

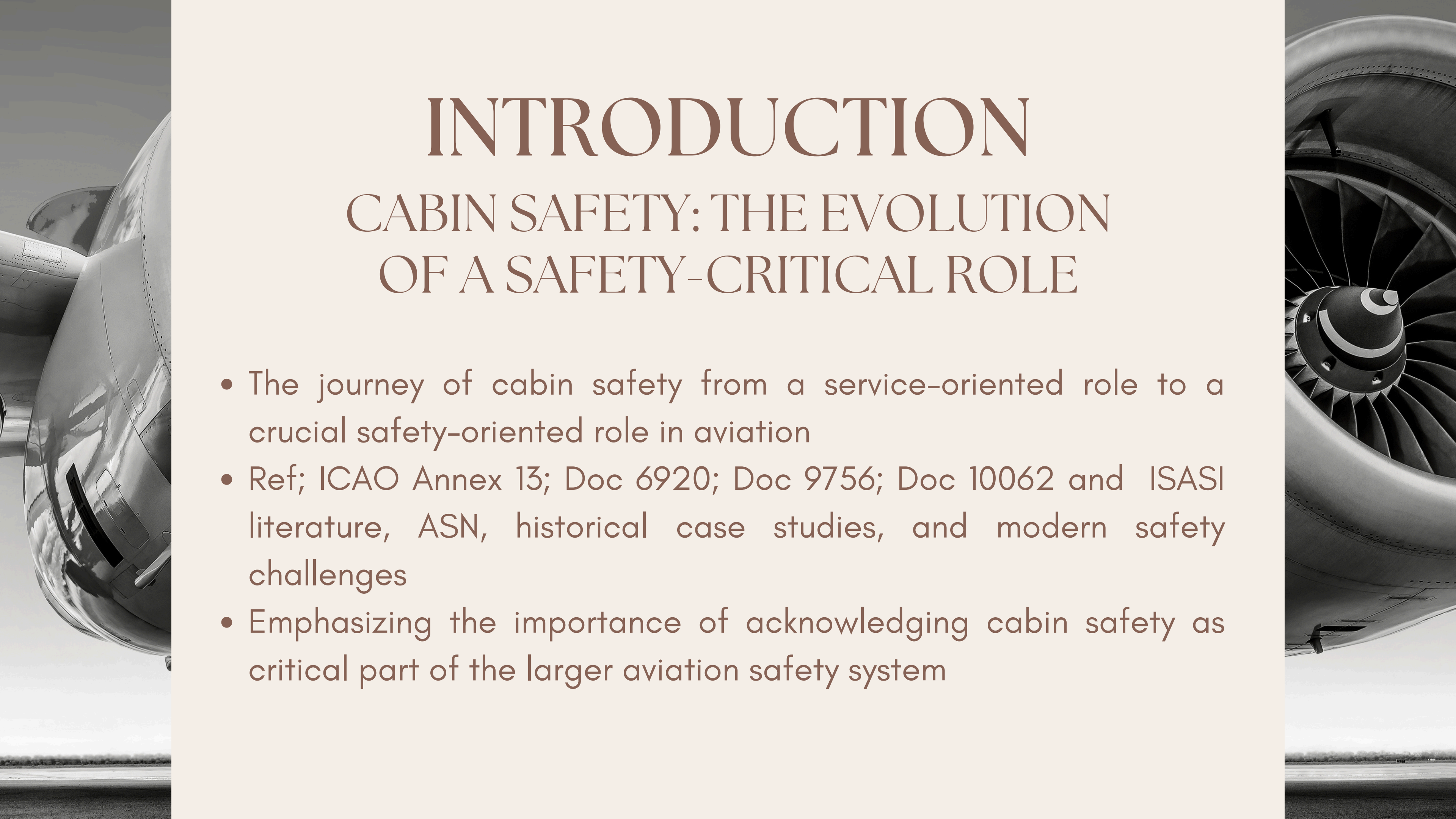
THE ROLE OF CABIN SAFETY IN AVIATION

*AN EXPLORATION OF HISTORICAL PROGRESS, ICAO
STANDARDS, AND EMERGING SAFETY CONCERNS.*

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INTRODUCTION

CABIN SAFETY: THE EVOLUTION OF A SAFETY-CRITICAL ROLE

- The journey of cabin safety from a service-oriented role to a crucial safety-oriented role in aviation
- Ref; ICAO Annex 13; Doc 6920; Doc 9756; Doc 10062 and ISASI literature, ASN, historical case studies, and modern safety challenges
- Emphasizing the importance of acknowledging cabin safety as critical part of the larger aviation safety system



THE EARLY DAYS OF CABIN CREW

From Service to Safety.

