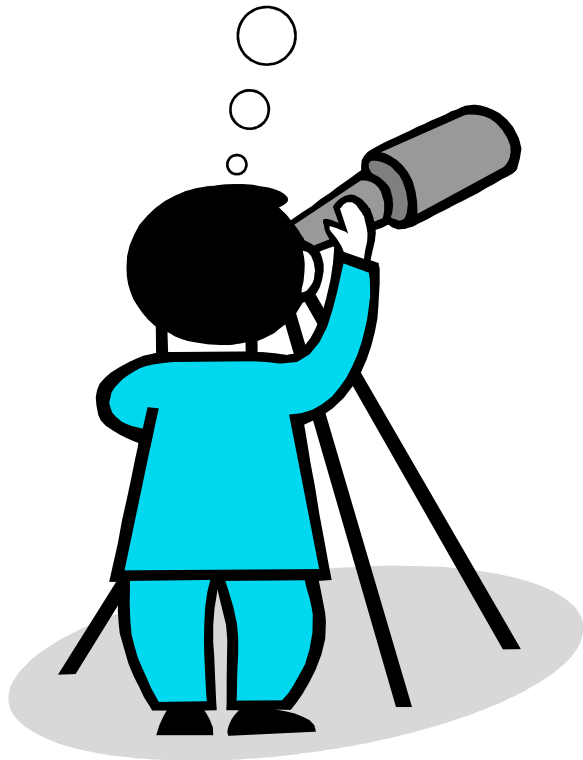




Global Safety Data



**Is it really
“transparent” ???**



OBJECTIVE

To discuss the need for transparency of safety information as a means to further improve safety of air transport, identifying associated efforts by ICAO.

OVERVIEW

- Need for transparency
- ICAO Efforts
- Safety data collection systems
- Protection of safety information



OVERVIEW

- Need for transparency
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NW255, MD82, Detroit, 1987



MDL 091, B-737, INDONESIA, 2005



- 5 Sep 2005, at 03:15 UTC
- Take-off configuration: Flaps and Slats retracted
- Improper checklist procedure
- Take-off warning horn not heard on the CAM channel of the CVR.

Spanair MD82, EC-HFP, Madrid, 2008



- 20 Aug 2008, at 14:24 LT
- Stall just after T/O
- 172 people on board: 154 killed / 18 Injured
- Configuration: Flaps 0°
- TOWS failure

ASRS

- At least four MD80 reports: Failed to extend flaps, rejected T/O due to TOWS
 - At least 37 similar reports from different types of aircrafts
-

