



**Departamento  
de Controle do Espaço Aéreo**  
Department of Airspace Control



# INDICATORS – BRAZIL

05.10.2022



# Systems

- TATIC;
- SAGITARIO;
- BIMTRA;
- SGID;
- SGPO;
- VRA;
- SIROS;
- SETA;
- BDC;
- PCICEA;
- STDMA;
- ....



**Information can be obtained from a single source or from a cross of more than one source;**

**Which data do you need? Which indicator do you want?**

**What is the best source for this? and**

**Is it automatized?**

# Staff

## CGNA SUBDIVISION OF STATISTICS (POST OPERATIONS)

### PERFORMANCE COMITTEE

#### *Strategic*

**DECEA**

**Performance  
Section**

#### *Operational*

**CGNA**

**Regional  
Organisations**

**ICEA**

**Other  
Stakeholders**

# Collecting Data

 BRA-EUR_SBBR_2022_ARR	Arquivo de Valores Separ...	107 KB	Não	632 KB	84%	02/03/2022 22:04
 BRA-EUR_SBBR_2022_DEP	Arquivo de Valores Separ...	101 KB	Não	628 KB	84%	02/03/2022 22:04
 BRA-EUR_SBCF_2022_ARR	Arquivo de Valores Separ...	67 KB	Não	412 KB	84%	02/03/2022 22:04
 BRA-EUR_SBCF_2022_DEP	Arquivo de Valores Separ...	64 KB	Não	411 KB	85%	02/03/2022 22:04
 BRA-EUR_SBCT_2022_ARR	Arquivo de Valores Separ...	35 KB	Não	209 KB	84%	02/03/2022 22:04
 BRA-EUR_SBCT_2022_DEP	Arquivo de Valores Separ...	34 KB	Não	209 KB	84%	02/03/2022 22:04
 BRA-EUR_SBFL_2022_ARR	Arquivo de Valores Separ...	42 KB	Não	241 KB	83%	02/03/2022 22:06
 BRA-EUR_SBFL_2022_DEP	Arquivo de Valores Separ...	41 KB	Não	241 KB	84%	02/03/2022 22:06
 BRA-EUR_SBGL_2022_ARR	Arquivo de Valores Separ...	51 KB	Não	297 KB	84%	02/03/2022 22:04
 BRA-EUR_SBGL_2022_DEP	Arquivo de Valores Separ...	48 KB	Não	297 KB	84%	02/03/2022 22:04
 BRA-EUR_SBGR_2022_ARR	Arquivo de Valores Separ...	214 KB	Não	1.193 KB	83%	02/03/2022 22:04
 BRA-EUR_SBGR_2022_DEP	Arquivo de Valores Separ...	205 KB	Não	1.191 KB	83%	02/03/2022 22:05
 BRA-EUR_SBKP_2022_ARR	Arquivo de Valores Separ...	86 KB	Não	519 KB	84%	02/03/2022 22:05
 BRA-EUR_SBKP_2022_DEP	Arquivo de Valores Separ...	82 KB	Não	518 KB	85%	02/03/2022 22:05
 BRA-EUR_SBPA_2022_ARR	Arquivo de Valores Separ...	52 KB	Não	307 KB	84%	02/03/2022 22:05
 BRA-EUR_SBPA_2022_DEP	Arquivo de Valores Separ...	50 KB	Não	307 KB	84%	02/03/2022 22:05
 BRA-EUR_SBRF_2022_ARR	Arquivo de Valores Separ...	70 KB	Não	425 KB	84%	02/03/2022 22:05
 BRA-EUR_SBRF_2022_DEP	Arquivo de Valores Separ...	67 KB	Não	424 KB	85%	02/03/2022 22:05
 BRA-EUR_SBRJ_2022_ARR	Arquivo de Valores Separ...	71 KB	Não	422 KB	84%	02/03/2022 22:05
 BRA-EUR_SBRJ_2022_DEP	Arquivo de Valores Separ...	67 KB	Não	423 KB	85%	02/03/2022 22:05
 BRA-EUR_SBSP_2022_ARR	Arquivo de Valores Separ...	145 KB	Não	830 KB	83%	02/03/2022 22:06
 BRA-EUR_SBSP_2022_DEP	Arquivo de Valores Separ...	136 KB	Não	832 KB	84%	02/03/2022 22:06
 BRA-EUR_SBSV_2022_ARR	Arquivo de Valores Separ...	73 KB	Não	437 KB	84%	02/03/2022 22:06
 BRA-EUR_SBSV_2022_DEP	Arquivo de Valores Separ...	71 KB	Não	441 KB	84%	02/03/2022 22:06

