MINISTÉRIO DA INFRAESTRUTURA

PÁTRIA AMADA BRASIL GOVERNO FEDERAL

SAC/MINFRA

DINV

DEPARTAMENTO DE INVESTIMENTOS

– BRAZILIAN CIVIL AVIATION –

INSTITUTIONAL FRAMEWORK

MINISTRY OF INFRASTRUCTURE

- Formulation of Public Policies; Planning and Guidelines
- Governmental Coordination
- Airport Concessions Plan
- Manager of the Brazilian Civil Aviation Fund (FNAC)
- Investments in Regional Airports

MINISTRY OF DEFENSE

- Military Aviation
- Air Navigation Services Provider and Regulation

INFRAERO

- State-owned airport authority

ANAC

- Technical and Economic Regulation
- Monitoring and Enforcement

Independent Agency

– NATIONAL AIRPORT AUTHORITIES COMMISSION –

CONAERO

MAJOR GAINS

- Improving Infrastructure utilization
- Ease of communication
- Centralized consultation forum
- Coordinated Actions
- Information integration
- Integrated Planning

– MAIN REGULATORY MEASURES –

TIMELINE

1990 | 2000 | 2005 | 2010 | 2015 | 2020

1991
Extinction of regional monopolies with the beginning of the flexibilization of Brazilian air transportation

2001
Domestic air fare freedom

2006
ANAC is Created

2009
National Civil Aviation Policy

2010
Air fare freedom for international flights

2017
Air transport general conditions reviewed.

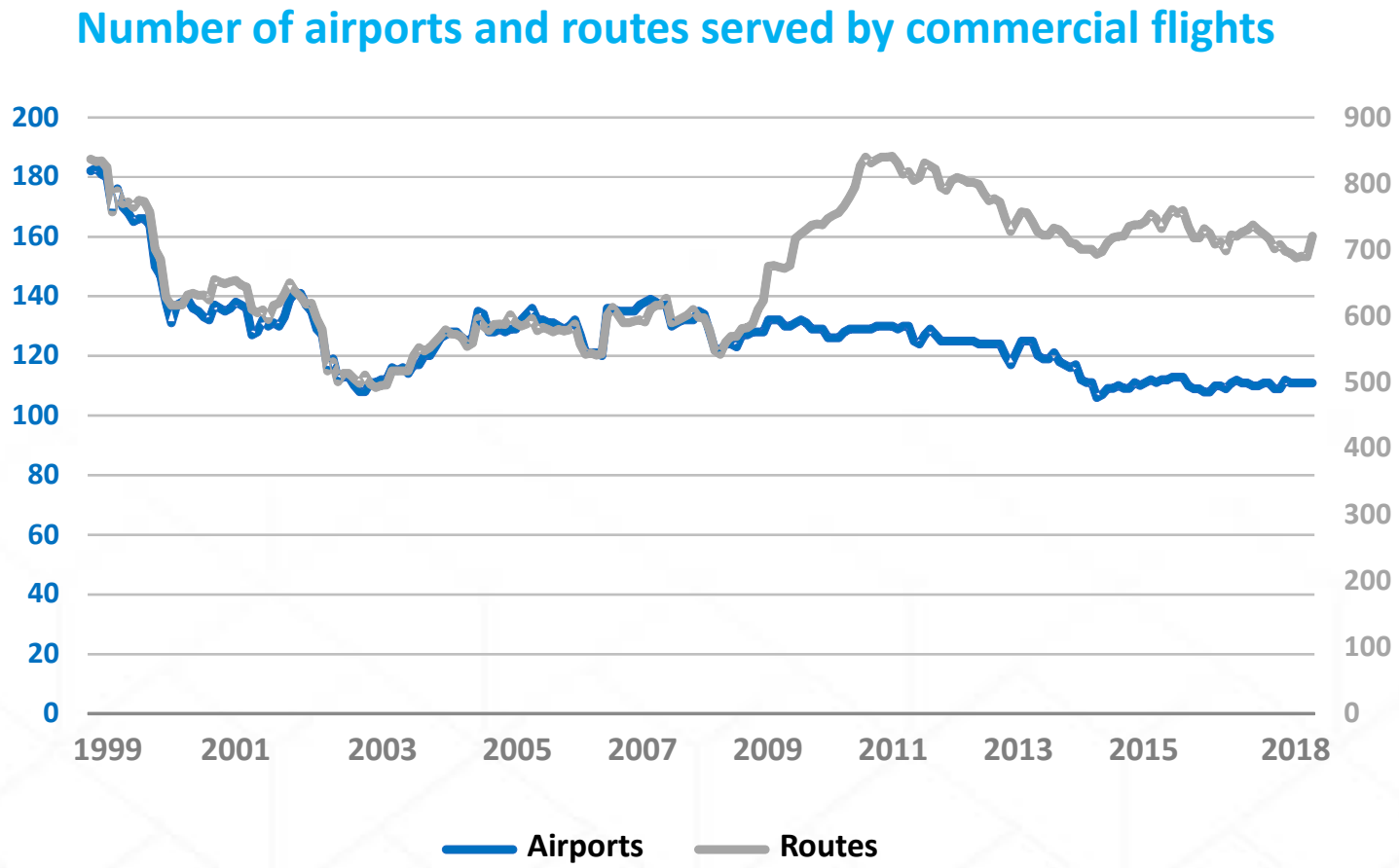
2018+
Increase foreign capital in airlines by 100%

2001: The 5th CONAC promoted the extinction of SITAR allowing new companies to emerge.

