capital

CAPITAL A – ASIA DIGITAL ENGINEERING (ADE)

ADE

ASIA DIGITAL ENGINEERING

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COSH 2024 24th CONFERENCE AND EXHIBITION ON OCCUPATIONAL SAFETY AND HEALTH

SCICOSH 6th SCIENTIFIC CONFERENCE ON OCCUPATIONAL SAFETY AND HEALTH

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A In House Product

* Capital

Speaker Profile

FIRDAUS YAACOB

Capital A
Asia Digital Engineering Sdn Bhd,
RedQ. Jalan Pekeliling 5, Lapangan Terbang Antarabangsa
Kuala Lumpur (KLIA2) 64000 KLIA Selangor Malaysia

- Mr. Firdaus Yaacob, a seasoned and qualified professional in the aviation sector, holds the position of **Head of Safety at Asia Digital Engineering Sdn Bhd.** With an impressive professional journey spanning **34 years,** Mr. Firdaus Yaacob is a **Licensed Aircraft Engineer** by profession. His comprehensive expertise extends across various domains, including **Aircraft Maintenance, Quality Assurance and Compliance Monitoring, Fleet Technical Management, and Safety Management Systems (Compliance to ICAO Annex 19).**
- Currently entrusted with the role of Nominated Post Holder for both the Civil Aviation Authority of Malaysia **(CAAM)** and the European Union Aviation Safety Agency **(EASA),** Mr. Firdaus Yaacob demonstrates an unwavering commitment to upholding and advancing aviation regulatory standards. His extensive skill set and wealth of experience position him as a seasoned professional with a keen eye for ensuring operational excellence and compliance within the industry.
- In his current capacity, Mr. Firdaus Yaacob oversees a spectrum of responsibilities, directing his efforts towards the implementation and enhancement of **Safety Management Systems, Occupational Safety, Health, and Environment (OSHE) at Asia Digital Engineering Sdn Bhd.** This role underscores his dedication to fostering a culture of safety and sustainability within the organization, aligning seamlessly with the evolving needs and expectations of the aviation industry.

COMPANY PROFILE

AirAsia Group Bhd was rebranded as **Capital A** in early 2022, as part of efforts to transform the company into an investment holding company with a portfolio of lifestyle, aviation services and travel businesses instead of merely an airline.The new company will help the group to make a clear distinction between its airline business, digital travel, aviation services and lifestyle services.

Aviation Group

- Airlines - Malaysia, Thailand, Indonesia, Philippines and Cambodia.

Aviation Services

- Asia Digital Engineering (ADE)
- GTR - Ground Handling Services (Guest Service, Baggage handling, Water & waste servicing, Pushback & towing services)
- Santan - Restaurant & In-flight services

Digital Business

- air asia Super App
- IKHLAS
- BigPay

Ventures

- RedBeat Capital
- air asia academy
- airasia grocer

Logistic Business

- Teleport - Logistic & Cargo

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COMPANY PROFILE

ADE
ASIA DIGITAL ENGINEERING

Asia Digital Engineering (ADE) Founded in September 2020, ADE is a wholly-owned subsidiary of Capital A based in **Klia2,** Kuala Lumpur, Malaysia. ADE leverages the AirAsia Group Engineering Department's best practices and combined experience in the region. ADE offers a range of aircraft services focused on the **Airbus A320, A321 & A330 for line and base maintenance maintenance services, component and warehouse services, engineering support services and digital solution services.**

ADE APPROVED FACILITIES

HEAD QUARTERS	BASE MAINTENACE	LINE MAINTENANCE	WORKSHOP, CWS
REDQ	KUL HANGAR SENAI JHB HANGAR SZB HANGAR	KUL JHB BKI KCH LGK PEN	REDCHAIN

MRO Services

Line Maintenance

Base Maintenance

Component Workshop

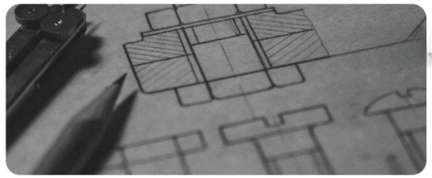
Component Support

Inventory Management

Warehouse Management

Fleet Technical Aircraft Management

Technical and Design Support



Continuous Airworthiness (CAMO)

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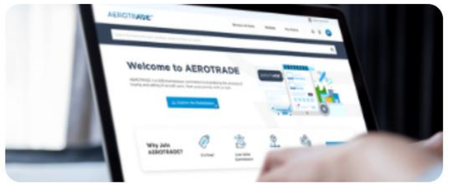
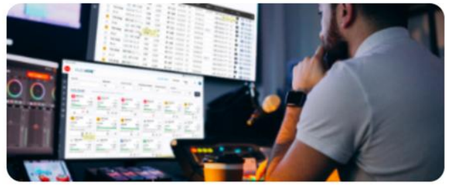
COMPANY PROFILE

Digital Solutions



AEROTRADE™

Aircraft parts marketplace



ELEVADE™

Aircraft health monitoring & predictive maintenance system

ADE'S Authority Approval

CAAM Civil Aviation Authority of Malaysia

CAA of Malaysia Part 145 (CAAM)

CAAM Civil Aviation Authority of Malaysia

CAA of Malaysia Part M (CAAM)

EASA European Aviation Safety Agency

European Union Aviation Safety Agency (EASA)

CAAS Civil Aviation Authority of Singapore

CAA of Singapore (CAAS)

CIVIL AVIATION AUTHORITY OF NEPAL

CAA of Nepal (CAAN)

Directorate General of Civil Aviation

DGCA Indonesia (DGCAi)

SSCA

SSCA Cambodia

CAAT สำนักงานการบินพลเรือนแห่งประเทศไทย The Civil Aviation Authority of Thailand

CAA of Thailand (CAAT)

CAA PHILIPPINES

CAA of Philippines (CAAP)

MALAYSIA MADANI

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MINISTRY OF HUMAN RESOURCES

NIOSH

RedEye*

THE FUTURE OF WORK

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INTRODUCTION

RedEye is an Inhouse software development which consists suite of interconnected products served as an integrated platform on Android, iOS and the Web. The main goal is to **introduce efficiencies for running day-to-day operations and deliver value, with a focus on maximizing transparency and productivity.** It aims to bridge information gaps between employees and minimize silos by facilitating collaborative work.

RedEye Advantages:

- **Developed Internally**: Our system is created and controlled entirely in-house, giving us full autonomy and alignment with our organizational goals.
- **Comprehensive Functionality**: It offers robust reporting, audit, document control, and machine learning capabilities tailored to our needs.
- **Cost Saving Advantage**: By avoiding external vendors, we save on licensing fees and ensure scalability across the organization.
- **Enhanced Data Security**: Our solution prioritizes stringent security measures to protect sensitive information.
- **Tailored Enhancements**: We can continuously customize and improve the system based on our evolving needs without vendor dependencies.

RedEye Limitations:

- **Developed Internally**: No system limitations as we fully control it.

