive Summary

This report presents a comprehensive assessment of the transition from Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM) across the ICAO MID Region, together with an evaluation of the digitalization maturity of key AIM milestones. The analysis is based on structured self-assessment responses from 13 of the 15 MID States, representing 87 percent regional response rate, and covers ten implementation areas: the Basic Building Block (BBB) framework, automation in AIM, terrain data, obstacle data, electronic AIP (eAIP), Aerodrome Mapping Database (AMDB), electronic charting, NOTAM, training, and aeronautical information briefing.

At regional level, the MID Region has achieved an average overall implementation level of 59 percent. This result indicates that the region has progressed beyond foundational compliance but has not yet achieved consistent operational digital maturity across all implementation areas. Progress is strongest in the BBB domain (83 percent), training (69 percent), obstacle data (66 percent), and eAIP (65 percent). The most significant regional gaps remain in digital NOTAM (41 percent), AMDB (42 percent), briefing automation (50 percent), and end-to-end AIM automation (56 percent).

The results reveal a region of significant maturity variation. Five States are assessed as mature (Qatar at 89 percent, KSA at 86 percent, Bahrain at 83 percent, UAE at 82 percent, and Kuwait at 78 percent). Three States are assessed as advanced (Egypt at 60 percent, Sudan at 58 percent, and Jordan at 55 percent). Four States are in the developing category (Libya at 49 percent, Oman at 47 percent, Lebanon at 42 percent, and Iraq at 36 percent). One State, Syria, remains at an initial stage (1 percent), reflecting the exceptional circumstances prevailing in that State.

This distribution confirms that the MID Region possesses credible implementation experience and several high-performing reference cases. However, regional harmonization continues to be constrained by uneven national capability, differing levels of automation, and the incomplete operationalization of digital products and data exchange mechanisms.

Key regional messages

Foundational compliance is broadly established. The majority of responding States have an Aeronautical Information Service Provider (AISP) designated, regulatory arrangements in place, AIRAC discipline maintained, and a quality management framework operational.

The transition remains uneven within the data chain. Advanced publication capability in some States is not matched regionally by equivalent readiness for AMDB, digital briefing, or automated exchange with data originators and end users.

The next phase for the region is not only additional compliance, but greater harmonization, automation, and operational usability of digital AIM outputs.

1. Introduction & Scope

1.1. Background:

Since the early 2000s, the aeronautical information domain has been undergoing a fundamental transition from the provision of traditional, paper-based aeronautical information services toward the management and digital delivery of aeronautical data and information. Accelerating this transition is essential to fully realize the vision of the Global Air Traffic Management Operational Concept (GATMOC), as defined in ICAO Doc 9854. Within that vision, AIM operationalizes the information pillar by providing standardized, digital, and interoperable aeronautical data that enables efficient, collaborative, and trajectory-based air traffic management in support of the ICAO Global Air Navigation Plan (GANP, Doc 9750).

In the ICAO MID Region, the AIM Digitalization Programme Task Force (AIMDP TF) was established under MIDANPIRG to drive and harmonize the deployment of digital AIM across the region, while addressing key priority areas to achieve a more uniform and efficient aeronautical information management environment. The AIMDP TF operates through five prioritized workstreams, each led by designated State champions and aligned with phased deliverables. Workstream 2 (WS2), co-led by Oman and the ICAO MID Regional Office, is responsible for the Readiness Assessment Framework, with the mandate to develop a gap-analysis methodology framework and produce State-level gap analysis reports.

In fulfilment of this mandate, the ICAO MID Regional Office issued a structured survey to all MID States on 11 September 2025 (SL Ref.: AN 8/4 – 25/201), requesting States to provide a self-assessment of their progress in AIM digitalization and the transition from AIS to AIM. Responses were received from 13 States by the time of analysis.

The present report is designed to provide an evidence-based snapshot of current regional implementation status, identify areas of strength and weakness, and support regional discussion on priorities for the next stage of implementation. The report describes where the MID Region stands as of early 2026.

1.2. Objective

The objective of this report is to assess the current status of the AIS to AIM transition and AIM digitalization across the ICAO MID Region, in order to identify implementation progress, maturity levels, systemic gaps, and cross-cutting issues that may affect regional harmonization and operational interoperability.

1.3. Scope

- **Geographical scope:** All responding States from the ICAO MID Region (13 States). Iran and Yemen are not represented due to the absence of responses at the time of analysis.
- **Subject scope:** Governance and compliance foundations, automation, core digital data sets, digital products and services, training, and aeronautical information briefing.
- **Analytical scope:** Regional trends, implementation maturity by State, implementation maturity by domain, and qualitative interpretation of key challenges and support needs.
- **Regulatory reference:** The assessment framework is aligned with ICAO Annex 15 (Aeronautical Information Services), PANS-AIM (Doc 10066), Doc 8126 (Aeronautical Information Services Manual and relevant ICAO guidance.

- **Disclaimer:** The report does not attribute underperformance to any State individually. Results are presented for regional planning purposes and to support a strategy and roadmap towards a vision for Aeronautical Information Management based on a harmonized and digitised AIS.

2. Methodology

The analysis draws upon four primary sources: the official survey issuance letter from the ICAO MID Regional Office (SL Ref.: AN 8/4 – 25/201); the structured survey questionnaire; the individual State response workbooks submitted by 13 responding States; and the initial draft results compilation prepared from the survey data. Iran and Yemen are not represented in the analysis as no response was received from either State within the analysis period.

The survey framework covered ten implementation areas and incorporated both quantitative scoring and qualitative questions. Quantitative results were aggregated to derive completion percentages by State and by implementation area. Qualitative responses were reviewed to identify common implementation barriers, enabling factors, and support requirements.

Source	Purpose in this report	Use
Survey letter	Defines official regional context and action requested	Background and methodology
Questionnaire structure	Defines implementation areas and detailed indicators	Analytical framework
State response workbooks	Primary evidence base	Scoring, readiness indicators, and qualitative observations
Initial draft results report	Consolidates charts and aggregate percentages	Cross-checking and presentation baseline

2.1 Maturity model used in this report

To facilitate interpretation of the regional picture, the report classifies overall State performance into four maturity levels:

Level	Range	Interpretation
Initial	0 – 25%	Foundational structures not yet broadly in place; substantial support required
Developing	26 – 50%	Partial implementation visible but uneven across domains
Advanced	51 – 75%	Key structures established with operational capability in several domains; gaps remain in specific higher-complexity areas
Mature	76 – 100%	Broad-based implementation across most domains; selective remaining gaps

These classifications serve as analytical reference points for regional discussion. They do not constitute formal ICAO compliance determinations and are not intended to replace any ICAO Universal Safety Oversight Audit Programme (USOAP) findings.

2.2 Limitations

The survey is based on State self-assessment and therefore reflects the level of detail and interpretation provided by each individual respondent. Independent verification of reported scores was not undertaken as part of this exercise.

The survey provides strong visibility over implementation status indicators, but offers more limited direct evidence on certain advanced operational topics, such as full SWIM service operationalization, end-to-end data service consumption, and actual data quality performance.

States with equal overall completion percentages may represent significantly different underlying operational realities. The maturity levles and aggregate scores should therefore be interpreted in conjunction with the domain-level detail provided in Annexes B and C.

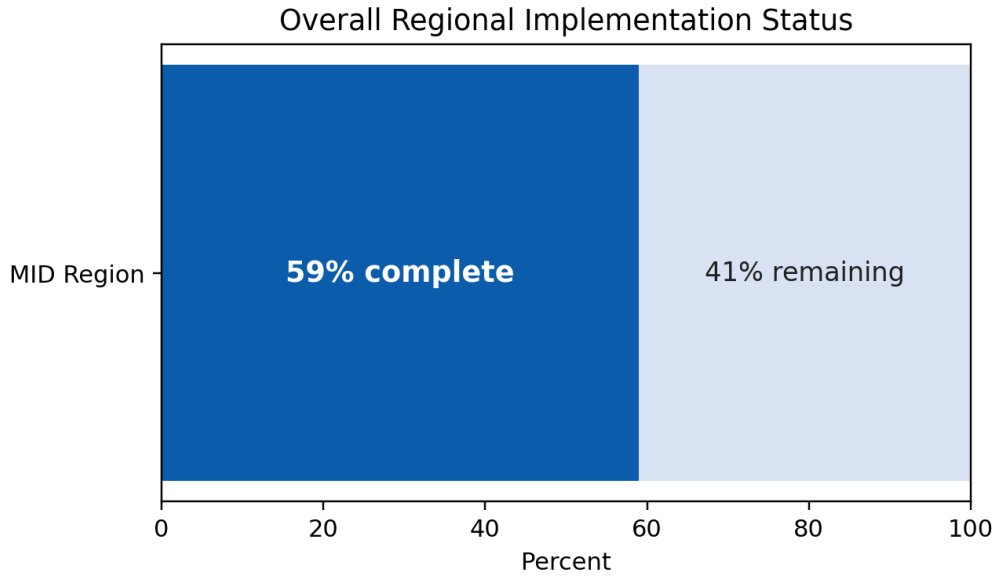
The response rate of 87 percent (13 of 15 MID States) is considered representative for regional planning purposes. However, the absence of responses from Iran and Yemen means that the regional picture is incomplete with respect to geographic coverage.

3. Analysis

3.1 Regional overview

The regional average of 59 percent confirms that the MID Region is actively in transition, but has not yet reached a state of consistent operational digital AIM maturity, as illustrated in Figure 1. The strongest results are concentrated in foundational and compliance-related domains. The BBB reaches 83 percent, reflecting that the majority of responding States have established core AIS structures, AIRAC arrangements, and baseline governance frameworks in accordance with ICAO Annex 15. Training at 69 percent indicates that many States have at least a basic training framework in place, although the depth and institutional sustainability of training arrangements remains uneven.

Data set-related implementation is mixed. Obstacle data (66 percent) and terrain data (62 percent) show moderate progress, suggesting that a substantial number of States have begun building the underlying digital data environment necessary to support AIM evolution. The eAIP result of 65 percent also indicates that the region is advancing from traditional product-centric publication toward more structured digital publication. However, AMDB remains at only 42 percent, confirming that airport-surface digitalization — a prerequisite for more advanced collaborative operations and surface data use cases — has not yet been broadly established.



