DECEA

Departamento de Controle
do Espaço Aéreo

DEPARTMENT OF AIR SPACE CONTROL - DECEA

www.decea.gov.br

"The issue is real. We have plenty of pilot reports of drones where they were not expected, particularly at low altitudes around airports... There is no denying that there is a real and growing threat to the safety of civilian aircraft (coming from drones)"

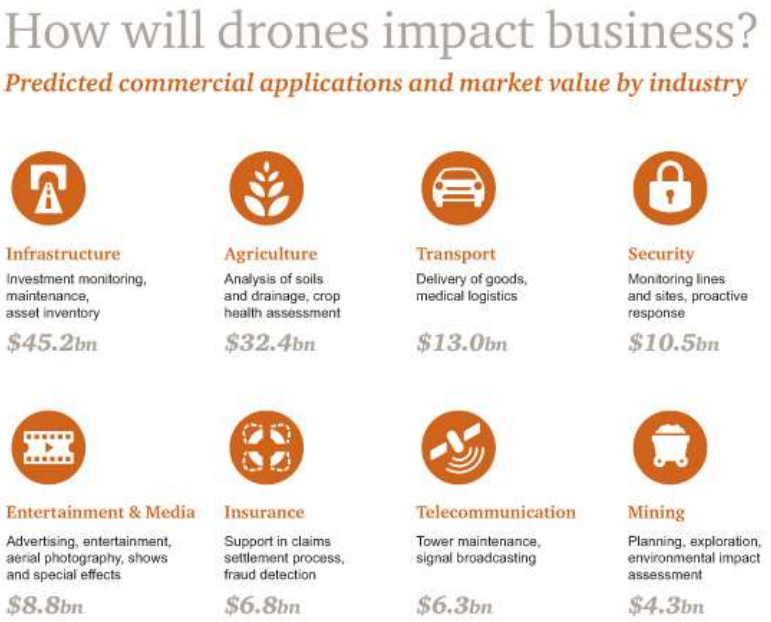
•Mr. Tony Tyler, Director-General of IATA (Singapore Airshow Aviation Leadership Summit, on February 15, 2016

“*Drone invaded airspace over Congonhas, in São Paulo, flights were impacted*”

(http://g1.globo.com/jornal-nacional/noticia/2017/11/drone-invade-espaco-aereo-de-congonhas-em-sp-e-prejudica-voos.html. Access: 11/13/2017)

“*Drones are changing the way of thinking about maintenance and monitoring services.*”

(PWC, ***global report on the commercial applications of drone technology***, 2016)



”If regulated and operated correctly and safely, unmanned vehicle technologies can revolutionize future air transport, airport operations, cargo operations and ground handling, besides others…”

Mrs. Céline Hourcade, Head Cargo Transformation of IATA

REMOTELY PILOTED AIRCRAFT SYSTEMS & BRAZILIAN AIRSPACE

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OVERVIEW

AIRSPACE ACCESS RULES

RPAS AIRSPACE ACCESS AUTHORIZATION SYSTEM (SARPAS)

