# 2.1 Trust





# President Signed the IATA Safety Leadership Charter

CAL participated in the signing initiative of the Safety Leadership Charter, launched by the International Air Transport Association (IATA). A "Safety Talk" video featuring senior management was produced to demonstrate the Company's commitment to fostering a positive safety culture. Through leadership commitment and concrete actions taken by senior management, the initiative aims to strengthen safety awareness across all levels of the organization.



# Organized the 2024 Geopolitical Risk's Impact on Aviation Security Seminar

To enhance and solidify the awareness of aviation security personnel regarding the risks posed by geopolitical conflicts, this seminar sought to provide relevant personnel with a clearer understanding of new security threats and suspicious behaviors, enabling them to maintain vigilance towards people, events, and objects in their surroundings. Participants included 120 individuals from the Ministry of Transportation, Air Force Command, government agencies, domestic airlines, and related enterprises.



# 12<sup>th</sup> consecutive IOSA safety certification achieved

CAL has maintained its commitment to flight safety by obtaining the IOSA (IATA Operational Safety Audit) certification in 2005 and undergoing re-certification audits every two years in accordance with IATA regulations. In 2024, CAL met the IOSA standards for the 12th time (the next certification will be in 2026), and continues to meet the highest international standards.



# Co-organized the 2024 International Aviation Safety Management Summit

CAL specially invited Japan Airlines to share insights on the JL516 Haneda Airport runway collision incident, providing a detailed understanding of the cabin crew's response measures and the emergency evacuation situation for passengers at that time. Participating entities include the World Flight Safety Foundation, Airbus, Boeing, Japan Airlines, and senior managers from major national airlines. Through extensive discussions and exchanges during the conference, the aim is to consolidate a shared commitment to enhancing safety.



# Digital transformation and service optimization: advancing toward sustainable excellence

The Cabin Crew Division actively promotes digital operations and the application of AI technology to enhance service efficiency and implement sustainable development. In 2024, we continued to optimize the use of the iPad mini in cabin service and the Business Class ordering system, thereby reducing paper usage and enhancing operational efficiency. To support the introduction of new aircraft, we have implemented next-generation training equipment to enhance crew response capabilities and ensure flight safety. Through the "Memory & Moment" service retraining and regular communication mechanism, we aim to deepen our brand image and improve customer satisfaction. At the same time, we promote fair assessment and management optimization, establish a self-disciplined and trusting team culture, and focus on employees' physical and mental well-being. Fully initiate the optimization and renovation project to create an improved work environment, fostering a happy workplace atmosphere, and continuously enhancing service quality and corporate competitiveness.

# **Corporate AI Applications and Development**

In response to the rapid rise of generative AI, China Airlines proactively integrated AI across its operations by late 2023. Key initiatives included using GitHub Copilot to refactor legacy systems, improving development efficiency by 30%, and developing AI-generated virtual personas for digital platforms. Internally, AI was applied to automate workflows such as customer service quality inspection, intelligent chatbots, contract template generation, and asset inventory management. The AI-driven customer service inspection project earned the 2024 CSEA Excellence in Customer Service Award. We also adopted Microsoft Copilot to boost productivity and collaboration. In 2024, China Airlines regularly held four Innovation and Service Application Showcases to foster cross-departmental innovation and support digital transformation.

### **Key Achievements**

Prioritizing Office Efficiency and Sales Forecasting, Developing 14 AI Application Services

Al Copilot for Code Refactoring System



Improve development efficiency



#### **CAL AI Virtual Assistant**

Supports static and dynamic models for versatile use on internal and external platforms



#### **Internal Applications**

Al automates workflows to boost work efficiency.



Al Customer Service Quality Check

Awarded

Application Team



2024 CSEA Outstanding Customer

Service Award - Best Al System

Al-Generated Contract Templates



Internal Al Customer



Al Customer Service Quality Check Average handling time reduced from 35 mins to ↓5 mins Copilot Al Integration

Enhances efficiency and collaboration.



1. Two Al-driven recognition systems have been implemented: image recognition for Smart Cargo Inspection, enabling real-time anomaly detection, and voice/semantic recognition for Customer Service Quality Inspection, increasing inspection volume and reducing processing time by 85%. The latter earned the 2024 Excellence in Customer Service Award for Best Al System Application Team.



Using smart glasses with AI image recognition to read container numbers and provide voice-controlled assistance for cargo staff in inventory management, enhancing the efficiency and accuracy of container asset inventory operations.



Utilizing automated AI quality inspection processes to replace the repetitive and time-consuming task of manually listening to audio files, enhancing the efficiency and quality of quality inspections while reducing the workload of customer service quality inspectors

- Predictive AI with visual analytics uses quarterly sales data of duty-free products to forecast next-quarter sales by brand and category, projecting item-level volume, total sales, and profit.
- 3. Service-oriented AI, integrated via third-party platforms, enables AI-generated contract templates and quality checks, streamlining and improving contract processes. AI assistants for HR, cabin crew, and IT now provide instant and accurate responses through natural language processing via Team+ or web platforms.
- 4. Al-generated virtual personas, initially used in print, have evolved with micro-animation and lip-sync features for occupational safety advocacy and as virtual hosts on internal platform. The Information Management Division will continue tracking dynamic image generation advancements for future use.
- CAL integrated Microsoft's latest "AI Assistant Tool Copilot" into Office tools (Word, Excel, PowerPoint, Teams), boosting daily work efficiency and internal collaboration.



Using generative AI to create personas and aviation-themed items that align with China Airlines' style and brand image, providing internal and external digital platforms with on-demand usage options.

# **Management Approach**



### Material Issues



Zero accidents are the foundation of sustainable value at China Airlines (CAL), where safety and reliability are core values. As a professional transportation service provider, CAL sees service quality as key to sustainable operations. We protect customer privacy, deliver premium service and listen to feedback to meet expectations, and continuously innovate to enhance customer experience and value.

Recognizing the importance of information security. CAL continuously strengthens personal data protection mechanisms, complies with international data protection laws, regularly updates its data policies, and limits data collection to appropriate scopes. Advanced encryption and routine audits safeguard personal data, and contact channels are provided to help passengers exercise their legal rights. If there is a suspicion of a breach of personal data, CAL immediately takes action to preserve and protect the rights and interests of the parties.

Customer satisfaction is a top priority. CAL collects feedback through proactive surveys and multiple accessible channels. Survey results are analyzed and shared with relevant departments to drive ongoing service improvements and deliver an exceptional passenger experience.

#### Commitment



Issues

Flight safety is CAL's most solemn and important commitment to customers and the public in its 65 years of history. We strictly comply with regulations and strive for zero safety incidents, ensuring the safety of every passenger and shipment. During the COVID-19 pandemic, we upheld our service values by respecting customer and their rights, aligning with global and national measures, and prioritizing their interests to ensure a reliable, high-quality travel experience.

### **Long-term Goals**

# 2025

- 1. Receiving ISO27701 Privacy Information Management System (PIMS) certification in the collection, processing, and use of personal data in the Passenger Service Management Procedure (including Taiwan and EU headquarters)
- 2. Increasing the cargo service customer satisfaction to 89 points
- 3. Publishing the results of flight operations studies to improve the technical capacity of the aviation industry
- 4. Continuing to pass IOSA certification standards and improve the safety management system (SMS)
- 5. Promoting a smart airport: Establish a smart airport at Terminal 3 of Taiwan Taoyuan International Airport and increase customer satisfaction with digital and innovative technology application
- 6. High-speed ICT network: Set up a dedicated optical fiber and terminal system network to increase data and audio connection performance and increase operating efficiency
- 7. Continuous improvement of disaster recovery plans: Provide on-site redundancy with sufficient hardware and software capacity to respond to anomalies in the core database system and ensure high availability of the database system

#### 2030

- 1. Maintaining validity of ISO27701 Privacy Information Management System (PIMS) certificate
- 2. Increasing the cargo service customer satisfaction to 90 points
- 3. Developing innovation plans with other airlines to drive innovation momentum











- 4. Continuing to pass IOSA certification standards and improve corporate safety culture
- 5. Promoting smart tourism: Achieving horizontal and vertical integration of tourism-related industries to provide a one-stop Smart Travel Eco-system
- 6. Evaluate the adoption and applications of new technologies and continuously optimize and expand the disaster recovery capacity

### 2040

- 1. Maintaining validity of ISO27701 Privacy Information Management System (PIMS) certificate; Adjustment of our personal data management system based on the regulations, international trends, and our company's operational needs to minimize the risk of data breaches
- 2. Maintaining the cargo service customer satisfaction at 90 points
- 3. Expanding collaborative research projects with domestic and international transportation peers and manufacturers/suppliers to enhance environmental performance
- 4. Promoting a smart airport: Expand the application of new technologies and passenger-sharing platforms to more overseas operating terminals, and actively collaborate with airports, suppliers, or other innovative technology companies



# **Unit in Charge**

Corporate Sustainability Committee - Trust Task Force, Corporate Safety Committee



### Management **Mechanisms**

- The meeting of Corporate Safety Committee, every guarter on a regular basis
- The quality review and target setting meeting, every year on a regular basis
- The meeting of the Corporate Sustainability Committee, at least twice a year The Trust Value Task Force reports the KPI progress to the Corporate Sustainability Committee, every quarter
  - The information security and personal data review meeting, every year on a regular basis



**Grievance** 







Passenger Website

Maintenance Service

Maintenance Organization

mo.customer@china-airlines.com

# **Objectives and Plans**

Koy Doint	CDI (Note 1) (VDI		2025		
Key Point	SPI (Note 1)/KPI	Objectives	Performance	Achievement	Objectives
	Fatal & Hull loss Accidents (Accidents Rate) (Note 2)	0	0	100%	0
	Runway Excursions (RE)	0	0	100%	0
Flight Safety	Controlled Flight into Terrain (CFIT)	0	0	100%	0
	Loss of Control in Flight (LOC-I)	0	0	100%	0
	Mid-Air Collision (MAC)	0	0	100%	0
	Overall Passenger Net Promoter Score (NPS)	62	72.5	100%	69
Customer Service	Overall Cargo Service Satisfaction (point)	88.5	89.8	100%	88.5
0011100	Overall Maintenance Satisfaction (point)	8.4	9.0	100%	8.4

Note 1: SPI refers to Safety Performance Indicator.

