



ICAO/ACI
**OBSTACLE | LIMITATION
SURFACES | SYMPOSIUM**
OLSS 2021 8 - 10 December 2021

Effective obstacle management for improved
aerodrome protection and airspace usage

TRANSITING TO A NEW SYSTEM
DAY 3 – FRIDAY 10 DECEMBER 2021

CHALLENGE



Develop Aeronautical Study Provisions for PANS – ADR

GENERAL ASPECTS

ICAO Annex 14 specifies that OLS penetrations could be allowed when:

“after aeronautical study it is determined that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes”.



INTRODUCTION OF OBSTACLE EVALUATION AND CONTROL



National Law

- Analyse;
- Approve; and
- Publish the OFS and OES of each aerodrome

2

Civil Aviation Authorities

- Know the Surfaces for each aerodrome to use it in the Zoning
- Authorize new constructions or development

3

Local competent Authorities

1

Aerodrome Operator

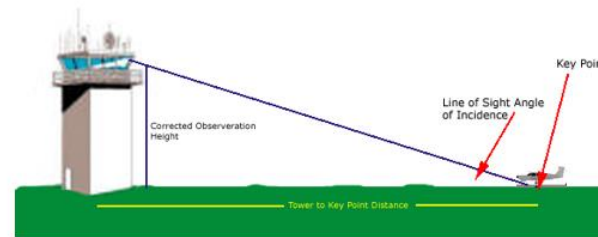
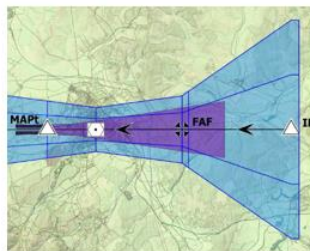
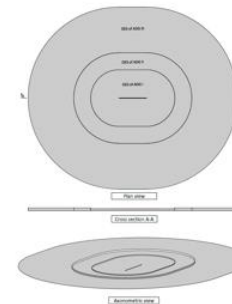
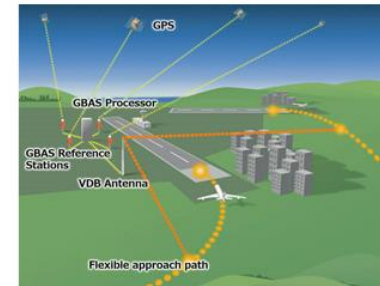
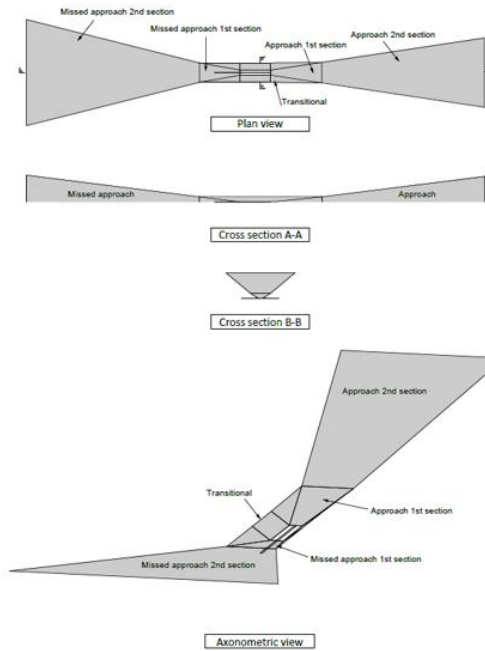
- Establish applicable OFS and OES
- Survey the Surfaces