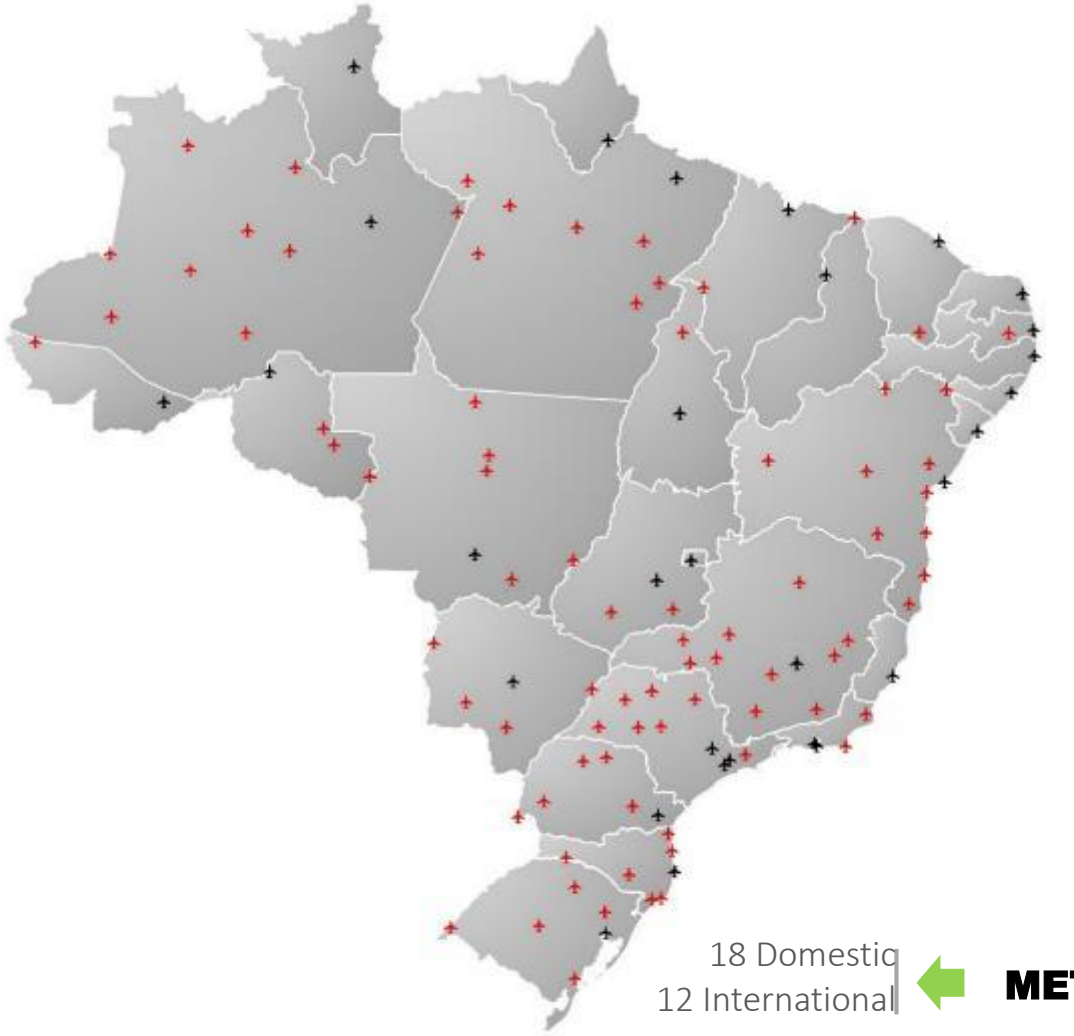
2009: Greater flexibility in civil aviation and private sector participation

