



O DECEA E A GESTÃO POR PERFORMANCE



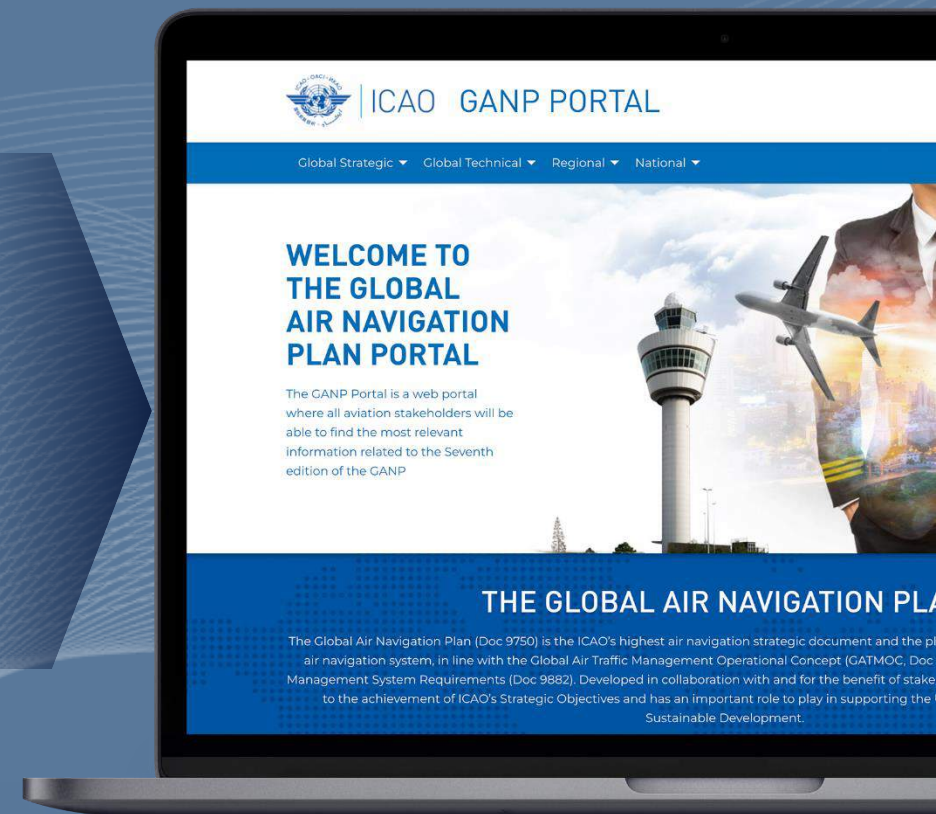




Conceitos detalhados e Orientação à Performance

- CDM/ATFM
- FF-ICE
- SWIM
- TBO
- Aeronaves Conectadas

- Requisitos do Sistema ATM
- Performance Global do sistema ATM



GESTÃO POR PERFORMANCE

É uma forma de organizar o gerenciamento de uma organização

Baseada em três princípios:

1. INTENSO ENFOQUE NOS RESULTADOS DESEJADOS
2. TOMADAS DE DECISÃO BEM INFORMADAS
3. BASEADO EM FATOS OU DADOS







1944



1 B



2 B



4.6 B



12.4 B

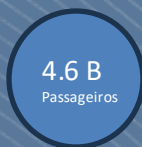
1985

2004

2019

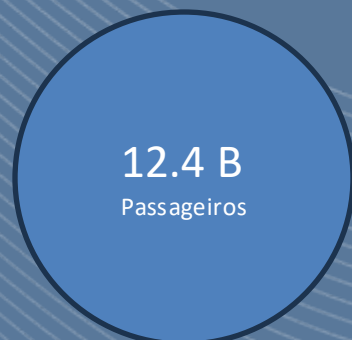
2024

2050



2024

2.7 x



2050



2024

2.2 x



2050



Departamento
de Controle do Espaço Aéreo



ICAO Today and Tomorrow – Safe Skies, Sustainable Future

Foreword by the President of the Council and the Secretary General

As the United Nations specialized agency for international civil aviation, ICAO has built upon 80 years of success in creating today's international aviation law, policies and standards. The Chicago Convention, which formed ICAO, states the purpose of international aviation and its future developments is to "create and preserve friendship and understanding among the nations and peoples of the world."

In pursuit of this purpose, ICAO works with 193 Member States and several industry groups to reach consensus on international civil aviation Standards and Recommended Practices (SARPs) and policies. Over the past 80 years this work has led the international aviation sector to deliver dramatically improved services that connect nations and people as never before. Economic prosperity today draws enormous benefit from safe and secure movement of passengers and goods across the globe with greater ease and lower cost than at any previous time in human history. Aviation has helped create better economic and trade connectivity, especially for land-locked and small island developing states, as well as more understanding and friendship amongst nations and people. Aviation's crucial role is highlighted by historically strong growth in every region of the world due to popular demand which has resumed in 2024 after recovering to pre-pandemic levels in less than 3 years after public health restrictions for the COVID-19 pandemic began to ease.

In order for this growth trend to continue successfully, ICAO has laid out an ambitious agenda to

tackle the challenges outlined in this Strategic Plan. To achieve the bold goals set forth, such as the Long-Term Global Aspirational Goal (LTAG) of net zero carbon emissions by 2050 in international civil aviation, the rate of change must increase exponentially in the coming decade. This acceleration is necessary to accommodate the continuously growing air transport demand safely, securely, and economically while also making progress on other critical objectives.

The ICAO 2026-2050 Strategic Plan reflects the organization's long-term aspiration to achieve bold Strategic Goals for the orderly growth of international aviation, underpinned by flawless delivery of safety and security, and enhanced by new initiatives including fostering investment for aviation infrastructures especially where significant gaps are exhibited, including innovative new services that streamline the passenger's facilitation and experience amid rising demand. It also delivers on the Long Term Global Aspirational Goal of net-zero carbon emissions for international aviation by 2050. These goals pave the way towards increased economic prosperity and social well-being delivered by air transportation of people and goods anywhere in the world.

