FDAP Seminar

Miami, October 2016

BAST

Brazilian Aviation Safety Team

BCAST
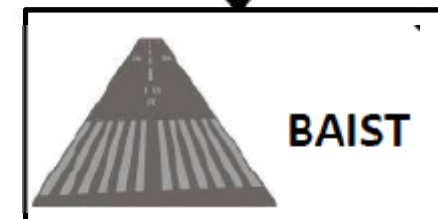
Brazilian Commercial Aviation Safety Team

- It is a subgroup of Brazilian Aviation Safety Team (BAST)

  – Similar to US CAST.

- It is collaborative group

  – Composed of Brazilian Airlines, ANS (DECEA), Regulatory Agency (ANAC), IATA, Manufacturers, Pilots and Airlines Associations

- Its objective is to develop Safety Enhancements to the Brazilian Commercial Aviation industry

  – In order to reduce fatality risks based on a data driven methodology.

BCAST - Members

Protection of Safety Information

- Recommended by ICAO.

- Main concern for the future success of the information-based framework.

- In Brazil, the Safety information is protected by Law
  - Law 12.970 (8, May/2014)

IATA MoU

- De-identified information;

- Rule of 3;

- Data restricted to Brazilian geographic location;

- Domestic and int'l operators members of IATA's FDX Program;

- Mutual agreement for data protection;

- BAST will share status of SEIs with IATA.

FDX
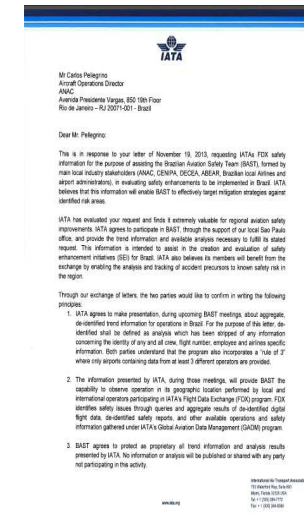
- Advantages
  - Data sharing;
  - Source of information to BCAST Working Groups (RE, LOC-I, CFIT and MAC);
  - Workload reduction;
  - Standardization;
  - Global and Regional Benchmarks;
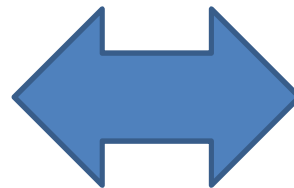 - Common issues to be addressed;
  - Trend Analysis

- Concerns
  - Data protection;
  - Ranking;
  - Regional differences
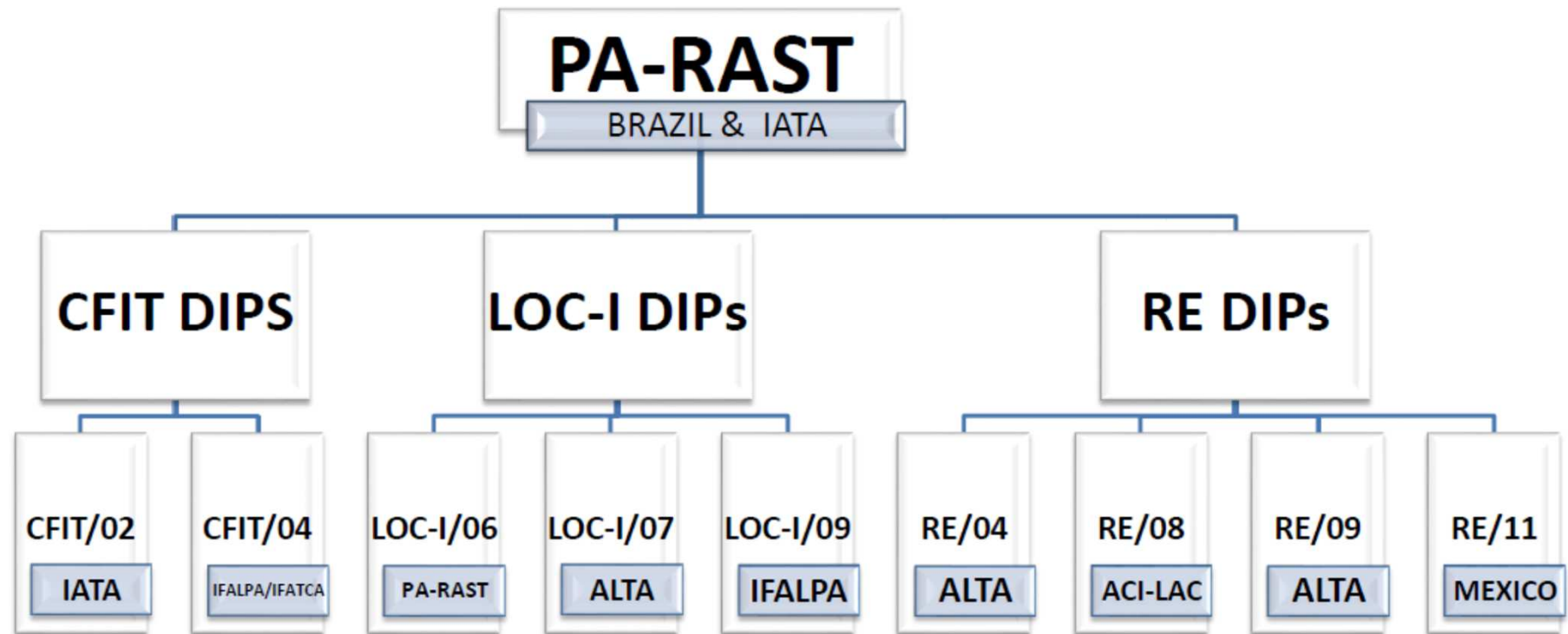 - SOPs differences
  - Events criterea

