

# Runway Excursions Brazilian Civil Aviation



# GOAL



Present the runway excursion prevention actions adopted by the CENIPA in the period 2013 - 2014.





# OUTLINE

- INTRODUCTION
- RUNWAY EXCURSION COMMISSION
- CONCEPT
- DATA
- STATISTICS
- THE FUTURE



# OUTLINE



- **INTRODUCTION**
- RUNWAY EXCURSION COMMISSION
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# INTRODUCTION



- ICAO – prioritization
- Brazil – signatory state of the 1944 Chicago Convention
- Dreadful disaster in the Brazilian civil aviation – PR-MBK, 17 July 2007
  - ✓ Congonhas Airport – São Paulo/SP
  - ✓ 199 fatalities
- National Committee for the Prevention of Aeronautical Accidents – 58th Plenary Session/2012 – Runway Excursion Commission

# OUTLINE



- INTRODUCTION
- **RUNWAY EXCURSION COMMISSION**
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# RUNWAY EXCURSION COMMISSION



- Members: **CENIPA, EMBRAER, AVIANCA, AZUL, GOL and TAM**
- Initial Goals
  - ✓ Establish the Brazilian Runway Excursion Concept
  - ✓ Specialization of the Investigation Course
  - ✓ Specific Safety Programs - Airlines
  - ✓ Statistics – 2004/2013

# RUNWAY EXCURSION COMMISSION





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# CONCEPT

A runway excursion event occurs when an aircraft (in contact with the runway surface during the phases of takeoff or landing) goes beyond either the longitudinal or lateral limits of the runway.

There are two types of runway excursion events:

- *Veer-off*: when an aircraft surpasses the lateral limits of the runway.
- *Overrun*: when an aircraft surpasses the longitudinal limits of the runway (thresholds).



# CONCEPT



This concept excludes the exits in which the aircraft lands on and/or takes off from a runway not registered and/or not certified for such operations, as well as when an aircraft is operating on a contingent landing strip.

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# DATA

- Events that resulted in Accidents, Serious Incidents or Incidents involving jet, turboprop, and reciprocating-engine aircraft in the period from January 2004 to December 2013.





# DATA

FILTER

• 10,000 NOTIFICATIONS

FILTER

• 1,936 EVENTS OF INTEREST

FILTER

• 400 OCCURRENCES OF INTEREST

FILTER

• **275 OCCURRENCES VALIDATED**

1. Military flights;
2. Unlawful flights;
3. Landing at and/or takeoff from unregistered/non-homologated aerodrome;
4. Landing at and/or takeoff from contingent landing strip; and
5. Test flights.





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# STATISTICS



## 1<sup>st</sup> Part



# Jets/Turboprops/Reciprocating



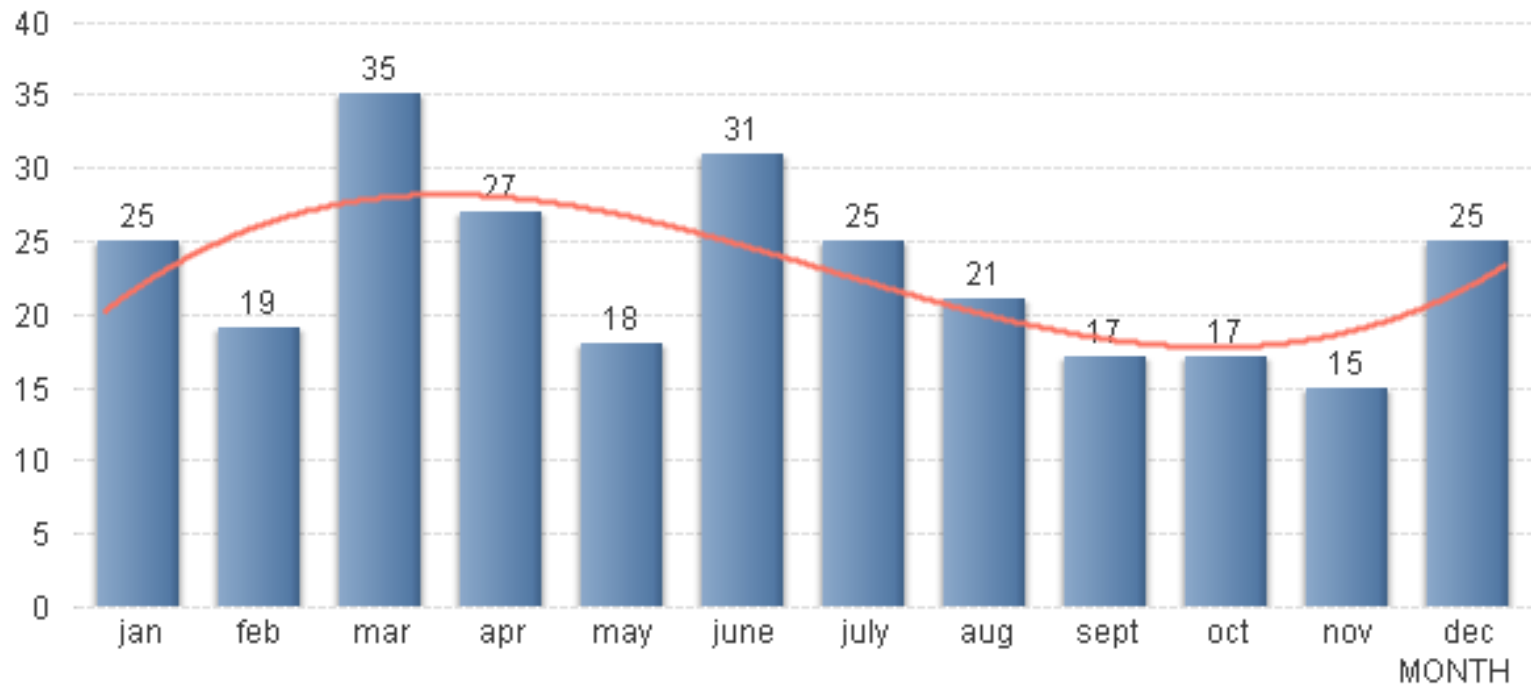
## Total of Runway Excursions per Year (2004-2013)



