



Iniciativas de Safety na Região da América Latina e do Caribe

Virginio Corrieri - Diretor de Segurança
Operacional e Operações - Associação Latino-
Americana e do Caribe de
Transporte Aéreo (ALTA)

SUMÁRIO

- Introdução
- ALTA
- Panorama CAR e AL
- Brasil
- Iniciativas de Safety na Região
- Conclusão



SUMÁRIO

- **Introdução**
- ALTA
- Panorama CAR e AL
- Brasil
- Iniciativas de Safety na Região
- Conclusão



SUMÁRIO

- Introdução
- **ALTA**
- Panorama CAR e AL
- Brasil
- Iniciativas de Safety na Região
- Conclusão



Missão da ALTA

Coordenar os esforços colaborativos de seus membros para desenvolver um transporte aéreo mais seguro, eficiente e responsável com o meio ambiente na América Latina e no Caribe.



Prioridades da ALTA

- ✈ Desenvolver um transporte aéreo cada vez mais seguro.
- ✈ Promover o transporte aéreo como motor do crescimento econômico com responsabilidade social e ambiental.
- ✈ Desenvolver projetos com governos e entidades privadas para alcançar um setor eficiente em custos e operação.





ALTA CONFERENCES 2023

www.alt.aero



ALTA FUEL &
ENVIRONMENT
CONFERENCE

SAN JOSE
COSTA RICA
MARCH 29-30



ALTA CCMA & MRO
CONFERENCE

CANCUN
MEXICO
MAY 21-23



12thALTA
PAN AMERICAN
AVIATION SAFETY
& OPS SUMMIT

SANTIAGO
CHILE
JUNE 12-14



ALTA AVIATION
LAW AMERICAS

SEPTEMBER
2023



ALTA AGM & AIRLINE
LEADERS FORUM

CANCUN
MEXICO
OCTOBER 23-25

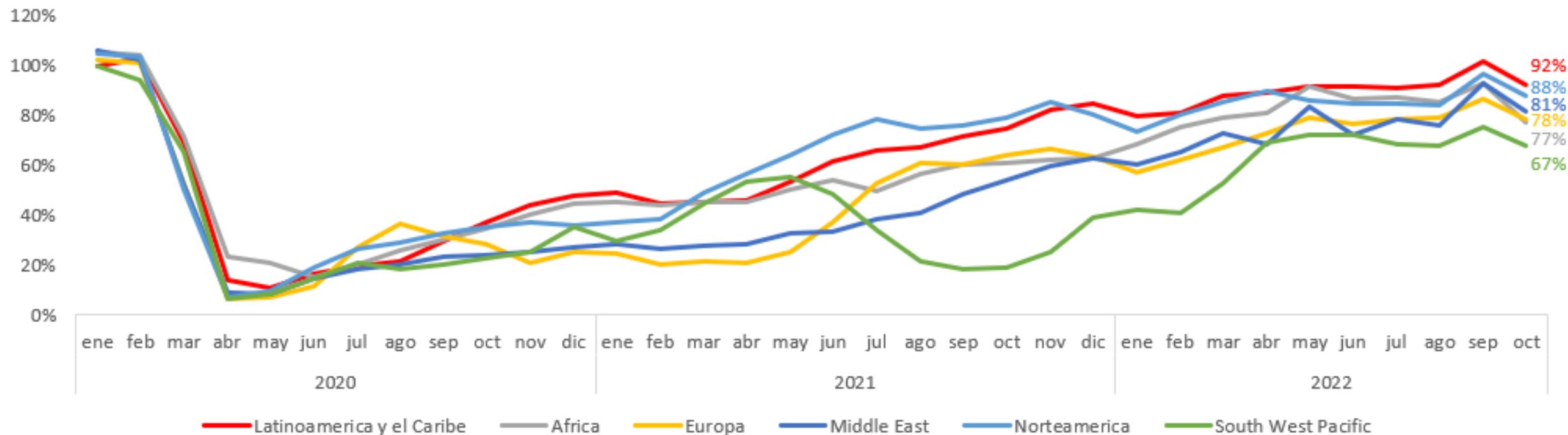
SUMÁRIO

- Introdução
- ALTA
- **Panorama CAR e AL**
- Brasil
- Iniciativas de Safety na Região
- Conclusão

Em outubro de 2022, foram transportados 27,5 milhões de passageiros, correspondendo a 92% dos passageiros de outubro de 2019.

Transporte de pasajeros

Pasajeros según región de origen respecto al mismo mes de 2019



12 DEC 2022

AIRLINE CAPACITY THIS WEEK

GLOBAL

94,558,890

DOMESTIC

61,091,122

INTERNATIONAL

33,467,768

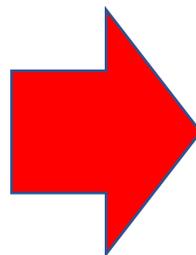
BY TOTAL SEATS 

COMPARED TO THE SAME WEEK IN 2019

GLOBAL = -14%

DOMESTIC = -7.6%

INTERNATIONAL = -24.1%



SEMANA 12 DEZ 22

Total, LAC	9,303,121
Doméstico	6,304,158
Internacional	2,998,963

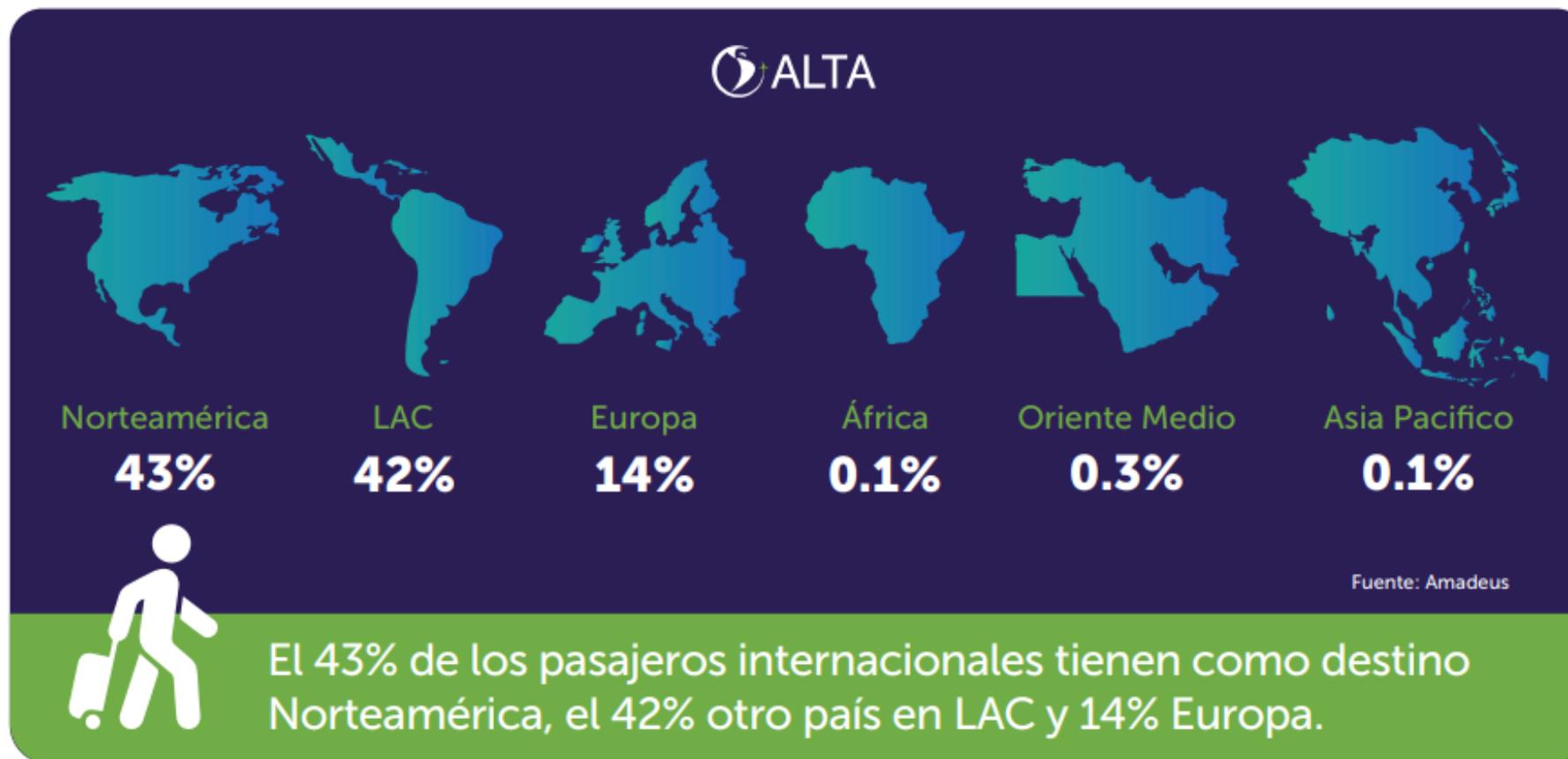
Crecimiento frente a la misma semana de 2019

