



The preventive approach to safety oversight State Aviation Safety Plan & European Aviation Safety Plan

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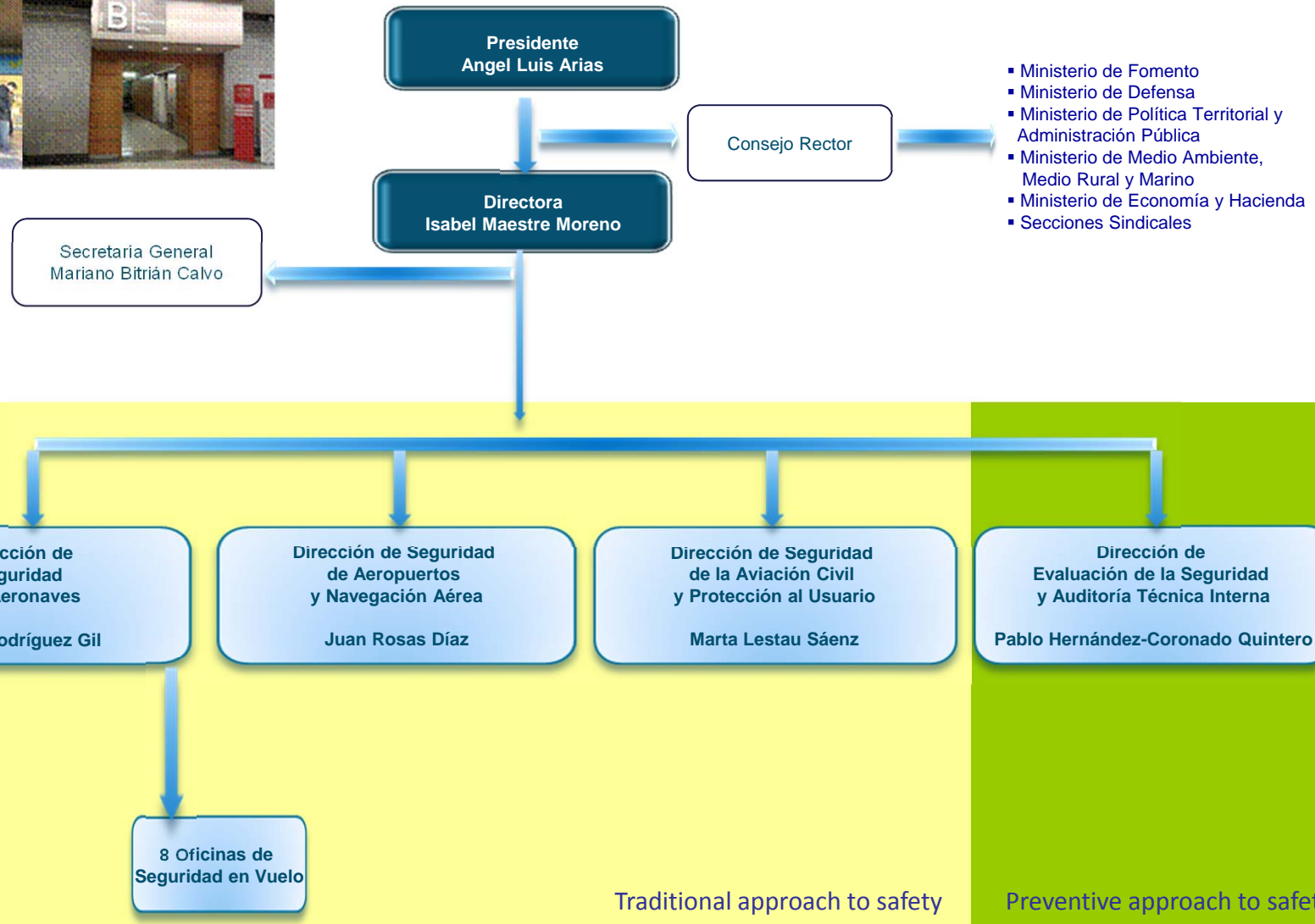
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Koln, 29th May 2012

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SPANISH AVIATION SAFETY AGENCY (AESA)



