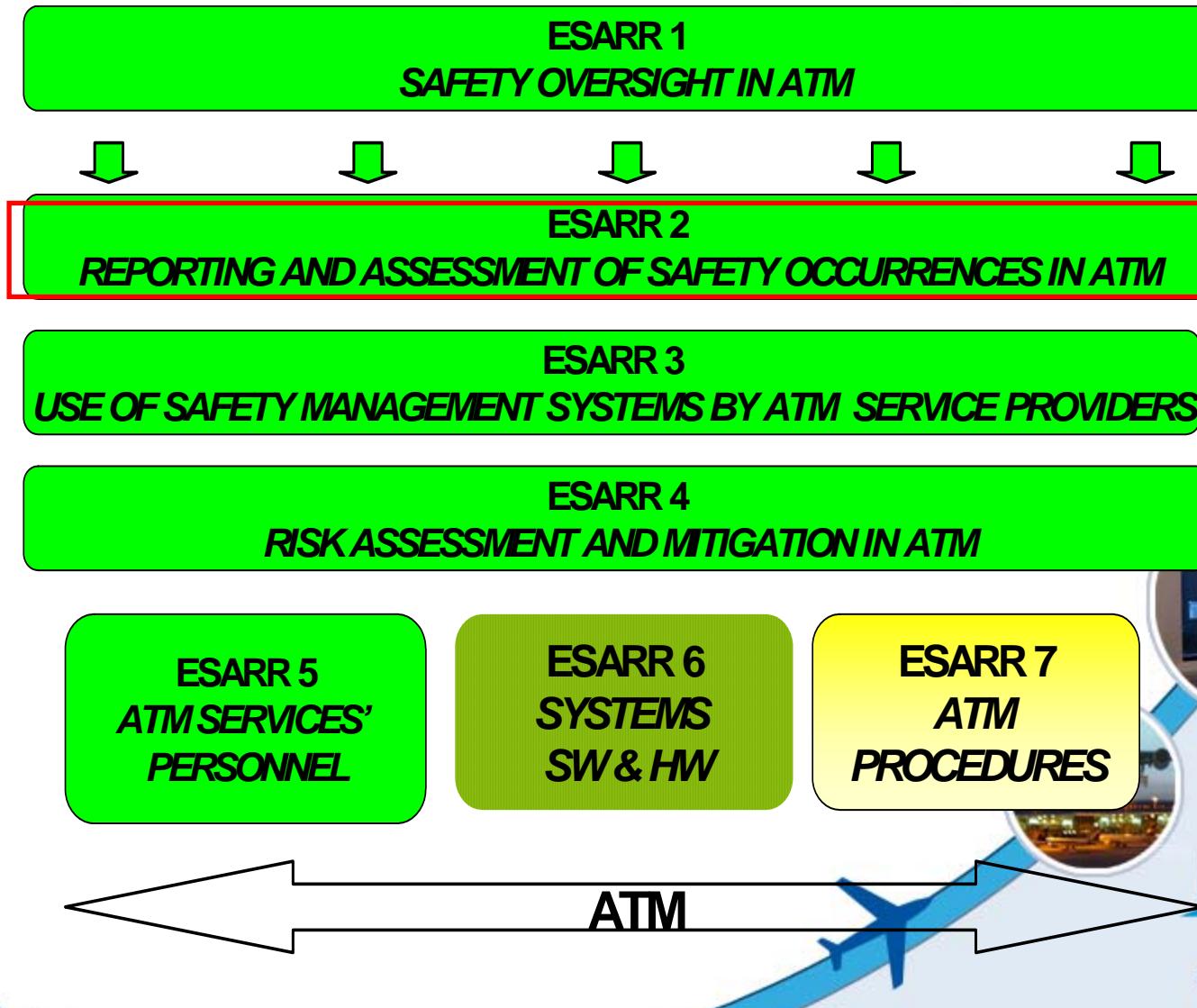