LAC	4.7%
DOMÉSTICO	5.1%
INTERNACIONAL	3.8%

O país com mais passageiros na região é o Brasil, com 28% dos passageiros transportados. No entanto, o Brasil está em 83% de seus níveis de 2019, enquanto o segundo e o terceiro mercados, México e Colômbia, já superaram seus níveis de 2019.



Região de destino dos PAX originários da LAC





A Changing Paradigm

- Air travel is ~~optional~~ essential
- Air travel is a ~~luxury~~ need
- Air travel is for ~~a few~~ all



But With Significant Challenges

- Costs and Inflation
- Infrastructure needs
- Legal framework
- Impact of taxation
- Environmental Concerns

2019 Pax/Population LAC 0.62



Europe
2.57

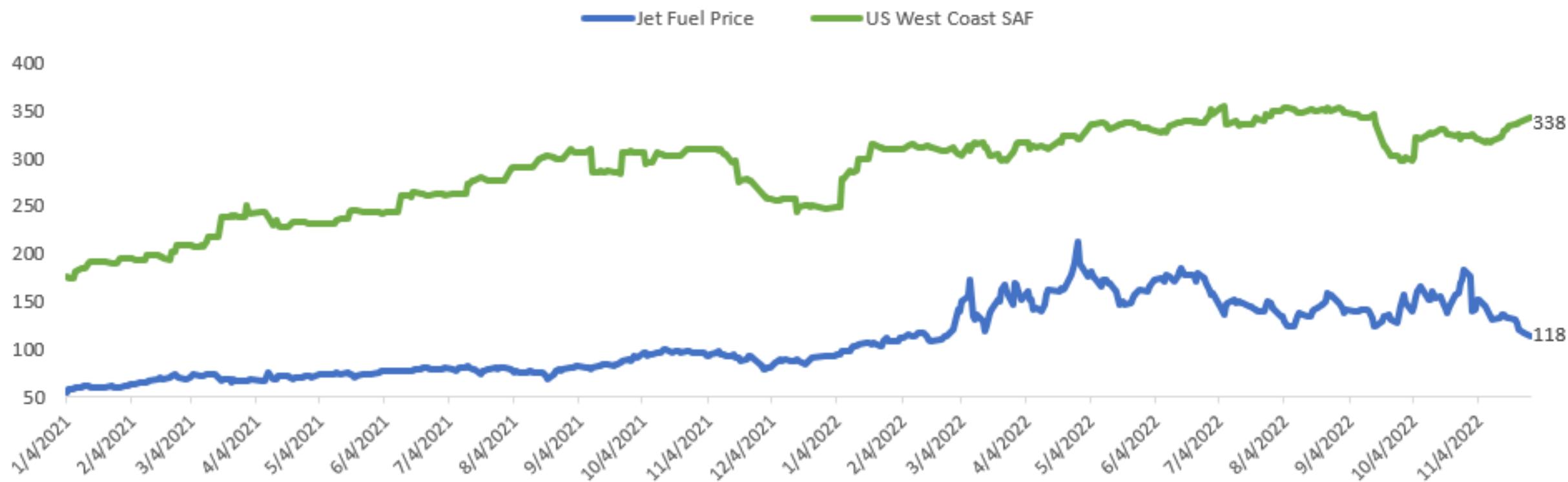


North America
2.53



Sources:
Population: United Nations, World Population Prospects 2019, Online Edition
Pax: CAAs of each country

US West Coast Sustainable Aviation Fuel price vs regular Jet Fuel US\$/Barrel



SUMÁRIO

- Introdução
- ALTA
- Panorama CAR e AL
- **Brasil**
- Iniciativas de Safety na Região
- Conclusão



ibsoftware

DESAFIOS E TENDÊNCIAS DA AVIAÇÃO NO BRASIL

Em colaboração com a ALTA

 ALTA

Autor: Fabio Steinberg
Estudo encomendado por: IBS Software Pte Ltd.
Publicado em: dezembro 22