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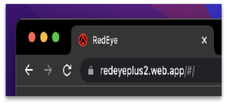
GET IT ON Google Play
Android

iOS



Web

Below are the features currently available on the platform:

RedEye

Safety Reporting and Risk Management

For All staff eg. Office Staff

BlueSky

Day-of-Ops Communications and Operations Data Collection

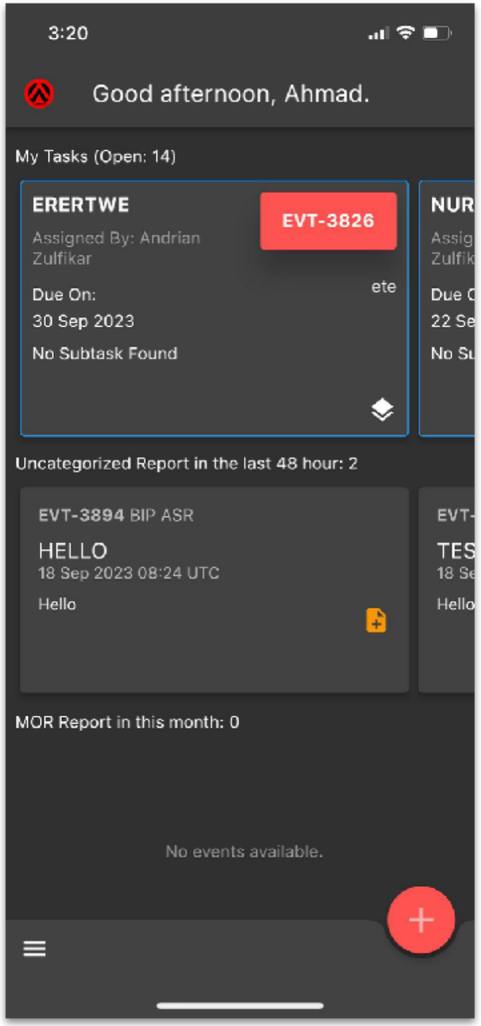
For Flight ops and Cabin Crew only

TealForms

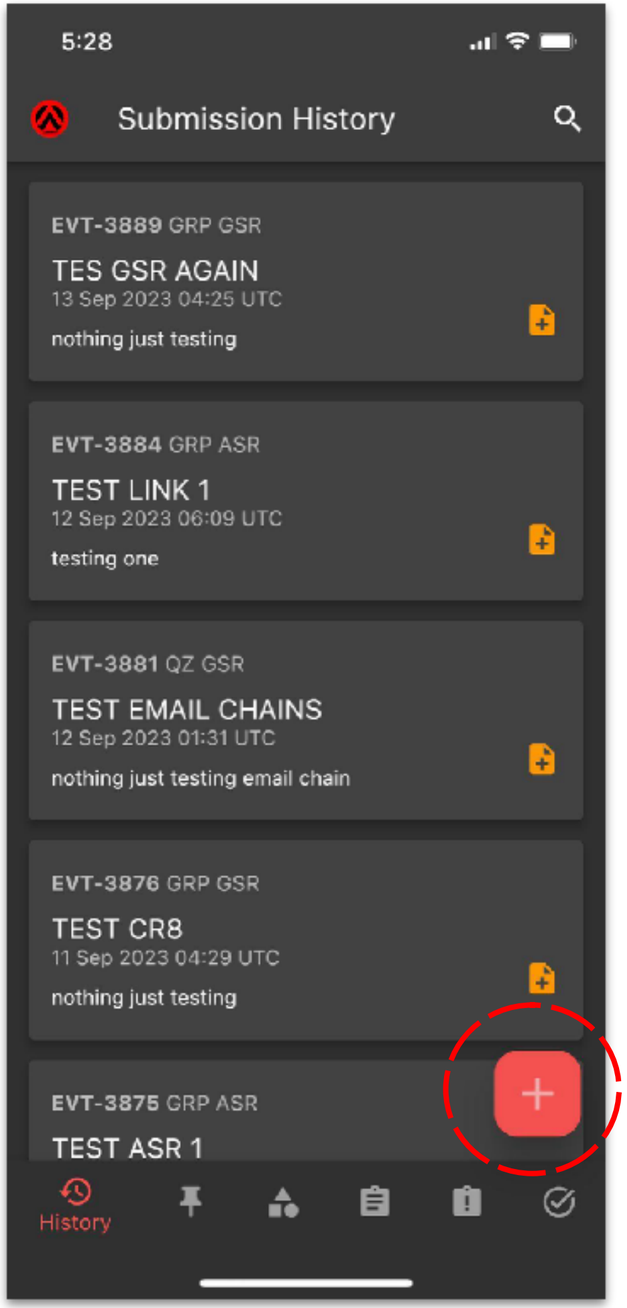
User-Defined Custom Forms Management

Any forms that is other than safety forms will go in TealForms. e.g. (MOC)

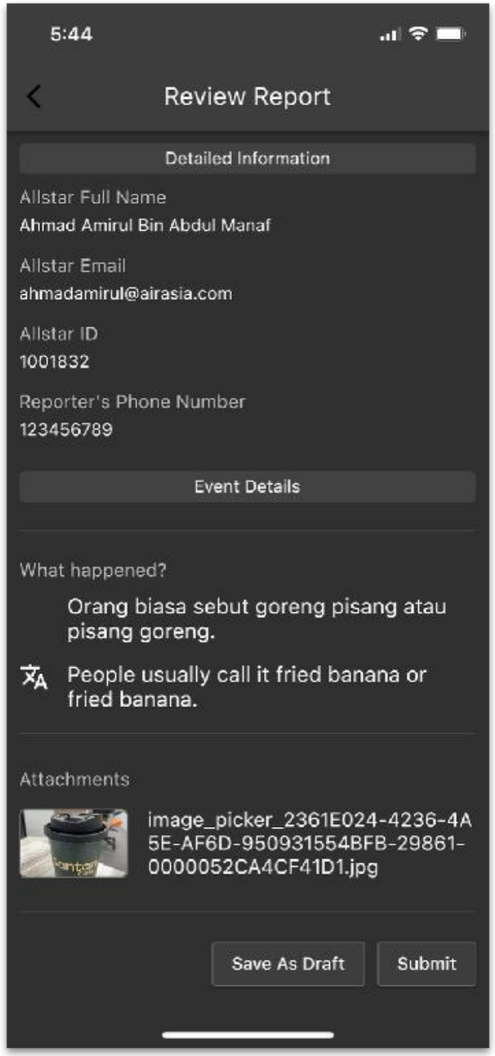
- **General User** - **Submit reports and access their own reports.**
- **Ops User** - **To see reports that match their ops report category (Flight, Cabin, Engineering, Ground etc) and to leading the investigation process.**
- **Report Administrator** - **This user is granted overall access to most of the app functions, in addition to being able to modify many data fields on the events.**



To act as **Capital A – Asia Digital Engineering Reporting System** for any unsafe act, unsafe condition and near miss through out Malaysia and other regions under **Capital A**