WORKING WITH SPANISH AVIATION AUTHORITIES

- ❑ In Spain, AESA is leading the development of the State Safety Programme for Civil Aviation
- ❑ However, there are other Spanish authorities involved in the State Safety Programme:
 - ➔ DGAC: General Directorate of Civil Aviation
 - ➔ CIAIAC, Spanish Accident Investigation Authority
 - ➔ Ministry of Environment, Rural & Marine Affairs, the Secretary of State for Climate Change is the National Supervisory Authority (NSA) for the meteorological service provider for air navigation
 - ➔ Ministry of Defence NSA for military air navigation and aerodrome service provider
- ❑ AESA has celebrated ad-hoc meetings with other Spanish authorities to prepare the legislative SSP/SMS framework



STATE SAFETY PROGRAMME REGULATIONS

- ❑ After performing a robust ICAO gap analysis, Spanish Government decided to amend Aviation Safety Act 21/2003

- ➔ “Act 1/11, March 4th, State Safety Programme for Civil Aviation”
 - Art. 11: Spanish State Safety Programme
 - Art. 12, 18: Safety information protection
- ➔ Safety data flow is key to building SSP



- ➔ Royal Decree:
 - Aviation organizations involved in the Programme: responsibilities, accountabilities & coordination
 - Service and product providers obliged by the Programme: Enforcement policy
 - AESA's role in the Programme
 - Accountable executive role (named by Council of Ministers)
 - Procedure for preparing, processing, approving, promoting and reviewing the Programme

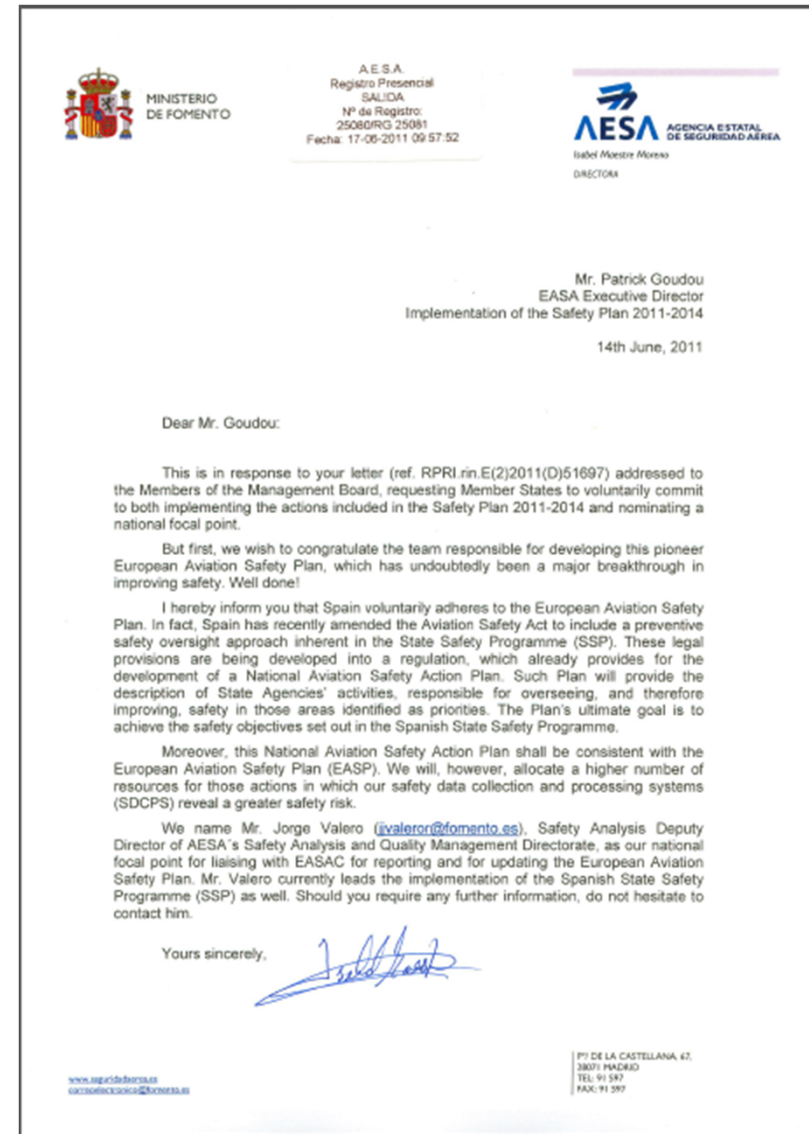
- ➔ Agreement of the Council of Ministers:
 - Safety policy & objectives
 - State Safety Programme Manual & SSp