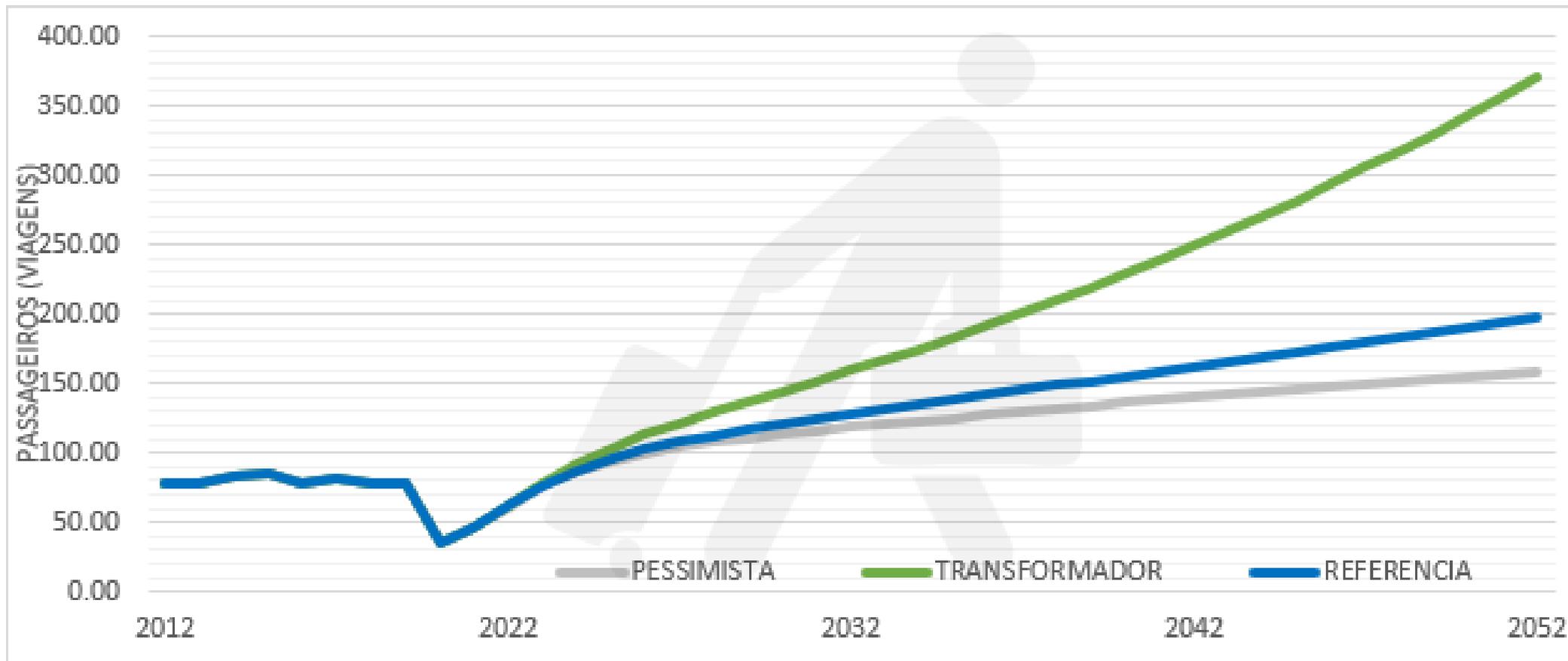
- Dimensões continentais
- Democratização do acesso
- Desequilíbrio entre os modais (aéreo não mais que 18% / rodoviário 81%)
- Pandemia e cenário pós-pandemia
- Pontualidade e regularidade comparáveis aos das empresas aéreas norte-americanas
- Combustível e judicialização
- Aviação regional



**ABEAR, ALTA, IATA, JURCAIB e a
Associação dos Magistrados
Brasileiros firmaram convênio
para analisar a judicialização no
setor aéreo – 29 Nov 22**

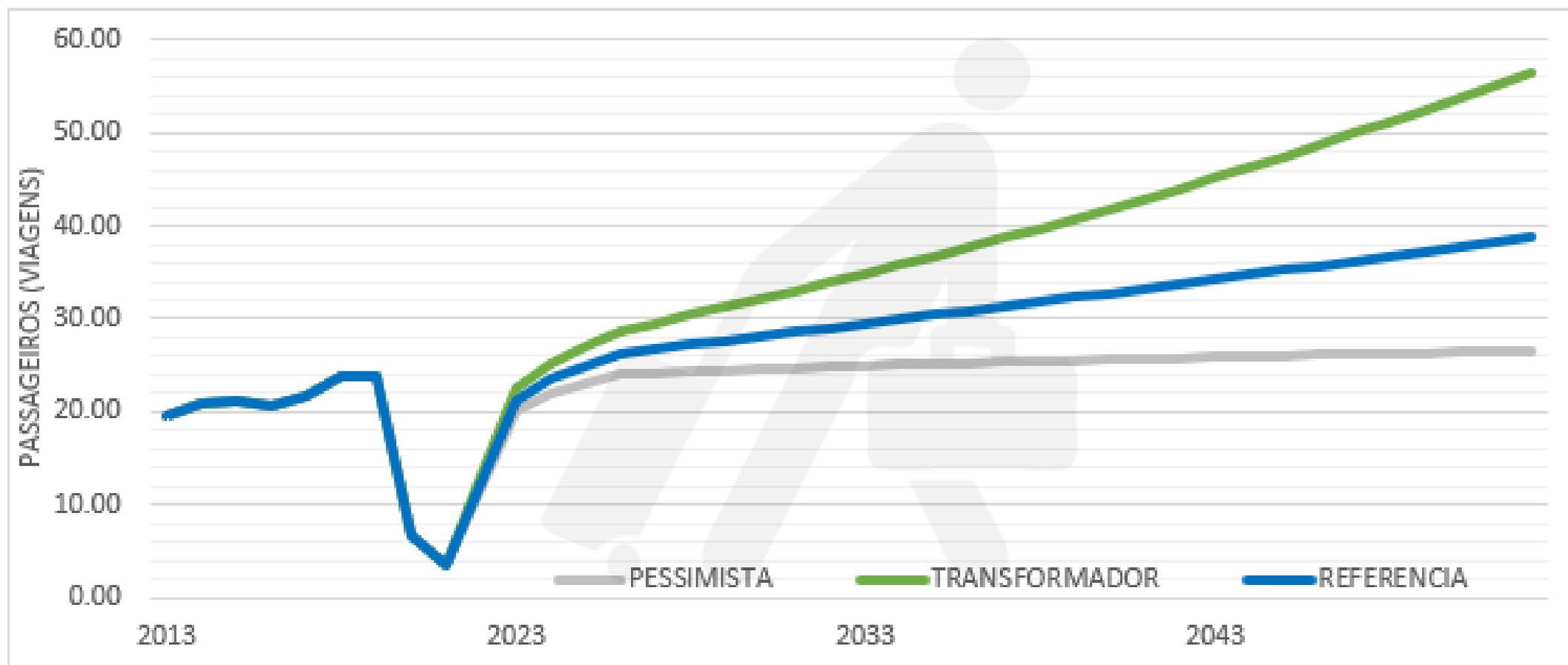
EMBARQUES DOMÉSTICOS (VIAGENS)

