



**EASA**  
European Aviation Safety Agency

# EASA's Safety Risk Portfolios

## How we do risk based planning

*CASIAs Annual Meeting, 8-9 May 2017*

Rodrigo Priego, Senior Safety Management Officer, EASA

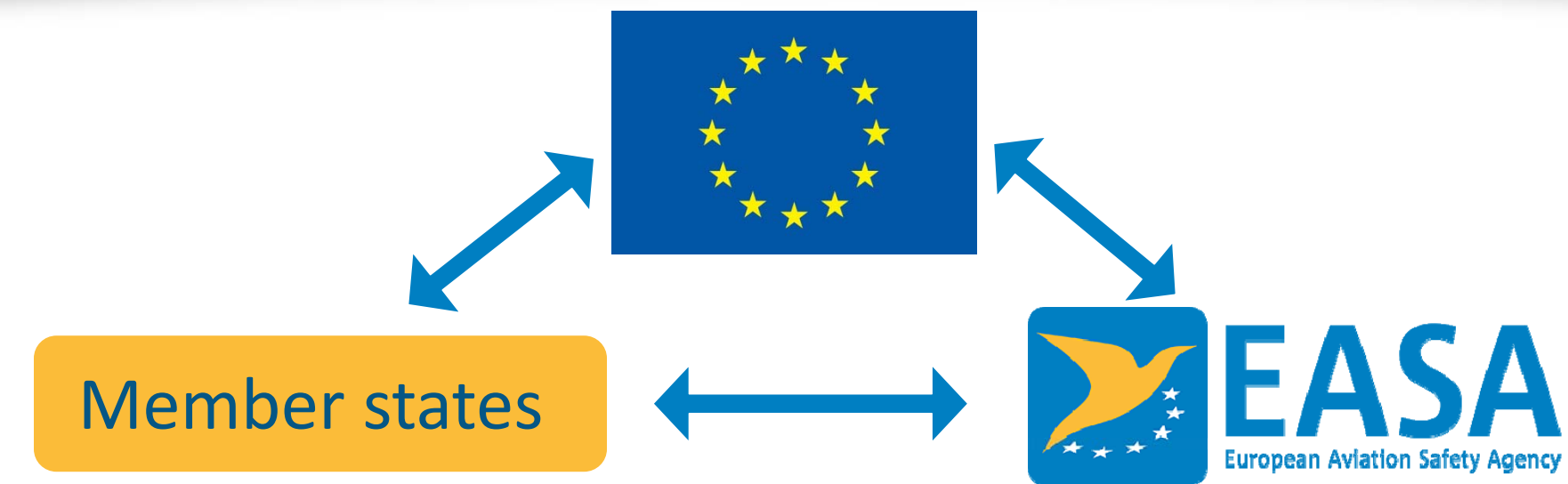
**Your safety is our mission.**

An agency of the European Union 

TE.GEN.00409-001



# Partnership with EU Member States



MS, EASA and EC work together to enact an SSP

European Aviation Safety Programme (EASP)