This Strategic Plan will be implemented through complementary triennial ICAO Business Plans and Operating Plans, informing resource decisions for the triennial ICAO Budget. These plans will outline specific activities, deliverables, and milestones, which will be measured by key performance indicators to ensure sustainable



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To tackle the challenges outlined in this Strategic Plan, to achieve the bold goals set forth, such as the Long-Term Global Aspirational Goal (LTAG) of net zero carbon emissions by 2050 in international civil aviation, the rate of change must increase exponentially in the coming decade. This acceleration is necessary to accommodate the continuously growing air transport demand safely, securely, and economically while also making progress on other critical objectives.

The ICAO 2026-2050 Strategic Plan reflects the organization's long-term aspiration to achieve bold Strategic Goals for the orderly growth of international aviation, underpinned by flawless operations, safety and security, and enhanced by sustainable development. This requires significant investment for new technologies, infrastructure, and human resources.

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MINISTÉRIO DA DEFESA
COMANDO DA AERONÁUTICA
DEPARTAMENTO DE CONTROLE DO ESPAÇO AÉREO



CONTROLE DO ESPAÇO AÉREO

DCA 351-7

DIRETRIZ DA AERONÁUTICA PARA O
CONTROLE DO ESPAÇO AÉREO BRASILEIRO

2025

“O Gerenciamento de Tráfego Aéreo baseado em **performance** está estruturado segundo o princípio de que as expectativas da Comunidade ATM poderão ser mais bem atendidas por meio da **quantificação das necessidades**. Será estabelecido, portanto, um conjunto de **objetivos e metas** que permitam identificar e acompanhar, de forma objetiva, os projetos que visam à implementação de melhorias no Sistema ATM brasileiro.”



Departamento
de Controle do Espaço Aéreo

COMISSÃO DE PERFORMANCE ATM





AÇÕES



Projeto

Mineração de dados para o aprimoramento da gestão de Tráfego Aéreo Brasileiro baseada em desempenho

- KPI 04 – EXTENSÃO EM ROTA DE PLANO DE VOO
- KPI 05 – EXTENSÃO EM ROTA REAL
- KPI 08 – TEMPO ADICIONAL EM ÁREA TERMINAL
- KPI 17 – NIVELAMENTO EM SUBIDA
- KPI 18 – NIVEL LIMITE DURANTE O CRUZEIRO
- KPI 19 – NIVELAMENTO EM DESCIDA