EM MILHÕES DE PASSAGEIROS



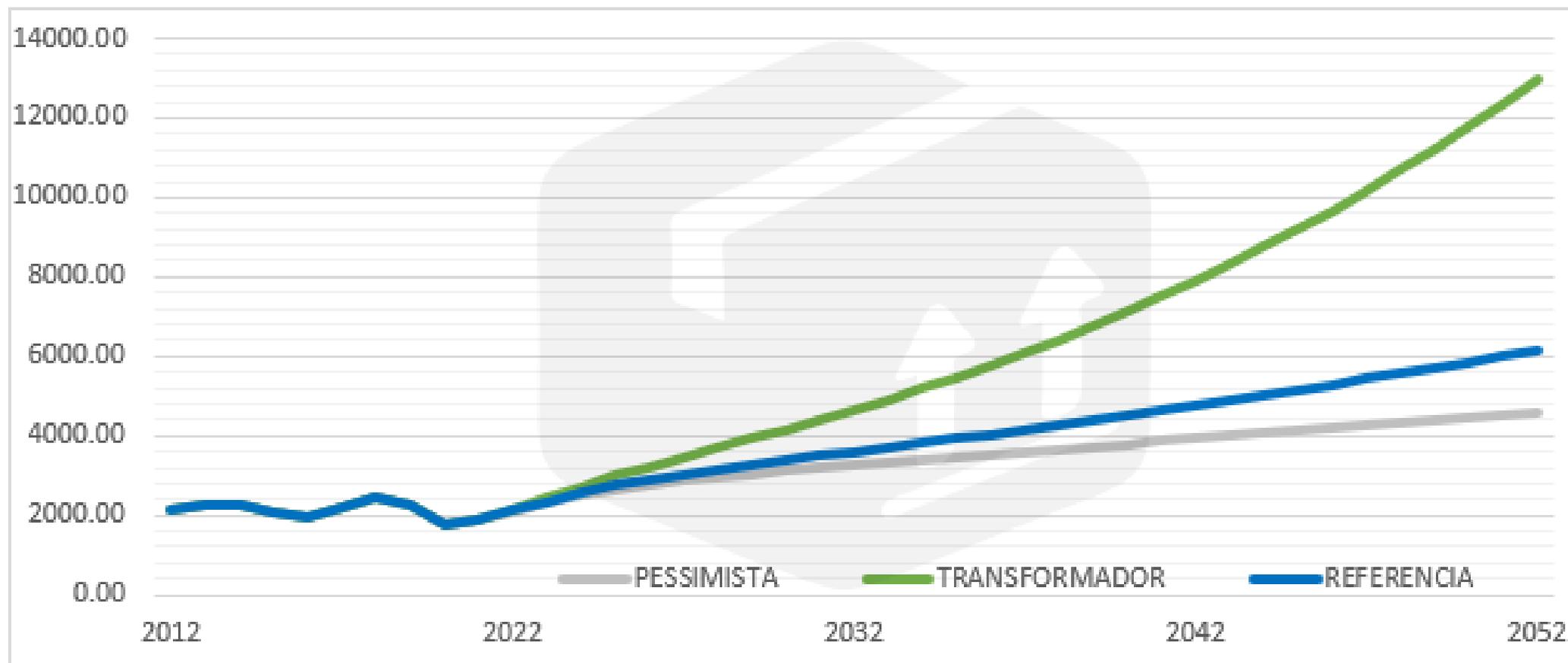
VIAGENS INTERNACIONAIS

EM MILHÕES DE PASSAGEIROS



CARGA MOVIMENTADA: BRASIL

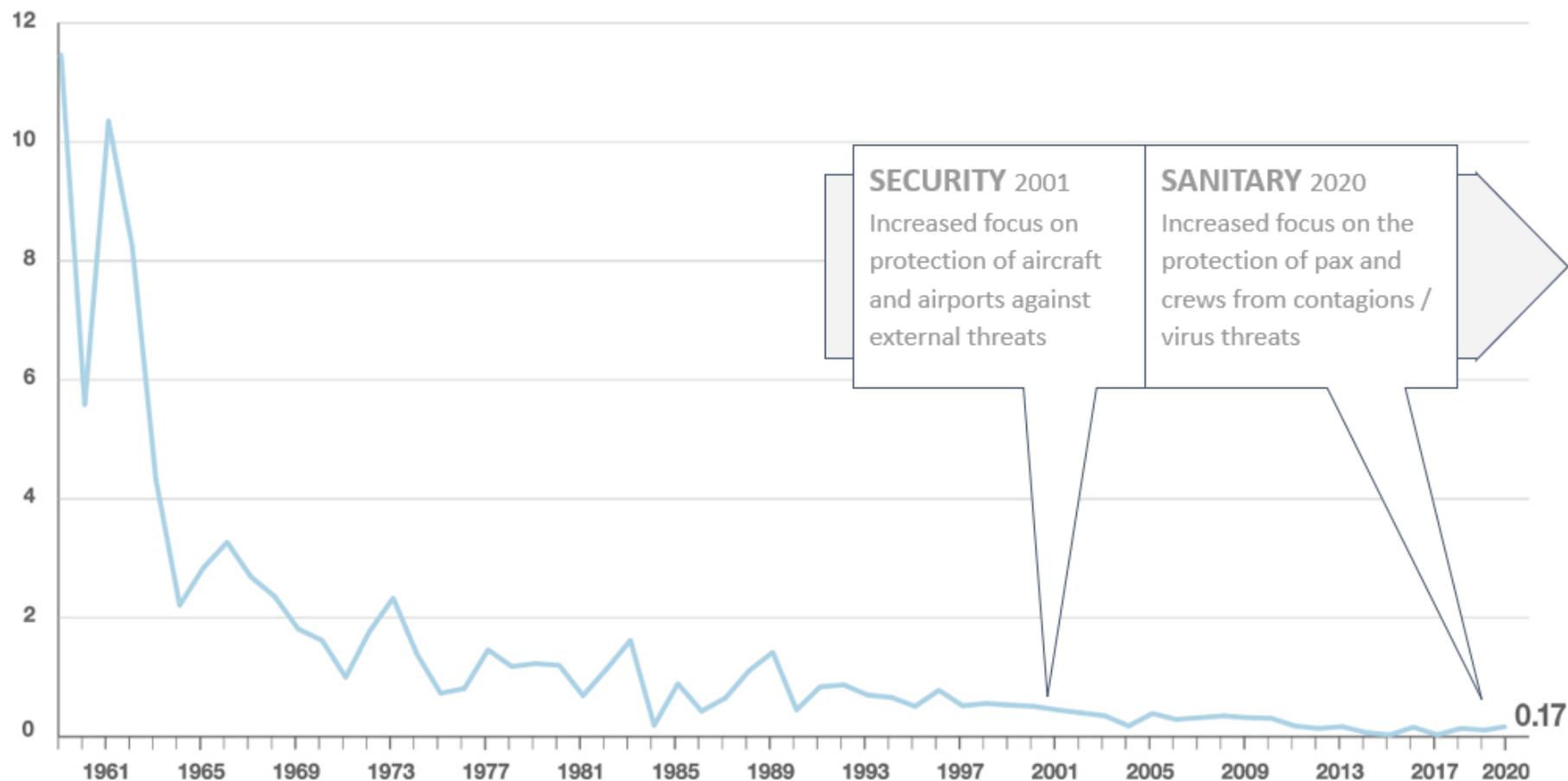
EM MILHARES DE TONELADAS



SUMÁRIO

- Introdução
- ALTA
- Panorama CAR e AL
- Brasil
- **Iniciativas de Safety na Região**
- Conclusão