# Safety Management at EU Level

EASP

Comprehensive Safety Programme for the Region

Goals

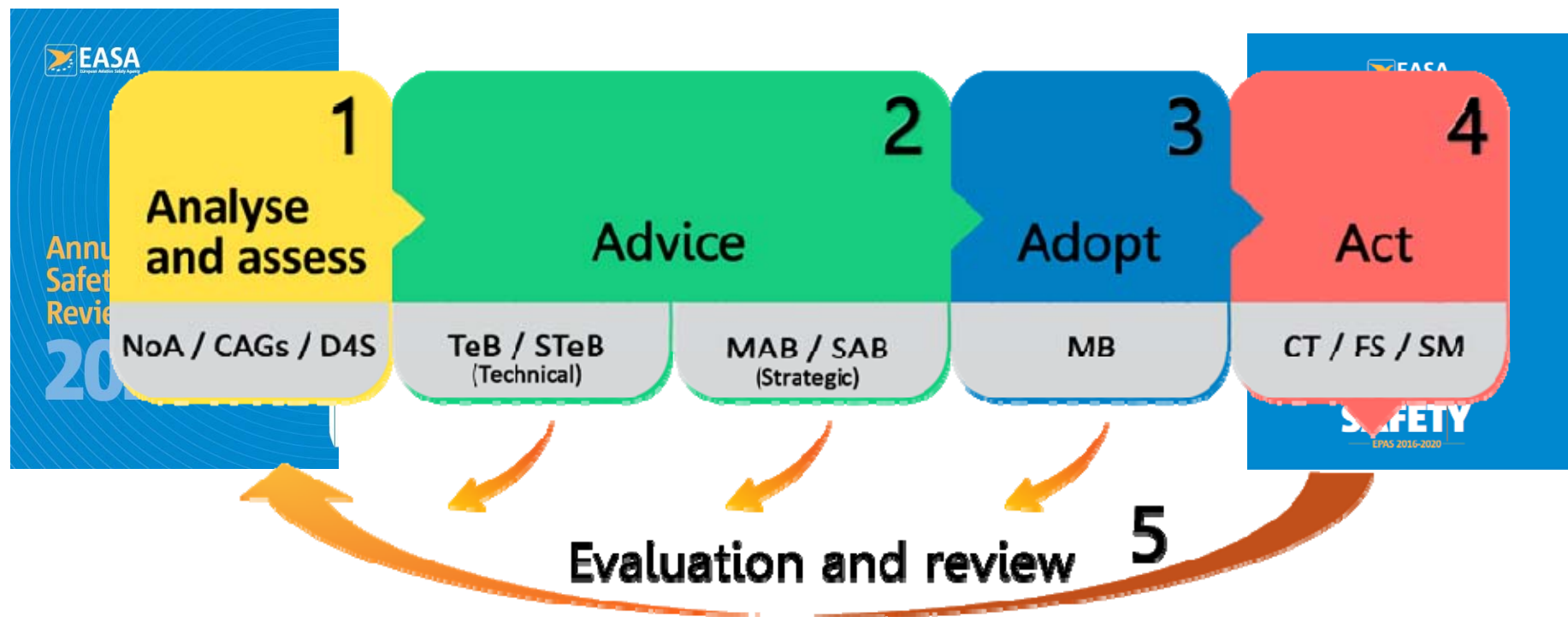
EC spells out the Strategy

EPAS

EASA facilitates risk mitigation and monitoring

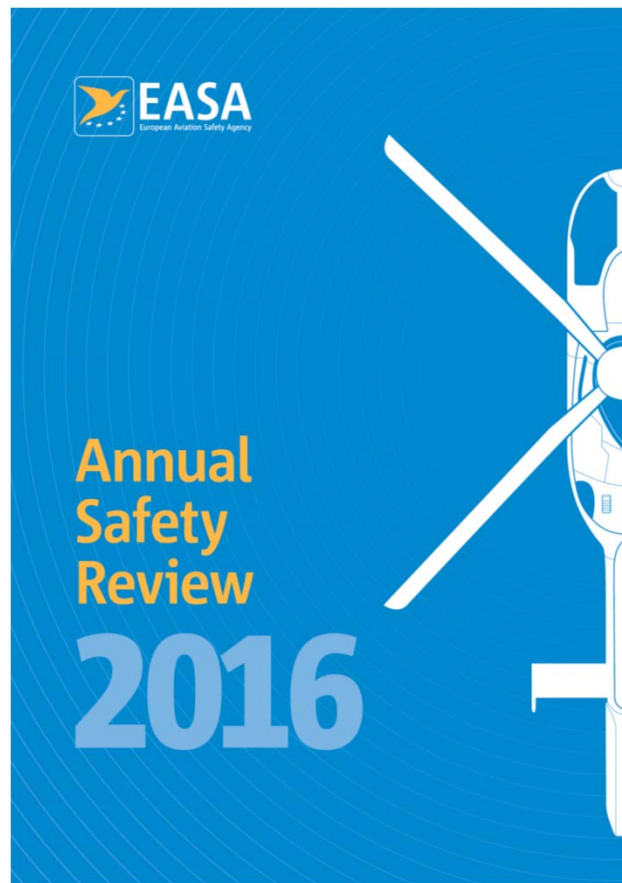