MONITORAMENTO

METAS

PCA 100-3



AÇÕES

CURSO DE INDICADORES DE DESEMPENHO ATM

NACIONAIS

15 TURMAS

282 CAPACITADOS

REGIONAIS

ACC, APP, TWR, AFIS, D-TWR
COMPANHIAS AÉREAS
AEROPORTOS
EMPRESAS

INTERNACIONAIS

2 TURMAS

32 CAPACITADOS

ARGENTINA, BOLÍVIA,
COLOMBIA, EQUADOR,
PANAMÁ, PARAGUAI, PERU,
URUGUAI E VENEZUELA



AÇÕES



COMPARATIVO DE PERFORMANCE



ACC
•
OUTROS

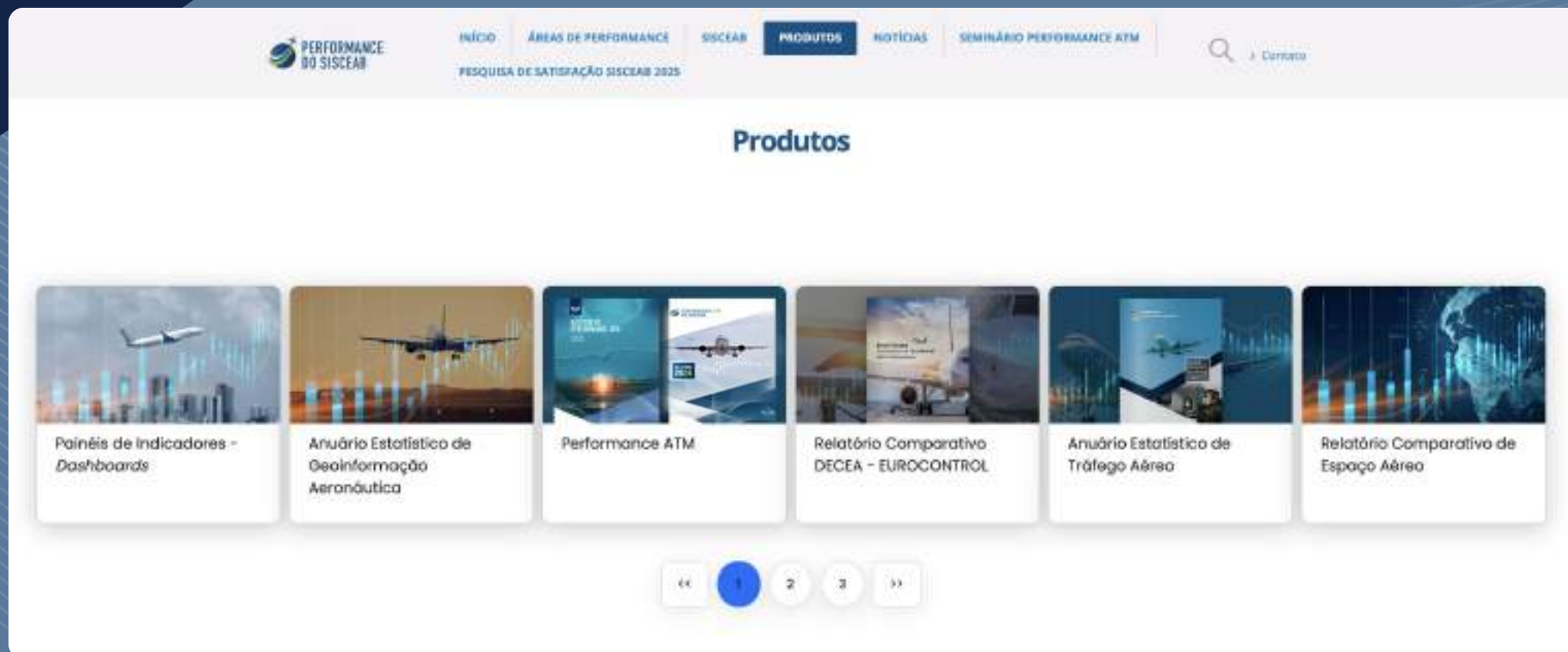
PROJETO TOTAL ATM

MUAC





AÇÕES: PRODUTOS





SUMÁRIO EXECUTIVO

CAP 1 - INTRODUÇÃO

CAP 2 – CARACTERISTICA DO SISCEAB

CAP 3 – INDICADORES DE PERFORMANCE ATM

CAP 4 - CONCLUSÃO

CAP 5 - REFERÊNCIAS

ANEXO A – ORGÃOS ATS

ANEXO B – SIGLAS, ACRÔNIMOS E ABREVIATURAS

SUMÁRIO EXECUTIVO

SISCEAB: 22 milhões de Km2

ACC-5 | APP-41 | TWR-57 | AFIS-69 | R-AFIS-10



TOTAL DE AERÓDROMOS: **4.065**

PÚBLICOS
498

PRIVADOS
3.543

TOTAL DE ATCO
5.367

MÉDIA DIÁRIA
TODAS AS FIR:
5.287
VOOS

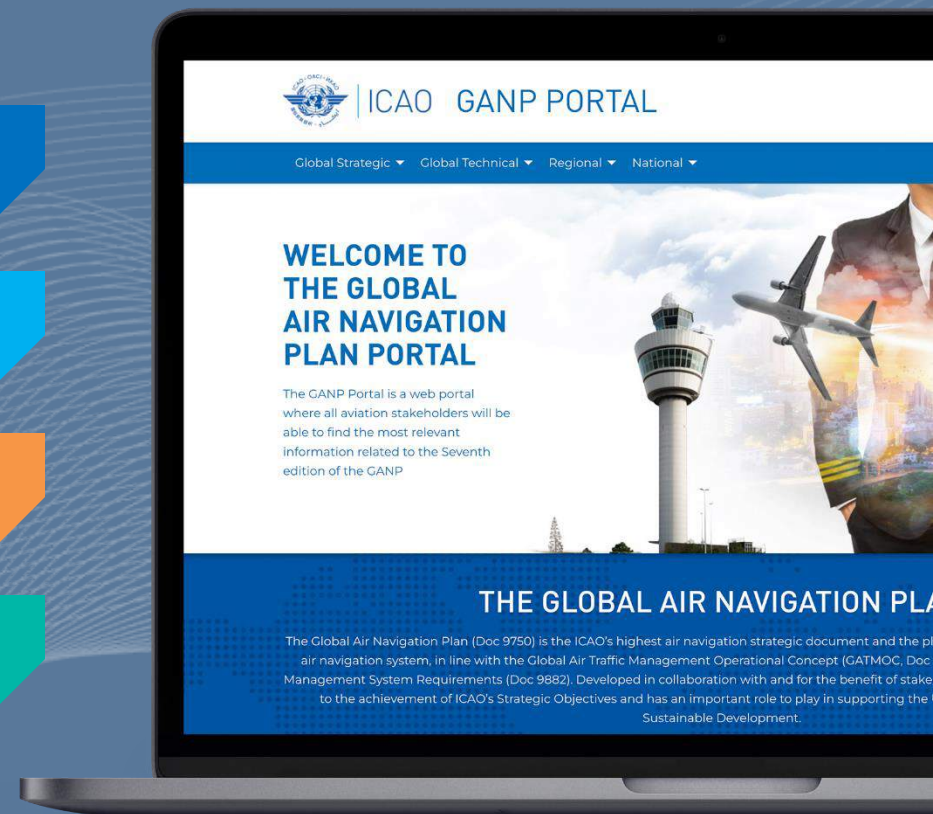
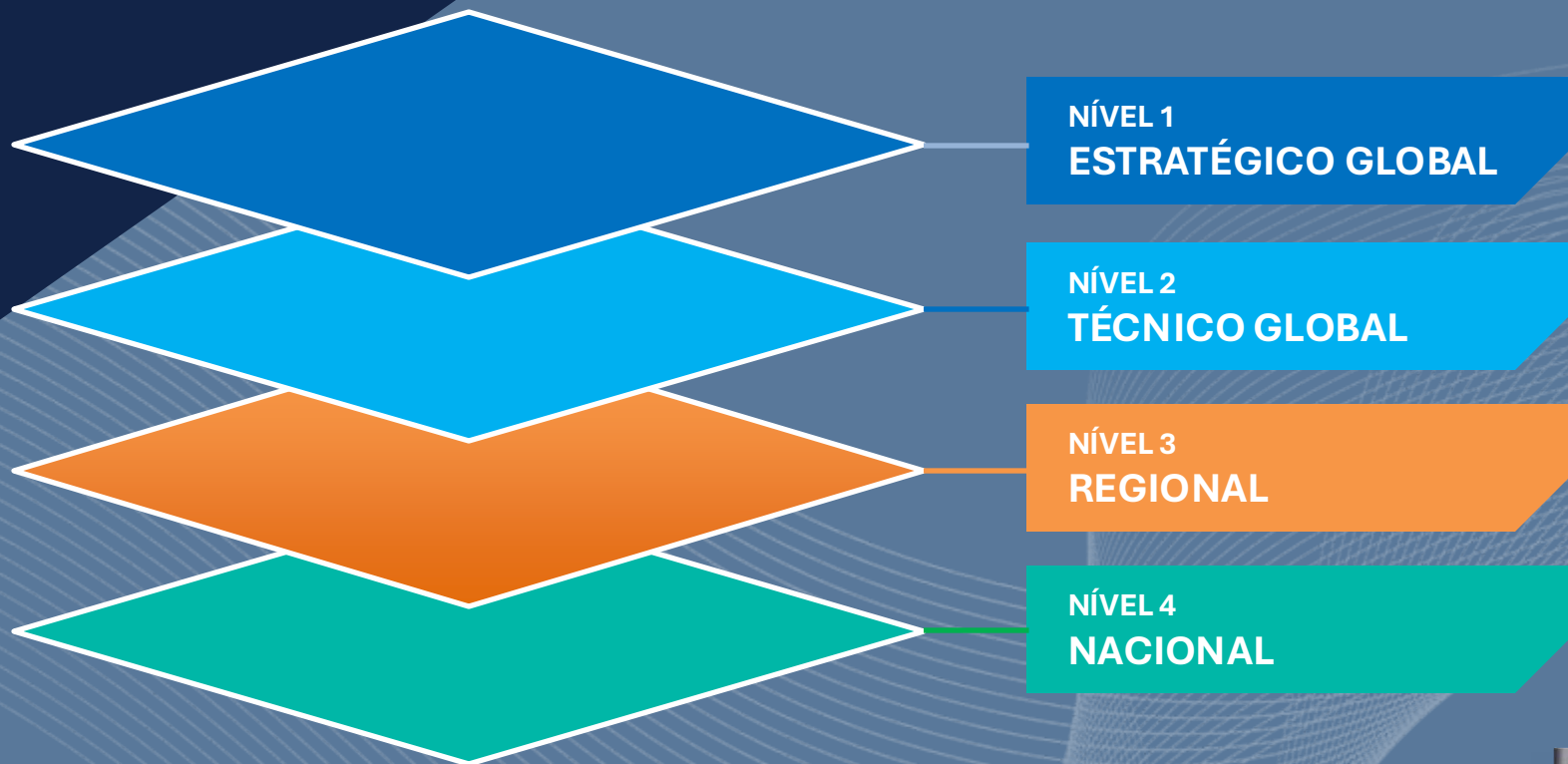
AEROPORTO MAIS
MOVIMENTO:
SBGR
289.944
DEP+ARR EM 2024