2017: Baggage allowances

AIRPORTS X ROUTES
1999 - 2018



– MARKET AND INFRASTRUCTURE –
BRAZILIAN AIRPORTS



2.040
PRIVATE OWNED

579
PUBLIC AIRPORTS

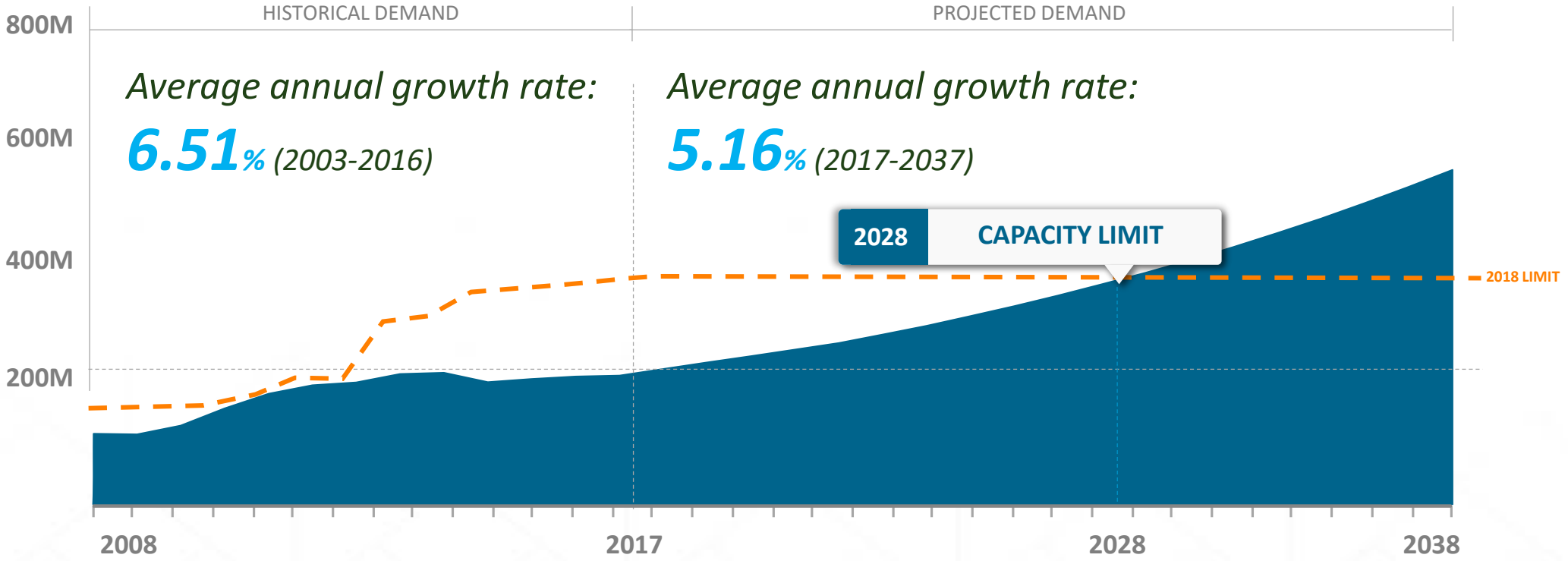
123
Receiving Schedule Flights

18 Domestic
12 International

30
METROPOLITAN

93
REGIONAL

– BRAZILIAN REGULAR PASSENGERS –
20 AIRPORTS RESPONSIBLE FOR 90% OF DEMAND

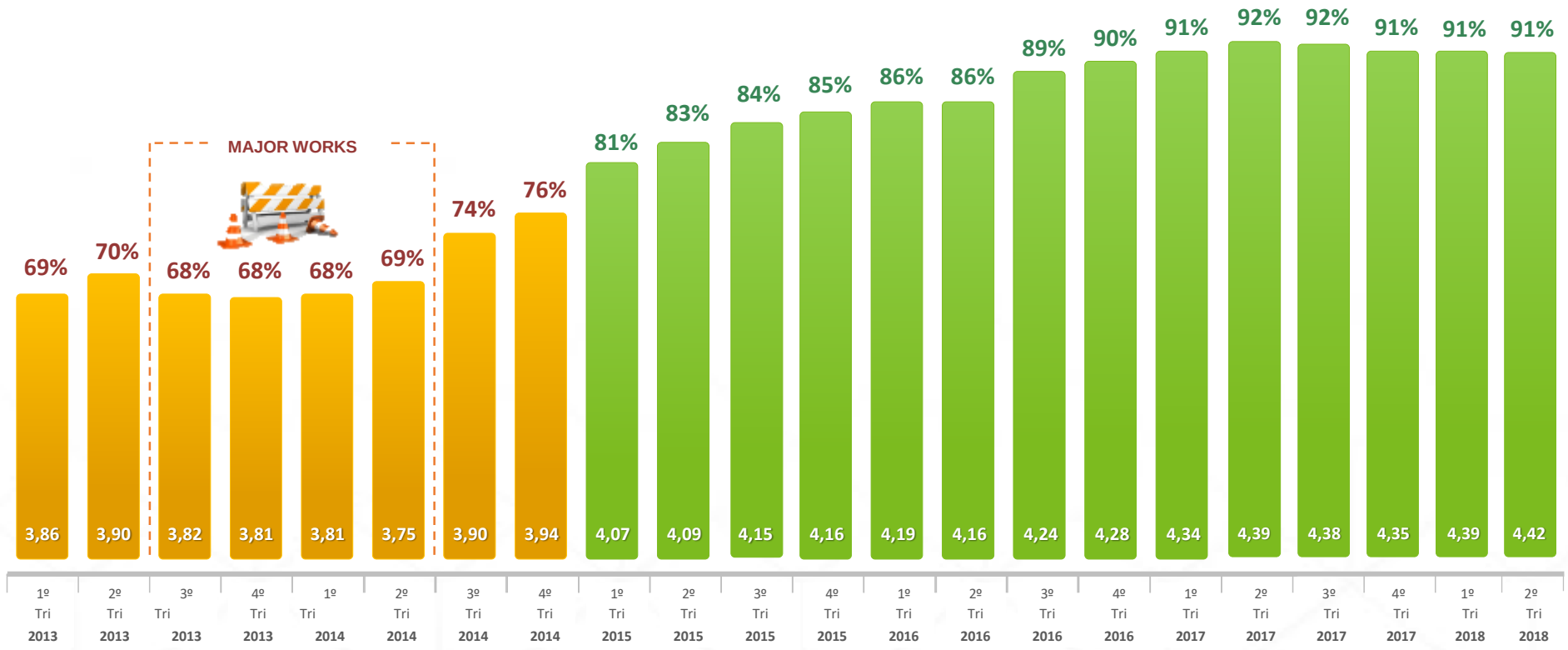


	2018	2023	2028	2038
CAPACITY LIMIT	272,8	272,8	272,8	272,8
DEMAND FORECASTING	182,3M	220,6M	282,8M	401,0M

– PASSENGER –
SATISFACTION SURVEY

Passenger satisfaction growth per quarter and average grade

(Percent of 4 and 5 in 1 to 5 range grades)



- MORE INFORMATION ABOUT BRAZILIAN CIVIL AVIATION -

WWW.TRANSPORTES.GOV.BR/HORUS

MOVEMENT
Performance, ranking, evolution and comparison

HÓRUS

HOTRAN
Graphs, indicators and infographic on authorized flights and routes

OPERATIONAL PERFORMANCE
Passenger satisfaction survey through graphics and infographics

AIRPORT AND MAP
Data of each aerodrome, such as cadastral information, indicators of operation, infrastructure and location

BRSP Brazilian Runway Safety Programme

ANAC AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL

BRSP Brazilian Runway Safety Programme

ANAC

Brazilian Runway Safety Programme

- Runway Safety Team

  - RST manual and guidance
  - RST Implementation at major airports
  - RST follow up and stimulus (fuel)
  - Technology and procedures to Safety improvement

- Global Reporting Format

  - GRF adoption
  - GRF Pilot Project
  - GRF Implementation at major airports
  - Relationship with key Stakeholders

BRSP Brazilian Runway Safety Programme

ANAC

Brazilian Experience

GRF Implementation Challenges

Sumary

- Is it important to adopt grf/rwycc in brazil?
- Stakeholders Interaction
- Schedule Steps (timeline)
- Authorities Coordination
- Brazilian Scenario x Doc 9981
- Pilot Project
- GRF specific procedures

GRF Challenges

Is it important to adopt GRF in Brazil?

- **Reasons to adopt**

- RWY wet conditions and frequent heavy rain and thunderstorms – delays, diversions and cancellations
- Great number of airports served by commercial flights (many international)
- Improve on-time reports – pilots more aware – safer operations
- Normative alignment with ICAO

BRSP Brazilian Runway Safety Programme

GRF Challenges

Stakeholders Interaction

GRF Challenges

Authorities Coordination

- 2 Authorities regulate GRF implementation

Civil Aviation Authority - ANAC

- Airport Safety
- Airport Surveillance
- Airport Certification
- Brazilian Runway Safety Programme

Airspace Control Department- DECEA

- Air Traffic Management
- Air Traffic Controllers
- Air Traffic Services
- Navigation Aids
- Procedures