STATE SAFETY PROGRAMME



SOME IMPORTANT REMARKS

- ❑ **EASP & EASp ARE AN ENORMOUS STEP TO IMPROVE EUROPEAN SAFETY**
- ❑ **SPAIN, THROUGH A LETTER SIGNED BY AESA DIRECTOR, COMMITTED TO IMPLEMENT EASp:**
 - ➔ **We will, however, allocate more resources to those actions in which our safety data collection & processing systems (SDCPS) reveal a greater safety risk in Spain**



BRIDGE BETWEEN SSP & EASP:

European Commission's responsibilities are to establish

- SMS requirements
- SMS oversight requirement
- European safety objectives
- European Safety Plan to reach above safety objectives



State Members' responsibilities are to

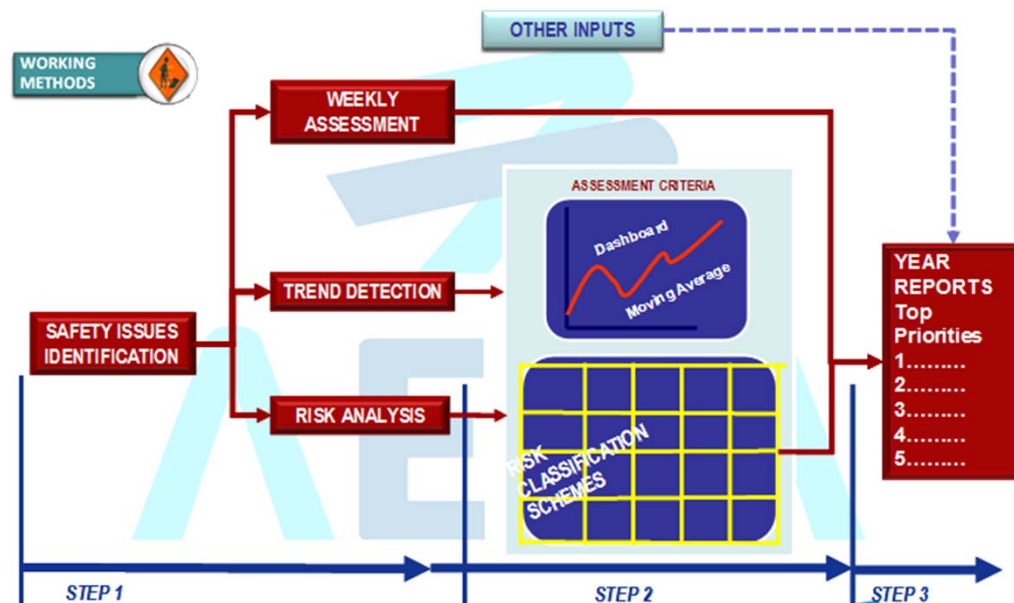
- Oversight SMS requirements fulfillment
- Apply oversight requirement in their inspections & audits
- Establish national safety objectives & Agree service providers' safety objectives in accordance with European safety objectives
- Establish national Safety Plan

❑ SYSTEMIC ISSUES

- ✈ WORKING WITH SPANISH AVIATION AUTHORITIES
- ✈ WORKING WITH SERVICE PROVIDERS TO FOSTER SMS IMPLEMENTATION

❑ OPERATIONAL & EMERGING ISSUES

- ✈ METHODOLOGY TO IDENTIFY OPERATIONAL ISSUES



STATE AVIATION SAFETY PLAN FRAMEWORK

SYSTEMIC ISSUES



WORKING WITH SERVICE PROVIDERS TO FOSTER SMS IMPLEMENTATION

□ Air Operators WG to foster SMS implementation:

- AESA with airplane & helicopter air carriers
- Integrated gap analysis was made to identify critical SMS issues
- Deliverables:
 - SMS Implementation Guidance Material
 - SMS Inspection & Certification Guidance Material



WORKING WITH SERVICE PROVIDERS TO FOSTER SMS IMPLEMENTATION

Committee of Aircraft Safety Experts. SMS Study Committee (Airlines Associations, Pilots & Engineers)

✈ Deliverables:

- Air Operators Safety Performance Indicators
- Air Operators Occurrence Reporting System Guidance
- EU-OPS 1.037; FDM/FOQA Guidance
- SMS Implementation Guidance
- Risk Assessment Methodology (on going)
- Just Culture (on going)



WORKING WITH SERVICE PROVIDERS TO FOSTER SMS IMPLEMENTATION

❑ Initiatives to identify & select safety performance indicators:

