

CANSO ASIA PACIFIC CONFERENCE 2022

Goa, India

1 – 3 November 2022

Host:



SUSTAINABLE ATM

Organiser: **CANSO**

Host:  AIRPORTS AUTHORITY OF INDIA

FACILITATOR



Swaminathan Subramanian

General Manager Air Traffic Services
Airports Authority of India

PANELLIST



William Kerr

Safety & Risk Business & Stakeholder Partnering (Head)

Airservices Australia

PANELLIST



Prof. Vu Duong

Director

Air Traffic Management Research Institute

PANELLIST



Takayuki Harada

Director, Air Traffic International Affairs Office

JANS

PANELLIST



Polana Banguningsih Pramesti

President Director
AirNav Indonesia

PANELLIST



Malcolm An

Senior Managing Director
The Boeing Company

PANELLIST



Benjamin Binet

Vice President, Strategy, Airspace Mobility Solutions

Thales

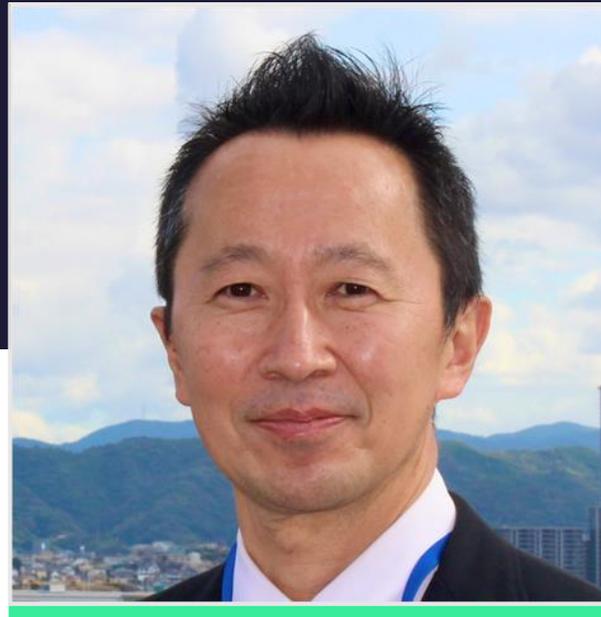
SUSTAINABLE ATM

Facilitator: Swaminathan Subramanian, General Manager of ATS, Airports Authority of India

Panellists:

- **Polana Banguningsih Pramesti**, President Director, AirNav Indonesia
- **Takayuki Harada, Director**, Air Traffic International Affairs Office, JANS
- **William Kerr**, Safety & Risk Business and Stakeholder Partnering Head, Airservices Australia
- **Benjamin Binet**, Vice-President of Strategy, Airspace Mobility Solutions, Thales
- **Malcom An**, Senior Managing Director, The Boeing Company
- **Prof. Vu Duong**, Director, Air Traffic Management Research Institute

PANELLIST



Takayuki Harada

Director, Air Traffic International Affairs Office

JANS



Sustainable ATM

Takayuki HARADA

Director,

Air Traffic International Affairs Office

ANS Department, JANS

LTAG at ICAO 41st Assembly

“Streamlined Flight Operations”

Two Approaches for reduce CO2 emissions

1. *Providing shorter flight paths*

“Airspace-management” “Airspace-design”

2. *Time Management*

Reducing engine running time

1. Providing Shorter Flight Paths

Optimization
Departure
and
Arrival Routes

◆ Airspace-design

GNSS

for Approach – RNP APCH
RNP AR APCH
LP/LPV APCH

for Departure – RNAV1 SID
BASIC RNP1 SID

for En-Route

FRA, CDR

◆ Airspace-management

Coordination among

ANSPs

Air Space Users

Military Authorities

Any Other Stakeholders

2.1 Time Management

Analyze
all
dimension

◆ All flights are connected

Focus on and think about each flight, while looking at the big picture



You can't see the wood for the trees.

“Think Global,

Collaborate regional,

Accomplish Local”