DIA MAIS
MOVIMENTADO:
26/07/24
SEXTA-FEIRA
SBGR 916 MOVIMENTOS

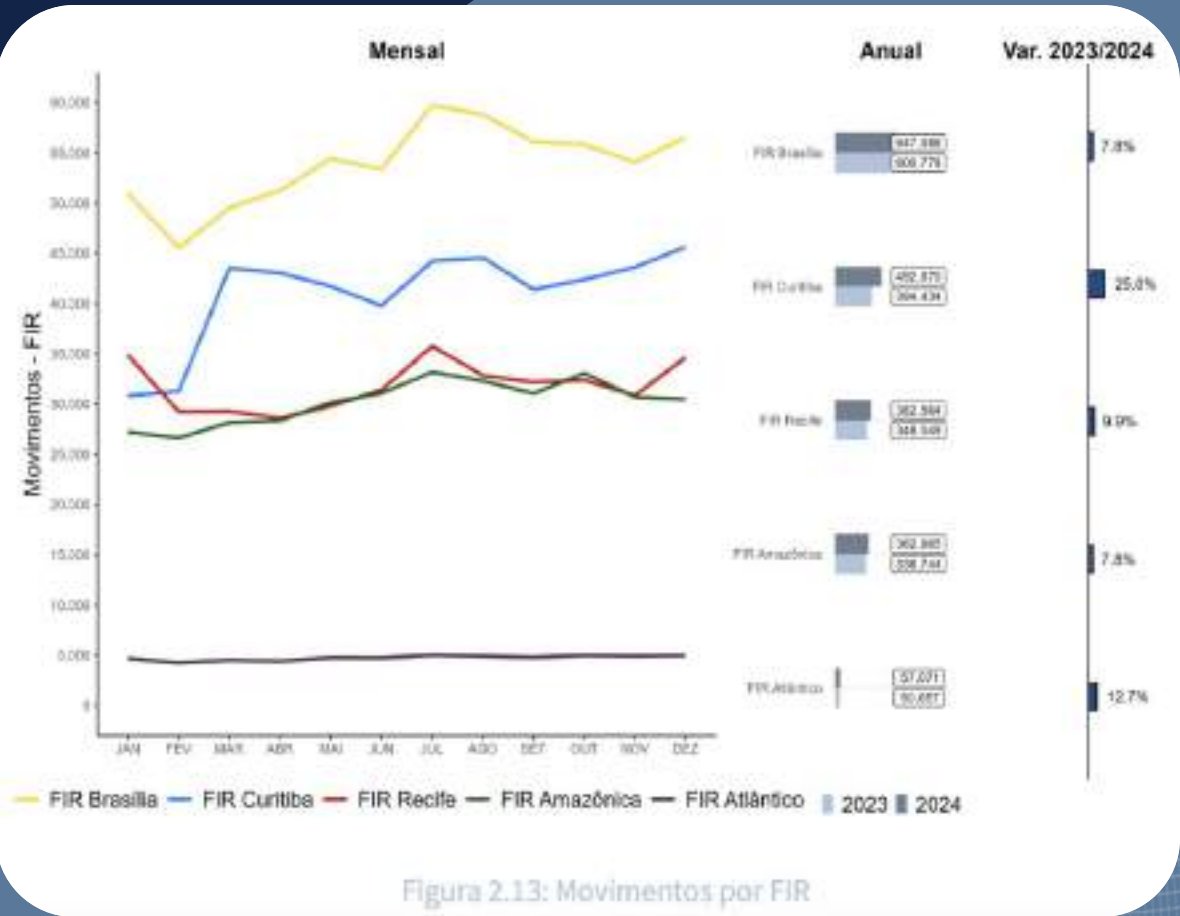


Departamento
de Controle do Espaço Aéreo

CAP 1 - INTRODUÇÃO

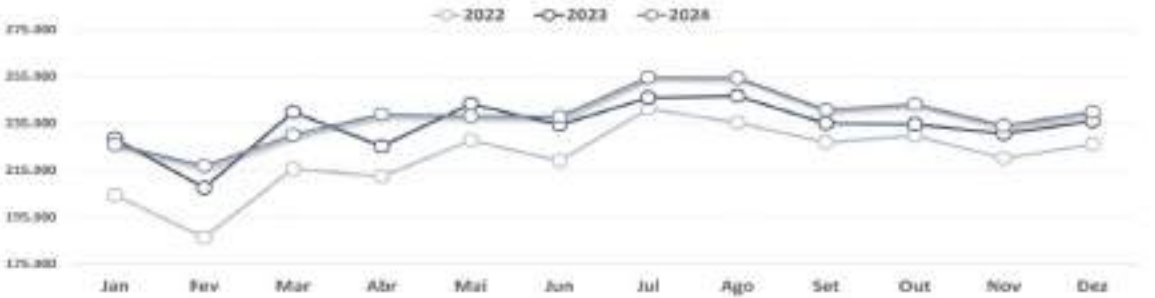


CAP 2 – CARACTERÍSTICAS DO SISCEAB



Os dados indicam que, em **2024**, o total de movimentos aéreos registrados foi **2.854.884**, representando um crescimento de **1,7%** em relação a 2023 (**2.807.732 voos**) e de **8,0%** em relação a 2022 (**2.644.189 voos**).