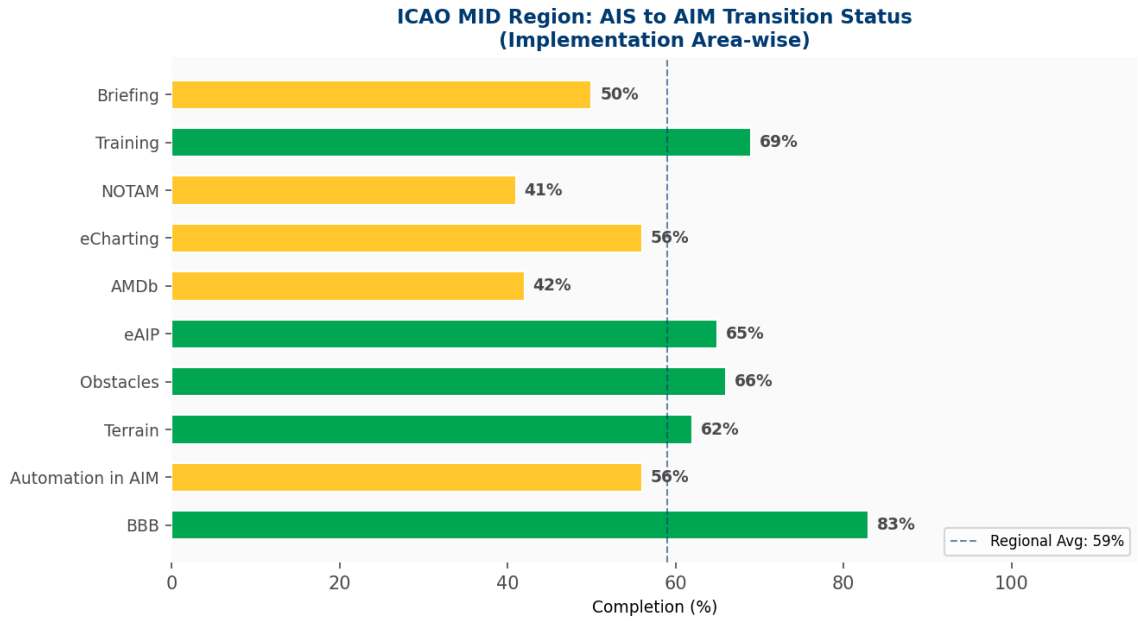


Figure 1. Regional performance by implementation area

3.2 State maturity distribution

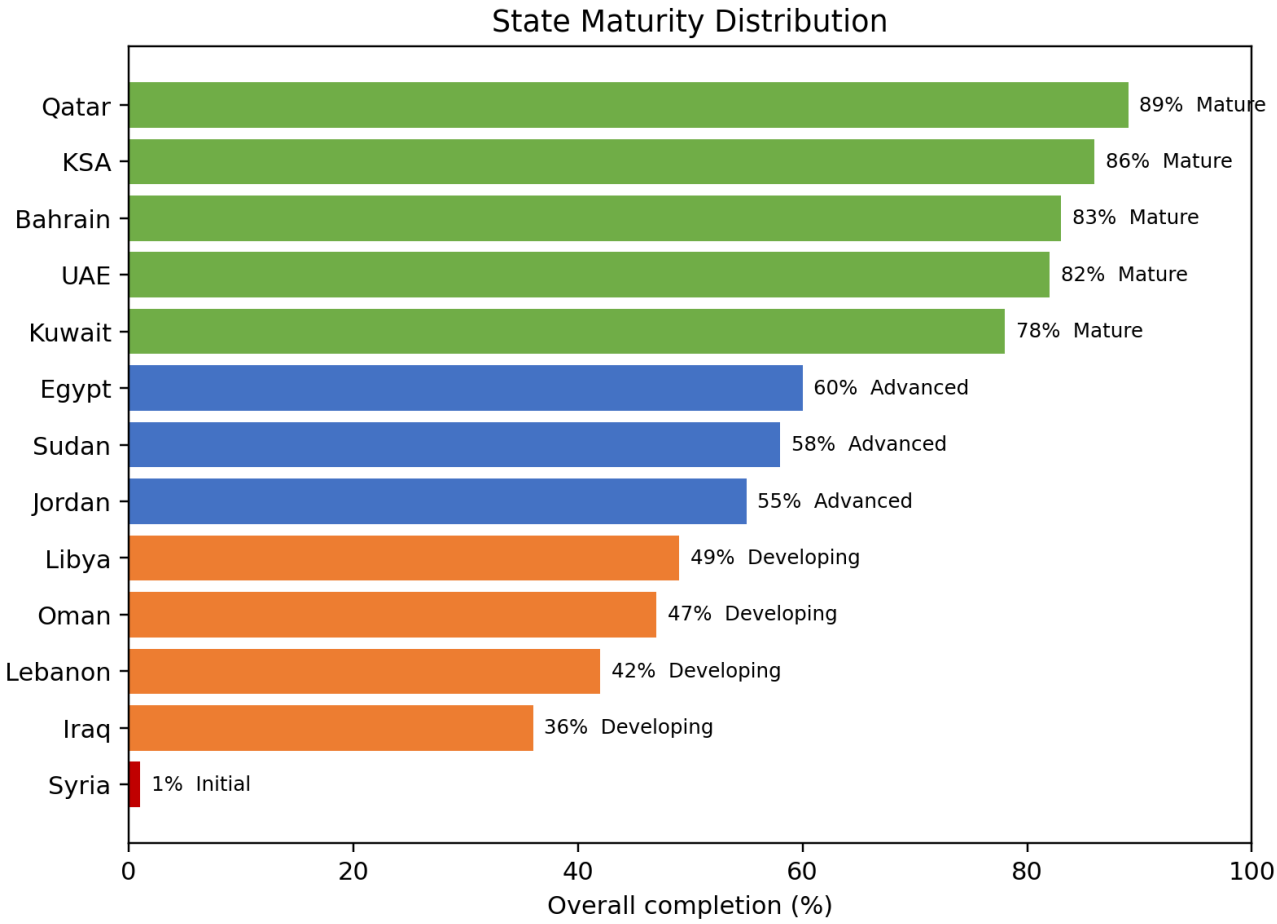


Figure 2. Overall State maturity distribution

Five States are assessed as mature overall: Qatar (89 percent), KSA (86 percent), Bahrain (83 percent), UAE (82 percent), and Kuwait (78 percent). These States demonstrate broad-based implementation across the majority of survey areas and represent the leading reference cases within the region. Their performance confirms that the MID Region already contains practical examples of mature digital AIM transition that can be leveraged for regional learning and peer support.

Three States are assessed as advanced: Egypt (60 percent), Sudan (58 percent), and Jordan (55 percent). These States have established key enabling structures and demonstrated capability across several digital domains, but continue to show gaps in specific higher-complexity areas such as AMDB or briefing automation.

Four States fall in the developing category: Libya (49 percent), Oman (47 percent), Lebanon (42 percent), and Iraq (36 percent). In these cases, implementation is visible but structurally uneven. Notably, Oman presents a distinctive profile: despite strong foundational scores in BBB (98 percent), eAIP (97 percent), and training (93 percent), its overall average is constrained by near-zero scores in terrain data (10 percent), AMDB (0 percent), NOTAM (21 percent), and eCharting (21 percent). This profile reflects selective implementation depth rather than broad-based weakness and illustrates the importance of reading aggregate scores in conjunction with domain-level detail.

One State, Syria (1 percent), remains at an initial stage. The exceptionally low score across all implementation areas reflects the prevailing operational and institutional circumstances in that State and should be treated separately in regional planning, with appropriate support pathways tailored to national conditions.

Maturity Level	Range	States
Mature	76–100%	Qatar, KSA, Bahrain, UAE, Kuwait
Advanced	51–75%	Egypt, Sudan, Jordan
Developing	26–50%	Libya, Oman, Lebanon, Iraq
Initial	0–25%	Syria

3.3 Detailed interpretation by implementation theme

3.3.1 Governance, compliance and institutional foundations

The BBB domain is the strongest regional result at 83 percent. This indicates that, across most responding States, the transition from AIS to AIM is being built on an established base of regulatory oversight, defined service provision responsibilities, AIRAC adherence, and core quality management arrangements consistent with ICAO Annex 15 and Doc 8126. The survey responses confirm that 11 States reported a quality management system in place, of which 8 indicated ISO certification. Additionally, 8 States reported that formal arrangements with data originators or other AISPs had been established, while 3 reported such arrangements to be in progress.

This strong governance baseline is strategically significant. The region is not commencing from a position without established foundations; rather, many States already possess the institutional framework required to underpin more advanced digitalization. However, material gaps persist. The uneven status of formal data originator arrangements, the presence of non-certified quality management systems in several States, and the continued impact of resource-related implementation

barriers indicate that baseline governance does not yet guarantee a uniformly digital and reliable data chain across the region.

3.3.2 Automation, data-centric AIM, and interoperability

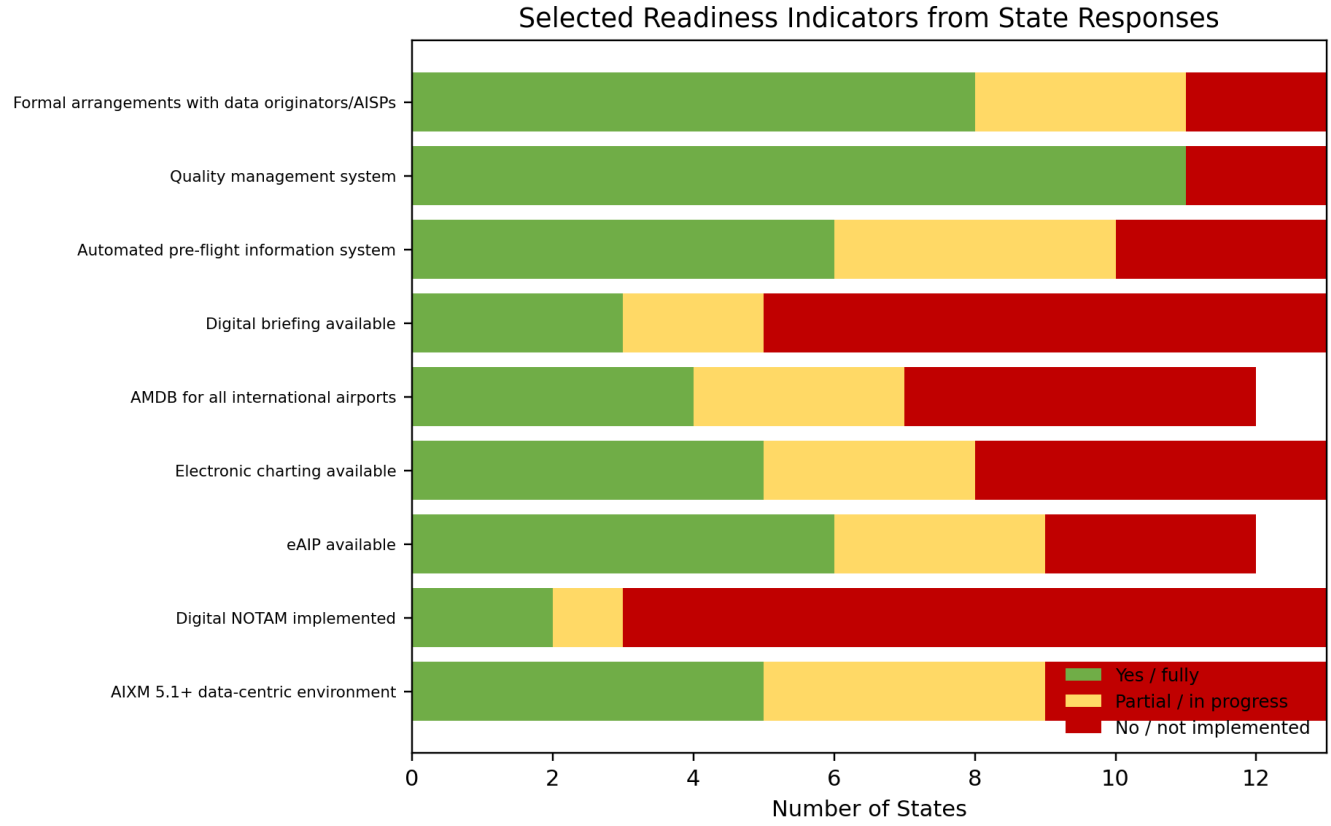


Figure 3. Selected readiness indicators derived from State responses

Automation in AIM averages 56 percent across the region and exhibits the most pronounced disparity between leading and lagging States. The indicator on migration to an AIXM 5.1+ data-centric environment is particularly informative: 5 States reported full implementation, 4 reported partial implementation, and 4 reported that such an environment has not yet been established. This confirms that the region is progressing toward data-centric AIM but has not yet achieved consistent implementation.

In operational terms, the results indicate that the MID Region currently contains three distinct implementation groups: a first group already operating in, or approaching, a modern automated environment consistent with ICAO digital AIM standards; a second group in partial transition with key system components in place but not yet fully operational; and a third group still relying largely on manual or fragmented processes. This disparity is one of the primary constraints on regional harmonization, since digital interoperability depends not only on national progress within individual States but on compatible maturity across the broader information chain.

Qualitative responses reinforce this interpretation. States identified the following barriers to automation progress: limited availability of source data in formats suitable for AIXM-based processing; absence of automated interfaces with data originators; insufficient technical capacity and trained personnel; requirements for SWIM-related infrastructure investment; and cybersecurity considerations for two-way data exchange. These findings confirm that achieving automation maturity is not simply a system

procurement challenge — it requires a coordinated approach encompassing data readiness, technical architecture, workforce development, and institutional coordination with multiple stakeholders.

3.3.3 Digital data sets and publication products

The regional picture for digital data sets is mixed. Terrain (62 percent) and obstacle (66 percent) data show moderate to satisfactory progress, suggesting that a significant number of States have invested in the foundational datasets that underpin AIM digitalization and support safety-critical applications including instrument flight procedure design and flight planning. The eAIP result of 65 percent — with 6 States reporting eAIP availability and 3 reporting partial availability — indicates visible modernization in aeronautical publication, consistent with the ICAO roadmap for structured digital publication under Annex 15.

AMDB, however, remains one of the weakest regional domains at 42 percent. Only 4 States reported AMDB available for all international airports, 3 reported partial coverage, and 5 reported that this capability is not yet in place. This indicates that while the region has made progress on broader data set concepts, airport-surface digitalization represents a persistent and substantial implementation challenge. In operational terms, this constrains readiness for advanced airport collaborative operations, surface movement data use cases, and future digital information services reliant on high-resolution airport spatial data.

Electronic charting at 55 percent presents a similarly mixed picture. Five States reported eCharting availability, five reported non-availability, and three reported partial availability. Chart modernization is therefore underway but not yet regionally stable, and the co-existence of digital and conventional charting modes across the region reduces consistency in product delivery and downstream data use.

3.3.4 NOTAM modernization, briefing, and operational use

The NOTAM domain is the weakest performing implementation area at 41 percent. The direct survey response is unambiguous: only 2 States reported full implementation of digital NOTAM, 1 reported partial implementation, and 10 reported that digital NOTAM has not yet been implemented. This represents the most critical gap identified in the survey from the perspective of operational AIM digitalization.

The significance of this finding extends beyond the NOTAM domain itself. NOTAM serves as the primary conduit between static aeronautical data, dynamic operational change, and end-user consumption. Low digital NOTAM maturity means that even where States have achieved advanced capability in publication or data management, the transition to machine-readable, service-oriented operational information remains incomplete. The consequence is continued dependency on conventional text-based NOTAM workflows, with limited opportunity for automation in pre-flight briefing, intelligent NOTAM filtering, and downstream integration into flight management and air traffic management systems.

The briefing domain supports the same conclusion at 50 percent. Only 3 States reported digital aeronautical information briefing as available, 2 reported partial implementation, and 8 reported that digital briefing is not yet available. Although 6 States reported an automated pre-flight information system in place and 4 reported such capability in progress, the overall regional result confirms that automated operational use of digital AIM outputs is advancing more slowly than publication-side capability. This represents a structural gap in the AIM value chain — the benefits of digital data management are not yet being fully delivered to end users in an operationally efficient form.

3.3.5 Training and implementation sustainability

Training is one of the region's relatively stronger domains at 69 percent. However, the survey data indicates that this result should not be interpreted as confirmation of a fully secure or sustainable implementation base. Eight States reported an established AIS/AIM training manual, while 3 reported none and 2 reported partial status. Only 6 States reported a formal agreement with a recognized training organization. This indicates that while the region has acknowledged the importance of human capability development, institutionalized arrangements for sustained AIM training are not yet universally established.

This assessment is consistent with the support requests received through the survey. Technical workshops and targeted AIM training were the most frequently requested forms of external support. Respondents also expressed needs for peer-State knowledge sharing, structured guidance on newer ICAO digital requirements, and practical implementation assistance. In summary, training represents both a comparative regional strength and a continuing dependency that must be structurally addressed to sustain the pace and quality of AIM digitalization.

3.4 State group observations

Mature States demonstrate a pattern of broad implementation across governance, digital publication, and automation domains, with selective remaining gaps frequently concentrated in AMDB or specific operational digital services such as digital NOTAM or eCharting. These States represent the most valuable regional reference cases and can provide practical implementation experience for regional workshops, peer support programmes, and knowledge-sharing initiatives facilitated by the AIMDP TF.

Advanced States have established credible governance foundations and demonstrated visible progress across multiple domains, but continue to exhibit critical gaps in one or more higher-complexity areas. Their primary near-term implementation gains are likely to come from targeted investment in digital NOTAM, AMDB, briefing automation, and structured data exchange with originators and end users.

Developing States show structurally uneven performance profiles, frequently with acceptable or strong results in one or two domains alongside significant shortfalls in others. For these States, a sequenced implementation approach — addressing foundational capabilities before progressing to more complex digital services — is likely to be more effective and sustainable than attempting concurrent progress across all ten domains.

The initial-stage result for Syria demonstrates clearly that a uniform regional implementation strategy would be insufficient. Regional planning must therefore combine harmonized objectives and timelines with differentiated support pathways that reflect the specific starting points and national circumstances of each State group.