4

Proponent

- Propose the construction or development

EXISTING OBSTACLE PROTECTION



OBSTACLE EVALUATION AND CONTROL

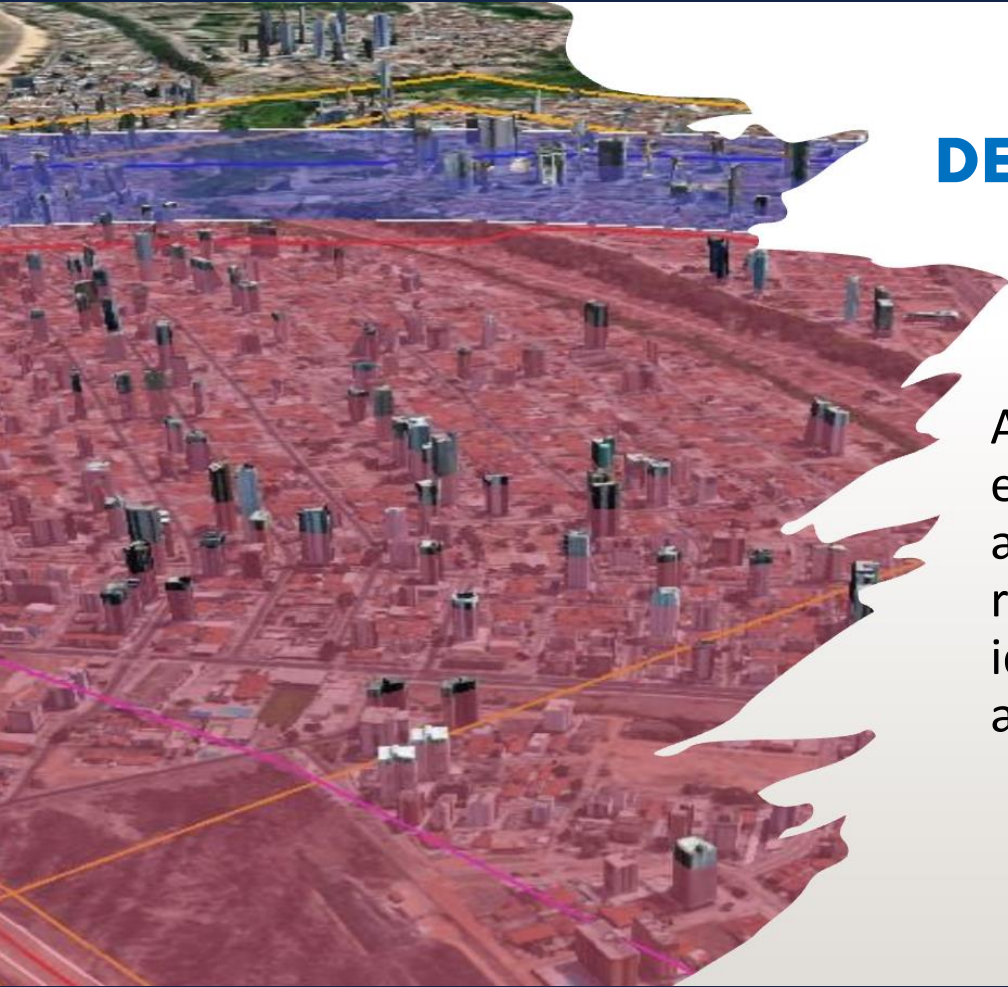




AERONAUTICAL STUDIES

- Definition;
- Triggers;
- Stakeholders;
- Process:
 - Data Gathering;
 - Impact Assessment;
 - Identifying Mitigations Measures;
 - Safety Assessment
- Acceptance Criteria.

AERONAUTICAL STUDY

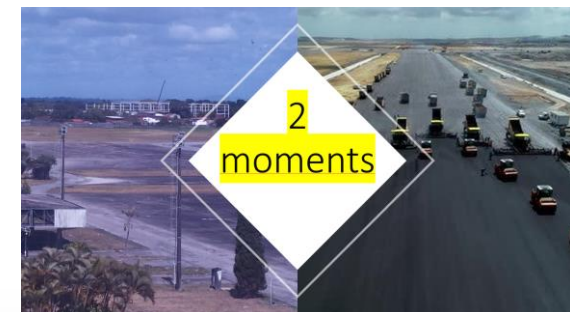


DEFINITION:

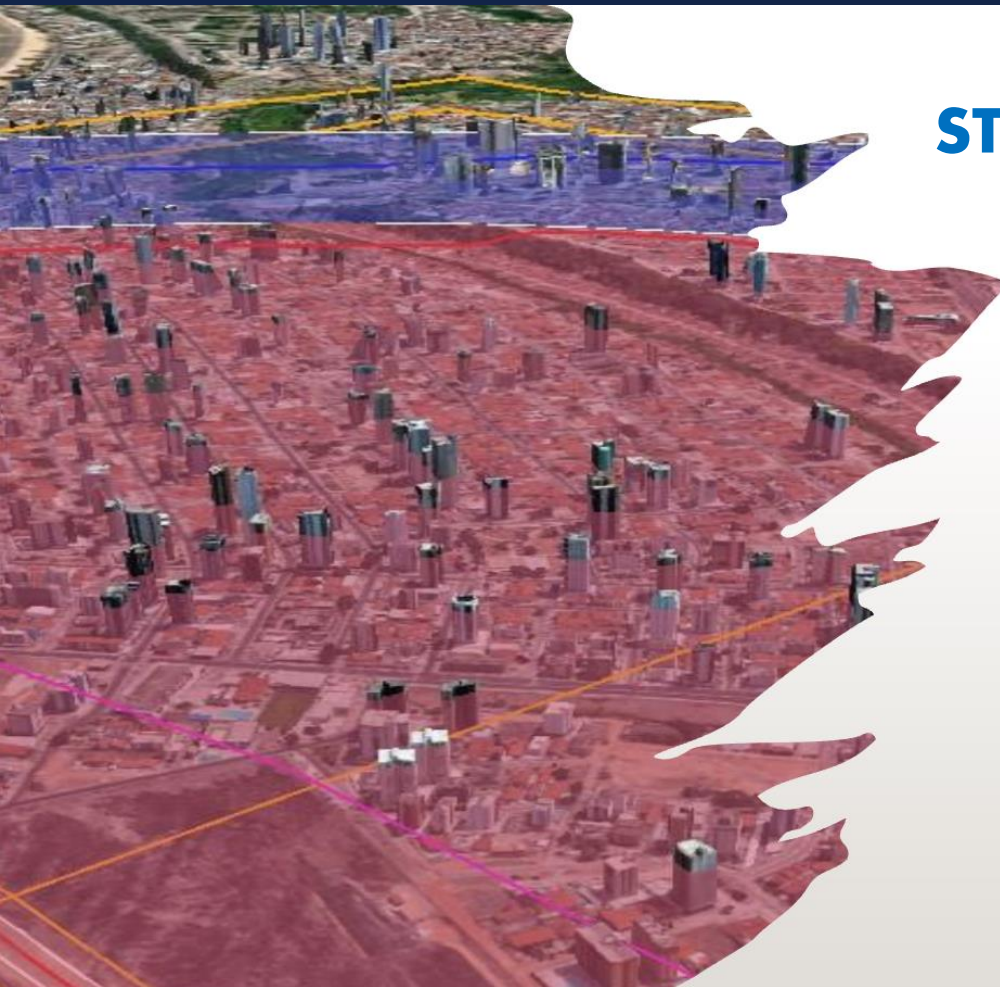
An aeronautical study is a process of examining an aeronautical concern by assessing its impact on safety and regularity of aircraft operations and identify, if need be, possible solutions and mitigations.