# The Engine: Safety Risk Management at EU level





# The Safety Review: All risks areas & issues in one place



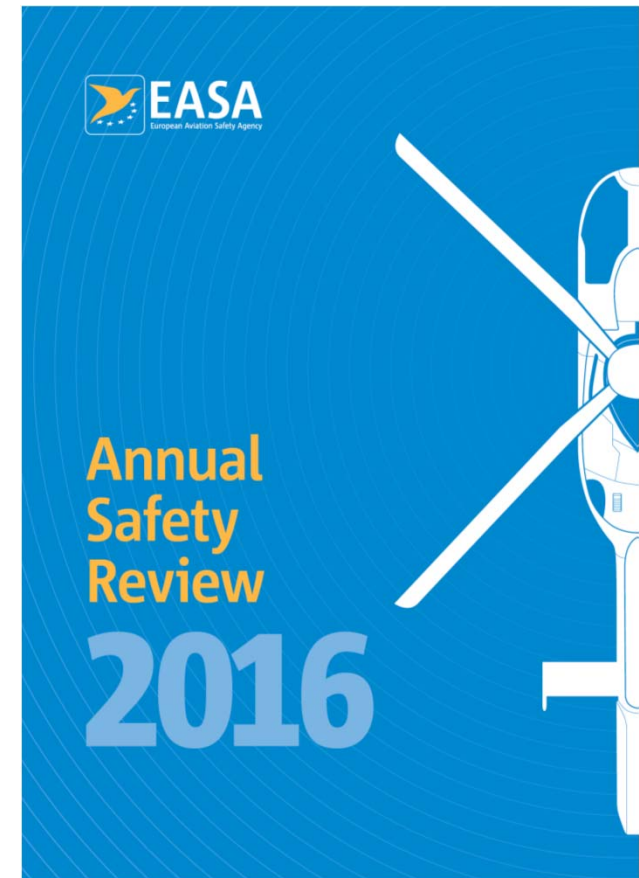
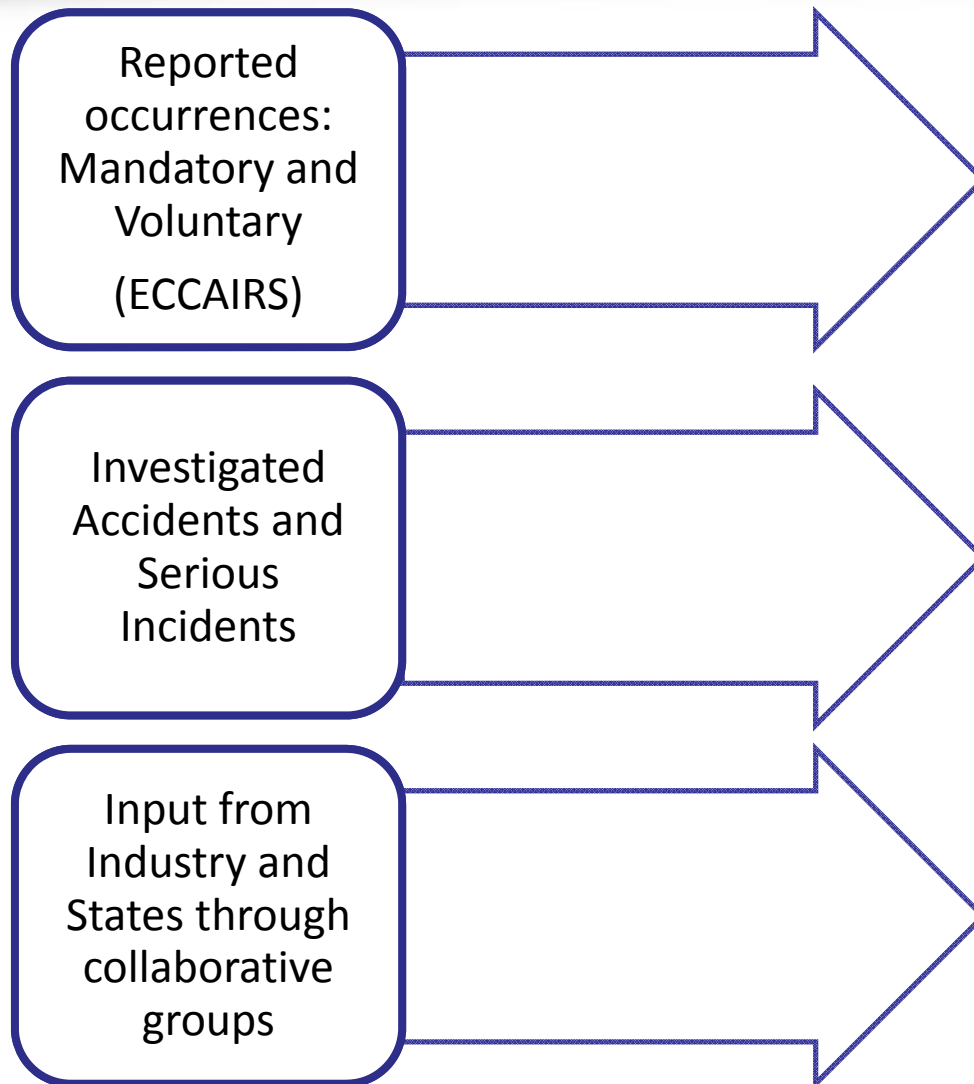
Safety Issues  
identified