Timeline

September 2018
3 days meeting
ANAC + DECEA
Doc 9981
internalization
draft

Meeting ANAC +
Airport
SBCT chosen for
pilot project

Documentary phase

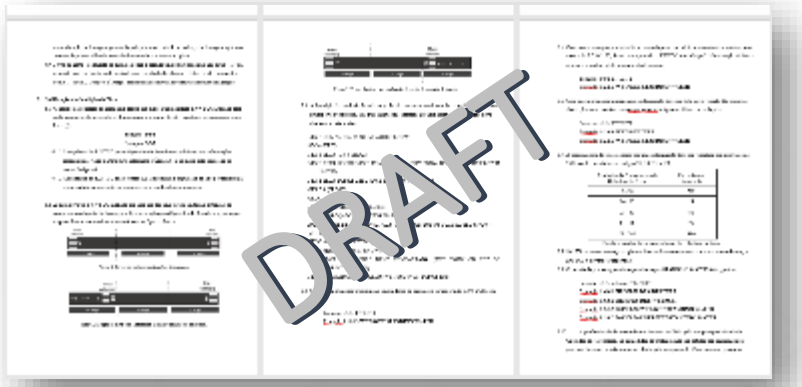
Action phase

BRSP Brazilian Runway Safety Programme

GRF Challenges

ANAC

Actions Taken



- **Brazilian Scenario Evaluation**
  - Heavy Rains
  - No snow, No ice
  - Sudden change of weather conditions
  - Continental dimensions and weather differences
- **Doc 9981 adoption**
  - GRF General Procedures Document
  - Coordination meetings (BAIST?)
  - Runway Evaluation Only (In the beggining)
  - Joint publication by both authorities

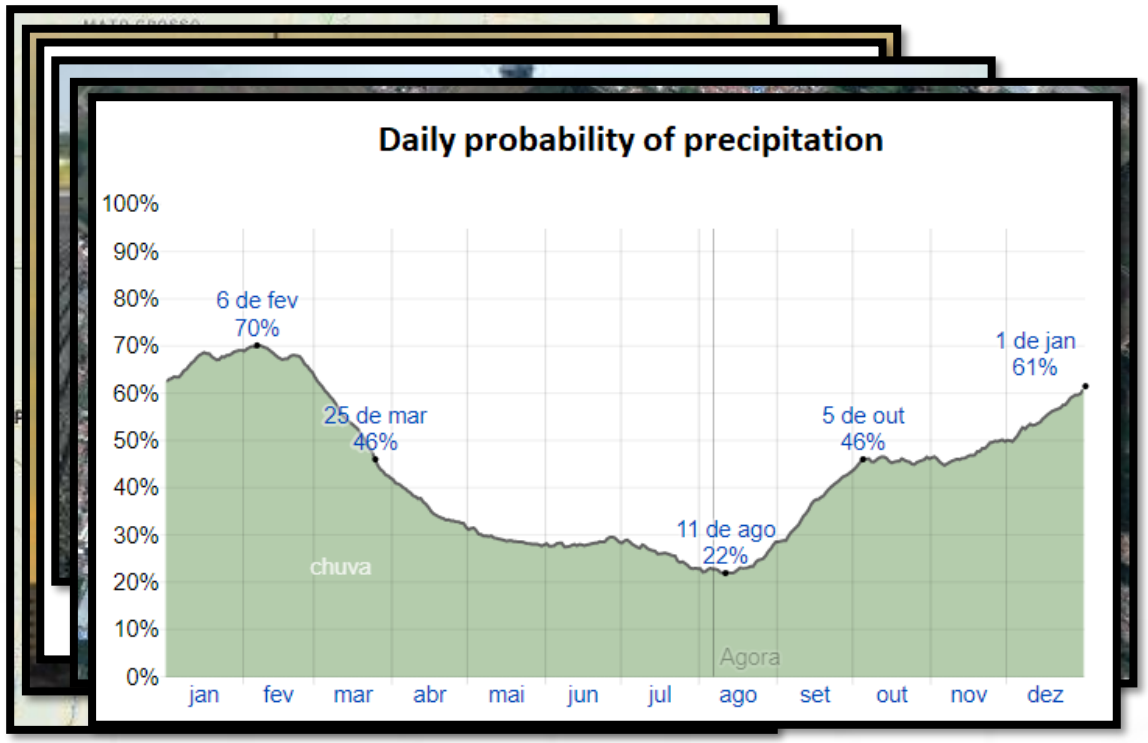
Timeline

Players ANAC DECEA

GRF Challenges

- **Pilot Project: Airport Definition Criteria**

  - Good Access
  - Facilitated interaction
  - Operated by INFRAERO (Expertise and Staff)
  - Towered Airport (DECEA)
  - Proper traffic density (166 mov/day)
  - Runways (Size + RESA + Condition)
  - Airport Layout
  - Reasonable amount of rainfall
  - Certificated Airport
  - RST operational
  - Safety impact management



Timeline

Players

BRSP Brazilian Runway Safety Programme

Timeline

ANAC

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Adequacy of procedures

January and February 2019
Airport + ANAC + DECEA + TWR
ajustments and validation of ITCT

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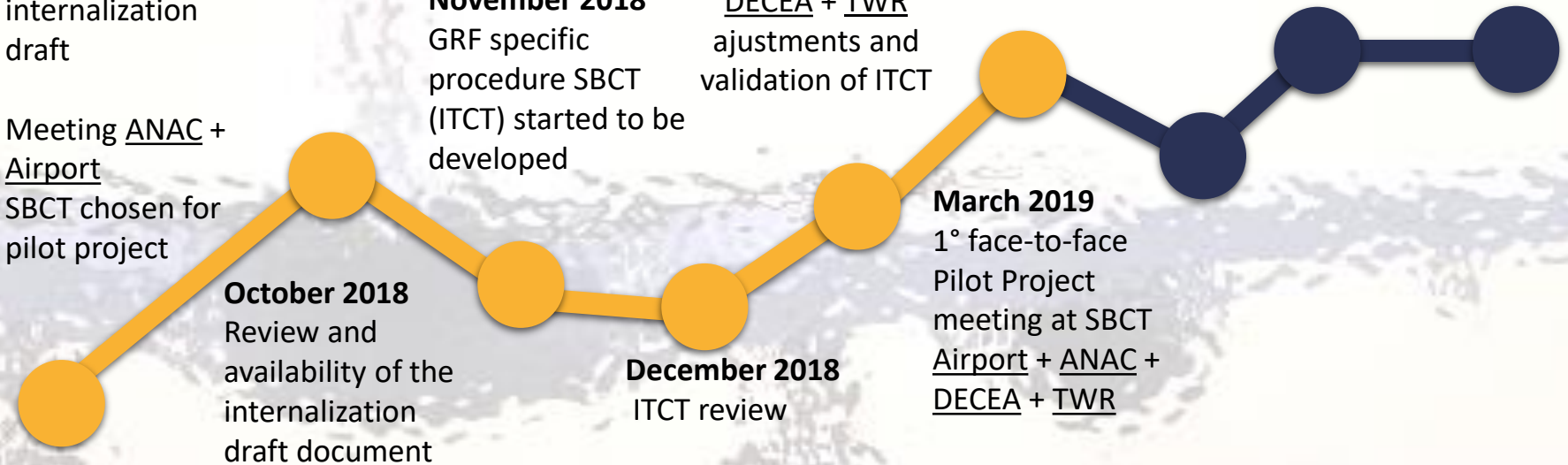
1° face-to-face Pilot Project meeting at SBCT
Airport + ANAC + DECEA + TWR