TRIGGERS:



- Penetration of OFS and OES;
- Characteristics and purpose of object;
 - Below – hazard;
 - Beyond – too high;
- Anytime requested or reported.

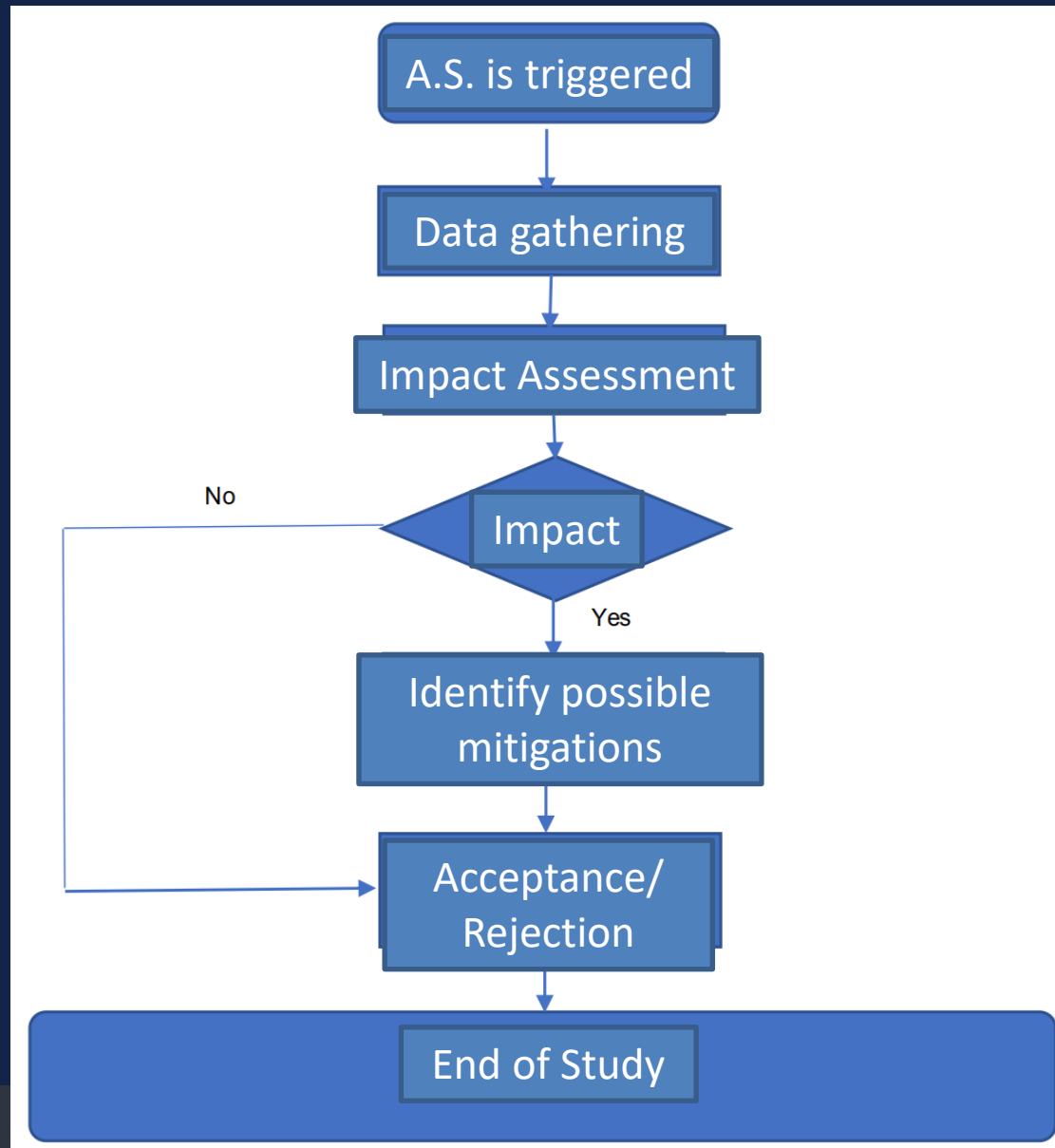


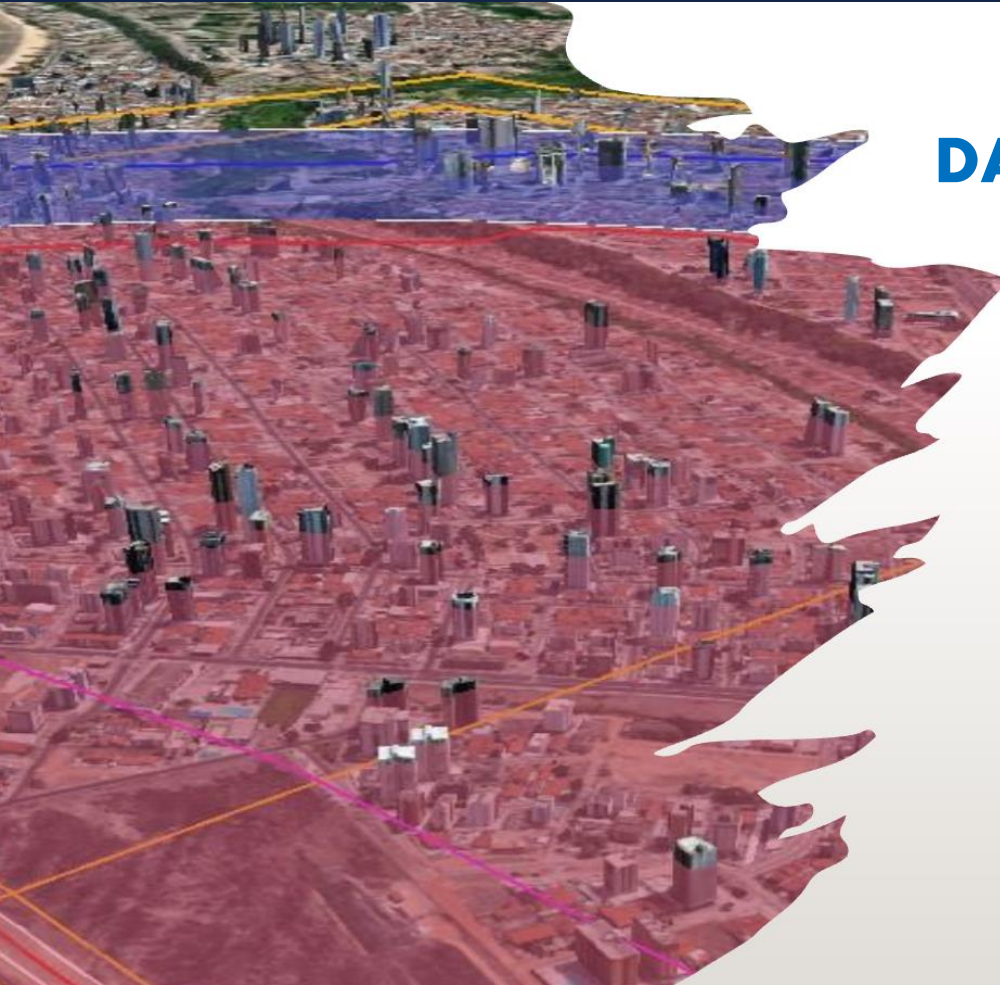
STAKEHOLDERS:

- Civil Aviation Authority
- Proponent of the proposed construction/development
