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الهيئة العامة للطيران المدني
GENERAL CIVIL AVIATION AUTHORITY



ATM SG/11 & CNS SG/14

19-23 Oct. 2025 **MEETINGS** Abu Dhabi, UAE





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AI In ANS



ATM SG/11 & CNS SG/14



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AI in ANS

❖ AI in ANST:

- ❖ **LMS:** course recommendations, content creation, Admin support and AI tools.
- ❖ **ATC Simulator:** Speech recognition, Scenario generation, Simulation results analysis and performance analytics.

❖ **AI Fault analyser:** generates job cards, pulls system logs, collects updates, and performs root cause analysis.

❖ **AI Safety Monitor:** Monitor for Safety incidents, collect relevant data, and generate reports.

❖ **AIP AI Bot:** Answer user queries related to critical information based on the UAE Aeronautical Information Publication.

❖ **AI in ATC:** AI Planner, AI comms compliance and generative AI.





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AI Integration Opportunities in the LMS (Proposal)

- ❖ **Personalised Learning:** AI recommends relevant content based on learner behaviour.
- ❖ **Content Creation:** Tools like AI writing assistants and image generators speed up content development.
- ❖ **Admin Support:** Summarisation, translation, and tagging enhance course discoverability and reduce workload.
- ❖ **Tools in Use:** Smart Goal (AI-assisted goal setting), Knowledge Check-In (quiz generation), AI translation.





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Expected Impact & Outcome

- ❖ **Efficiency:** Reduces manual work in creating and managing content.
- ❖ **Cost Saving:** Cuts time and effort for content creation.
- ❖ **Service Enhancement:** More engaging, interactive learning materials.
- ❖ **Accessibility:** Multilingual support broadens learner reach.
- ❖ **Quality:** Improved learner satisfaction and outcomes.





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AI Integration Opportunities in ATC Simulation (Concept)

- ❖ **AI-Driven Speech Recognition:** Assists pseudo-pilots by parsing controller inputs and reducing workload.
- ❖ **Scenario Generation:** Uses machine learning to create realistic, diverse, and custom traffic scenarios.
- ❖ **Simulation Results Analysis:** AI enables natural language queries and drill-down analytics for performance reviews.
- ❖ **Performance Analytics:** Provides detailed feedback on decision-making and situational awareness.





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Expected Impact & Outcome

- ❖ Improved training realism and relevance.
- ❖ Enhanced trainee assessment and personalised training paths.
- ❖ Streamlined post-simulation review and data analysis.
- ❖ Greater efficiency and reduced manual input during simulations.





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AI Fault analyser (Concept)

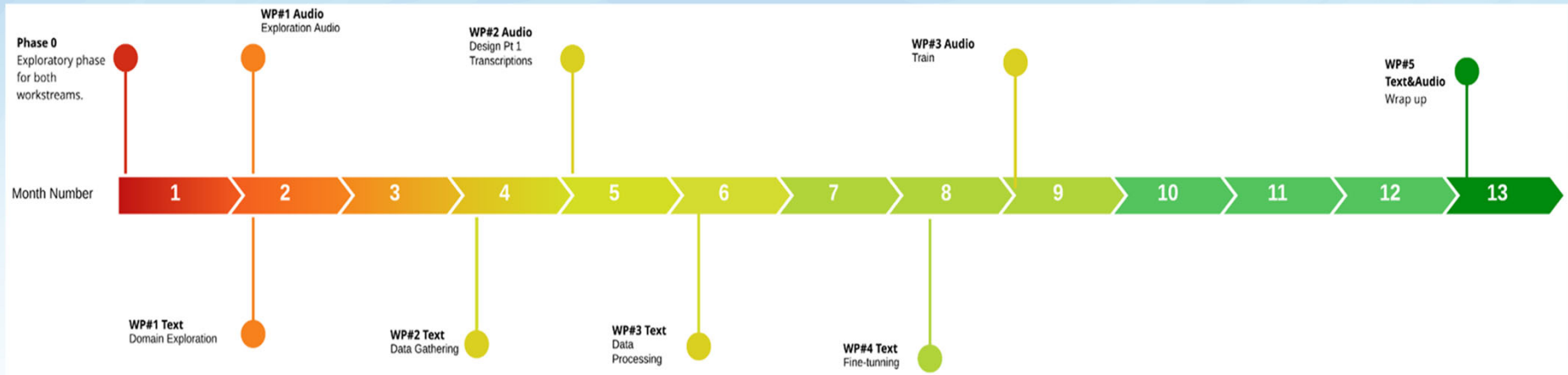
- ❖ **Generate job cards:** Using NLP and Speech recognition to create complete job cards
- ❖ **Root cause analysis:** pull system logs, collect updates
- ❖ **Create handover summary:**
 - ❖ All job cards generated
 - ❖ Unresolved or pending tasks
 - ❖ Notable system alarms
 - ❖ Site visits and coordination notes