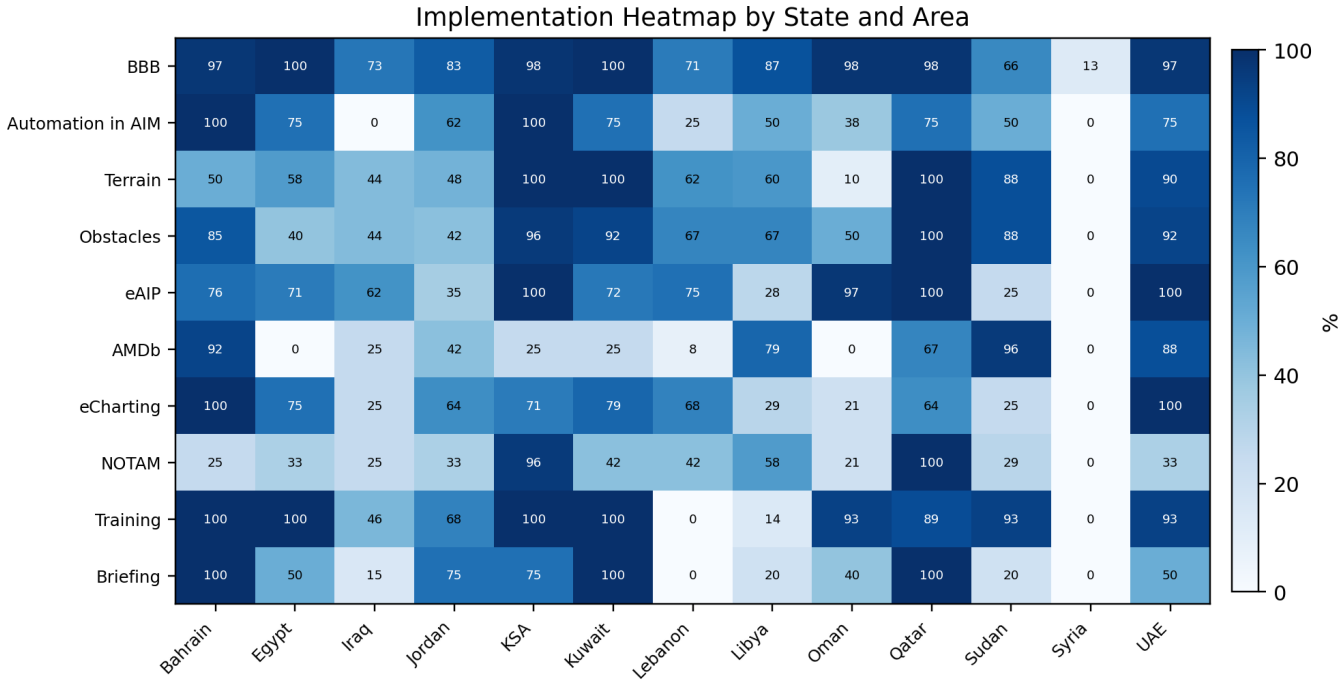


Figure 4. Implementation heatmap by State and implementation area

4. Gap Analysis

The survey results reveal a consistent regional pattern: governance and basic compliance are considerably more advanced than digital operationalization. The following gaps are assessed as the most material from a regional transition and harmonization perspective.

Gap	Evidence from the survey	Regional implication
Digital NOTAM maturity remains low	Only 2 States reported implementation, 1 partial, 10 not implemented	Continued dependence on conventional NOTAM workflows; limited readiness for machine-readable dynamic information and downstream automation
AMDB deployment is uneven and incomplete	Regional average 42%; only 4 States reported AMDB available for all international airports	Limits advanced airport-surface digitalization and constrains future digital service use cases and collaborative airport operations
Automation is not regionally harmonized	AIXM 5.1+ data-centric environment reported as fully implemented in 5 States, partially in 4, not implemented in 4	Interoperability and data exchange maturity differ significantly across the region, inhibiting end-to-end digital AIM chains
Digital briefing capability is underdeveloped	Only 3 States reported digital briefing available, with 8 reporting none	End users do not yet consistently benefit from digital AIM outputs in an operationally efficient and machine-readable form
Institutional capability remains uneven	States consistently cited funding constraints, technical capacity deficits, staffing shortages, guidance gaps, and training needs as barriers	Implementation pace and sustainability may remain inconsistent unless structural capacity constraints are systematically addressed

4.1 Root-cause observations

A synthesis of the qualitative survey responses reveals that the key barriers to AIM digitalization in the MID Region are multidimensional in nature:

Financial and procurement constraints: Funding limitations and associated procurement delays were the most recurrently cited barriers across all State groups, including several States in the developing and advanced categories.

Technical capacity and human resources: Multiple States reported insufficient specialist technical capacity, a shortage of trained AIM digitalization staff, and the need for practical guidance on implementing newer ICAO digital requirements, including AIXM, SWIM, and structured eAIP production.

Data readiness and interface requirements: Several States identified the limited availability of source data in AIXM-compatible formats, the absence of automated interfaces with aeronautical data originators, and insufficient data chain governance as significant constraints on digitalization progress.

Infrastructure and cybersecurity: Requirements for SWIM-related infrastructure investment and cybersecurity frameworks to support two-way digital data exchange were cited as enabling conditions not yet in place in a number of States.

Collectively, these findings confirm that the principal barriers to AIM digitalization are not exclusively technical in nature. They encompass sequencing and prioritization decisions, coordination with data originators and system integrators, access to implementation guidance, and the institutional capacity required to convert system acquisition into operationally sustainable, high-quality digital AIM delivery.

5. Conclusions

The ICAO MID Region has established a credible and measurable foundation for the transition from AIS to AIM. The regional average of 59 percent, supported by the presence of five mature States and three advanced States, confirms that regional implementation momentum exists and that practical, replicable reference cases are available within the region itself.

However, the transition remains structurally uneven and operationally incomplete. The more advanced elements of the regional implementation picture are concentrated in governance, baseline compliance, and selected publication or data set capabilities. The most critical deficiencies persist precisely in those areas that would convert these foundations into a consistently digital, automated, and operationally useful AIM environment — specifically digital NOTAM, AMDB, automated briefing, and end-to-end AIM automation.

From a regional planning perspective, the central strategic challenge is therefore no longer whether the transition has commenced — it clearly has, and at a meaningful scale in several States. The central challenge is how to reduce the maturity gap between States, how to extend operational digitalization beyond the current leading group, and how to progress from a collection of nationally diverse digital capabilities toward a harmonized, interoperable, and operationally effective regional AIM ecosystem consistent with the ICAO GANP objectives and the MIDANPIRG AIM implementation framework.

6. Recommendations

The following recommendations are proposed in an evidence-based and action-oriented manner, directly derived from the survey findings and calibrated to the current maturity of the MID Region. States and the AIMDP TF are invited to consider these recommendations in the context of MIDANPIRG priorities and the phased workstream deliverables.

No.	Recommendation	Rationale	Suggested Target
1	Prioritize digital NOTAM and operational briefing modernization	Given the low regional maturity in NOTAM and briefing, these domains should receive focused regional attention because they are critical to operational use of digital AIM outputs.	
2	Adopt differentiated regional support pathways	Mature, advanced, developing, and initial-stage States have fundamentally different needs. A tiered support model will improve relevance, efficiency, and outcomes. Applying identical support mechanisms to all States is not effective.	Define tiered support framework under WS4 Capacity-Building Roadmap by mid-2026
3	Strengthen implementation support on AIXM, automation, and data exchange	States require practical guidance on data-centric AIM architecture, AIXM data readiness, automated interfaces with originators, and end-to-end distribution workflows.	WS4 to consider the conduct of dedicated AIXM/automation workshops by 2027
4	Accelerate AMDB and airport-surface data development	AMDB at 42% represents one of the most persistent gaps. Lack of guidance combined with unclear obligations.	AMDB is required when there is an operational need, particularly: Aerodromes where: surface movement operations are complex, or advanced guidance systems are in use, such as: • A-SMGCS • electronic flight bags (EFB) with moving maps • enhanced vision / surface awareness systems AIMDP shall define applicability criteria by mid-2026
5	Institutionalize training and peer learning mechanism	Regional workshops, targeted technical training, and peer exchanges coordinated by mature States through the AIMDP TF would address the most frequently cited support need and build sustainable AIM capability across the region.	Define tiered support framework under WS4 Capacity-Building Roadmap by mid-2026

No.	Recommendation	Rationale	Suggested Target
6	Promote stronger formal arrangements with originators and partner AISPs	Formal data originator agreements are essential to improving data quality, timeliness, and readiness for digital exchange. The current status: • 8 States with arrangements established, • 3 in progress, and • 2 not yet addressed, requires active follow-up.	All States to have formal originator arrangements by 2027
7	Document and disseminate mature State implementation practices as regional reference material	Selected best practices from leading States should be systematically documented and shared through AIMDP TF channels to reduce duplication of effort, increase confidence in implementation pathways, and accelerate progress in developing States.	Develop first set of reference practices by end 2026 for sharing with MID States

Annex A. Participation and regional coverage

Thirteen of the 15 ICAO MID States responded to the survey, representing an 87 percent response rate. The responding States are: Bahrain, Egypt, Iraq, Jordan, KSA, Kuwait, Lebanon, Libya, Oman, Qatar, Sudan, Syria, and UAE. Iran and Yemen were not included in the analysis as no response was received from either State within the analysis period.

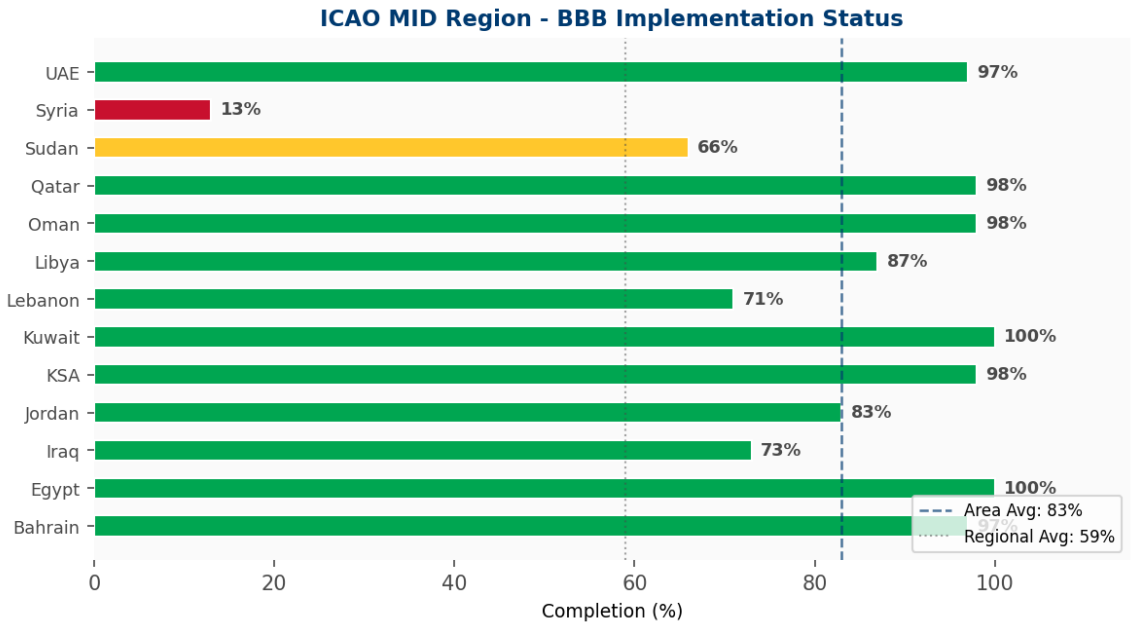
State	Overall completion	Maturity level
Qatar	89%	Mature
KSA	86%	Mature
Bahrain	83%	Mature
UAE	82%	Mature
Kuwait	78%	Mature
Egypt	60%	Advanced
Sudan	58%	Advanced
Jordan	55%	Advanced
Libya	49%	Developing
Oman	47%	Developing
Lebanon	42%	Developing
Iraq	36%	Developing
Syria	1%	Initial
Regional Average	**59%**	**Advanced**

Annex B. Implementation Area-wise Status

This annex presents the AIS to AIM transition completion status for each of the ten implementation areas, including per-State scores and regional averages.

B.1 BBB

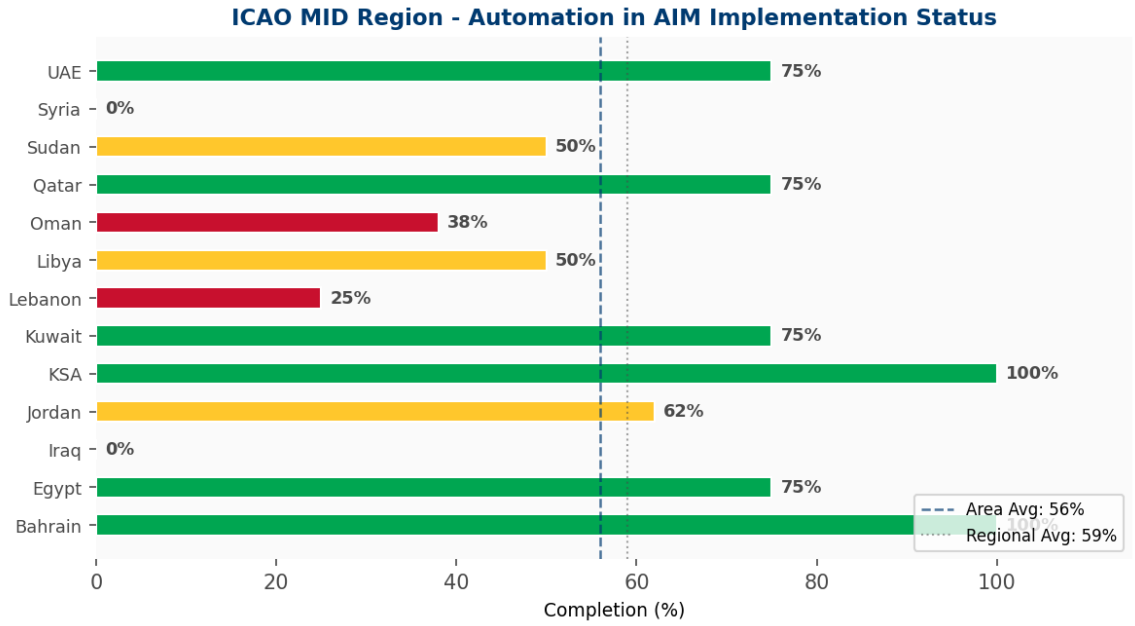
The BBB implementation area has an average regional completion of 83% across the 13 participating States.