Movimentos	FIR	Ano	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez	Total	Variação
Total	100%	2024	234.231	184.039	215.549	215.204	227.715	218.987	231.584	228.261	224.849	229.747	220.881	234.100	2.854.884	1,7%
Comercial	98%	2024	126.022	101.844	118.484	118.191	126.245	118.919	128.249	122.730	120.111	124.602	124.408	144.021	1.515.715	1,7%
Operar	99%	2024	87.218	72.327	81.000	79.349	81.924	80.344	80.740	80.080	80.024	77.000	72.802	71.348	921.214	1,7%
Aberto	99%	2024	8.092	11.868	13.058	14.445	19.262	19.202	19.202	19.202	19.202	19.202	19.202	19.202	19.202	19.202
Total	100%	2023	226.433	207.371	229.445	226.240	243.392	234.391	244.046	244.797	233.034	224.893	220.340	231.967	2.807.732	0,0%
Comercial	98%	2023	129.294	124.737	140.479	132.294	140.983	138.121	149.094	145.313	136.112	137.640	134.007	142.840	1.498.820	0,0%
Operar	99%	2023	88.008	69.928	82.341	77.181	80.396	80.444	79.364	81.791	80.454	76.223	80.028	81.817	948.247	0,0%
Aberto	99%	2023	10.311	13.706	17.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000
Total	100%	2022	223.812	214.489	228.879	228.915	228.143	229.920	234.221	224.422	241.830	243.176	234.017	229.808	2.644.189	0,0%
Comercial	98%	2022	145.144	130.257	137.000	136.427	138.884	134.318	131.287	146.134	139.917	144.007	137.719	144.515	1.405.091	0,0%
Operar	99%	2022	69.542	73.320	76.000	82.415	86.220	86.164	85.407	91.484	85.779	82.975	82.380	82.447	864.824	0,0%
Aberto	99%	2022	10.884	19.000	15.000	18.000	18.000	17.000	17.000	16.000	15.000	15.000	15.000	15.000	15.000	15.000



A **Figura 2.6** ilustra a média móvel semanal dos **100 principais aeroportos** do SISCEAB de **2019 a 2024**.