GRF19 Montreal

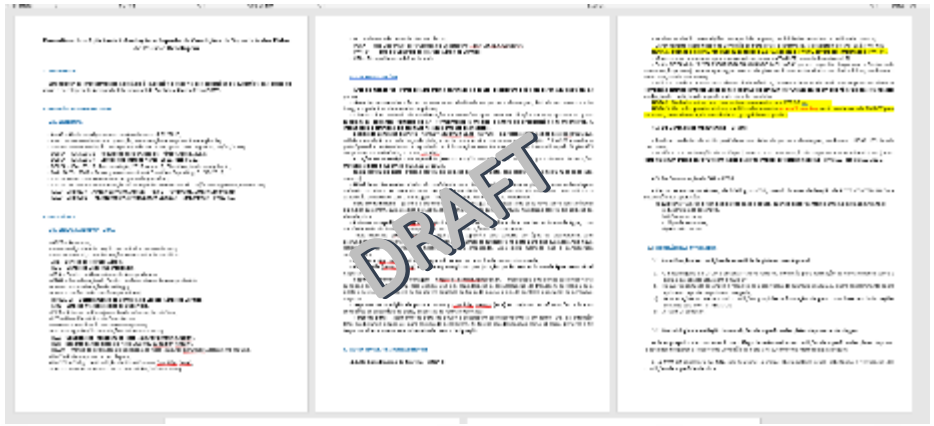


Documentary phase

Action phase

GRF Challenges

- GRF specific procedures in Curitiba (ITCT)



- Meetings with the operator - GRF overview
- Pilot Project participants and document development team
- ITCT Review and validation

- Correlated tasks:
  - Establishment of operational agreement document with ATS to define: Communication channel, staff, phraseology;
  - Measuring equipment
  - Runway thirds identification
  - RCR generating spreadsheet
  - Database
  - Measurement referencing for standing water

Timeline

Players

BRSP Brazilian Runway Safety Programme

GRF Challenges

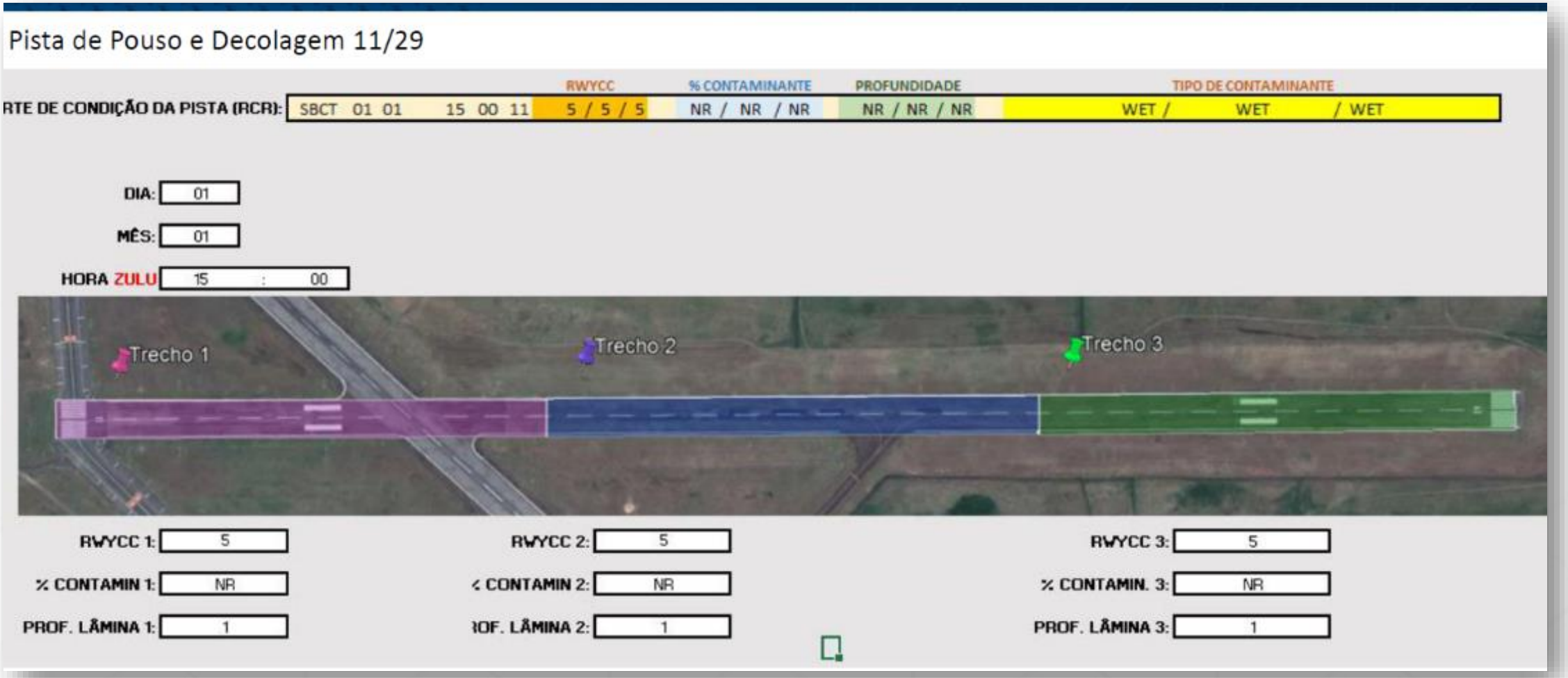
ANAC

- Measuring equipment

- Runway thirds identification

GRF Challenges

- RCR generating spreadsheet



GRF Challenges

- RCR database

Banco de dados

Banco de dados de Reporte de Condições de Superfície das Pistas de Pouso e Decolagem