PROJECTS & FUTURE

OVERVIEW

AIRSPACE ACCESS RULES

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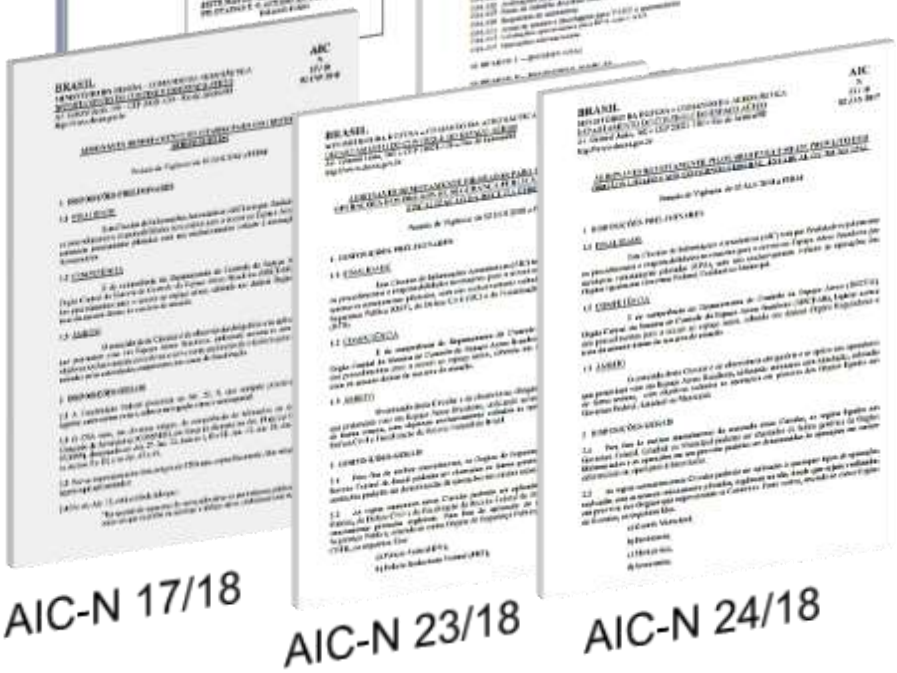
PROJECTS & FUTURE

