

Runway Excursions – Prevenção Fase de Aproximação



Apresentação de:

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HiFly





Profile

- Hi Fly is an EU - OPS carrier, FAA approved, EASA and IOSA certified;
- Wet leasing (ACMI) is Hi Fly core and sole business;
- Unmatched operational expertise in the ACMI very specific field has been developed over several years of experience;
- Aircraft are placed in medium and long term contracts mainly for major airlines and governments.



Fleet

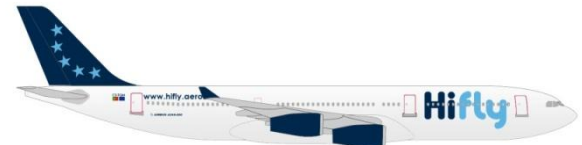
Hi Fly operates presently 12 wide-body long haul aircraft:



A310 (x1)



A330 (x5)



A340 (x6)



Operation Areas

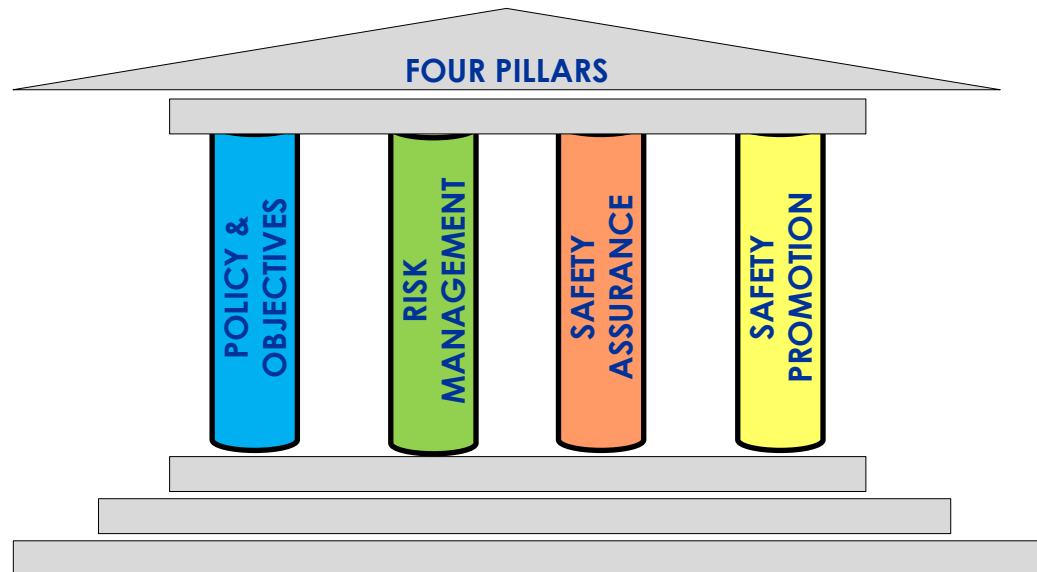
Hi Fly aircraft cross the five continents and the three major oceans on a daily basis. From tiny islands in the Pacific, to major hubs like London Heathrow, New York JFK or Tokyo Narita, Hi Fly has the privilege of real worldwide experience.





Safety Management System (SMS)

In a performance based environment, safety regulations are used as... safety risk controls.





Quinta do Figo Maduro
Rua 1ª de Maio,
2685-388 Prior Velho, Portugal

CFIT Risk Assessment By Flight Crew

A/C Type	Registration
A333	CS-T

Date: dd/10/13
Time: 2000

From: IST
To: ERZ

Safety Office

Flight Safety Manager
Manuel Ferraz de Freitas
e-mail: mferraz@hifly.aero
fax: +351 21 004 04 01
mobile: +351 91 956 04 05

Flt N°
ACMI to:

RA by Flt Crew
N° 53/13

Captain: OM

1st Officer: RC

Introduction

This controlled-flight-into-terrain (CFIT) destination risk-assessment is intent to reduce CFIT accidents, which present the greatest risk to aircraft, crews and passengers. Flight Crew shall use this checklist to evaluate specific flight operations and enhance pilot awareness of the CFIT risk. On the checklist, numerical values are assigned to a variety of factors that the pilot/operator will use to score his/her own situation and to calculate a numerical total.