Creating sheets

Understanding the data

# Collecting Data

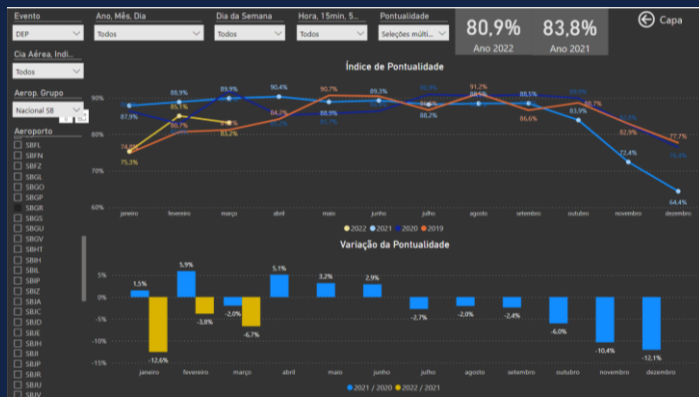
	A
1	ADEP,ADES,FLTID,REG,CLASS,TYPE,FLTRUL,DRWY,STND,C40_BEAR,C40_TIME,C100_BEAR,C100_TIME,AOBT,ATOT,SOBT
2	SBBR,SBRB,TAM3584,,M,A320,IFR,11L,,,,,2021/12/31T23:50:07Z,2022/01/01T00:00:32Z,2021/12/31T23:30:00Z
3	SBBR,SBBR,SENTI01,,L,AS50,VFR,11L,,,,,2022/01/01T00:06:46Z,2022/01/01T00:05:00Z
4	SBBR,SBFL,TAM3988,,M,A321,IFR,11R,,,,,2021/12/31T23:52:34Z,2022/01/01T00:07:21Z,2021/12/31T23:55:00Z
5	SBBR,SBFL,GLO1844,,M,B737,IFR,11R,,,,,2021/12/31T23:51:58Z,2022/01/01T00:12:05Z,2022/01/01T00:00:00Z
6	SBBR,SBCY,GLO1716,,M,B738,IFR,11R,,,,,2021/12/31T23:58:04Z,2022/01/01T00:15:23Z,2022/01/01T00:05:00Z
7	SBBR,SBSV,GLO1974,,M,B38M,IFR,11L,,,,,2021/12/31T23:59:39Z,2022/01/01T00:15:35Z,2022/01/01T00:05:00Z
8	SBBR,SBEG,TAM4648,,M,A320,IFR,11L,,,,,2022/01/01T00:07:00Z,2022/01/01T00:17:38Z,2022/01/01T00:15:00Z
9	SBBR,SBRF,GLO1746,,M,B738,IFR,11L,,,,,2022/01/01T00:13:06Z,2022/01/01T00:24:59Z,2022/01/01T00:20:00Z
10	SBBR,SBEG,GLO1740,,M,B7M8,IFR,11L,,,,,2022/01/01T00:13:33Z,2022/01/01T00:27:13Z,2022/01/01T00:20:00Z
11	SBBR,SBBV,GLO1818,,M,B38M,IFR,11L,,,,,2022/01/01T00:17:06Z,2022/01/01T00:31:33Z,2022/01/01T00:25:00Z
12	SBBR,SBAR,TAM3373,,M,A320,IFR,11L,,,,,2022/01/01T00:21:21Z,2022/01/01T00:34:11Z,2022/01/01T00:30:00Z
13	SBBR,SBUL,TAM3146,,M,A320,IFR,11R,,,,,2022/01/01T00:27:53Z,2022/01/01T00:39:39Z,2022/01/01T00:30:00Z
