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Agenda Item 3: Strengthening regulatory and institutional frameworks

3.1: Strengthening regulatory oversight and evolving institutional frameworks

TRANSFORMING AVIATION GOVERNANCE: INTEGRATING ECONOMIC AND TECHNICAL REGULATION INTO A SINGLE AUTHORITY – THE MALAYSIAN EXPERIENCE

(Presented by Malaysia)

EXECUTIVE SUMMARY

This information paper presents a comprehensive account of Malaysia's strategic initiative to consolidate both economic and technical regulatory functions within the civil aviation sector under a single, unified statutory body — the Civil Aviation Authority of Malaysia (CAAM). The consolidation, completed in August 2025, formally absorbed the functions previously performed by the Malaysian Aviation Commission (MAVCOM), which had been the separate body responsible for economic regulation, consumer protection, and the allocation of air traffic rights.

The resulting unified regulatory architecture has substantially reduced regulatory fragmentation, accelerated the processing timelines for licensing approvals and renewals, and enhanced the coherence of consumer protection measures alongside technical, safety, and security standards.

Member States that have undertaken or are currently undergoing similar regulatory modernization initiatives are invited to share their operational experiences, institutional insights, and feedback. Inputs provided will serve to refine standard reference models, strengthen regional cooperation, and enhance the International Civil Aviation Organization's (ICAO) ongoing efforts to support sustainable regulatory transformation worldwide.

1. INTRODUCTION

1.1 The question of how best to organise civil aviation regulatory functions — specifically, whether to maintain separate bodies for technical/safety oversight and economic regulation, or to consolidate these functions under a single authority — has been a persistent subject of policy debate among aviation administration's globally. In many jurisdictions, including Malaysia prior to 2025, dual regulatory models were in operation. Under such arrangements, technical and safety oversight was managed independently from economic regulation, with distinct mandates, governance structures, and operational cultures governing each body.

1.2 While dual regulatory models may have offered certain advantages in terms of functional specialisation and perceived independence, they have also been associated with a range of structural inefficiencies. Administrative bottlenecks can arise when airlines, airport operators, and other stakeholders are required to engage with multiple regulators for approvals that are interrelated in nature. Compliance burdens may be duplicated when bodies do not harmonise documentation, reporting requirements, and procedural standards. Furthermore, a lack of alignment between economic policy objectives and safety regulation strategies can result in sub-optimal outcomes for the industry.

1.3 In Malaysia, the technical and safety oversight functions of civil aviation is statutorily under the remit of the Civil Aviation Authority of Malaysia (CAAM), which was established as a statutory body under the CAAM Act 2017. Economic regulation, commercial licensing, consumer protection, and the allocation of air traffic rights, on the other hand, were administered by the Malaysian Aviation Commission (MAVCOM), established under the Malaysian Aviation Commission Act 2015. The existence of these two distinct statutory bodies reflected the prevailing approach to aviation governance at the time of their respective establishments.

1.4 In August 2025, Malaysia completed a landmark restructuring of its civil aviation regulatory architecture by fully integrating the economic and commercial regulatory functions of MAVCOM into CAAM. This transition resulted in the creation of a single statutory authority with a comprehensive and unified mandate spanning economic licensing, slot allocation policy, airport charges regulation, consumer protection, economic policy and development, airworthiness, flight operations, aerodrome standards, aviation safety and security, sustainability, and air navigation services.

1.5 This paper presents a detailed account of this reform process, including the policy rationale that informed it, the structural and operational changes that were implemented, the measurable outcomes that have been observed, and the lessons that may be drawn from the Malaysian experience. It is intended to serve as an operational reference for the International Civil Aviation Organization (ICAO) Member States that are engaged in, or considering, comparable reforms to their own aviation governance frameworks.

2. **DISCUSSION**

2.1 **Unified Commercial and Technical Approval Processes - Legacy Challenge:** Before the regulatory consolidation, air operators seeking to commence or modify aviation operations in Malaysia were required to navigate a dual-track approval process. For example, obtaining an Air Operator Certificate (AOC) — the instrument by which an operator demonstrates compliance with technical and safety requirements — was the exclusive responsibility of CAAM. Separately, the issuance of an Air Service Licence (ASL) or an Air Service Permit (ASP) — instruments that grant the commercial authority to operate scheduled or non-scheduled air services respectively — was the exclusive responsibility of MAVCOM. These two approval tracks operated largely in parallel, with limited formal mechanisms for inter-agency coordination or information sharing. This structural separation had practical consequences for applicants. Airlines seeking to enter the market or expand their operations were required to simultaneously manage distinct regulatory engagements with two separate bodies, each with its own application procedures, documentation standards, assessment criteria, and decision timelines. The absence of a unified interface increased transaction costs and extended the overall time required to obtain the full suite of approvals necessary for commercial aviation operations.