1. 1930s: Flight attendants were introduced primarily for passenger comfort.

2. Early roles focused on in-flight service with minimal emphasis on safety.

3. Accidents and incidents, evolution of Operational dynamics as well as aviation technology advanced, the role of cabin crew began to evolve toward safety responsibilities.

THE SHIFT TOWARDS SAFETY

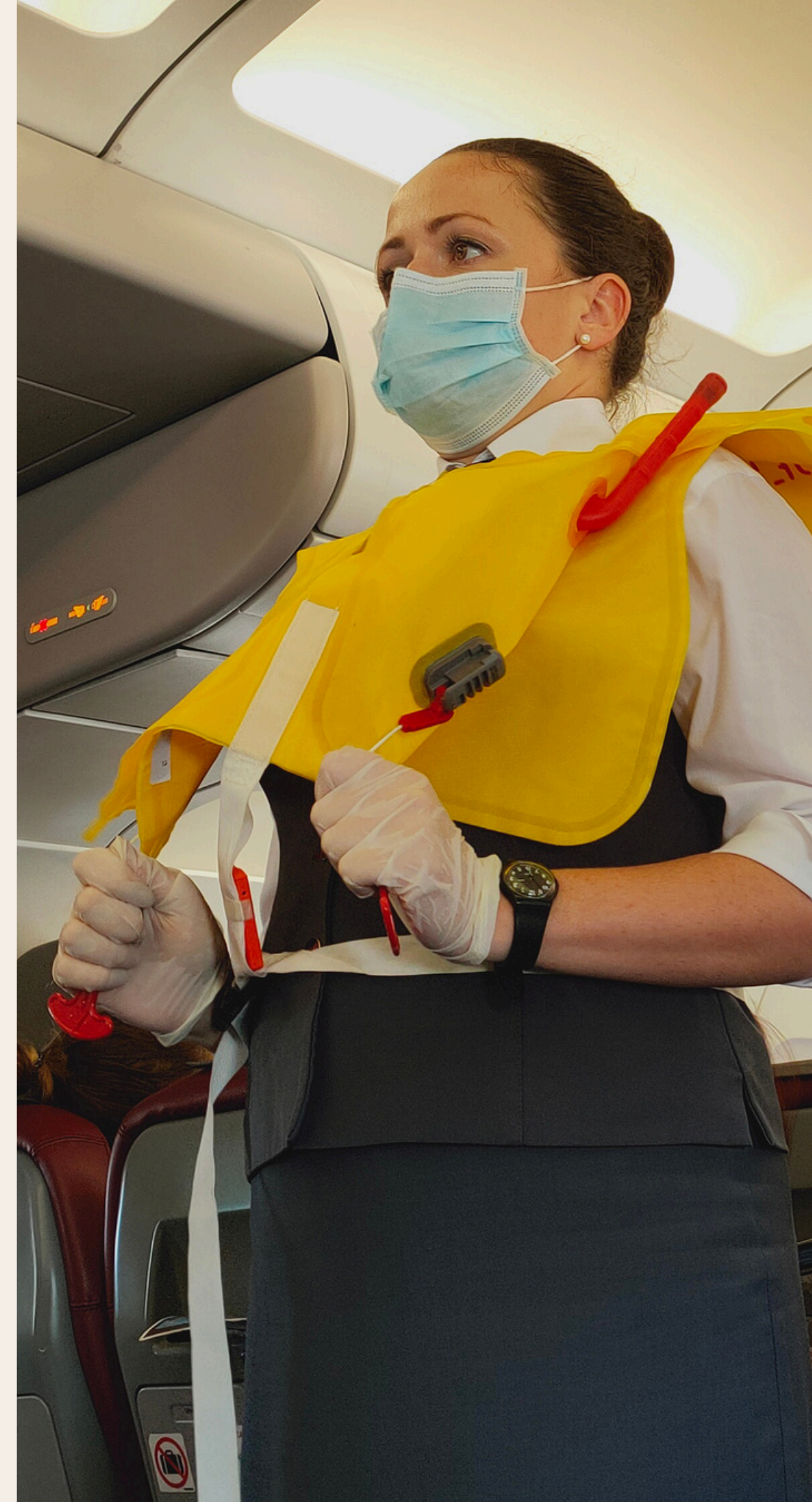
Expanding Responsibilities

Between the 1950s and 1970s, cabin crew responsibilities expanded significantly due to increasing aviation accidents, highlighting the need for safety-trained personnel.