AI Safety Monitor (In Development)

❖ AI can quickly process massive volumes of data (Radar data and VHF Audio Files) to detect:

❖ Activation of Safety Network caused by ATC Error.





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AIP AI Bot (Testing)

- ❖ **Use machine-learning technology:** to provide accurate and structured responses to aviation queries within the UAE Flight Information Region (FIR).
- ❖ **Only refer to the Aeronautical Information Publications:** to ensure providing reliable answers while reducing the time needed to find the required information.





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AIP AI Bot


- ❖ **Efficiency:** Reduces the time taken to access the needed information within the UAE Aeronautical Information Publications.
- ❖ **Accuracy:** Provides structured answers only sourced from the UAE – AIP and provides the answer reference.
- ❖ **24/7 Availability:** Accessible anytime, ensuring uninterrupted support for aviation professionals.
- ❖ **Cost-Effective:** Reduces the need for manual query handling and saves resources by saving Operation Time.





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AIP AI Bot

**Aeronautical Information Publication**
The GCAA Artificial Intelligence system is currently in training mode and may make mistakes.

In the UAE, aircraft transiting the Emirates FIR without landing are charged based on their maximum take-off weight as follows:

1. More than 290,000 KG: USD 235.00
2. 190,001 to 290,000 KG: USD 200.00
3. 120,001 KG to 190,000 KG: USD 165.00
4. 120,000 KG and below: USD 130.00

For aircraft entering the Emirates FIR and landing, similar charges are levied, and additional legs within the FIR are charged a flat rate of USD 10.00 per flight, regardless of aircraft size [\[1\]](#) [View](#)

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The UAE Aeronautical Information Publication lists numerous airports, including both national and international categories. However, the exact count of all aerodromes, including heliports and military installations, is not specifically mentioned in a single summary entry. If you are interested in a specific list or need further breakdown, let me know, and I can assist with more detailed information from the files [\[1\]](#) [View](#)

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Abu Dhabi International Airport is located at coordinates 24°25'57" N latitude and 054°39'04" E longitude .

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Abu Dhabi International Airport has two runways. They are:

1. Runway 13R/31L
2. Runway 13L/31R [\[1\]](#) [View](#)

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how many airports available in AIP

what is the location of Abudhabi Airport

how many runways Abu Dhabi International Airport has and name them



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AI in ATC (RFI)

- ❖ **Planner:** Explore and develop AI assistant to increase ATC efficiency and capacity
- ❖ **Comms compliance:** Monitor and ensure compliance of ATC and pilots with standard phraseology.
- ❖ **Generative:** GPT-like, answer queries with references from LATSI, AIP, etc, to assist ATC operations.





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Action by the meeting

- 1. States are urged to continue exploring opportunities for AI implementation within Air Navigation Services (ANS) to enhance efficiency, safety, and sustainability.**
- 2. ICAO MID encouraged to facilitate knowledge sharing and collaboration on AI-driven initiatives and best practices among States and ANSPs.**





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THANK YOU