14	SBBR,SBFZ,TAM3355,,M,A320,IFR,11L,,,,,2022/01/01T00:40:52Z,2022/01/01T00:53:16Z,2022/01/01T01:00:00Z
15	SBBR,SBGO,TAM3730,,M,A321,IFR,11R,,,,,2022/01/01T00:44:28Z,2022/01/01T00:55:23Z,2022/01/01T00:50:00Z
16	SBBR,SBGR,TAM3411,,M,A320,IFR,11R,,,,,2022/01/01T00:56:02Z,2022/01/01T01:15:32Z,2022/01/01T01:05:00Z
17	SBBR,MPTO,CMP204,,M,B738,IFR,11R,,,,,2022/01/01T04:49:05Z,2022/01/01T05:18:57Z,2022/01/01T05:00:00Z
18	SBBR,SBGR,TAM3575,,M,A319,IFR,11R,,,,,2022/01/01T07:43:54Z,2022/01/01T07:57:50Z,2022/01/01T07:50:00Z
19	SBBR,SBCF,AZU4105,,M,E295,IFR,11R,,,,,2022/01/01T08:32:31Z,2022/01/01T08:45:55Z,2022/01/01T08:35:00Z
20	SBBR,SBKP,AZU5046,,M,E195,IFR,11R,,,,,2022/01/01T08:34:55Z,2022/01/01T08:52:55Z,2022/01/01T08:45:00Z
21	SBBR,SBGO,PTLSQ,,L,MU2,IFR,11R,,,,,2022/01/01T08:40:07Z,2022/01/01T08:55:43Z,2022/01/01T08:30:00Z
22	SBBR,SBRJ,TAM3147,,M,A320,IFR,11R,,,,,2022/01/01T08:52:19Z,2022/01/01T09:05:55Z,2022/01/01T09:00:00Z
23	SBBR,SBSP,TAM3878,,M,A319,IFR,11R,,,,,2022/01/01T08:58:48Z,2022/01/01T09:15:44Z,2022/01/01T09:10:00Z
24	SBBR,SBCF,TAM3349,,M,A321,IFR,11R,,,,,2022/01/01T10:02:24Z,2022/01/01T10:16:30Z,2022/01/01T10:10:00Z
25	SBBR,SBFZ,TAM3412,,M,A320,IFR,11L,,,,,2022/01/01T10:45:58Z,2022/01/01T10:59:20Z,2022/01/01T10:46:00Z
26	SBBR,SBJP,TAM3280,,M,A320,IFR,11L,,,,,2022/01/01T11:12:25Z,2022/01/01T11:23:54Z,2022/01/01T11:10:00Z
27	SBBR,SBJD,PTITT,,L,PA31,IFR,11L,,,,,2022/01/01T11:11:52Z,2022/01/01T11:26:35Z,2022/01/01T11:20:00Z