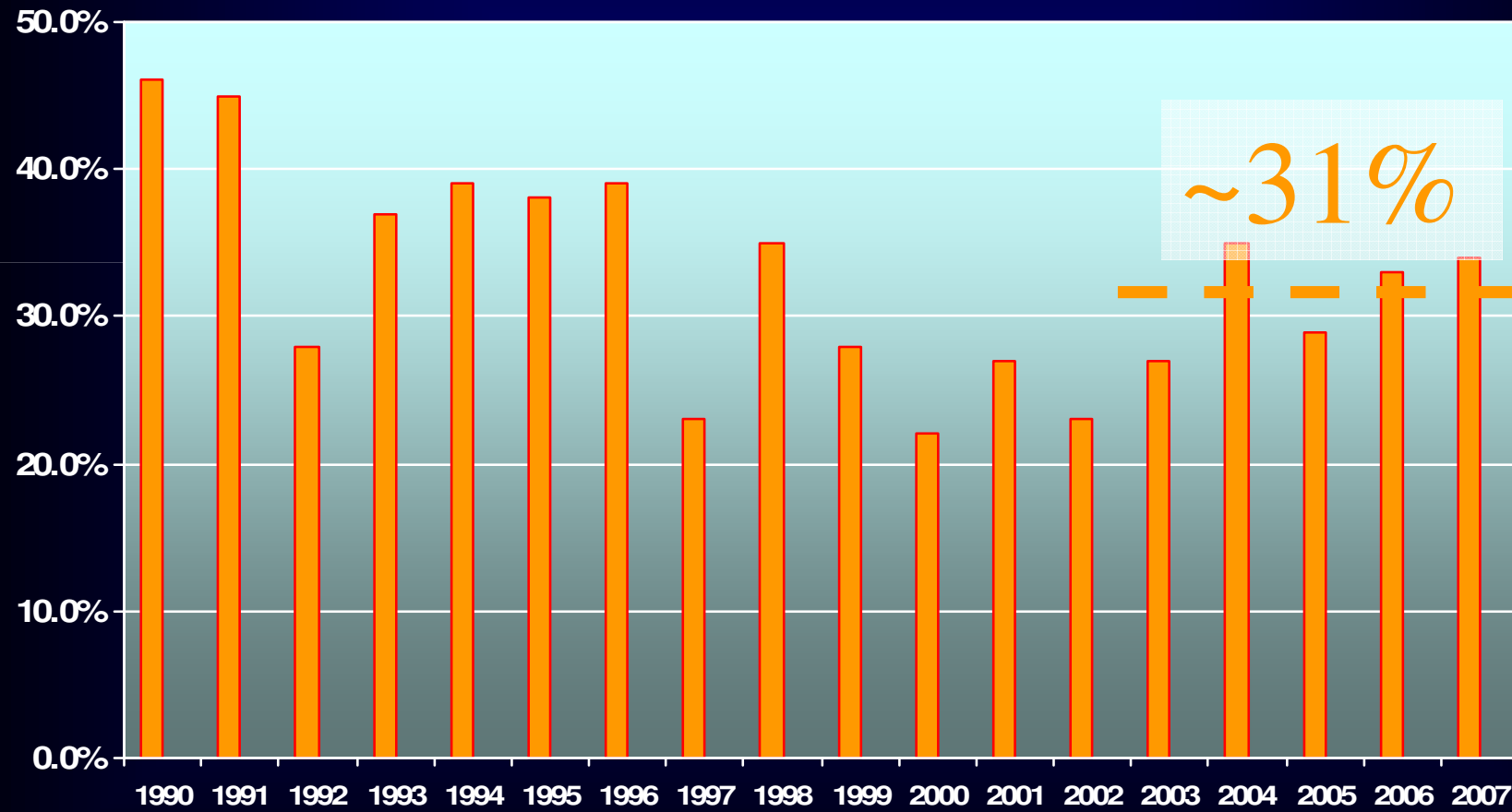
Accidents

1 - 5

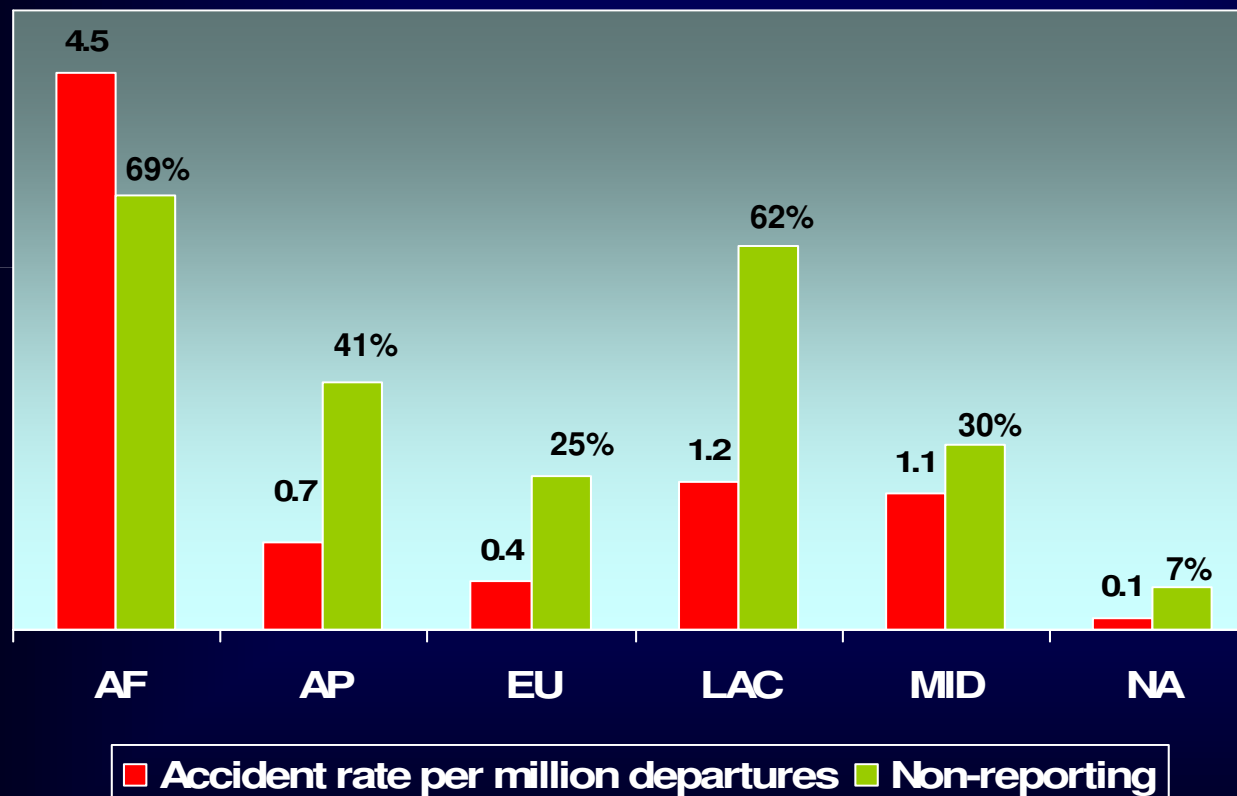


Accidents / serious incidents not officially notified to ICAO

Global Reporting Culture



ADREP Reporting Culture and Accident Rate by Region (1998-2007)



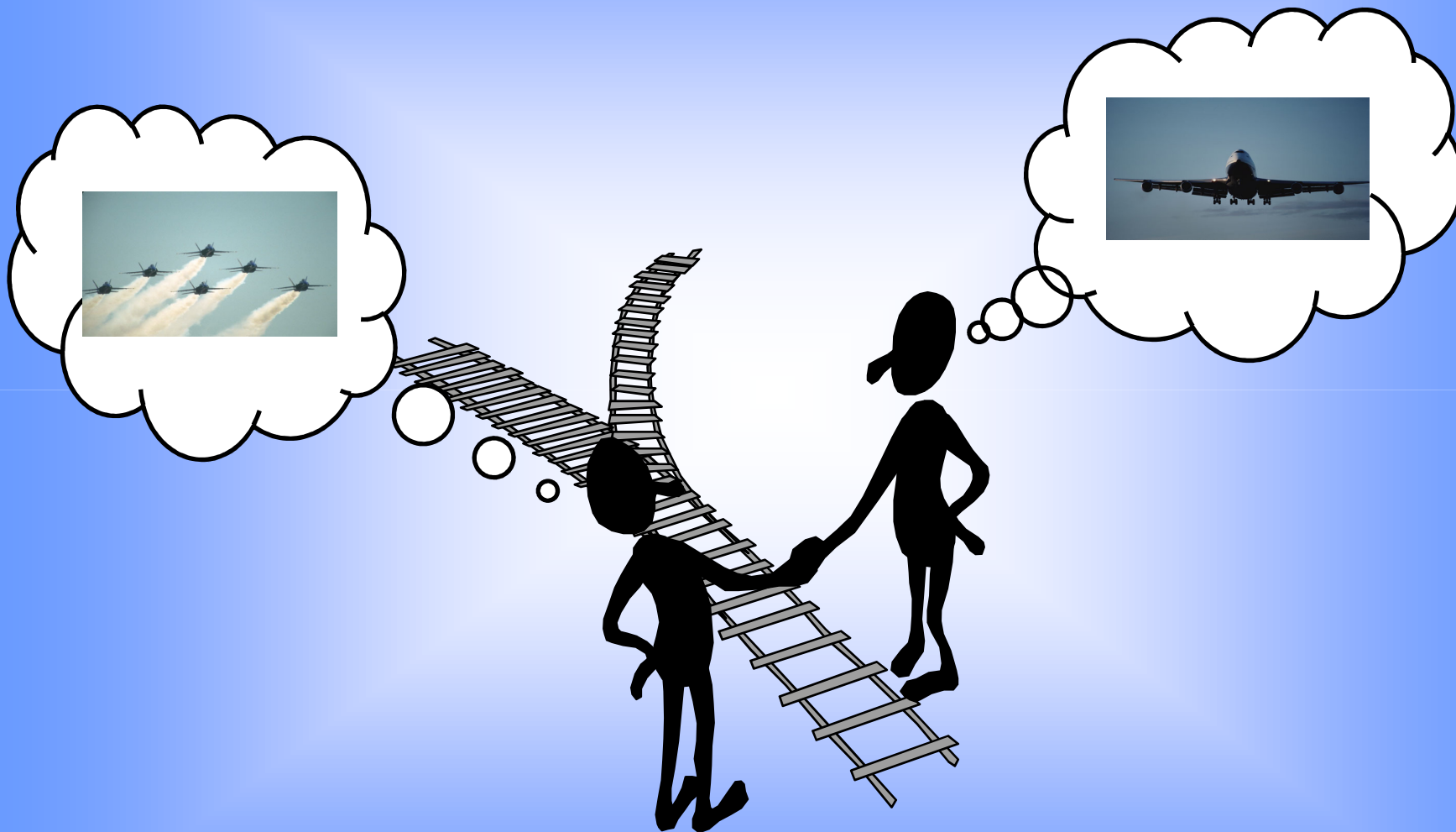
REG	Reported	Total
AFR	138	443
AP	371	629
EUR	1132	1502
LAC	193	503
MID	47	67
NA	3488	3738
WORLD	5369	6882