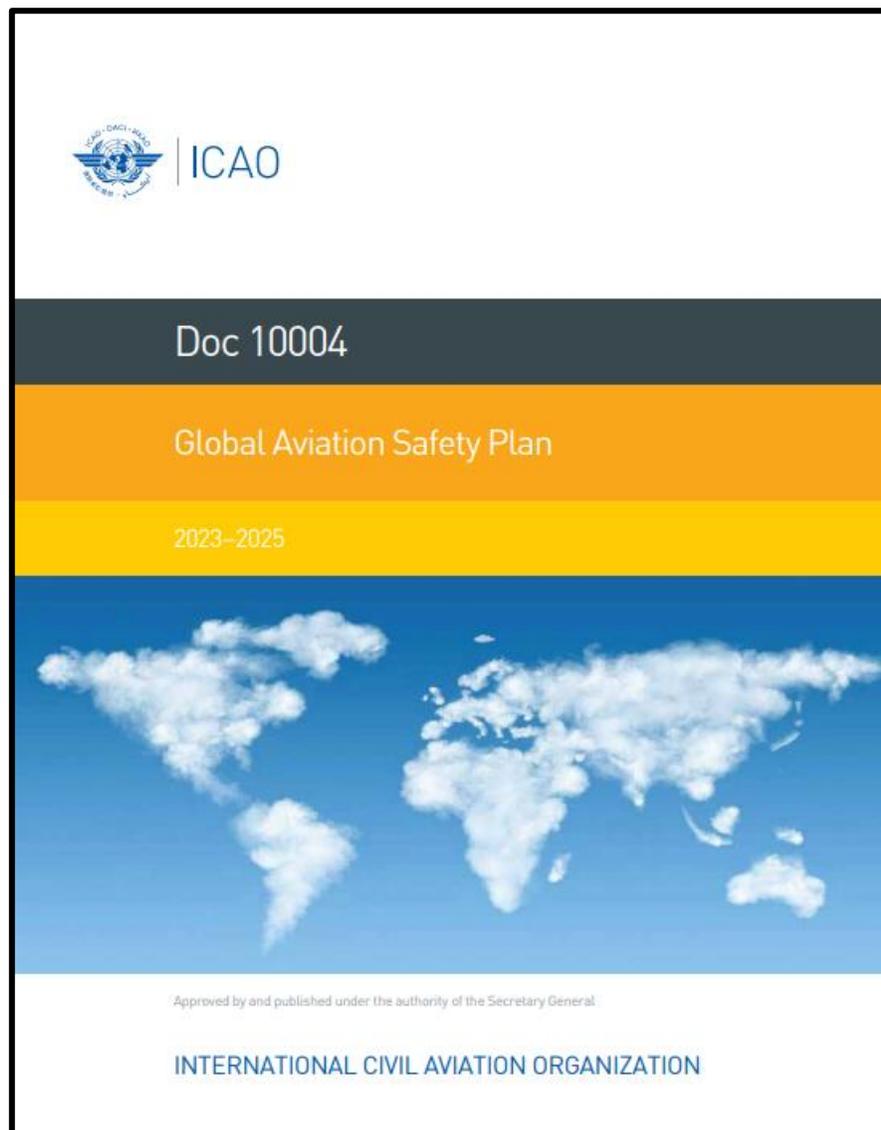
Nível de segurança das aeronaves e operações, incluindo: evolução da tecnologia das aeronaves, treinamento, gerenciamento de tráfego aéreo, gerenciamento de recursos da tripulação, fatores humanos etc.



0.17
Fatal accidents
per million flights
in 2020

Western built jets
above 40 seats

Source: Ascend,
Airbus



ICAO ASPIRATIONAL SAFETY GOAL “ZERO FATALITIES BY 2030 AND BEYOND”

O GASP fornece uma estrutura colaborativa para Estados, regiões e indústria para gerenciar os desafios organizacionais e riscos de segurança operacional, por meio do desenvolvimento e implementação de RASPs e NASPs

SIX GOALS

Goal 1 – continuous **reduction of operational safety risks**

Goal 2 – States to **strengthen their safety oversight capabilities**

Goal 3 – Implementation of **effective State safety programmes**

Goal 4 – States to increase **collaboration at the regional level** to enhance safety

Goal 5 – **Expand the use of industry programmes and safety information sharing networks**

Goal 6 – **Appropriate infrastructure** needed to support safe operations

FIVE GLOBAL HIGH-RISK CATEGORIES OF OCCURENCES (G-HRCs)

- Controlled flight into terrain (CFIT)
- Loss of control in-flight (LOC-I)
- Mid-air collision (MAC)
- Runway excursion (RE)
- Runway incursion (RI)

ICAO NACC Region

- **22 States**
- **19 Territories**

- Antigua and Barbuda
- Bahamas
- Barbados
- Belize
- Canada
- Costa Rica
- Cuba
- Dominica
- Dominican Republic
- El Salvador
- Grenada
- Guatemala
- Haiti
- Honduras
- Jamaica
- Mexico
- Nicaragua
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Trinidad and Tobago
- United States

France

- French Antilles (Guadeloupe, Martinique, Saint Barthélemy, Saint Martin, Saint Pierre et Miquelon)

Netherlands

- Aruba, Curaçao, Sint Maarten, Bonaire, Saba, Sint Eustatius

United Kingdom

- Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Montserrat, Turks and Caicos Islands

United States

- Puerto Rico, Virgin Islands



ICAO SAM Region

- **13 States**
- **French Guiana**

- Argentina
- Bolivia
- Brazil
- Chile
- Colombia
- Ecuador
- Guyana
- Paraguay
- Peru
- Panama
- Suriname
- Uruguay
- Venezuela
- French Guiana