Safety priorities  
identified

Safety Performance  
monitored

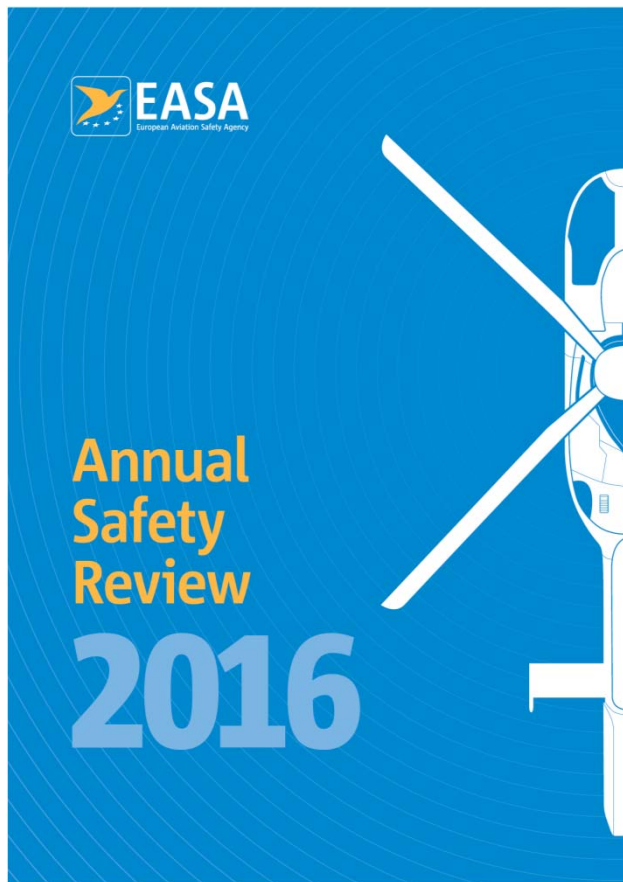


# The Safety Review: sources of information





# The Safety Review: Domain specific Safety Risk Portfolios



**Risk  
Areas**

**Safety  
Issues**

**Priorities**

	CAT Aeroplanes
	Offshore Helicopters
	Other CAT Helicopters
	Aerial Work/SPO – Aeroplanes
	Aerial Work/SPO – Helicopters
	Non-commercial Ops – Aeroplanes
	Non-commercial Ops – Helicopters
	Balloons
	Gliders
	RPAS



# New Safety Risk Portfolios

Under development



2017 - Aerodromes and  
Ground Handling



2017 - ATM/ ANS



2018 – Manufacturing/  
Maintenance/ Production



2018 - Human Factors





# 1 - CAT AEROPLANES SAFETY RISK PORTFOLIO

Key Statistics 2006-2015  
Fatal Accidents – 11  
Fatalities - 642

## Key Risk Areas



(1) Recognition and Recovery from Abnormal Attitudes	(2) Operation in Adverse Weather	(3) Handling of Technical Failures	(7) Aircraft Maintenance	(8) Fuel Management and Planning	(10) Birdstrikes
(4) Ground Handling Operations	(x) Wake Vortex Encounter	(x) Approach Path Management	(11) Handling of Go-Arounds	(12) Erroneous Data Parameters	(14) Damage Tolerance to UAS Collisions



