

Safety Risk Management Process and Safety Risk Portfolios

Rodrigo Priego
Safety Management Team Leader
Strategy and Programmes Dept.

6th IORS Workshop
Cologne, 21 June 2016

Your safety is our mission.

EASA is an agency of the European Union





An SRM Process – What for?



Connect safety
intelligence with
actions



Identify safety priorities



Work with experts from
Industry and States
more effectively



Focus on Strategic Safety Issues

Better addressed by the Agency than by individual Member States

Require coordination of more than one entity, for example issues affecting:

- more than one aircraft type,
- more than one operator, and/or
- more than one State.

Strategic safety issues include those addressed by EPAS actions.

The SRM Process

- Analysis of occurrence data
 - Analysis of other information
 - Emerging Safety Issues
- Actions

1. Identification of Safety Issues

- Risk Assessment
 - Scope
 - Causes
 - Consequences
 - Risk Controls

5. Safety Performance

2. Assessment of Safety Issues

Safety Risk Portfolios

- Monitor Implementation

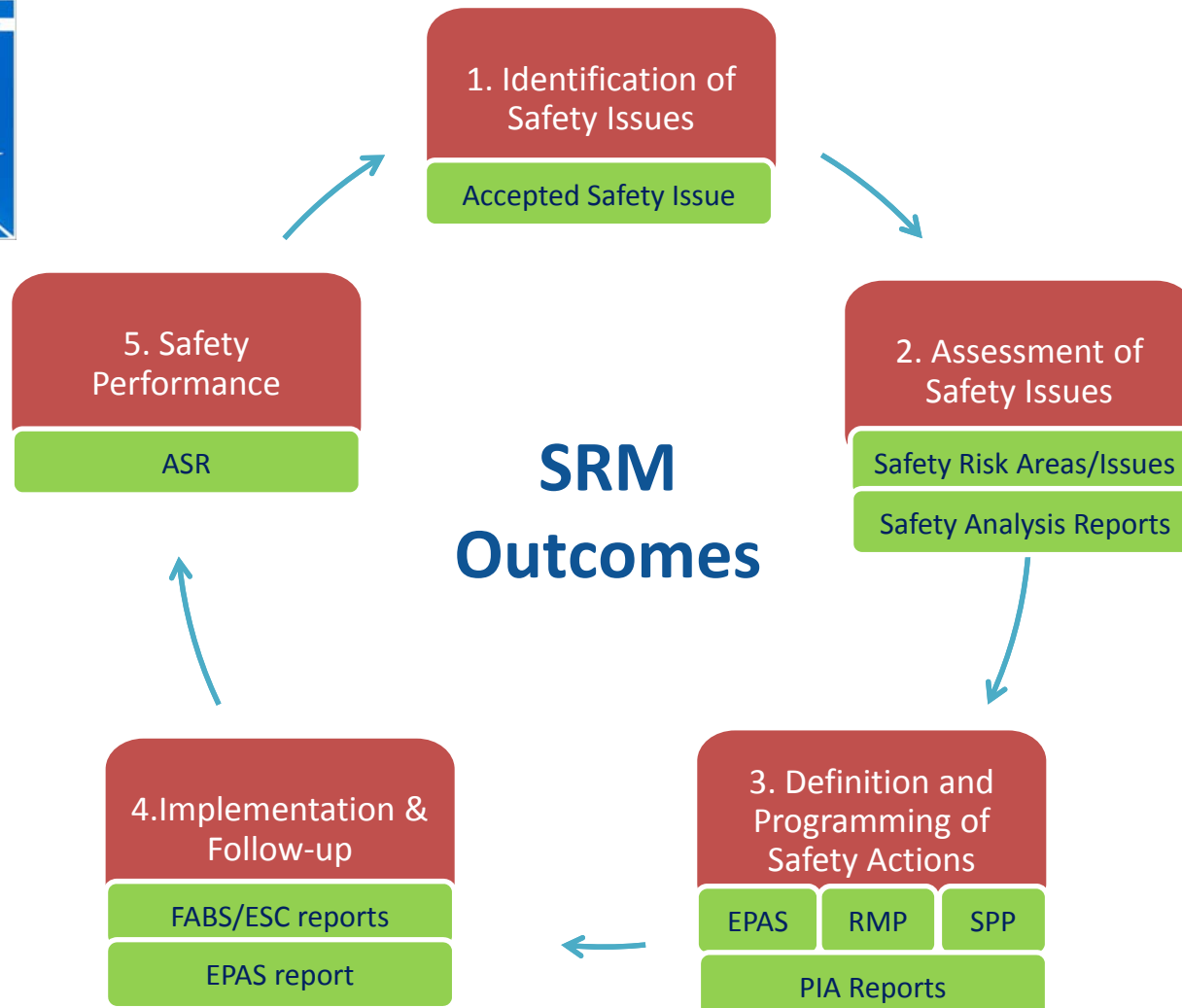
4. Implementation & Follow-up

3. Definition and Programming of Safety Actions

- Defining Actions
- Preliminary Impact Assessment
- Programming



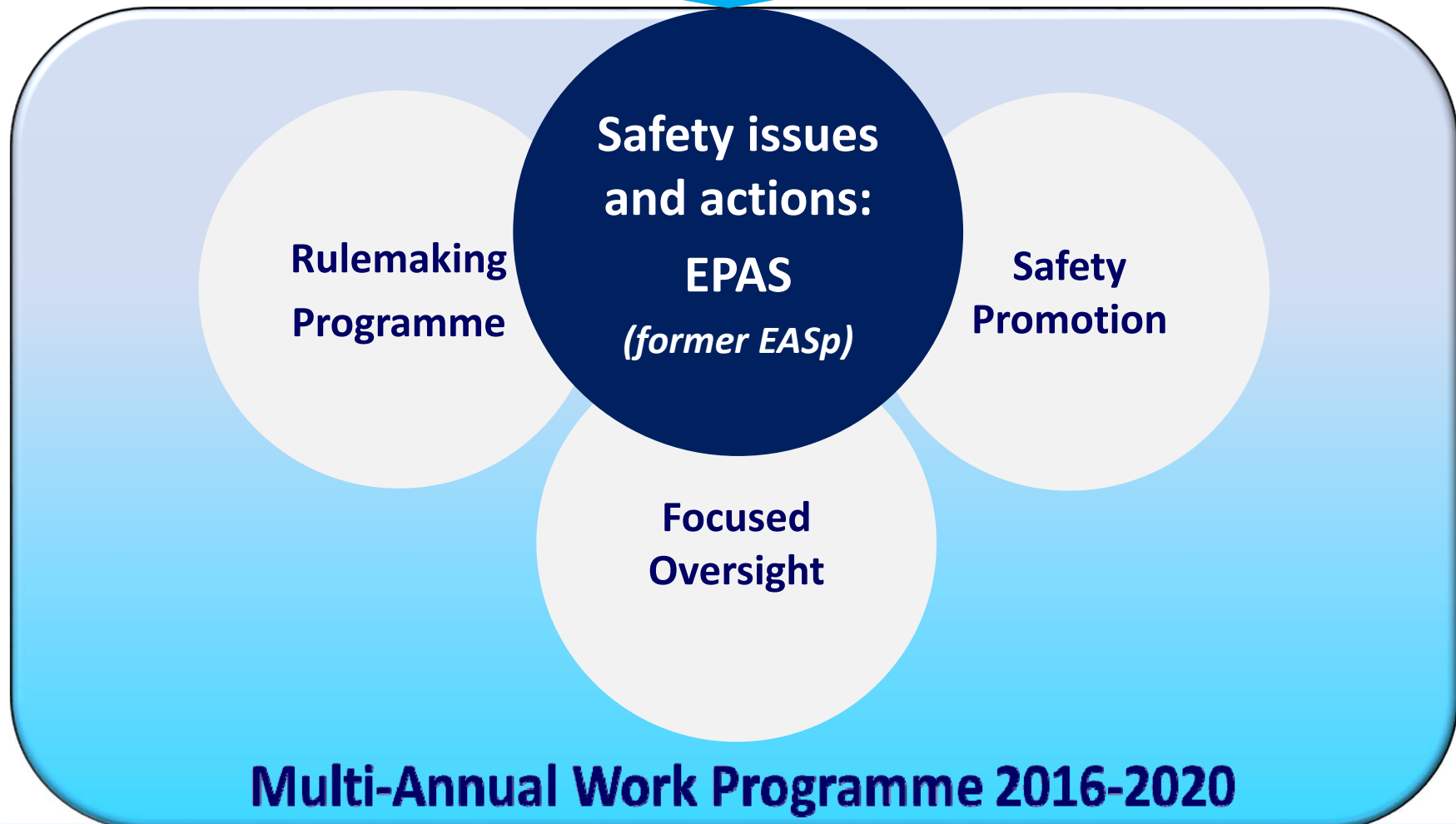
SRM Outcomes





An *integrated* multi-annual programme for a new era of Safety planning

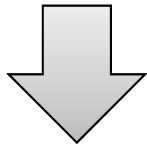