- Aerodrome operator
- Air Navigation Service Providers
- Flight procedure designers
- Aircraft operators (Business aviation operators and the military)
- Appropriate authorities (e.g. land use planner, military etc)

AERONAUTICAL STUDY

PROCESS:



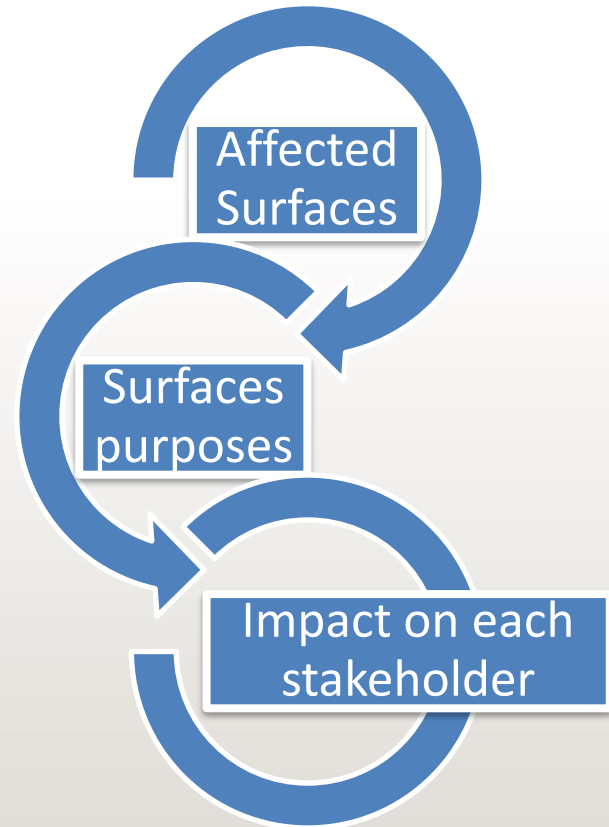
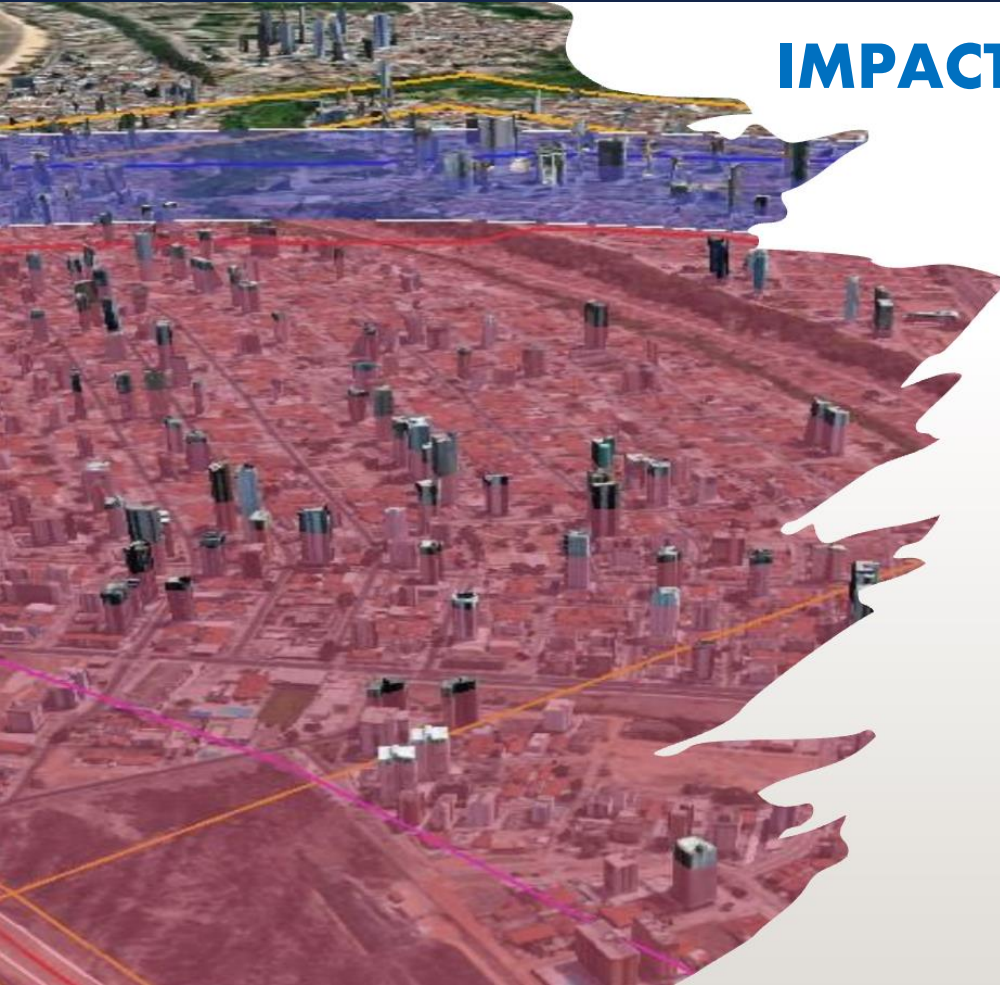