(4) Ground Handling Operations	(5) Maintaining Safe Separation
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(1) Recognition and Recovery from Abnormal Attitudes	(2) Operation in Adverse Weather	(x) Approach Path Management	(9) False or Disrupted ILS Signal Capture	(11) Handling of Go-Arounds	(12) Erroneous Data Parameters
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(x) Wake Vortex Encounter	(x) Approach Path Management	(6) Flight Planning, Preparation and Re-Planning	(9) False or Disrupted ILS Signal Capture
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(2) Operation in Adverse Weather	(5) Maintaining Safe Separation	(6) Flight Planning, Preparation and Re-Planning
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(4) Ground Handling Operations	(15) Dangerous Goods Handling and Lithium Batteries
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(5) Maintaining Safe Separation	(6) Flight Planning, Preparation and Re-Planning	(13) Deconfliction with Aircraft Not Fitted with Transponders
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## Operational Issues

## HF

(a) Fatigue	(a) Mental Health
(a) Fumes	(a) Gastrointestinal Illness
(c) Decision Making and Planning	(b) Perception and Awareness
(f) Knowledge of Aircraft Systems and Procedures	(d) CRM and Communication
	(e) Monitoring of Flight Parameters/Automation

## Enablers

Regulation and Oversight
SMS Effectiveness
Occurrence Reporting (Reg 376)
Just Culture
Analysis and Safety Risk Management
Safety Performance Monitoring
Communication of Safety Intelligence

## Security

(x) Laser Illumination Effects	(x) Unruly Pax
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# From safety issues to actions

**Safety Risk Portfolio**

Safety Issues

**Safety Issue Assess.**

Preliminary Actions

**Preliminary Impact**

Actions in EPAS

Reported Occ  
& Inv. Reports

Oversight Info

Expert Input

Cost Info



Industry &  
Member States  
help EASA  
identify safety  
issues and  
provide  
technical and  
strategic advice  
before actions  
are  
programmed