Note 2: Fatal & Hull Loss Accidents refer to aviation incidents that result in passenger fatalities or the total aircraft destruction. Over the past four years (2021-2024), the Company has not experienced any incidents resulting in passenger fatalities or total aircraft destruction.

# 2.1.1 Flight Safety

Safety is the core value of CAL and our absolute commitment to customers. We always take a consistent and uncompromising stand on flight safety. With a zero tolerance on flight safety accidents, CAL has comprehensive control over flight safety through management systems. CAL continuously improves overall flight safety and endeavors to reinforce the corporate culture of safety to make sure that securities are fully in place to provide passengers with safe and reliable flights.

## Safety Management System (SMS)

CAL follows the requirements in the civil aviation regulations of Taiwan and references the guidelines in the International Civil Aviation Organization (ICAO) DOC. 9859 Safety Management Manual (SMM). CAL has implemented the Safety Management System (SMS) since 2007, and undergoes re-certification audits every two years in accordance with IATA regulations to maintain its commitment to flight safety. The Company has successfully passed the IOSA (IATA Operational Safety Audit) certification for the 12th consecutive year in 2024 (the next certification will be in 2026), continuously meeting the highest international safety standards. The core of CAL's SMS is safety risk management. CAL analyzes and manages operational

risks systematically through continuous risk identification and management. We also set Safety Performance Targets (SPTs) for comprehensive tracking, control, and risk mitigation.



CAL Flight Safety Policy



### **Safety Policy & Objectives**

- Management Commitment
- Safety Accountability and Responsibilities
- Appointment of Key Safety Personnel
- Coordination of Emergency Response
- SMS Documentation

Planning



#### **Safety Assurance**

- Safety Performance Monitoring and Measurement
- The Management of Change
- Continuous Improvement of the SMS



#### Safety Risk Management

- Hazard Identification
- Safety Risk Assessment and Mitigation

# **SMS**

Safety Management System



# **Safety Promotion**

- Training and Education
- Safety Communication



# Safety Policy and Objectives

## 1. Safety Policy and Performance Indicator/Target (SPI / SPT)

Based on past performance and Safety Reporting System, requirements of authorities in charge of civil aviation, plus official safety reports provided by International Civil Aviation Organization (ICAO), CAL sets its annual SPIs/SPTs. The annual safety performance indicators are monitored in executive meetings and reviewed and discussed in review meetings of the safety task force of each unit on a regular basis, meeting flight safety management requirements to meet domestic and international safety standards and attain the highest safety standards.

#### **Safety Management Meeting**



## 2. Safety Reporting System

To strengthen flight safety awareness, CAL encourages employees to proactively identify and report potential risks in their daily work through the Safety Reporting System. Risk data is collected and analyzed to prevent incidents and enhance overall safety. CAL conducts seasonal risk assessments by considering characteristic of flight operations, trends of flight safety, and changes in internal and external environments, and shares safety protocols through announcements and meetings. A reward system further motivates reporting. To encourage employees to report abnormalities

and safety issues, CAL launched the mobile SMS eReports app in 2022, allowing employees to conveniently submit reports using their own devices. In 2024, 1,436 hazard reports were submitted, with 147 employee recognitions awarded (financial incentives). CAL has been ranked first in the number of hazard reports submitted at Taoyuan International Airport in hazard reports for five consecutive years, reflecting the success of its proactive safety culture.





# Safety Risk Management

Safety Risk Management (SRM) is a key component of the Safety Management System (SMS). It predicts potential safety issues in normal system operations and incorporates risk criteria in the development of products and services. Through hazard identification, risk assessment, and continuous monitoring, CAL reduces risks to ALARP (As Low As Reasonably Practicable) levels. To instill the concept of risk management into the operation units and strengthen employees' use of risk management, Since 2015, CAL has provided regular Safety Risk Management (SRM) training and required frontline units to conduct self-audits based on internal and external information, changes in the operation environment, adjustment of regulations, and changes in procedures and equipment. To manage the effectiveness of the SRM, CAL conducts monitoring through SRM assessment and the yearly review of SPI/SPT.

CAL identifies, counts, and analyzes the main hazards and risks in the operating procedures. In 2024, the main risks CAL identified is the rise in extreme weather and unpredictable turbulence due to climate change. In response, CAL enhanced turbulence prevention and response procedures, issued awareness bulletins, and conducted joint Crew Resource Management (CRM) training for flight and cabin crews to strengthen coordination before, during, and after turbulence, thereby reducing the risk of injury. CAL also remains fully compliant with monitoring requirements set by Taiwan's Civil Aviation Administration.



#### Active Alertness and Compliance with Laws and Regulations

In 2024, China Airlines was subject to one penalty issued by the Civil Aeronautics Administration for non-compliance. The violation involved the failure to perform aircraft maintenance in accordance with the procedures outlined in the manufacturer's maintenance manual. Upon discovering personnel operational negligence, CAL proactively submitted a report to the CAA. In addition to strengthening the training of the personnel involved, monitoring their job performance, and sharing case studies to inform relevant personnel, CAL reviewed and improved operating procedures based on the investigation result of the events and established preventive measures to prevent human error and recurrence of similar events. Related corrective action plans were all approved by the CAA, and we will continue to implement safety management and maintain flight safety.



### **Safety Assurance**

# 1. Flight Operations Quality Assurance

CAL uses flight data monitoring programs and Flight Operations Quality Information System (FOQIS) developed by CAL to identify potential risks in flight crew operations and provide timely guidance, in line with the R.O.C. Civil Aviation Act and FOQA standards. Monthly FOQA trend reports support fleet safety oversight. In the event of a FOQA occurrence (e.g., an anomaly in flight operation parameters), CAL conducts investigations, implements corrective actions, and monitors their effectiveness to reduce operational risks and ensure flight safety.

# 2. Fatigue Management

In addition to complying with domestic civil aviation regulations CAL follows the Fatigue Management Guide for Airline Operators (2nd Edition) established by the International Air Transport Association (IATA), International Civil Aviation Organization (ICAO) and the International Federation of Air Line Pilots' Associations (IFALPA) in 2015 to manage fatigue through a prescriptive approach. Since 2019, CAL has integrated fatigue management into its safety policy, adopting a new crew scheduling system (AIMS) and a flight crew fatigue management system (FRMSc-SAFE) to optimize crew planning through predictive risk management.

In 2024, CAL received 8 crew fatigue reports, all found compliant with regulations and assessed using the Samn-Perelli Seven-Point Fatigue Scale. Most cases were due to unforeseen delays. CAL addressed crew concerns, adjusted rosters as needed, and encouraging personnel to seek fatigue management consultations and medical advice based on their individual conditions.

#### CAL Fatigue Risk Management Framework and Implementation



#### 3. Alcohol Test Mechanism

In line with Article 199 of the CAA Aircraft Flight Operation Regulations, CAL has established the alcohol test mechanism to conduct alcohol testing for flight crew, cabin crew, dispatchers, and maintenance personnel to ensure they are alcohol-free while on duty. Tests cover at least 30% of personnel annually (7.5% per quarter). Anyone who fails or refuses a test is immediately removed from duty. This protocol reinforces vigilance and safeguards flight safety.



# Safety Promotion

To ensure flight safety, CAL organizes annual educational and entertaining safety events to instill the significance of safety among all employees and constantly enhance their awareness of flight safety. The safety training activities in 2024 continued the essence of safety management for "safety identification, active implementation, participation, and continuous improvement." We aimed to enable all employees to act safely through experiential learning and positive motivation together reinforcing the safety culture in CAL and achieve the highest flight safety standards. Externally, CAL promoted safety by hosting a Geopolitical Risk's Impact on Aviation Security Seminar and co-hosting an International Aviation Safety Management Summit in 2024.

# 1. Safety Education Training and Incentive Acitivity

#### **1 SMS e-Learning Program**

To strengthen overall employee safety awareness, enhance alignment with the Company's safety culture, and promote the 2024 safety policy, objectives, and performance indicators, CAL completed the 2024 Safety Management System (SMS) training program as part of its ongoing efforts to advance safety practices. A total of 11,396 employees across domestic and international units successfully completed the training.

### 2 Three Chapters of Online Breakthrough Campaign and Safety Knowledge Quiz **Gashapon Event**

In 2024, CAL launched an online breakthrough campaign featuring three levels. each focusing on key themes—(1) Cabin Operation, (2) Ground Services, and (3) Cargo Operations—using past case studies. Through engaging and interactive scenario-based learning, the activity encouraged cross-departmental safety knowledge sharing, fostering a culture where correct safety concepts and work attitudes are deeply instilled in all employees. Additionally, to promote active participation in the Safety Management System (SMS), CAL organized four Safety Knowledge Quiz Gashapon events in 2024. These events involved direct, real-time interactions with frontline operational units, enhancing employees' understanding of the Company's safety and security management practices.



paign" in 2024



"Three Chapters of Online Breakthrough Cam- May 14-17, 2024-Safety Knowledge Quiz Gashapon Event

#### 3 SAG (Safety Action Group) Incentive Activity

In order to internalize safety into day-to-day work, and be part of every conversation and considered in every decision, SAG(Safety Action Group) Incentive Activity have been developed since 2016. This activity is designed based on the SMS framework and is evaluate every six months. The SAG(Safety Action Group)financial incentive shall be utilized in safety promotion.

## 2. Cross-industry and intra-industry exchange and improvement

### ① Safety Experience and Safety Seminars

Continuing its "learning by walking around" approach, CAL organized a site visit to Taiwan High Speed Rail for practical knowledge exchange. To deepen understanding of air traffic control and its Safety Management System, CAL invited the ROC Air Traffic Controllers' Association to deliver a lecture titled "Air Traffic Managers – A Discussion on the Role of Air Traffic Controllers", enhancing cross-unit awareness and reducing human error risks.



June 5 & 12, 2024 - Site Visit and Exchange Activities with Taiwan High Speed Rail Corporation



December 27, 2024-Aviation Lecture: "Air Traffic Managers—A Discussion on the Role of Air Traffic Controllers"

# ② Co-organized the 2024 International Aviation Safety Management Summit

At the 2024 International Aviation Safety Management Summit, CAL invited Japan Airlines to share insights on the JL516 Haneda runway collision, focusing on cabin crew response and passenger evacuation. Participants included major airlines, Airbus, Boeing, and the World Flight Safety Foundation, fostering a shared commitment to safety.