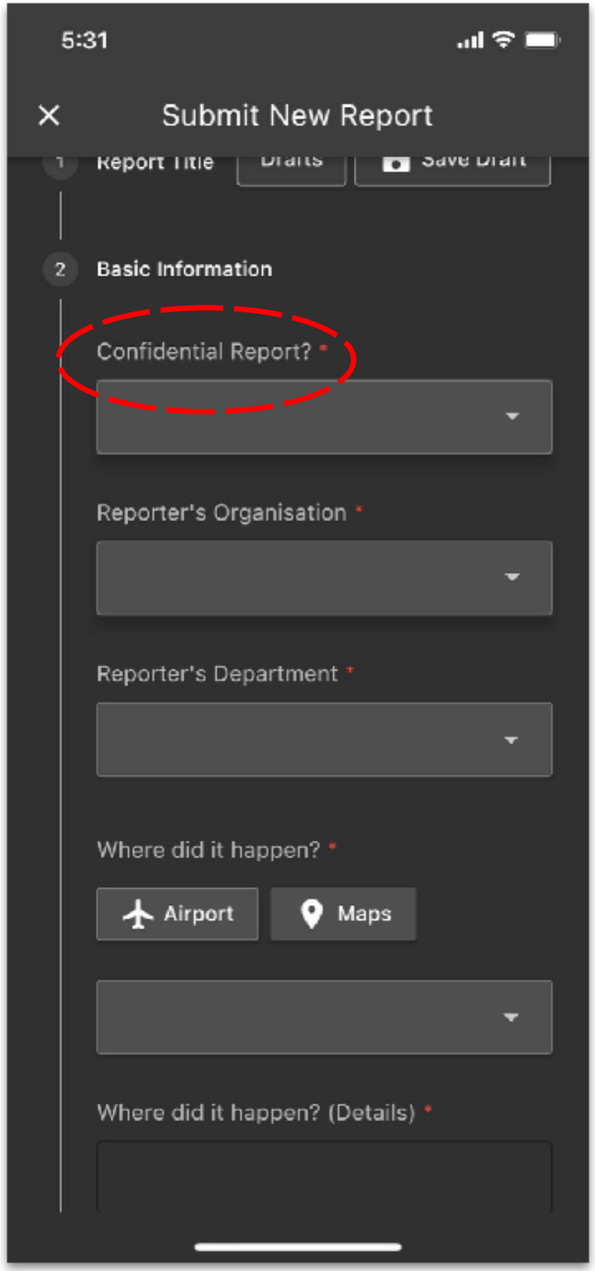
Tap the bottom right [+] icon to submit a report.

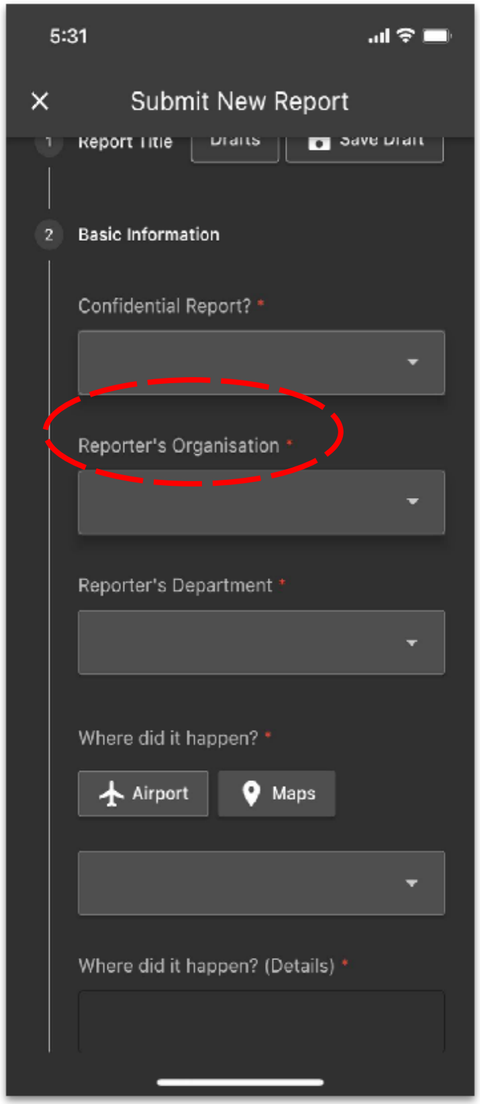


All Reports will be monitored and reviewed by the administrator.

Upon submission of the report, a notification is then sent out to report administrators who will then **categorize the report** and **assign the appropriate personnel** to begin the **investigation process**.

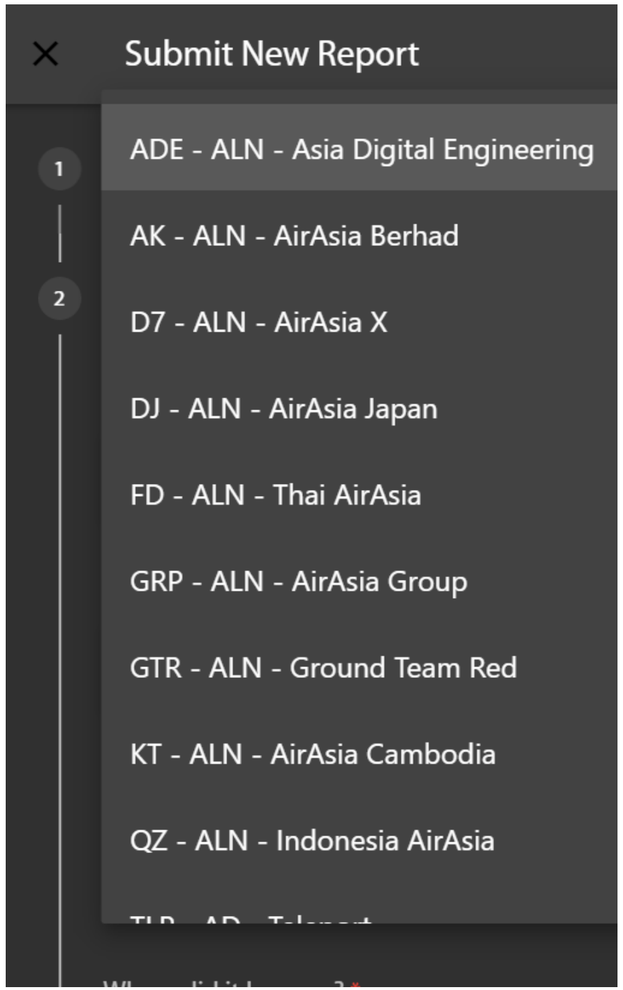
To maintain confidentiality if reporter select as "**confidential**", the reporter identity **will not be disclosed**.