INFRAERO AEROPORTOS

Aeroporto Internacional de Curitiba - Afonso Pena
Gerência de Gestão Operacional - CTGP
Coordenação de Tráfego - CTGP-2

Data	Hora	ndice pluviométric	Código de Condição de Pista (RWYCC)	Reporte de Ação de Frenagem (RBA)	Interrupção das operações devido contaminação no pavimento?	Responsável
01/01/2019	15:00	mm/h ou 0,5 mm/	SBCT 01 01 18 00 15 3 / 3 / 3 NR / NR / NR 2 / 2 / 1 WET / WET / WET	BOA PARA MÉDIO (GOOD TO MEDIUM)	Não	Guilherme Lançoni

I:\Sbct\1- SUPERVISOR\1 - Inspeções de Operações - Área de Movimento\RCC

GRF Challenges

- Measurement referencing for standing water

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GRF19 Montreal

May 2019
2° face-to-face
meeting Airport +
ANAC + DECEA +
TWR

Alignment of duties
and procedures
and Integrated
Simulation

June 2019
Airport + TWR
ATCO and Airport
Staff trainig

DECEA checking
Full RCR publishing
system

July 2019
Airport +
Airlines + ANAC
+ DECEA + TWR
Pilot Project
Release for
Airlines

Documentary phase

Action phase

Actions Taken

- Final ITCT adjustments
- Meeting (Airport Operator + TWR-CT) - Procedural flow of the assisted operation
- Assisted operation: presence of representants of each player in every activity during the simulation (Runways + TWR + Airport)
- Joint training: Airport Staff + ATCO

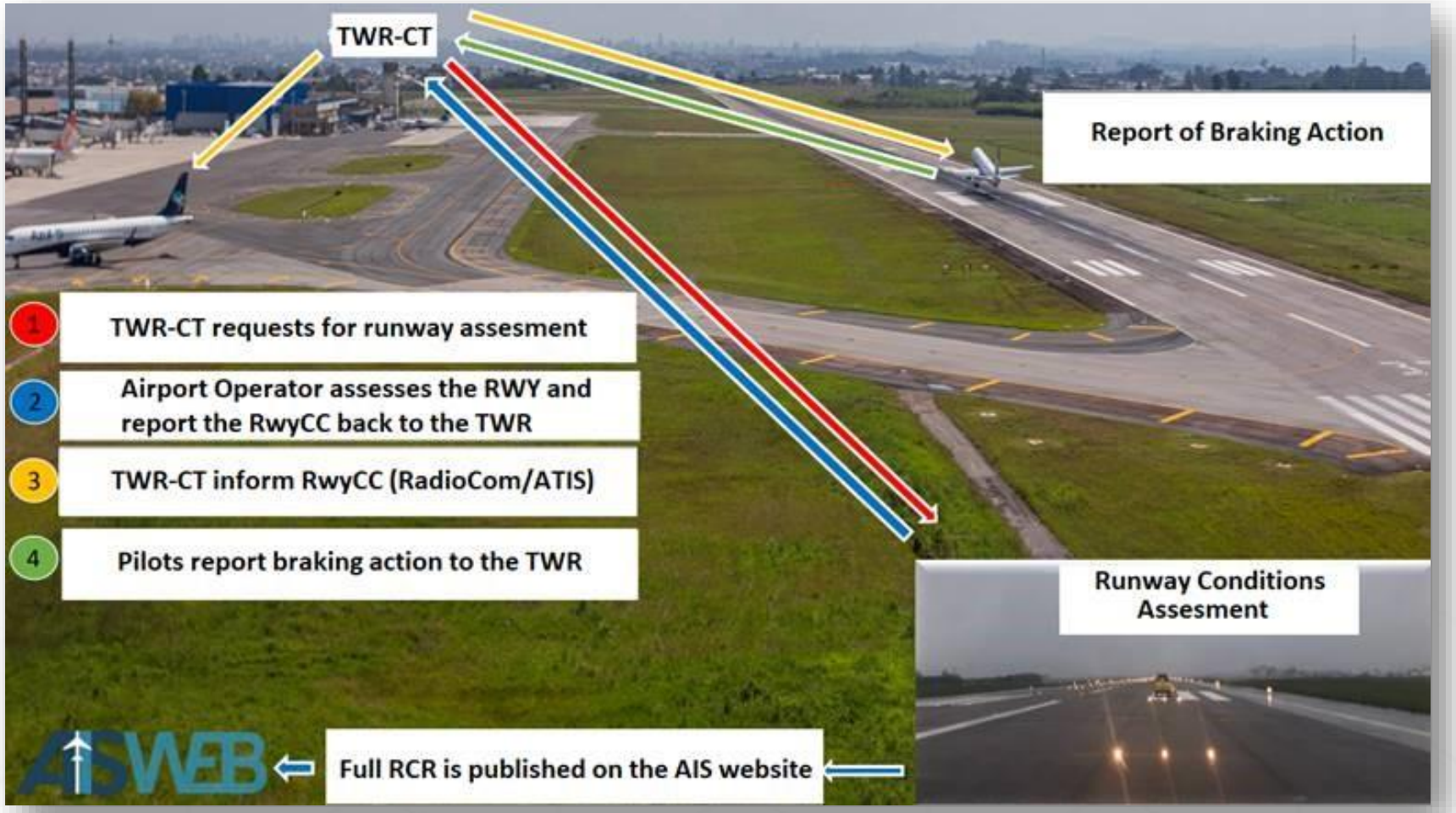
Timeline

Players

ANAC DECEA INFRAERO

GRF Challenges

➢ Comunication Flowchart



Actions Taken

- Pilot project presentation for the Air Carriers (BCAST?)
- Air Carriers invited to joint on discussions
- Setting date to start RBA requesting
- Setting date to start report RCC to pilots
- Production of dissemination document about Pilot Project by Air Carriers