June 25, 2024–Co-hosted the "2024 International Aviation Safety Management Summit"

CAL also hosted a Ground Safety Management Seminar with nearly 90 attendees from aviation authorities, airport operators, and partners, featuring a lecture on ramp safety and runway incursions. We also organized meetings with affiliated companies and agents to

discuss security and ground safety, and held a "Geopolitical Risk's Impact on Aviation Security Seminar" at the CAA. The event was attended by 120 representatives from the Ministry of Transportation, Air Force Command, government agencies, domestic airlines, and related enterprises to raise awareness of new security threats and suspicious behaviors, enabling participants stay alert to people, events, and objects in their surroundings.

# Flight Crew Management

## **Professional Training and Evaluation**

GRI 404-2

CAL manages risks through prediction, proactive, and reactive approaches, adapting to changes like new airports, routes, aircraft, and procedures. Through targeted training, systematic flight training, FOQA, and recurrent evaluation of instructors and examiners, CAL ensures flight crews maintain high professionalism and competency to guarantee passenger safety.

Note: FOQA aims to decrease the probability of accidents and hull damage by using past flight data and flight log excerpts to identify abnormal incidents and to analyze each fleet's operational characteristics. The outcomes are then assessed in order to identify and resolve any relevant safety risks.

## 1. Stringent Training and Objective Testing

To meet growing international demand, CAL enforces strict flight training and evaluations to uphold safety. Flight crew complete training for new aircraft models, promotions, type transfers, and requalification. Cadet pilots are required to successfully complete a 11-month of ab-initial training programs at reputable flight training facilities in the United States or Australia. Since 2018, CAL has adopted Evidence-Based Training (EBT) to replace conventional proficiency training and check. By leveraging big data analysis, including individual behavior, fleet performance, operation sites, and incident records etc. to enhance crew proficiency in handling abnormal situations. In 2024, CAL achieved 100% EBT on annual retraining for a total of 2,417 flight crew.

# 2. Professional Training Facilities

As the first airline to introduce Flight Simulation Training Devices in Taiwan, CAL is equipped with various types of simulators for flight training. In addition to simulating various adverse weather conditions, simulators can incorporate a variety of contingencies for constant simulation training; they can also show the tolerance limits of aircraft designs and carry out training in any possible extreme and dangerous situations without incurring any risk during the exercise. The training process can also be recorded as a basis for reviewing and improving flight skill and expertise.

CAL has certified Full Flight Simulators approved by CAA and Cabin Emergency Evacuation Trainers which are provided for training for other domestic airlines. In response to the introduction of the new B787 fleet, CSL incorporated advanced training capabilities in December 2024 by introducing a B787 flight simulator, flight training devices, and an emergency evacuation training cabin. This proactive approach aims to enhance flight safety through the early implementation of high-level training resources. Additionally, the emergency evacuation training cabin previously used for the B738 model was replaced with one designed for the A321neo, further optimizing the realism and functionality of training equipment. The Company will continuously invest in and upgrade training equipment to ensure flight safety.

## 3. A Comprehensive Management System

To enhance training management and digitize records, CAL launched the Integrated Pilot Training System (IPTS) in 2014. The system supports Evidence-Based Training (EBT) and programs for new aircraft models, type transitions, promotions, and requalification. Following the 2019 integration of IPTS with the new scheduling system (AIMS), training resources are now managed more efficiently. CAL regularly reviews and updates training content by aircraft type to improve quality and flight safety. With the introduction of aircraft such as the A321neo, B777F, and the upcoming B787, relevant training has continued. In 2024, CAL conducted 377 training sessions covering new hire, aircraft type transition, and promotion-related long-term and short-term training programs. Additionally, 55 instructor training sessions to expand capacity. All programs comply with national and international aviation standards and CAL's internal quality requirements to ensure safe operations.

# **Management by Walking Around**

## 1. Managers Implement Management by Walking Around

Fleet supervisors assist in license inspections and pre-flight briefings as needed to ensure proper procedures are followed. They also conduct risk assessments related to special airports and weather conditions, offering operational guidance to support safe flight operations.

# 2. Supervisory Flight (S-Flight)

Fleet supervisors and Check Pilots (CPs) conduct Supervisory Flights (S-Flights) as needed to assess pilots' adherence to procedures, threat and error management (TEM) effectiveness, and crew resource management (CRM) skills. These reviews help identify areas for improvement and guide corrective actions to enhance flight safety. In 2024, 244 S-Flights were completed.

# Flight Crew Health and Management

To ensure that flight crew can successfully complete every flight duty, CAL sets strict standards not only for pilot training, but also for pilots' health and emotional management. CAL has adopted proactive planning, crew feedback and prediction in crew life management to prevent and reduce the physical and mental stress of pilots in long-haul flight duties.

## 1. Life Management

To prevent and reduce the physical and mental stress of pilots in long-haul flight duties, CAL sets requirements higher than statutory ones and manages flight crew's physical and mental health so that all flight crew members are fully ready for each duty.

# 2. Stress and Health Management

To raise awareness of stress and mental health, CAL incorporates human factors and CRM training into flight crew training and retraining programs. While moderate stress enhances performance, excessive stress may impair focus and emotional stability. The training emphasizes recognizing personal stress and proposes problem-solving and emotional regulation strategies for flight crew members to choose the most appropriate way to manage their stress. It also covers mental health topics, including symptoms, impacts, and challenges faced by pilots. CAL offers support channels such as free psychological counseling to help crew members address related issues.

# 3. Alcohol and Drug Management

CAL enforces strict rules prohibiting alcohol and drug use, including alcohol-containing food and substances, as well as narcotic drugs or other drugs that may impair performance. Flight crews are banned from consuming alcohol within 12 hours before a flight. Since April 10, 2017, alcohol testing has been conducted for all flight crew on flights departing Taiwan to uphold safety standards. As for narcotic drugs testing, flight crews are required to cooperate with urine testing (the proportion of random testing should not be less than 10% of the total number of personnel tested each year), and the testing results are submitted to the CAA on a monthly basis. Should a flight crew member fail or refuse an alcohol test or narcotic drug test, he or she will be suspended from duty immediately, and the case will be carefully reviewed then followed up in accordance with relevant rules or regulations.

# 4. Improved Communication and Crew Services

To strengthen communication and cohesion, CAL holds meetings as needed and regularly checks on crew members on unpaid leave. Support is provided through group emails and instant messaging to address concerns during duty periods. These efforts aim to ensure a supportive and secure work environment.



### **Proactive Planning**

- Monthly review and discuss next month schedules with fleet office
- Better rosters for flight crew's dispatch and rest time before/after flight duties
- If crew members performed a
- night flight, the maximum duty duration is reduced by 2 hours
- Monitor crew pairing by their performance in each fleet
- Schedule a day off after a specific flight duty



#### Crew Feedback

- Investigate crew report regarding fatigue issue and mitigate by adjusting flight duty, crew number or layover as appropriate
- The dispatcher immediately adjusts the schedule of flight crew if they report fatigue or ask for sick leave.
   The care team also inquires about flight crew's physical and mental conditions



#### Prediction

 Following fleet evaluations for new routes, crew dispatch requirements and staffing configurations are determined accordingly. CAL continues to monitor healthrelated regulations in each country and incorporates these considerations into the evaluation criteria.

# Inflight Monitoring and Control

To ensure safe and timely arrivals, CAL's System Operation Control Division monitors all flights and site operations in real time, tracking aircraft positions and coordinating with flight crews during irregularities. Operating 24/7, the division uses designated seats and communication tools to control of all factors that may cause abnormal flight operations (e.g., military exercise, geopolitical shifts, epidemics and epidemic prevention policies of different countries, weather forecast at different airports, emergencies such as volcano and tsunami, and status of ground operations at airports such as de-icing/anti-icing capacity and strike).

Main seats in the Control Center	Missions		
Air traffic control seat	Monitors flights and operations of flight schedules		
Weather monitoring seat	Provides the latest hazardous weather updates for aircraft in the air		
Flight dispatcher seat	Plans routes and fuel quantities, and monitors airspace conditions		
Repair management seat	Monitors flight maintenance status of aircraft		
Flight status monitoring seat	Monitors the operational status of airports in various locations and maintains real-time awareness of aircraft positions to ensure compliance with civil aviation regulations.		
Taoyuan International Airport management seat	Supervises the inbound/outbound operations of the Company's main hub		

The System Operation Control Division leverages various software and hardware to support decision-making. This includes connecting to domestic and international Airport Collaborative Decision Making (A-CDM) systems for flight movement data, aircraft tracking systems for real-time positioning, TPE Airport CCTV for inbound/outbound operations, and WNI weather software to monitor hazardous conditions and assist in risk avoidance during flights.

To enhance communication, operational readiness, and risk management during adverse weather or emergencies, the System Operation Control Division conducts various situation drills and review meetings. Key 2024 initiatives included:

- Typhoon Response Drill: In preparation for the typhoon season, we understood
  this year's typhoon trends and created a simulated typhoon track through the
  drill process. We formulated contingency plans for System Operation Control
  Division and aircraft evacuation plans and promoted relevant safety concepts
  and operation safety during typhoon to colleagues.
- On-time Rate Review: To effectively improve flight on-time rate, meet passenger expectations, and ensure smooth outbound operations of flights with reduced delays, the Company conducts review on flight on-time rate every quarter, analyzing and evaluating the operation time of each unit.

Looking ahead, 2025 will be a pivotal year marked by innovation and recovery. The aviation industry is expected to adopt Al-driven solutions in scheduling, baggage handling, and security screening to boost efficiency and reduce delays.

### **Maintenance Quality**

Ensuring maintenance quality is an important foundation of flight safety. With the Company's Reliability Control Program, we proactively manage the maintenance status of all aircraft. By compiling and analyzing data related to common abnormalities and technical parameters from daily operations, appropriate maintenance strategies and plans are developed. This allows us to maintain the reliability of all systems on the aircraft to enhance maintenance quality and flight safety.