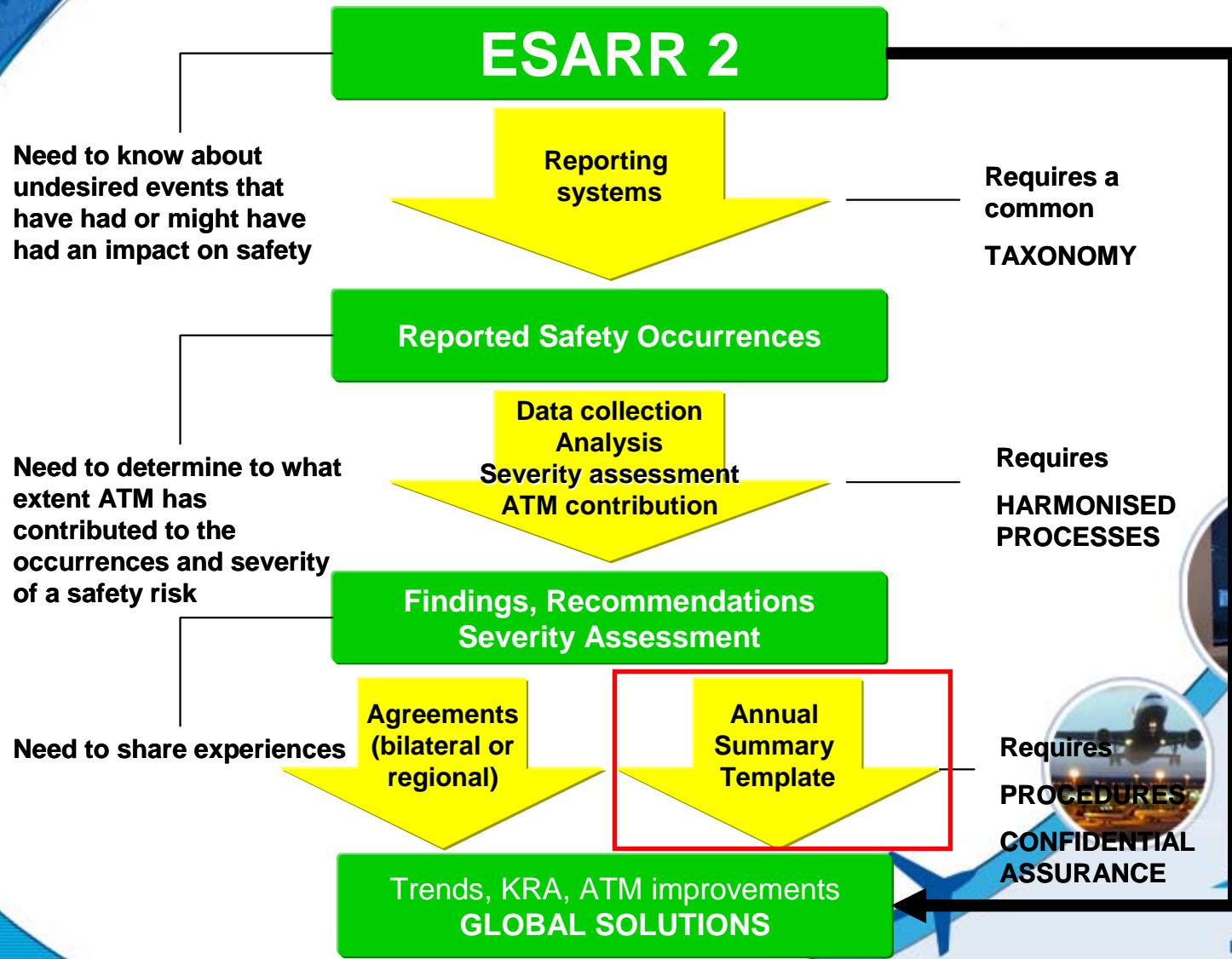