Introduction of;

- safety protocols,
- emergency equipment
- basic first aid training

Evolution from service providers to crucial managers in emergency preparedness, essential for ensuring passenger safety during critical situations.



ICAO AND THE FORMALIZATION OF SAFETY STANDARDS

1

1944: ICAO's establishment marked the beginning of international safety standards.

2

Doc 10062: Pivotal document guiding cabin safety protocols and investigations.

3

A shift from reactive to proactive safety measures, focusing on prevention and preparedness.





CABIN SAFETY IMPROVEMENTS DUE TO ACCIDENT INVESTIGATIONS -EXAMPLES

- **Fire-retardant materials** - 09/1988; MD-11; JFK-GVA - 215 PAX/14 Crew; Inflight fire and water impact - NIL Survivors; AC-destroyed
- **Child safety restraints** -07/1989; DC-10; DEN-PHL-285 PAX/11 Crew- Engine failure and emergency landing - FI-111 pax including 1 crew; AC- destroyed by fire
- **Crew coordination** -03/2015; MD-88;ATL-JFK - 127 PAX/05 Crew- RE during landing - MI-29; AC-Substantial damage
- **Refuelling with pax on board**-03/1989;F-28;YQT-YWG - Loss of Control after take-off - FI-32 Pax including crew; AC-Extensive damage
- **PBE accessibility** -08/2016;B777-300; TRV-DXB - 282 pax;18 crew-RWY impact during attempted go around- SI-4 crew; MI-22pax; AC-damaged by fire
- **Practical drills for flight and cabin crew**- 10/2016; B767-300R; ORD-MIA 161 PAX/09 Crew - Uncontained engine failure and fire - SI-1;MI-20;AC-Damaged by fire



New Aircraft Designs:

Larger, more complex planes necessitate updated safety procedures.



Technological Advances:

Integrating new technologies into safety protocols and training.



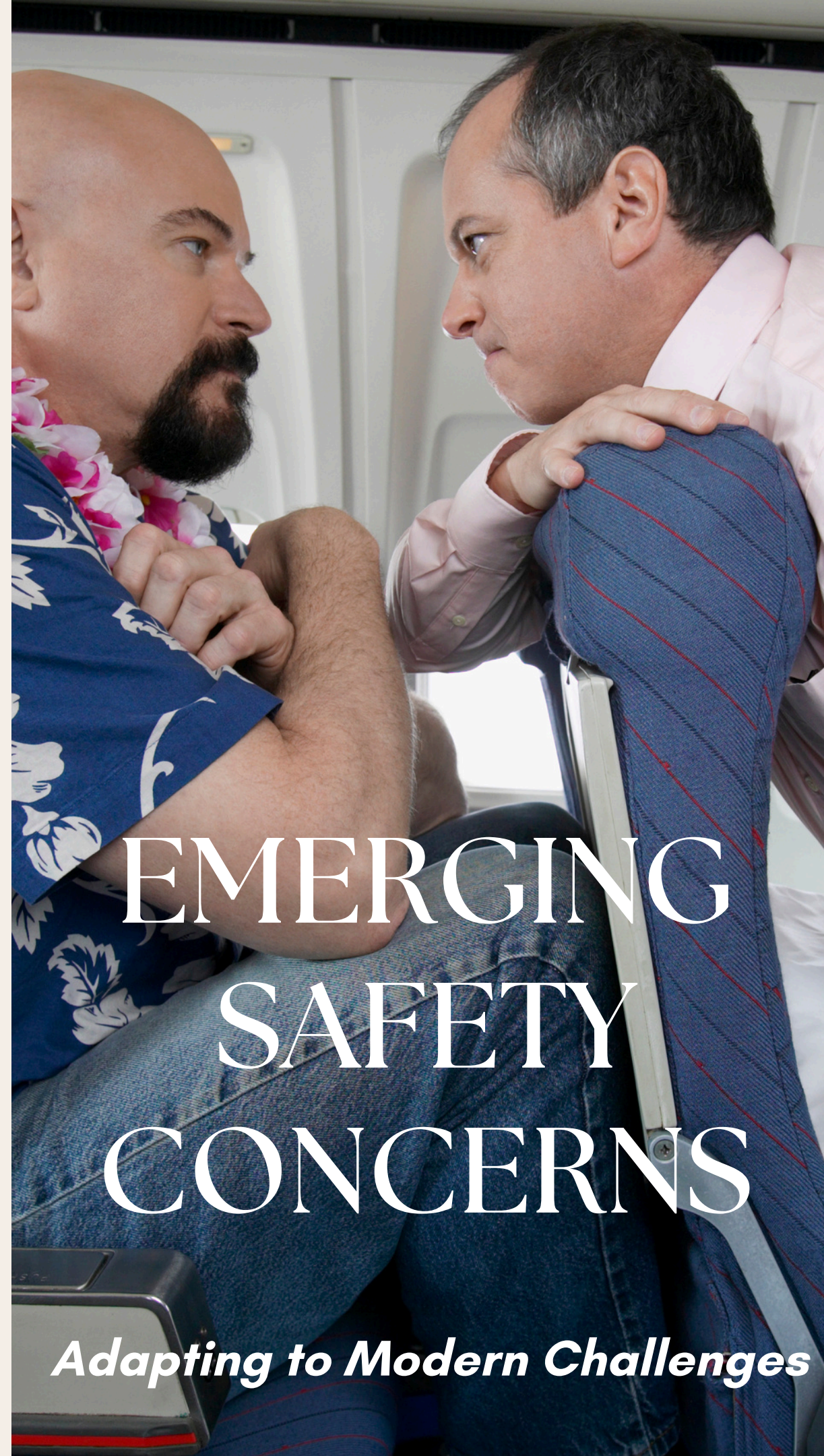
Passenger Behavior:

Increasing incidents of unruly passengers impact safety.



Mental Health of Cabin Crew:

Recognizing that stress and fatigue can impair their ability to perform safety-critical tasks effectively.



EMERGING SAFETY CONCERNS

Adapting to Modern Challenges



ICAO DOC 10062 IN ACTION

A Framework for Safety.

ICAO Doc 10062 is crucial in guiding global cabin safety investigations, ensuring consistent practices across aviation. It focuses on identifying root causes of incidents to develop preventive measures, promoting a proactive approach to safety.

ADDRESSING EMERGING THREATS

Emerging Threats and Safety Concerns



Cybersecurity Threats



Rising reliance on digital systems introduces new risks.



Environmental Factors:



Clear Air Turbulence
-Adverse climate change affecting safety in recent times.



Biosecurity:



Lessons from the COVID-19 pandemic in managing health-related safety concerns.



Space Tourism



New safety challenges from commercial space travel requiring adaptation of aviation protocols.

CURRENT MITIGATION

The Human Element in Safety

- Regulations and policies
- Emergency equipment
- Risk Assessment
- Continuous research and development –
Proactive approaches to aid new design of
equipment and revise training content and
standards guided by recommendations





THE FUTURE OF CABIN SAFETY TRAINING

Beyond Basic Procedures

- **Advanced Training:** Simulation-based training for complex emergency scenarios; Instructor training
- **Psychological Preparedness:** Equipping cabin crew to manage high-stress situations.
- **Competency-based Training:** ICAO Doc 10002
- **Continuous Learning:** Regular updates to training programs to address emerging threats and new technologies.

INSPIRING A CULTURE OF SAFETY

From Compliance to Commitment

- **Leadership:** Prioritizing safety and promoting open communication; proactive safety culture across levels
- **Safety Assurance:** Reporting systems and regular safety audits for continuous improvement; Safety data culture
- **Holistic Approach:** Safety I/Safety II? Embrace Safety III–Systems approach integrating every part of safety management system and how they interact to minimise unsafe states and improve safety outcomes





CONCLUSION

SYSTEM-CENTRIC APPROACH

- A reflection on/appreciation of the evolution of cabin safety from its early days to modern times.
- Ongoing adaptation to new challenges and threats in aviation.
- Continued investment in safety research, training and leadership to maintain high safety standards
- The indispensable role of cabin crew and ICAO standards in ensuring a safe future for global aviation and in support of the overarching ICAO goal of Zero fatalities by 2030
- ***Embrace Systems Thinking in aviation safety***



ANY QUESTIONS?



THANK YOU.

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