### 1. Maintenance Quality

CAL Maintenance Division holds aircraft maintenance organization certifications from 11 countries and regions, including the European Union and the United States, and plans to obtain certification from the CAA of Macau in 2025. As the largest and most modern airframe maintenance center in Taiwan, the facility features hangars capable of accommodating simultaneous maintenance for five wide-body aircraft, as well as an engine test cell rated for thrust levels up to 120,000 pounds—supporting advanced maintenance for a wide range of aircraft types.

# 2. Establishing a New Maintenance Training Center

In response to rapidly growing demand for maintenance service abroad, CAL was certified to establish the CAL Technical Training Center (CTC) in 2015. In 2017, CTC also obtained certification from the Civil Aviation Administration of China. CTC was the first certified institution in Taiwan to provide aircraft maintenance training for CAL-EMO and other airlines. Since CTC's foundation, a total of 321 training courses have been offered, and 3,324 trainees have completed training.

# 3. Elevating the Quality Management System

CAL's maintenance organization acquired ISO 9001 certification for its Quality Management System in 1996 and continuously maintained the effectiveness of the system. In May 2017, the EMO became the first repair station in Taiwan to receive certification for the AS9110 Quality Maintenance Systems - Aerospace from the International Aerospace Quality Group (IAQG)(Note). CAL continuously renewed its re-evaluation contracts with the accreditation institution each year. Consistent with its pursuit of improvement of quality, CAL-EMO will periodically conduct Plan-Do-Check-Act (PDCA) through the quality management system for continuous improvement and customer satisfaction.

Note: IAQG main members include Boeing, Airbus, GE, and Rolls Royce. To manage and regulate the quality of suppliers, suppliers are required to comply with a series of established standards for quality management system, including AS 9110.

# 2.1.2 Passenger Service

## Modern Fleet, Top-Quality In-Flight Service

CAL continues its fleet renewal to strengthen its global passenger and cargo services. In 2024, we added one leased A350-900, four A321neo, and two 777F aircraft. In 2025, A321neo deliveries will continue, alongside the introduction of the Boeing 787. The modernized fleet enhances service quality and efficiency. The current 737-800 fleet (average age 9.5 years) will be gradually retired by 2028 in line with A321neo integration.

To meet the demands of fleet capacity adjustments and network expansion, China Airlines announced on December 19, 2024, the procurement of ten Airbus A350-1000 passenger aircraft, ten Boeing 777-9 passenger aircraft, and four Boeing 777-8F cargo aircraft. The new fleet is expected to be delivered starting in 2029 and will be utilized for long-haul passenger and cargo services to North America and Europe.

The new wide-body passenger aircraft will feature a three-class configuration, including luxurious business class, premium economy, and economy class, providing passengers with a more spacious, comfortable, and tranquil flying experience. This will offer an unprecedented journey experience, making long-haul flights more enjoyable. Furthermore, the Company remains committed to its corporate sustainability principles, focusing on the introduction of its new fleet to enhance service quality and strengthen overall operational efficiency.

The new aircraft demonstrate outstanding fuel efficiency, with an estimated 25% reduction in fuel consumption and carbon emissions compared to previous models, showcasing the airline's commitment to environmentally friendly flight operations. CAL will continue its journey toward achieving the goal of net-zero carbon emissions by 2050, setting a benchmark for sustainable development in the global aviation industry.

## Premium Training Equipment Deployed for the 787 Fleet

By the end of 2024, CAL launched new single-aisle and twin-aisle Emergency Training Simulators, enhancing cabin crew's emergency response capabilities and strengthening flight safety. A 360-degree VR tour of the A321 was also introduced for flexible, self-directed learning, breaking the time and space limitations of classroom training. It allows trainees to review key procedures on demand, reinforcing essential areas and improving learning efficiency. Meanwhile, CAL leveraged advanced technologies to optimize training quality, establishing itself as a benchmark for learning excellence in the industry and showcasing an innovative corporate image. The VR training program will continue to expand with the introduction of new aircraft types, further enhancing overall training quality and effectiveness.

In response to the recovery of the aviation market, CAL designed annual regulatory and service refresher trainings under the theme "Memory & Moment: Creating a Memorable Journey" to strengthen cabin crew competency, helping them better understand passengers' needs and uphold high service standards. Practical assessments ensured consistent professional skills across the team. In 2024, CAL completed seven new hire programs, certifying 147 cabin crew; provided high-class regional service training for 290 crew members; and held 26 cabin management competency sessions, with 244 passing the oral evaluations. These initiatives not only reinforced organizational succession and management capabilities, but also aimed to translate the learning journey into greater passenger satisfaction, brand trust, and customer loyalty, while ensuring flexible manpower deployment and improved operational efficiency.

## Integrate passenger transport aircraft resources of CAL Group

In 2024, Mandarin Airlines introduced three new ATR aircraft. During the ferry flight of B-16861 from France to Taiwan, the aircraft used Sustainable Aviation Fuel (SAF) with a 30% biofuel blend—marking the first use of SAF by a Taiwanese domestic airline. All new ATRs feature upgraded PW127XT-M engines, reducing fuel consumption by over 3% and lowering carbon emissions, underscoring the airline's commitment to sustainability while enhancing domestic service quality. Leveraging CAL Group's fleet, Mandarin Airlines provided 2.25 million domestic seats, with AE/ATR-72 aircraft supplying 80% and CI/B738 aircraft 20%, effectively meeting demand for both tourism and homecoming travel.

Following the April 3 magnitude 7.2 earthquake in Hualien, Mandarin promptly added flights between Kaohsiung, Taichung, and Hualien on April 3–4 to support disrupted ground transport. To aid local recovery, the airline launched the "Dynasty Flyer Free Travel to Hualien and Taitung" campaign, alongside discounted student tickets and the "Mandarin Holidays" travel packages to boost regional tourism.

To improve air access to outlying islands, Mandarin Airlines resumed the Kaohsiung–Matsu route after a 20-year hiatus, launching its inaugural charter on November 6. The



Arrival of Mandarin Airlines' New ATR Aircraft at Songshan Airport



Inaugural charter flight on the Kaohsiung-Matsu route successfully launched

flight, welcomed with a water salute in Nangan, was attended by Distinguished guests, including the President of Mandarin Airlines, the Magistrate of Lienchiang County, Legislators, the Minister of Transportation and Communications, the Director General of the Civil Aeronautics Administration, and the Director General of the Tourism Administration, personally greeted the flight at the aircraft side. They joined VIP passengers from the Kaohsiung City Government, who traveled on the inaugural flight, in a red banner-holding group photo, creating a historic and memorable moment.

To provide enhanced passenger services, Mandarin Airlines launched a newly upgraded version of its mobile application (APP) on September 26, 2024. The new version offers significantly improved itinerary management functions, enabling passengers to more easily and efficiently book, purchase, and modify reservations. Personalized features have also been introduced, allowing users to save frequently used passenger profiles, contacts, and preferred routes, thereby reducing data entry time and optimizing the overall service experience. In addition, Mandarin Airlines implemented a new POS baggage check-in system, which provides passengers with clearer information on baggage policies. Baggage tags now include the passenger's flight details and name, effectively reducing the likelihood of baggage misrouting or misclaiming.





(left) Arrival of Mandarin Airlines' New ATR Aircraft at Songshan Airport

(right) POS baggage check-in system enhances passenger convenience

# Flight Punctuality

In 2024, CAL's internal flight on-time rate was 84.96%, which was 1.96% higher than the KPI on-time rate target (KPI 83%). 76,421 flights were completed in the year, with a total of 375 abnormal flights (return, diversion, ground taxi back, cancellation, etc.) and a reliable dispatch rate of over 99.5%. According to the "international and cross-strait passenger flight punctuality rate" published by the CAA, the Company's on-time rate was 73.59% for international flights and 84.34% for cross-strait flights.

The on-time rate for 2024 was lower compared to the full-year average of 85.73% recorded in 2023. The primary reasons are as follows:

- 1. In 2024, more extreme weather conditions compared to previous years, including an extended typhoon season lasting through November, led to widespread flight delays and cancellations. Additionally, jet stream anomalies impacted the flight times of long-haul routes, and volcanic eruptions necessitated airspace rerouting.
- Flight delays were frequently caused by baggage transfer bottlenecks at airports and air traffic flow management restrictions along flight routes.
- 3. Geopolitical Tensions: Ongoing conflicts such as the Russia-Ukraine war and the Israel-Palestine conflict resulted in longer flight times on European and North American routes, subsequently affecting connecting flights and contributing to onward flight delays.

In this regard, the Company continuously pays close attention to the change of international situation, duration of long-haul flights, and ground operations for connecting passengers. It closely monitors flight operations and makes adjustments for abnormal flights.

## Innovative in-flight services engage the New Generation of Youth

In alignment with the "Brand Awareness" pillar of its sustainability strategy, CAL actively embraces innovative thinking to resonate with the younger generation. CAL has initiated a comprehensive upgrade of its digital experience:

- 1. Launching premium in-flight entertainment enhancements, including a new high-quality Podcast service and upgraded movie resolutions. Through its digital publication platform, Dynasty Sky Reading, passengers across all cabin classes enjoy unlimited downloads of hundreds of magazines.
- 2. Passengers aboard A321neo and 737-800 aircraft can connect their personal electronic devices to the in-flight entertainment system, enabling high-altitude access to multimedia streaming services. Beyond audiovisual indulgence, CAL is equally dedicated to elevating the culinary experience.
- 3. In order to continuously provide passengers with a high-quality travel experience and enhance the competitiveness of its cabin products, China Airlines has initiated an upgrade of the A350-900 cabin facilities. The upgrade will include the installation of the latest generation of cabin



seating, along with a new high-definition personal in-flight entertainment system. In line with the latest industry trends, the airline will also feature highly customized cabin configurations with advanced specifications.

All advertising and marketing content produced by China Airlines adheres strictly to the following ethical commitments:

- Providing accurate and balanced information regarding all products and services;
- 2. Truthfully disclosing the Company's actions related to ESG initiatives;
- 3. Protecting customers with limited access to information by ensuring the provision of correct and sufficient information;
- 4. Refraining from disparaging competitors' products and services.

China Airlines upholds integrity and accountability to deliver outstanding service and promote sustainability. In 2024, CAL was named "Best Airline in North Asia" by Global Traveler for the 11th time and received the APEX Five Star Global Airline rating for the ninth consecutive year.

