



ICAO

International Civil Aviation Organization  
 Asia and Pacific Office

**Eighteenth Meeting of the Asia Pacific Regional Aviation Safety Team (APRAST/18)**

(Bangkok, Thailand, 20-24 June 2022)

**Agenda Item 4: Presentations – State / Industry / ICAO**

**CONTROLLED FLIGHT INTO TERRAIN (CFIT) – DETAILED IMPLEMENTATION PLAN**

*(Presented by the International Air Transport Association)*

**SUMMARY**

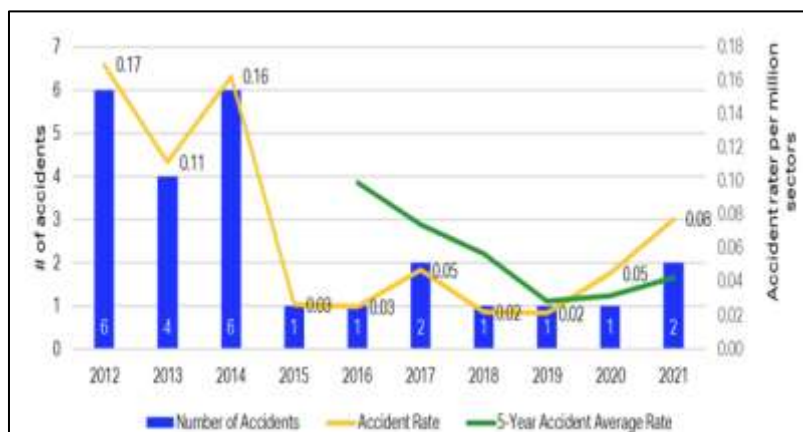
Controlled Flight into Terrain (CFIT) refers to accidents in which there was an in-flight collision with terrain, water, or obstacle, without indication of loss of control. Although CFIT is not the most frequent of accident categories, such accidents account for a substantial number of fatalities.

The joint IATA / Honeywell guidance on Performance assessment of pilot response to Enhanced Ground Proximity Warning System (EGPWS) (pdf) highlights the importance of keeping the terrain/obstacle/runway database up to date. It also makes several recommendations that may result in significantly reducing CFIT risks. In support of the guidance document, IATA has developed a CFIT Detailed Implementation Plan (DIP) and is working with airlines, OEMs, international organizations and other relevant stakeholders to see they are applied.

**1. INTRODUCTION**

1.1 Historic accident data shows that CFIT has been a major cause of fatal accidents. Today, accident data shows that CFIT accidents are much lower than a decade ago, and the number of aircraft that have landed safely after EGPWS warning is growing every year. Nevertheless, CFIT accident continues to occur.

1.2 From 2012 -2021, 25 CFIT accidents occurred resulting in 323 fatalities.



Source: IATA GADM ADX

1.3 Dedication and commitment from leadership and everyone, establishing a positive safety culture, and technological advances, such as EGPWS, have played a role in the reduction of CFIT accidents. Those alone do not prevent CFIT accidents, but with good flight crew performance, good crew resource management behavior, increased situational awareness, good training, immediate response to EGPWS warnings, updating EGPWS Software and Terrain/Obstacle/Runway database in a timely manner, good decision-making as well as execution can attribute to the reduction of this accident category.

## **2. DISCUSSION**

2.1 In 2019, IATA and Honeywell produced guidance on performance assessment of pilot compliance to EGPWS. In our continuing effort to ensure the applicability and quality of the published Guidance Material, together with Honeywell conducted a survey to investigate the barriers and enablers in the implementation of such guidance. 163 persons participated in the survey.

2.2 Following are the recommendations for operators in the guidance material:

1. Ensure EGPWS Software and Terrain/Obstacle/Runway database are kept up to date
2. Ensure GPS is used as a position source for the EGPWS
3. Ensure a policy is in place that at least one pilot selects terrain display during critical phases of flight (such as climb and descent below MSA) for additional situational awareness. If weather is not a threat, then both pilots could decide to select terrain display
4. Establish a training program to ensure flight crew is trained to respond to EGPWS alert effectively
5. Recommend airlines to have procedures to ensure that EGPWS equipment always remains activated and serviceable
6. Pilots and operators should promptly notify the respective authorities of the interference location and the relevant ATC if they experience GPS anomalies
7. Consult with the IATA/Honeywell Performance assessment of pilot response guidance material and recommendations

2.3 In support of the guidance document, IATA has developed a CFIT Detailed Implementation Plan (DIP) and is working with airlines, OEMs, international organizations and other relevant stakeholders to mitigate CFIT risk. This DIP intends to collaborate with various industry stakeholders to facilitate raising awareness and implementation of recommendations specified in the guidance material published by IATA and Honeywell. Below are the recommended actions through which States and aviation regulators can support the mitigation of CFIT risk.

- a) Aviation regulators to check if the airlines keep the terrain database and EGPWS software up to date
- b) States to ensure the navigation references are updated in accordance with WGS-84.
- c) Aviation regulators to require the use of GNSS/GPS as a position source to EGPWS
- d) Aviation regulators to check if the Terrain display SOPs are implemented by airline.

- e) Aviation regulators to check if the EGPWS training for flight crew is performed by the airlines in compliance with regulations text.
- f) Aviation regulators to ensure EGPWS Software and Terrain/Obstacle/Runway database are kept up to date.
- g) Aviation regulators to ensure/recommend airlines to have procedures to ensure that EGPWS equipment always remains activated and serviceable.
- h) Aviation regulators to request pilots and operators to promptly notify the respective authorities of the interference location and the relevant ATC if they experience GPS anomalies

**3. ACTION BY THE MEETING**

3.1 The Meeting is invited to:

- a) Note the information provided in the paper; and
- b) Support IATA in the implementation of the recommendations specified in the guidance material published by IATA and Honeywell.

— END —