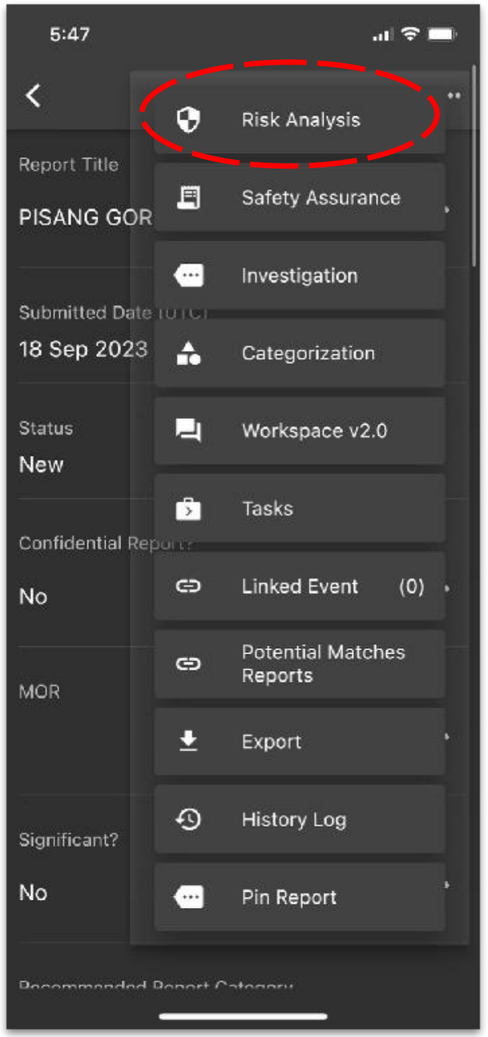




Reporter Organisation

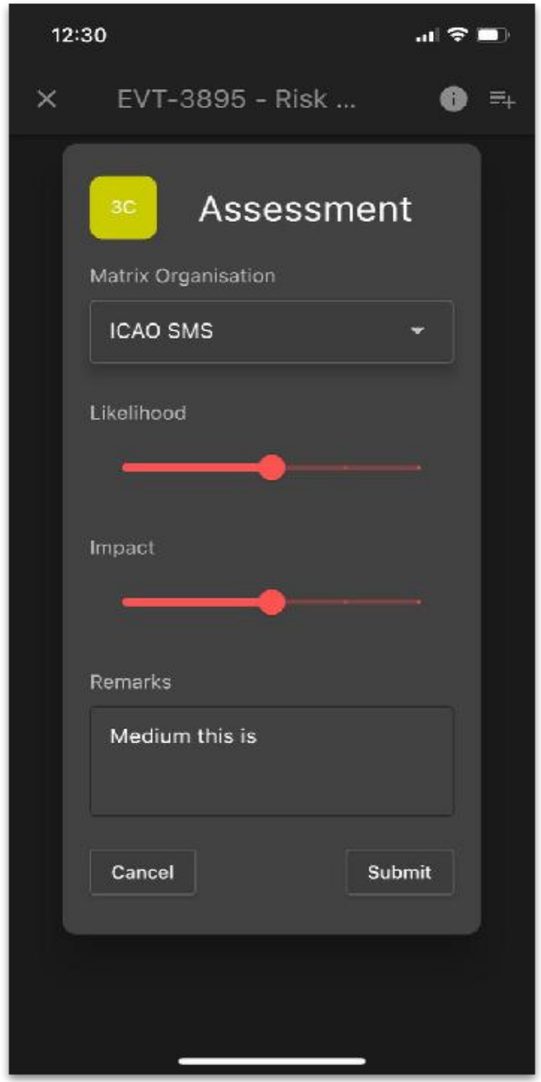
This reporting system widely utilized across all Capital A Group entities

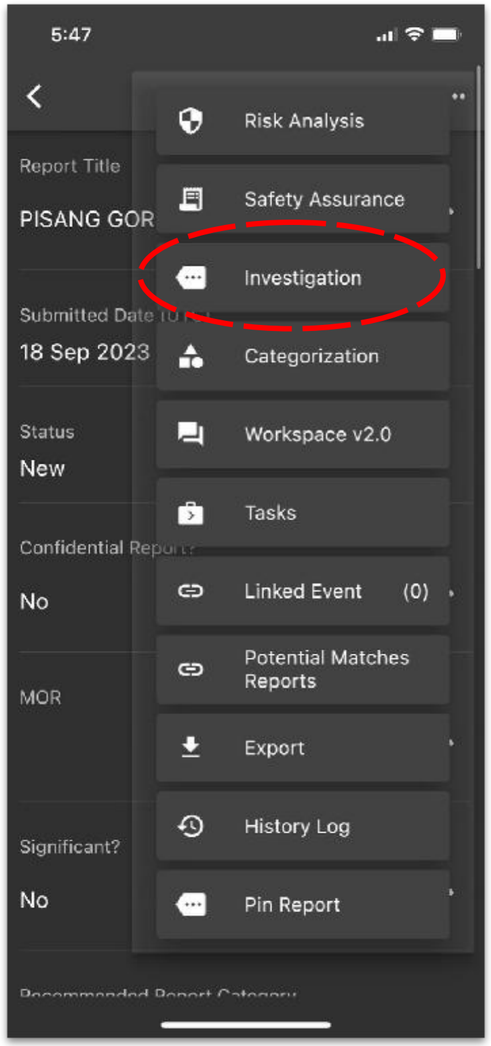




Risk Assessment

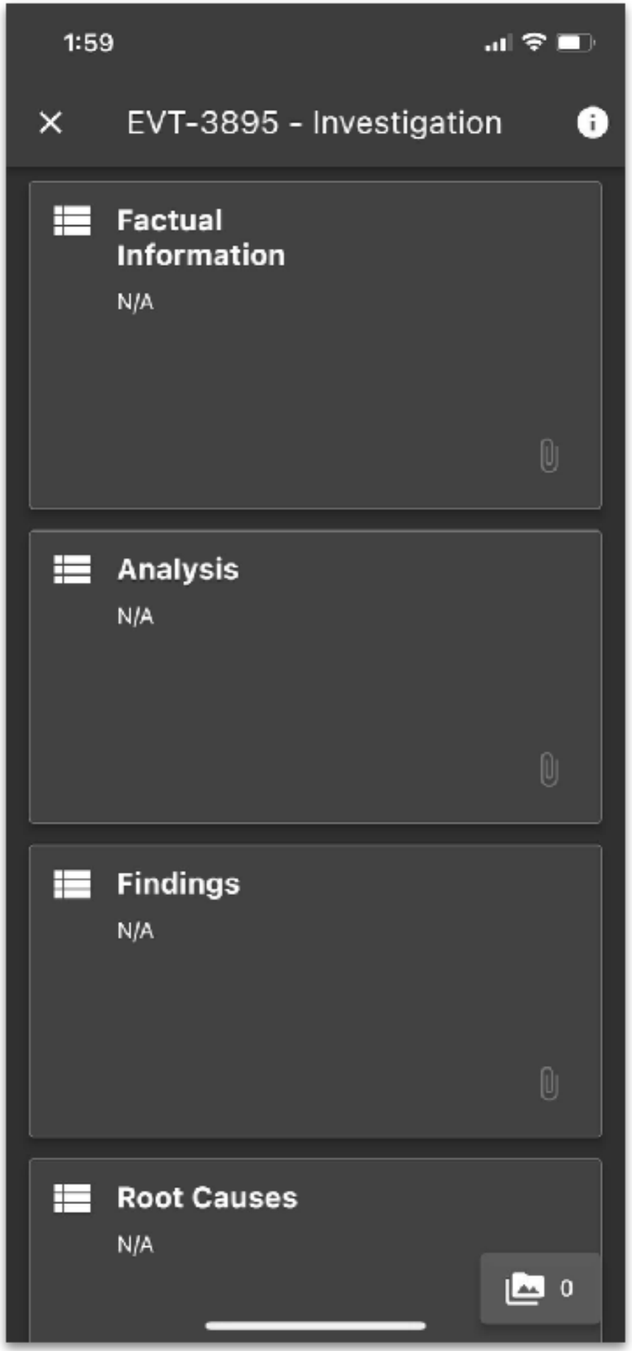
This is a **measuring system** for Safety to gauge the impact of a safety event to operations and likelihood of occurrence.