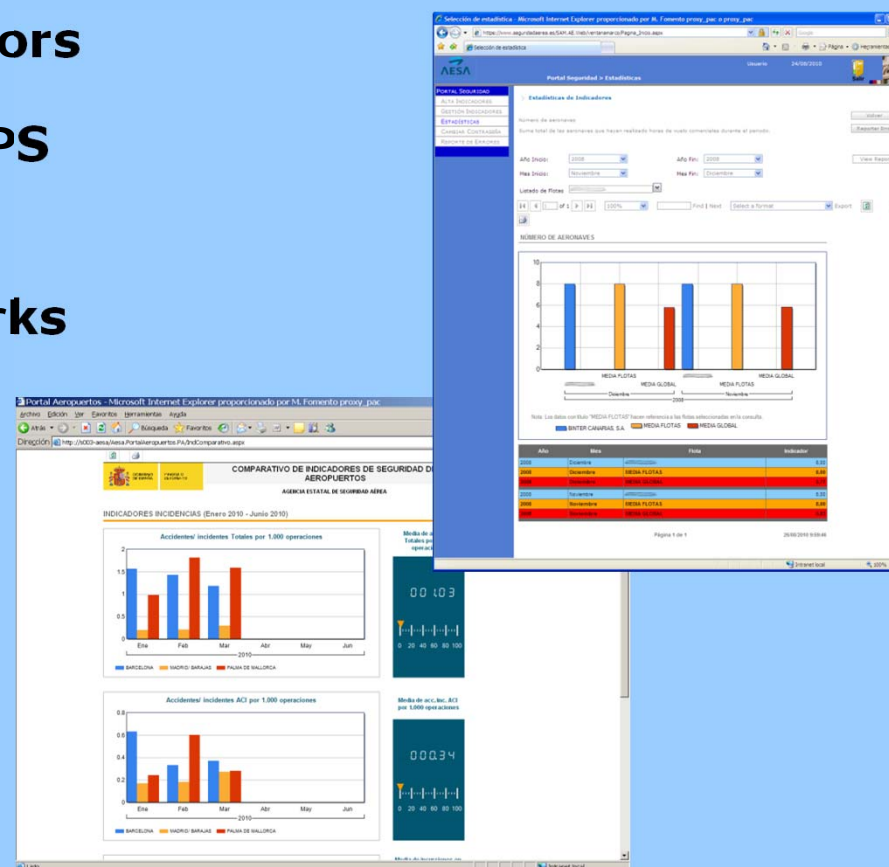


Safety Performance Indicators Programme:

- ➔ Air Operators; CAW + OPS
- ➔ Airports
- ➔ Navigation
- ➔ Helicopters & Aerial Works

Safety Data Analysis Tools

- ➔ Airlines portal
- ➔ Air navigation portal
- ➔ Airports portal



SAFETY INFORMATION PROTECTION

□ Principles of information protection

- SSP collected information is gathered for the sole purpose of enhancing safety
- The Law prevents inappropriate use



- Law protects the source of safety information against misuse by both public organisations obliged by the Programme and the employer
 - cannot be used as evidence valid for any type of administrative procedure, and
 - cannot be disclosed to the general public.
- However, this provision contains two exceptions:
 - Intentional conduct or gross negligence

By the mere act of reporting, an employee cannot suffer adverse action from his/her employer, unless it is proved that there has been bad faith by the employee: annulment of any decision taken by the employer

SAFETY INFORMATION PROTECTION

❑ Exceptions to the protection

Access to Information by the Judiciary:

- The court may take any measures to protect the information; in particular, it may prohibit any publication or communication.

Access to information by research parliamentary committees:

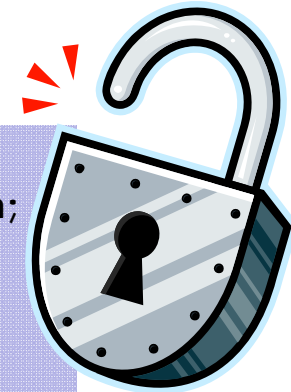
- AESA may request that the meetings of these committees be declared secret

Transfer of information by the aviation safety agency or the accidents investigation board in compliance with legal obligations of collaboration:

- In case of a legal obligation to cooperate; it is subject to reciprocal arrangements for confidentiality