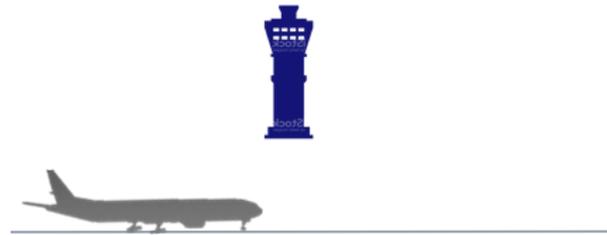


2.2 Time Management

For Departures

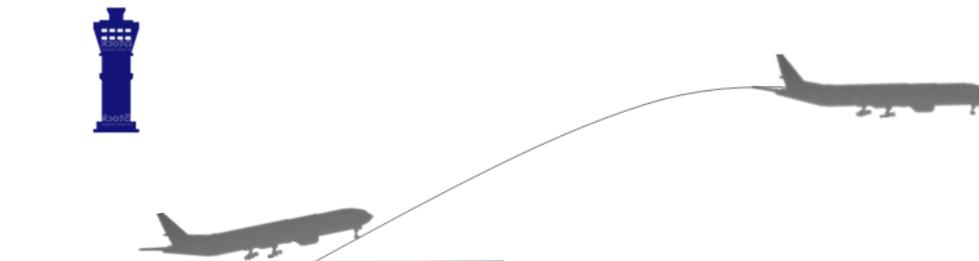
◆ On the Ground

reducing engine running time



◆ En-Route

providing the optimum altitude



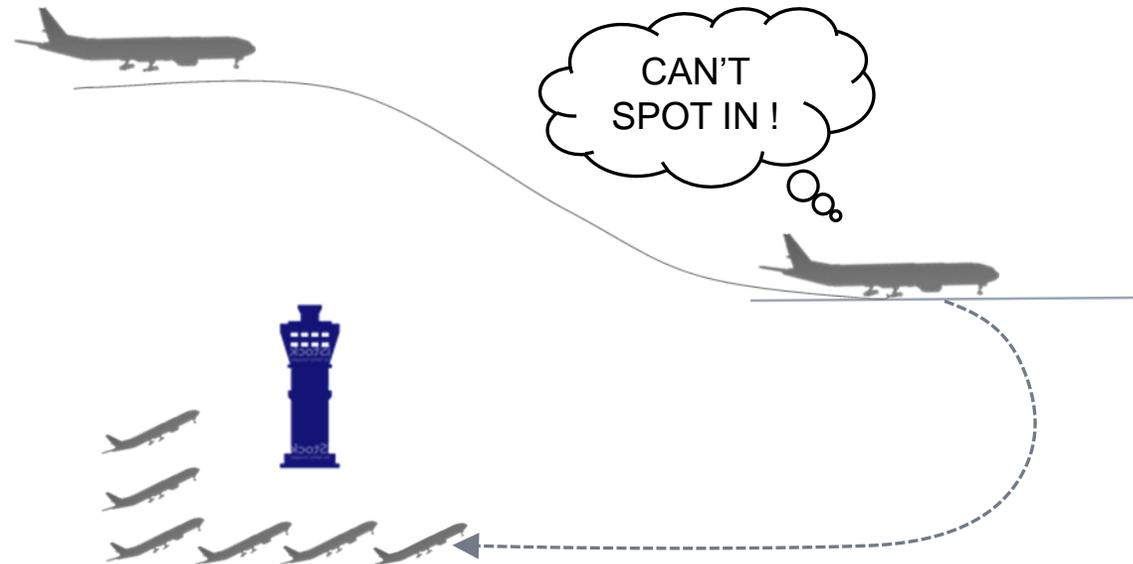
2.3 Time Management

For Arrivals

◆ At Arrival Airport

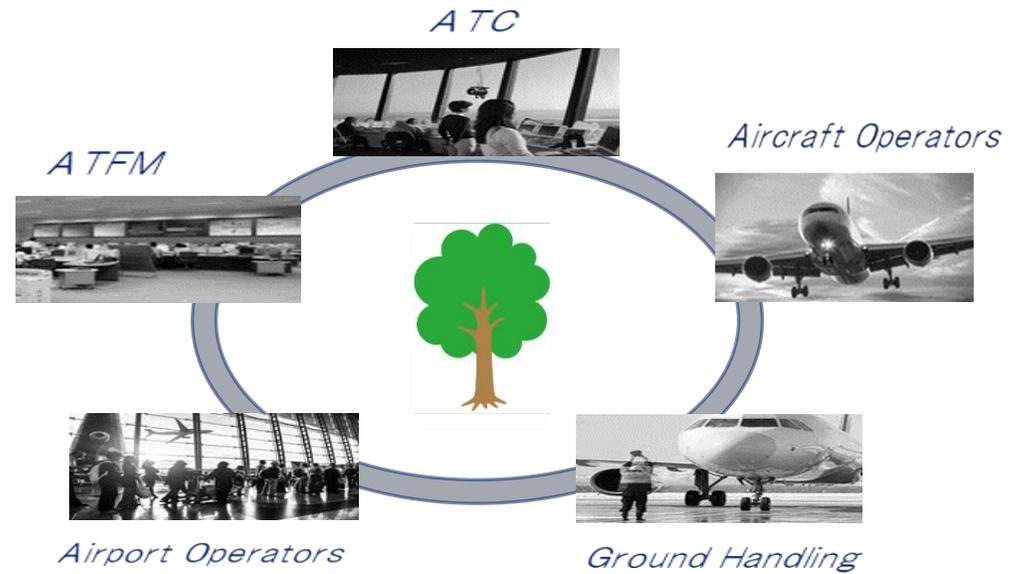
Capacity Management with **MET**

Reducing Spot Occupancy
with Aircraft Operator
and Airport Operator



3. Collaboration

Situational
Awareness
and
Decision



Supported by new technology and Industry



Conclusion

*To realize the sustainable ATM world,
the ANSPs should be **CORE**
in creating Links for **Green Planet**.
Have a bigger Perspective.*





Thank you for your attentions.