# Jets/Turboprops/Reciprocating



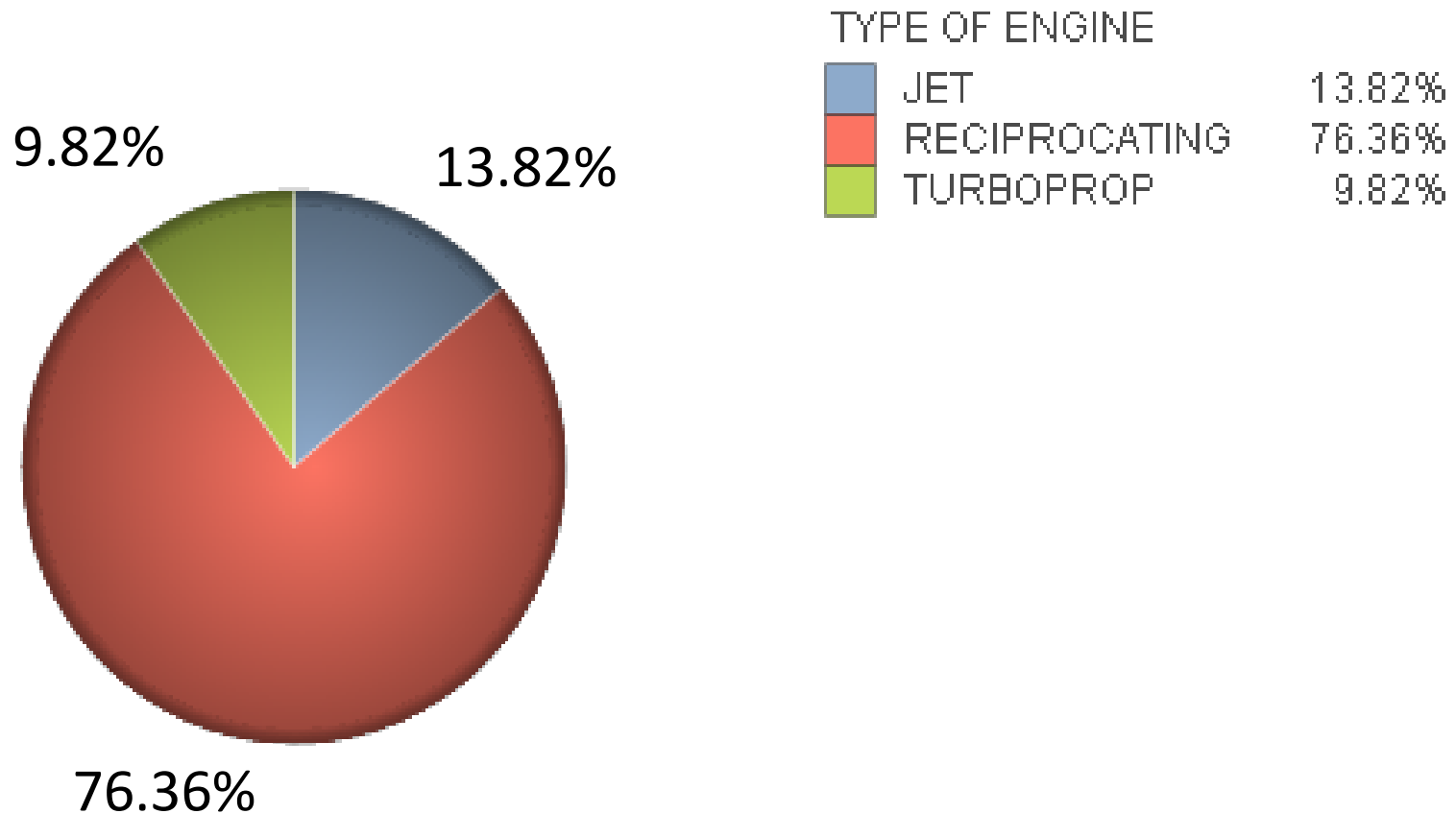
## Total of Runway Excursions per Month of Occurrence