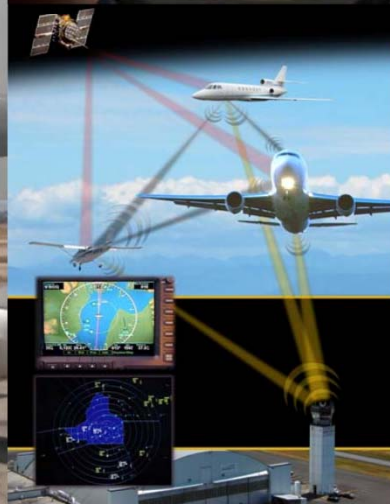
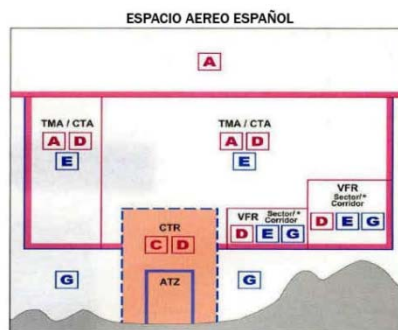
Transfer of information in case of safety issues:

- With the sole purpose of accidents prevention



STATE AVIATION SAFETY PLAN FRAMEWORK

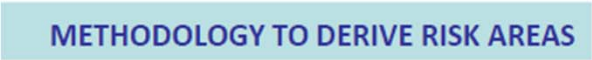
OPERATIONAL & EMERGING ISSUES



Código de Plantilla: F-DEA-FOR 01 2.0

- ❑ **PHASE I: Identify safety risk areas from safety data sources and/or international initiatives**
- ❑ **PHASE II: Safety information review to identify potential mitigation actions**
- ❑ **PHASE III: Hold workshops with Industry to agree and coordinate risk mitigation actions**
- ❑ **PHASE IV: Implement & monitor risk mitigation actions effectiveness**

PHASE I. SAFETY RISK AREAS



PHASE I. SAFETY RISK AREAS

RISK AREA	CODE TYPE	OCCURRENCE TYPE	RISK MATRI X	SSE	RATIO TYPE GROUP	2010-09 VARIATI ON	RISK AREA 2009
1	441	ENGINE SYSTEM FAILURE	+++	3,12E-03		46%	SI
2	271	OPERATIONS AT LOW ALTITUDE					
3	651	BIRD STRIKES					
	652	BIRD INGESTION					
4	661	EXTERNAL DISRUPTIONS (LASERS)					
5	333	ATC SYSTEM FAILURE (SACTA)					
6	311	TCAS NOTICES					
7	321	RUNWAY INCURSIONS					
8	334	AIRSPACE INFRINGEMENT					
9	112	HANDLING PROCEDURES					
10	111	VEHICLE CRASH INTO AN AIRCRAFT					

Weighted safety-data using:

☐ Accidents in which a Spanish aircraft is involved & accidents occurred in Spanish territory and

☐ Reported occurrences to the Mandatory & Voluntary Occurrence Reporting System

PHASE I. SAFETY RISK AREAS

SPANISH RISK AREAS	EASp RISK AREAS
TCAS II NOTICES (RA)	MID-AIR COLLISIONS (MAC)
AIRSPACE INFRINGEMENT	-
RUNWAY INCURSIONS (RI)	RUNWAY INCURSIONS (RI)
ATC SYSTEM FAILURE	-
HANDLING PROCEDURES	SAFETY OF GROUND OPERATIONS
VEHICLE CRASH INTO AN AIRCRAFT	
-	RUNWAY EXCURSIONS (RE)
-	CONTROLLED FLIGHT INTO TERRAIN (CFIT)
OPERATIONS AT LOW ALTITUDE	HELICOPTERS
-	LOSS OF CONTROL IN FLIGHT (LOC-I)
ENGINE SYSTEM FAILURE	GENERAL AVIATION (GA)
BIRD STRIKES	PART OF LOC-I
LASER DISRUPTIONS	EMERGING ISSUES

PHASE I. SAFETY RISK AREAS



Airport environment:
Handling



Aircraft operations:
Operations at low altitude, runway excursions (RE), CFIT



Air navigation service:
Runway incursions (RI), TCAS notices, airspace infringement, ATC system failures (SACTA)



Airworthiness:
Engine system failure in general aviation



Emerging issues:
Bird strikes, laser disruptions

PHASE II. SAFETY INFORMATION REVIEW

■ EC/ EASA

- EASp (European Aviation Safety Plan) 2011-2014
- ESSI (European Strategic Safety Initiative)

■ EUROCONTROL

- European Action Plan for the Prevention of Runway Incursions
- European Action Plan for Airspace Infringement Risk Reduction

■ ICAO

- ICAO doc. 9332 Manual on the ICAO Bird Strike Information System (IBIS)
- ICAO doc. 9815 Manual on Laser Emitters and Flight Safety