BRA-EUR\_SBBR\_2022\_DEP

Processing the Data

Building dashboard

# Obtaining indicators



Salvamento Automático | tabelas vol III - BRAZIL (1) | Pesquisar (Alt+G)

Arquivo | **Página Inicial** | Inserir | Layout da Página | Fórmulas | Dados | Revisão | Exibir | Ajuda

Colar | Calibri | 11 | A<sup>+</sup> | A<sup>-</sup> | Quebrar Texto Automaticamente | Geral

N | I | S | Mesclar e Centralizar | % 000 | Número

Área de Transferência | Fonte | Alinhamento

M13

	A	B	C	D	E	F
1			<b>BASELINE (2019)</b>			
2	<b>FIR/TMA/AIRPOR</b>	<b>NAME</b>	<b>KPI01</b>	<b>KPI02</b>	<b>KPI03</b>	<b>KPI04</b>
6	SBKP	Aeroporto Internacional de Campinas	82,8%	5,6		
7	SBCF	Aeroporto Internacional de Confins	85,5%	4,2		
8	SBGL	Aeroporto Internacional do Galeão	86,9%			
9	SBRF	Aeroporto Internacional do Recife	85,0%	4,3		
10	SBRJ	Aeroporto Internacional do Santos Dumont	85,5%	4,0		
11	SBPA	Aeroporto Internacional de Porta Alegre	84,3%	4,7		
12	SBCT	Aeroporto Internacional de Curitiba	85,5%	4,0		
13	SBFL	Aeroporto Internacional de Florianópolis	85,9%	4,0		
14	SBFI	Aeroporto Internacional de Foz do Iguaçu	85,3%	3,3		
15	SBCG	Aeroporto Internacional de Campo Grande	88,6%	3,0		
16	SBSV	Aeroporto Internacional de Salvador	82,4%	4,4		
17	SBFZ	Aeroporto Internacional de Fortaleza	85,7%	3,1		
18	SBPS	Aeroporto Internacional de Porto Seguro	84,9%	3,3		
19	SBMO	Aeroporto Internacional de Maceió	84,5%	2,8		
20	SBEG	Aeroporto Internacional de Manaus	80,5%	3,6		
21	SBBE	Aeroporto Internacional de Belém	84,0%	3,7		
22	SBCY	Aeroporto Internacional de Cuiabá	86,6%	3,9		

# KPI 01 – DEP PUNCTUALITY

**Concept:** % of flights departing the *gate* without delay (*gate to gate*). One of the most relevant indicators for the passenger.

**Objective:** Predictability of air demand (Strategic); and  
How is the ATM system (on time).

**The easiest indicator to evaluate the service provided; e**

**The most important for the passenger.**

# Calculating indicator

E.g: Punctuality

Methodology = AOBT - EOBT

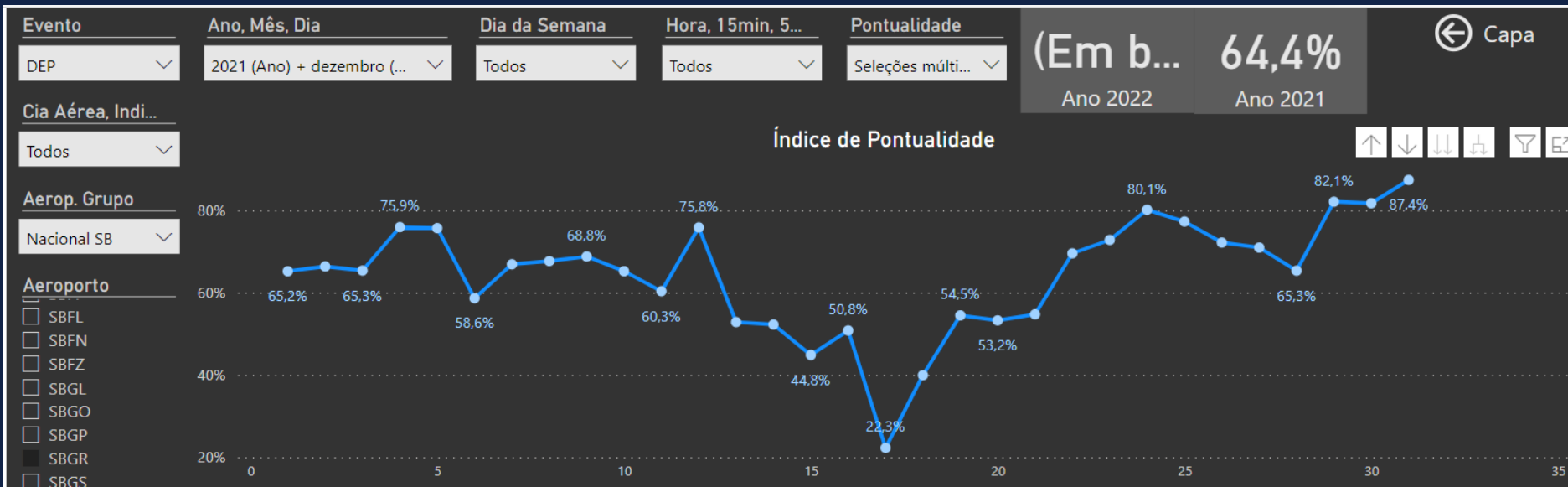
Methodology – MCA 100-22

By the systems – OK

What is the best System? Depends on some manual intervention?