CAP 3 – INDICADORES DE PERFORMANCE ATM

PREVISIBILIDADE

EFICIÊNCIA

INTEROPERABILIDADE

SAFETY

CAPACIDADE

MEIO AMBIENTE

PARTICIPAÇÃO DA
COMUNIDADE ATM

SECURITY

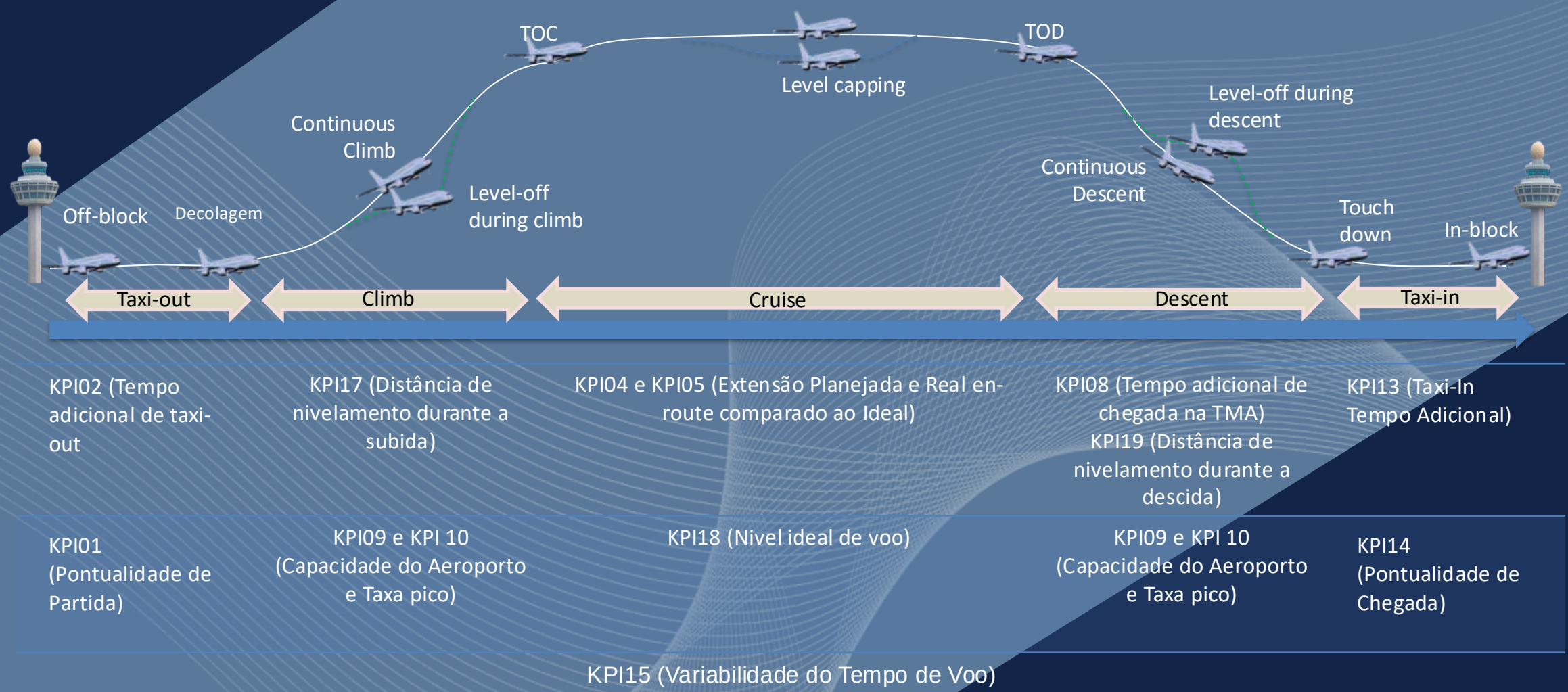
CUSTO BENEFÍCIO

FLEXIBILIDADE

ACESSO E EQUIDADE



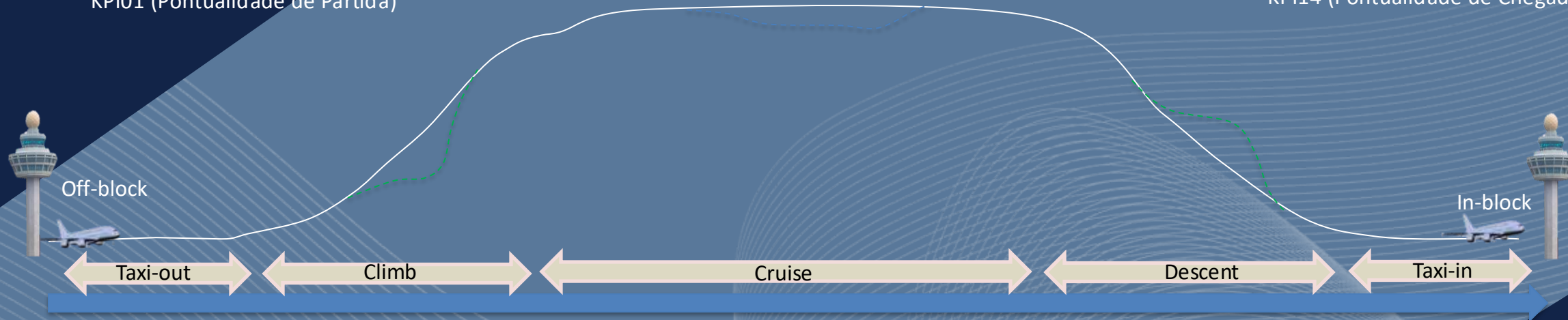
CAP 3 – INDICADORES DE PERFORMANCE ATM



CAP 3 – INDICADORES DE PERFORMANCE ATM

KPI01 (Pontualidade de Partida)

KPI14 (Pontualidade de Chegada)



KPI 01 – PONTUALIDADE DE PARTIDA

72,4%

2024

73,3%

2025

KPI 14 – PONTUALIDADE DE CHEGADA

64,3%

2024

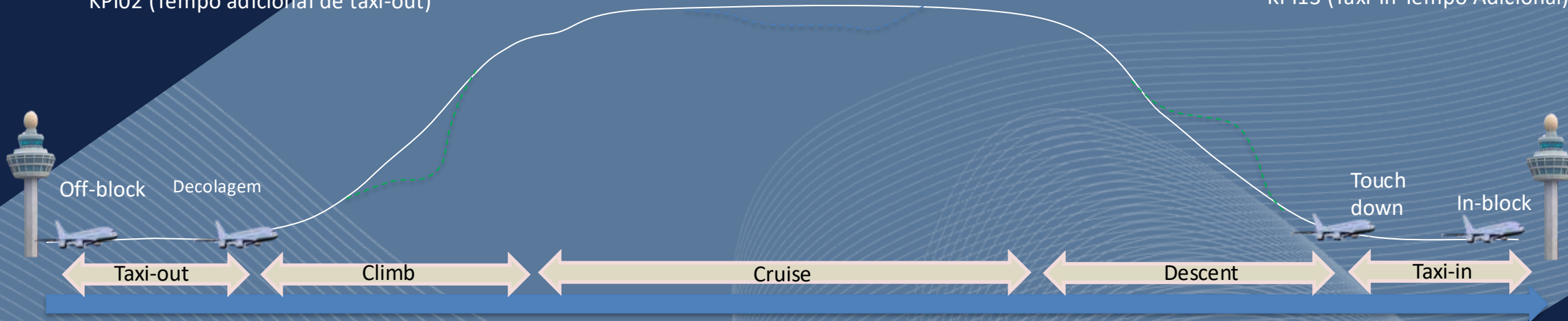
63,2%

2025

CAP 3 – INDICADORES DE PERFORMANCE ATM

KPI02 (Tempo adicional de taxi-out)

KPI13 (Taxi-In Tempo Adicional)