DATA GATHERING:

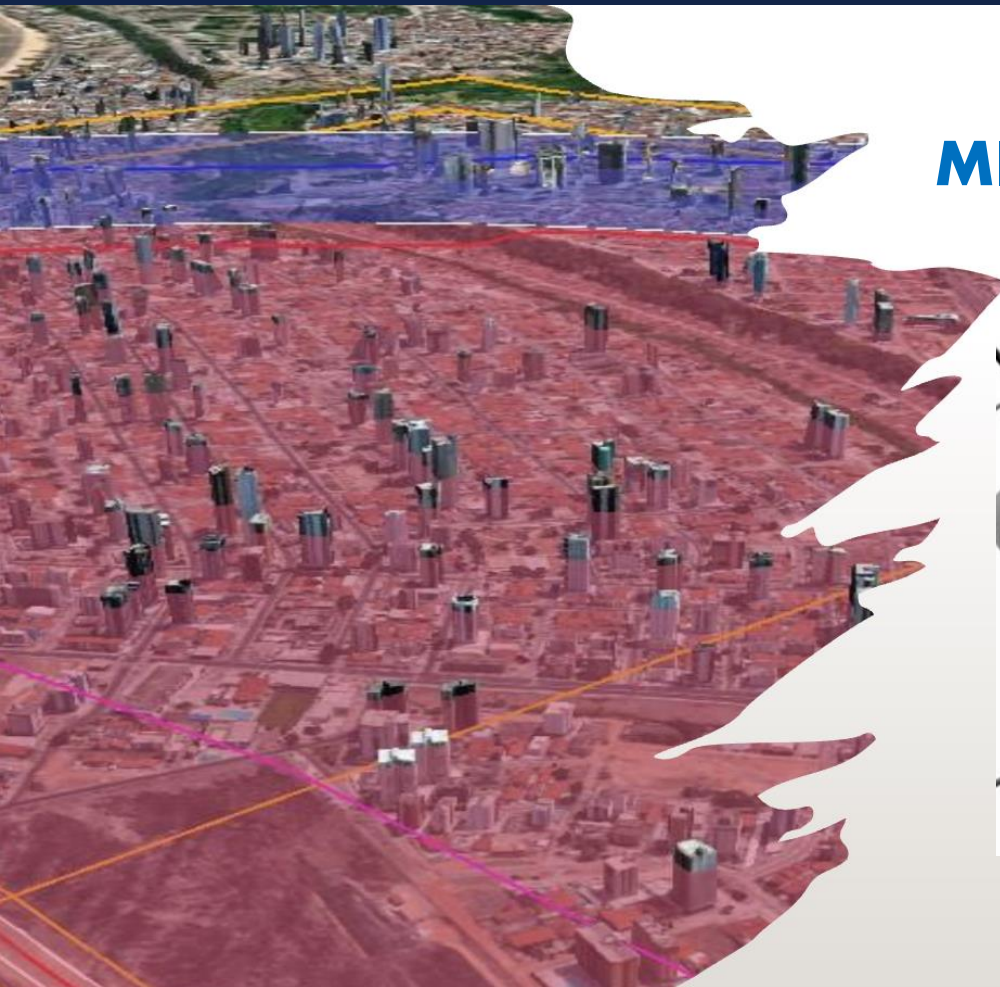
- General aspects;
- Proposal characteristics;
- Obstacle details;
- Aerodrome details;
 - Flight Operations
- Affected surfaces.