Monitor the indicators and understand each reality

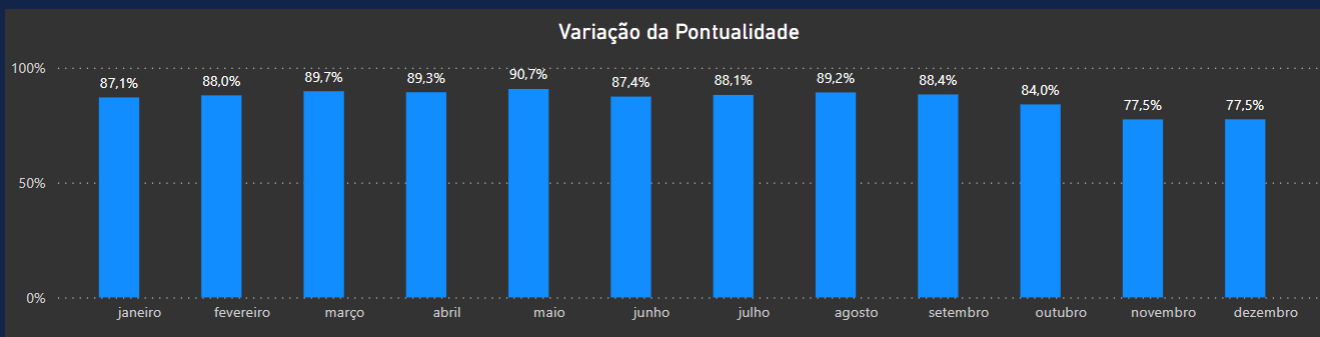
Consult the Airport to check if the values found make sense.