Investigation Section, where the bulk of work concerning the event is recorded. This serves as the primary workflow repository of any **Safety investigation**.

Each **investigation card** is **timestamped separately** and can be inserted by different people aside from the PIC if been allowed by the PIC (Sub investigator).



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NIOSH

Future of Work @ ADE

THE FUTURE OF WORK

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Drone

Aircraft Inspection

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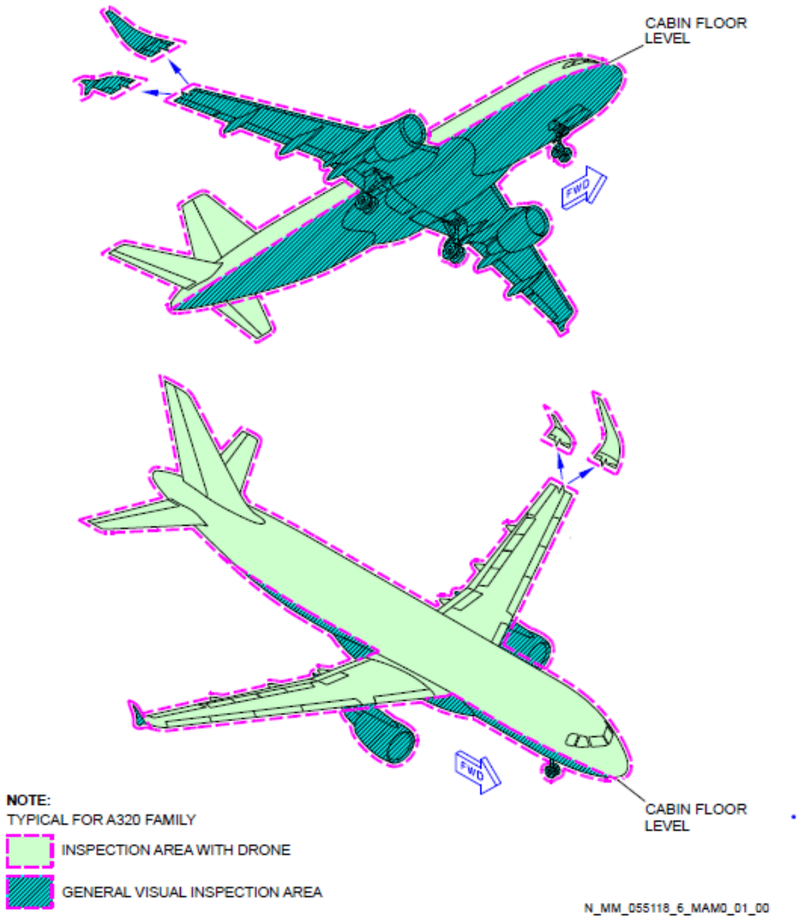
DRONE



Drone and GVI Inspection Areas for Subtask 05-51-18-210-177-A as per Airbus Maintenance Manual

Airbus Advance Inspection Drone

Approved Part No : DCL90-00001

DRONE

Benefits

- **Increased efficiency**: Drones streamline MRO with faster, more precise inspections with high resolutions, reducing downtime.
- **Enhanced safety**: Drones minimize risks to personnel by accessing hazardous areas remotely.
- **Cost savings**: Lower labor costs and early defect detection save money in maintenance.
- **Accessibility**: Drones reach inaccessible areas, ensuring thorough inspections.
- **Informed decisions**: Detailed data from drones aids in proactive maintenance planning.
- **Regulatory compliance**: Drones provide comprehensive documentation for regulatory requirements.

DRONE

Limitations

- **Battery Life**: Despite technological advancements, drones have limited flight time, requiring frequent recharging and reducing efficiency, especially for large projects.
- **Complex Operations**: Specialized training is needed to operate advanced drones, limiting accessibility within organizations.
- **Weather Dependence**: Adverse weather conditions can hinder drone operations, affecting flight stability and data quality.
- **Limited Reach**: Some drones may struggle to access confined areas, impacting their effectiveness for comprehensive inspections.

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Fall Protection

Safety Initiative

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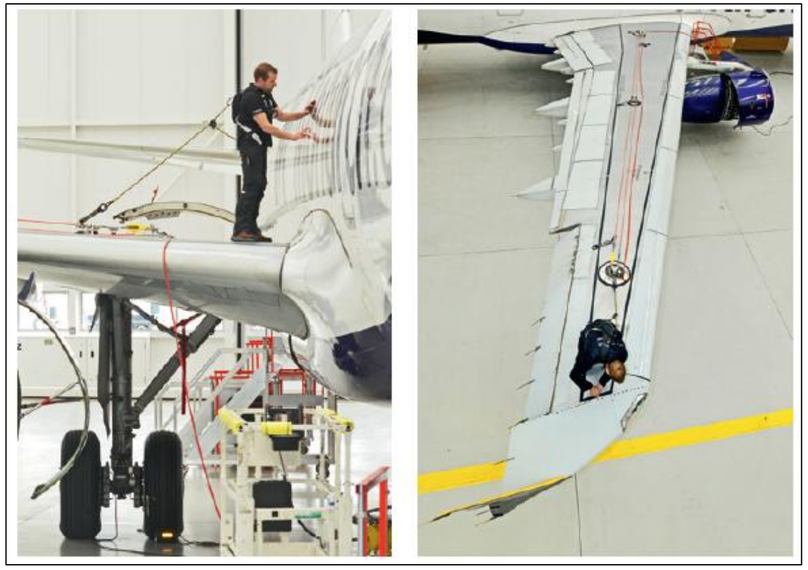
INTRODUCTION

- The Latchways WinGrip® System is a **vacuum-based fall protection** solution designed for **aircraft manufacturing and maintenance**, offering versatility by being fixable to **wings, fuselage, or stabilizers.**
- Workers wearing **full-body harnesses can attach to the system via work positioning ropes**, enabling hands-free access during maintenance tasks.
- The system undergoes rigorous testing and is **rated for fall arrest, engineered with a safety factor of two to limit load transfer to the aircraft structure.**
- Asia Digital Engineering (ADE) **is in the final stage to integrate** the WinGrip® System into its Maintenance, Repair, and Overhaul (MRO) services.
- This strategic initiative highlights **ADE's commitment to enhancing safety standards** and **operational efficiency** in the aviation industry