AERONAUTICAL STUDY

IMPACT ASSESSMENT:

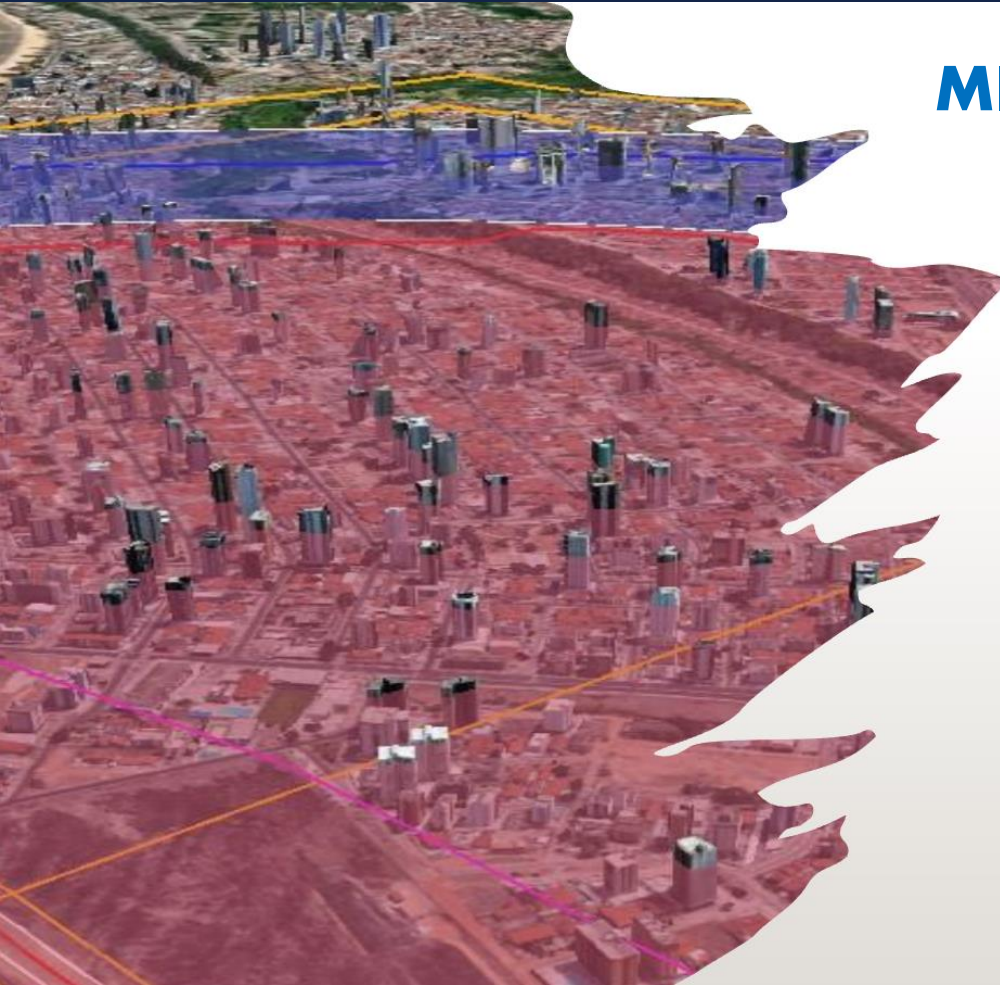


AERONAUTICAL STUDY



MITIGATIONS MEASURES:



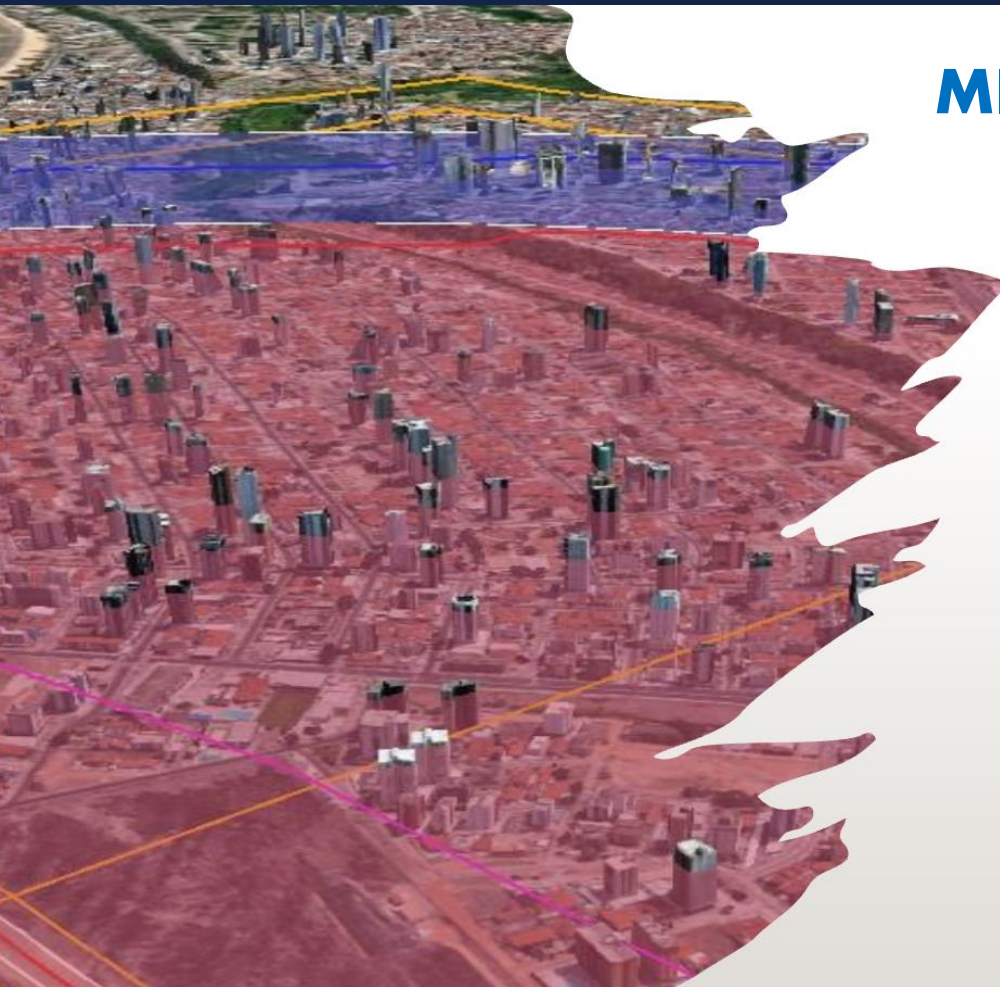


MITIGATIONS MEASURES: OFS PENETRATION

- Limit Operations
- Displace the threshold; and
- Raise the glide slope and PAPI angle.

MITIGATIONS MEASURES: OES PENETRATION

- Adjustment of flight procedures
- Charting
- Promulgation of safety information
- Revision of traffic patterns
- Revision of VFR routes and/or reporting points
- Marking and lighting



AERONAUTICAL STUDY

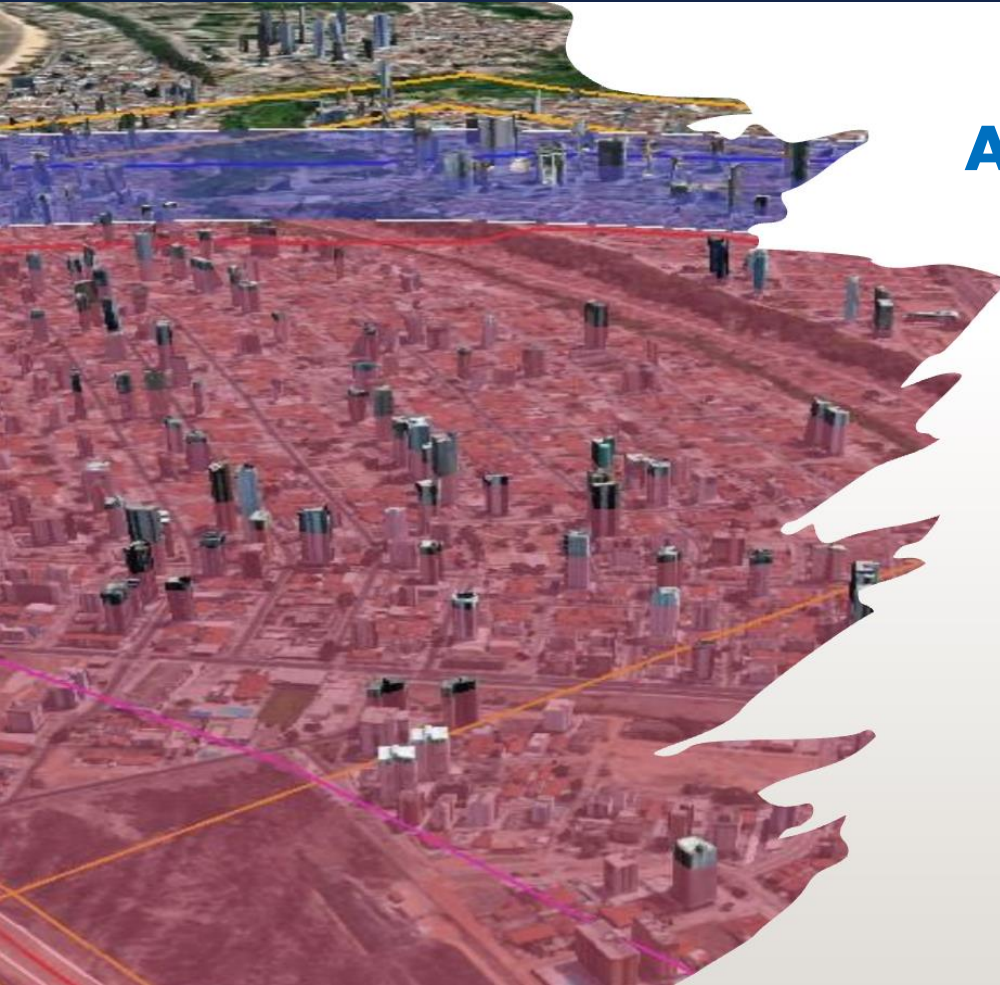
SAFETY ASSESSMENT:

An element of the risk management process of an SMS that is used to assess safety concerns arising from, inter alia, deviations from standards and applicable regulations, identified changes at an aerodrome or when any other safety concerns arise.