Takayuki HARADA

Director,
air traffic international affairs office,
ANS department, JANS

PANELLIST



Malcolm An

Senior Managing Director
The Boeing Company

This connection impacts our world



4.9 billion people
\$7 trillion in goods
87.7 million jobs

Aviation is 2% of global emissions



**We are focusing on the future
And taking action now**

Levers to decarbonize aviation



Fleet
Renewal

20-25% more
efficient aircraft

Operational
Efficiency

Up to **10%** in
fuel savings

Renewable
Energy

100% SAF
compatible
before 2030

Advanced
Technology

75%
sustainable
R&D spending



Boeing's latest generation is the most sustainable fleet in the sky

Advancing technology, lowering environmental impact



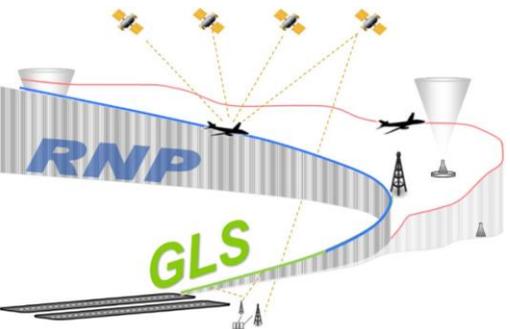
	737 MAX	787	777X	777-8F
REDUCTION IN FUEL AND CO₂	20% Reduction	25% Reduction	20% Reduction	30% Reduction
NOISE FOOTPRINT	50% Smaller	50% Smaller	40% Smaller	60% Smaller
	Compared to original Next-Generation 737	Compared to 767-300ER	Compared to 777-300ER	Compared to 747-400F

Invest in today's fleet to achieve your sustainability goals



Leverage the existing capabilities of the aircraft & equipment of the in-service fleet

Policy & regulations that enable existing technologies



Key infrastructure & ground equipment considerations



Boeing Global Services

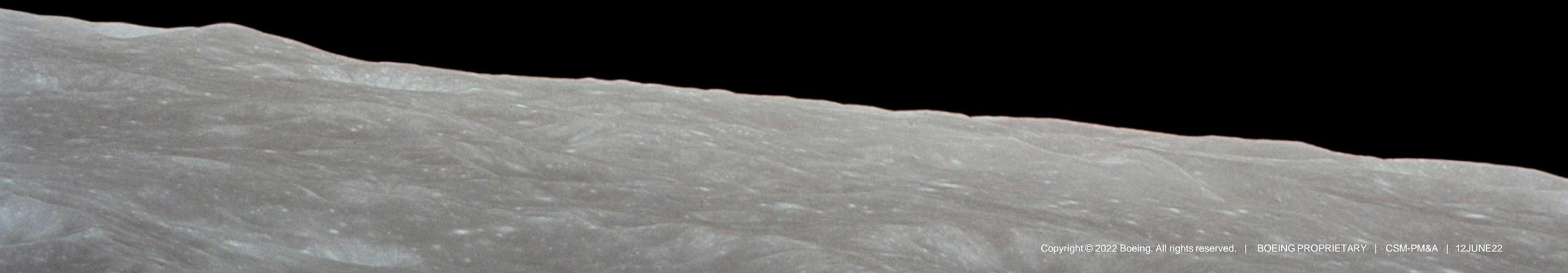
Optimize your operations with digital solutions with a focus on fuel burn



