



ICAO

SAFETY

NO COUNTRY LEFT BEHIND



# SAFETY DATA SHARING: STRENGTHENING RASG-PA'S SAFETY INTELLIGENCE

*Presented to: RASG-PA/15 Plenary*

*By: PA-RAST*

*March 2026*

*Ciudad de Mexico, Mexico*



# The Regional Safety Intelligence Challenge

- **Fragmented Risk Picture**
  - Lack of 360-degree State-Operator input
- **Operational Blind Spots**
  - Emerging sub-regional trends undetected
- **Vulnerability**
  - HRC Project Teams may lack the diverse datasets needed
- **Missed Opportunities**
  - Full scope of regional hazards is not captured





# Current Safety Data Intake

- **ASIAS & IATA**

- Provides FDM safety information from US operators in Pan America
  - Loss of Control in Flight
  - Controlled Flight into Terrain
  - Unstable Approaches
  - Mid Air Collision
- Limited to States US air carriers operate



## State SDCPS Integration

- **Regulatory Foundation**
  - ICAO Annex 19
- **Unique Data Intelligence**
  - SDCPS capture State level operational trends
- **Closing the Intelligence Gap**
  - High-level State aggregates are the missing link
- **The "State Perspective"**
  - Regional safety focus areas from the regulator's viewpoint





# Collaborative Safety Teams (CST)

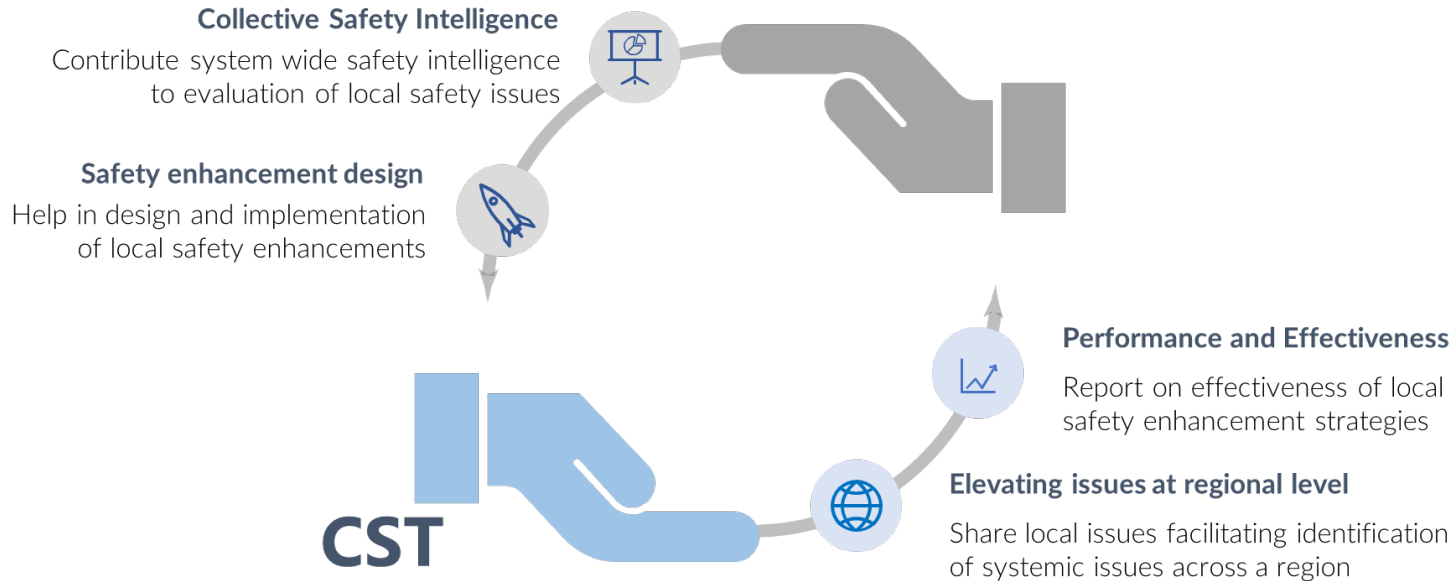
- **The Structural Bridge**
  - Bridge the gap between industry and the regulator
- **Validated Intelligence**
  - Assessed and validated safety information
- **Quality Control**
  - Verify State hazard information for accuracy
- **Technical Capability**
  - CST can act as the analytical engine





# PA-RAST and CST Collaboration (?)

## PA-RAST





# Reciprocal Value – The Feedback Loop

## Regional Early Warning System

- Participating States gain access to aggregated risk pictures, identifying hazards before they manifest locally.

## Tailored Enhancements

- Contributors receive Safety Enhancements specifically mapped to the contributing factors identified in their sub-region.

## National Alignment

- The flow of regional intelligence allows States to validate findings within their national organizations to ensure local mitigation is aligned.

## Strategic Partnership

- Participation is a reciprocal agreement where data contribution directly results in improved national safety oversight.