BCAST & RASG-PA

- BCAST working groups will focus primarily on Safety Enhancement Initiatives already developed by RASG-PA
  - and will keep reporting the status of the analysis on every BCAST Meeting;
- After internalization of RASG-PA DIPs it will be developed new DIPs, following 7-Step Methodology, supported by cost-benefit analysis.
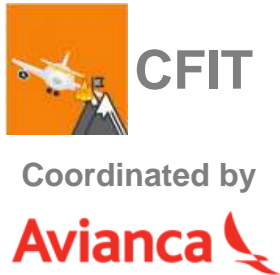
BCAST & RASG-PA

BCAST

BCAST
BRAZILIAN COMMERCIAL
AVIATION SAFETY TEAM

BCAST
GRUPO BRASILEIRO DE
SEGURANÇA OPERACIONAL
DA AVIAÇÃO COMERCIAL

Dedicated to develop Safety Enhancements to

Brazilian Commercial Aviation industry

CFIT

Coordinated by

Avianca

LOC-I

Coordinated by

LATAM

MAC

Coordinated by

GOL
Linhas aéreas inteligentes

RE

Coordinated by

EMBRAER

Mid Air Collision Working Group

| Started in November, 2014

| Composed of:

  | Main brazilian airlines

  | ANS

  | Regulatory agency,

  | IATA and ABEAR (Brazilian Airlines

  Association)

  | Embraer

Objectives

Mitigate Mid Air Collision risk by:

| Reducing the most important reasons why the individual barriers are unsuccessful;

| Improving beneficial influences that may make existing barriers more successful;

| Introducing new barriers;

| Assuring the MAC risk stays as low as reasonably practicable.

Lessons learned

| 70% of level busts are due to miscommunication between pilots and ATCOs;

| 40% of level busts occurs between FL 100 and FL 110;

| Main hazards that lead to a loss of separation:

o Weather deviations;

o Level busts;

o Bad coordination between ATC sectors;

o Frequency congestion

o Use of non standard phraseology;

o Airspace design;

o Vague ATC instructions and miscommunication.