- **ICAO continues with ADREP/ECCAIRS training courses so that States are enabled to collect and analyse safety data and therefore improve the safety culture in their industry.**
- **An improvement in the safety culture of States will pave the way to sharing information and improving their reporting culture to ICAO.**

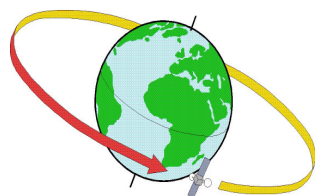
SAFETY INFORMATION IN BRAZIL



OVERVIEW

- Need for transparency
- ICAO Efforts
- Safety data collection systems
- Protection of safety information





FSIX

(Flight Safety Information Exchange)

<http://www.icao.int/fsix/sr.cfm>

[FSIX Home](#)

[Library](#)

[COSCAP/R500](#)

[GASP](#)

[FAQ](#)

Aircraft Accident and Incident Investigation - Links

[Accident Investigation and Prevention \(AIG\) - ICAO](#)

[Bureau d'Enquêtes et d'Analyses \(BEA\) - France](#)

[Accident/Incident Data Reporting System \(ADREP\) - ICAO](#)

[Civil Aviation Regulations: Investigation of Air Accidents and Incidents - UK](#)

[Addresses of Accident Investigation Authorities](#)

[Model MoU for Accident/Incident Investigations](#)

[Accident Investigation and Prevention Centre - Brazil](#)

NEW >>> [States' Safety Recommendations Addressed to ICAO](#)

[Australian Transport Safety Bureau Aviation Investigation Reports](#)

[Transportation Safety Board of Canada - Aviation Occurance Reports](#)

Aircraft Accident and Incident Investigation - Documents

<i>Language</i>	<i>Title</i>	<i>Author</i>	<i>Date</i>
English	ICAO Annex 13: Aircraft Accident and Incident Investigation	ICAO	
English	ICAO Cir 298- AN/172 Training Guidelines for Aircraft Accident Investigators	ICAO	
English	ICAO Circular 285-AN/166: Guidance on Assistance to Aircraft Accident Victims and Their Families	ICAO	
English	ICAO Doc 9756: Manual of Aircraft Accident and Incident Investigation (Part I: Organization and Planning; V: Reporting)-Part I	ICAO	
English	ICAO Doc 9756: Manual of Aircraft Accident and Incident Investigation (Part I: Organization and Planning; V: Reporting)-Part IV	ICAO	

List of Accidents, State Recommendations and ICAO Actions
 Last updated: 4 Jun 2008

<i>State</i>	<i>Recomm. Area</i>	<i>Aircraft Involved</i>	<i>Accident Description</i>	<i>Accident Synopsis</i>	<i>State Recommendation(s)</i>	<i>ICAO Action(s)</i>	<i>Final report</i>
1	Australia	Aircraft Service Information	-	Investigation into maintenance and safety deficiencies	en	en	en
	"	Airworthiness Standards	"	"	"	en	"
	"	Ballistic Parachutes	Cessna 172 and TL Ultralight TL-2000	Mid-air collusion	en	en	en
	"	"	"	"	"	en	"
	"	"	"	"	"	en	"
2	Belgium	Defibrillators	Boeing 737-800	Pilot incapacitation due to medical causes	en	The International Civil Aviation Organisation (ICAO) should make the US FAA proposals with regard to the carriage and use of Automatic External Defibrillators (Section 121.803 as contained in paragraph 1.5.2 of this report) a standard for all carriers under ICAO, Annex 6.	en
	"	"	"	"	"	The International Civil Aviation Organisation (ICAO) should make the US FAA proposals with regard to the training in the use of Automatic External Defibrillators (Section 121.805 as contained in paragraph 1.5.3 of this report) a standard for all	"

FSIX Home

Library

COSCAP/RSOO

GASP

FAQ

Safety Oversight Information

[Airworthiness Information](#)

[Aircraft Registration Links](#)

[Audit Results \(1999-2004\)](#)

[Audit Results-Comprehensive Systems Approach](#)

[Audit Results-States' Consent](#)

Download forms:

Progress Report Subsequent to a CSA audit
(SOA/QMSF-007-39)

[en](#)

[fr](#)

[es](#)

[Universal Safety Oversight Audit Programme
\(USOAP\) Secure Site](#)

[Deregistration Notifications of Aircraft](#)

[Global Aviation Safety Roadmap - Part 1](#)