Towards a new tomorrow



To create a more sustainable world



PANELLIST



Polana Banguningsih Pramesti

President Director
AirNav Indonesia

BUMN UNTUK
INDONESIA



AirNav Indonesia

SUSTAINABLE ATM CONDUCTING STRATEGIC INITIATIVES DURING PANDEMIC

Goa, 2 November 2022

Polana B Pramesti
President Director of AirNav Indonesia



@airnavindonesia



AirNav Indonesia



@AirNav_Official



www.airnavindonesia.co.id



AIRNAV PROFILE

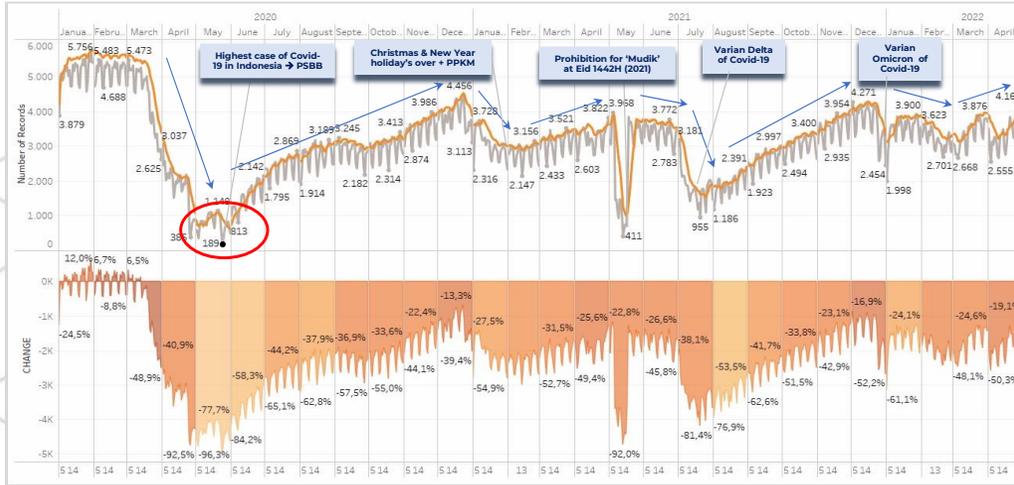
AIRNAV INDONESIA provides *safe, efficient and environment sustainable* air navigation service, over Indonesia airspace, from ground up to 60.000 feet, to the aviation industry and community.

- 2 FIRs
- 7.539.693 KM²
- >290 Aerodromes
- 2 Centers
- 38 APPs
- 71 TWR & >220 AFIS
- More than 5.000 flts/day