# A multi-annual Safety Plan



**Rulemaking**

**Safety Promotion**

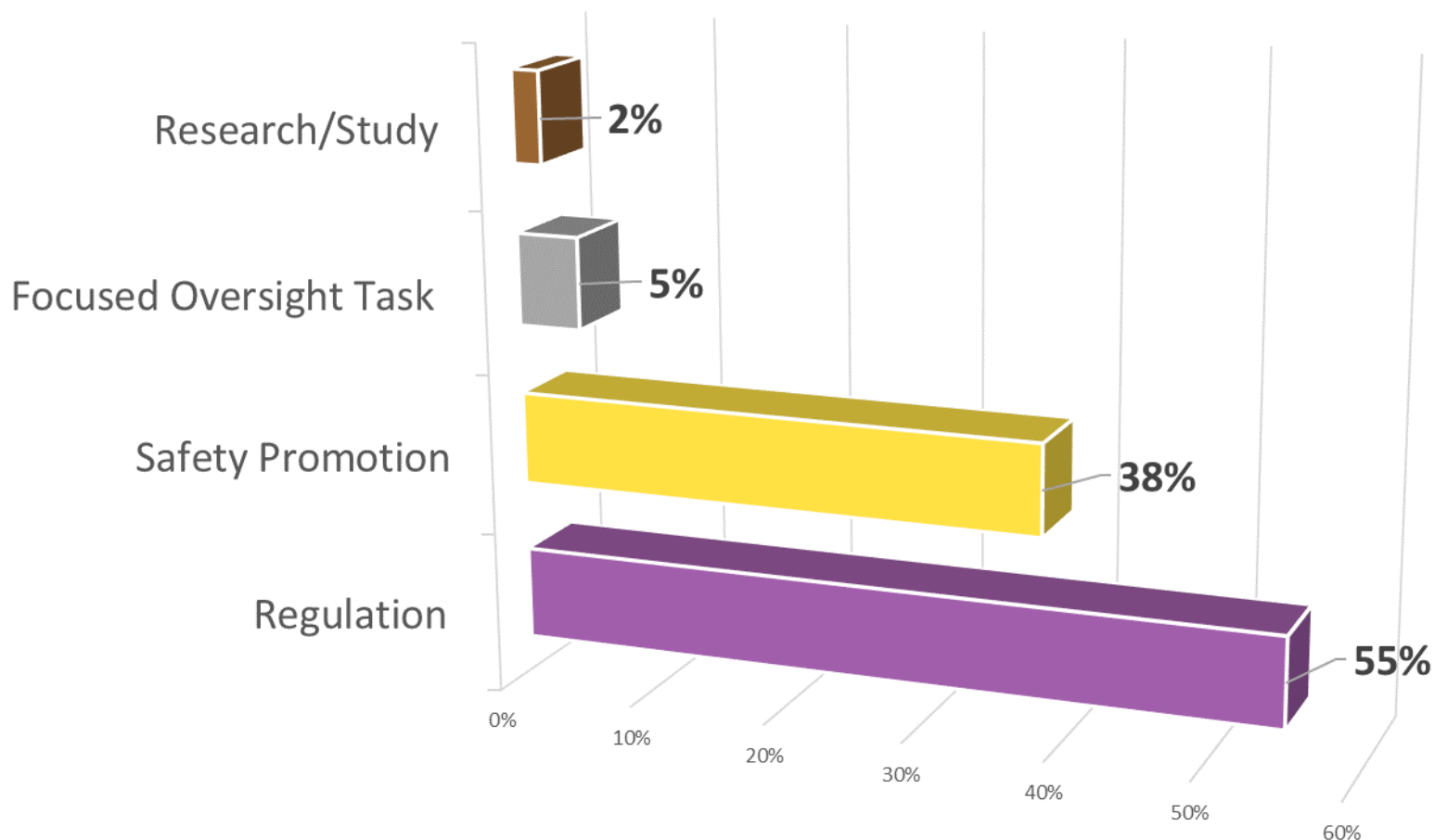
**Focused Oversight**

**Research**



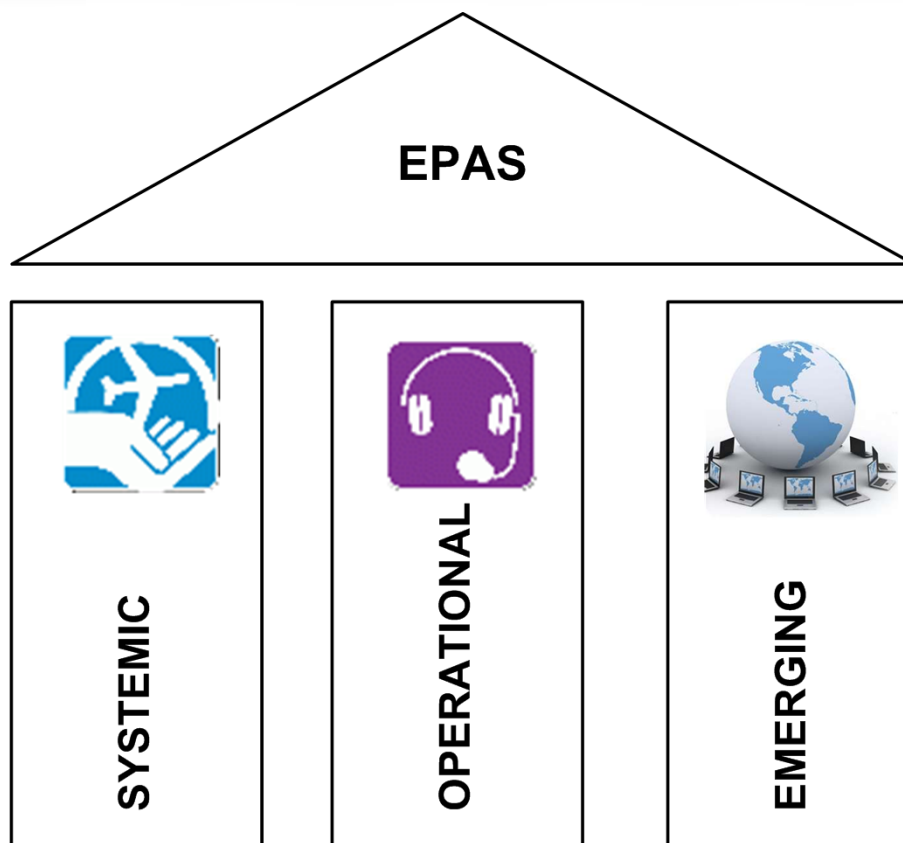
# EPAS 2017-2021 mix

## 110 Safety Actions planned for 2017-2021





# EPAS Issue Categories– Level 1





# EPAS Strategic Safety Priorities

Consulted with  
strategic bodies

Systemic  
enablers

- Safety Management
- Human factors and competence

Operational  
Issues

- Commercial Air Transport Aeroplanes:
  - Aircraft Upset/ Loss of Control Inflight
  - Runway Safety
- Helicopter/ Rotorcraft:
  - Aircraft Upset/ Loss of Control Inflight
  - Terrain Conflict
  - System Failure
- General aviation:
  - Staying in Control
  - Coping with Weather
  - Mid-air Collisions
  - Managing the Flight