[en](#) [es](#)

[Global Aviation Safety Roadmap - Part 2
\(Implementation\)](#)

[en](#) [es](#)

[ICAO Global Aviation Safety Plan](#)

[ar](#)

[zh](#)

[en](#)

[fr](#)

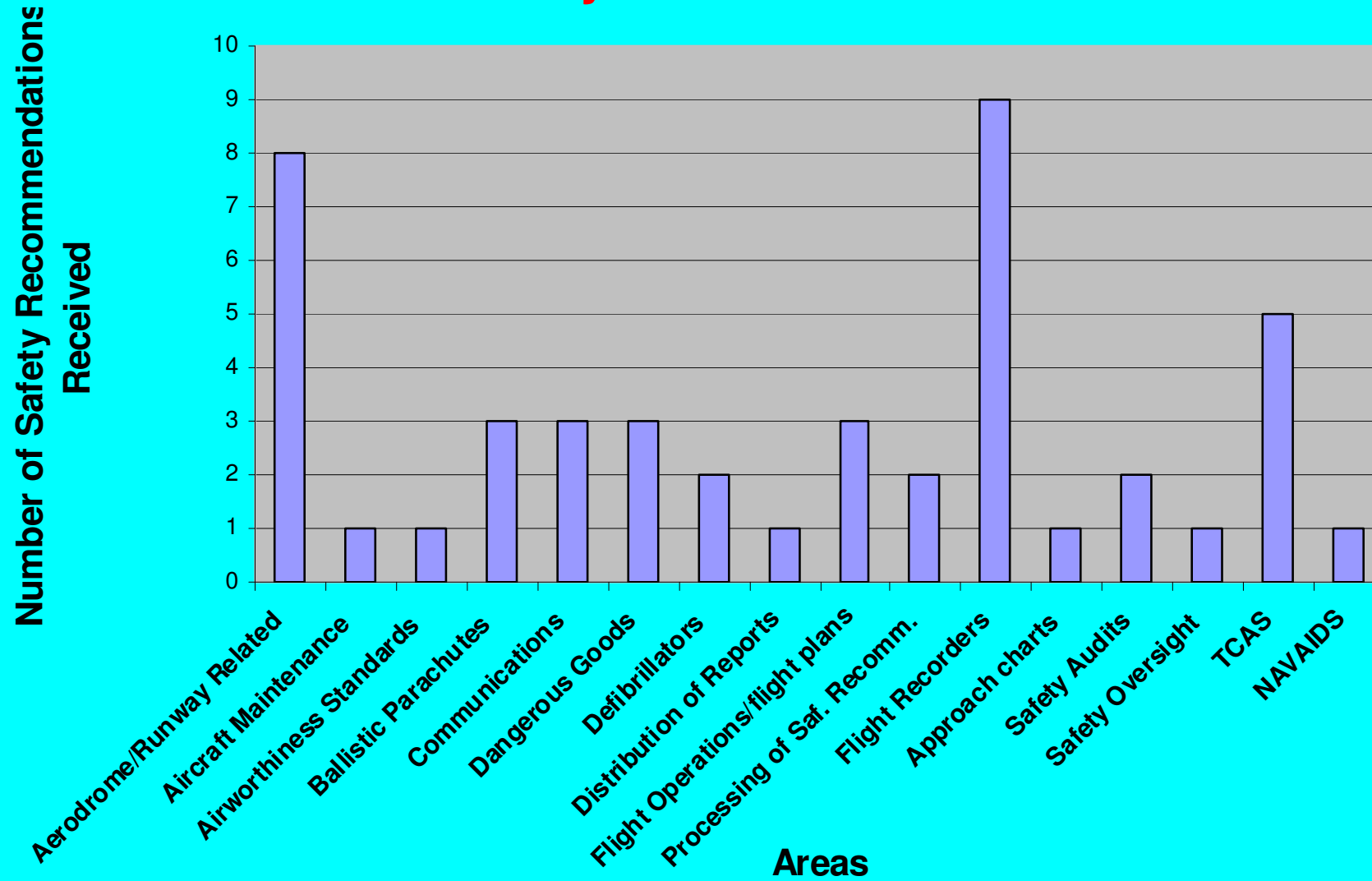
[ru](#)

[es](#)

SAFETY RECOMMENDATIONS TO ICAO

- **Since 2004 - 46 Safety recommendations in some 25 reports**
- **In 2008 - 8 Safety Recommendations in 5 reports**

Areas of Safety Recommendations to ICAO





- Database with Safety Recommendations on FSIX at:
<http://www.icao.int/fsix/sr.cfm>
- Available since 5 June 2008

London City Airport

- **Hawker 800XP experienced loss of heading information after take-off.**
- **Discovered magnetic interference at holding point – large metal objects in airport holding area support structure.**
- **Safety Recommendation to amend Annex 14 related to magnetic interference of airport structures.**

London City Airport

ICAO Action

- **Secretariat will further study effect of aerodrome magnetic anomalies on aircraft operations through the Aerodromes Panel.**



A

N

N

E

X

13

International Standards
and Recommended Practices



Annex 13
to the Convention on
International Civil Aviation

Aircraft Accident and Incident Investigation

This edition incorporates all amendments adopted by the Council prior to 27 February 2001 and supersedes, on 1 November 2001, all previous editions of Annex 13.

For information regarding the applicability of Standards and Recommended Practices, see Chapter 2 and the Foreword.

Ninth Edition
July 2001

International Civil Aviation Organization

Chapter 8, Accident Prevention Measures

Note.—The objective of these specifications is to promote accident prevention by analysis of accident and incident data and by a prompt exchange of information.

Incident reporting systems

8.1 A State shall establish a mandatory incident reporting system to facilitate collection of information on actual or potential safety deficiencies.

8.2 **Recommendation.**—*A State should establish a voluntary incident reporting system to facilitate the collection of information that may not be captured by a mandatory incident reporting system.*

8.3 A voluntary incident reporting system shall be non-punitive and afford protection to the sources of the information.

Note 1.—A non-punitive environment is fundamental to voluntary reporting.