www.decea.gov.br/drone

DOC 10019

ICA 100-40

RBAC-E94



AIC-N 17/18

AIC-N 23/18

AIC-N 24/18

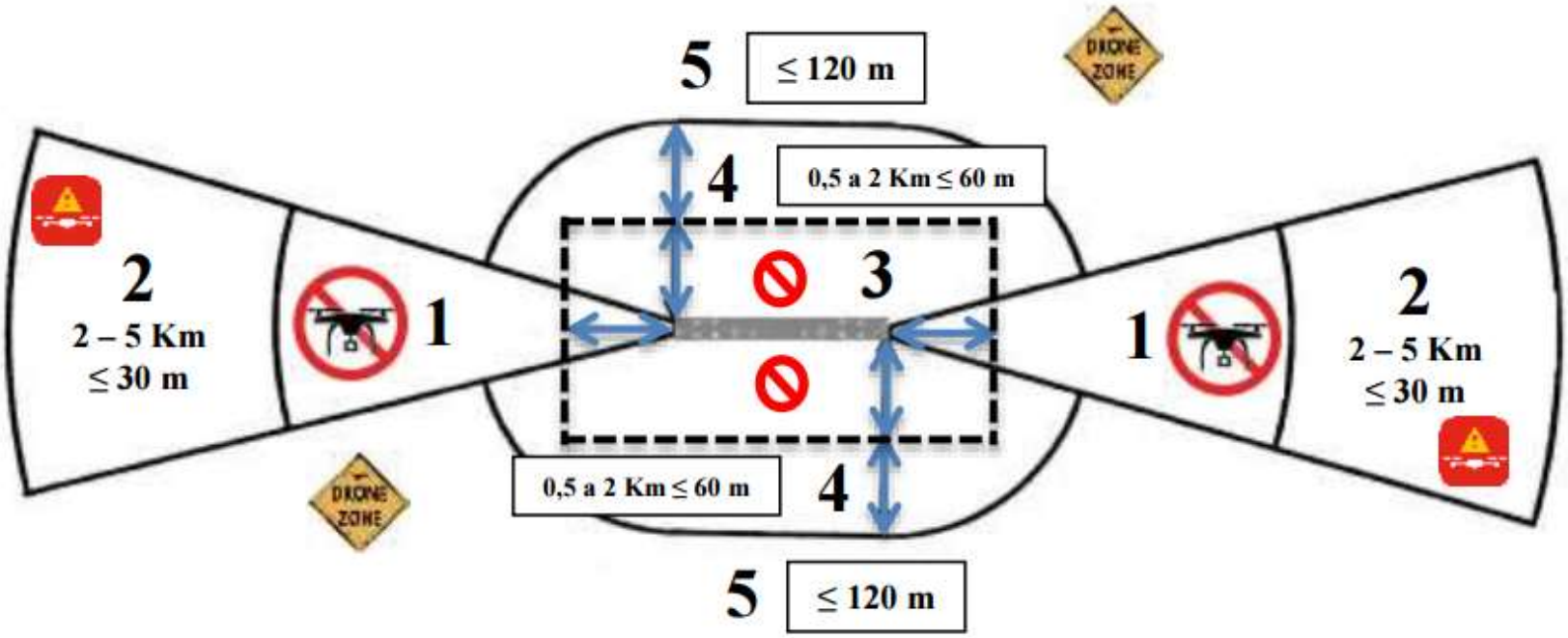
GENERAL

- **ICA 100-40:**
- DISTANCE FROM AIRPORTS:
  - 100FT > 3 NM
  - 400 FT > 5NM
- DON'T FLY OVER PEOPLE;
- NEED A WAIVER OR AUTHORIZATION TO FLY
  - IMMEDIATE WAIVER;
  - 2 – 18 DAYS AUTHORIZATION

SPECIFIC

- **AIC 17/18:**
  - MODELS;
  - SPECIFIC PLACES & PARAMETERS.
- **AIC 23/18:**
  - GOVERNMENT AGENCIES & ARMED FORCES;
  - OPERATIONAL ASSUMPTIONS;
  - WAIVER.
- **AIC 24/18:**
  - LAW ENFORCEMENT UNITS;
  - FIRE FIGTHERS;
  - OPERATIONAL ASSUMPTIONS
  - WAIVER.

GOVERNMENT AGENCIES & ARMED FORCES RPAS OPERATION PARAMETERS



Source: AIC-N 23/18

OVERVIEW

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DRONE | SARPAS
[RPAS]

RPAS AIRSPACE ACCESS AUTHORIZATION SYSTEM

- WEB SYSTEM;
- AGILITY;
- STATISTICS; &
- OVERVIEW ABOUT RPAS OPERATIONS.