State	Completion (%)	Remaining (%)
Bahrain	97%	3%
Egypt	100%	0%
Iraq	73%	27%
Jordan	83%	17%
KSA	98%	2%
Kuwait	100%	0%
Lebanon	71%	29%
Libya	87%	13%
Oman	98%	2%
Qatar	98%	2%
Sudan	66%	34%
Syria	13%	87%
UAE	97%	3%

B.2 Automation in AIM

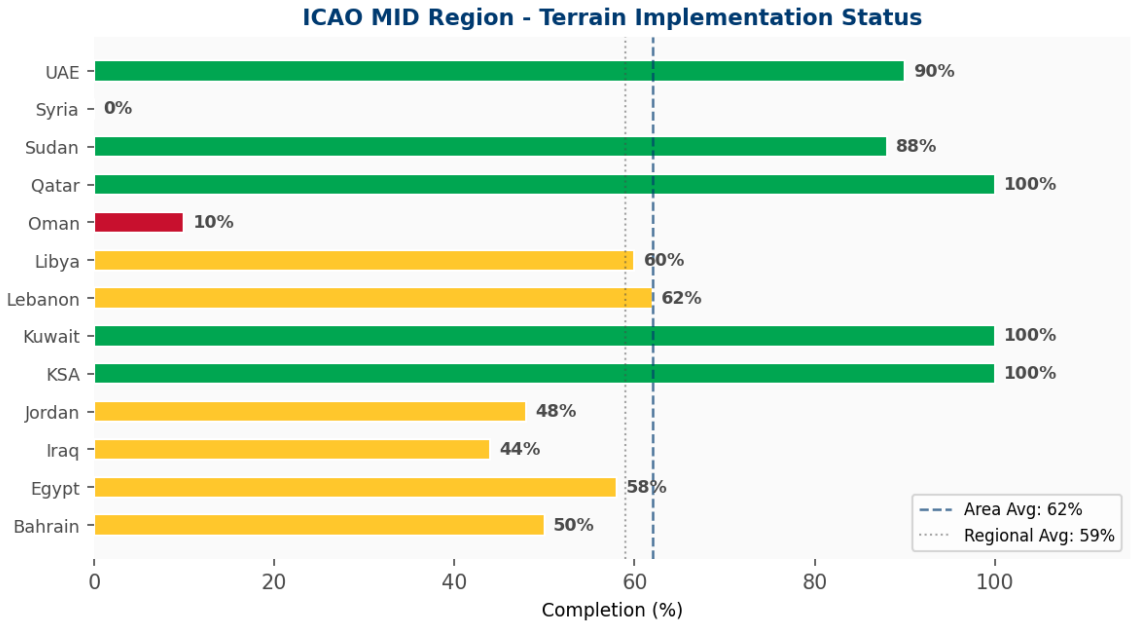
The Automation in AIM implementation area has an average regional completion of 56% across the 13 participating States.



State	Completion (%)	Remaining (%)
Bahrain	100%	0%
Egypt	75%	25%
Iraq	0%	100%
Jordan	62%	38%
KSA	100%	0%
Kuwait	75%	25%
Lebanon	25%	75%
Libya	50%	50%
Oman	38%	62%
Qatar	75%	25%
Sudan	50%	50%
Syria	0%	100%
UAE	75%	25%

B.3 Terrain

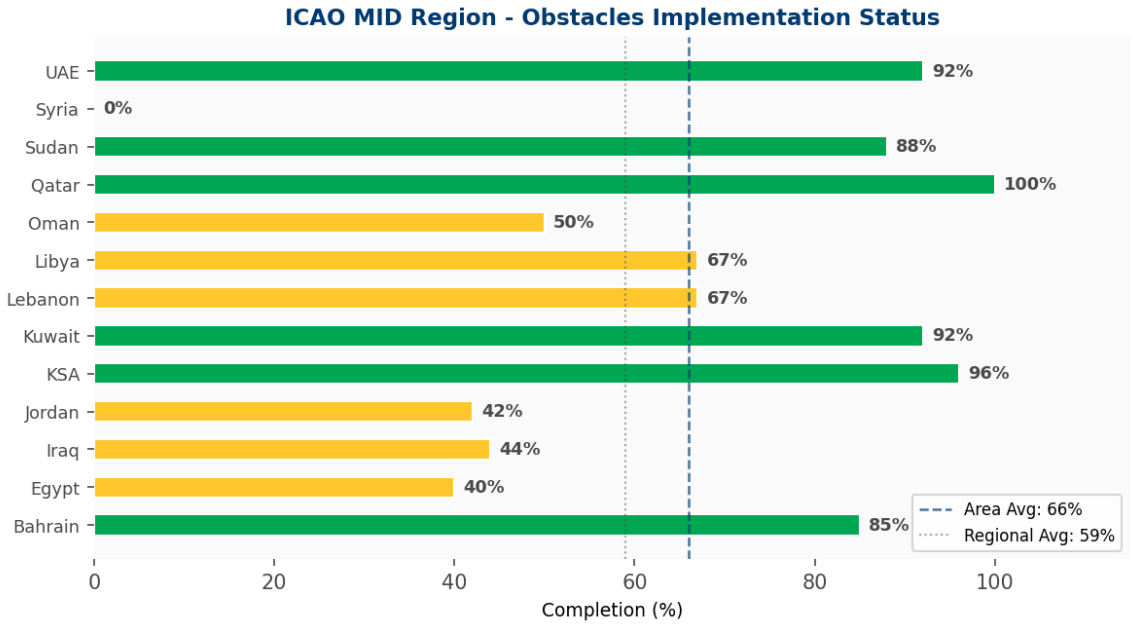
The Terrain implementation area has an average regional completion of 62% across the 13 participating States.



State	Completion (%)	Remaining (%)
Bahrain	50%	50%
Egypt	58%	42%
Iraq	44%	56%
Jordan	48%	52%
KSA	100%	0%
Kuwait	100%	0%
Lebanon	62%	38%
Libya	60%	40%
Oman	10%	90%
Qatar	100%	0%
Sudan	88%	12%
Syria	0%	100%
UAE	90%	10%

B.4 Obstacles

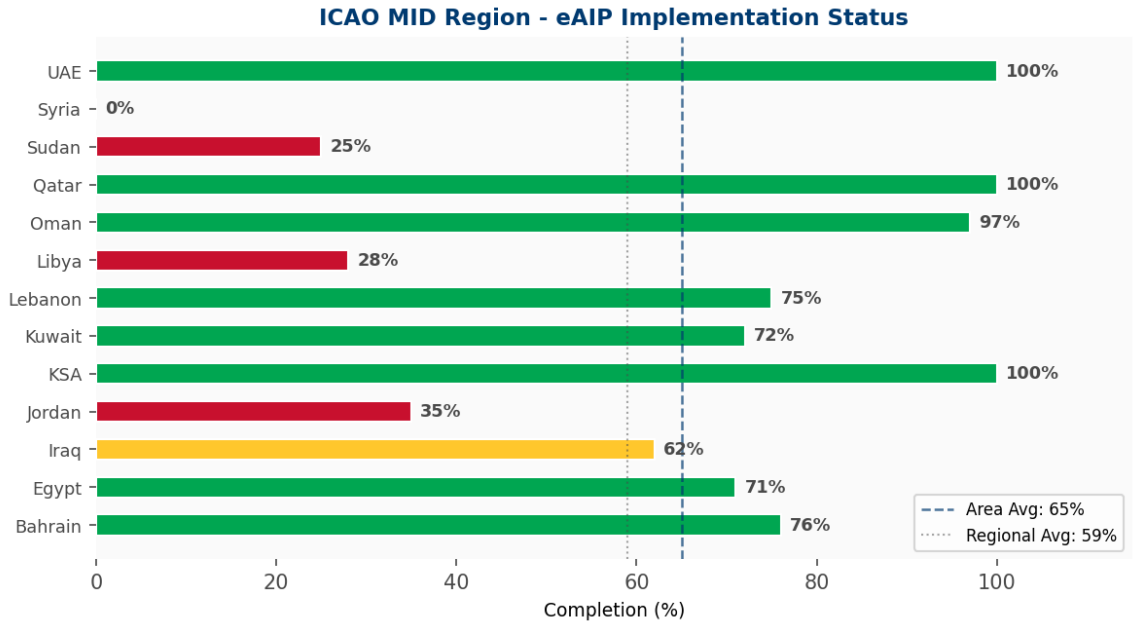
The Obstacles implementation area has an average regional completion of 66% across the 13 participating States.



State	Completion (%)	Remaining (%)
Bahrain	85%	15%
Egypt	40%	60%
Iraq	44%	56%
Jordan	42%	58%
KSA	96%	4%
Kuwait	92%	8%
Lebanon	67%	33%
Libya	67%	33%
Oman	50%	50%
Qatar	100%	0%
Sudan	88%	12%
Syria	0%	100%
UAE	92%	8%

B.5 eAIP

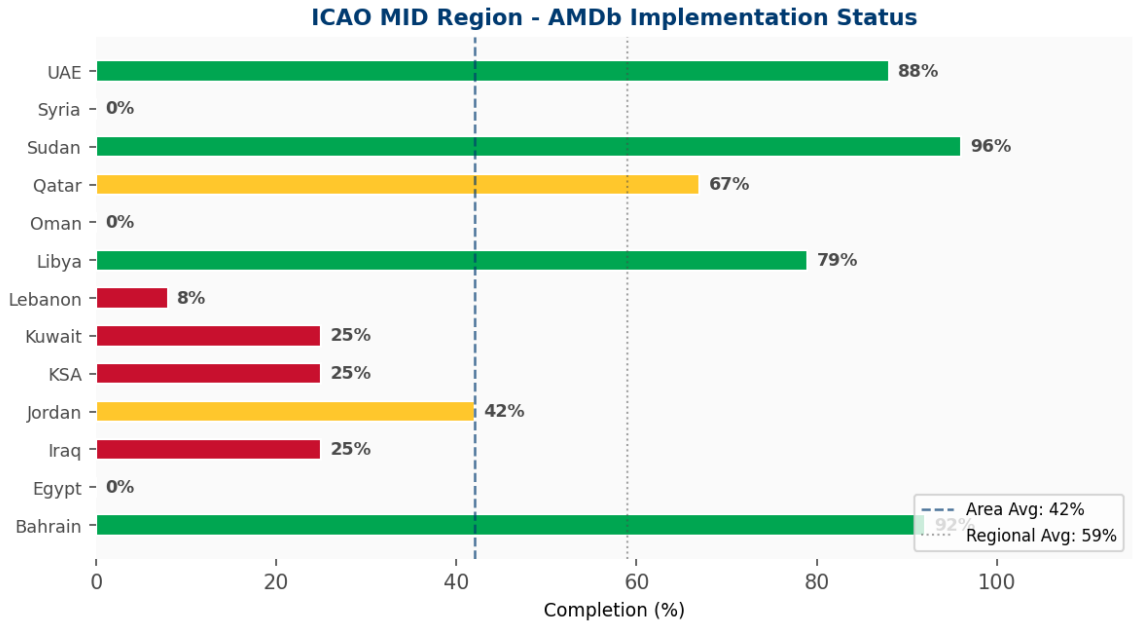
The eAIP implementation area has an average regional completion of 65% across the 13 participating States.



State	Completion (%)	Remaining (%)
Bahrain	76%	24%
Egypt	71%	29%
Iraq	62%	38%
Jordan	35%	65%
KSA	100%	0%
Kuwait	72%	28%
Lebanon	75%	25%
Libya	28%	72%
Oman	97%	3%
Qatar	100%	0%
Sudan	25%	75%
Syria	0%	100%
UAE	100%	0%

B.6 AMDb

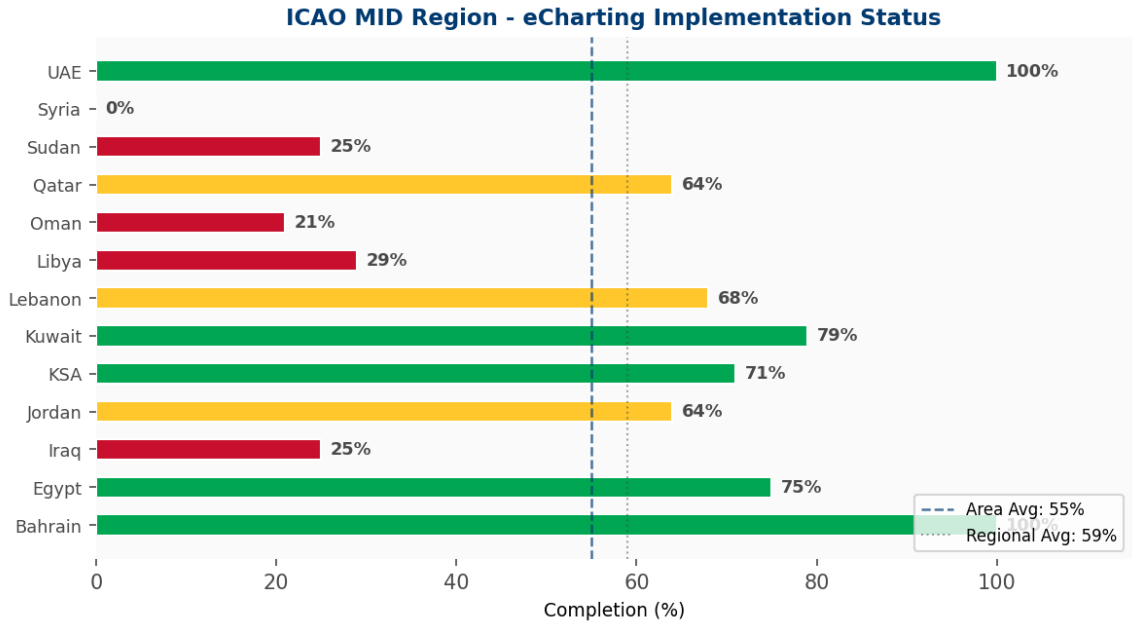
The AMDb implementation area has an average regional completion of 42% across the 13 participating States.