Note 2.—States are encouraged to facilitate and promote the voluntary reporting of events that could affect aviation safety by adjusting their applicable laws, regulations and policies, as necessary.

Note 3.—Guidance related to both mandatory and voluntary incident reporting systems is contained in the Accident Prevention Manual (Doc 9422).

Chapter 8, Accident Prevention Measures

Database systems

8.4 Recommendation.— *A State should establish an accident and incident database to facilitate the effective analysis of information obtained, including that from its incident reporting systems.*

8.5 Recommendation.— *The database systems should use standardized formats to facilitate data exchange.*

Note 1.— *Guidance material related to the specification for such databases will be provided by ICAO upon request from States.*

Note 2.— *States are encouraged to foster regional arrangements, as appropriate, when implementing 8.4.*

Analysis of data — Preventive actions

8.6 A State having established an accident and incident database and an incident reporting system shall analyse the information contained in its accident/incident reports and the database to determine any preventive actions required.

Note.— *Additional information on which to base preventive actions may be contained in the Final Reports on investigated accidents and incidents.*

8.7 Recommendation.— *If a State, in the analysis of the information contained in its database, identifies safety matters considered to be of interest to other States, that State should forward such safety information to them as soon as possible.*

8.8 Recommendation.— *In addition to safety recommendations arising from accident and incident investigations, safety recommendations may result from diverse sources, including safety studies. If safety recommendations are addressed to an organization in another State, they should also be transmitted to that State's investigation authority.*

Chapter 8, Accident Prevention Measures

Exchange of safety information

8.9 Recommendation.— *States should promote the establishment of safety information sharing networks among all users of the aviation system and should facilitate the free exchange of information on actual and potential safety deficiencies.*

Note.— *Standardized definitions, classifications and formats are needed to facilitate data exchange. Guidance material on the specifications for such information-sharing networks will be provided by ICAO upon request.*



OVERVIEW

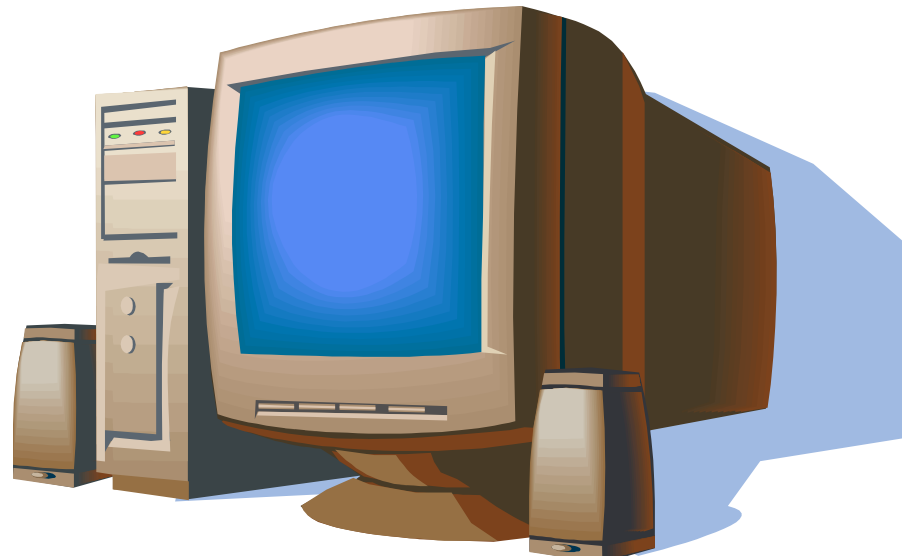
- Need for transparency
- ICAO Efforts
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ICAO – ADREP

- ▶ **ADREP – Accident Incident Data Reporting System**
- ▶ **Established in 1976 and contains occurrences from 1970 to today**
- ▶ **A database of accidents and serious incidents reported to ICAO by States**

ADREP SYSTEM



Over 36 000 REPORTS



ECCAIRS software

- **Developed by the European Union in cooperation with ICAO**
- **English and French versions available**