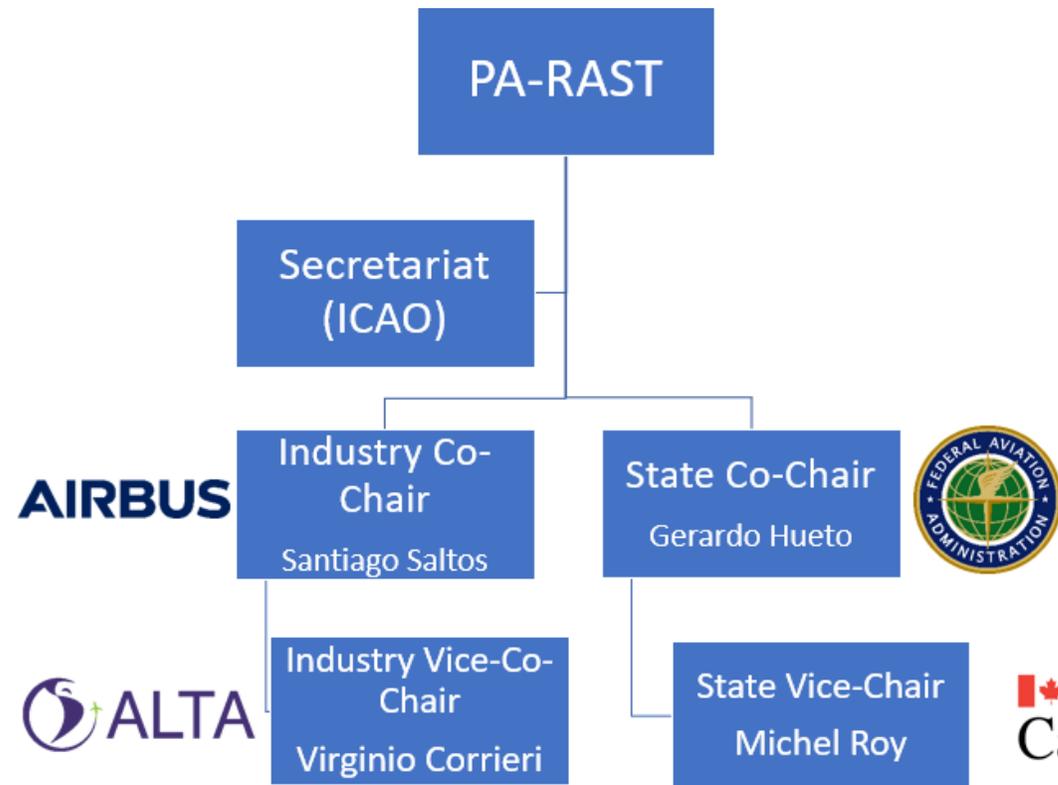
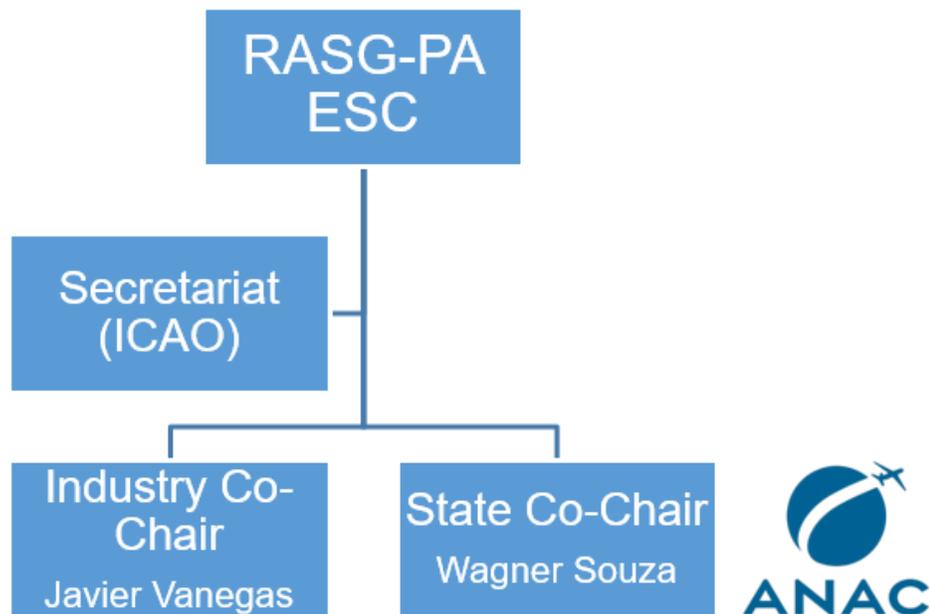
HISTORY



- Between **2000-2010**, the region had experienced tragic fatal accidents.
- Accident rate above world's average, and one of the world's highest rate of fatality risk
- **2008** the first RASG-PA meeting was held in Costa Rica
- **2010** PA-RAST hosted it's first meeting
- **2010** 1st Pan American Safety Summit



ICAO



REGIONAL AVIATION SAFETY GROUP – PA PA-RAST



A visão do RASG-PA é manter-se à frente de quaisquer riscos para a aviação comercial, buscando alcançar o mais alto nível de segurança na Região Pan-Americana, além de abordar questões globais de segurança da aviação a partir de uma perspectiva regional

RASG-PA / PA-RAST

Lima 25-27 Oct

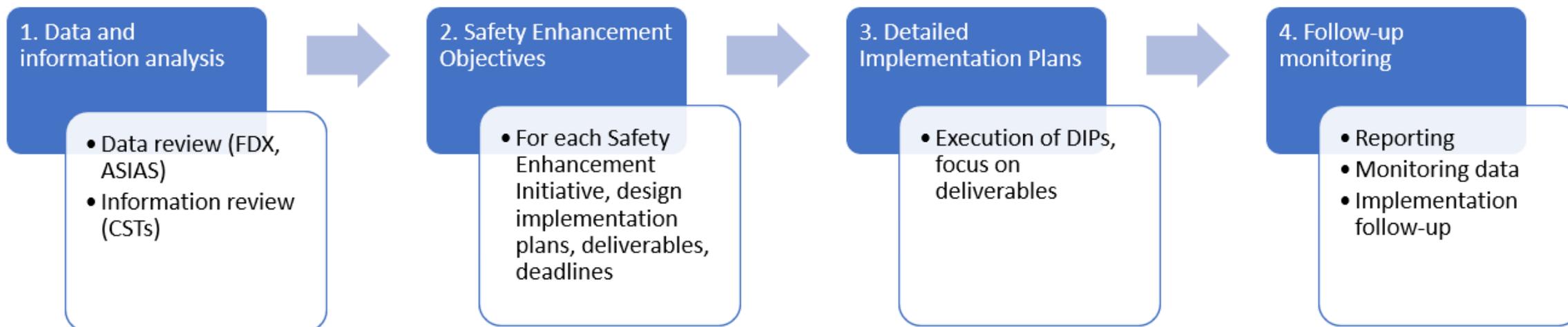




- 0 acidentes fatais em 2020 e 2021
- MoU assinado com ASIAS e GADM da IATA para análise de informações
- Redesenho do espaço aéreo de Bogotá
- Programa de mitigação de colisões com pássaros (Cidade do Panamá-Panamá e Guayaquil-Ecuador)
- Padronização de fraseologia
- Safety Advisory – COVID



PA-RAST Process Overview

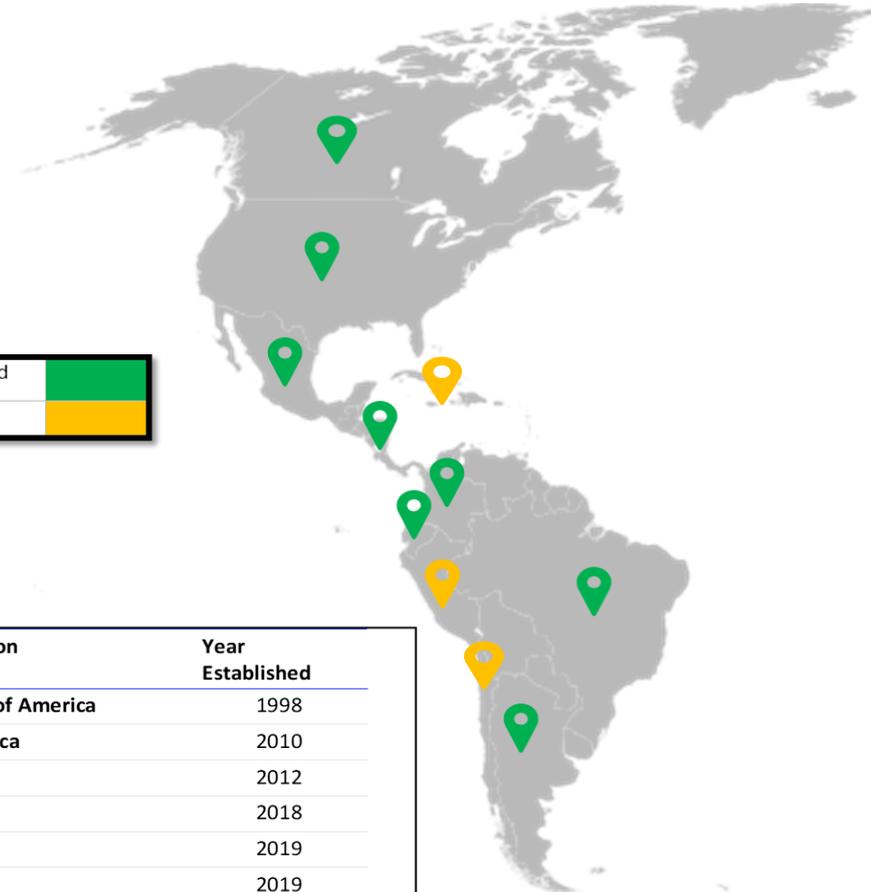




Pan America CSTs



Country/Region	Year Established
United States of America	1998
Central America	2010
Brazil	2012
Argentina	2018
Colombia	2019
Ecuador	2019
Mexico	2020
Peru	2019
Caribbean	2021
Canada	2019