2.2 **Integrated Solution:** Under the consolidated CAAM framework, a synchronised evaluation process has been established whereby financial viability, technical compliance, market impact, safety capability, and security compliance are assessed through a unified approval pipeline. Regulatory officers from the economic and technical disciplines work within the same organisational structure and are able to

coordinate assessments in real time, share relevant data, and align decision timelines. This integration has resulted in a materially more efficient and predictable approval process for operators, while maintaining the rigour of assessment across all regulatory dimensions.

2.3 Financial Independence and Long-Term Institutional Sustainability: As part of the broader regulatory reform agenda, CAAM was restructured as a Remunerated Separated and Exempted Statutory Body (BBDSB) — a governance classification under Malaysian law that grants an institution a degree of financial and administrative autonomy from direct government budgetary appropriations. Under this model, CAAM generates its own income through the collection of regulatory fees, charges, and levies associated with its licensing, certification, and oversight activities, on top of air navigation charges. The significance of this financial independence extends beyond administrative convenience. The ability to operate outside the constraints of annual government budget cycles enables CAAM to make longer-term institutional investments in technical capacity, technology infrastructure, and human resources. In particular, financial autonomy allows CAAM to offer compensation packages that are competitive with commercial sector benchmarks, which is of particular importance in attracting and retaining highly Qualified Technical Personnel (QTPs). This category of professionals includes licensed commercial pilots, aeronautical engineers, air traffic controllers, and other specialists whose expertise is in high demand both within the aviation industry and the regulatory ecosystem. The retention of qualified technical staff is a foundational requirement for effective safety oversight. Regulators that are unable to attract personnel with the requisite expertise risk compromising the quality of their oversight functions. The BBDSB model adopted by CAAM is therefore not merely a financial arrangement but a structural enabler of regulatory effectiveness.

2.4 Digitalisation and Administrative Streamlining: The regulatory consolidation was accompanied by a concerted programme of digitalisation aimed at improving the efficiency and transparency of administrative processes. CAAM undertook a systematic review of its regulatory workflows with a view to identifying procedures that were amenable to digital processing, electronic submission, and automated assessment. The outcome of this initiative was a significant reduction in the administrative burden associated with regulatory compliance. Specifically, through the digitalisation of licensing approval workflows and landing permit application processes, CAAM achieved a reduction of over 35 per cent in turnaround times for these categories of regulatory decisions. This improvement is directly attributable to the elimination of paper-based workflows, the introduction of electronic application portals with structured data input requirements, and the implementation of automated eligibility screening tools that identify incomplete applications before they enter the formal assessment process. The practical benefits of these efficiency gains are experienced across the full spectrum of regulated entities. Domestic carriers benefit from reduced administrative overhead in routine renewal cycles. International operators benefit from more predictable processing timelines for landing permits. The aggregate effect of reduced compliance costs across the sector represents a meaningful improvement in the operating environment for aviation in Malaysia.

2.5 Strengthened Consumer Protection and Market Monitoring: One of the outcomes of the regulatory consolidation has been the enhancement of consumer protection mechanisms within the unified CAAM framework. Prior to the merger, the Malaysian Aviation Consumer Protection Code (MACPC) — the principal instrument governing the rights and entitlements of aviation passengers in Malaysia — was administered by MAVCOM in its capacity as the economic regulator. The enforcement of MACPC provisions was therefore operationally distinct from the technical and safety oversight functions performed by CAAM. Under the consolidated framework, MACPC has been formally incorporated into CAAM's operational mandate. This integration means that consumer protection compliance is now assessed as part of a holistic view of airline performance, rather than as a separate regulatory domain. Of particular note is the linkage that has been established between airline consumer performance data and the renewal of operating rights. This alignment of economic and consumer regulatory levers represents a meaningful strengthening of the regulatory framework. It provides CAAM with a broader range of instruments through

which to incentivise airline compliance with passenger protection standards, and signals to operators that consumer performance is regarded as an integral component of fitness to operate, rather than a secondary or peripheral regulatory consideration.

3. LESSONS LEARNED

3.1 The Malaysian experience of regulatory consolidation in civil aviation has generated a body of institutional knowledge that may be of value to other ICAO Member States contemplating similar reforms. The following observations are offered on the basis of the implementation process and its outcomes to date.