Before "ad-hoc" flights or before each flight of a short duration ACMI, it is mandatory that all Technical Flight Crew members of those flights calculate the Level of CFIT risk for each flight, sector or leg, and sign the correspondent Risk Assessment form.

CFIT Risk Assessment

Section 1 – Destination CFIT Risk Factors

Airport and Approach Control capabilities:	Value	Score
ATC radar only	1.0	1.0
ATC radar coverage limited by terrain masking	1.5	
No radar coverage available (out of service / not installed)	3.0	
No ATC service	3.0	
Expected Approach:		
Airport located in or near mountainous terrain	2.0	2.0
ILS	0	0
VOR/DME	1.5	
Nonprecision approach with the approach slope from a FAF to the airport TD shallower than 2¼ degrees	2.0	
NDB	3.0	
No VASI / PAPI	3.0	
Visual day or night "black-hole" approach	3.0	
Runway Lighting:		
Complete approach lighting system	0	
Limited light system	3.0	3.0
Controller/Pilot Language Skills:		
Controllers and Pilots speak different primary languages	2.0	2.0
Controllers' spoken English or ICAO phraseology poor	2.0	2.0
Pilots' spoken English poor	2.0	
Departure:		
No published departure procedure	1.0	
Predominant tail-wind T/O	3.0	
Add Destination CFIT Risk Factors Values to Calculate Total:	>	10.0

Na fase da
preparação do
voo

Ambos os pilotos,
individualmente,
avaliam a sua
percepção do
risco.

Section 2 – Risk Multiplier

Type of Operation (select only one value):	Value	Score
Scheduled - Operate at least once on last 90 days	1.0	
Nonscheduled - No operation on last 90 days	1.5	
Charter - Never operate on last 12 months	2.5	2.5
Special Operation / Compassion Flight	3.0	
Departure/Arrival Airport (select single highest applicable value):		
Western Europe (ACMI-Medium/Long Duration)	1.0	
Western Europe (Ad-hoc Flight and ACMI-Short Duration)	1.5	
Australia/New Zealand (ACMI-Medium/Long Duration)	1.0	
Australia/New Zealand (Ad-hoc Flight and ACMI-Short Duration)	2.0	
USA/Canada (ACMI-Medium/Long Duration)	1.0	
USA/Canada (Ad-hoc Flight and ACMI-Short Duration)	2.0	
Middle East (ACMI-Medium/Long Duration)	1.5	
Middle East (Ad-hoc Flight and ACMI-Short Duration)	2.0	
Southeast Asia/India sub-continent	3.0	
Euro-Asia (Eastern Europe / CIS) and Fare East	3.0	3.0
South America/Caribbean	5.0	
North Africa (Maghreb)	3.0	
Africa (Sub-Sahara)	8.0	
Weather/Night Conditions (select only one value):		
Night – no moon	2.0	
IMC	3.0	
Night and IMC	5.0	5.0
Crew Duty (select only one value):		
Single Flight - Crew duty period at maximum	1.5	
Flight crew duty at maximum, ending with a night nonprecision approach	2.0	
Flight crew crosses five or more time zones	1.5	
Third day of multiple time zone crossings	1.5	
Crew Briefing (select only one value)		
Flight crews are aware of written policies, SOP's, circulars and documentation; and were to find then? If not sure	1.5	
Are flight crews briefed about known hazards and NOTAMS? If not properly	1.5	
Flight Operations Management assures that flight crews know and follow written policies, SOP's, circulars and documentation? If not	1.5	
Add Values to Calculate Risk Multiplier Total		10.5

Destination CFIT Risk Factors Total (Section 1) = 10.0

X

Risk Multiplier Total (Section 2) = 10.5

CFIT Risk Level => 105.0

< - 050 points >>>>	Good in CFIT flight standards
051 - 100 points >>>>	Good, but not the best
101 - 200 points >>>>	Most care & awareness needed
More than 200 >>>>	High CFIT Risk



Antes de iniciar
a descida para
o destino

Ambos os
pilotos, em
conjunto,
avaliam a sua
percepção do
risco para as
condições
actuais.