RSA-07

RASG-PA SAFETY ADVISORY – 07

November 2022

Regional Aviation Safety Group-Pan America (RASG-PA)

Mitigations for Controlled Flight Into Terrain

1. Introduction

1.1 The Regional Aviation Safety Group — Pan America (RASG-PA) is committed to promoting a collaborative approach to address key safety issues in the Pan American Region by means of a data-driven approach, involving all aviation stakeholders from industry and government.

1.2 The RASG-PA, through collaboration with its members, identified a safety risk attributed to Controlled Flight into Terrain (CFIT). CFIT remains one of the leading fatality-risk areas in the Pan-American region.

1.3 Controlled Flight into Terrain (CFIT) occurs when an airworthy aircraft under the complete control of the pilot is inadvertently flown into terrain, water, or an obstacle. The pilots are generally unaware of the danger until it is too late. Most CFIT accidents occur in the approach and landing phase of flight and are often associated with non-precision approaches.

1.4 The Terrain Avoidance and Warnings System (TAWS) was developed to mitigate the risk associated to CFIT. TAWS alerts in the cockpit re intended to cause flight crews to become aware of a potential hazard in order to take immediate corrective action. However, experiencing erroneous TAWS alerts can desensitize flight crews from taking prompt avoidance action when a true unsafe situation actually occurs.

1.5 Undesired alerts or the system's failure to provide a timely warning could be substantially mitigated if all operators (when appropriate based on fleet age and technology) would update the software utilized by the TAWS. These software updates are issued regularly; however, industry sources reveal they are not always implemented by all operators or installed in a timely manner. It is also important to regularly update the obstacle, runway and terrain database provided by the



RSA-09

RASG-PA SAFETY ADVISORY – 09

November 2022

Regional Aviation Safety Group-Pan America (RASG-PA)

Mode Awareness and Energy State Management Aspects of Flight Deck Automation

1. Purpose

1.1 This RASG-PA Safety Advisory (RSA) is issued to alert States and air operators to the importance that air crews are aware of the automation mode under which the aircraft is operating and to encourage the adoption of practices to mitigate mode awareness and energy state management risks. It provides a sample automation policy to support the use of aircraft automation.

2. Background

2.1 During the first years of the RASG-PA, a thorough study on flight deck automation and its impacts on aircraft energy management was conducted and produced the first RASG-PA Safety Advisory (RSA-001), issued in 2012. At that time, the PA-RAST (Pan American Regional Aviation Safety Team) identified undesirable energy states were triggered by scenarios in which pilots could experience confusion on mode selection. Training and airline policies on managing automation were recommended to mitigate consequential risks, however, recent studies suggest that this topic is still present to some degree, which justify the importance of reemphasizing such policy.

2.2 Having that said, the objective of the sample policy is to help minimize the frequency with which pilots experience mode confusion and undesirable energy states. This, in turn, requires that crews understand the functions of the various modes of automation. The sample policy is based on a set of common industry practices that are known to be effective. Operators should compare



Collaborative Safety Team (CST) Strategy

December 2022

1. Introduction

1.1 Over the past 20 years, several ICAO member States and Industry partners have established safety collaboration mechanisms to facilitate the sharing of safety information with the objective to identify potential safety deficiencies and mitigate their associated risks through the development of safety enhancement initiatives (SEI). These State-Industry safety collaboration mechanisms are created according to a variety of different models influenced by safety management requirements and context within each State, and are generically referred to as Collaborative Safety Teams (CSTs). CSTs may be integrated as part of State Safety Information Sharing Networks supporting accident prevention activities at State level.

1.2 CSTs consistently demonstrate positive safety benefits where they have been implemented, and the concept is considered to be a key contributor to achieving greater and more targeted improvements to aviation safety in the Pan American Region.

1.3 RASG-PA leads, coordinates, supports and monitors the implementation of CST in the Pan-American Region, based on safety risk data analysis performed by the PA-RAST.

1.4 PA-RAST proposes the CST Strategy articulated in this document as a means to improve overall safety in the Pan American Region by:

- (1) effectively supporting the adoption of State and Region level CSTs; and,
- (2) fostering safety collaboration between PA-RAST and local CSTs.

2. CST Strategy

2.1 Updated CST Guidance Material

2.1.1 PA-RAST previously drafted guidance material with the objective to support the development and implementation of new CSTs. While this guidance is valuable and based on a CST model that has proven effective, it is recognized that implementation of such a model would

 <h2>Safety Enhancement</h2>	
<p>BCAST – GT-RE - SE 02 rev.00 Conscientização da Importância do Ponto de Toque na Performance de Pouso</p>	
<p>Ações do Safety Enhancement:</p>	<p>Recomendar a adoção de medidas mitigatórias relacionadas ao tema, buscando-se reduzir o risco de <i>Runway Excursion</i>.</p>
<p>Responsável(ais) pela implementação:</p>	<p> <input checked="" type="checkbox"/> Empresas Aéreas <input type="checkbox"/> Associações da indústria <input checked="" type="checkbox"/> BCAST <input type="checkbox"/> DECEA <input type="checkbox"/> Organizações de pesquisa <input type="checkbox"/> Sindicatos <input type="checkbox"/> Fabricantes <input checked="" type="checkbox"/> ANAC <input checked="" type="checkbox"/> Outro (especificar): BGAST; BAIST </p>
<p>Descrição:</p>	<p>Em discussões no âmbito do grupo de GT-RE, foi identificado que existe um falso e generalizado entendimento entre a comunidade aeronáutica de que pouso longo é aquele que ocorre fora da zona de toque ou ainda que qualquer pouso dentro da zona de toque leva a uma parada segura da aeronave.</p> <p>Na verdade, as marcações de zona de toque nada têm a ver com a performance de pouso. Uma pesquisa do GT-RE indica que os requisitos relacionados a essas marcações datam da década de 1950 e têm como principal objetivo a identificação da pista. É preciso entender o contexto da época: era provavelmente desafiador encontrar a pista e identificar a cabeceira correta numa navegação NDB, enquanto a performance de pouso era de pouca relevância para as aeronaves "pré era do jato".</p> <p>Uma análise do Grupo de Trabalho de Runway Excursions (GT-RE) do BCAST sobre os acidentes de saída de pista da aviação comercial regular no Brasil entre 2006 e 2017 indicou que o toque na pista ocorreu mais de 500 metros além da cabeceira em 5 de 9 casos (56%), sendo 3 deles dentro da zona de toque. Além disso, uma análise de dados de 10.000 voos comerciais regulares em 2018 mostrou que mais da metade dos toques ocorreram 500 metros além da cabeceira ou mais.</p> <p>Uma busca por referências internacionais revelou que o FAA estabelece, nos cheques práticos para obtenção da licença de Piloto de Linha Aérea e habilitação de tipo, que o toque deve ocorrer na região compreendida entre 250 pés antes e 500 pés depois do ponto de visada (popularmente conhecido como "marca de mil").</p> <p>O GT-RE acredita que a adoção de limitações para o ponto de toque é especialmente importante no contexto operacional brasileiro, diante do emprego de aeronaves a jato em pistas originalmente concebidas para aeronaves de menor porte e, em alguns casos, com Área de Segurança de Fim de Pista (RESA) menor do que aquela preconizada por padrões internacionais.</p>