Lessons learned

Airlines of the WG that do not have implemented the Eurocontrol recommendation of reducing V/S before levelling off had 4 times more TCAS RA events during the same period.
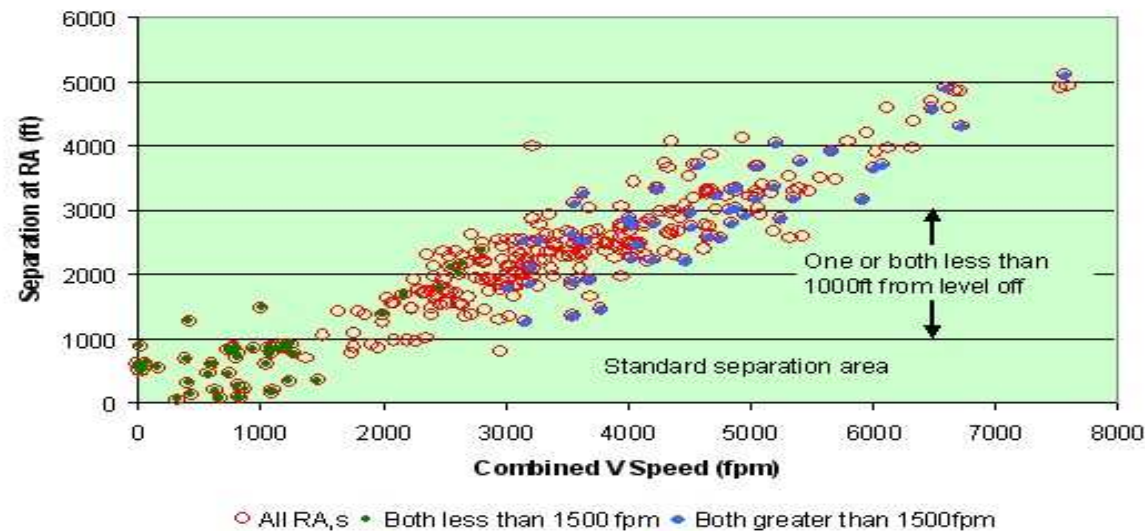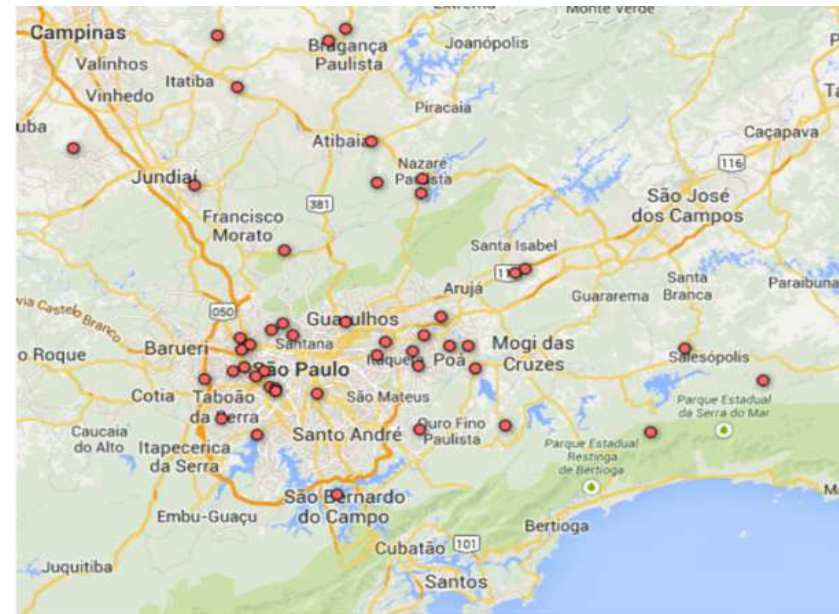
Lessons learned

| FDX program:

    | Great source to identify where TCAS RA events are taking place;

    | May be used as a KPI after DIPs;

| Limitation of FDX:

    | Impossible to separate events by severity.

    | FDX just counts TCAS RA alerts

Further possibilities

| Enhancements of FOQA and TCAS Systems to segregate events by severity

  | FOQA Systems receive TCAS warnings and evasive maneuvers from the TCAS Computer, but...

  | There is more information stored in TCAS memory that are only accessible after a download made by the TCAS manufacturer.

| The TCAS stores information about the traffic intruder, including vertical and horizontal distances.

| Exporting this data to FOQA Systems would enable the development of severity classes.

| Sharing all this through FDX would allow us to detect where the problems are really happening.

Further possibilities

Further possibilities

| Loss of separation reports and trends from ATC systems.