Beyond service excellence, CAL enhances the inflight experience with gourmet cuisine and creative offerings. Depending on the route, passengers can enjoy dishes by Michelin Guide-recommended restaurants, artisanal desserts, and co-branded treats, including themed menus inspired by healing anime Intellectual Property (IP) and collaborations like BLAH BLAH Bar X SUNMAI. A new amenity kit designed with MOSCHINO also brings fashion to the skies.

By the end of 2024, CAL launched a new brand campaign featuring witty taglines, turning simple act of traveling between two points into a joyful and memorable curve of smiles—continuing CAL's mission: "create more wonderful moments through flying."

# Local Sustainability at 30,000 Feet: Savoring the Flavors of Formosa



China Airlines is a leader in ESG-driven sustainable development in aviation. Its in-flight catering is designed around the UN SDGs, particularly "Responsible Consumption and Production" and "Decent Work and Economic Growth." Emphasizing sustainability, carbon reduction, and local sourcing, CAL promotes low-carbon dining and a zero food waste culture onboard.

With a focus on eco-friendly and health-conscious choices, the airline selects locally sourced ingredients with traceability and international certifications. Through cross-industry collaborations with like-minded local food providers, CAL supports local economies and advances shared sustainability goals.

# **China Airlines In-flight Dining Experience**



#### **Business Class Welcome Cold-Pressed Juice**

As a Business Class welcome drink, CAL partners with premium cold-pressed juice brand Natural Benefits to offer the exclusive "Taiwan Blueberry Juice," sourced from fresh blueberries cultivated at the foothills of Alishan in Taiwan. The juice preserves authentic fruit texture and flavor, delivering a naturally sweet, layered taste. Seasonal cold-pressed juices made from local fruits and vegetables are also served onboard, supporting CAL's vision of shifting from imported to locally sourced ingredients.



#### **Business Class Assorted Fiber-Rich Fruits**

Clean Label-certified mixed fruits and nuts—featuring unsalted, low-temperature baked almonds, cashews, cranberries, and raisins—are served in Business Class as a natural and healthy snack option.



#### China Airlines X YOSHI BAKERY Co-branded Bread

In 2024, CAL launched co-branded in-flight breads across all cabin classes, featuring Taiwanese ingredients like tea, dried peaches, Tainong No. 57 and No. 66 sweet potatoes, purple glutinous rice, and Dahu strawberries.—merging classic techniques with local innovation.



### **Skylounge Snacks**

Through its ongoing collaboration with "The Wonderful Food" platform, CAL promotes Taiwan's small-scale agriculture and creative industries via curated snack displays to increase visibility. This initiative aims to promote responsible consumption and production while contributing to the reduction of carbon footprints, fulfilling the airline's social responsibility towards the shared well-being of the planet.



# China Airlines X Yang Ming Spring-In-Flight Pure Plant-Based Cuisine

Since 2022, CAL has partnered with Michelin Green Star restaurant Yangming Spring to offer fully vegan business class meals made with natural, locally sourced ingredientss. A 2024 highlight is the :"Yangming Spring Golden Plum Golden Brick Fruit Crisp," combining aged plums and whole pumpkin in a nutrient-rich, plant-based dessert. These offerings reflect CAL's dedication to sustainability, local sourcing, and providing passengers with a refined and responsible dining journey in the sky.



In-flight catering is a key part of cabin service, and China Airlines continues to enhance it with sustainability in mind. To reduce food waste, CAL closely monitors meal orders and wastage while actively promoting its pre-selection service. Business Class and Premium Economy passengers receive reminders via email, SMS, and app to choose meals in advance, with Business Class passengers able to browse detailed menus and select according to preference.

To accommodate diverse needs, CAL offers 20 types of special meals across all classes. Business Class menus are printed using soy-based ink on FSC-certified paper, while digital menus are available on B777, A350-900, and A321neo aircraft, enabling all passengers to view detailed meal information.

These efforts improve the dining experience while demonstrating CAL's commitment to environmental responsibility and sustainable development.

# Digital Platform Upgrade for Better Booking Experience

CAL is committed to optimizing the user experience on its website and mobile app by enhancing the booking and ticketing process and strengthening online itinerary management services. Continuous efforts have been made to streamline website content and optimize page design, enabling passengers to intuitively browse and access essential travel information, such as baggage policies, fare products, special service requests, and information on flight movement updates.

#### 1. CAL Website:

Continuously optimizing website functionality from the passenger's perspective, in May 2024, CAL upgraded its booking and ticketing process with a new user interface, featuring ticket card display, one-click selection, and simplified process steps. Additionally, the integration of the itinerary management page and optimization of online self-service modification features aim to enhance overall satisfaction with the CAL website.

#### 2. In-Flight Wi-Fi:

CAL provides complimentary Wi-Fi for business class passengers and high-tier members. In November 2024, the airline was honored with the "Best Wi-Fi Award" by the Airline Passenger Experience Association (APEX). Pror more details, please visit: https://www.china-airlines.

com/tw/en/discover/news/press-release/20241125

**CAL Website Booking and** Ticketing

# **Building Brand Ambassadors and e-Services** for Better In-Flight Experience



### Smart Cabin: e-Processes and Al Assistant

To support CAL's commitment to promoting green energy initiatives and enhancing carbon reduction efforts, iPad minis have been fully distributed to cabin crew members as personal operational tools since 2023. In 2024, the application of these electronic devices was further optimized by integrating e-books, pre-recorded cabin announcement audio files, and enhancing flight time limit calculations and report compilation functionalities. These improvements not only strengthen information integration and cybersecurity control to mitigate information security risks, but also significantly reduce paper consumption, aligning with the Company's environmental sustainability vision. In addition, iPad minis were introduced to facilitate inflight meal ordering in Business Class, enabling digital operations to enhance cabin service efficiency and deliver a modernized passenger experience.

In response to the evolving landscape of AI, the Company also launched the "Cabin Crew Al Assistant" on the Team+ platform. In its initial phase, this smart customer service tool provides ground service personnel with keyword search and real-time response functions. Continuous testing and refinement are being conducted to improve the accuracy of Al-generated responses. In the second phase, the service will be fully extended to all cabin crew members, with the goal of fostering community interaction among crew and further advancing the Company's sustainability and shared prosperity objectives.



# Create a "Brand Endorsement" with Professional Image of Cabin Crew

In alignment with the Company's corporate vision of "Leading Asia-Pacific, Flying Worldwide" and upholding the mission of "Create more wonderful moments through flying," we are guided by the core value of "Believe we can always do better." With this foundation, the Company is committed to elevating cabin service standards by focusing on the following four key service objectives:

- Implementing a Responsibility Area Accountability System Cabin crew are expected to respond promptly to passenger needs, proactively assist in resolving issues, and ensure consistent service quality.
- Enhancing Premium Cabin Guest Services Emphasis is placed on service attitude and professional knowledge to deliver a refined and attentive premium cabin experience.
- Greeting Elite Frequent Flyers Crew members proactively greet elite passengers within their assigned responsibility areas, with the Cabin Manager extending formal greetings on behalf of the Company to strengthen customer relationships.
- Proactively Assisting Special Passengers (Elderly, Children, and Pregnant Women) — Special attention is given to passengers with specific needs, offering timely assistance to further enhance the Company's brand competitiveness and image.

Through these initiatives, the Company aims to cultivate a professional yet warm cabin crew image, positioning crew members as the Company's best brand ambassadors.



# Service with Heart, Journey with Warmth

In 2024, CAL introduced a number of innovations and employee training programs to passenger services to improve service quality; in addition, CAL continuously studied sustainable practices in order to maintain customer service to the highest standards and stay in a leading position in the aviation industry; relevant achievements are listed below:

#### 1. China Airlines Digital Boarding Pass: Delivering Exclusive Festive Surprises

China Airlines is committed to providing travelers with thoughtful and heartfelt service. To enhance the check-in experience through the China Airlines App, the design of the digital boarding pass dynamically reflects exclusive artwork aligned with various festive occasions. Whether it is the joyful atmosphere of Lunar New Year, the rich cultural heritage of Dragon Boat Festival and Mid-Autumn Festival, or the warm sentiment of Christmas, each digital boarding pass features meticulously crafted festive illustrations. These designs infuse the journey with a celebratory spirit, allowing passengers to immediately feel the joy of the season and the personalized care from CAL from the moment their travel begins.



#### 2. Listen to the Needs of Employees and Strengthening Collaborative Partnerships

In 2024, China Airlines held 44 virtual Work Seminars with 705 participants and 113 Cabin Management Meetings attended by 1,400 crew members. These regular sessions fostered service commitment, team morale, and empathy through focused discussions and thematic guidance, encouraging staff to deliver thoughtful, customized service and uphold CAL's signature service excellence.

Internally, CAL leveraged interactive platforms such as "No problem, I'll help you," "Cabin Crew Loudspeaker", "Flight Training Magic Channel", and "Speak one's Mind" to collect real-time feedback. These tools enhanced communication, strengthened teamwork, and supported continuous improvement in safety, service quality, and crisis response.

# 3. Establishing a New Generation Management Model to Foster a Self-Disciplined and Trust-Based Cabin Crew Team

To ensure fair and comprehensive evaluations, China Airlines refined its annual performance assessments by adjusting evaluation weightings and introducing a two-way evaluation mechanism for Pursers. Through effective CRM-based communication, CAL upholds fairness and objectivity in implementing prevention, management, and improvement measures, enhancing safety, service quality, and fostering a high-performing, continuously improving cabin crew team.

#### 4. Encouraging Physical and Mental Well-Being to Foster Lasting Happiness

In response to employees' internal and external needs, two "Cabin Crew Division Town Hall Meetings" were held in May and June 2024. Management proactively engaged with employees, providing appropriate support and fostering a sense of

belonging through initiatives such as proxy mechanisms, process optimization, and resource alignment. Additionally, diverse emotional expression channels were established, incorporating human-centric needs into planning to enhance employees' happiness and satisfaction. These efforts aim to strengthen team cohesion, ensure consistent delivery of high-quality service, and enhance the Company's overall competitiveness.



Cabin Crew Division Town Hall Meetings

# 5. Fully Committed to Creating a Warm and Comfortable Work Environment, Promoting Physical and Mental Well-Being, and Fostering Lasting Happiness

To enhance the work environment and support sustainable development, China Airlines' Cabin Crew Division launched renovation projects at CAL Park and the Songshan Office in 2024. In October, the female crew changing room at CAL Park was upgraded into 21 multifunctional spaces combining makeup and changing areas, with added privacy curtains to improve usability and comfort.