Emerging Issues

- Drones (RPAS)
- Security Risks with Impact on Safety
- New/Emerging Business Models



# Action Areas – Level 2

## Systemic Issues

Safety Management

Human factors and competence of personnel

Aircraft tracking, rescue operation and accident investigation

## Operational Issues

### CAT Aeroplanes

Aircraft upset in flight

Design and maintenance improvements

Mid-air collision

Runway safety

Ground safety

Terrain conflict

Fire, smoke and fumes

### Rotorcraft Operations

Upset in flight

Terrain conflict

System failure

### General Aviation

Systemic enablers

Staying in control

Coping with weather

Preventing mid-air collisions

Managing the flight

## Emerging Issues

Civil drones (RPAS)

Safety and security

New business models

New products, systems, technologies and operations



# Example of EPAS Actions

## 1.1.1 Aircraft upset in flight (LOC-I)

### **Issue/rationale**

Loss of control usually occurs because the aircraft enters a flight regime which is outside its normal envelope, usually, but not always, at a high rate, thereby introducing an element of surprise for the flight crew involved. Loss of control is a strategic priority.

64 % of fatal accidents in the last 10 years (EASA MS) involved loss of control. Events such as a deviation from flight path, abnormal airspeed or triggering of stall protections when not dealt with properly can lead to fatal consequences involving many fatalities. Technical failures as well as ground handling safety issues can be also a precursor of this type of scenarios.

### **What we want to achieve**

Continuously assess and improve risk controls to mitigate the risk of loss of control.

### **How we monitor improvement**

Continuous monitoring of safety issues identified in the Commercial Air Transport Fixed Wing Portfolio (ref: Annual Safety Review 2016)





# Example of EPAS Actions

## RMT.0581

### Loss of control prevention and recovery training

Review of the provisions for initial and recurrent training in order to address upset prevention and recovery training (UPRT). The review will also address the implementation of the ICAO documents and several SRs. Other aspects to be covered are manual aircraft handling of approach to stall and stall recovery (including at high altitude), the training of aircraft configuration laws, the recurrent training on flight mechanics, and training scenarios (including the effect of surprise).

This RMT is split into multiple deliverables. See the related ToR on the EASA website.

Note: Recurrent and conversion training provisions related to UPRT were already published in May 2015. They have been applicable as of May 2016.

#### Owner

EASA FS.3

<b>PIA</b>	<b>Proc</b>	<b>3rdC</b>
A22	ST	-

#### Affected stakeholders

Pilots, instructors, examiners, ATOs and operators

ToR	NPA	Opinion	Commission IR	Decision
20/08/2013	01/09/2015	n/a 2017 Q1	n/a 2018 Q1	04/05/2015 2018 Q1

## Safety Promotion

### MST.004

#### Include loss of control in flight in national SSPs

LOC-I shall be addressed by the MS on their SSPs. This will include as a minimum agreeing a set of actions and measuring their effectiveness.

#### Owner

MS

#### Activity sector

CAT, HF

#### Deliverable

SSP established

#### Date

Continuous

## Research

### RES.005

#### Startle effect management

See the detailed Terms of Reference for this activity on the [EASA website](#).