FIRST AUTHORIZATION WITH SARPAS – 08 DEC 2016

PORTAL DRONE/RPAS

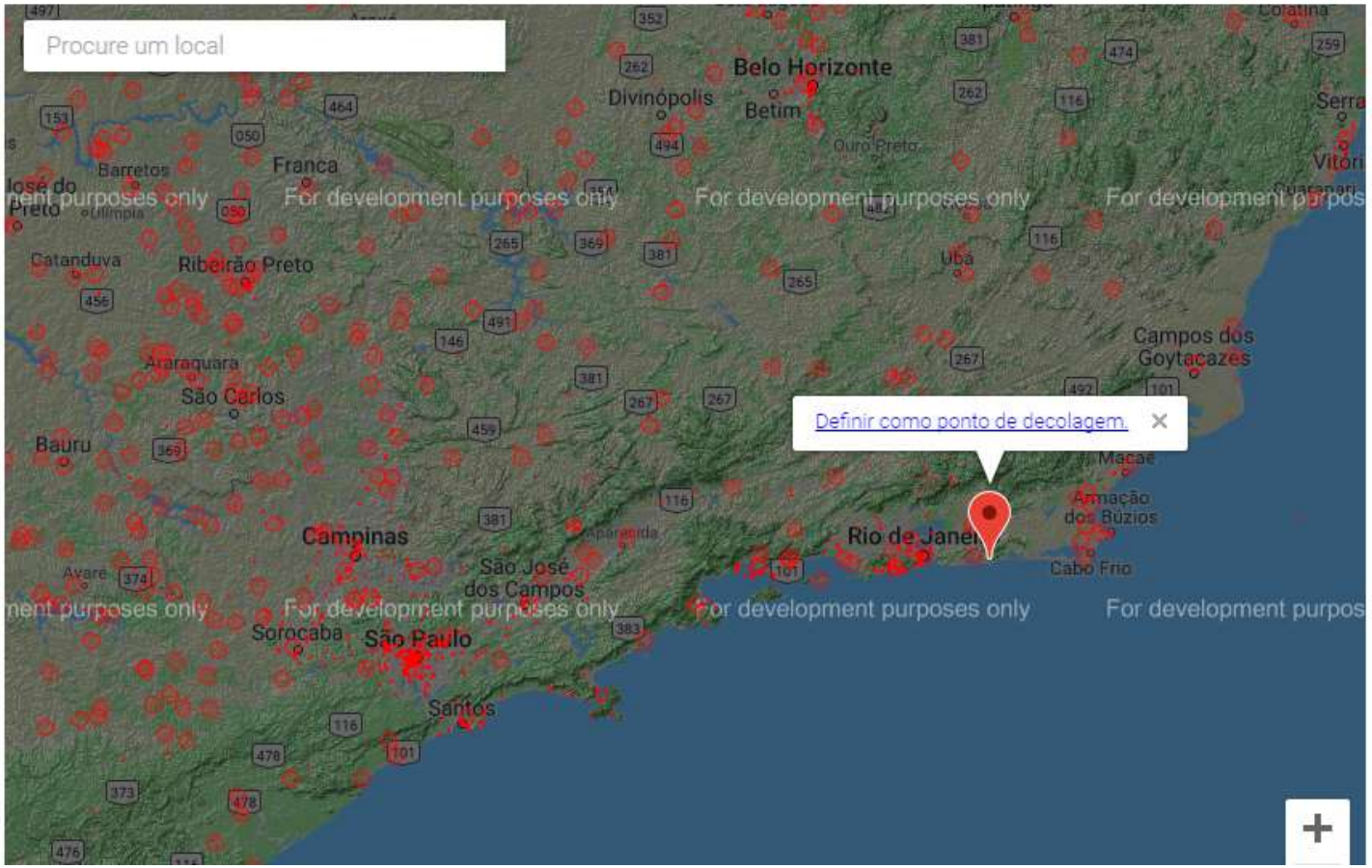
www.decea.gov.br/drone

Menu

- Início
- Voos
- Aeronaves
- Compartilhamento
- Cadastro
- Sair (Logout)