At the Songshan Office, on-call areas were renovated in December with updated restrooms, new carpeting, added power outlets, and soft lighting to create a more welcoming space. Meanwhile, a comprehensive upgrade of the CAL Park briefing room began in December 2024. With all crew now equipped with iPad Minis, the outdated equipment will be replaced, and the room reconfigured for multifunctional use. Completion is expected by March 2025, further demonstrating CAL's commitment to employee well-being and workplace sustainability.



Renovation of the Female Cabin Crew Changing Room at the CAL Park



Renovation of the Cabin Crew On-Call Area at the Songshan Office

# **Customer Health and Safety and Sustainability**



#### In-flight Catering Food Safety

CAL prioritizes in-flight food safety to protect passenger health. Catering providers must comply with international food safety and hygiene standards and operate comprehensive safety management systems. All processes—from sourcing and preparation to storage and transport—are strictly temperature-controlled and meet hygiene standards. Incoming ingredients undergo lab testing and microbiological sampling. CAL also conducts random audits, requiring corrective action or imposing penalties for non-compliance. Internally, all staff receive HACCP and related food safety training to ensure consistent implementation of food safety principles and maintain meal quality.

#### **Examples of International Certifications for In-flight Catering**

ISO 22000

**HACCP** 

Halal-certified Kitchen









#### **Onboard Drinking Water Safety**

The quality of potable water is an important part of a premium customer's experience. The quality of potable water is strictly controlled by our industry-leading In-flight Potable Water Management Procedures, which are stricter than environmental regulations and bottling facility sanitation regulations.

- The safety of potable water is included in the preliminaries of new destinations
- We have rigorous safety standards for our drinking water suppliers. Every year, audits are performed to ensure compliance
- CAL conducts safety audits on potable water at outstations
- CAL implements a maintenance plan for potable water facilities according to the manufacturer manual

# 2.1.3 Cargo transport service

# **Passenger and Cargo Services**

In 2024, the air cargo market thrived, boosted by Al-driven inventory destocking, server and electronics replacement cycles, and steady cross-border e-commerce growth. Demand remained strong for high-value, time-sensitive goods like semiconductors, biopharmaceuticals, fresh produce, and automotive parts.

China Airlines optimized its dual cargo fleet—777F and 744F—to maximize fuel efficiency and payload advantages. The 777F excels on long-haul routes with superior fuel savings, while the 744F's high capacity and nose-loading capability suit regional consolidation and oversized shipments. This flexible deployment strengthened CAL's position as a key Asia-Pacific air cargo hub.

High-value cargo shipments, especially temperature-controlled containers, increased significantly—from 1,204 in 2021 to 2,640 in 2024—demonstrating CAL's excellence in handling sensitive pharmaceuticals and vaccines. Additionally, the transport of aviation parts rose to 824 units in 2024, reflecting strong trust in CAL's specialized cargo expertise.





Ramp Loading and Unloading Operations

Cold-chain Transportation

# **Quality Cargo Service**

According to the IATA statistics, China Airlines achieved 5,285 million freight tonne-kilometers (FRTK) in 2024, maintaining a leading position in international air cargo. The fleet modernization continued with the addition of the 8th and 9th Boeing 777F in mid-2024, and a 10th expected in Q2 2025. In light of the post-pandemic recovery of passenger traffic and the progressive increase in belly transport volume, CAL will continue to review the operational scale of its cargo aircraft fleet, accelerating the retirement and replacement of 744F aircraft, strategically plan its cargo operations based on market conditions, fully leveraging the complementary advantages of its dual-aircraft types to enhance overall operational efficiency and profitability, while actively expanding its presence in the global cargo market.



### **Diversified Delivery Services**

#### ① Continuous Development of Special Cargo Service

CAL Cargo leads among Taiwanese carriers, with extensive experience in transporting a wide range of special cargo—from general goods and precision instruments to large-scale equipment. To meet the evolving needs of the logistics industry and provide tailored services, CAL continuously innovates with safety as the foundation. For example, the introduction of center-loaded 10-foot pallets on B777 freighters has enhanced cargo space flexibility, enabling higher capacity for diverse cargo types and long-haul flights. Under the oversight of a dedicated team, CAL is also expanding its capability to transport high-value items such as the full series of Rolls-Royce Trent engines using B777Fs. Combining deep expertise, soft power optimization, and the next-generation B777 freighters, CAL continues to grow steadily—delivering excellence in service quality, energy efficiency, and flight safety. CAL Cargo has become an indispensable force in global air logistics.





Ramp Operations

Transportation of Live Animals (large animals)

### ② Upgraded Cold Chain Service

In response to increased demand for air transport of goods (such as pharmaceuticals and vaccines), CAL has significantly improved its cold chain service. This included transportation of temperature-controlled containers, SOP for active/passive temperature-controlled cargo, and upgraded refrigeration / freezing equipment. CAL became the first airline company in Taiwan to obtain the CEIV Pharma certification and will continue to maintain this certification to provide diversified and quality temperature-controlled cargo service for customers around the world. Additionally, CAL demonstrates the innovation and flexibility of the CAL cargo transport team and support global customers in the post-epidemic era.

#### 3 Embargo on Illegal Animals and Plants

Supporting IATA and UN SDGs, CAL signed the Buckingham Palace Declaration and implements four concrete actions against illegal wildlife trafficking, including "expression and demonstration of agreement to tackle the illegal wildlife trade," "information sharing and detection," "practical measures to stop the transportation," and "new mechanisms tackling illegal wildlife trade.



Temperature-control Containers

# **Professional Team's Commitment to Safety**

### ① Cargo Safety Management

CAL has enhanced risk controls through systems like Safety Reporting, cargo service platforms, ground damage databases, and weather alerts. A risk prevention mechanism based on safety assessments and walk-around checks improves warehouse and apron management. Quarterly feedback from ground service agencies drives ongoing service quality improvements.

### ② Professional Training

CAL regularly provides training on dangerous goods, live animals, temperature-controlled cargo, and load balancing to ensure safe and professional handling. Starting in 2024, training materials have transitioned to digital formats to enhance efficiency and support paperless operations. CAL has also trained certified handlers and established operational procedures



Special Cargo Delivery (car)

to ensure the secure transport of special cargo. With the easing of border restrictions, more in-person global training sessions are planned to continuously upgrade cargo service quality.

### 3 Authorized Economic Operator (AEO)

As an Authorized Economic Operator (AEO), CAL enhances its competitiveness in the global supply chain and fosters collaboration with international trade partners. Since receiving AEO certification in 2012, CAL has conducted annual self-assessments based on security review criteria and undergoes on-site validation audits by Customs every three years. The latest audit was conducted by Taipei Customs in late 2023,



Authorized Economic Operator (AEO) On-site Calibration Meeting

and CAL was officially re-certified in January 2024. In October 2024, the Cargo Sales, Marketing & Services Division has led a company-wide self-assessment, with participation from the Management Committee and key divisions including the Corporate Safety Office, Human Resources Division, Information Management Division, Administration Division, Cargo Sales & Service Taiwan, Engineering Division, and In-flight Services Division, and the results were submitted to the Customs Administration for verification.





#### 1 e-Air Waybill & e-Freight

CAL supports IATA's electronic air waybill and e-freight initiatives, enabling paperless data exchange with cargo information providers, contractors, customs authorities, and warehouses. This streamlines communication, reduces operational costs for all stakeholders, minimizes delays caused by input errors or document loss, and significantly lowers paper consumption, thereby advancing CAL's goal of achieving net-zero carbon emissions by 2050.



#### ② Apron Mobility

Wireless transmission delivers real-time cargo and loading updates to mobile devices, preventing loading errors. Using PDAs to communicate with ground handlers reduces the idle time of ramp supervisors and improved cargo agents' productivity.

A Ramp Supervisor Uses a PDA for Ramp Monitoring Operations

#### 3 iCargo New System Implementation

In 2024, China Airlines successfully integrated the iCargo system developed by IBS Software into its strategic management infrastructure. By adopting the industry-leading iCargo digital technology, China Airlines has taken a significant step forward in its digital transformation journey, reinforcing its position among the world's top 15 air cargo carriers. The implementation of iCargo has strengthened China Airlines' capabilities in cargo sales management and import/export operations, optimizing cargo operational efficiency and enhancing customer satisfaction.

This technological transformation forms a key component of China Airlines' broader digital transformation program. Through the gradual phase-out of legacy cargo systems and the proactive transition to a cloud-based SaaS model, the Company is expanding its cargo ecosystem, further integrating third-party software, streamlining operational processes, and improving overall efficiency. These initiatives also support China Airlines' commitment to achieving net-zero carbon emissions by 2050.

# 2.1.4 Customer Relations Management



# Passenger Service Customer Satisfaction

To enhance the travel experience, China Airlines has established a comprehensive feedback mechanism. In addition to continuously monitoring customer satisfaction and willingness to recommend through passenger satisfaction surveys, passengers are also encouraged to provide feedback and suggestions regarding services through customer feedback channels and other communication platforms. By leveraging diverse feedback sources, China Airlines continuously identifies and addresses service gaps to improve passenger satisfaction and loyalty.

According to the results of the passenger satisfaction surveys conducted from January to December 2024, the Net Promoter Score (NPS) reached 72.5, exceeding the target value and representing an improvement over 2023. Looking ahead to 2025, we have raised our NPS target from 62 in 2024 to 69, reflecting passengers' recognition of and expectations for China Airlines.



# Cargo Service Customer Satisfaction

The Cargo Sales, Marketing & Services Division distributes annual customer satisfaction surveys to cargo sales stations worldwide and actively encourages customers to provide feedback. In 2024, the customer satisfaction score reached 89.8. Due to the introduction of the new cargo system in the second half of 2024, some customers reported unfamiliarity with the new system interface, resulting in a slight decline in the satisfaction score compared to 2023. The Cargo Sales, Marketing & Services Division will continue to instruct all stations to enhance customer training and support to improve users' familiarity and experience with the new system.