#### Owner

EASA SM.1

#### Activity Sector

CAT, HF

#### Deliverable

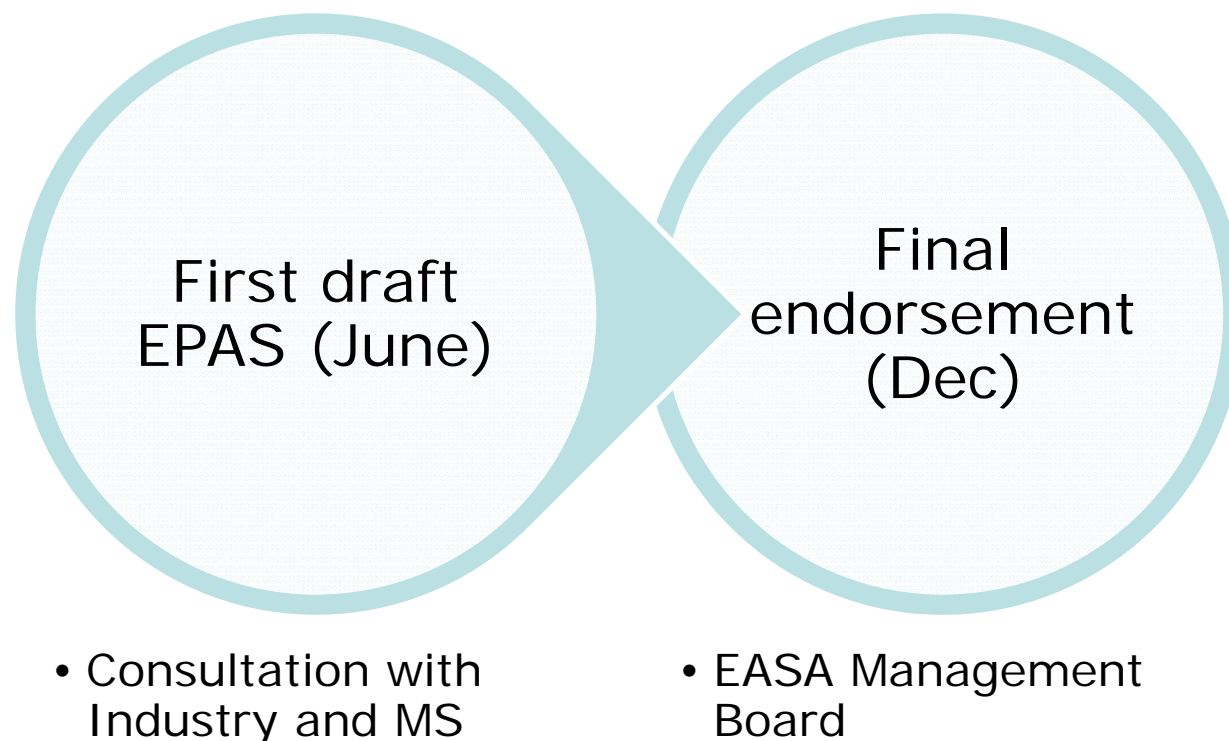
Report

#### Date

2017



# EPAS development cycle (2017)





# How States get involved



States have committed to implement EPAS actions  
(Amended BR will establish a legal hook)

45

States are invited (European Civil Aviation Conference Region)

41

States have already identified a **focal point** (including all 32 EASA States)



States send regular feedback through dedicated annual reports



On site discussions



# Face to face SM meetings

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To take the temperature of  
EPAS/SSP implementation with  
States

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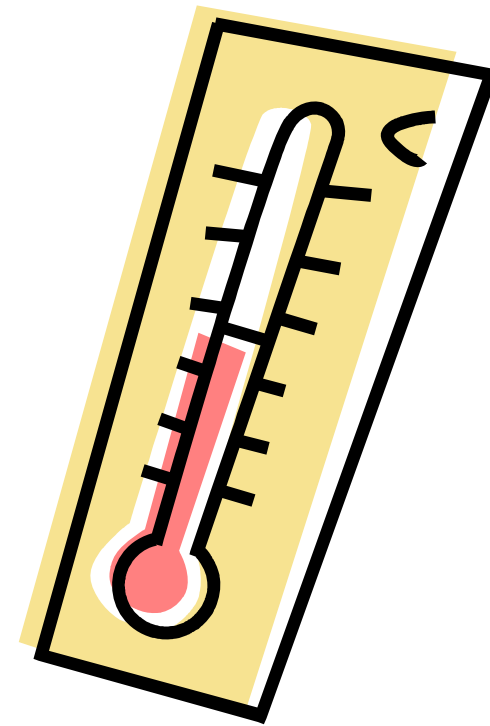
Twice a year in Cologne

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Opportunity to exchange  
information amongst States and  
discuss implementation issues

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Workshops to tackle specific SSP  
elements as needed





## Useful links

1. EASA SMS website  
([www.easa.europa.eu/sms](http://www.easa.europa.eu/sms))
2. [European Commission SM website](#)  
(including EASP Edition 2)
3. [Communication from EC \(2011\)](#)  
(High level goals)
4. [EASP Edition 2 \(2015\)](#)  
(European Aviation Safety Programme)
5. [EPAS 2017-2021](#)
6. [EPAS Leaflet | Strategic priorities](#)