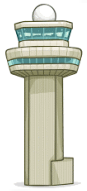
Timeline

Players

ANAC

DECEA

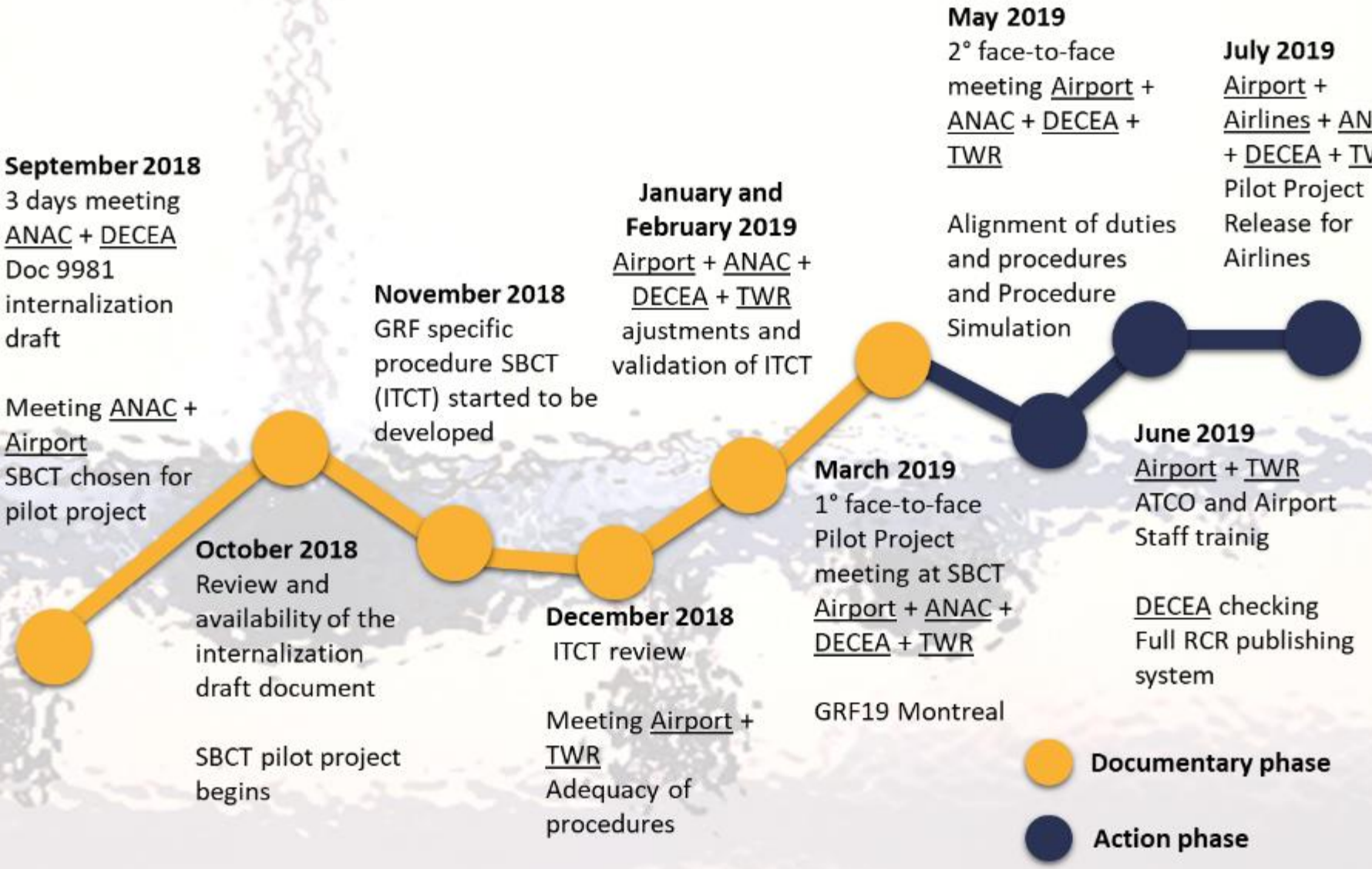
INFRAERO



BRSP Brazilian Runway Safety Programme

Timeline

ANAC



BRSP Brazilian Runway Safety Programme

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Alignment of duties and procedures and Procedure Simulation

June 2019
Airport + TWR
ATCO and Airport Staff trainig

DECEA checking
Full RCR publishing system

July 2019
Airport + Airlines + ANAC + DECEA + TWR
Pilot Project Release for Airlines

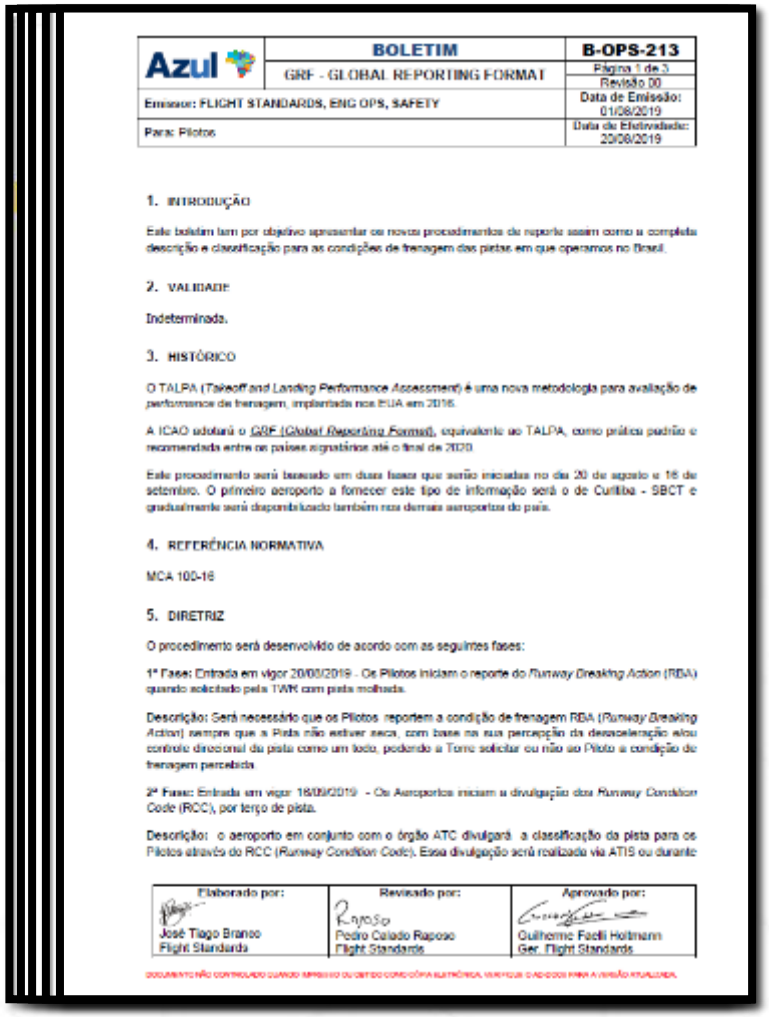
August 2019
Air carrier flight standards dissemination