Approach-and-Landing Risk Awareness Tool

Cockpit crews should complement the standard approach briefing with this table, as appropriate, prior to top of descent, to improve awareness of factors that can increase the risk of an accident during approach and landing.

The number of warning symbols (▼) that accompany a factor indicates a relative measure of risk. Generally, the greater the number of warning symbols that accompany a factor, the greater the risk presented by that factor.

Flight crews should consider carefully the effects of multiple risk factors, exercise appropriate vigilance and be prepared to conduct a go-around or a missed approach.

Failure to recognize the need for a missed approach and to execute a missed approach is a major cause of approach-and-landing accidents.

Flight Crew

Long duty period - reduced alertness _____ ▼▼▼

Airport Services and Equipment

No approach radar service or airport tower service _____ ▼▼▼▼

No current local weather report _____ ▼▼▼▼

Unfamiliar airport or unfamiliar procedures _____ ▼▼▼▼

Minimal or no approach lights or runway lights (when not required) _____ ▼▼

No visual approach-sloped guidance (e.g., VASI/PAPI) _____ ▼▼

Foreign destination - possible communication/language problems _____ ▼▼

Expected Approach

No precision approach (especially step-down or circling procedure) _____ ▼▼▼▼

Visual approach in darkness _____ ▼▼▼▼

Late runway change _____ ▼▼▼▼

No published STAR _____ ▼▼

Environment

Hilly or mountainous terrain _____ ▼▼▼▼

Visibility restriction - e.g., darkness, fog, haze, low light, mist, smoke _____ ▼▼▼▼

Visual illusions - e.g., sloping terrain, wet runway, whiteout/snow _____ ▼▼▼▼

Wind conditions - e.g., cross wind, gust, tail wind, wind shear _____ ▼▼▼▼

Runway conditions - e.g., ice, slush, snow, water _____ ▼▼▼▼

Cold-temperature effects - true altitude (actual height above ms) _____ ▼▼

Aircraft Equipment

No GPWS/EGPWS/GCAS/TAWS _____ ▼▼▼▼

No radio altimeter _____ ▼▼▼▼

No wind shear warning system _____ ▼▼▼▼

No TCAS _____ ▼▼



Runway Excursion
accounts for 33% of
all aircraft accidents



The highest risk factor for
Runway Excursions is an...

Unstable Approach



Unstable approaches occur
on 4% of all approaches!

*But only 3% of this
unstable approaches result in
a Go-Around*



Almost all aircrew in an
unstable approach
condition, about 97%,

continue to land !!!



The almost complete failure to
call Go-Around,
as a preventive mitigation of
the risk,

*is the number one cause of runway
excursions and, therefore, of approach
and landing accidents*



If go-around policies were
effective even 50% of the
time,

*...the industry accident rate
would be reduced
10 to 18 percent!*



There is no other single decision, or procedure, beyond calling Go-Around that could have as significant effect in reducing the actual accident rate



*Why, then, is go-around
compliance so poor?!*



Go-Around

The decision making process

Based on FSF-Aero Safety World, Feb2013 issue

Article by J. Martin Smith, David W. Jamieson and
William F. Curtis



For the strategy to understand the
psychology involving the
go-around decision

Flight Safety Foundation (FSF) call
it...

Dynamic Situational Awareness Model (DSAM)