State	Completion (%)	Remaining (%)
Bahrain	92%	8%
Egypt	0%	100%
Iraq	25%	75%
Jordan	42%	58%
KSA	25%	75%
Kuwait	25%	75%
Lebanon	8%	92%
Libya	79%	21%
Oman	0%	100%
Qatar	67%	33%
Sudan	96%	4%
Syria	0%	100%
UAE	88%	12%

B.7 eCharting

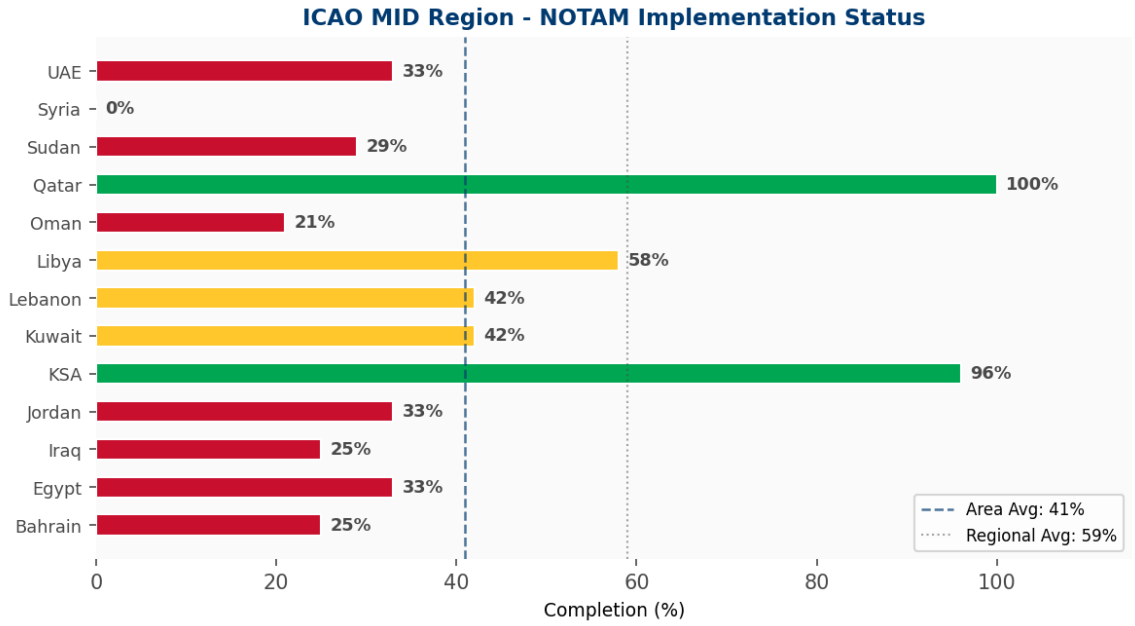
The eCharting implementation area has an average regional completion of 55% across the 13 participating States.



State	Completion (%)	Remaining (%)
Bahrain	100%	0%
Egypt	75%	25%
Iraq	25%	75%
Jordan	64%	36%
KSA	71%	29%
Kuwait	79%	21%
Lebanon	68%	32%
Libya	29%	71%
Oman	21%	79%
Qatar	64%	36%
Sudan	25%	75%
Syria	0%	100%
UAE	100%	0%

B.8 NOTAM

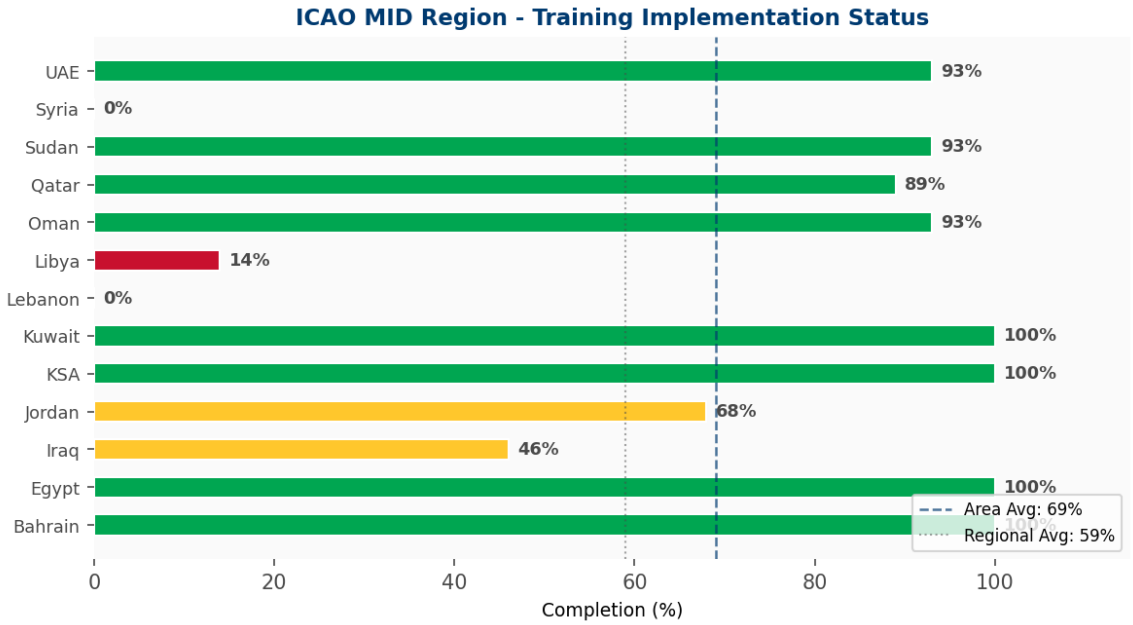
The NOTAM implementation area has an average regional completion of 41% across the 13 participating States.



State	Completion (%)	Remaining (%)
Bahrain	25%	75%
Egypt	33%	67%
Iraq	25%	75%
Jordan	33%	67%
KSA	96%	4%
Kuwait	42%	58%
Lebanon	42%	58%
Libya	58%	42%
Oman	21%	79%
Qatar	100%	0%
Sudan	29%	71%
Syria	0%	100%
UAE	33%	67%

B.9 Training

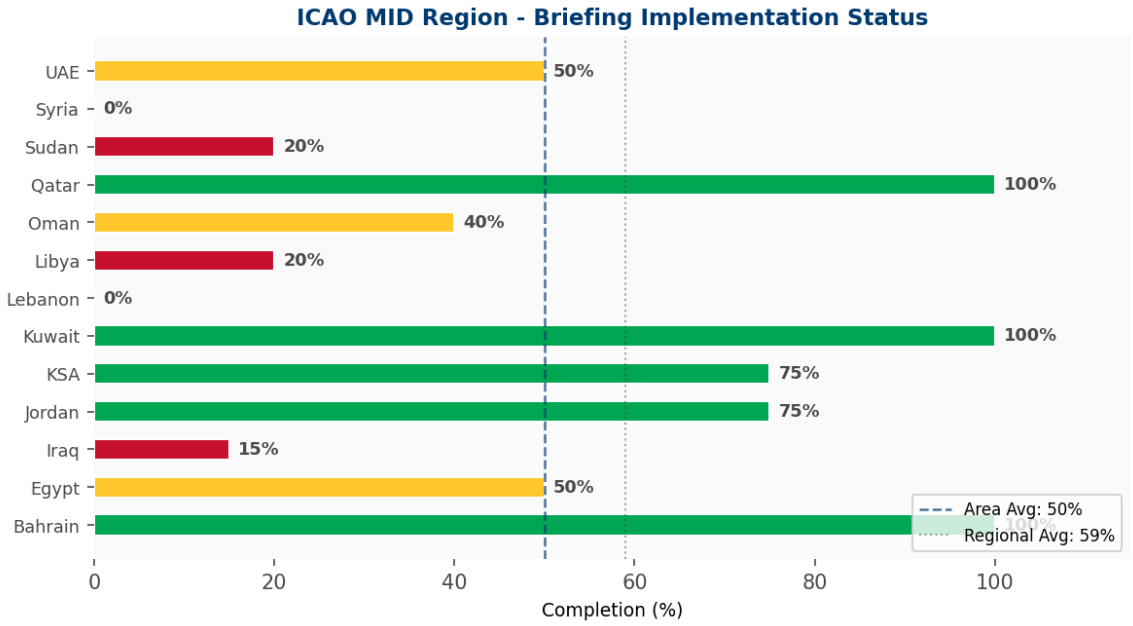
The Training implementation area has an average regional completion of 69% across the 13 participating States.



State	Completion (%)	Remaining (%)
Bahrain	100%	0%
Egypt	100%	0%
Iraq	46%	54%
Jordan	68%	32%
KSA	100%	0%
Kuwait	100%	0%
Lebanon	0%	100%
Libya	14%	86%
Oman	93%	7%
Qatar	89%	11%
Sudan	93%	7%
Syria	0%	100%
UAE	93%	7%

B.10 Briefing

The Briefing implementation area has an average regional completion of 50% across the 13 participating States.

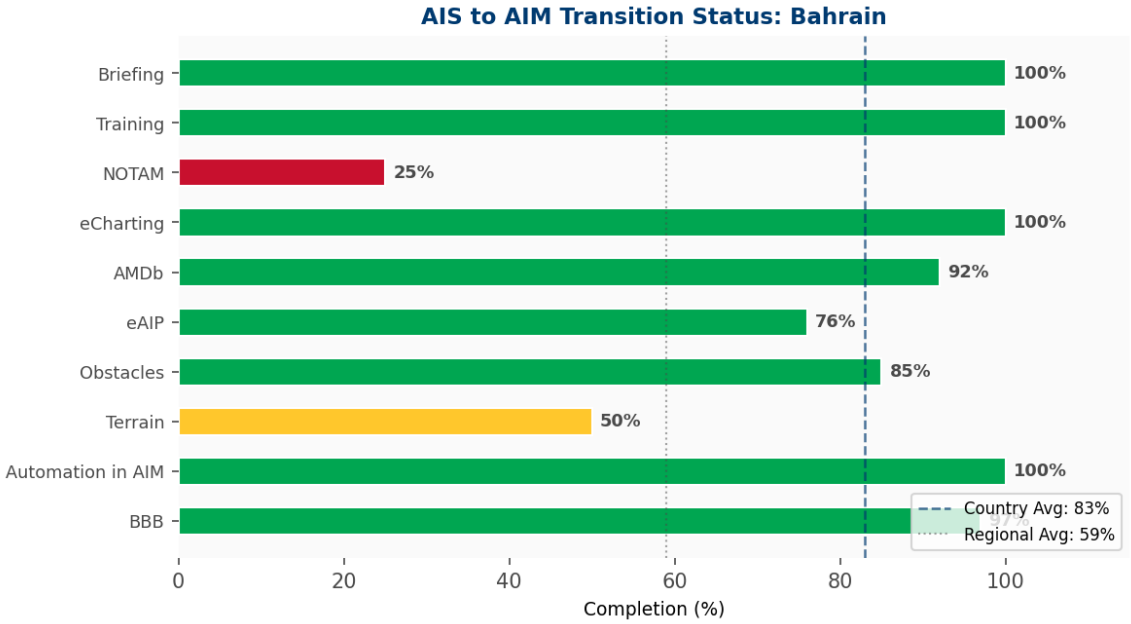


Implementation area	Regional completion	Interpretive note
BBB	83%	Strong foundational baseline broadly established
Automation in AIM	56%	Transition underway but structurally uneven
Terrain	62%	Moderate progress critical gaps in a few States
Obstacles	66%	Moderate to good progress gaps in several States
eAIP	65%	Publication modernization visible
AMDb	42%	Major gap area
eCharting	55%	Mixed implementation not yet regionally stable
NOTAM	41%	Weakest operational digital domain
Training	69%	Comparative strength but still uneven
Briefing	50%	Operational value chain still incomplete

Annex C. State-wise Status

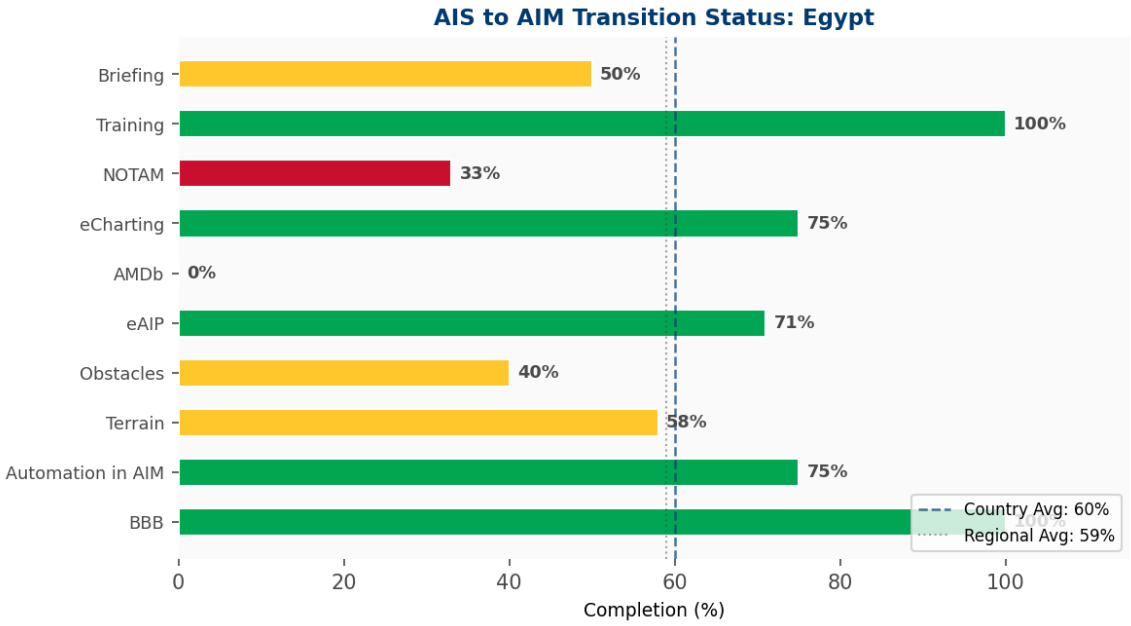
C.1 Bahrain

Bahrain achieves complete implementation across six of the ten implementation areas — BBB (100%), automation in AIM (100%), obstacle data (100%), eAIP (100%), eCharting (100%), and training (100%) — and reports a strong briefing score of 100 percent, confirming a comprehensively digitalized AIM environment with fully operationalized publication, charting, and briefing capabilities. AMDB at 75 percent is above the regional average and indicates meaningful progress in airport-surface digitalization, though full coverage across all international airports has not yet been achieved. Terrain data at 50 percent represents a secondary gap that, given Bahrain's otherwise mature profile, should be addressable through targeted data acquisition and processing investment. NOTAM at 25 percent is the most significant remaining weakness and the principal priority for Bahrain's continued AIM development. The contrast between Bahrain's near-complete scores across most domains and its low NOTAM result suggests that digital NOTAM implementation has not yet been given proportionate priority relative to the State's overall digitalization level, and its completion would bring Bahrain to one of the highest overall AIM maturity levels in the region.