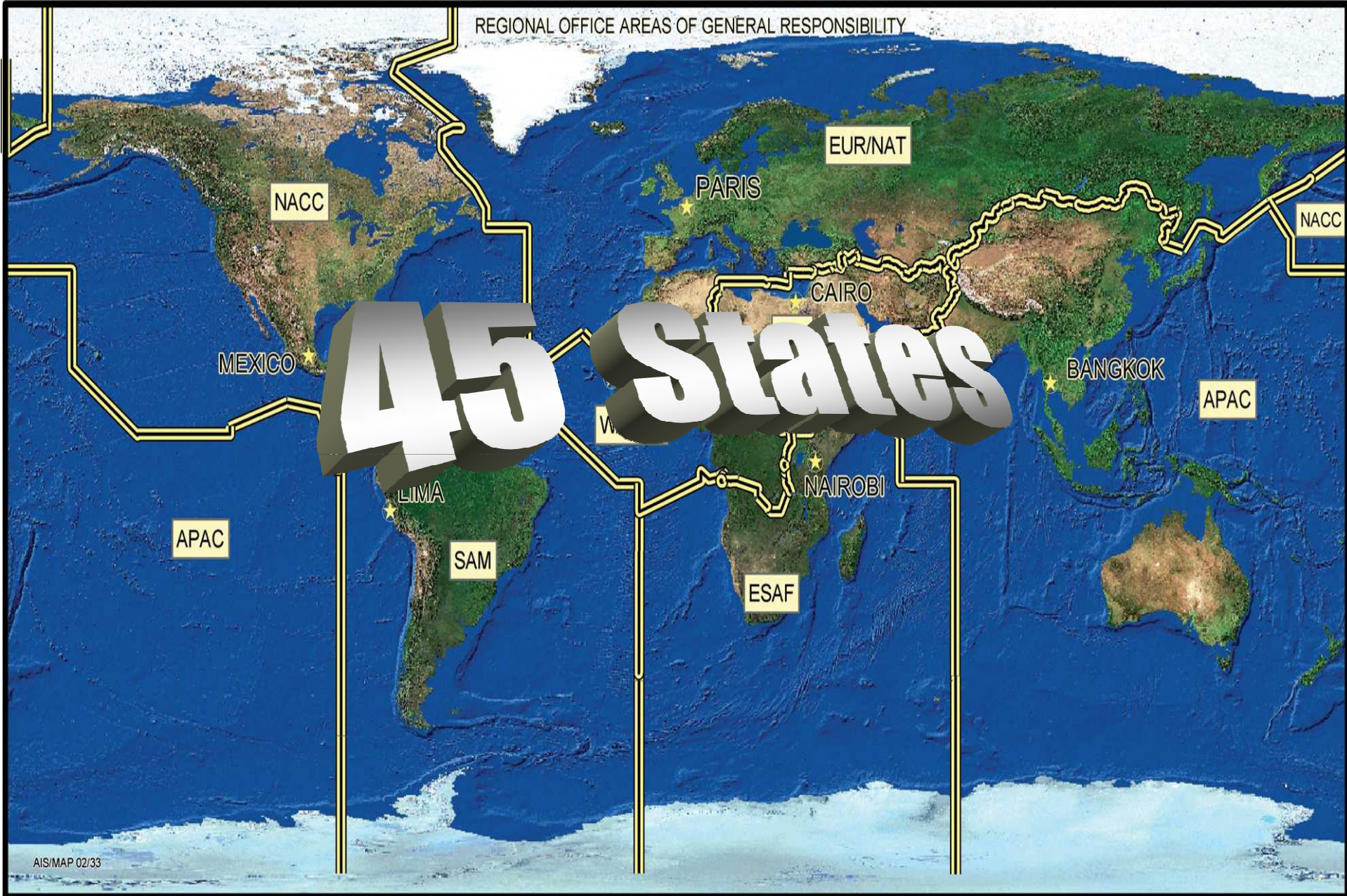
**EUROPEAN CO-ORDINATION CENTRE
FOR AVIATION INCIDENT REPORTING SYSTEMS**

ECCAIRS

Available to States at no cost!!