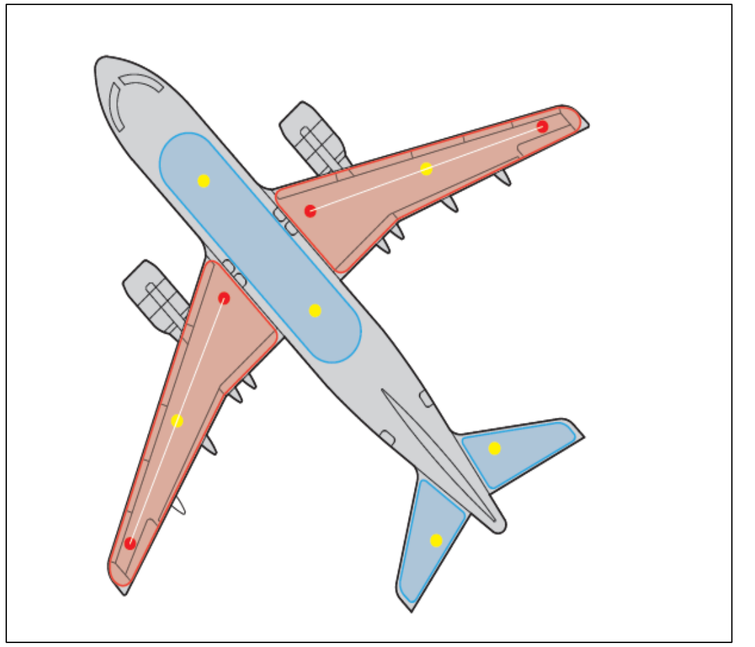
Example of WinGrip Systems Layout & Coverage

Denotes coverage when using single pad system. Single pad system can be placed along entire length of fuselage or on rear stabilizers.

Denotes coverage provided by twin line system.

Intermediate pad

End anchor pad



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ELEVADE FLEET

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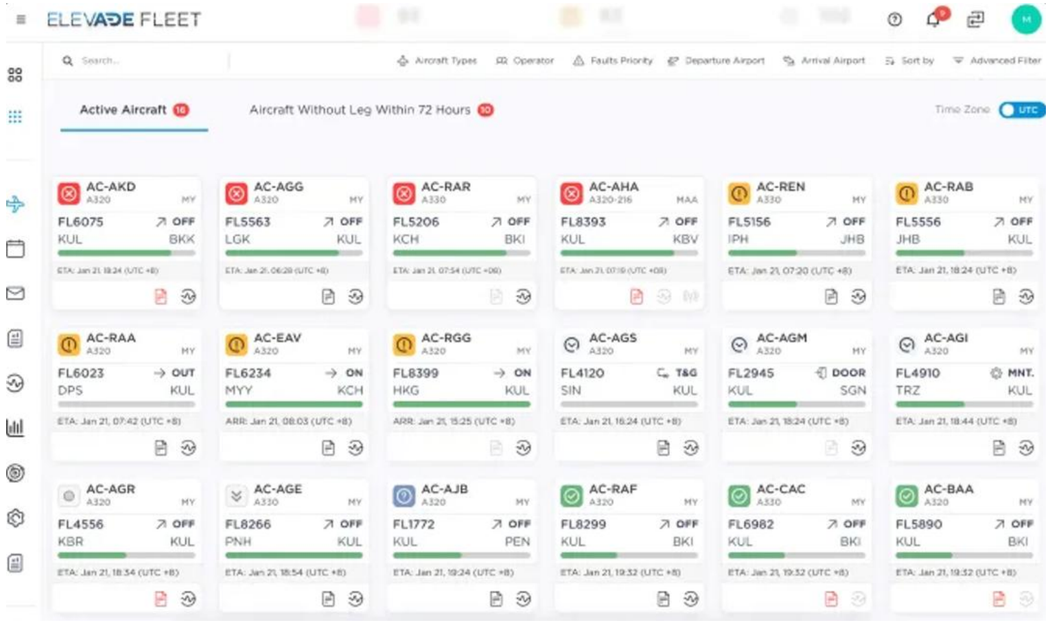
INTRODUCTION

ELEVADE FLEET developed by **Asia Digital Engineering (ADE) Digital & Innovation Service (DIS) Department** helps to manage and monitor fleet health status; managing, analysing and anticipating unexpected problems in real time.

- Fleet Health Monitoring
- Daily Aircraft Status Report (DASR)
- **Cabin Monitoring with RFID Technology**
- Aircraft Monitoring Analytic

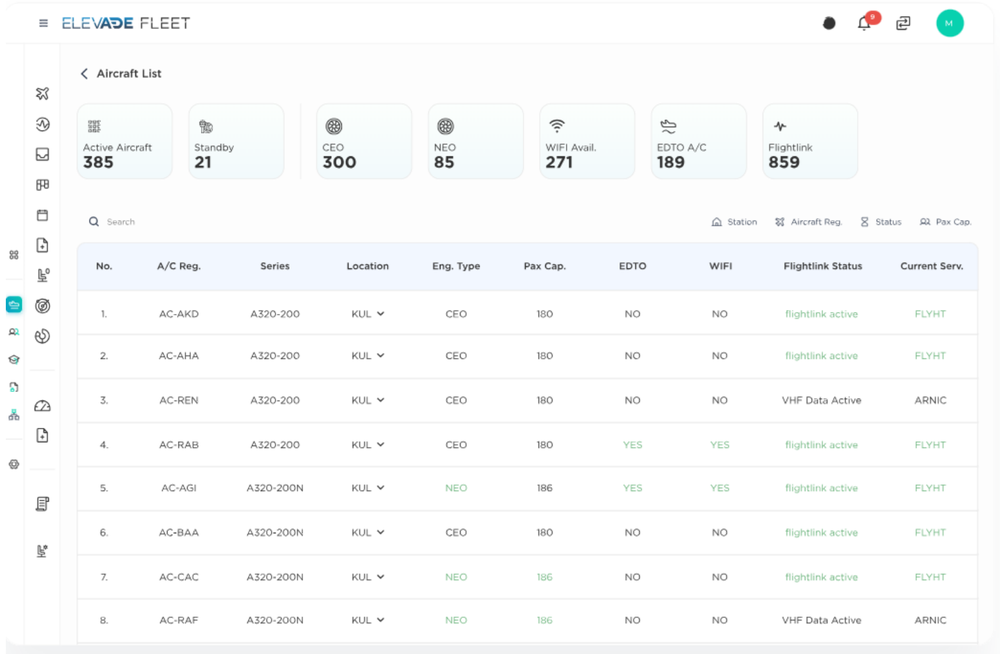
ELEVADE FLEET

FUNCTIONALITY



Fleet Health Monitoring

- **Timely monitoring** and **analysis of fleet health** presents operators with a huge advantage in ensuring a smooth operation
- **Using real-time aircraft data** to monitor fleet condition regardless the aircraft position
- **Early notification of aircraft defects** for better coordination and safety
- **Defect pattern detection** via repetitive event algorithms
- **Centralised decision making** made possible by big data