	<p>RSA-08</p> <p>RASG-PA SAFETY ADVISORY – 08</p> <p>November 2022</p> <p>Regional Aviation Safety Group-Pan America (RASG-PA)</p>
<p>Compatibility Issues Between Required Landing Performance and Touchdown Zone Definition</p>	
<p>1. Introduction</p> <p>1.1 Throughout 2020 and 2021, the COVID-19 pandemic has prompted the Pan-American Regional Aviation Safety Team (PA-RAST) to complement its data-driven process with direct inputs from the Region's Collaborative Safety Teams (CST), by assessing the systemic applicability of conclusions arising from any which Safety Enhancement Projects were being worked on by a CST.</p> <p>1.2 During that period, the Brazilian Commercial Aviation Safety Team (BCAST) has provided an analysis on the compatibility of required landing performance of turbojets commonly applied to scheduled air transport and the touchdown zone length, after evaluating the landing performance on several operations. The BCAST Runway Excursion Safety Enhancement Team (RE-SET) has identified that there is a false and widespread perception among the aeronautical community that a long landing would only occur when touchdown occurs outside the touchdown zone or that any landing within the touchdown zone necessarily leads to a safe stop of the aircraft.</p> <p>1.3 In fact, the definition of touchdown zone length (by means of runway markings standards) have nothing to do with landing performance. The BCAST study indicates that the requirements related to these markings date back to the 1950s and have as their main objective the runway threshold identification and inform the pilot of the aircraft relative position to the aiming point. It is necessary to understand the context of the time: it was probably challenging to find the runway and identify the correct threshold in NDB navigation, while the landing performance was of little relevance for "pre-jet era" aircraft.</p>	

ALTA SAFETY COMMITTEE



Intercâmbio de informações e dados estatísticos para identificar os principais riscos à operação na região, buscando medidas para mitigá-los

Permite também a **partilha de boas práticas entre operadores e autoridades**, de forma a melhorar os indicadores de Segurança na área

Informações

Guia para a certificação de
simuladores – ICAO

CASTs



Dados

Saúde Mental: Projeto “The most important flight”

DESAFIOS



OCT 19

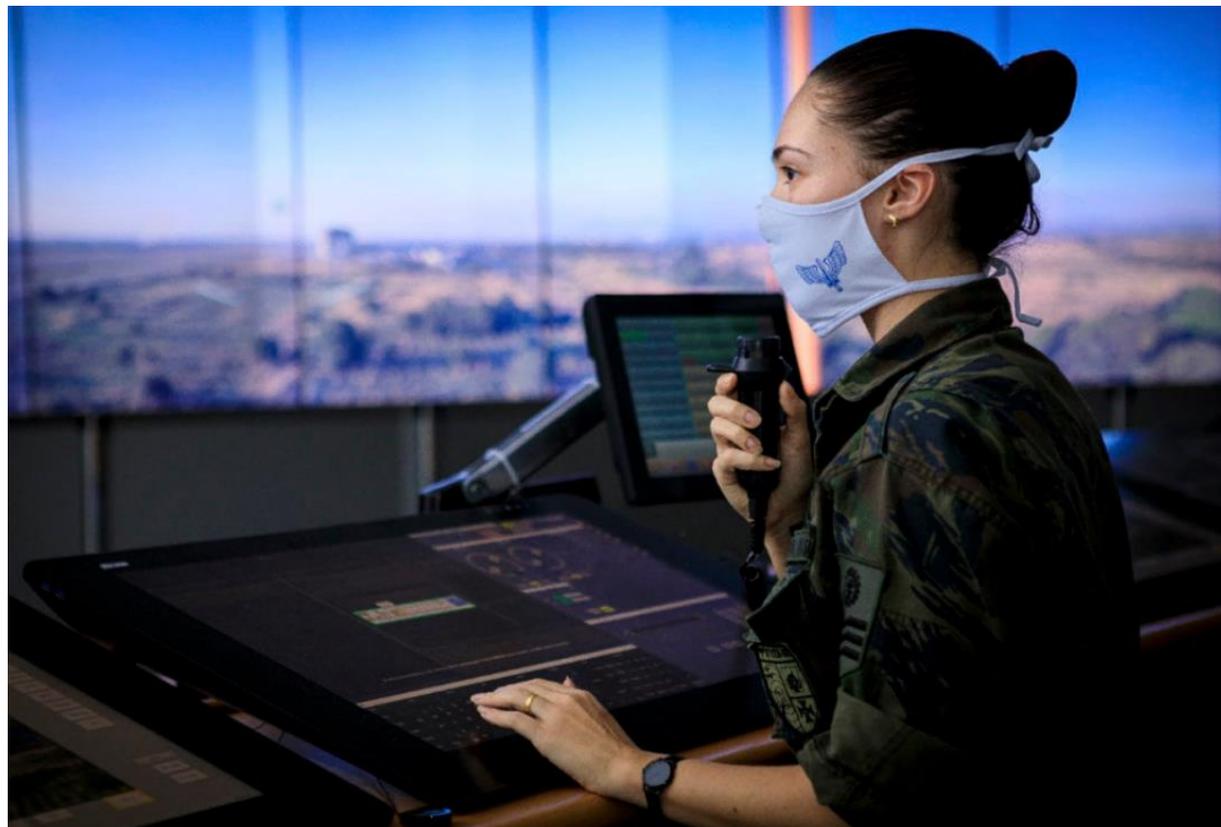
12 dos 271 passageiros a bordo do Airbus A330 sofreram ferimentos



OCT 27

Sem feridos
Airbus A320

DESAFIOS



Parceria entre o Departamento de Controle do Espaço Aéreo (DECEA) e a Embry-Riddle Aeronautical University

Programa de treinamento “Aviation English for Air Traffic Control” iniciado em 2021

Até 2024, cerca de 1.300 CTA terão melhorado suas habilidades no idioma inglês

SUMÁRIO

- Introdução
- ALTA
- Panorama CAR e AL
- Brasil
- Iniciativas de Safety na Região
- **Conclusão**





Muito obrigado!

vcorrieri@alta.aero