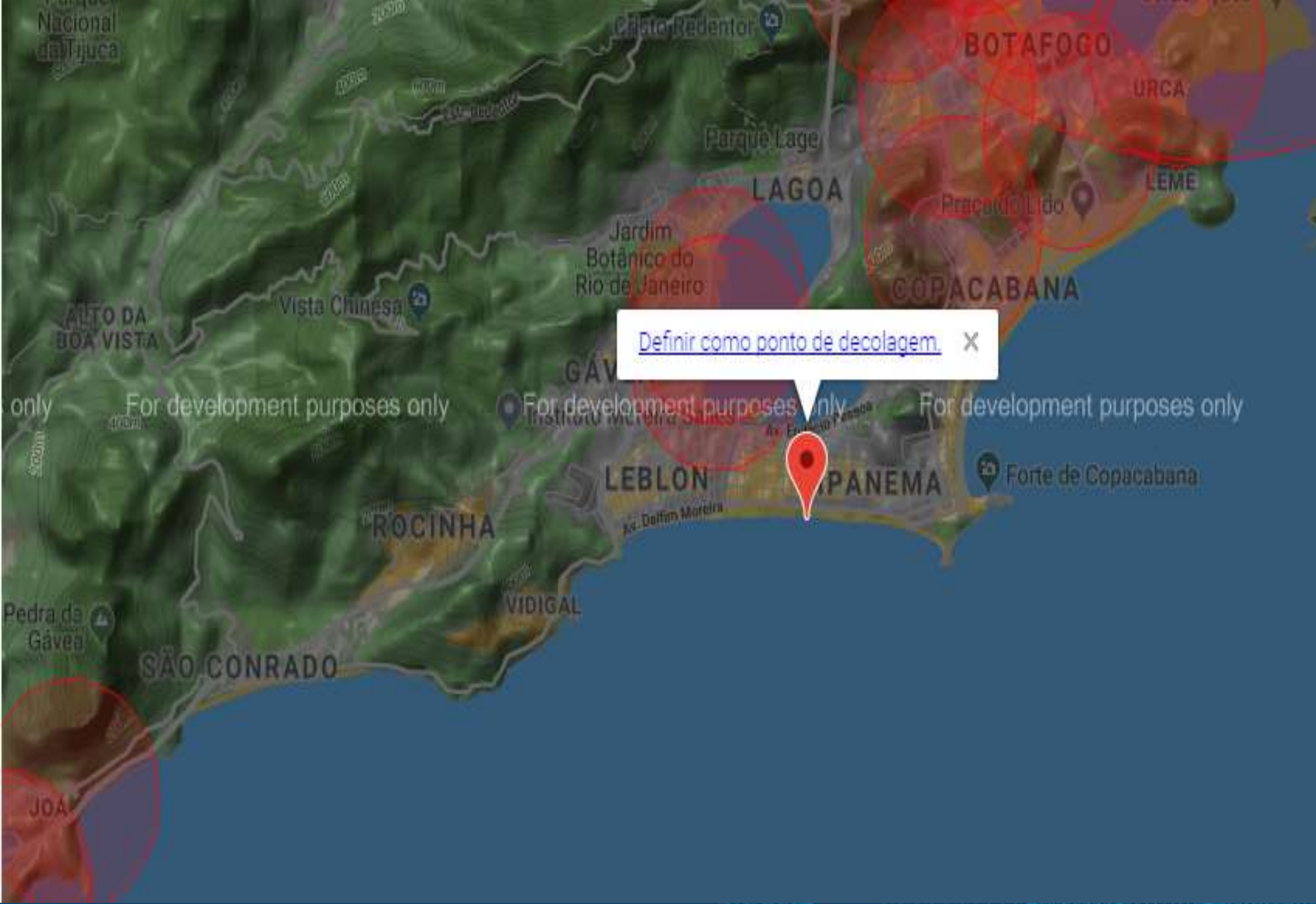
Código SARPAS

OALH



PORTAL DRONE/RPAS

www.decea.gov.br/drone


Definir como ponto de decolagem.
BOTAFOGO
URCA
LAGOA
LEME
COPACABANA
Jardim Botânico do Rio de Janeiro
Vista Chinesa
ALTO DA BOA VISTA
LEBLON
IPANEMA
Forte de Copacabana
ROCINHA
VIDIGAL
SÃO CONRADO
Pedra da Gávea
For development purposes only

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GLOBAL AIR NAVIGATION PLAN

B2-RPAS	Remotely piloted aircraft (RPA) integration in traffic

Continuing to improve the remotely piloted aircraft (RPA) access to non-segregated airspace; continuing to improve the remotely piloted aircraft system (RPAS) approval/certification process; continuing to define and refine the RPAS operational procedures; continuing to refine communication performance requirements; standardizing the lost command and control (C2) link procedures and agreeing on a unique squawk code for lost C2 link; and working on detect and avoid technologies, to include automatic dependent surveillance – broadcast (ADS-B) and algorithm development to integrate RPA into the airspace.

Applicability

Applies to all RPA operating in non-segregated airspace and at aerodromes. Requires good synchronization of airborne and ground deployment to generate significant benefits, in particular to those able to meet minimum certification and equipment requirements.

Figure 6: The ASBU Modules converge over time on their target operational concepts and performance improvements

RPAS DECEA Project
DRONE CONSCIENTE

Goal: Improve in the Brazilian Drone Community the consciousness about safety issues at RPAS operations.