# Jets/Turboprops/Reciprocating



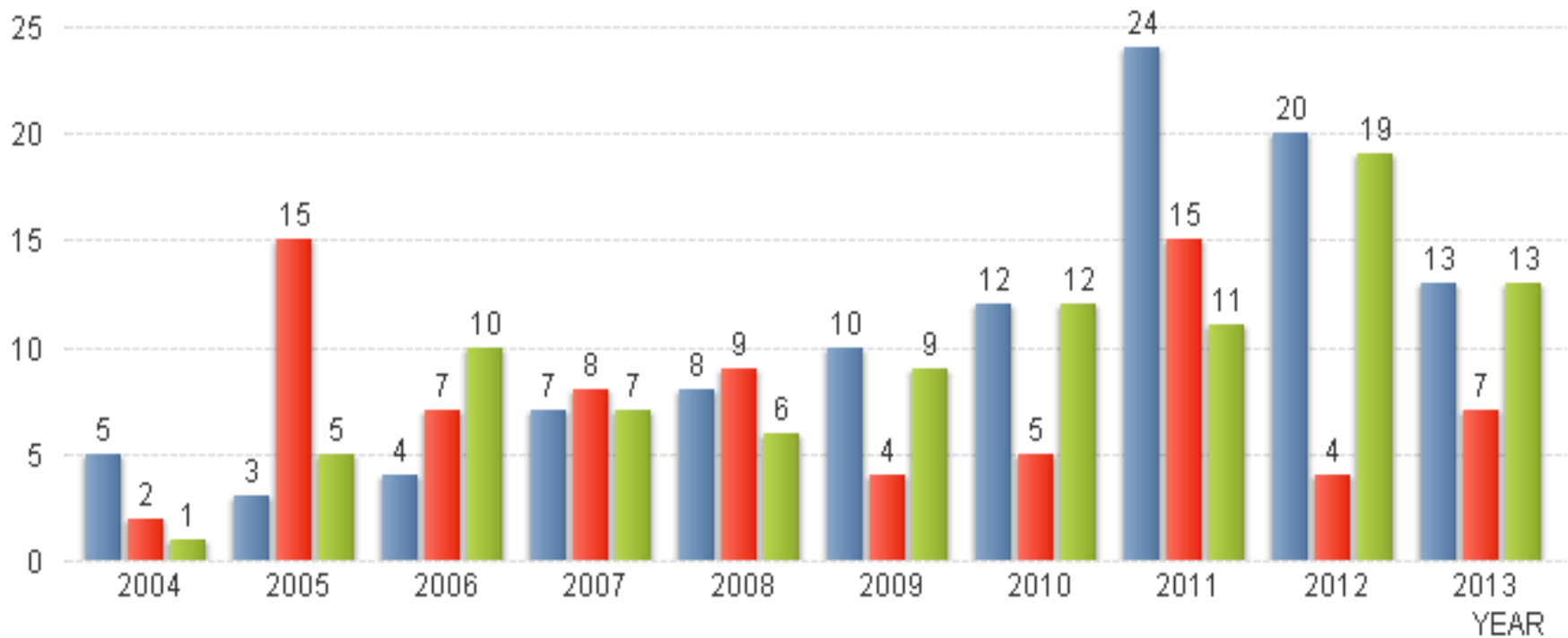
## Runway Excursions per Type of Engine



# Jets/Turboprops/Reciprocating



## Total of Runway Excursions per Classification of Occurrence



CLASSIFICATION

ACCIDENT

INCIDENT