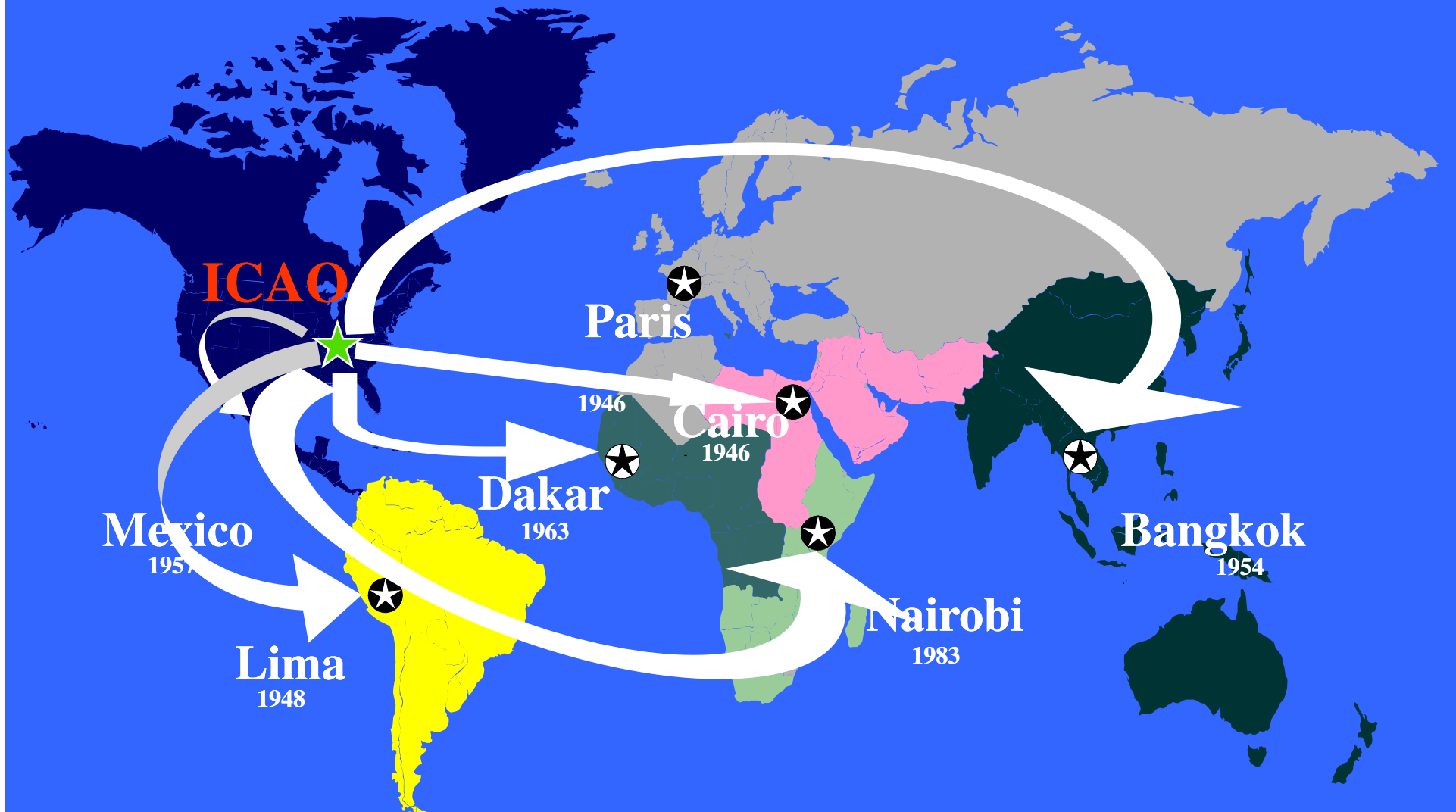


REGIONAL OFFICE AREAS OF GENERAL RESPONSIBILITY

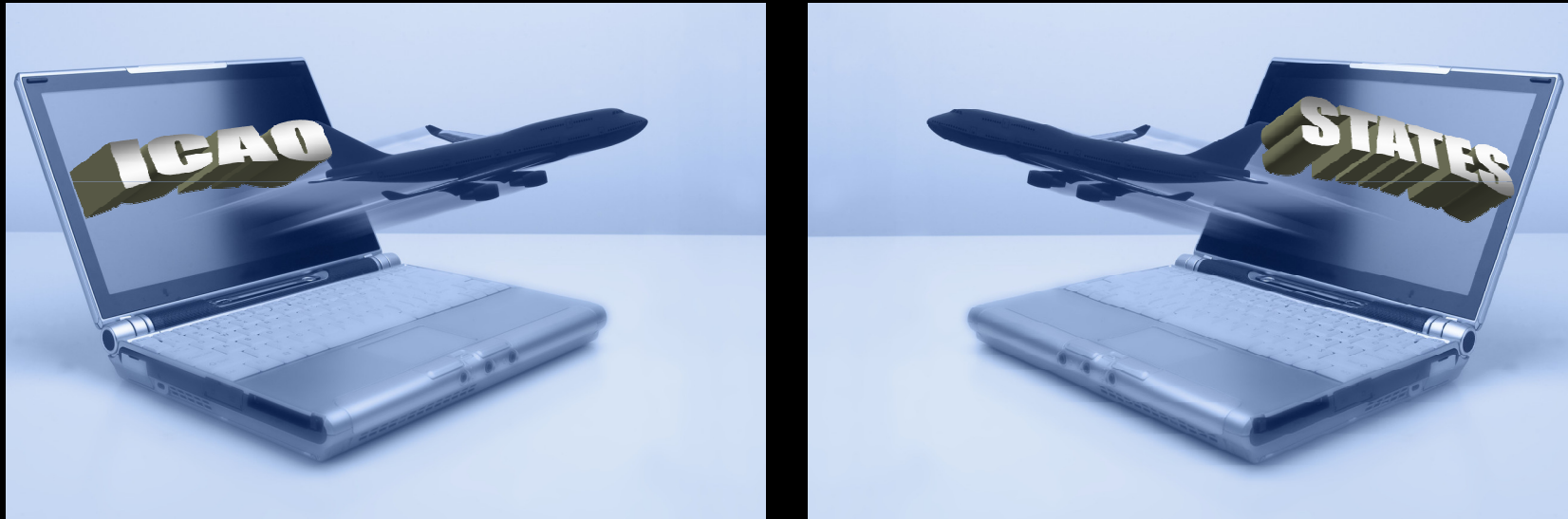


45 States

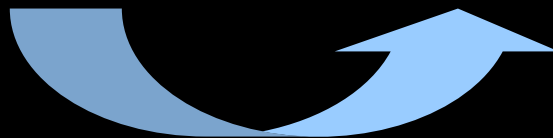
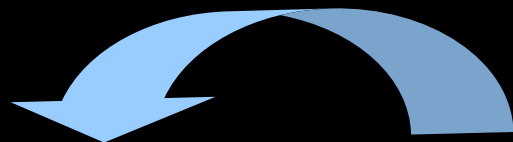
ECCAIRS software



EXCHANGE OF SAFETY DATA



ECCAIRS



OVERVIEW

- Need for transparency
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Legal Guidance



Orientação Jurídica



23 Nov 2006

Legal Guidance

PROPOSED AMENDMENT TO
INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES
AIRCRAFT ACCIDENT AND INCIDENT INVESTIGATION
ANNEX 13
TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION

...

Insert new Attachment E as follows:

ATTACHMENT E. LEGAL GUIDANCE FOR THE PROTECTION OF
INFORMATION FROM SAFETY DATA COLLECTION AND PROCESSING SYSTEMS

1. Introduction

1.1 The protection of safety information from inappropriate use is essential to ensure its continued availability, since the use of safety information for other than safety-related purposes may inhibit the future availability of such information, with an adverse effect on safety. This fact was recognised by the 35th Assembly of ICAO, which noted that existing national laws and regulations in many States may not adequately address the manner in which safety information is protected from inappropriate use.

1.2 The guidance contained in this Attachment is therefore aimed at assisting States enact national laws and regulations to protect information gathered from safety data collection and processing systems (SDCPS), while allowing for the proper administration of justice. The objective is to prevent the inappropriate use of information collected solely for the purpose of improving aviation safety.

1.3 Because of the different legal systems in States, the legal guidance must allow States the flexibility to draft their laws and regulations in accordance with their national policies and practices.

1.4 The guidance contained in this Attachment, therefore, takes the form of a series of principles that have been distilled from examples of national laws and regulations provided by States. The concepts described in these principles could be adapted or modified to meet the particular needs of the State enacting laws and regulations to protect safety information.

1.5 Throughout this Attachment:

- a) *safety information* refers to information contained in SDCPS established for the sole purpose of improving aviation safety, and qualified for protection under specified conditions in accordance with 3.1, below;
- b) *operational personnel* refers to personnel involved in aviation operations who are in a position to report safety information to SDCPS. Such personnel include, but are not limited to, flight crews, air traffic controllers, aeronautical station operators, maintenance technicians, cabin crews, flight dispatchers and apron personnel;

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- Because of the different legal systems in States, the legal guidance must allow States the flexibility to draft their laws and regulations in accordance with their national policies and practices



Orientação Jurídica

PROPOSED AMENDMENT TO
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- Objetiva assistir aos Estados na promulgação de leis e regulamentos nacionais para a proteção de informações obtidas através de sistemas de processamento de dados para a segurança de vôo, permitindo ao mesmo tempo que haja uma adequada administração da Justiça.

- Devido à existência de diferentes sistemas jurídicos nos Estados, esta orientação jurídica deve dar aos mesmos a flexibilidade de redigir suas leis e regulamentos de acordo com as normas e políticas nacionais.



- **The sole purpose of protecting safety information from inappropriate use is to ensure its continued availability so that proper and timely preventive actions can be taken and aviation safety improved.**
- **It is not the purpose of protecting safety information to interfere with the proper administration of justice in States.**
- **Safety information should not be used in a way different from the purposes for which it was collected.**



PRINCÍPIOS

- A proteção das informações de segurança de vôo contra o uso inapropriado tem como único propósito assegurar a sua contínua disponibilidade, a fim de que possam ser adotadas ações de prevenção adequadas e oportunas, como também haver uma melhoria da segurança de vôo.
- A proteção das informações de segurança de vôo não tem o propósito de interferir na devida administração da Justiça nos Estados.
- As informações de segurança de vôo não deverão ser usadas com propósitos diferentes daqueles para os quais foram coletadas.