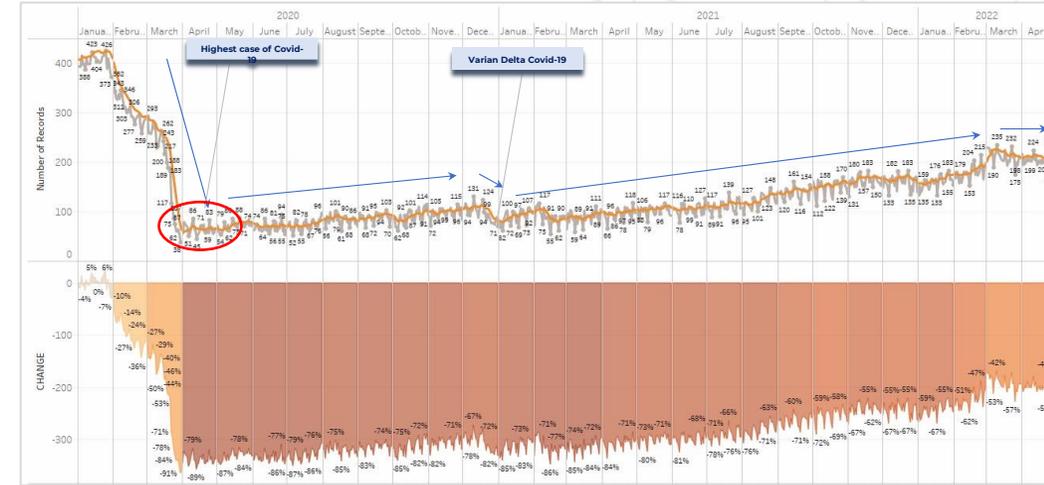


TRAFFIC IN PANDEMIC

Domestic Flight



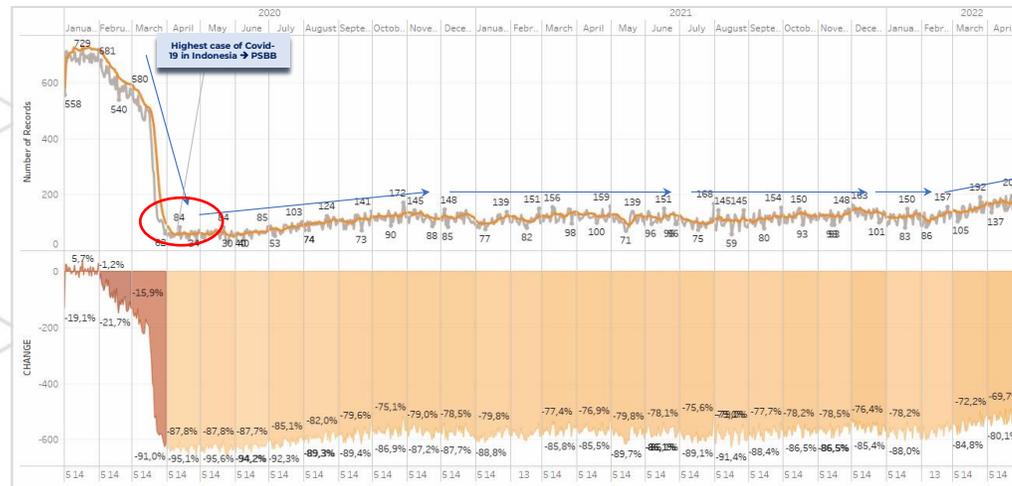
International Flight



- 90%



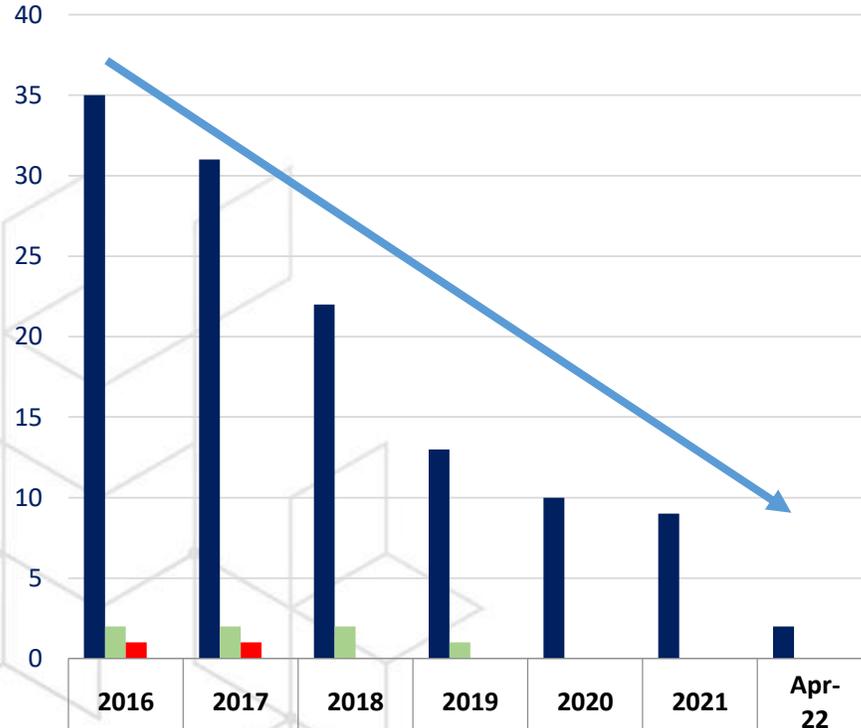
Overflying



Accelerating Change | Emerging Stronger