Daily Aircraft Status Report (DASR)

- **Immediate aircraft status updates** for maintenance and operational teams
- **Centralised data repository** that simplifies access and allows for trend analysis
- **Enhanced precision in reporting and monitoring** of DDMLs via systems integration
- **Strengthen communication** between the airline's maintenance team and the operation control team

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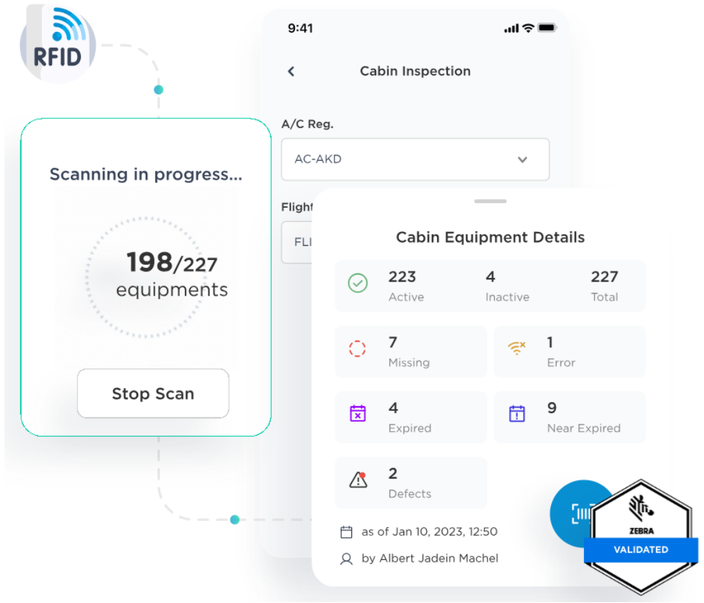
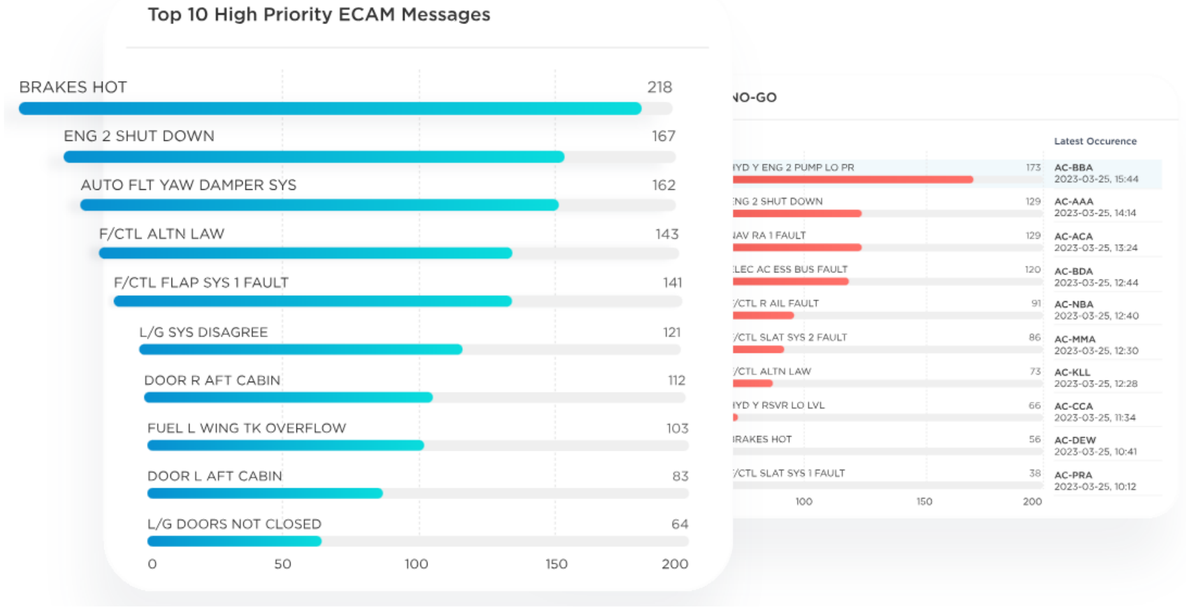
FUNCTIONALITY



Cabin Monitoring with RFID Technology

- Easily verify the **availability of life vests** and **their expiry dates.**
- **Using RFID** tags allows airlines to effortlessly track the location and availability of life vests.
- RFID tags the **risk of theft** and **missing life vests.**
- RFID scanning helps **ensure the availability of life vests, ready for passenger use in the event of an emergency.**



Aircraft Monitoring Analytic

- **Using visual elements** to represent complex data makes it simpler for users to understand important insights and trends
- **Identifying recurring patterns** in Top ATA Repetitive and ECAM Messages
- **Receive real-time alerts for ECAM messages** indicating NO GO conditions