Algorithm
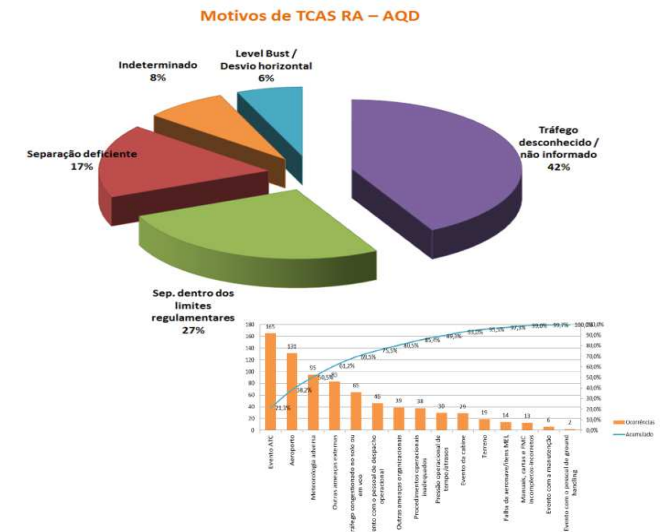
Initiatives

- Pilots and ATCOs perception survey

- Tool kits under development for Pilots and ATCOs

- Established TCAS RA mandatory reports for pilots

- Uses data from FDA departments to analyze the Airspace hotspots

  - Developed an analysis methodology to segregate TCAS RA by severity crosschecking PIREPs and FDA data