# **Maintenance and Repairs Customer Satisfaction**

The Maintenance Division distributes customer satisfaction surveys semi-annually to customers of airframe, engine, and component services, encouraging them to provide feedback on areas such as maintenance quality, maintenance time, parts and materials supply, service, and responsiveness. In 2024, a total of 27 questionnaires were collected over the course of the year, and the annual customer satisfaction score was 9.0.

Customer Satisfaction Category	2021	2022	2023	2024	2024 Objectives	2024 Attainment	2025 Objectives
Passenger Net Promoter Score (NPS)	74.5	65.7	62.7	72.5	62	100%	69
Cargo Service Customer Satisfaction (point)	88.3	89.5	91.6	89.8	88.5	100%	89
Maintenance and Repairs Customer Satisfaction (point)	8.57	8.24	8.8	9.0	8.4	100%	8.4 (Note)

Note. The maintenance and repairs customer satisfaction is calculated based on a ten-point system.

Ahead of other domestic airlines, CAL has set up a variety of communication platforms for different groups of customers, including Customer Service on Facebook and bulletin board on the Instagram and WeChat, to collect problems which passengers encounter during their journeys and provide the updated information. By responding to customers' needs with empathy and sincerity, we endeavor to improve their travel experience. In terms of the operation and maintenance of the official accounts on social media, CAL uses suitable online language in line with contemporary issues to engage fans. We also held online activities with fans from time to time to expand CAL's online sales channels. We support green energy initiatives for sustainability with the aim of taking real actions instead of adopting slogans to encourage other companies to fulfill their responsibilities for sustainable development.

#### **Communication Channels**

- 1. Service Hotline
- 2. Regular Mail
- 3. Facebook Page

CAL has created a fan page on Facebook to understand customers' needs and problems instantly and improve service quality accordingly. It is expected to increase adhesion among members and fans and develop new customers.

4. Customer Service E-mail

Instead of calling, customers can simply send e-mails to change reservations or confirm their itineraries.

- Customer Feedback Online Feedback System
- 6. Online Customer Satisfaction Survey

CAL continues to discuss to optimize website functions from passenger perspective, which include upgrading reservations and ticketing process, designing a new user interface, integrating service pages, and optimizing the self-service function for online changes. These efforts are aimed at optimizing service on an ongoing basis. In addition, CAL introduces real-time fare function, which provides passengers with dynamic references of fare and real-time flight information, enabling passengers to stay informed. The proportion of ticketing through CAL website significantly increased in 2024. The ratio of sales on CAL website increased to 35.3% for the year, with a sales amount of USD 1,035 million, which accounted for 37.4%.

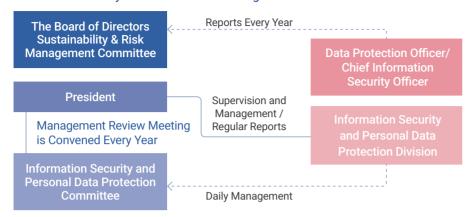
 $\wp$  Refer to the appendix: Online Sales Channels and Sales Amount Table

# 2.1.5 Information Security Management

# Information Security Strategy

CAL's Information Security and Personal Information Management Division, led by the Data Protection Officer (DPO) and Chief Information Security Officer (CISO), oversees information security and data protection. They lead independent teams to implement management measures aligned with international standards. CAL's Information Security and Personal Data Management Committee, chaired by the President, meets at least annually to review and ensure effective system implementation and reports to the Board yearly. Board Director Chien-Hung Wei, an expert in Intelligent Transportation Systems (ITS) and AI, has relevant background in IT engaged on the cybersecurity strategy process, enabling him to provide independent and timely oversight to support information security.

#### Information Security and Personal Data Management Framework



### **Information Security Management**

#### 1. Information Security Management System

CAL's Information Security & Personal Data Protection Division oversees information security policies and governance to ensure regulatory compliance. The Information Management Division handles daily cybersecurity operations, while the Chief Information Security Officer works independently to maintain security management integrity.

#### 2. Cyber Security Education and Training

In 2024, CAL conducted two rounds of mandatory security training for all employees (totaling three hours), along with a dedicated seminar for management. To enhance phishing awareness, three simulated email exercises were carried out; employees who clicked on links were given retraining. Additionally, four newsletters were issued to reinforce key messages on information security and data protection. CAL constantly reiterates to colleagues the importance of information security and personal data protection. For violations of regulations of information security or personal data, CAL shall impose penalties in accordance with reward and penalty regulations. If such violation incurs legal liabilities, employees shall be held accountable in accordance with related regulations.

#### Number of Trainees in Cyber Security Education and Training

CAL organized information security training for all personnel in June, and November

2024 to increase the information security awareness of all employees. A total of 21,648 attendances completed the training.

2022	2023	2024
43,992 attendances	34,104 attendances	21,648 attendances

# **Information Security Technologies**

#### 1. Regular Evaluations and Exercises

The objective is to promptly restore information services and minimize losses due to business interruption. CAL conducts annual risk assessments of information systems, evaluating confidentiality, integrity, availability, and compliance, and develops business continuity plans for core information systems. In 2024, two disaster recovery exercises ensured readiness to restore critical systems quickly and minimize business interruptions.

CAL completed the annual information security inspections in October and November 2024 to strengthen the Company's overall information security protection. We reviewed information security matters (e.g., network architecture design logic and regional network allocation) and used the judgments of professionals to provide recommendations for improving information security and effectively reduce information security risks. CAL conducts monthly vulnerability scans on internal and external application systems, analyzes the results, and defines standardized remediation procedures. In addition, annual penetration tests are performed by independent third parties to further strengthen cybersecurity. The main target is the information system that the Company provides external services. The penetration tests were completed in December 2024, which includes information probing and error handling tests for meeting the requirements in the TOP 20 Critical Security Controls of the SANS Institute, the OWASP Top Ten Vulnerabilities announced by the Open Web Application Security Project (OWASP) and other standards for tests. The operations included preliminary tests and repeated tests to confirm that the vulnerabilities have been addressed.

#### 2. Information Security Incident Response and Reporting

CAL has an incident response procedure that applies to all employees and provides clear steps for reporting security incidents through the company's internal messaging system. When an incident occurs, response actions are promptly taken to contain the impact and restore operations.CAL reports incidents to authorities as required by law. Annual simulation exercises help teams practice response protocols, improving readiness and incident management.









#### Reporting Information Security Threats and Vulnerabilities

CAL's instant messaging system was used to send emails to all employees with reports on information security threats and vulnerabilities. A total of four reports were

sent in 2024, continuously reminding all employees to stay alert to information security threats.

2022	2023	2024	
Nine reports	Eight reports	Four reports	

# **Information Security Certification and Audit**

To strengthen CAL's information security, the Information Security and Personal Data Protection Department was established in March 2022 to lead the implementation of ISO 27001 certification, covering core passenger service systems and ICT infrastructure. All departments continuously improve security practices and conduct regular internal audits to ensure effective controls.

Audited by SGS, CAL obtained the ISO 27001:2013 Information Security Management System (ISMS) certificate in October 2022 and completed the annual recertification in October 2024, maintaining compliance with international standards and operational requirements. CAL also achieved Payment Card Industry Data Security Standard (PCI DSS) compliance certification issued by external security Qualified Security Assessors (QSA) in November 2024, ensuring secure credit card transactions and regulatory compliance.

In response to growing cybersecurity challenges, proactive monitoring and protection mechanisms were implemented. In 2024, there were no information security incidents, including data breaches, that resulted in regulatory penalties, and systems remained virus-free, stable, and fully operational.

# 2.1.6 Privacy Management

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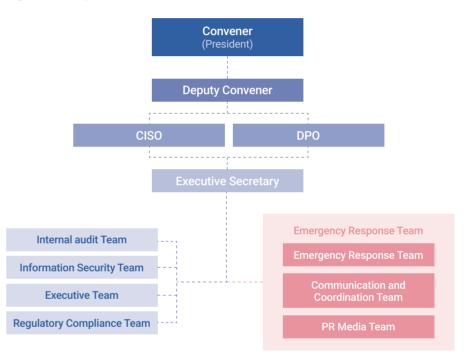
# **Personal Data and Privacy Protection**

To ensure trustworthy personal data protection, CAL fully complies with relevant laws including Taiwan's Personal Data Protection Act, civil aviation regulations, and the EU's GDPR. CAL informs consumers about data protection and collects personal data only with their consent, detailed in the Company's "Privacy Protection Policy" and "Cookie Policy" on its website. The policy applies to all employees and subcontractors, who must also comply. CAL includes data protection clauses in supplier contracts, establishes management procedures, and regularly evaluates and audits subcontractors' data practices.

Privacy Protection Policy and Statement

# **Personal Data Management Framework**

The Information Security and Personal Data Management Division oversees the Company's information security and data protection efforts. Led by the Data Protection Officer (DPO) and Chief Information Security Officer (CISO), the division implements management measures aligned with international standards. The Information Security and Personal Data Management Committee, chaired by the President, meets at least annually to review and ensure effective system implementation and reports to the Board of Directors. Unit responsibilities are defined in the organizational procedure document.



# **Inquiry Channels for Personal Data Rights**

CAL's official website has a page of "privacy protection," and the "Privacy Protection Policy and Statement" on the page outlining how personal data is securely collected, processed, and used only within authorized purposes. Data subjects may exercise their rights, including inquiry, correction, deletion, restriction, and withdrawal of consent, through the "Enquiry and Request for Personal Data" link on the CAL website or by contacting the Data Protection Officer at DPO@china-air-lines.com. CAL will respond within the statutory timeframe. Since 2024, no privacy complaints have led to penalties.

#### Personal Data Risk Assessment Mechanisms

CAL has established procedures to classify personal data and identify risks in data processing. The Information Security and Personal Data Protection Committee leads annual inventories, impact assessments, self-inspections, and risk evaluations across business units. If risks exceed acceptable levels, mitigation plans must be proposed and implemented to ensure effective operation of the PDCA (Plan-Do-Check-Act) management system.

# **Personal Data Internal Audit and Training**

To review personal data management goals and meet privacy information management system requirements, CAL establishes internal audit procedures, plans annual audits in Q4, and conducts audits as scheduled. Results are reviewed by the President during the Information Security and Personal Data Management Committee meetings to ensure system effectiveness.