ANS SAFETY PERFORMOMANCE

AIRPROX, RUNWAY INCURSION, RUNWAY EXCURSION & AIRCRAFT ACCIDENT 2016 – APRIL 2022



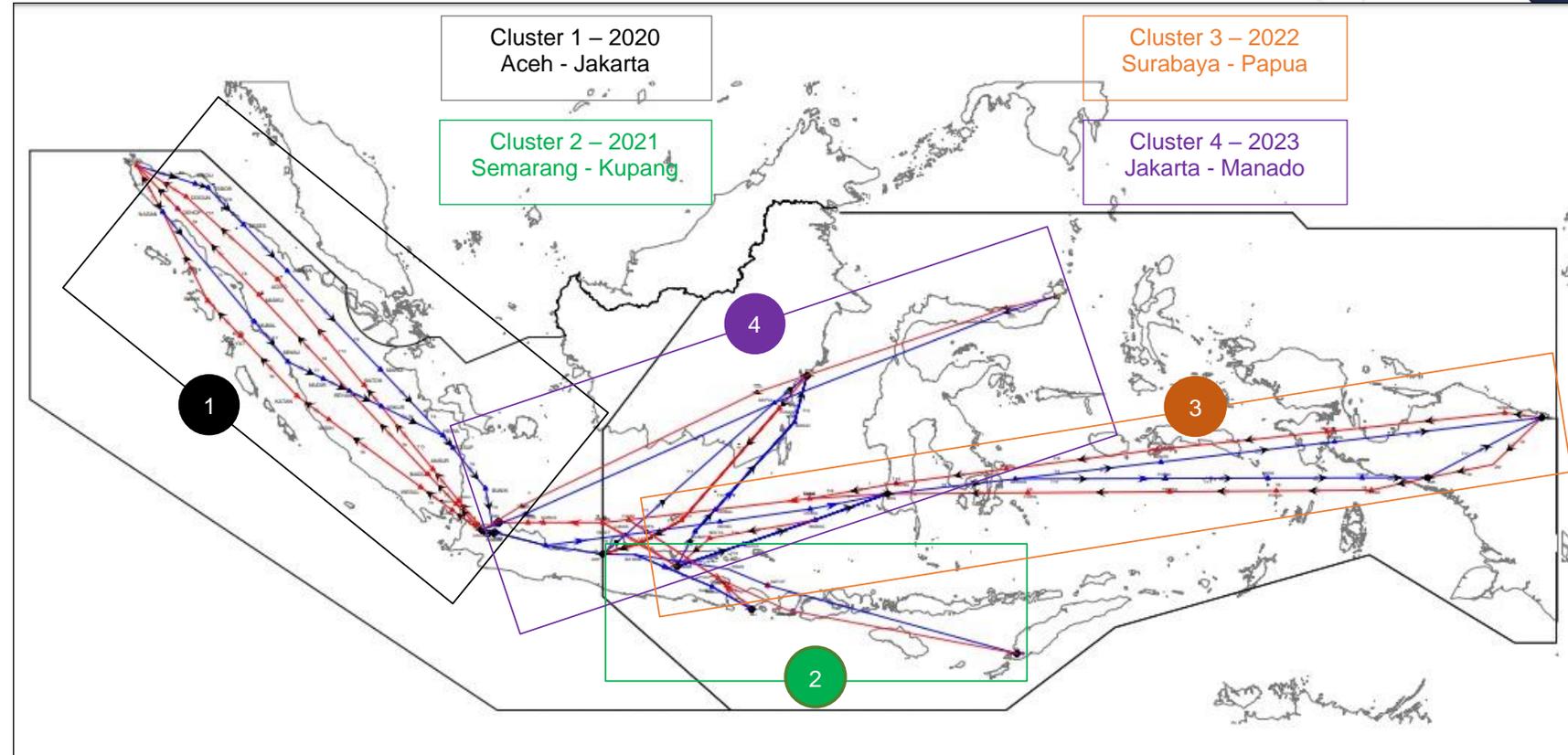
- AIRPROX NOMINALLY DECREASED
- RWY INCURSION 0.
- INCIDENT 0.
- RWY EXCURSION 0.