# Proposal

## States and CSTs

- Provide high-level operational safety trends and hazard information to PA-RAST

Field Category	Information Requested
Reporting Period	[Quarter/Year]
Top 3 Safety Hazards	Identify the top <b>three hazards</b> observed in national SDCPS (e.g., TCAS RA, GPWS/TAWS, Bird Strikes)
HRC Alignment	Indicate if these hazards align with RASG-PA's HRCs: CFIT, LOC-I, RI, RE, MAC, Others
CST Participation	Is there an active State-level CST contributing to this data? [Yes/No]
Incident Trends	Brief description of emerging operational safety trends





# Proposal: Practical Examples

## Mid-Air Collision

Field Category	Information Requested
Reporting Period	<i>Q4 2025</i>
Top 3 Safety Hazards	<i>TCAS-RA Hotspot on approach to TXJJ</i>
HRC Alignment	<i>MAC</i>
CST Participation	<i>No</i>
Incident Trends	<i>15% increase in TCAS-RAs at Sector 4 transition points</i>

## Controlled Flight Into Terrain

Field Category	Information Requested
Reporting Period	<i>Q4 2025</i>
Top 3 Safety Hazards	<i>MSAW Alerts (ATC) near mountainous terrain</i>
HRC Alignment	<i>CFIT</i>
CST Participation	<i>Yes – validated by National CST</i>
Incident Trends	<i>Observed 10% increase in MSAW alerts on the RNAV RWY 18 approach</i>



## Proposal: Event types (?)

G-HRC	Event types
Loss of Control – in Flight (LOC-i)	<i>ICE, Abrupt manoeuvre,</i>
Controlled Flight Into Terrain (CFIT)	<i>GPWS, TAWS, MSAW</i>
Mid-Air Collision (MAC)	<i>TCAS-RA</i>
Runway Incursion (RI)	
Runway Excursion (RE)	<i>Unstable approach,</i>
ORC	
Turbulence (TURB)	
System Component Failure (SCF)	
Abnormal Runway Contact (ARC)	<i>Undershoot/overshoot?</i>



ICAO

SAFETY

NO COUNTRY LEFT BEHIND



# Asia Pacific's Regional Data Sharing Initiative





## Model for Adoption: APAC's Regional Data Sharing Initiative



### Proven Framework

- Modeled after the "Regional Data Sharing" initiative implemented by Singapore, Indonesia, Malaysia, Philippines and Thailand

### Technical Success

- More than 7,000 occurrences were analyzed between 2023 and 2025 across seven critical categories
  - *TCAS-RA, altitude deviations, GPWS/TAWS, turbulence, windshear, bird strikes, and dangerous goods*

### Scalability

- Participating States are already evaluating the inclusion of runway incursions and unstable approaches



## APAC's Regional Data Sharing Initiative: Technical Evidence

- **GPWS Technical Insights**
  - GPWS alert patterns linked to the B737-800 and A320 aircraft models
- **Early Warning Success**
  - Enabled the mapping of Asian openbill stork migrations
- **Future Phase**
  - Runway Incursion (RI), Unstable Approach (UA), and other Wildlife Sightings





# APAC's Regional Data Sharing Initiative: Benefits of Adoption

## Benefits for Member States:

- **Early Warning System:** Identify emerging hazards and risks
- **Precursor Identification:** States track precursors
- **Methodological Refinement:** States can refine their national data collection methods

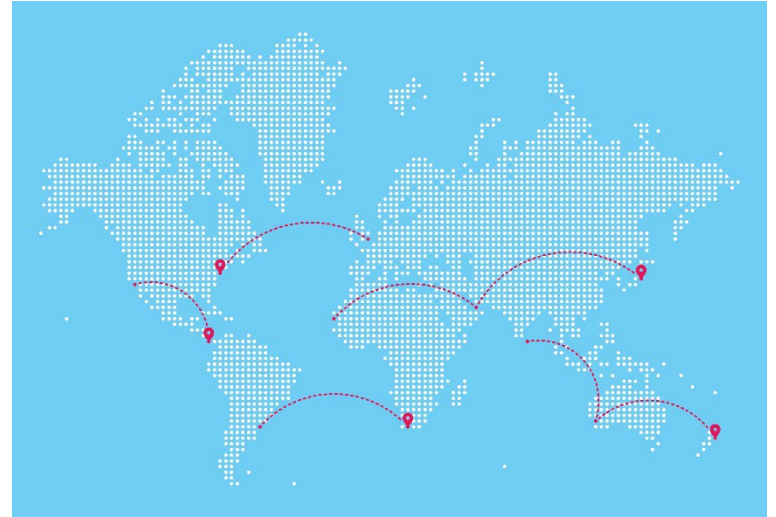




# APAC's Regional Data Sharing Initiative: Benefits of Adoption

## Benefits for RASG-PA:

- **Enhanced Risk Picture:** Identification of regional trends
- **Validation of Industry Trends:** State-level data compliments the operational safety information provided by ASIAs and IATA
- **Standardized Intelligence:** CICTT taxonomies ensures standardization
- **Inter-Regional Benchmarking:** Ability to compare occurrence information and mitigation effectiveness between the Pan-American and Asia-Pacific regions





## APAC's Regional Data Sharing Initiative: Governance and Information Protection

- **Trust:** Robust governance is strictly required for participating States to foster confidence in data sharing
- **Memorandum of Understanding (MOU):** Formalizes the commitment to use shared data solely for safety enhancement, not for enforcement
- **Two-Level De-Identification:**
  - **Level 1:** Data provided by States excludes specific organization or personnel identifiers
  - **Level 2:** Use of a central Data Custodian ensures State anonymity during regional analysis
- **Integrity:** Leverages the CICTT taxonomy to maintain technical accuracy and compatibility



## RASG-PA Regional Data Sharing Initiative - Pilot?

- **Identify pilot participants:** Identify pilot participants for RASG-PA ad-hoc group to develop proof of concept with ICAO
- **Develop exchange mechanism and governance:** Define digital exchange solutions, governance (trusted collector of data, de-identification protocols, use of data, etc)
- **Initiate data exchange under proof of concept:** targeted pilot participant safety data/information exchange
- **Timeline:** Proof of concept presented at RASG-PA Plenary 16



## Decisions for Strengthening RASG-PA's Safety Intelligence

### Commitments:

- States and CSTs to provide high-level operational safety trends and hazard information to PA-RAST?
- RASG-PA Safety Data Sharing Pilot Proof of concept?



ICAO

SAFETY

NO COUNTRY LEFT BEHIND