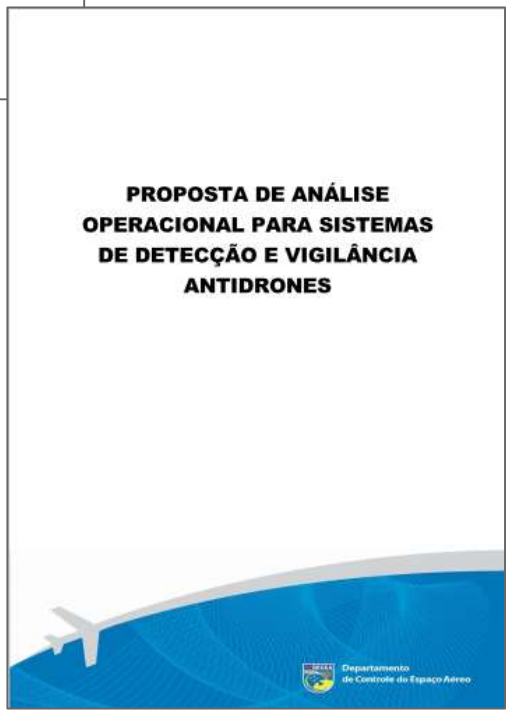
RPAS DECEA Project
LAW ENFORCEMENT UNITS INSTRUCTION

Goal: Provide knowledge about airspace access rules and the another laws involved in RPAS operations to law enforcement units

https://www.decea.gov.br/?i=midia-e-informacao&p=pg_noticia&materia=decea-inicia-aplicacao-de-sancoes-administrativas-nos-voos-irregulares-de-rpas-e-aeromodelos

RPAS DECEA Project
RPAS Detection & Mitigation Risks Near Airport

Goal: Development of Operational and Technical Requirements for RPAS detection & mitigation risks near airport.

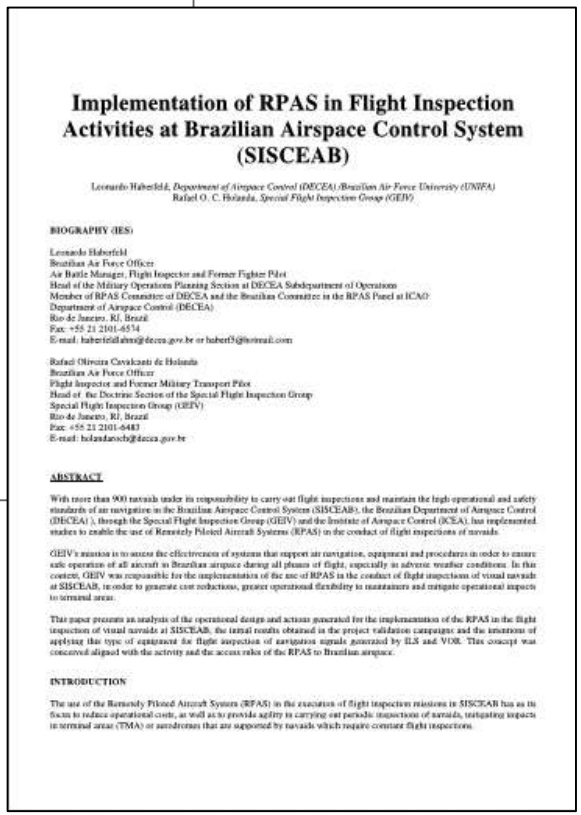


RPAS DECEA Project
Flight Inspection

Goal: Development of an Operational Concept about use RPAS in Flight Inspections.

Phases:

- PAPI (2018/2019)
- ILS/VOR (2019/2020)
- GNSS Systems (2021/2022)



Implementation of RPAS in Flight Inspection Activities at Brazilian Airspace Control System (SISCEAB)

Leonardo Haberfeld, Department of Airspace Control (DECEA) /Brazilian Air Force University (UNIFA)
Rafael O. C. Holanda, Special Flight Inspection Group (GEIV)

BIOGRAPHY (IES)

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ABSTRACT

With more than 900 navaids under its responsibility to carry out flight inspections and maintain the high operational and safety standards of air navigation in the Brazilian Airspace Control System (SISCEAB), the Brazilian Department of Airspace Control (DECEA)), through the Special Flight Inspection Group (GEIV) and the Institute of Airspace Control (ICEA), has implemented studies to enable the use of Remotely Piloted Aircraft Systems (RPAS) in the conduct of flight inspections of navaids.