NOTE : NO ANS CONTRIBUTION

	2016	2017	2018	2019	2020	2021	Apr-22
■ AIRPROX	35	31	22	13	10	9	2
■ Runway Incursion	2	2	2	1	0	0	0
■ Aircraft Accident	1	1	0	0	0	0	0
■ Runway Excursion	0	0	0	0	0	0	0

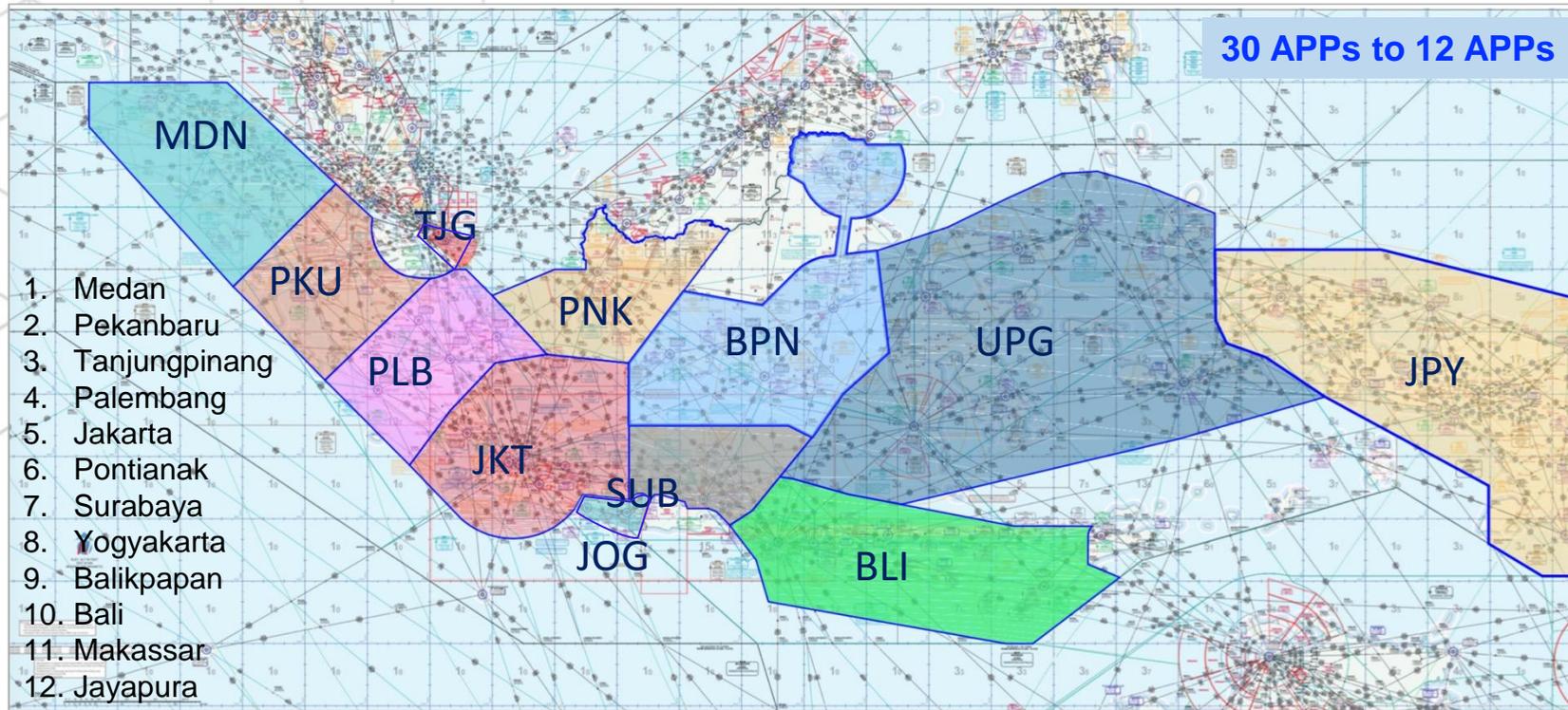
PBN NON-REGIONAL ROUTE

- Establishment of PBN Non-regional (domestic) route:
 1. **BTJ – CGK (2020)**
 2. **SRG – KOE (2021)**
 3. **SUB – DJJ (2022)**
 4. **CGK – MDC (2023).**
- Shorter than existing conventional routes, and one-direction route.
- Potential new PBN route (1-3 above) per year:
 - **Reduce CO₂ = 1,475 Tons**
 - **Fuel saving = USD 1.4 M**
- Connected to 30's airports by Instrument Flight Procedures (IFP) to achieve **CCO/CDO** flights.



ANS IMPROVEMENTS

Service improvement by providing **surveillance in lower level airspace** (CTR-TMA) carried out by consolidating the approach control services 30 Approach Control Office (APP) locations, to be handled by 12 APP locations.



- ❑ Procedural to Surveillance Padang CTR-TMA, by Pekanbaru APP (2019*);
- ❑ Procedural to Surveillance Pangkal Pinang CTR-TMA, by Palembang APP (2021);
- ❑ Procedural to Surveillance Bengkulu, Jambi, Tanjung Pandan CTR-TMA, by Palembang APP (2022);
- ❑ Procedural to Surveillance CTR-TMA in Papua area, by Jayapura APP (2023).

USER PREFERRED ROUTE

- ❖ As discussed with **IATA**, **AirNav Indonesia** with assistance from **DGCA Indonesia** composed concept of operation, procedures and carry out safety assesment to implement **UPR trial operation** over Indonesia airspace.
- ❖ UPR will **benefit airlines** and act as a **stimulus for traffic growth** in the region