SERIOUS INCIDENT

# STATISTICS



## 2<sup>nd</sup> Part



# Jets/Turboprops



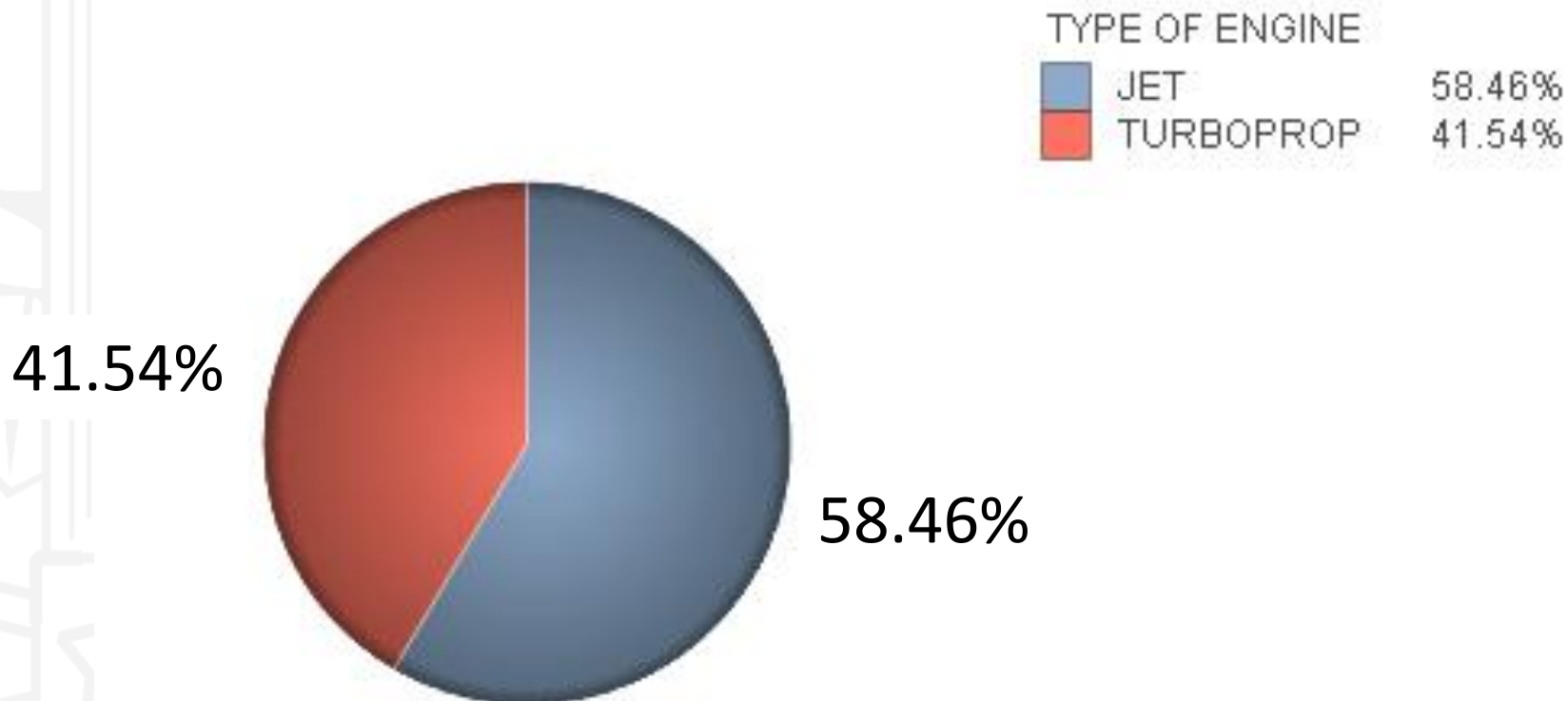
## Total of Runway Excursions





# Jets/Turboprops

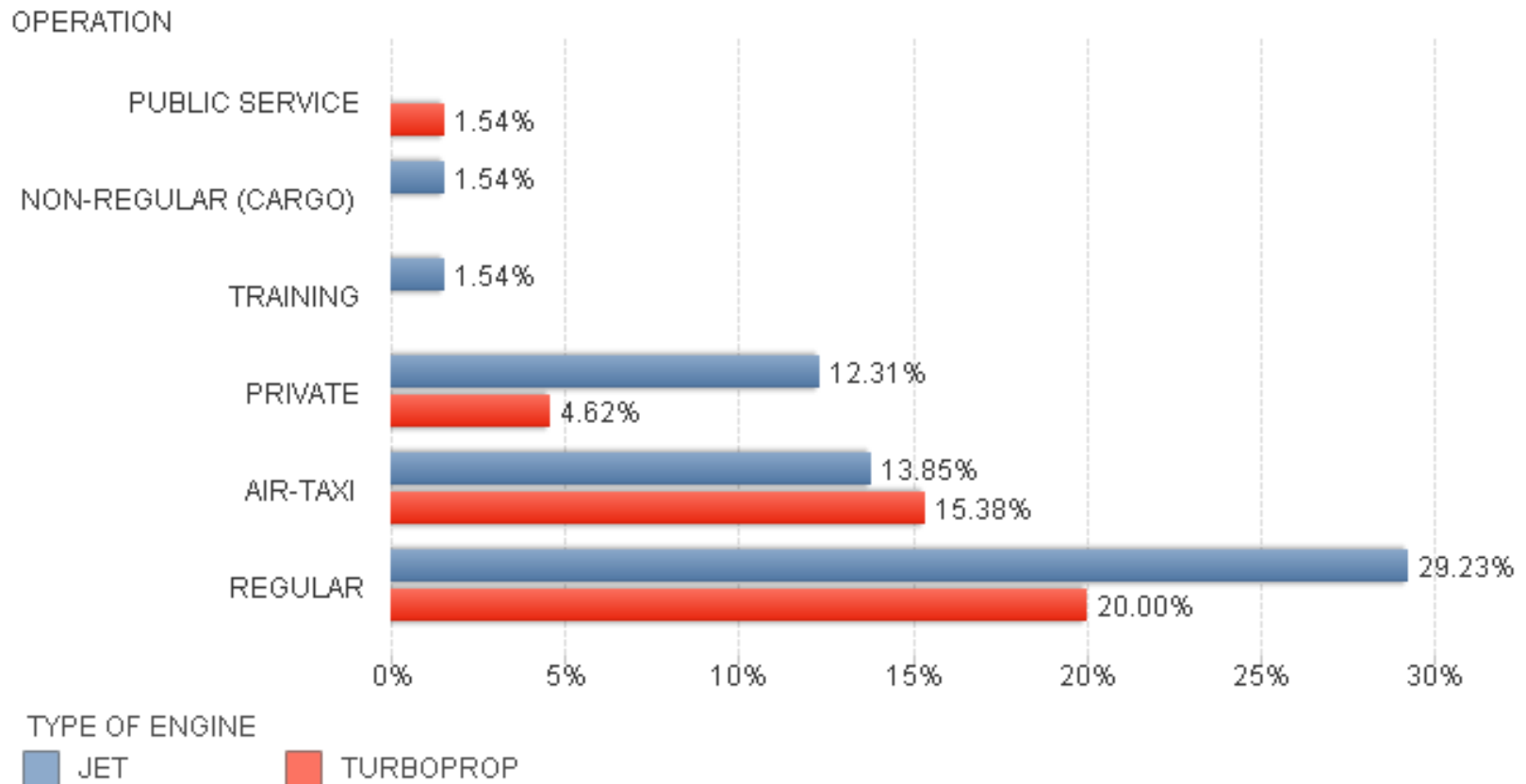
## Total of Runway Excursions per Type of Engine