PANS-Aerodromes Chapter 3

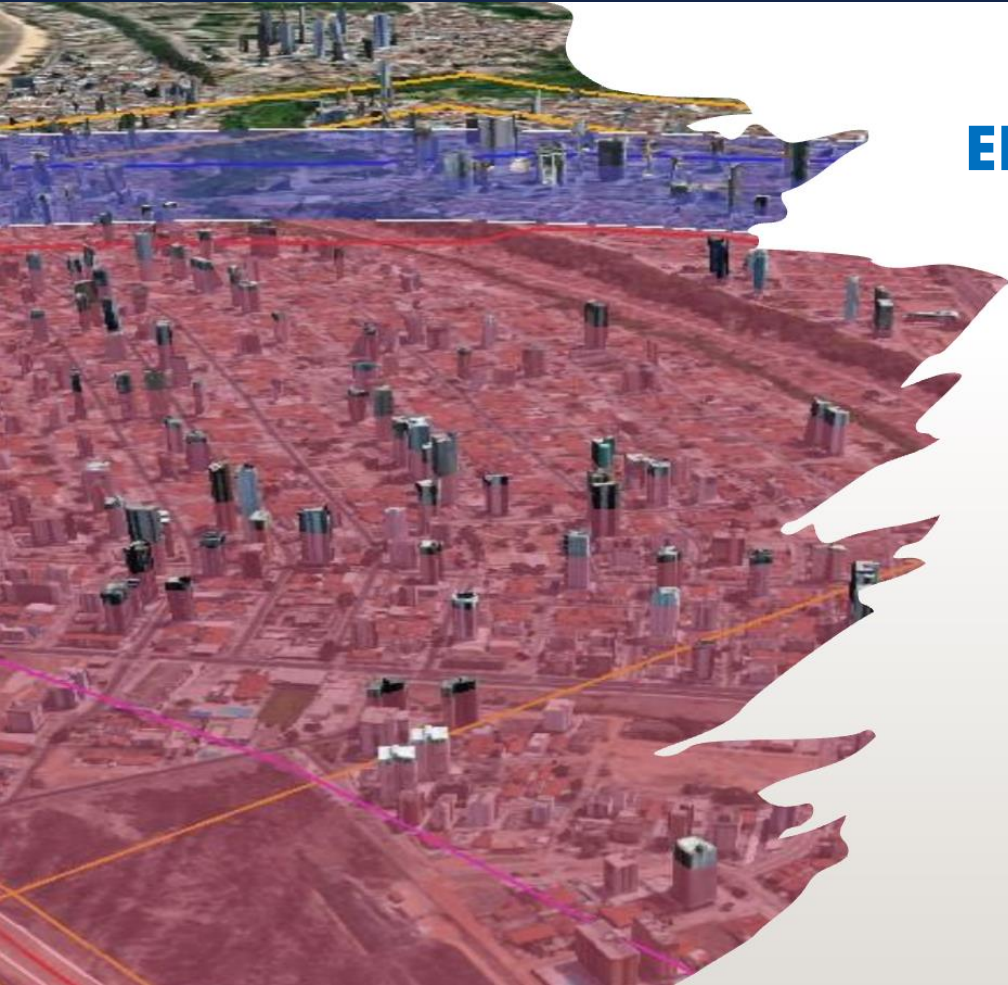
RISK ASSESSMENT:
probability and severity

Risk probability	Risk severity				
	Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent 5	5A	5B	5C	5D	5E
Occasional 4	4A	4B	4C	4D	4E
Remote 3	3A	3B	3C	3D	3E
Improbable 2	2A	2B	2C	2D	2E
Extremely improbable 1	1A	1B	1C	1D	1E



ACCEPTANCE CRITERIA:

- Obstacle is acceptable because the impact is already mitigated;
- Obstacle is acceptable only if the impact is mitigated; and
- Obstacle is not acceptable because the impact cannot be mitigated.

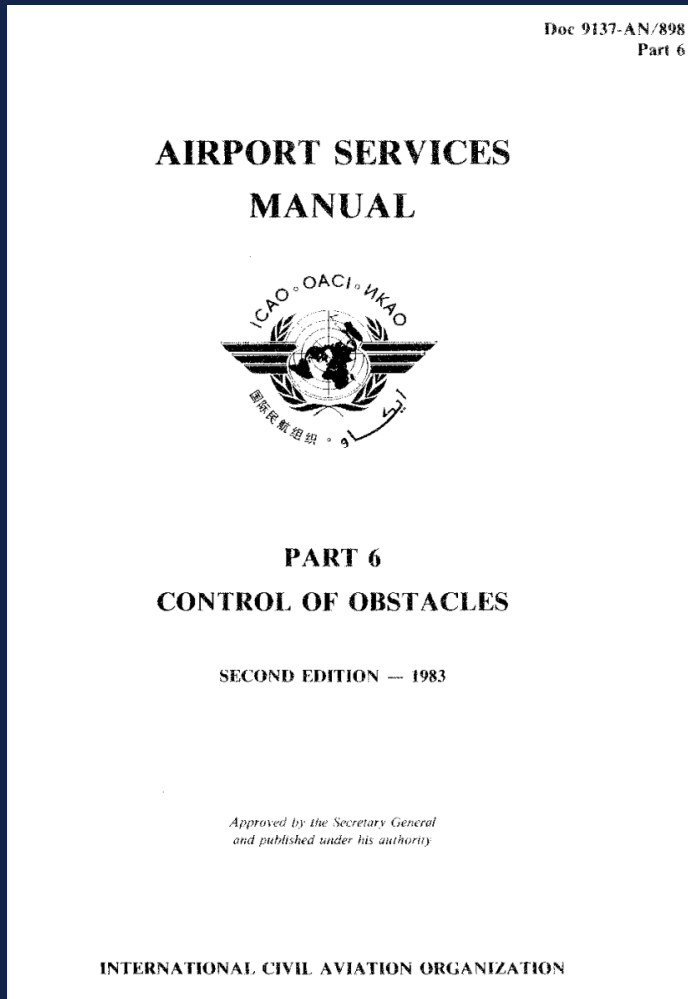


END OF STUDY:

- Approval
- Rejection
- Conditional measures
- Necessary coordination

AIRPORT SERVICES MANUAL

- ASM (Doc 9137 – Part 6) -



- Review and update
- Describe methods
- Give examples



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