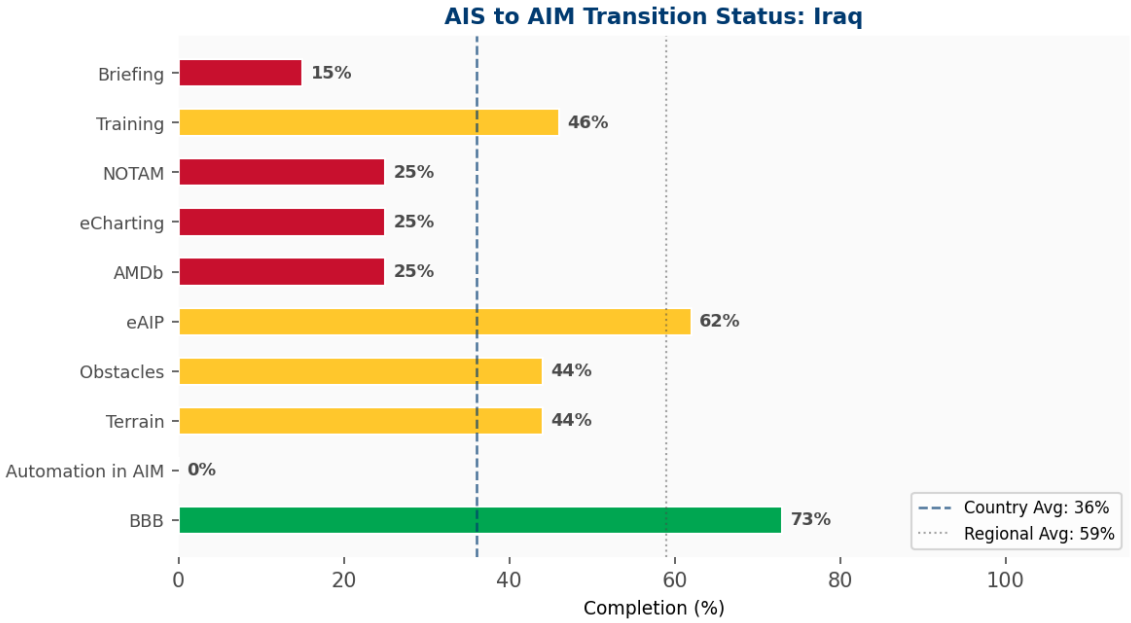
C.2 Egypt

Egypt is assessed as an advanced State with a profile combining strong governance and publication foundations with significant gaps in operational digital services. The BBB (100%), obstacle data (100%), eAIP (97%), and training (97%) results confirm that Egypt has established a comprehensive compliance and publication framework fully aligned with ICAO Annex 15 requirements, and that the institutional and human resource foundations for further digitalization development are in place. Terrain data at 50 percent indicates partial data coverage, and eCharting at 80 percent suggests visible but not yet complete charting modernization. Automation in AIM at 73 percent is a relatively positive result for an advanced-band State and indicates that Egypt has made meaningful progress toward a data-centric AIM environment. The most critical gaps are AMDB at 42 percent, NOTAM at 25 percent, and briefing at 10 percent — the last of which is the most striking finding in Egypt's profile, indicating that despite the State's strong performance in publication and governance domains, the automated digital delivery of aeronautical information to operational end users remains at a very early stage. Addressing briefing automation and digital NOTAM should be treated as Egypt's highest-priority next steps to convert its strong governance and publication foundations into a complete and operationally effective digital AIM environment.



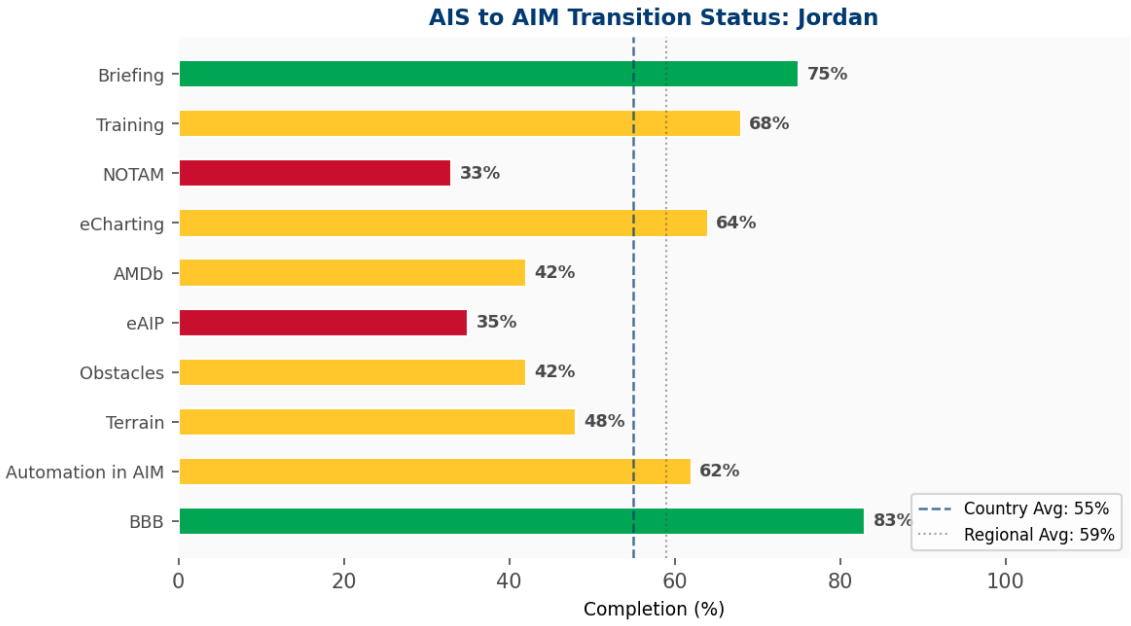
C.3 Iraq

Iraq is assessed as a developing State with one of the lower overall implementation scores among the responding States, reflecting the challenging operating environment and institutional capacity constraints that have affected the pace of AIM modernization. BBB at 83 percent is a genuinely positive finding and confirms that, despite these constraints, Iraq has maintained a foundational compliance and governance framework broadly consistent with ICAO Annex 15 requirements. Training at 73 percent also suggests that some foundational human resource investment has been made. However, beyond these two areas, implementation scores decline significantly across all remaining domains: obstacle data at 42 percent, eAIP at 42 percent, eCharting at 33 percent, automation in AIM at 27 percent, NOTAM at 12 percent, terrain data at 12 percent, AMDB at 8 percent, and briefing at 17 percent. This pattern confirms that while Iraq possesses the governance and institutional acknowledgement of AIM modernization requirements, the translation of this foundation into implemented digital AIM capability across data sets, publication, automation, and operational services has been very limited to date. Iraq's implementation approach should be sequenced and prioritized, beginning with the most high-impact foundational capabilities — structured data set development, eAIP completion, and basic automation — before progressing to more complex digital services. Dedicated and sustained regional technical support, including capacity building and practical implementation assistance, is assessed as essential for Iraq to make meaningful progress within the current MIDANPIRG planning cycle.



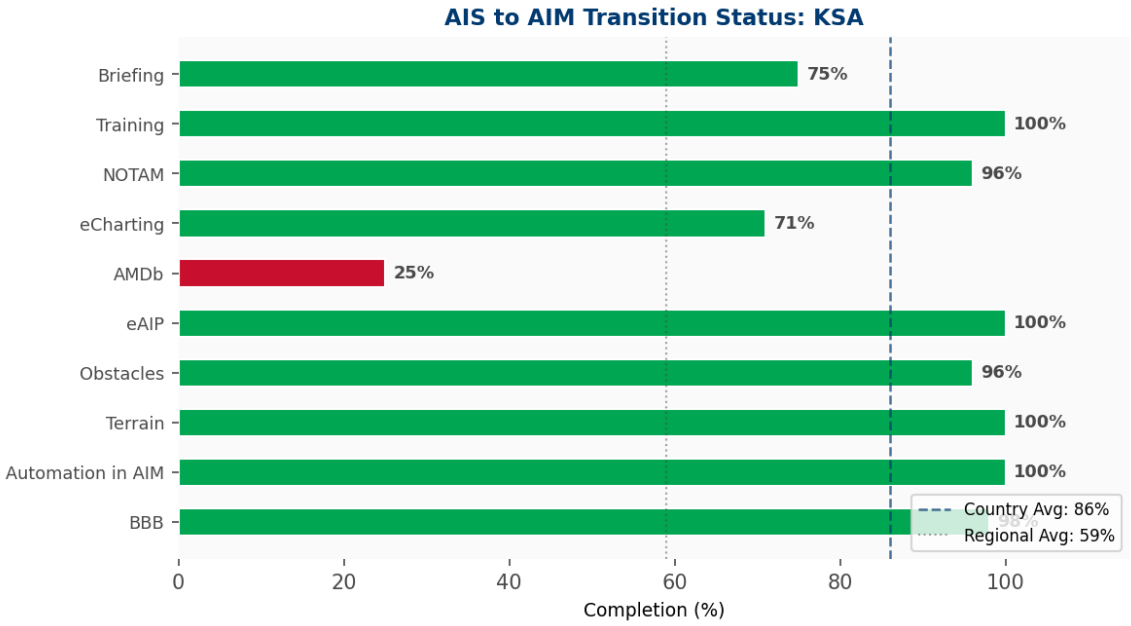
C.4 Jordan

Jordan is assessed as an advanced State with a profile reflecting partial but relatively balanced progress across most implementation areas, underlaid by a governance framework that, while strong, has not yet achieved the complete BBB score of several peer States. BBB at 88 percent, training at 80 percent, and eAIP at 75 percent confirm that foundational compliance arrangements and digital publication capability are reasonably well established, while terrain data (75%), obstacle data (75%), and eCharting (67%) indicate meaningful, if not yet complete, progress in data set and charting modernization. Automation in AIM at 48 percent and NOTAM at 37 percent suggest that the transition toward automated, data-centric AIM workflows is at an early-to-intermediate stage. The most pronounced gaps are AMDB at 33 percent and briefing at 30 percent, confirming that airport-surface digitalization and the automated delivery of digital aeronautical information to operational users are the areas requiring most attention. Jordan's overall profile — relatively consistent across mid-level implementation stages — suggests that a broad-front development approach, supported by targeted technical assistance in digital NOTAM, AMDB, and automation, would be the most effective pathway for Jordan to progress from the advanced to the mature band.



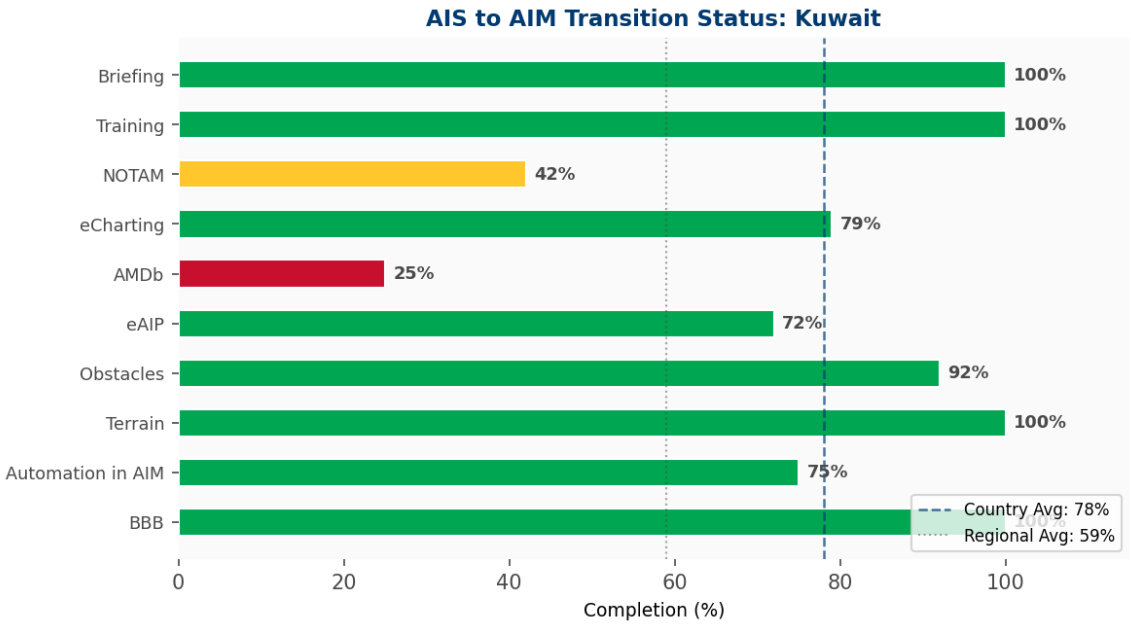
C.5 KSA

The Kingdom of Saudi Arabia presents a mature and broadly balanced AIM digitalization profile, with complete or near-complete scores in BBB (100%), obstacle data (100%), eAIP (97%), training (97%), automation in AIM (92%), eCharting (93%), briefing (90%), and terrain data (88%). These results confirm that KSA has developed a deeply institutionalized digital AIM environment with strong regulatory foundations, advanced publication capability, and an automated operational architecture that places it among the highest-performing States in the region. The most notable gap is NOTAM modernization at 43 percent, which represents a material inconsistency when considered alongside the State's otherwise advanced digital profile, and suggests that the completion of digital NOTAM implementation should be treated as a near-term strategic priority. AMDB at 67 percent, while above the regional average, also indicates that airport-surface digitalization has not yet been fully achieved across all international airports and warrants continued development to complete the digital data chain.