# Jets/Turboprops



## Total of Runway Excursions per Type of Operation



# STATISTICS



**3<sup>rd</sup> Part**

# Jets



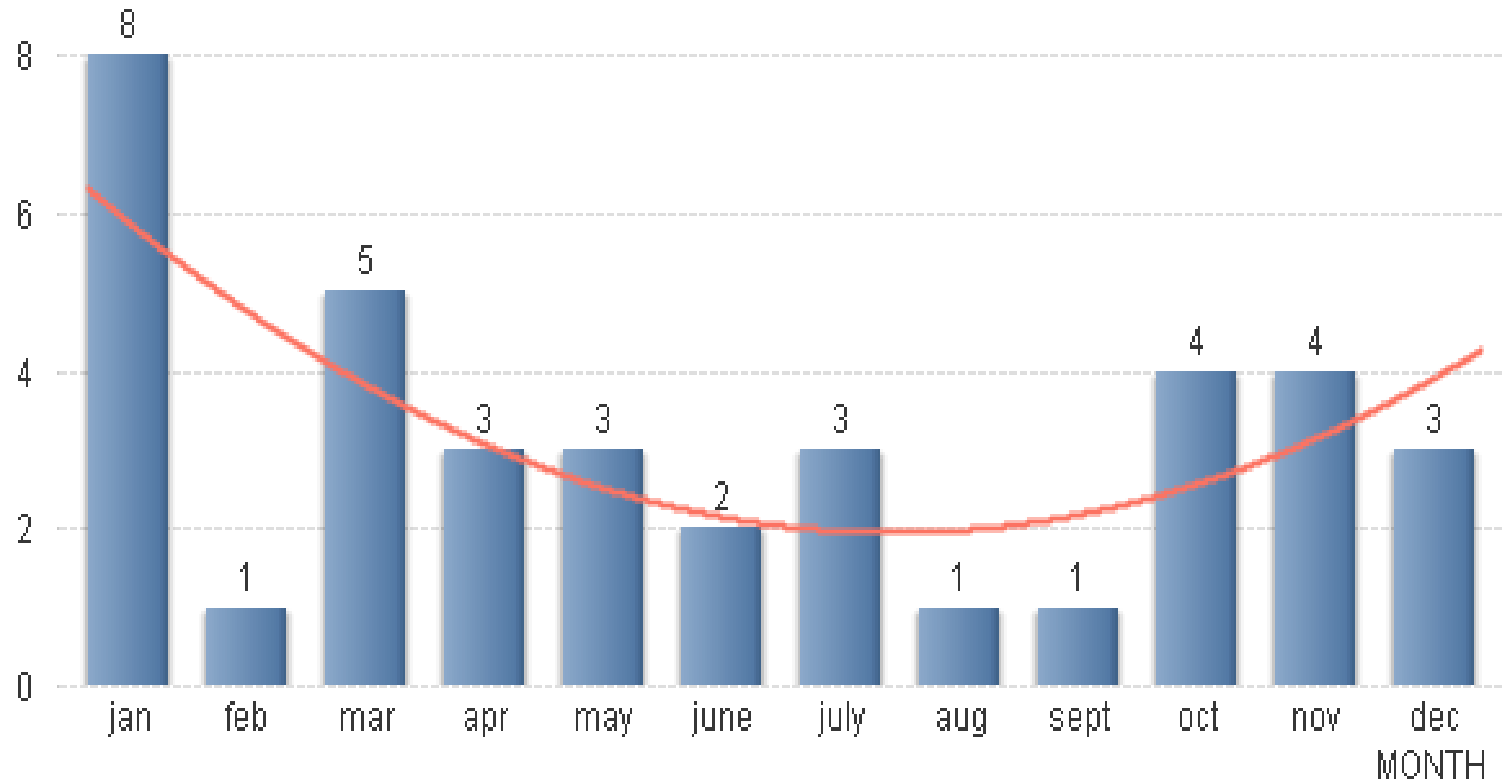
## Total of Runway Excursions



# Jets



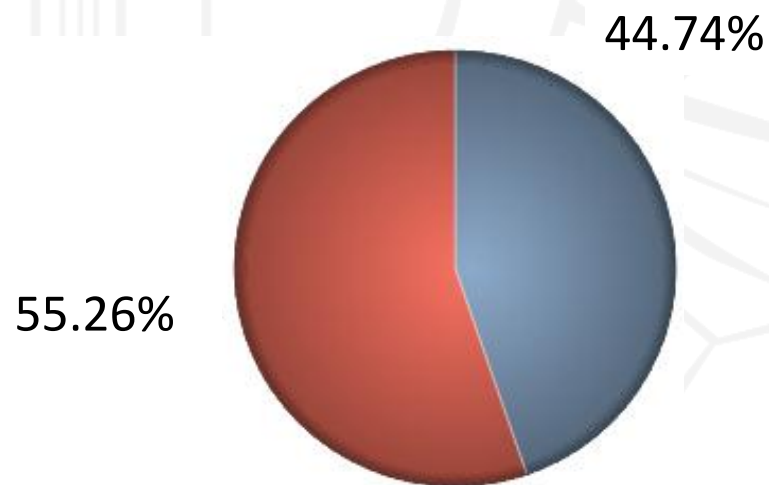
## Total of Runway Excursions per Month of Occurrence





