2025 Korea Aviation Safety Forum

2025 대한민국항공안전포럼

# The Culture of Protecting Aviation Personnel and Air Transport Users in the AX Era: A Normative Reinterpretation

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# 1. Introduction – A normative culture

| Event | Civil Liability Lmits(SDR) | | |
|---|---|---|---|
| | '99 | '19 | '24 |
| Death of Bodily Injury of a Passenger (MC Article 21) | 100,000 | 128,821 | 151,880 (US$202,500) |
| | Second tier(presumptive liability) | | |
| Passenger Delay (MC Article 22(1)) | 4,150 | 5,346 | 6,303 (US$8,400) |
| Baggage – destruction, loss, damage, delay (MC Article 22(2)) | 1,000 | 1,288 | 1,519 (US$2,000) |
| Cargo – destruction, loss, damage, delay (MC Article 22(3)) | 17 | 22 | 26 (US$35) |

## Civil Liability Limits under the Montreal Convention

- The Montreal Convention ('MC') is a public international law, adopted in 1999, and it governs the civil liability of airlines in the case of accidents, delays, and other incidents involving international carriage.
- Civil liability limits have been adjusted every five y ears to account for inflation, as stipulated by MC Art. 24.

# 2. Applicable law governing damages caused by defective AI

## Brand new AI regulation?

| UK approach | | EU approach |
|---|---|---|
| Non-statutory (to be implemented by existing regulators) | Type of regulation | Legislative (AI Act) |
| Principle-based (5 principles) | Regulatory approach | Prescriptive (Detailed rules) |
| Vertical (Sector/risk-specific guidance applying general principles) | Regulatory focus | Horizontal (Same rules all sectors. Focus on prohibited and high-risk AI) |
| No new regulators (Existing regulators to apply principles) | Regulatory bodies | New regulatory bodies (National competent authorities + European AI Board) |
| No new penalties (Apply penalties under existing laws) | Penalties | New penalties (Fines up to EUR30M or 6% turnover) |
| Main risk Regulator divergence / gaps between regulators? | Potential shortcomings? | Main risk Could prescriptive approach dampen innovation? |

## Product Liability Act !

- In the AX era, applicable law governing damages caused by defective AI is product liability legislation, not new AI regulation.
- Under a flexible interpretation, the Product Liability Act can govern damages caused by defective AI in the case where aviation AI software is installed in aircraft.

# 3. Shifting of an air carrier's civil liability

| Event | Strict Liability | Fault-based Liability |
|---|---|---|
| Death of Bodily Injury of a Passenger (MC Article 21) | Tier 1 | Tier 2 |
| Passenger Delay (MC Article 22(1)) | X | O |
| Baggage – destruction, loss, damage, delay (MC Article 22(2)) | Checked baggage - destruction, loss, damage | ①Checked baggage - delay<br>②Carry-on baggage - destruction, loss, damage, delay |
| Cargo – destruction, loss, damage, delay (MC Article 22(3)) | destruction, loss, damage | delay |

- The operation of AI serves as a substitute for human conduct, and the shift of civil liability for air carriers is confined to the scope of damage caused by human intent and negligence.
- Fault-based liabilities under the Montreal Convention transition to strict liability under the Product Liability Act in one jurisdiction.

# 4. Degrees of AI automation and its impact on civil liability

| | | |
|---|---|---|
| **Level 1 AI: assistance to human** | 1A | Human augment |
| | 1B | Human cognitive assistance in decision making and action selection |
| **Level 2 AI: human-AI teaming** | 2A | Human and AI-based system cooperation |
| | 2B | Human and AI-based system collaboration |
| **Level 3 AI: advanced automation** | 3A | The AI-based system performs decisions and actions that are overridable by the human |
| | 3B | The AI-based system performs non-overridable decisions and actions |

- The shift of civil liability commences when aviation AI is granted the authority, and the simple utilization of aviation AI is improbable to trigger this transition.
- The transition of an air carrier's civil liability progresses in accordance with the levels of automation of aviation AI. (Level 2B < Level 3A < Level 3B)

## 5. Policy implications - 3 Uncertainties


- The application of product liability act is uncertain in circumstances when the manufacturers of aircraft and aviation AI vary, particularly when the aviation AI operates in a remote mode.
- Demonstrating the defects of aviation AI and establishing a causal relationship between AI defects and damages caused is impractical for air passengers, and particularly in civil law jurisdictions that require a high likelihood in civil cases.
- The EU AI roadmap provides a crucial classification of aviation AI based on levels of automation, and further discourse around the ratio of AI authority is essential to address real-world civil cases.

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# Thank you!