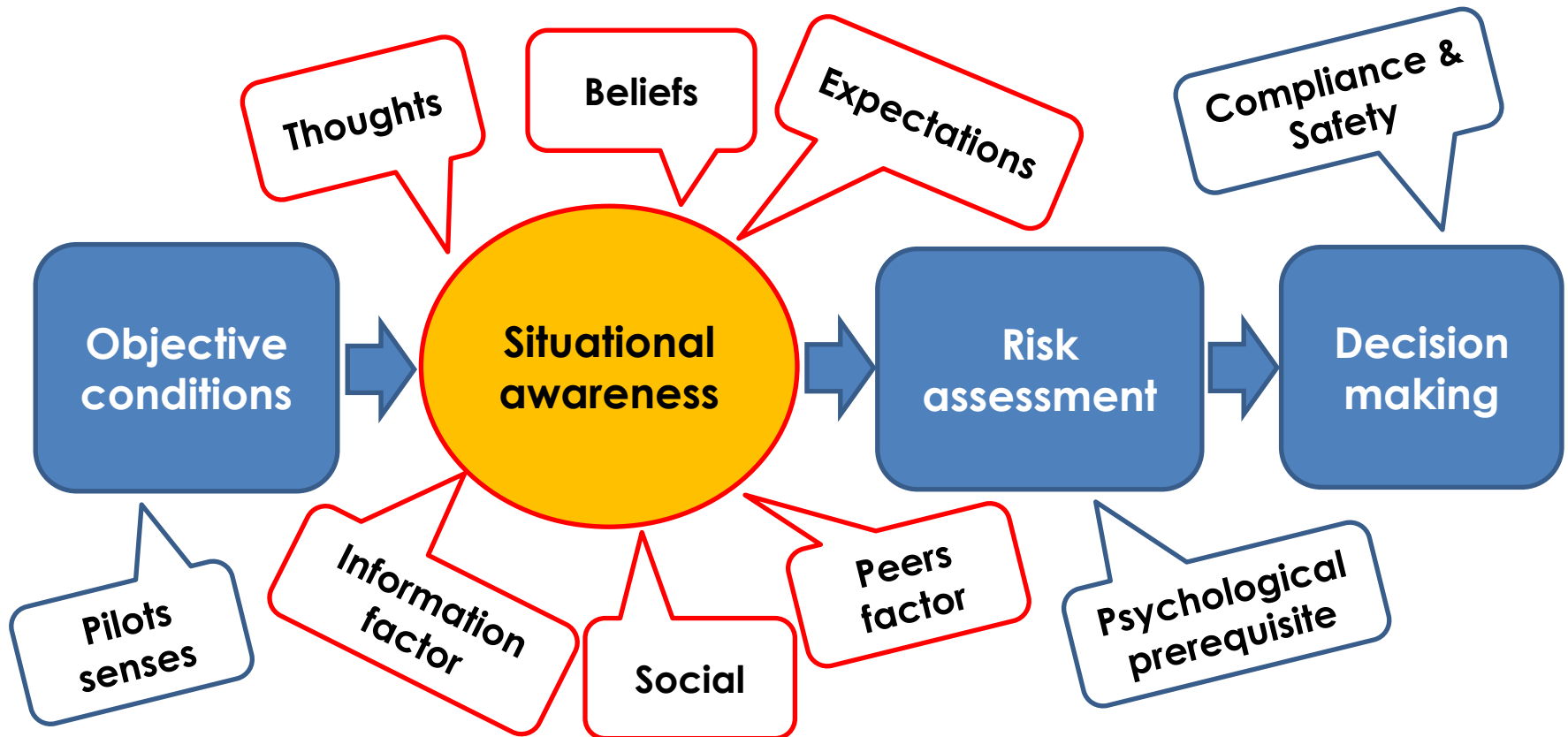


The pilots very first psychological or cognitive act is being aware of their environment.

This awareness shapes subsequent perceptions of the operational risks and threats.



Rule of Awareness in the Decision Making Process



Based on: The Presage Group
Integrated by: Cpt. Manuel Freitas



Company Airline Policy

All approaches shall be flown as
stabilized approaches

This involves achieving and maintain:

- Stable approach speed;
- Stable descent rate;
- Achieve landing configuration at or before the minimum stabilized approach height (SAH).