# AST Overview



# ESARR 2 and AST





- ESARR 2 Requirement 5.2/5.2.1.
  - “Each State shall ensure that all appropriate safety data are collated and reported to EUROCONTROL in terms of high level safety indicators, which as a minimum comply with Appendix B”



## ➤ The Annual Summary Template

- designed to capture ECAC States data and information on ATM safety occurrences in an annual form.
- designed to comply with ESARR 2 requirements (including Appendix B)



## AST Structure

### ➤ Data Sheets

- “FrontPage” - captures the details of the sender
- “A-Accidents” - to record data related to accidents
- “B-Reports” - to record data related to reports not investigated
- “B-Incidents” - to record data about ATM related incidents
- “C-ATM Specific“ - to record data related to ATM Specific occurrences

### ➤ Reference Sheets

- “Lists”
- “Causes”



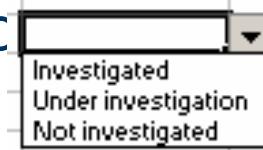
## AST Structure

- Information is organised in Occurrences

	OCC Reference Number	Date	Type of ATM Incident	Notification Reports	ATM Contribution	Status	Airspace Restriction	Class of airspace	Phase of Flight	Flight Rules	Type of Operations	Type of Flight	Severity	Category of Causes	List of Causes (HEIDI)	List of Causes (National)
4	INCID 001		Inadequate separation	AIRPROX	Indirect	Investigated	Not applicable	A	Taxiing	IFR	GAT	GA	C	Aerodrome layout and infrastructure	Ground/ground -> Phraseology	Cause 1 (replace with your own nations)
5			Runway Incursion	Human ATC					Take-off	IFR	GAT	CA		Operational ATC procedures	Aerodrome layout and infrastructure	
6			Runway Incursion where no avoiding action was necessary	Human ATC										LAHSD		
7																

- The values in most columns are pre-defined

Reference sheets.



- One occurrence accepts multiple values for certain fields (e.g. acft)

Class of airspace	Phase of Flight	Flight Rules	Type of Operations	Type of Flight	Severity
A	Taxiing	IFR	GAT	GA	C
	Take-off	IFR	GAT	CA	

## Accidents types collected

- MID-AIR Collisions
- Controlled Flights Into Terrain (CFIT)
- Collisions on the ground between aircraft
- Collisions btn. airborne a/c and vehicle/another a/c on the ground
- Collisions on the ground between a/c and vehicle/person/obstruction(s)

## Accidents data collected

- Type
- ATM Contribution
- Status
- Damage
- Fatalities (Injury level)
- Class of airspace
- Aircraft related
  - ✓ Phase of Flight
  - ✓ Flight Rules
  - ✓ Type of Operations
  - ✓ Type of Flight
- Category of Causes
- List of Causes (HEIDI or national)



## ATM related incidents types collected

- Separation minima infringement
- Inadequate separation
- Near Controlled Flight Into Terrain (CFIT)
- Runway excursion by aircraft
- Aircraft deviation from applicable ATM regulation
- Aircraft deviations from applicable published ATM procedures
- Aircraft deviation from ATC clearance
- Level Bust (LB) (since 2005)
- Unauthorised penetration of airspace
- Deviations from aircraft ATM-related equipment carriage and operations, as mandated in applicable regulation(s)
- Runway Incursion
- Prolonged Loss of Communication (PLOC) (since 2005)

## Incidents data collected

- Type
- Notification report form type(s)
- ATM Contribution
- Status
- Airspace restriction (if applicable)
- Class of airspace
- Aircraft related
  - ✓ Phase of Flight
  - ✓ Flight Rules
  - ✓ Type of Operations
  - ✓ Type of Flight
- Severity
- Category of Causes
- List of Causes (HEIDI or national)



## ATM specific occurrences types collected

- Inability to provide Air Traffic Management Services
- Inability to provide Air Traffic Services
- Inability to provide Airspace Management Services
- Inability to provide Air Traffic Flow Management Services
- Failure of Communication function
- Failure of Surveillance function
- Failure of Data Processing and Distribution function
- Failure of Navigation function
- Failure of Support Information function
- ATM system security



## ATM specific occurrences data collected

- Type
- Status
- Severity
- Category of Causes
- List of Causes (HEIDI or national)



## Categories of Causes (1)

- "ATMServices personnel
  - Physical/Physiological/Psychological/Psychosocial
  - Interface- working environment
  - Operational tasks demand
  - Other
- "ATMServices personnel operating procedures and instructions"
  - Operational ATC procedures
  - Other operational ATM service procedures
  - Engineering and maintenance procedures
  - Other
- Interface between ATM service units



## Categories of Causes (2)

- ATM Services personnel
  - Physical/Physiological/Psychological/Psychosocial
  - Interface- working environment
  - Operational tasks demand
- ATM Services personnel operating procedures and instructions
  - Operational ATC procedures
  - Other operational ATM service procedures
  - Engineering and maintenance procedures
- Interface between ATM service units



## Categories of Causes (3)

- ATM Services infrastructure (Facilities/ technical systems)
  - Hardware issues
  - Software issues
  - Integration Issues
  - Aerodrome layout and infrastructure
- Airspace Structure
  - Route structure
  - Capacity
  - Sectorisation
  - ATS airspaces
- AIS
  - AIRAC Non-Adherence
  - ATS Route Description Inconsistencies