RBA on request by TWR-SBCT

Documentary phase
In Progress
Action phase

GRF Challenges

- Air carrier flight standards



Azul	BOLETIM	B-OPS-213
	GRF - GLOBAL REPORTING FORMAT	Página 1 de 3 Revisão 00
Emissor: FLIGHT STANDARDS, ENG OPS, SAFETY		Data de Emissão: 01/08/2019
Para: Pilotos		Data de Efetividade: 20/08/2019

1. INTRODUÇÃO

Este boletim tem por objetivo apresentar os novos procedimentos de reporte assim como a completa descrição e classificação para as condições de frenagem das pistas em que operamos no Brasil.

2. VALIDADE

Indeterminada.

3. HISTÓRICO

O TALPA (*Takeoff and Landing Performance Assessment*) é uma nova metodologia para avaliação de performance de frenagem, implantada nos EUA em 2016.

A ICAO adotará o GRF (*Global Reporting Format*), equivalente ao TALPA, como prática padrão e recomendada entre os países signatários até o final de 2020.

Este procedimento será baseado em duas fases que serão iniciadas no dia 20 de agosto e 16 de setembro. O primeiro aeroporto a fornecer este tipo de informação será o de Curitiba - SBCT e gradualmente será disponibilizado também nos demais aeroportos do país.

4. REFERÊNCIA NORMATIVA

MCA 100-16

5. DIRETRIZ

O procedimento será desenvolvido de acordo com as seguintes fases:

1ª Fase: Entrada em vigor 20/08/2019 - Os Pilotos iniciam o reporte do *Runway Breaking Action* (RBA) quando solicitado pela TWR com pista molhada.

Descrição: Será necessário que os Pilotos reportem a condição de frenagem RBA (*Runway Breaking Action*) sempre que a Pista não estiver seca, com base na sua percepção da desaceleração e/ou controle direcional da pista como um todo, podendo a Torre solicitar ou não ao Piloto a condição de frenagem percebida.

2ª Fase: Entrada em vigor 16/09/2019 - Os Aeroportos iniciam a divulgação dos *Runway Condition Code* (RCC), por terço de pista.

Descrição: o aeroporto em conjunto com o órgão ATC divulgará a classificação da pista para os Pilotos através do RCC (*Runway Condition Code*). Essa divulgação será realizada via ATIS ou durante

Elaborado por:	Revisado por:	Aprovado por:
José Tiago Branco Flight Standards	Pedro Calado Raposo Flight Standards	Guilherme Faelli Holtmann Ger. Flight Standards

DOCUMENTO NÃO CONTROLADO QUANDO IMPRESSO OU OBTIDO COMO CÓPIA ELETRÔNICA. VERIFIQUE O ACERVO PARA A VERSÃO ATUALIZADA.

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July 2019
Airport + Airlines + ANAC + DECEA + TWR
Pilot Project Release for Airlines

August 2019
Air carrier flight standards dissemination

RBA on request by TWR-SBCT

September 2019
Inform RCC reports for pilots

Check upcoming airports to implement GRF

Future
Finalize the pilot project and check lessons learned

Release manual based on ITCT

Review GRF draft documents for publication

Documentary Phase
Action Phase
In Progress
Next Steps

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ANAC

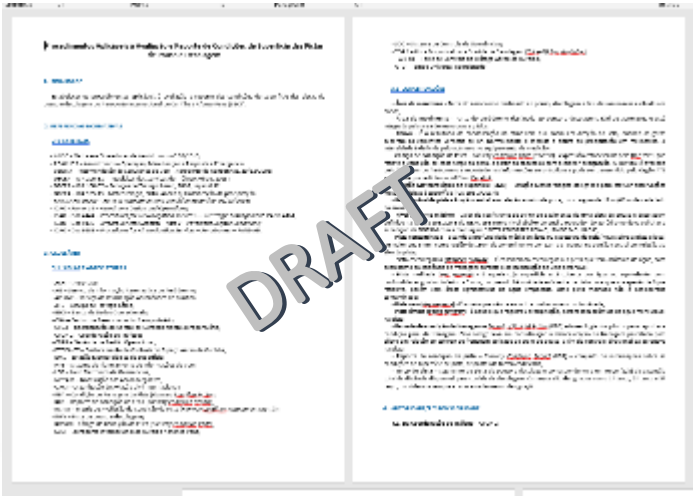
Brazilian Experience

GRF Implementation

Training Requirements

Specific procedures

- A well detailed document for the specific procedures will help the comprehension by the employees
- The ITCT generated by the Curitiba airport operator describes the workflow as well as peculiar situations that can happen, and it also contains the tools to be used during the assessment (spreadsheets)
- Explanation of the general overview of the GRF, as well as its objectives and relevance, are prerequisites for the creation of specific procedures that are coherent and appropriate to the airport features



Joint training

- As it is a procedure that involves professionals from different Players, the understanding of the functions performed by each one is extremely important for the flow of the procedure to occur properly.

- The interaction between all professionals involved strengthens the general perception of the procedure, as well as helping to answer questions and improve learning.

Players

Suitable material

- Although ITCT is very detailed and clear, teaching material should not be treated with minor importance.
- Images, hypothetical situations, simulated exercises should be present in the training
- Professionals from different areas (airport and air traffic) are recommended to prepare material and / or instruct participants
- It's important that the material gives the background and motivation for the GRF

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Brazilian Experience

GRF Implementation

Discussion and Questions

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Questions and Discussion

ANAC

Questions

- What is the ideal measurement equipment according to the airport features?
- How to assess RWY conditions, specially water deep, in case of heavy rain or sudden thunderstorms?
- When/How to insert international companies in the process?

Discussions

- How to deal with aircrafts that are not equipped with this type of system?
- How to deal with GRF on a degraded RWY?

Thank you!

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