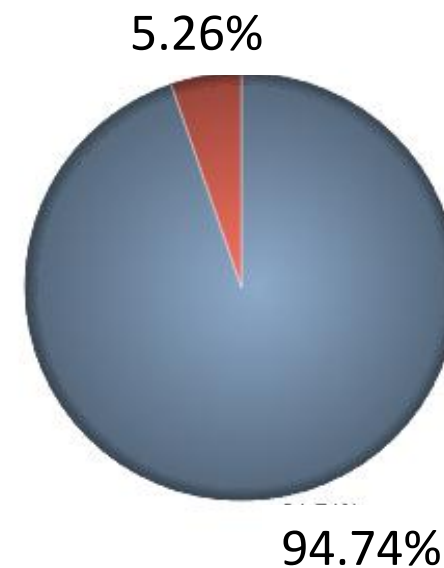
# Jets

Per Type of Runway Excursion



EXCURSION  
■ Overrun  
■ Veer off

Runway Excursions per Phase of Flight

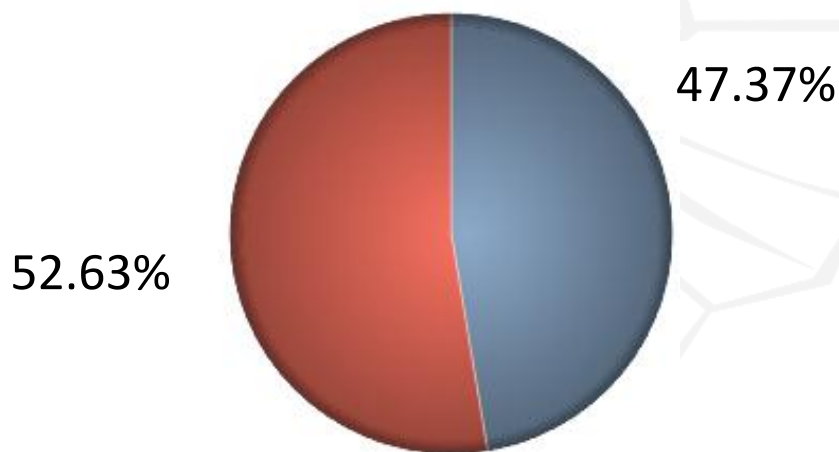


PHASE OF FLIGHT  
■ LANDING  
■ TAKEOFF



# Jets

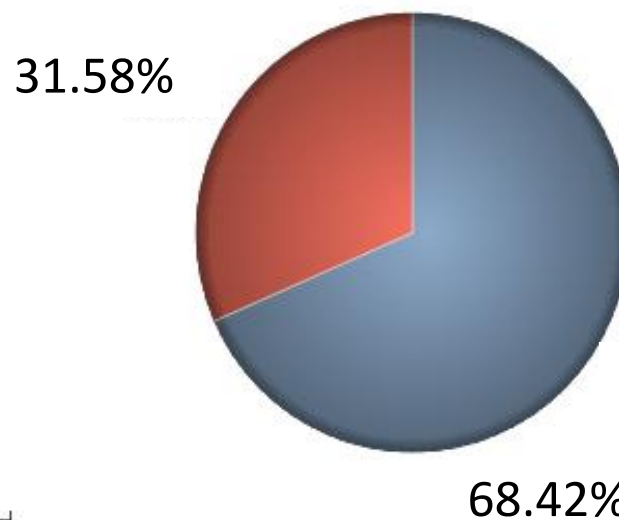
Runway Excursions per Runway Condition – Dry/Wet