Company Airline Policy

Go Around

There will be no negative interpretations made in assessing a flight crew decision to initiate a missed approach or go-around



Company Airline Policy Go Around

F/O as **PM** can call “**Go Around**”
or

“**Go Around Flaps**” as **PF**
without any permission from the
PIC

Do it and discuss later

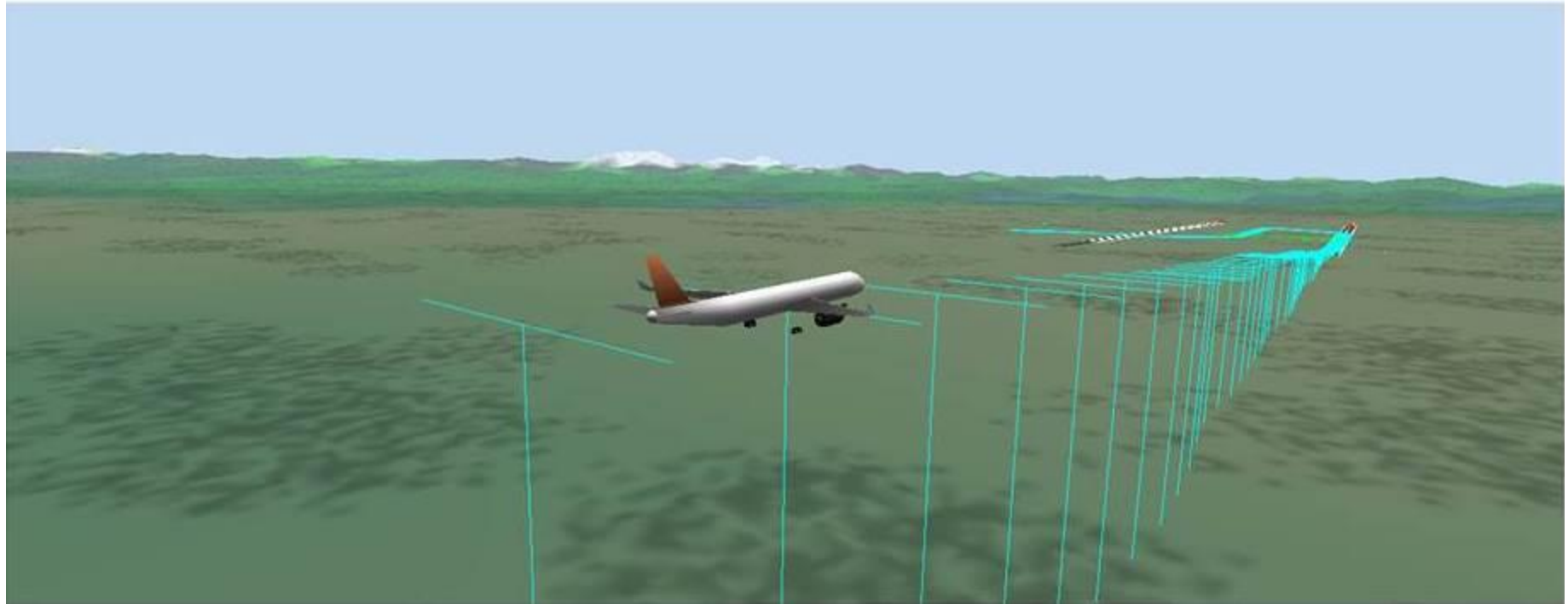


Contribution of the FDM programme...

Identify areas of operational risk and quantify current safety margins.

A feedback loop, that should be part of a SMS, will allow timely corrective action to be taken where safety may be compromised by significant deviation from SOP's.

Hi fly





Risk Management by FDM

- Unstable Approaches and/or potential conditions that may lead to a Runway Excursion (by monitoring specific parameters during the approach like A/C speed and sink rate, GLIDE & LOC deviation, A/C configuration and respective power setting);
- Deep Landings (by monitoring the touchdown point).



Safety Assurance by FDM

- Flight crews are contacted in order to clarify abnormal events detected . If necessary, a snapshot or a small video is sent;
- Assess the evolution of the relevant Safety Performance Indicators (SPI's) on a quarterly basis;
- Whenever unacceptable risks are identified all relevant personnel is involved in putting in place appropriate remedial/mitigation actions;
- After taking any remedial/mitigation action, follow-up responsibility is addressed to one particular person or department so that its efficiency is monitored and no knock-on effects are transferred elsewhere.



Safety Promotion

by FDM

- Every quarter statistics are disseminated to flight crews regarding the most frequent exceedances or other significant events/trends by airport in each operation;
- Briefings on pilots recurrent training.



Thank you for your attention

Obrigada