- Analysis of EUROCONTROL Call Sign Similarity Rules and partnership with Brazilian regulator to establish new standards
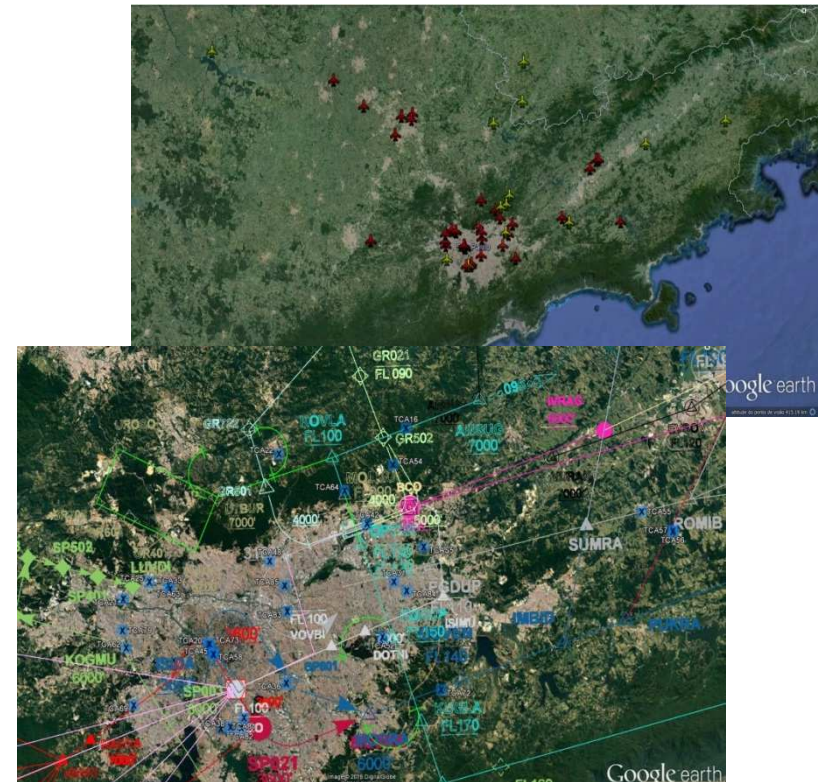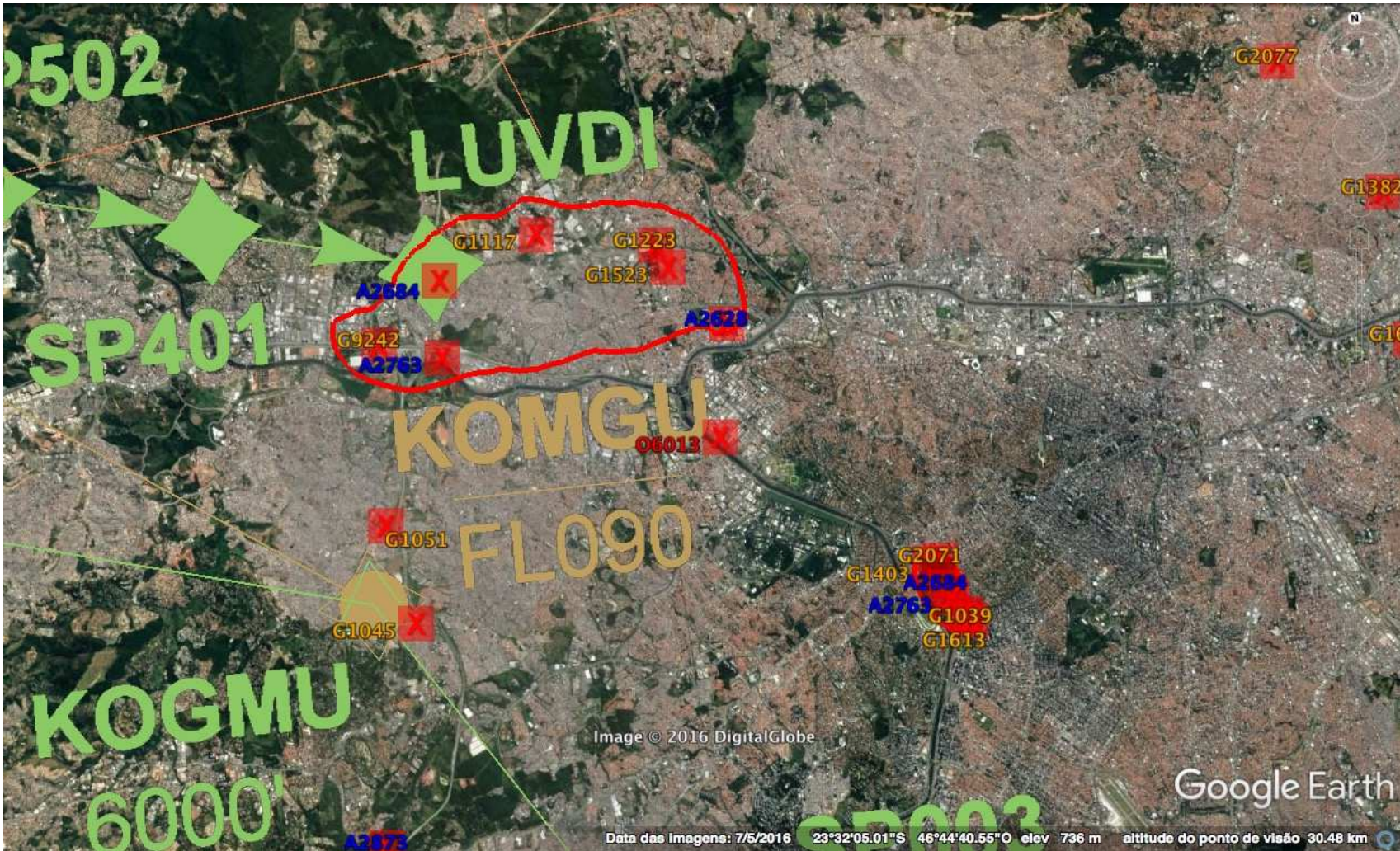
# Flight Data Analysis preventing MAC

BCAST MAC WG methodology

| Gatekeepers uses PIREPs to review TCAS RA events severity

| The events are segregated by type:

  | Caused by projection

  | Aircraft under vectoring

| All events are sent to ANS

| ANS consolidates all TCAS RA events and airspace structure in a Google Earth file;