RUNWAY CONDITION



Runway Excursions per Period of Day



DAY/NIGHT



# STATISTICS



## 4<sup>th</sup> Part





# Turboprops

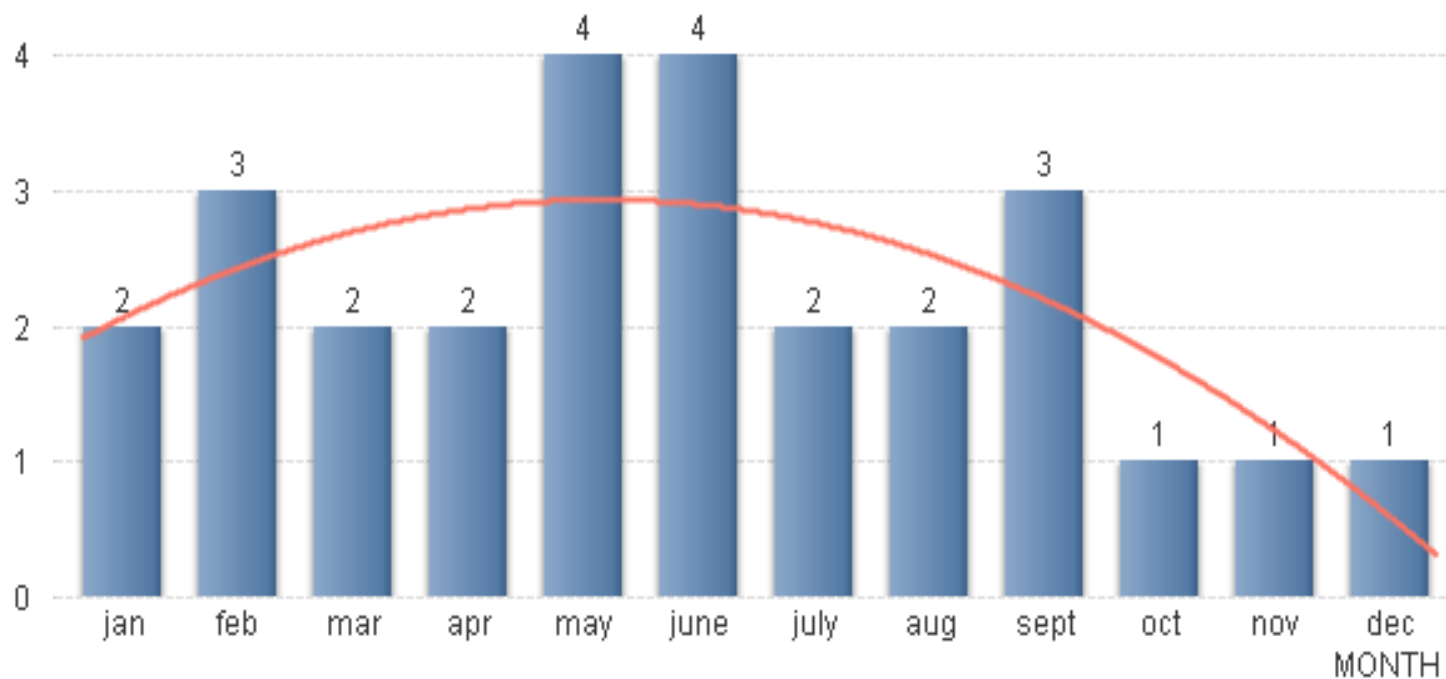
## Total of Runway Excursions





# Turboprops

## Total of Runway Excursions per Month of Occurrence

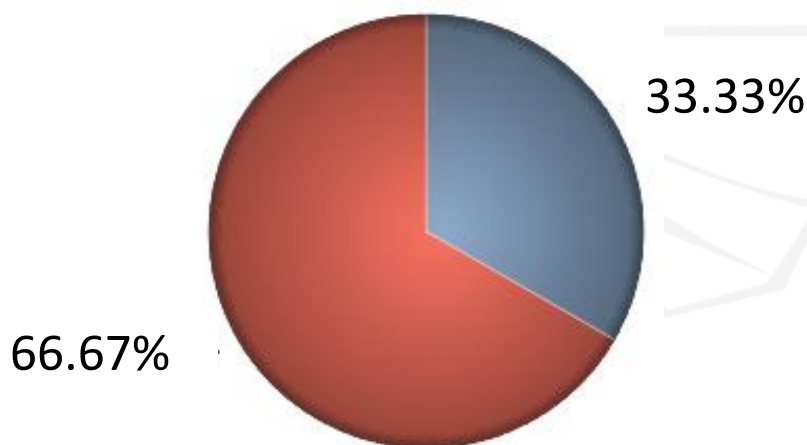




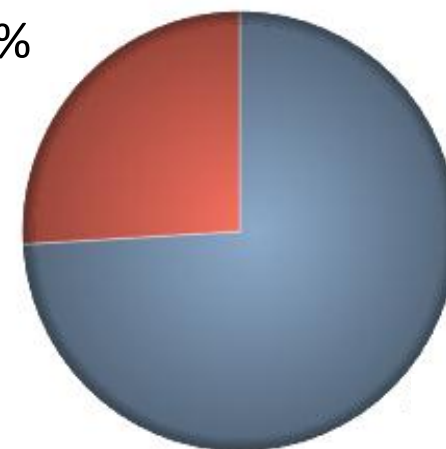
# Turboprops

Per Type of Runway Excursions

Runway Excursions per Phase of Flight



25.93%



EXCURSION

- Overrun
- Veer off

PHASE OF FLIGHT

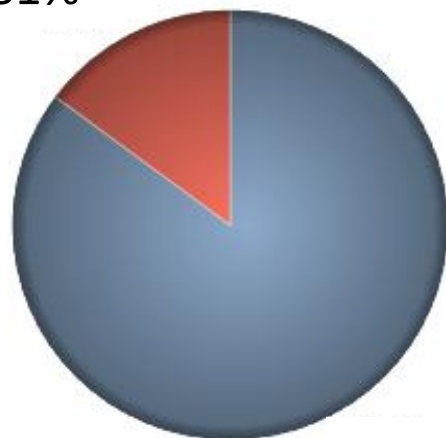
- LANDING
- TAKEOFF



# Turboprops

Runway Excursions per Runway Condition – Dry/Wet

14.81%



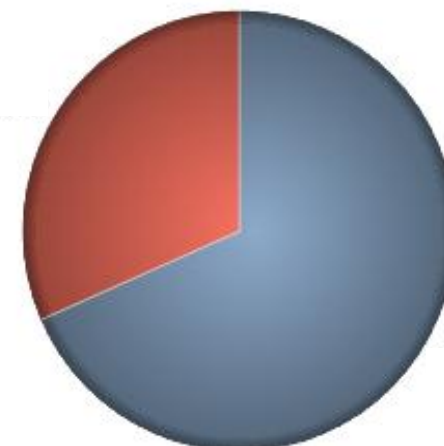
85.19%

RUNWAY CONDITION