KPI 02 – TEMPO ADICIONAL DE TAXI-OUT

4,27

2024

3,71

2025

KPI 13 – TEMPO ADICIONAL DE TAXI-IN

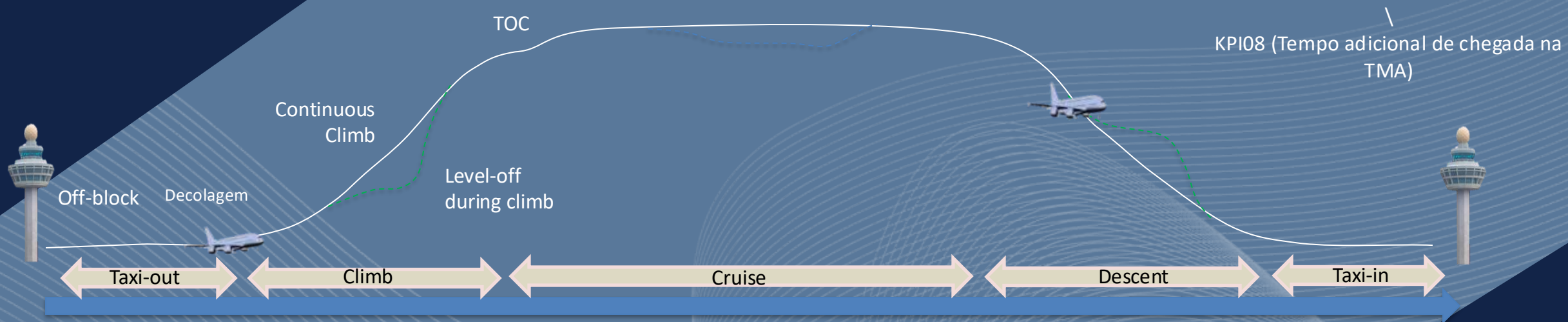
2,25

2024

2,22

2025

CAP 3 – INDICADORES DE PERFORMANCE ATM



KPI 08 – TEMPO ADICIONAL DE
CHEGADA NA TMA

2,24
2024

2,18
2025

CAP 3 – INDICADORES DE PERFORMANCE ATM

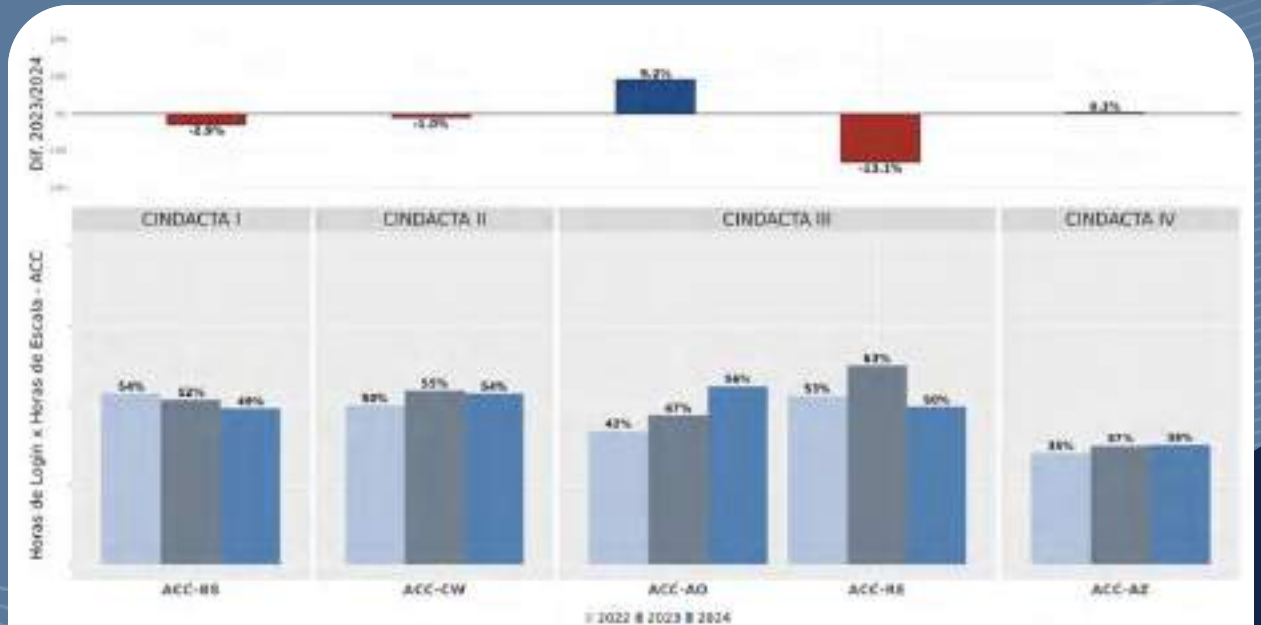
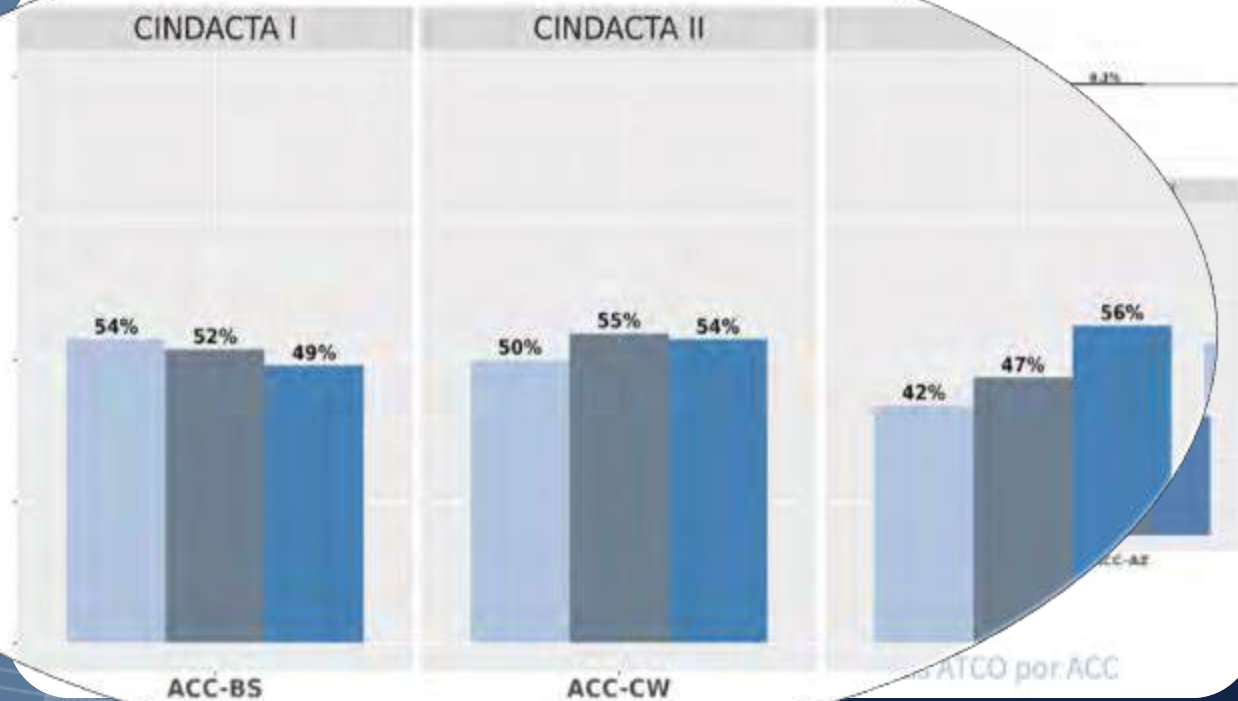