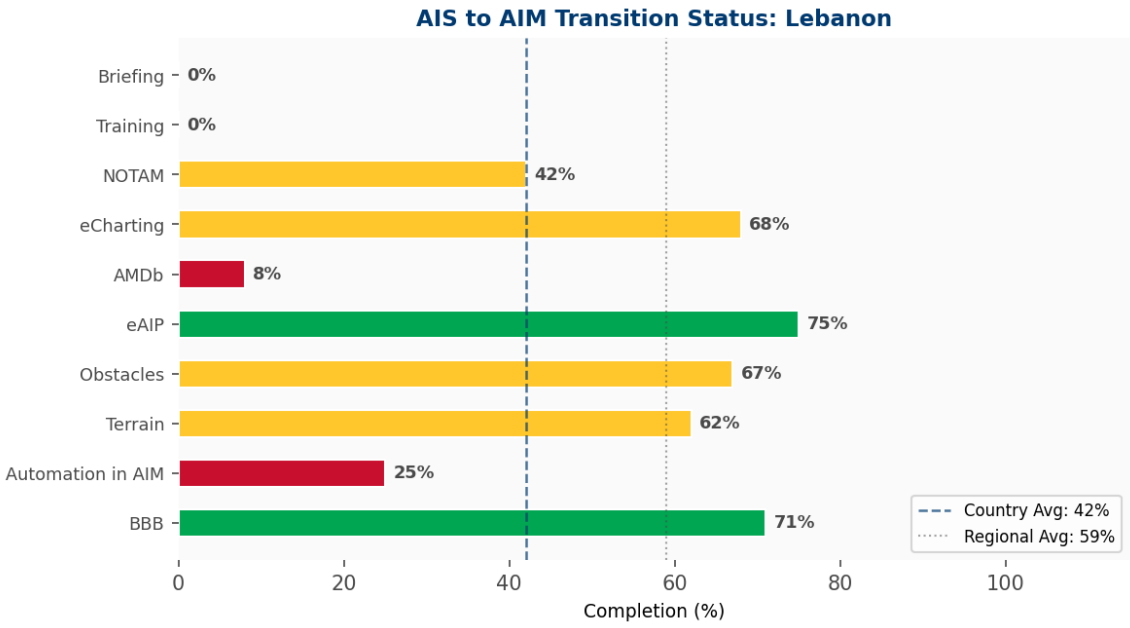
C.6 Kuwait

Kuwait has achieved overall AIS to AIM transition completion rate of 78%, with 22% implementation remaining across the ten areas.



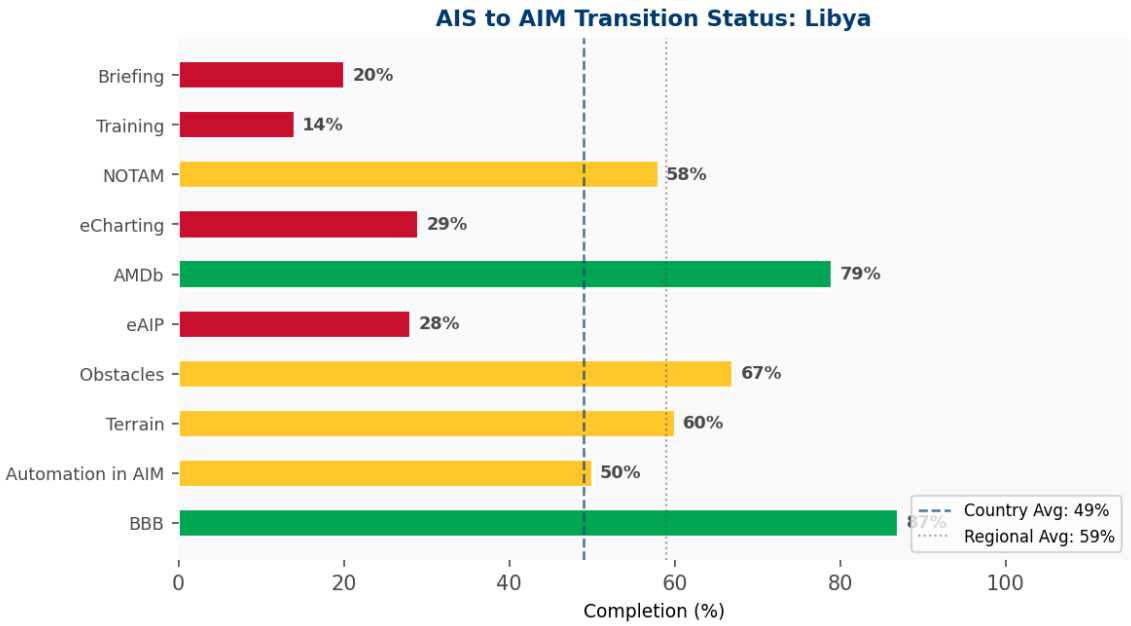
C.7 Lebanon

Lebanon is assessed as a developing State whose implementation profile reflects a combination of established foundational structures and material gaps across the majority of operational and data-intensive domains. BBB at 83 percent and training at 73 percent confirm that Lebanon has maintained meaningful compliance and governance arrangements and has sustained a degree of institutional engagement with AIM workforce development, which together provide a basis for future investment. Obstacle data at 58 percent and terrain data at 50 percent indicate partial progress in data set coverage, while eAIP at 50 percent suggests that publication modernization is at an intermediate stage. Automation in AIM at 38 percent indicates that the transition toward data-centric AIM workflows is at an early stage, and eCharting at 40 percent confirms that digital charting has not yet been fully established. The most critical gaps are AMDB at 25 percent, NOTAM at 25 percent, and briefing at 17 percent, collectively confirming that Lebanon's operational AIM environment retains significant traditional, non-digital characteristics. The survey evidence also reflects that Lebanon faces real institutional and resource constraints that affect implementation capacity. Focused external support — particularly in technical workshops, practical AIXM and NOTAM implementation guidance, and human resource development — would be expected to yield meaningful improvement in Lebanon's digitalization trajectory.



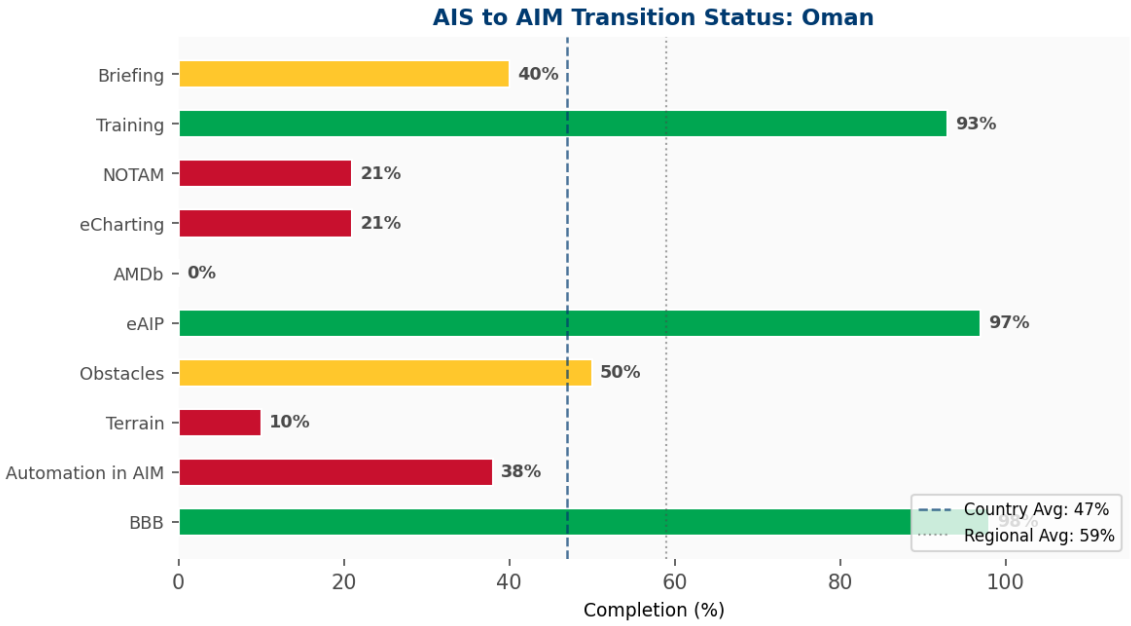
C.8 Libya

Libya is assessed as a developing State with an implementation profile reflecting genuine but uneven progress across the ten survey domains, against a backdrop of institutional and operational constraints that have historically affected implementation momentum. BBB at 83 percent is a substantively positive result and confirms that Libya has established meaningful foundational compliance and governance arrangements consistent with ICAO Annex 15. Obstacle data at 75 percent, eAIP at 75 percent, and terrain data at 62 percent indicate that progress has been made in core data set and publication areas, with eAIP in particular showing that Libya has begun the transition from conventional publication practices toward more structured digital products. Training at 73 percent is above the level that might be expected for a developing-band State and suggests that workforce development has been a recognized priority. However, automation in AIM at 47 percent, eCharting at 47 percent, AMDB at 33 percent, NOTAM at 25 percent, and briefing at 20 percent collectively confirm that the operational and automation dimensions of AIM digitalization remain significantly underdeveloped. The overall profile suggests that Libya's primary challenge is not an absence of institutional engagement with AIM modernization but rather the need for sustained investment and technical support to convert its governance and data set foundations into a more complete and operationally active digital AIM environment.



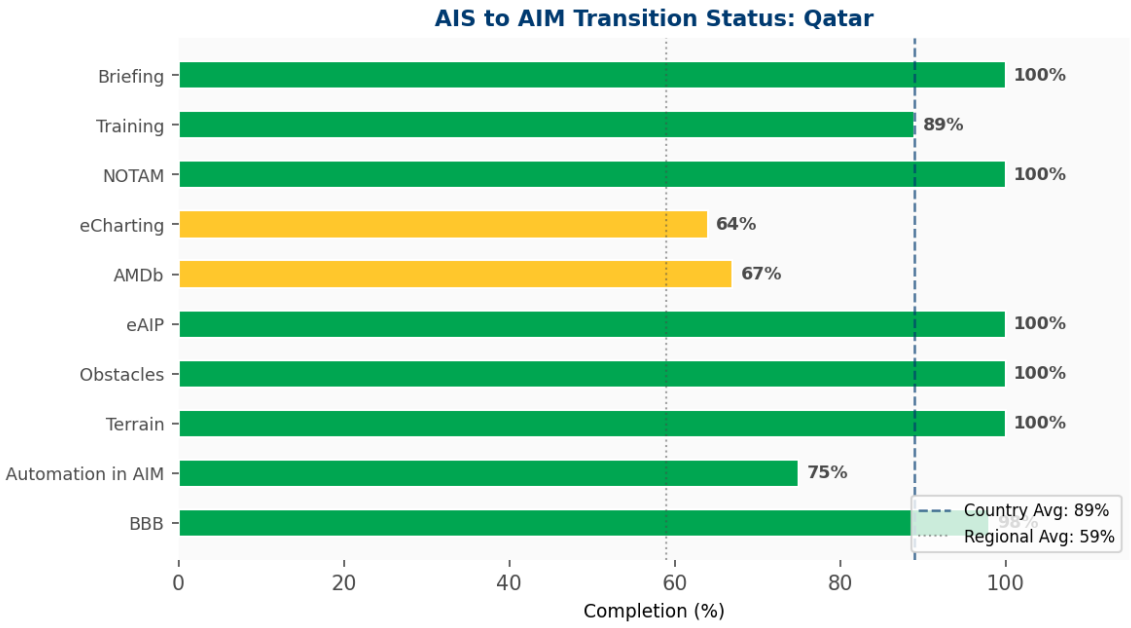
C.9 Oman

Oman presents one of the most distinctive implementation profiles in the MID Region. Its overall score of 47 percent places it in the developing category, but this aggregate result substantially understates the State's advanced capability in several foundational and publication domains. BBB at 98 percent, eAIP at 97 percent, and training at 93 percent are among the highest results in the region for those areas, confirming that Oman has established an exceptionally strong governance, compliance, and publication foundation, with a highly developed institutional and human resource base for AIM. These strengths represent a critical enabling platform for further digitalization. However, Oman's profile is sharply differentiated between these high-performing areas and near-zero scores in terrain data (10%), AMDB (0%), NOTAM (21%), and eCharting (21%), indicating that investment in digital data sets, operational digital services, and automation has not yet been initiated or has been very limited. The overall score must therefore be interpreted as reflecting selective implementation depth rather than broad-based institutional weakness. Oman's strategic priority is clear: to mobilize its advanced governance and institutional foundations to drive targeted and urgent investment in terrain and obstacle data, AMDB, digital NOTAM, and eCharting, ideally within a structured multi-year programme aligned with the AIMDP TF workstream framework.