Runway Excursions per Period of Day

31.58%



68.42%

DAY/NIGHT

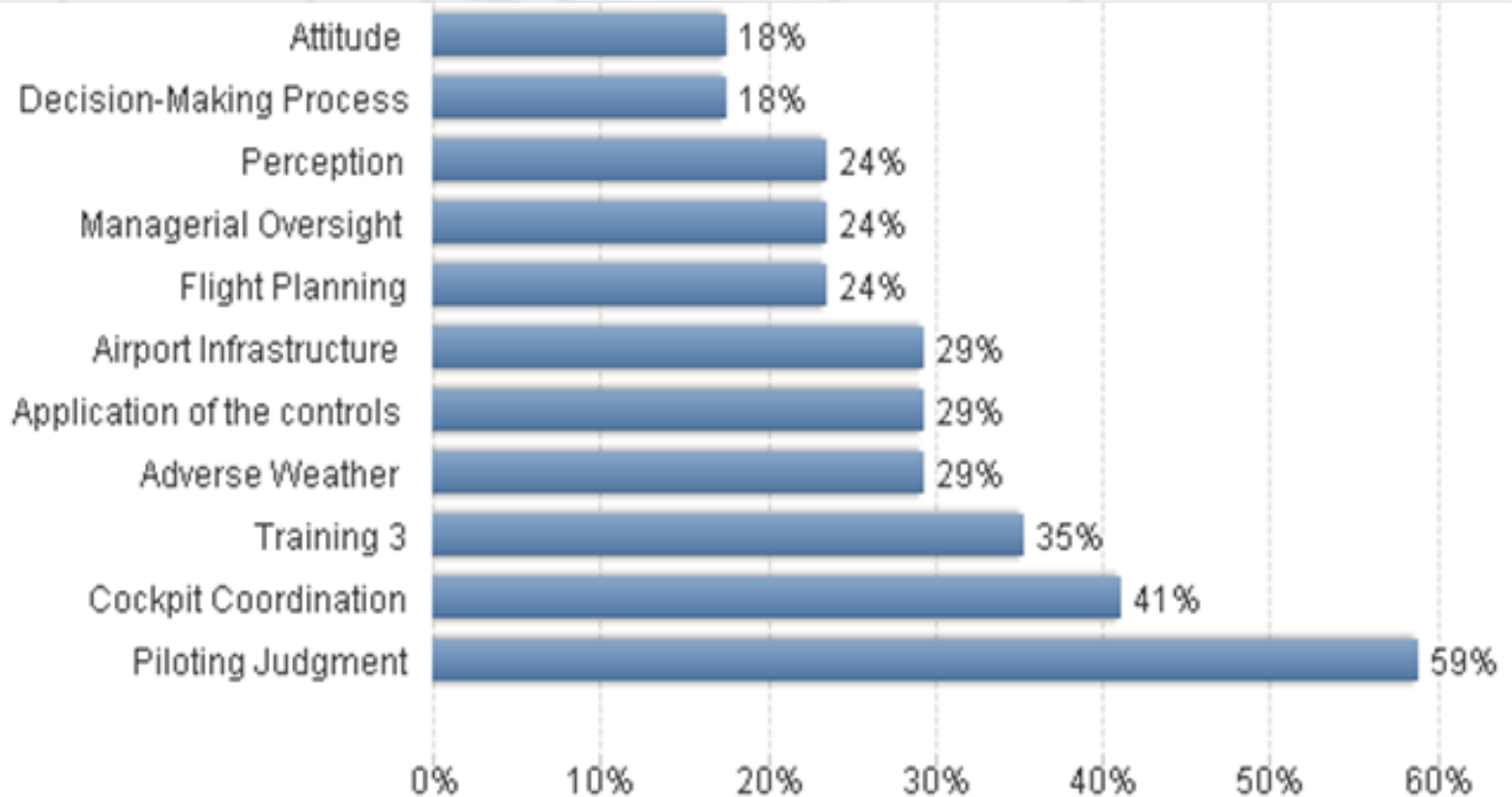


# STATISTICS



**5<sup>th</sup> Part**

# CONTRIBUTING FACTORS





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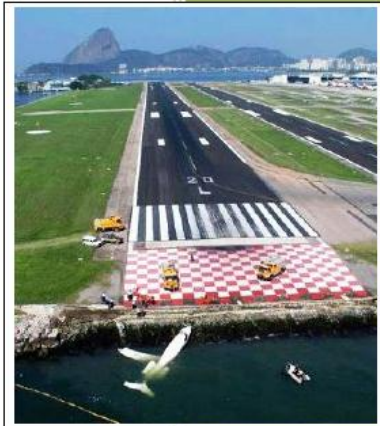


# THE FUTURE



2004-2013

Saída de Pista na Aviação Civil Brasileira



COMISSÃO RUNWAY EXCURSION  
CENIPA  
01/01/2014

- Official Report
  - ✓ 12 November 2014
  - ✓ Portuguese
  - ✓ Web and Printed
  - ✓ Until March 2015
    - Spanish
    - English

# THE FUTURE



**ANAC**

**RUNWAY EXCURSION  
COMMISSION**

**BCAST  
WORKING GROUP RE**



**Joint Efforts - setting new goals**



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