Figura 3.37: IDBR 06 - Relação Entre Horas de Login X Horas ATCO por ACC

CAP 3 – INDICADORES DE PERFORMANCE ATM



Horas de Login x Horas de Escala - ACC



CAP 3 – INDICADORES DE PERFORMANCE ATM



CAP 3 – INDICADORES DE PERFORMANCE ATM



Figura 3.48: Perfil dos Usuários

ENTREVISTADOS 2024: **1119**

+ 78%

PESQUISA DE
SATISFAÇÃO
SISCEAB 2025

PARTICIPE

CAP 3 – INDICADORES DE PERFORMANCE ATM

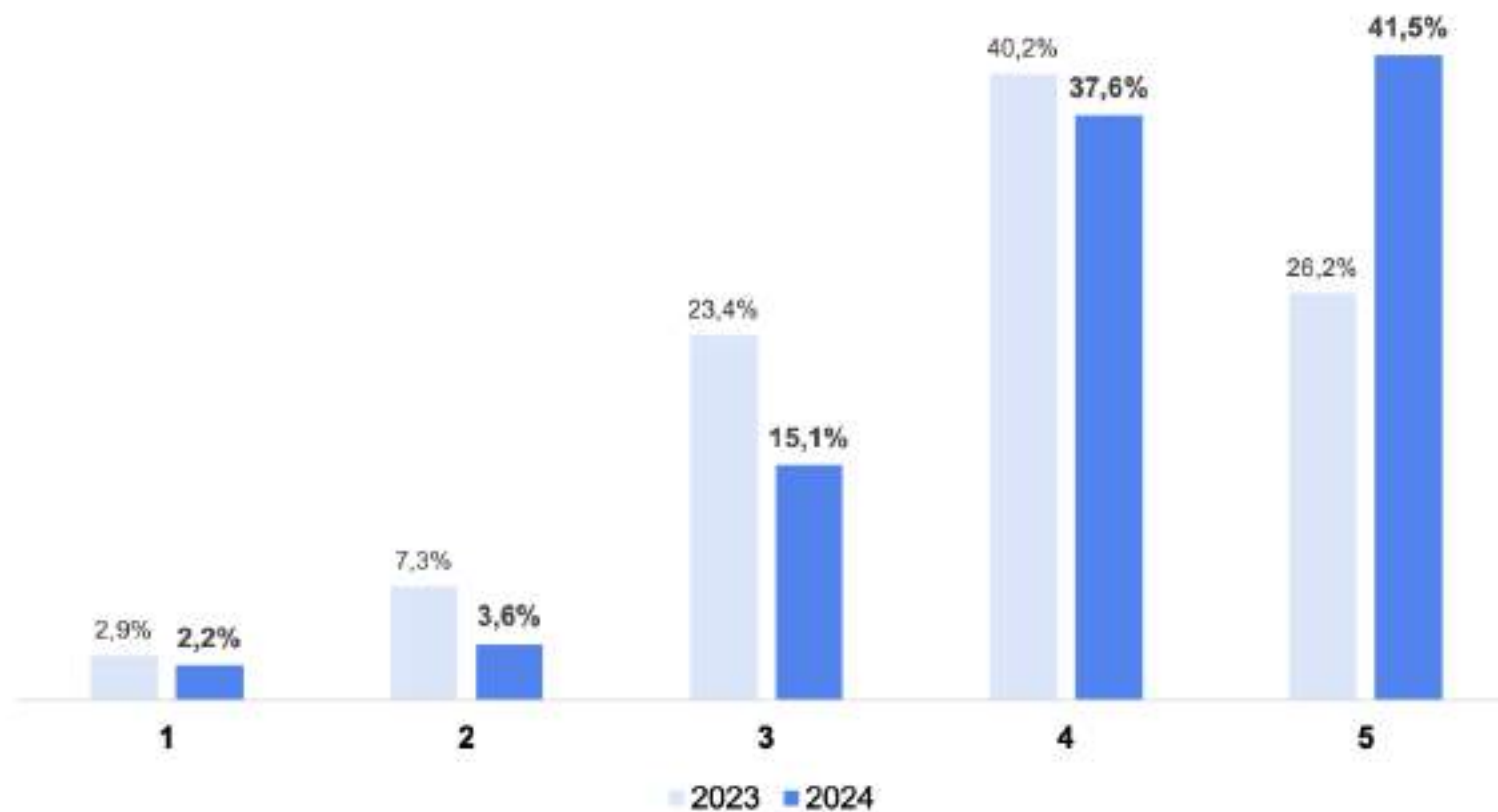


Figura 3.56: Grau de Satisfação com o DECEA

Melhoria de 22,3%

CAP 4 – CONCLUSÃO

RECOMENDAÇÕES

Tabela 1: Recomendações para aprimoramento operacional e estratégico

Recomendação	Objetivo	Benefício
Otimizar a gestão da infraestrutura aeroportuária	Mitigar gargalos e impactos no tempo de táxi em aeroportos-chave (Congonhas, Guarulhos, Fortaleza), por meio da implementação de melhorias no solo.	Diminuir o tempo de táxi nos aeroportos-chave, consequentemente reduzindo gastos com combustível e emissão de CO2.
Expandir o uso de tecnologias de integração de dados entre sistemas de controle de tráfego aéreo.	Aprimorar a fusão de informações operacionais, aperfeiçoando a previsibilidade e eficiência dos indicadores de performance.	Obter indicadores de performance mais detalhados para otimização da performance do tráfego aéreo em diferentes fases do voo.



PERFORMANCE: CLIENTES

- NÍVEL ESTRATÉGICO = ALTA DIREÇÃO
- NÍVEL TÁTICO = REGIONAIS
- NÍVEL OPERACIONAL = ATM / DTCEA

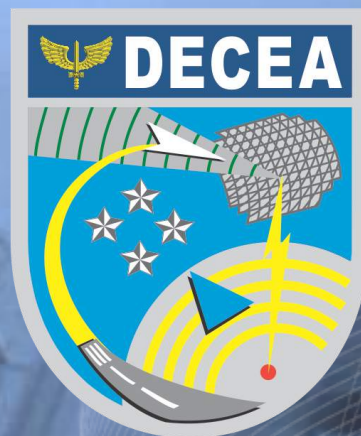
SISTEMA DE AVIAÇÃO BRASILEIRO

COMUNIDADE ATM



“Não se gerencia o que não se mede, não se mede o que não se define, não se define o que não se entende e não há sucesso no que não se gerencia.”

Peter Drucker



OBRIGADO