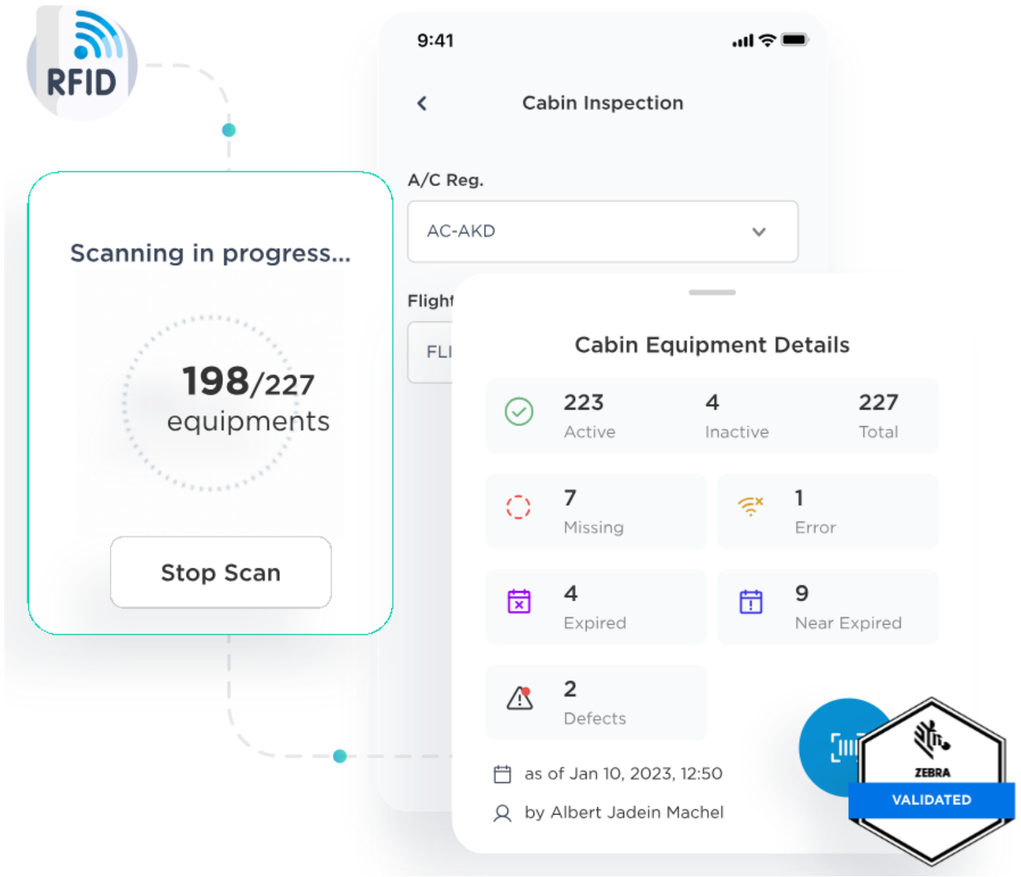
CABIN MONITORING

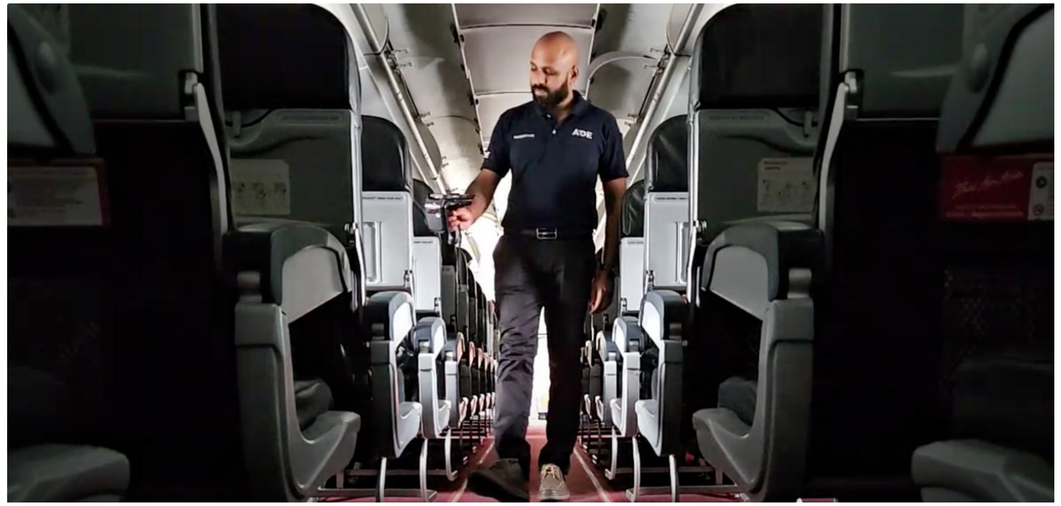
- **ELEVADE FLEET (Cabin Monitoring)** introduces an advanced system integrating RFID scanning technology, reshaping airline safety standards.
- RFID scanning elevates life vest inspections, ensuring **accurate availability** and **expiration date verification**, redefining safety procedures for compliance and passenger security.
- RFID tags serve as a deterrent against **theft and loss of safety equipment**, thereby reinforcing a steadfast commitment to passenger safety.
- With the implementation of **ELEVADE FLEET (Cabin Monitoring)**, life vest inspections can now be **completed in just 2 minutes** for an entire A320 aircraft, significantly enhancing efficiency.
- Implementing ergonomic improvements by **eliminating awkward posture**, **enhancing safety and employees comfort.**

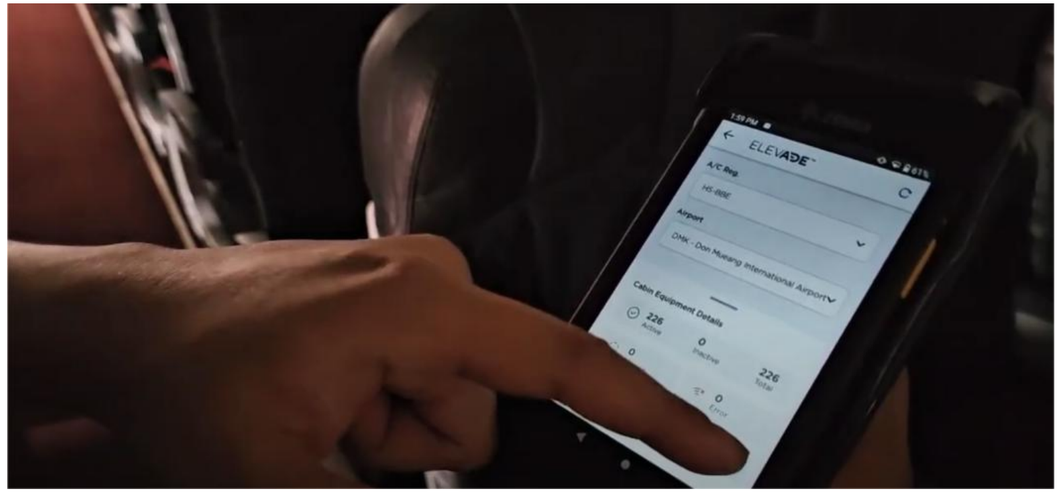
ZEBRA
VALIDATED

CABIN MONITORING

Below are the features :

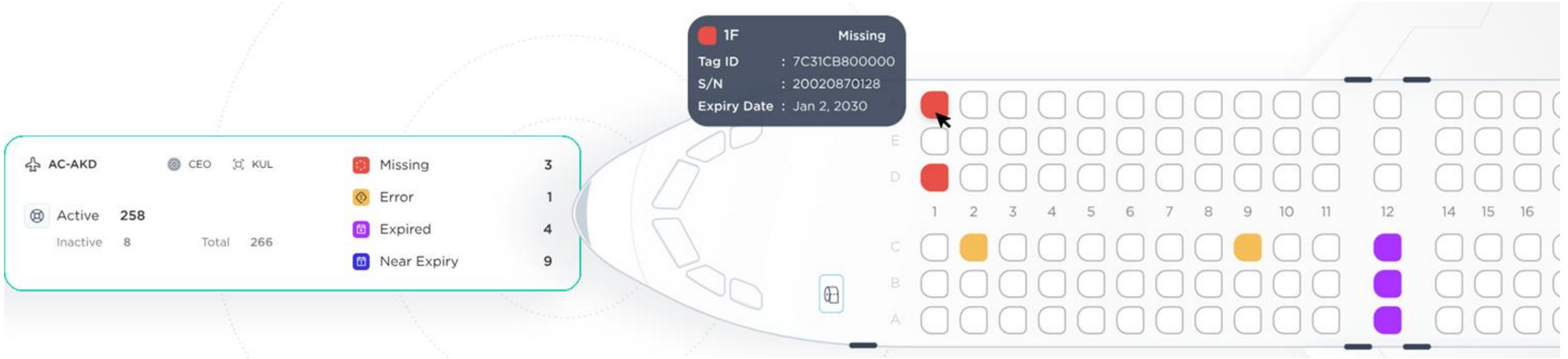






CABIN MONITORING

Below are the features:



CABIN MONITORING

Operational Video

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THANK YOU