# Campinas (SBKP) and Brasília (SBBR) - 2021

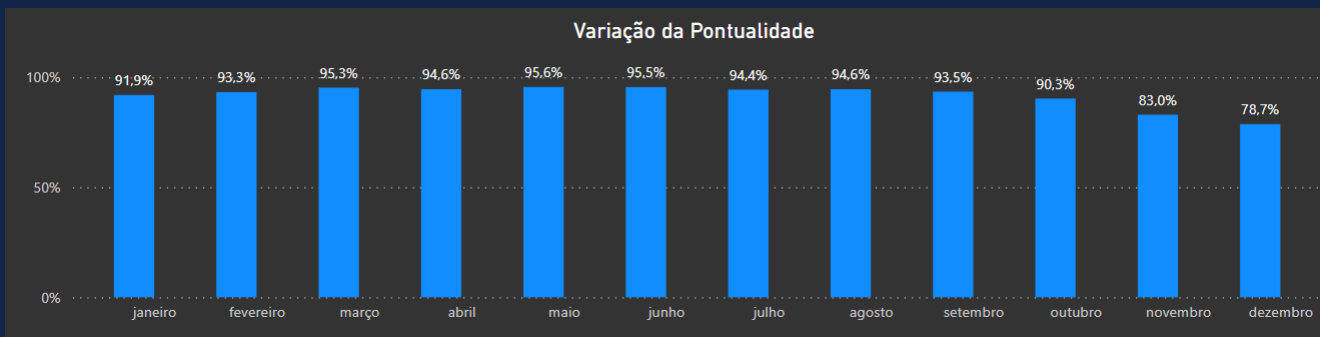
KPI 01

## SBKP



86,1%

## SBBR



90,7%

# Challenges

**Data failed in specific months;**

**Different data (systems) for the same indicator;**

**Manual inputs to obtain the result;**

**Recommendations;**

**Impression of “OBSERVED”.**

# Baseline

**2019 – Before COVID.**

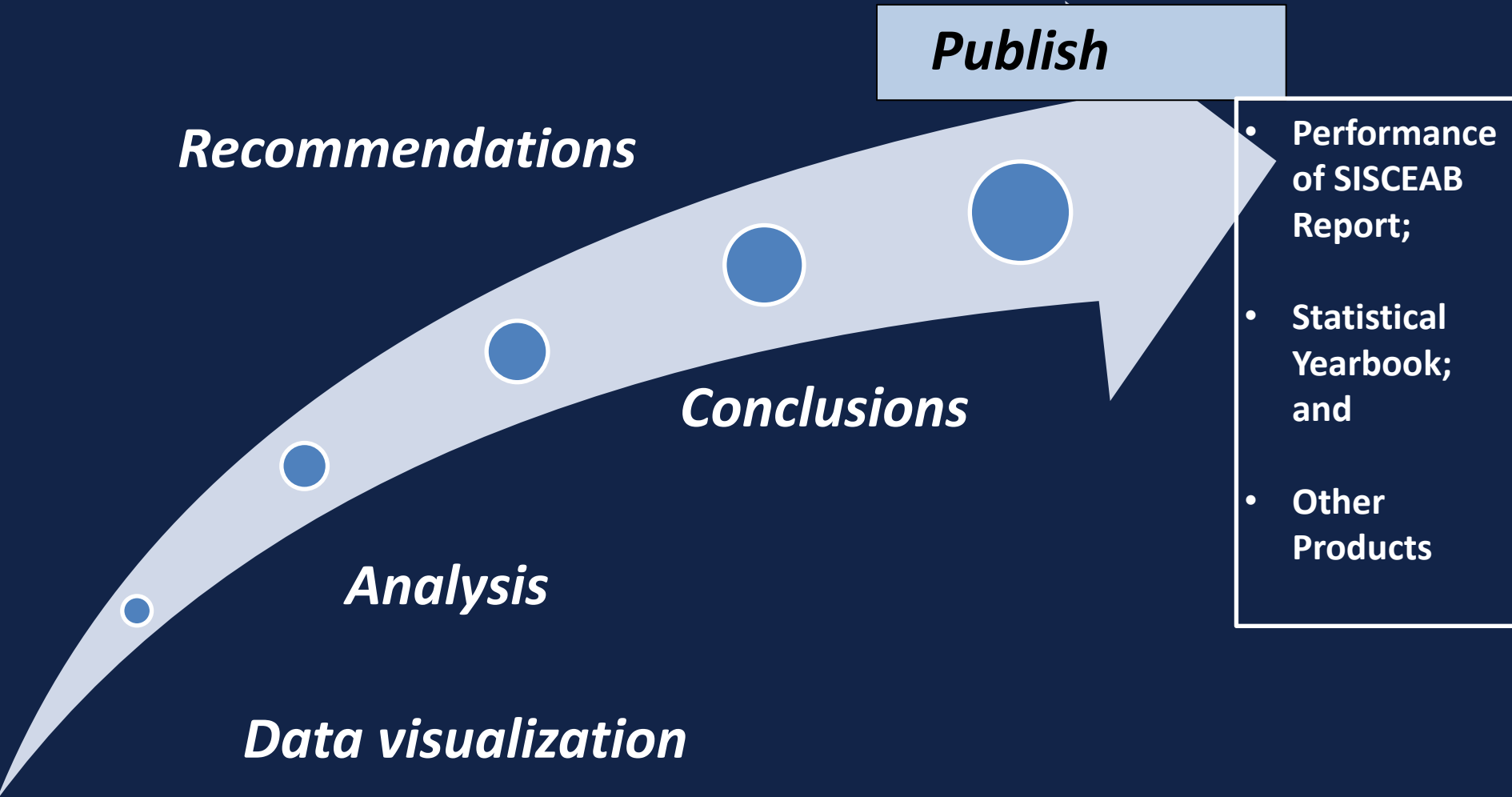
**2020 – Data that escape normality, due to the pandemic.**

**2021 – Year of recovery.**

**2022 – Trend to be the new standard because, if the forecasts are confirmed, the numbers will exceed.**



# Process





**Departamento  
de Controle do Espaço Aéreo**  
Department of Airspace Control



**FORÇA AÉREA BRASILEIRA**  
*Asas que protegem o País*