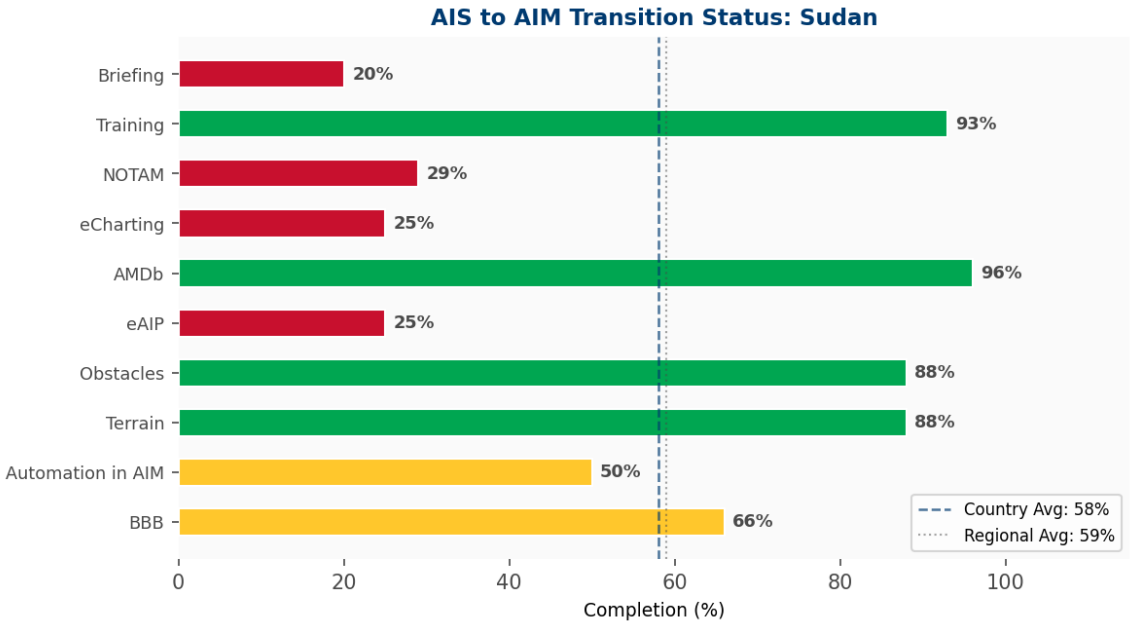
C.10 Qatar

Qatar demonstrates one of the strongest and most comprehensive AIM digitalization profiles in the MID Region, achieving near-complete or complete implementation across the majority of domains, including BBB (100%), eCharting (100%), terrain data (97%), obstacle data (97%), training (97%), eAIP (95%), briefing (90%), and AMDB (88%). This breadth of performance confirms that Qatar has established not only a strong governance and compliance foundation but also substantial operational digital capability, positioning it as a leading reference State within the region. The sole area of relative weakness is NOTAM modernization at 47 percent, which — while the highest NOTAM score among all responding States — remains below the threshold of full digital operationalization and represents the principal remaining priority for Qatar's AIM digitalization programme. Addressing the NOTAM gap would bring Qatar to a level of near-complete digital AIM maturity across all ten implementation areas.



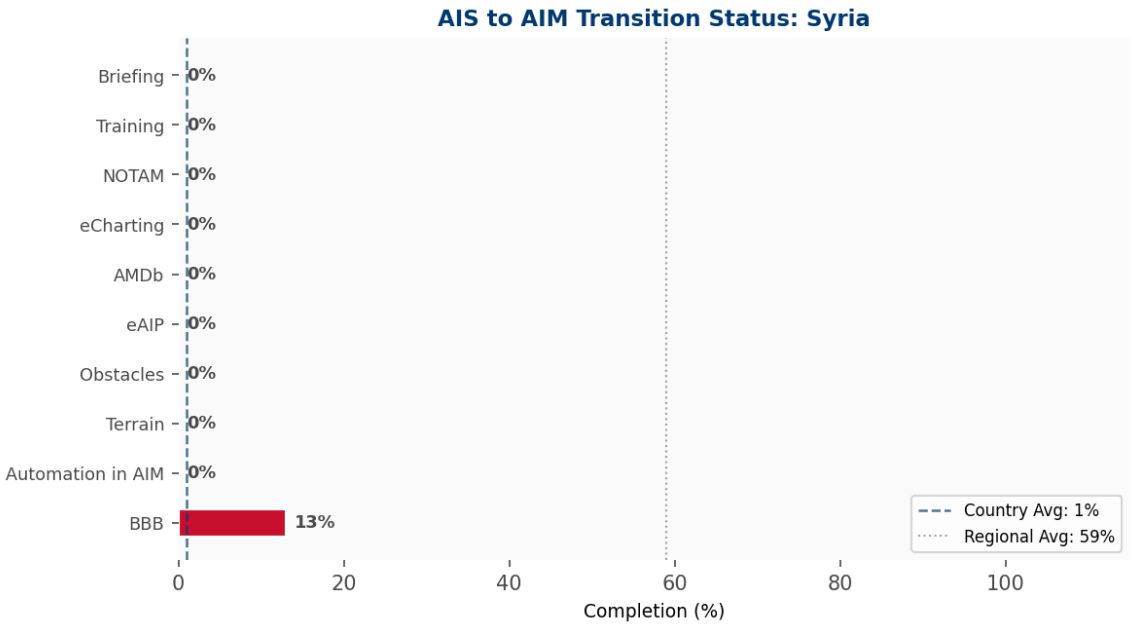
C.11 Sudan

Sudan is assessed as advanced with a profile distinguished by an exceptionally strong governance and training foundation alongside markedly lower results in operational and data-intensive domains. The BBB (100%) and training (100%) scores — both at complete implementation — confirm that Sudan has established a fully compliant regulatory and institutional base and a strong commitment to AIM workforce development, which together represent a meaningful platform for further digitalization investment. Terrain data (75%), obstacle data (75%), eAIP (75%), and eCharting (75%) results suggest that Sudan has made consistent, if partial, progress across the core digital data and publication areas, though none of these areas has yet been fully implemented. Automation in AIM at 57 percent indicates that the transition toward a data-centric environment is underway but remains in its intermediate stages. The most significant gaps are AMDB at 25 percent, NOTAM at 25 percent, and briefing at 25 percent, all of which are at an early level of implementation and confirm that the operational end of the digital AIM value chain has not yet been adequately developed. Sudan's clear priority is to leverage its strong governance and training base to drive targeted investment in automation, digital NOTAM, AMDB, and briefing capability, supported by regional technical assistance as needed.



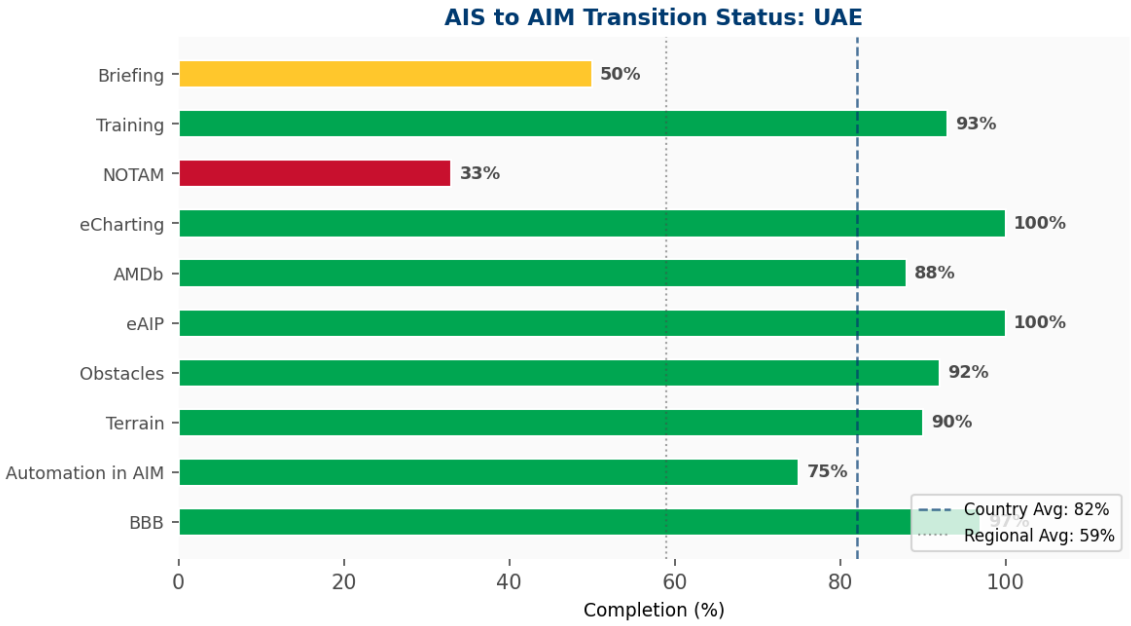
C.12 Syria

Syria is assessed at the initial stage of AIM digitalization, with an overall score of 1 percent reflecting the exceptional operational and institutional circumstances prevailing in that State, rather than an absence of recognition of AIM modernization requirements. The single recorded score of 13 percent in the BBB domain is the only area where any partial implementation is indicated; all remaining nine implementation areas are reported at zero percent. This result is understood to reflect the profound disruption to civil aviation infrastructure, institutional capacity, and operational continuity that Syria has experienced, and it must be treated in regional planning discussions with commensurate sensitivity and contextual awareness. Syria's situation is not analogous to that of other developing-band States where implementation gaps result primarily from resource or prioritization constraints. Rather, a foundational reconstruction of civil aviation institutional capacity — including the re-establishment of qualified AIM personnel, regulatory oversight structures, basic operational systems, and external connectivity — will be a prerequisite before standard AIM digitalization programming can be meaningfully initiated. The AIMDP TF and the ICAO MID Regional Office should consider designing a dedicated, tailored, and long-term support pathway for Syria that begins with foundational institutional stabilization and basic AIM service restoration before progressing toward the digitalization targets applicable to other MID States.

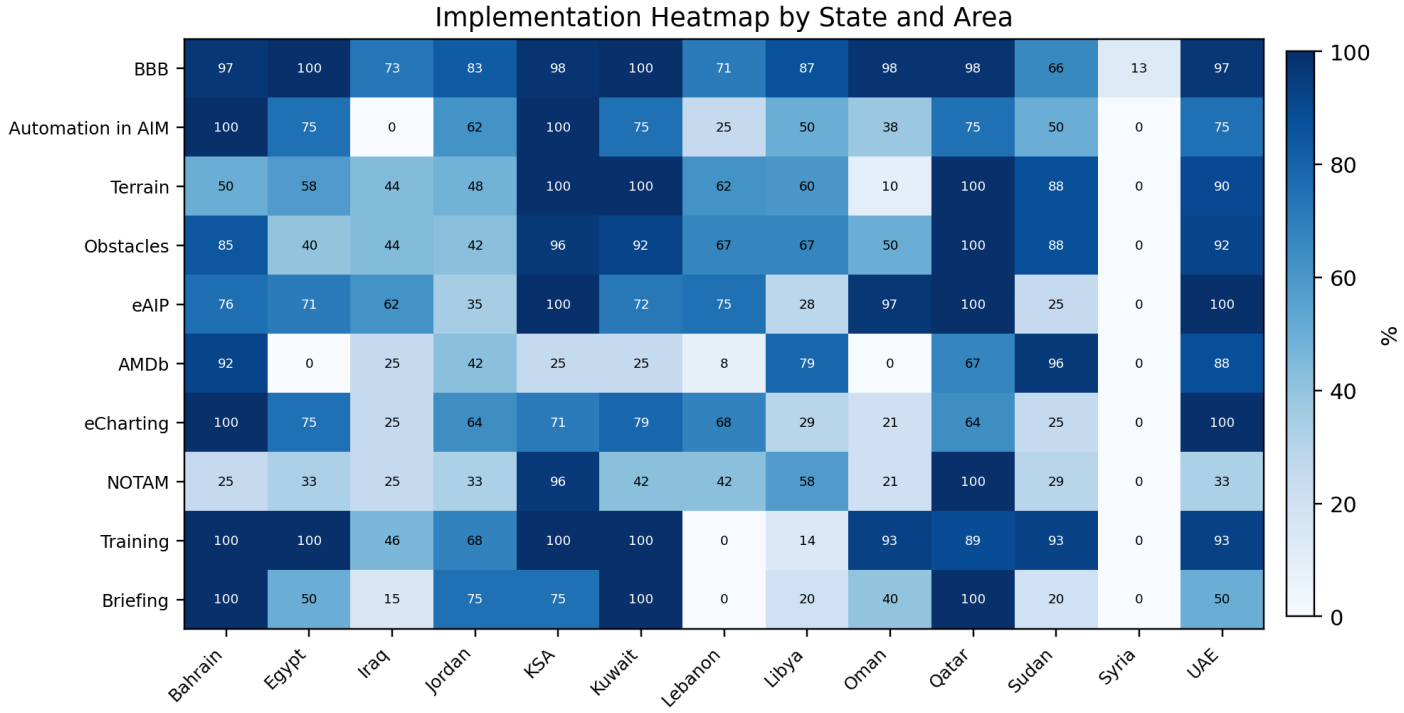


C.13 UAE

The UAE's profile confirms a fully established digital AIM governance framework supported by comprehensive terrain and obstacle data coverage, advanced publication and charting capability, and a mature automation environment — collectively representing one of the most operationally complete AIM implementations in the MID Region. AMDB at 67 percent indicates continued progress in airport-surface digitalization, with full coverage not yet achieved. Briefing at 80 percent, while above the regional average, also indicates some residual gaps in the automated delivery of digital information to operational end users. The most critical remaining gap is NOTAM at 12 percent. Prioritizing digital NOTAM implementation would address the most material gap in the UAE's AIM digitalization programme and substantially strengthen the end-to-end digital information chain.



Annex D. Implementation Status by State and Area



Annex figure. Heatmap view of detailed State-by-area implementation percentages

Annex E. Common implementation issues raised by respondents

- The following implementation challenges were identified through analysis of the qualitative sections of the State response workbooks. These issues are presented in consolidated form to inform the prioritization of regional support measures under the AIMDP TF workstreams.

- Barriers most frequently cited:
  - Funding constraints and procurement delays, cited as the most recurrent barrier across all maturity groups.
  - Insufficient technical capacity and shortage of personnel with specialist AIM digitalization skills.
  - Need for additional practical guidance on ICAO digital data requirements, including AIXM implementation, eAIP production, and SWIM architecture.
  - Limited availability of aeronautical source data in formats compatible with AIXM-based processing.
  - Absence of automated interfaces with data originators and the associated institutional coordination challenges.
  - Requirements for SWIM-related infrastructure investment.
  - Cybersecurity considerations for two-way digital data exchange.

- Most frequently requested forms of support:
  - Technical workshops and targeted AIM training (most frequently requested).
  - Peer-State knowledge sharing and reference practice documentation.
  - Practical step-by-step implementation guidance for specific domains (NOTAM, AMDB, AIXM).
  - Strengthening of human resources and institutional capacity for AIM digitalization programme management.
  - Regional guidance material on data originator agreement templates and data chain governance.