Safety Risk Portfolio



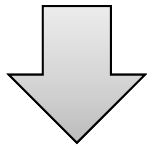


Identification of Safety Issues

Type of
Operation



Risk Areas




Safety
Issues

- Safety Performance Measurement
- Occurrences
- EASA Safety Intelligence
- External Safety Intelligence



CAT Fixed Wing




	Outcome Percentage of Fatal Accidents (2006-2015)				38.5%	26.9%	19.2%	11.5%	7.7%	3.8%	0.0%	0.0%	
	Outcome Percentage of Non-Fatal Accidents (2006-2015)				0.9%	66.0%	0.4%	3.3%	4.3%	1.2%	5.6%	3.0%	
	COMMERCIAL AIR TRANSPORT - AEROPLANES			Total number of accidents in 2011-2015 per safety issue		Key Risk Areas (Outcomes)							
	Safety Issues		Serious Incidents	Total Accidents	Fatal Accidents	Aircraft Upset in Flight	System Failure	Terrain Conflict	Abnormal Runway Contact and Excursions	Ground Collisions and Ground Handling	Runway Incursions	Fire	Airborne Conflict



CAT Fixed Wing



	Outcome Percentage of Fatal Accidents (2006-2015)				38.5%	26.9%	19.2%	11.5%	7.7%	3.8%	0.0%	0.0%	
	Outcome Percentage of Non-Fatal Accidents (2006-2015)				0.9%	66.0%	0.4%	3.3%	4.3%	1.2%	5.6%	3.0%	
	COMMERCIAL AIR TRANSPORT - AEROPLANES		Total number of accidents in 2011-2015 per safety issue		Key Risk Areas (Outcomes)								
	Safety Issues	Serious Incidents	Total Accidents	Fatal Accidents	Aircraft Upset in Flight	System Failure	Terrain Conflict	Abnormal Runway Contact and Excursions	Ground Collisions and Ground Handling	Runway Incursions	Fire	Airborne Conflict	
Operational	Detection, Recognition and Recovery of Deviation from Normal Operations												
	Operation in Adverse Weather Conditions												
	Maintaining Adequate Separation Between Aircraft												
	Ground Handling Operations												
	Pre-Flight Preparation/ Planning and In-Flight Re-Planning												
	Aircraft Maintenance												
	Fuel Management												
	Birdstrikes and Bird Control												
	Calculation and Entry of Take-Off and Landing Parameters into Aircraft System												
	Handling and Execution of Go-Arounds												
	Prevention and Resolution of Conflict with Aircraft Not Fitted With Transponders												
	Dangerous Goods Handling												
Technical	Handling and Operation of the Aircraft Following a Technical Failure												
	False or Disrupted ILS Signal Capture												
	Contamination of Controls or Critical Surfaces												
	Damage Tolerance of RPAS Collisions												
Consequences	Suitability of Recording Devices												
	Survivability and Evacuation												
Human	Personal Readiness and Crew Impairment												
	Flight Crew Perception and Awareness												
	CRM and Communication												
	Monitoring of Flight Parameters and Automation Modes												
	Knowledge of Aircraft Systems and Use of Associated Procedures												
Organisational	Implementation of Reporting Systems and Safety Management												
	Oversight of Organisations												