3.2 **Preserving the Functional Independence of Technical and Safety Oversight:** One of the central challenges associated with consolidating economic and technical regulatory functions within a single body is ensuring that the integrity and independence of safety oversight are not compromised. Safety regulation is distinct from economic regulation in its fundamental orientation: the former is directed at identifying and mitigating risks to life and property, while the latter is directed at managing market structures, commercial conduct, and consumer welfare. These two domains require different analytical frameworks, different evidentiary standards, and different organisational cultures. In designing the consolidated CAAM framework, Malaysia maintained a deliberate operational separation between the teams responsible for economic policy assessment and those responsible for technical and safety oversight. While both functions are housed within the same statutory body, they operate under distinct internal governance arrangements, with separate reporting lines, independent assessment processes, and clearly defined interfaces for cases in which economic and safety considerations intersect. This structural design principle reflects the recognition that consolidation at the institutional level need not — and should not — entail the merger of distinct professional disciplines at the operational level. The objective is administrative efficiency and strategic coherence, not the subordination of safety considerations to economic imperatives.

3.3 **Leveraging Integrated Data for Predictive Risk Surveillance:** A significant, and perhaps underappreciated, benefit of regulatory consolidation is the opportunity it creates for the integration of previously siloed datasets. Under the dual-regulator model, CAAM and MAVCOM each maintained independent repositories of information on the airlines they regulated. Financial data — including revenue trends, load factors, liquidity positions, and cost structures — was held by the economic regulator. Safety performance data — including audit findings, incident reports, occurrence records, and maintenance compliance status — was held by the technical regulator. The two datasets were rarely combined for analytical purposes. The consolidated CAAM framework enables the systematic integration of these datasets, with important implications for the quality of safety surveillance. Research and operational experience have established that financial distress in an airline is frequently associated with a heightened risk of safety-related maintenance deferrals, staff reductions, and procedural non-compliance. By combining financial monitoring with safety surveillance data, CAAM is now positioned to identify patterns of financial deterioration that may serve as leading indicators of emerging safety risk, and to calibrate its audit and inspection activities accordingly. This data-driven approach to risk-based oversight represents a meaningful enhancement of CAAM's surveillance capability, and illustrates the broader potential of integrated regulatory frameworks to generate analytical insights that would not be available to separate regulatory bodies operating in isolation.

3.4 **Optimising Institutional Resources:** The consolidation of two previously separate regulatory bodies into a single institution inevitably entailed a rationalisation of administrative, legal, human resources, and corporate governance functions. Functions such as legal services, financial management, human resources administration, communications, and information technology support, which had previously been maintained separately by each body, were consolidated into unified shared-service arrangements within CAAM. This allows redirection towards emerging regulatory challenges that

are likely to define the civil aviation landscape in the coming decade. These include, in particular, the development of regulatory frameworks for Sustainable Aviation Fuels (SAF), the establishment of certification and oversight standards for Advanced Air Mobility (AAM) operations, and the enhancement of cyber-resilience capabilities across aviation infrastructure. The ability to direct regulatory expertise and institutional resources toward these frontier domains, rather than sustaining duplicative administrative overhead, represents a direct and tangible benefit of the consolidation model.

4. CONCLUSION

4.1 The consolidation of civil aviation economic and technical regulatory functions within the CAAM represents a substantive and completed reform of Malaysia's aviation governance framework. The integration of MAVCOM's functions into CAAM, finalised in August 2025, has produced demonstrable improvements in regulatory efficiency, institutional coherence, and the depth and quality of oversight across both commercial and safety domains.

4.2 The Malaysian model demonstrates that it is feasible to achieve meaningful administrative rationalisation — including faster approval processes, stronger consumer protection, and more effective technical and safety surveillance — without compromising the operational independence of technical and safety oversight functions. The key design principle is maintaining functional separation within a unified institution, rather than seeking operational merger of distinct regulatory disciplines.

4.3 Malaysia's experience also illustrates the importance of institutional financial sustainability as a precondition for regulatory effectiveness. The BBDSB model, which grants CAAM financial independence from direct government appropriations, enables the authority to invest in the professional capacity and technological infrastructure necessary to discharge its regulatory mandate to a high standard over the long term.

4.4 The Conference is invited to note the information contained in this paper and to consider the Malaysian experience as an operational reference for Member States that are evaluating options for institutional regulatory reform in civil aviation. The approach adopted by Malaysia may provide useful insights for States seeking to modernise their regulatory architectures in a manner that enhances both economic and safety governance efficiency.

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