



DIRECTORS GENERAL OF CIVIL AVIATION-MIDDLE EAST REGION

Eighth Meeting (DGCA-MID/8) **(Doha, Qatar, 26 – 28 October 2026)**

Agenda Item 7: Aviation Security, Cybersecurity and Facilitation

TECHNOLOGY DEVELOPMENT AND CONSIDERATIONS FOR LIQUIDS, AEROSOLS AND GELS (LAGS) SCREENING

(Presented by Airports Council International)

SUMMARY

Restrictions on LAGs in carry-on baggage were first introduced in 2006 following a disrupted terrorist plot involving concealed liquid explosives. Two decades after the incident, airports are increasingly adopting advanced screening technologies, including computed tomography (CT) systems, which are recognised as effective and efficient in detecting liquid threats.

In light of the technological advancement at airports, this paper outlines key considerations for States and airports as they evaluate LAGs-related screening development going forward.

1. INTRODUCTION

1.1 Twenty years ago in 2006, volume restrictions on liquids, aerosols and gels (LAGs) were introduced in response to a disrupted terrorist plot involving concealed liquid explosives on flights from the United Kingdom to the North Atlantic. In response to the incident while recognising that liquid explosive threats were very unlikely to be detected by the screening technologies and procedures existing at that time, ICAO issued a series of security control guidelines on LAGs as interim measures attached to State Letter AS 8/11-06/100.

1.2 As highlighted by the Working Group on Innovation in Aviation Security (WGIAS) at the 37th meeting of AVSEC Panel in April 2026, the LAGs restrictions in cabin baggage were originally intended to be temporary until screening technology matured enough to effectively detect liquid explosives in larger volumes. Furthermore, ICAO has consistently emphasised that these restrictions should address the threat while considering facilitation requirements in the longer term.

1.3 Over the past two decades, global passenger traffic has experienced significant growth, and this momentum is expected to continue based on current projections. By 2046, the number is projected to reach 19.3 billion, almost doubling the 2025 levels¹. The continuous growth in air traffic has inevitably placed increasing demand on airport security processing, as passenger checkpoints are

¹ ACI World Airport Traffic Forecast 2025-2054

required to handle higher throughput without compromising security standards. The pressure is particularly acute in LAGs screening, where bottlenecks commonly arise from liquid divestment by passengers and confiscation by screeners.

Technological advancement across airports

1.4 To alleviate the checkpoint pressure, more airports worldwide have adopted or are planning to adopt computed tomography (CT) systems², which are widely recognised for their capability in effectively and efficiently detecting prohibited items and liquid threats in carry-on baggage³. In the Asia-Pacific and Middle East region, for instance, the deployment of CT machines is expected to rise by 124% by 2028⁴. This technological advancement also paves the way for adaptation in LAGs screening protocols for the future.

1.5 In view of the increased CT machine deployment, some civil aviation authorities, notably in Europe, have taken further steps in updating their LAGs screening policies in recent years. At airports such as London Heathrow, Kraków, Dublin and Zurich, regulations have been adjusted to accommodate larger liquid volumes (i.e. up to 2L) in carry-on baggage for departing passengers⁵. Although these adaptations remain limited to specific jurisdictions globally, they demonstrate the potential of modern screening technology in enabling a more passenger-friendly screening approach.

2. DISCUSSION

2.1 Taken together, the technological advancement and the policy adjustments observed in certain jurisdictions suggest two impending considerations for States and airport operators moving forward.

Adopting effective LAGs screening technology

2.2 As set out in the ICAO Global Aviation Security Plan (GASeP), the promotion and application of technological solutions is recognised as a core priority in aviation security. To this end, States are encouraged to support research and development through trials of new processes and equipment.

3.1 This approach aligns with the Doha Declaration on Facilitation of International Air Transport, which urges industry stakeholders to embrace technological advancements to foster the seamless movement of passengers⁶. With the mandate and backing of States, airports would be strategically well placed to test and trial innovative technologies. These technologies, such as CT systems and other advanced LAGs screening solutions, can then be leveraged to minimise passenger friction and enhance the overall travel experience while maintaining security standards.

² In the United States, for example, the Transportation Security Administration had installed 1,162 CT scanners at 296 airports as of July 2026: <https://thehill.com/policy/technology/5969843-tsas-new-ct-scanners-may-pose-a-problem-for-some-carry-on-bags-what-to-know/>

³ “Liquids, aerosols and gels (LAGs): Current screening technology capability and considerations (March 2026)” prepared by the WGIAS for the AVSECP/37, identifies CT X-ray with liquid explosive detection systems (LEDS) algorithms as the most effective and fastest way to screen LAGs, including over 100ml in size, in carry-on baggage

⁴ A study conducted by ACI in Nov 2025 includes a sample size of 48 capital airports in APAC and MID region
⁵ It should be noted that implementation approaches vary across airports: while certain hubs adopt airport-wide policy adjustments, others introduce them on a partial basis, limited to specific terminals or checkpoints

⁶ Adopted at the ICAO Facilitation Conference 2025 on 17 April 2025, the [Doha Declaration on the Facilitation of International Air Transport](#) calls for “a strategic, forward-looking vision that addresses emerging trends, technological advancements, and global imperatives such as the seamless movement of people and goods” as part of the global facilitation governance

Enhancing passenger communication

2.3 Notwithstanding the upward trend in advanced screening technology adoption, the pace of implementation still varies across airports due to localised constraints. For some airports, the cost of introducing CT equipment may be prohibitive, particularly where passenger volumes do not justify the investment. Others may face constraints on physical space, as CT machines typically require larger footprints. As a result, global alignment and operational harmonisation in advanced LAGs screening capabilities is unlikely in the immediate future, and passengers may continue to encounter differing requirements across their journey.

2.4 With different screening protocols coexisting across regions and between airports along international routes, effective and clear communication is essential for reducing passenger confusion. This is particularly critical for transfer passengers, who may undergo re-screening at transit hubs with regulatory frameworks or technology standards different from those at their point of origin. In such cases, proactive messaging can help passengers anticipate and prepare for these variations, thereby ensuring a smoother end-to-end journey.

3. ACTION BY THE MEETING

3.1 The meeting is invited to

- a) note the rising adoption of advanced screening technologies at airports, which have demonstrated improved capability to detect liquid threats in larger volumes;
- b) support airports in the trial and testing of technologies that can effectively detect liquid explosives and screen larger volumes of liquids; and
- c) encourage relevant stakeholders to collaborate in enhancing passenger communications to prevent confusion and minimise operational friction resulting from ongoing LAGs development across the globe.

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