CAT Fixed Wing



			Outcome Percentage of Fatal Accidents (2006-2015)		38.5%	26.9%	19.2%	11.5%	7.7%	3.8%	0.0%	0.0%
			Outcome Percentage of Non-Fatal Accidents (2006-2015)		0.9%	66.0%	0.4%	3.3%	4.3%	1.2%	5.6%	3.0%
			COMMERCIAL AIR TRANSPORT - AEROPLANES		Total number of accidents in 2011-2015 per safety issue		Key Risk Areas (Outcomes)					
	Safety Issues	Serious Incidents	Total Accidents	Fatal Accidents	Aircraft Upset in Flight	System Failure	Terrain Conflict	Abnormal Runway Contact and Excursions	Ground Collisions and Ground Handling	Runway Incursions	Fire	Airborne Conflict
Operational	Detection, Recognition and Recovery of Deviation from Normal Operations	19	12	2	•	•	•	•		•	•	•
	Operation in Adverse Weather Conditions	34	33	1	•	•	•	•	•	•	•	•
	Maintaining Adequate Separation Between Aircraft	82	25	1					•			•
	Ground Handling Operations	8	5			•			•	•		
	Pre-Flight Preparation/ Planning and In-Flight Re-Planning	7	2		•		•	•				•
	Aircraft Maintenance	6	1		•	•	•	•	•	•	•	•
	Fuel Management	7			•	•	•	•		•	•	
	Birdstrikes and Bird Control	3			•	•		•				
	Calculation and Entry of Take-Off and Landing Parameters into Aircraft System	2			•	•	•	•		•		
	Handling and Execution of Go-Arounds	2			•		•	•				•
	Prevention and Resolution of Conflict with Aircraft Not Fitted With Transponders	1										•
	Dangerous Goods Handling				•	•			•		•	
Technical	Handling and Operation of the Aircraft Following a Technical Failure	7	4		•	•	•	•	•			
	False or Disrupted ILS Signal Capture	4			•	•		•				
	Contamination of Controls or Critical Surfaces	2			•	•		•				
	Damage Tolerance of RPAS Collisions											
Consequences	Suitability of Recording Devices	3	4	2	•	•	•	•	•	•	•	•
	Survivability and Evacuation	2	6	1	•	•		•			•	•
Human	Personal Readiness and Crew Impairment	38	1	1	•	•	•	•	•	•	•	•
	Flight Crew Perception and Awareness	10	5		•	•	•	•	•	•	•	•
	CRM and Communication	12	4		•	•	•	•	•	•	•	•
	Monitoring of Flight Parameters and Automation Modes	3			•	•	•	•	•	•	•	•
	Knowledge of Aircraft Systems and Use of Associated Procedures	1			•	•	•	•	•	•	•	•
Organisational	Implementation of Reporting Systems and Safety Management	2			•	•	•	•	•	•	•	•
	Oversight of Organisations				•	•	•	•	•	•	•	•



What happens next?

	CAT – Fixed Wing	Outcomes							
	Safety Issue	Upset	SF	TC	RE/A RC	GCOL/ RAMP	RI	Fire	AC
Ops.	CRM and Communication	•	•	•	•	•	•	•	•

Assessment

Are existing barriers working?

Actions & Impact

How can we reinforce them?
How much does it cost?

Performance

How do we know it works?



Risk Areas & Safety Issues



Already available

Commercial
Air
Transport
Fixed Wing

Offshore
helicopters

CAT
helicopters

Aerial
Work/Part
SPO
Aeroplanes

Aerial
Work/Part
SPO
Helicopters

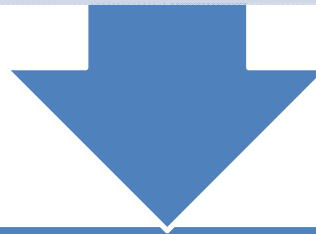
Non-
commercial
aeroplanes

Non-
commercial
helicopters

Balloons

Gliders

RPAS



In preparation



ATM/ANS

Aerodromes

Airworthiness

Emerging Issues



EASA
European Aviation Safety Agency

Thank you

Your safety is our mission.

EASA is an agency of the European Union