CAL provides regular training to promote personal data protection and codes of conduct among all staff. Specialized lectures are held for senior management, expatriates, and internal auditors based on their roles. Additionally, quarterly e-newsletters share real-case studies, regulatory updates, and key management highlights to raise awareness.

The results of personal data protection seminars and training programs in 2024 are shown in the table below:

Training Title	Frequency	Target	Number of people
Information Security and Personal Data Protection Training	20	New Employees	485
First Information Security and Personal Data Protection Awareness Training of 2024	1	All Staff	10,118
Second Information Security and Personal Data Protection Awareness Training of 2024	1	All Staff	11,530
Information Security and Personal Data Protection Management Guidelines	1	All supervisors of Level 2 and below in the Company	608
Executive Management Seminars	1	Senior Management	94
Information Security and Personal Data For Your Information E-newsletter	4	All Staff	All Staff

# Personal Data Breach Response Mechanisms

CAL has established "Personal Data Breach Response Management Procedures" and a contingency plan to address unauthorized access, disclosure, or misuse of personal data. Annual response exercises ensure staff readiness. Contracts with subcontractors require timely breach notification and evidence preservation.

Personal Data Breach Contingency Flow

# CAL's Personal Data Protection Milestones in 2024

- Completed personal data inventories, internal audit, and risk assessment across unit in Taiwan and oversea branch offices.
- 2 Issued quarterly Information Security and Personal Data For Your Information E-newsletters as personal data protection awareness promotion for all employees.
- 3 Organized annual response exercises on personal data breaches.
- 4 Held the annual information security and personal data review meeting.



# **Future Plans**

# Flight Safety



# 1 Renewing Flight Safety Certifications

Since first obtaining IATA Operational Safety Audit (IOSA) certification in 2005. CAL has undergone biennial renewals to uphold high flight safety standards. In preparation for the more rigorous Risk-Based IOSA framework, CAL actively aligns daily operations with the latest international standards, participates in global forums and training, and remains committed to the highest levels of aviation safety.



# 2 Regular Emergency Response Drills and Continuous Improvement of Procedures

Establishing a comprehensive emergency response mechanism is a critical component to ensuring business continuity. Therefore, China Airlines continually enhances the capabilities of its control personnel in handling aircraft and weather-related anomalies, while strengthening its monitoring and forecasting capabilities for extreme weather events arising from climate change. In 2024, the Company regularly conducts emergency response drills and reviews the response procedures to ensure that personnel can swiftly and accurately address unforeseen events in accordance with Standard Operating Procedures (SOP). Issues identified during the drills are analyzed and addressed to improve overall operational efficiency and response capabilities. Through continuous improvement, the organization maintains its competitive edge in a rapidly changing environment, ensuring operational stability and safety.



# 3 Digitalization of Flight Planning

CAL has digitized cockpit flight documents to improve pilot efficiency and flight safety. With real-time access via iPad apps to flight plans, weather data, airport information, and notices, pilots operate with enhanced situational awareness. The transition to digital systems also eliminates printed flight plans and delivery costs at airports, supporting sustainability goals.

# **Passenger Service**



# 1 Enhancing Mobile Devices and Official Website Services

CAL redesigned its website with a new user interface, simplified structure, and improved system functions. Integrated itinerary management for both website and app makes trip planning easier. Personalized features like interactive marketing, countdown timers for promotions, and real-time dynamic fares on the homepage enable faster and more convenient booking. The app will expand to 12 languages with a refreshed design to enhance user experience.



# 2 Enhancement of In-Flight Wi-Fi Service

To meet passenger demand, CAL plans to offer free Wi-Fi for all passengers across all aircraft, including free text messaging. Premium cabin passengers and Gold members will enjoy unlimited free internet access. Collaborations with global network providers aim to optimize connection speed, stability, and simplify login and redemption processes, ensuring a smooth and quality online experience onboard.



# **3** Friendly Environment and Ecological Coexistence

Amid rising concerns over global warming and climate change. CAL is advancing paperless operations at airports to protect forests and reduce carbon emissions. For boarding passes and other printed materials, CAL prioritizes suppliers with international eco-certifications, sourcing forest-friendly paper products. Promoting digital and self-service check-in through online and mobile apps encourages passengers to reduce paper use and support carbon reduction efforts.

# **Cargo Service**



# 1 Responsive Evaluation and Optimization of the Flight Network to Market Demand Changes

In addition to handling Taiwan's import/export cargo, CAL leverages Taiwan's geographic advantage as a cargo transshipment hub, especially via Taichung, strengthening its position. CAL maintains a dense and flexible passenger-cargo network, adapting to regional market needs:

- 1. From February 2025, CAL will add Toronto (YYZ) to expand North American coverage beyond the U.S. and increase operational flexibility.
- Focusing on Japanese cargo (machinery and vehicle parts), CAL maintains intermediate stops in Osaka (KIX) and Nagoya (NGO) on transpacific flights to Chicago (ORD) and adjusts LAX-NRT flights to optimize capacity.
- 3. To expand Asia-Europe cargo, CAL plans intermediate stops in Delhi (DEL), Mumbai (BOM), and Dubai (DWC), creating multi-leg revenue and strengthening Middle East and India markets.
- 4. The fuel-efficient 777F is prioritized on long-haul routes like LAX, SFO, JFK, ATL, MIA, FRA, and AMS to meet cargo demand and optimize capacity.
- 5. With manufacturing shifting from China to Southeast Asia, CAL strengthens connections between Taiwan, Southeast Asia, North America, and Europe, enhancing intra-Asia cargo and exploring Oceania, Middle East, and India markets. Passenger belly cargo and freighters are flexibly deployed based on local market and yield, with rolling reviews to optimize capacity and load factor.



# 2 Fleet Renewal for Enhanced Fuel Efficiency

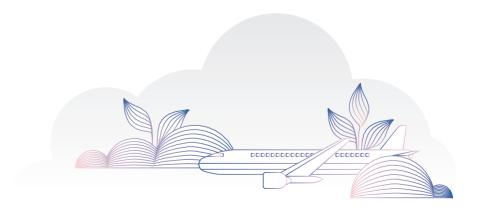
In 2024, CAL retired five 744F freighters, operating eight 744Fs and added two 777Fs mid-year. By Q2 2025, the fleet totals 18 freighters: eight 744Fs and ten 777Fs. The 777F offers competitive payload, 20-25% fuel savings over 744F, better reliability, lower fuel and maintenance costs, and shared crew and engine types with 777 passenger aircraft, improving operational efficiency. The 777F is mainly deployed on long-haul routes to North America and Europe, enhancing cost efficiency and revenue. CAL also ordered four new 777-8Fs expected from 2031, promising further fuel and emission reductions for environmentally friendly operations.



# **3** Synergistic Multi-Dimensional Operational Strategy: Leveraging Passenger and Cargo Aircraft Capacity

As Taiwan's only airline operating both 744F and 777F freighters, CAL flexibly matches aircraft types to market demand and cargo types. The 744F's large payload and nose-loading capabilities suit oversized, high-value cargo like semiconductor equipment and engines, mainly on Japan and Southeast Asia routes, boosting regional consolidation and transshipment. Combining passenger belly cargo with freighter capacity aligns fleet operations with market trends and cargo demand. Beyond scheduled flights, CAL expands customized charters and additional flights, integrates express and interline partnerships to seize cargo growth opportunities. CAL's cargo team has rich expertise handling high-value, precision cargo such as semiconductors, biotech cold chain products, and aircraft parts, ensuring quality and reliability as a strong competitive advantage.

In addition, by leveraging the extensive network of passenger flights, the Company maximizes synergy by utilizing both passenger aircraft bellyhold and cargo aircraft capacity. This ensures that the overall fleet operations align with market trends and cargo business demands. Apart from scheduled flights, the Company also caters to specific customer needs by expanding customized chartered flights, dedicated freighter services, and supplementary flights. This further strengthens integrated express and code-sharing partnerships, capturing opportunities for cargo growth. China Airlines has gained strong trust from customers due to its expertise in air cargo, particularly in transporting high-value or delicate items. This includes semiconductor wafers and equipment, pharmaceutical and biotech cold-chain products, as well as aviation parts. With rich and skilled operational experience in handling such cargo, the cargo team works diligently at every stage to ensure the quality of shipments, providing a strong foundation for securing cargo contracts.



# **Customer Relations Management**



# **Passenger Service Customer Satisfaction**

In 2024, the Net Promoter Score (NPS) for passengers reached 72.5, exceeding the target and showing an improvement from the 62.7 performance in 2023. Through innovation and a commitment to excellence, China Airlines continuously enhances the passenger service experience, aiming to maintain a competitive edge in the highly competitive aviation market.



# **Information Security**



# **Information Security Management Certification**

In 2024, CAL completed recertification and passed the ISO 27001:2013 Information Security Management System (ISMS) audit, ensuring operational information security meets international standards. CAL will maintain the certificate and aims to certify to the ISO 27001:2022 version in 2025, further strengthening information security and expanding the certification scope.



# 2 PCI DSS Compliance

CAL obtained the PCI DSS compliance certification in November 2024, which ensures the effectiveness of the Company's credit card transactions security and safeguards the rights and interests of passengers. This certification is conducted every two years, with the next certification scheduled for the end of 2026.

# **Privacy Information Management**



# 1 Personal Data Management System

CAL's passenger reservations, ticketing and marketing service business processes have been officially issued with the ISO27701:2019 Privacy Information Management System (PIMS) certificate in 2023, with all personal data protection regulations within the scope of verification complying with regulatory requirements and international standards. We will continue to maintain the validity of the certificate in the future, and expand the scope of verification year by year.



# 2 Personal Data Protection Audit

CAL will continue to execute the personal data audit plan for oversea branch offices in 2025. By implementing onsite audits, we confirm that the personal data protection operations of oversea branch offices meet requirements in the Company's regulations and local laws.



# **AI Applications and Development**

CAL continuously applies innovative technologies in system development to enhance technological capabilities and reduce operational costs. Through data analytics, CAL extracts deep insights to drive precise decision-making and optimize resource allocation, embedding innovation as a core driver for long-term competitiveness and sustainable growth. The 2025 AI strategy focuses on three key directions:

- 1. Joining advanced industry ecosystems to connect with diverse sectors.
- 2. Partnering with leading institutions to accelerate AI business development.
- 3. Implementing an in-house large language model (LLM) to accumulate and train domain knowledge across company units.