➤ **Exceptions to the protection of safety information should only be granted by national laws and regulations when:**

- There is evidence or an appropriate authority considers that circumstances reasonably indicate that the occurrence was caused by an act considered to be conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct or gross negligence.

- A review by an appropriate authority determines that the release of the safety information is necessary for the proper administration of justice, and that its release outweighs the adverse domestic and international impact such release may have on the future availability of safety information.



PRINCÍPIOS de EXCEÇÃO

Exceções à proteção das informações de segurança de vôo deverão ser previstas em leis e regulamentos nacionais apenas quando:

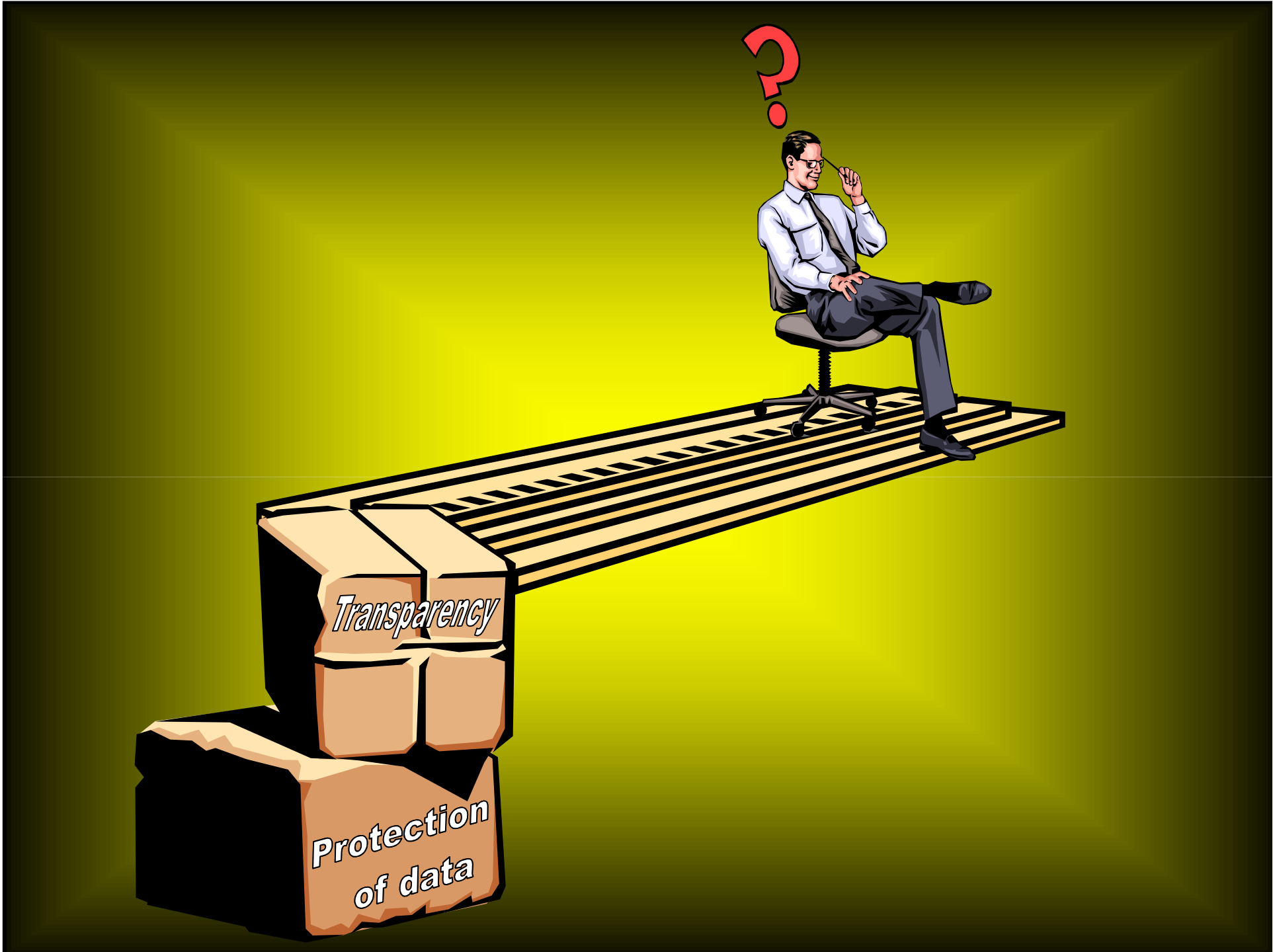
- Houver evidência, ou uma autoridade competente considerar que houve indícios, de que a ocorrência foi causada por um ato considerado como intencional com o objetivo de causar dano, ou com o conhecimento de que o dano provavelmente ocorreria, equivalente a imprudência, negligência grave ou ato doloso.
- Uma autoridade competente determine que a divulgação (“acesso”) das informações de segurança de vôo é necessária à adequada administração da Justiça, e que tal divulgação sobrepuja o impacto internacional e doméstico que poderá haver na disponibilidade daquelas informações no futuro.



OVERVIEW

- Need for transparency
- ICAO Efforts
- Safety data collection systems
- Protection of safety information









CIRCULAR 95-AN/78/8

ICAO CIRCULAR
2008

THE CONTINUING AIRWORTHINESS OF AIRCRAFT IN SERVICE

**Codes of Airworthiness Used by Different States,
Methods of Handling and Exchange of
Information on Airworthiness Directives
(or their Equivalent), Details of Systems
Used in States for Reporting of Information on
Faults, Defects and Malfunctions and List of the Design
Organizations Responsible for the Type Design/
the Continuing Airworthiness of Aircraft**

**(Eighth Edition)
updated April 2008**

Approved by the Secretary General
and published under his authority