## Categories of Causes (4)

- Company structure and Management Policy
  - Safety Management System
  - Management/personnel policy
  - Institutional arrangements
  - Operational line management
- Regulatory activity
  - Regulation
  - Approval process



# Main Areas for Harmonisation

- TAXONOMY – especially for contributing/causal factors/causes
- Severity & Risk of Recurrence
- Application of the same techniques and tools during investigation
  - Data collection
  - Analysis and reconstruction
  - Severity and risk assessment
  - Safety Recommendation
  - Follow up
  - Trend analysis
  - etc



# TOKAI

Tool 4

Tool 6

Tool 8

EUROCONTROL

Tool 1

Tool 2

Tool 3

Tool 5

Tool 7

Notification

Requirement for immediate action

Assessment of need for investigation

Factual Information

Preliminary Report

Reconstruction

Analysis

Conclusions

Recommendations

Severity Assessment

Final report

Follow-up

Report and Exchange

Lesson Dissemination

No delay

96 hours maximum

IF prescribed

IF prescribed

As quickly as practically possible

ASAP

As prescribed

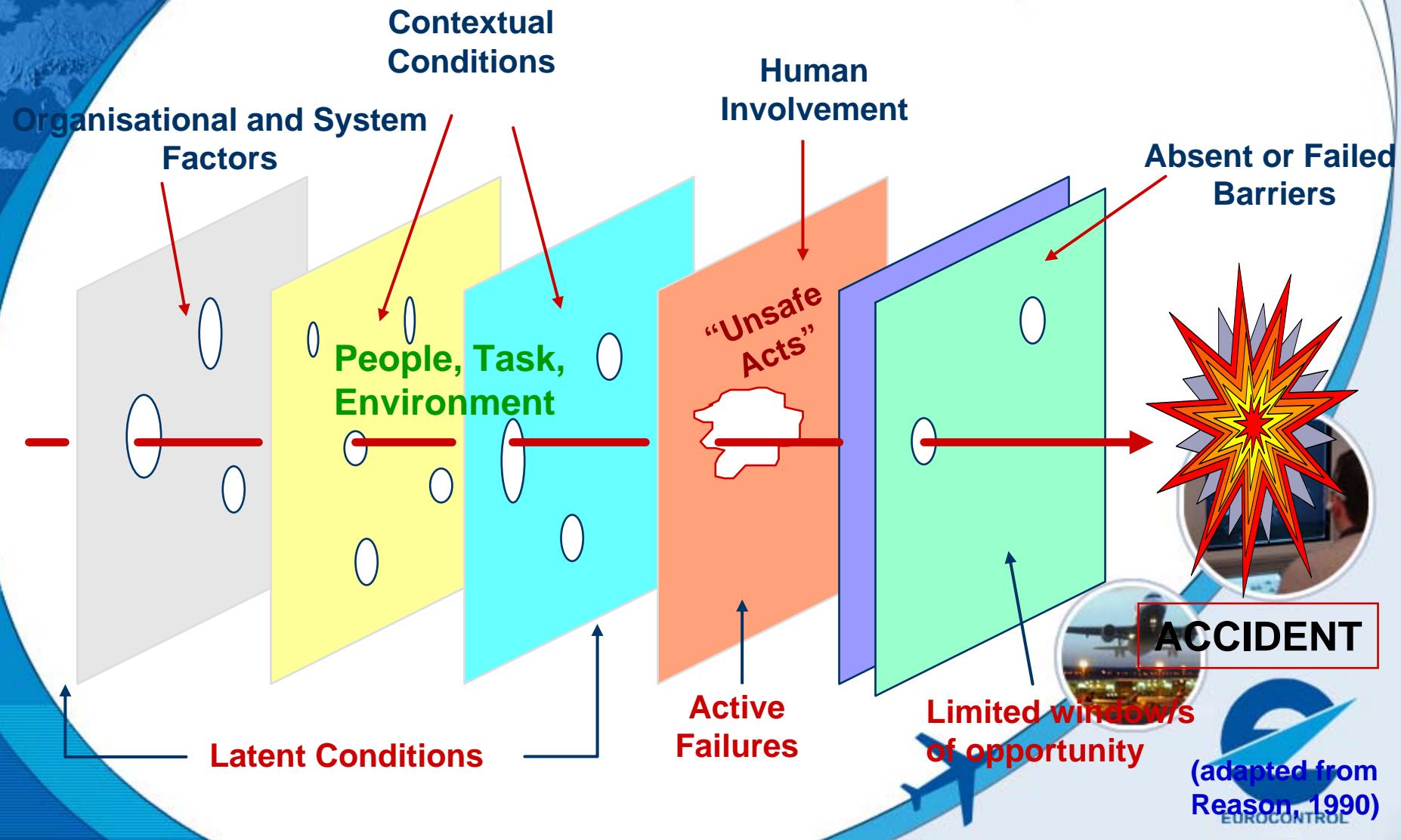
No delay

Follow-up

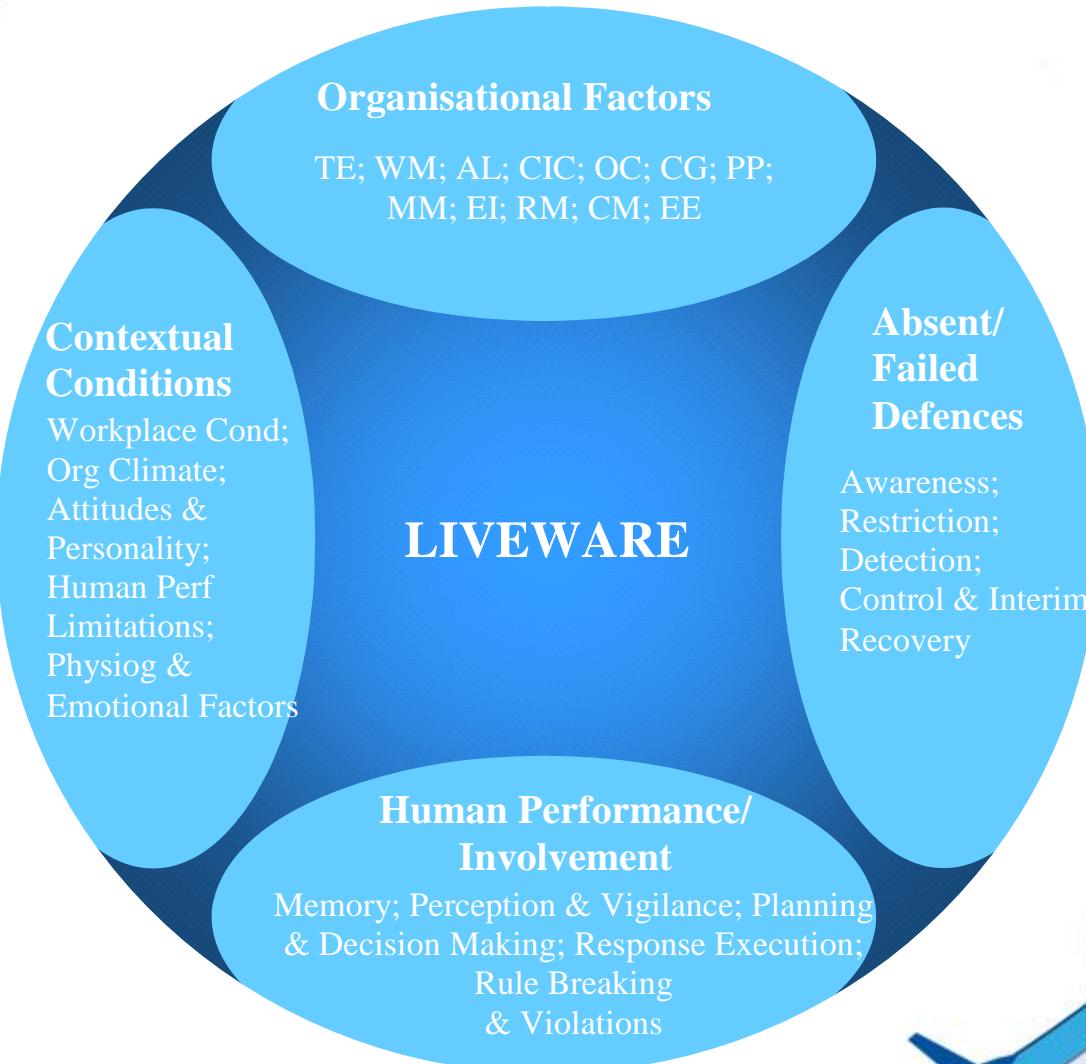
Report and Exchange

Lesson Dissemination

# Reason-based SOAM Model



# Grouping Contributing Factors (ref SOAM – EAM2-GUI8)



## Example - Organisational Factors

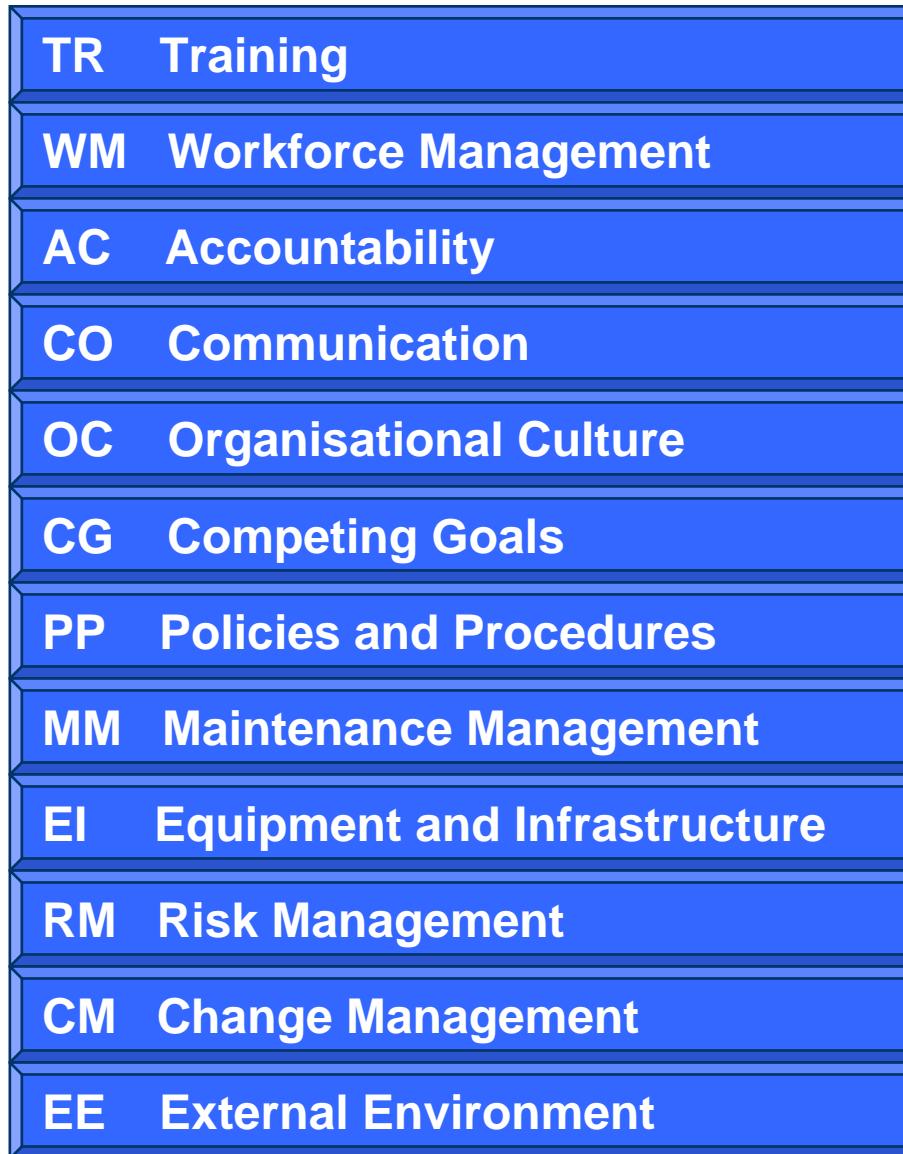
### **Definition:**

The organisational and system factors (failures) which created, or allowed, the prevailing contextual conditions

### **Check Question:**

*“Does the item describe an aspect of an organisation’s culture, systems, processes or decision-making that existed before the occurrence and which resulted in the contextual conditions or allowed those conditions to continue?”*

# Organisational Factors (ref EAM2-GUI8 – SOAM)



## Training (TR)

The factors relating to the suitability and quality of training provided by the organisation for staff involved in conducting tasks related directly to the occurrence. These may include issues to do with the design, structure, knowledge content, duration, delivery methods, assessment methods, and recurrence of worker education processes.

## Workforce Management (WM)

The factors relating directly to the management of operational personnel within the organisation. These include HR policies and practices that impact on employee workload, oversight, performance and morale, such as organisational structure, work design, rostering, tasking, manning, experience levels, remuneration and reward systems, but exclude training issues.



# AST Overview