GEIV's mission is to assess the effectiveness of systems that support air navigation, equipment and procedures in order to ensure safe operation of all aircraft in Brazilian airspace during all phases of flight, especially in adverse weather conditions. In this context, GEIV was responsible for the implementation of the use of RPAS in the conduct of flight inspections of visual navaids at SISCEAB, in order to guarantee cost reductions, greater operational flexibility to maintainers and mitigate operational impacts in terminal areas.

This paper presents an analysis of the operational design and actions generated for the implementation of the RPAS in the flight inspection of visual navaids at SISCEAB, the initial results obtained in the project validation campaigns and the intentions of applying this type of equipment for flight inspection of navigation signals generated by ILS and VOR. This concept was conceived aligned with the activity and the access rules of the RPAS to Brazilian airspace.

INTRODUCTION

The use of the Remotely Piloted Aircraft System (RPAS) in the execution of flight inspection missions in SISCEAB has as its focus to reduce operational costs, as well as to provide agility in carrying out periodic inspections of navaids, mitigating impacts in terminal areas (TMA) or aerodromes that are supported by navaids which require constant flight inspections.

IFIS 2018 Symposium

RPAS DECEA Project
Airport Infrastructure Inspection

" the achievements showed up the viability of this use due to the **agility and the great operational gain** in terms of time of execution with **less interference** at the aerodrome operational issues"

(https://www.decea.gov.br/?i=midia-e-informacao&p=pg_noticia&materia=operacao-com-rpa-viabiliza-vistoria-em-aerodromo)

RPAS DECEA Project
Unmanned Traffic Management

- **UTM PROJECT:**
  - ICAO RPASP/ATMOPS WP;
  - BRAZILIAN OPERATIONAL CONCEPT;
  - UTM SERVICE PROVIDERS;
  - UNMANNED AIRPACE BELOW 1000FT DESIGN;
  - .....

WORKING PAPER

THIRTEENTH AIR NAVIGATION CONFERENCE

COMMITTEE A

UNMANNED TRAFFIC MANAGEMENT AND AUTONOMOUS OPERATION

EXECUTIVE SUMMARY

XVII SITRAER

São Paulo, 22nd – 24th October, 2018

"UTM is essential to enable the accelerated development and use of civilian UAS applications and will support UAS ranging from those with minimal avionics capability to those that are highly capable and/or autonomous"

UTM architecture, Global UTM Association *(2017)*

RPAS DECEA Project
PFF019 – RPAS

ROADMAP RPAS DECEA

DEC 2015
- AIRSPACE ACCESS REGULATION MILESTONE;
- ICA 100-40

DEC 2016
- SARPAS

2018
- PAPI FLIGHT INSPECTION;
- RPAS DETECTION & MITIGATION RISK NEAR AIRPORT;
- UTM OPERATIONAL CONCEPT.

2019
- ILS/VOR FLIGHT INSPECTION INITIAL PROJECT;
- UTM TECH CONCEPT;
- SARPAS IMPROVEMENT;
- AIRPORT INFRASTRUCTURE INSPECTION.

2020
- D&A OPERATIONAL ANALISYS;
- UNMANNED AIRSPACE SURVEILLANCE (UAS) ABOVE 1000FT;
- RPAS SURVEILLANCE BELOW 1000FT.

2021
- GNSS FLIGHT INSPECTION

2028
- ATM RPAS INTEGRATION


DEFENDER
CONTROLAR
INTEGRAR
FAB
DIMENSÃO
22
A FAB presente
em 22 milhões de km².
FORÇA AÉREA BRASILEIRA
Asas que protegem o País

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THANK YOU!!!

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