■ Other NAAs: i.e. CAA UK

- Significant Seven Risks Task Force Reports 2011
- Safety Plan 2011 - 2013

PHASE III. RISK MITIGATION ACTIONS

ACTORS

AVIATION AUTHORITIES			PROVIDER			ASSOCIATIONS	
INTERNATIONAL AUTHORITIES	NATIONAL AUTHORITIES		ANSP	AIRPORT	AIRCRAFT OPERATOR	USERS	PROFESSIONAL
ICAO	DGAC	AESA	AENA	AENA	IBERIA	ACETA	COPAC
EC/ EASA	CIAIAC/ Spanish AIB	NSA-MET	INECO	HANDLING	AIR EUROPA	AECA	SEPLA
EUROCONTROL		EMA	VUELING	IATA	APROCTA

5

5 GOLDEN RULES

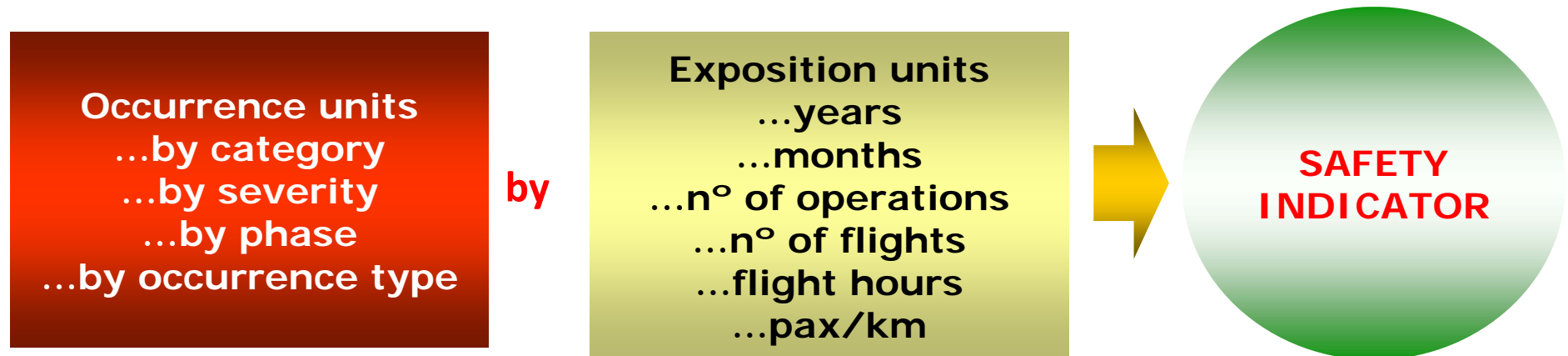


MITIGATION ACTIONS CLASSIFICATION (5 GOLDEN RULES)

C	COMMUNICATION	INFORMATION, DISSEMINATION AND AWARENESS
T	TRAINING	INSTRUCTION AND TRAINING
E	STANDARDISATION	REGULATION, CERTIFICATION, PROCEDURES, INSTRUCTIONS & STUDIES
T	TECHNOLOGY	AVIONICS, SAFETY NETS, GROUND & SATELLITE SYSTEMS
S	SURVEILLANCE	SURVEILLANCE, AUDIT & INSPECTION: COMPLIANCE & MONITORING SUPERVISION

PHASE IV. MITIGATION ACTIONS EFFECTIVENESS

- ❑ To evaluate safety performance
- ❑ To detect safety trends
- ❑ To evaluate safety mitigation actions effectiveness



DEFINITION	SOURCE	FRECUENCY	COMPARISON
Rate of runway incursions in case of A+B severity for each airport	Notifications Sucess report	Annual	All the airport network

SOME PROPOSALS TO IMPROVE...

☐ Review EASp using a safety data informed approach:

- ➔ Safety data provided by Member States must be coherent

☐ Improve coordination between EASA & Member States:

- ➔ Hold annually or semiannually ad-hoc meetings

☐ Merge EASp, European Union-wide safety performance targets & ESSIP (European Implementation Planning & Reporting) in a unique European plan....:



“European Action Plan for the prevention of Runway Incursions”

“European Action Plan for the prevention of Runway Excursions” (on going)

“European Action Plan for Airspace Infringement Risk Reduction”

“European Action Plan for the Prevention of Level Bust”

“European Action Plan for Air Ground Communications Safety”

QUESTIONS?



THANK YOU FOR YOUR ATTENTION

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