| The WG analyzes the hot spots and their root causes

Flight Data Analysis preventing MAC

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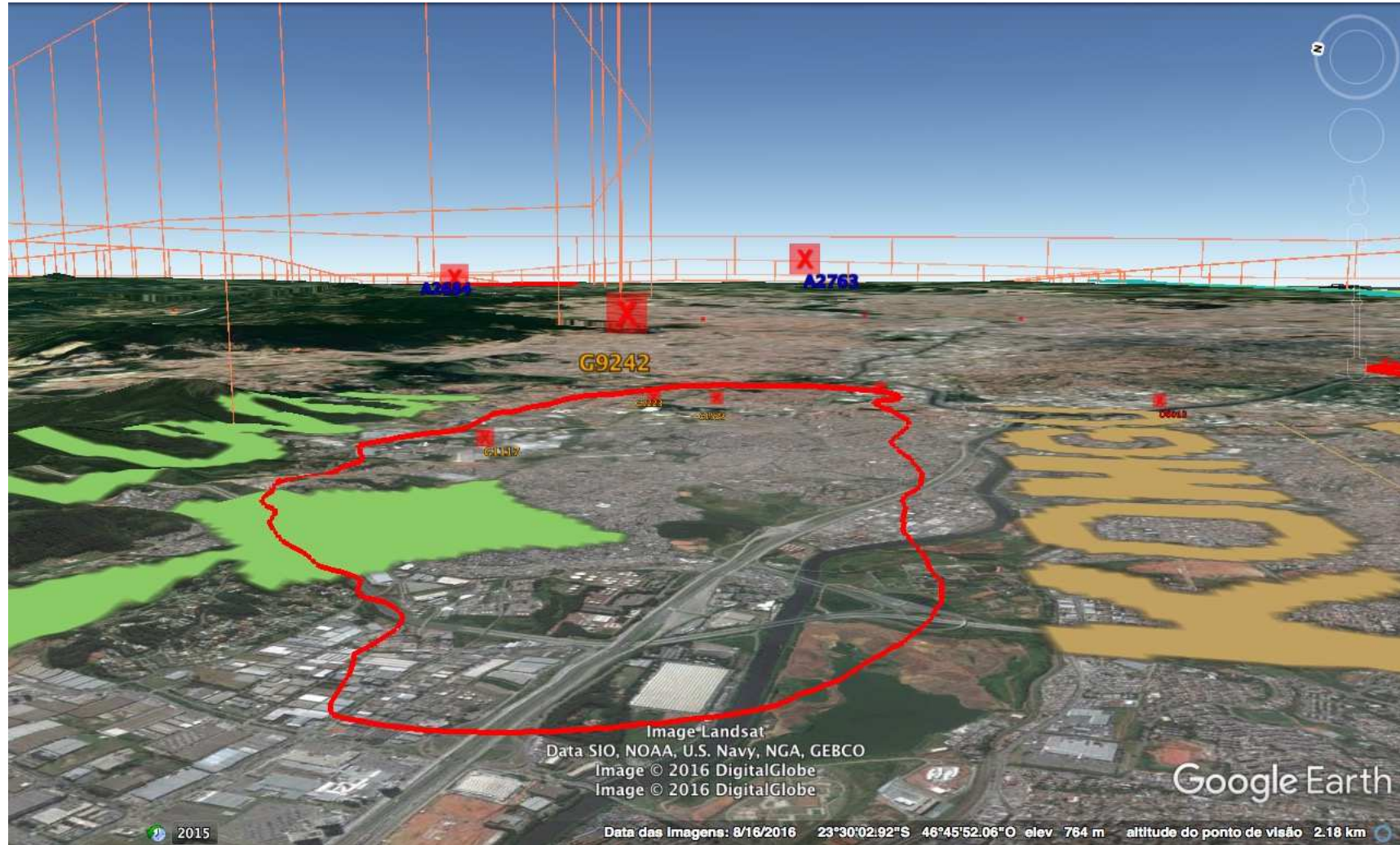
Call Sign Confusion

- Preposition: airline nets will be developed "free of call sign conflicts", following Safety Rules defined by MAC WG.

- The regulator will verify the "national net" before flights approval to avoid conflicts.

Net development with call sign safety rules by the airlines

Regulator verifies the "national net" free of conflict

Flights final approvement

Key points

| Data protection

| Non Disclosure Agreement among members

| Multi disciplinary team

| Collaborative team work

| FDA is a very robust toll, but is not enough

| Human factors are directly related in to the majority of loss of separation events

| Number of events can be reduced with the application of current best practices, recommendations and SE.

Questions

Gracias
Thank you