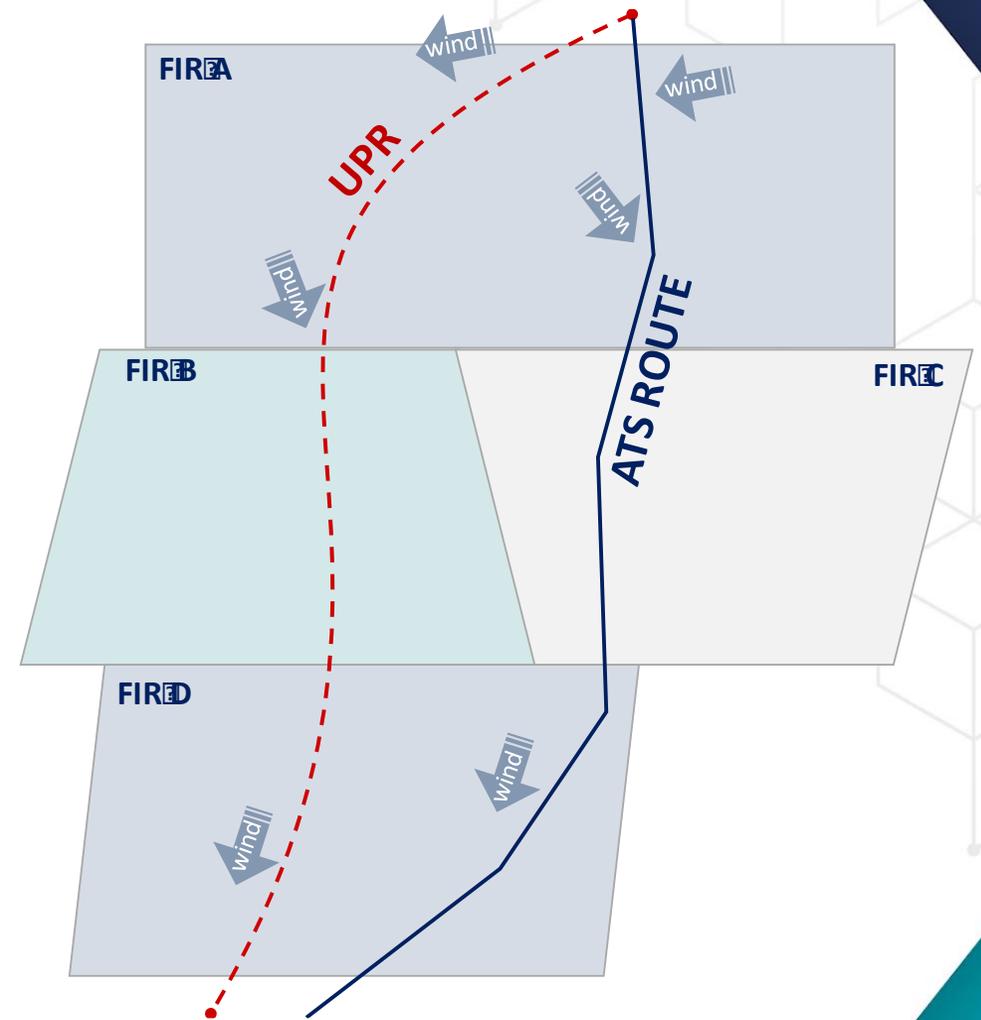


USER PREFERRED ROUTE

- ❖ **User Preferred Route (UPR)** is based on FREE ROUTE concept where Airspace Users may **freely plan a route** between a defined entry point and a defined exit point with the possibility to route via intermediate way points **without referring** to the ATS route network.
- ❖ UPR allows the airlines to plan their flight through the **most efficient route** taking into consideration **wind speed & direction, turbulence, temperature, aircraft type & performance.**

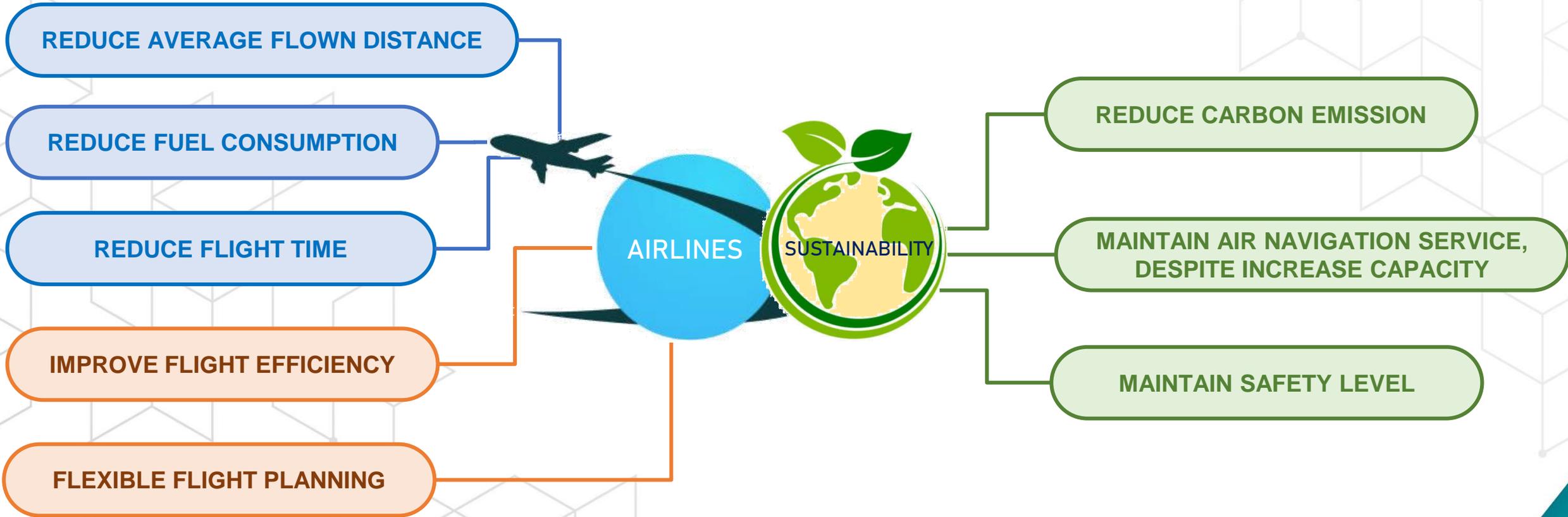
UPR Trial in Indonesia:

- Started in June 2020;
- Within JKT FIR & UPG FIR;
- From FL310 up to FL600;
- Overflying & International Flight;
- Avoiding the PRD area.

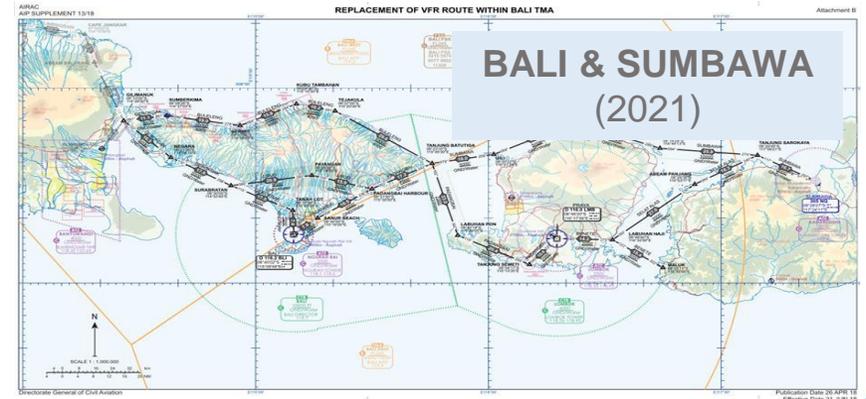
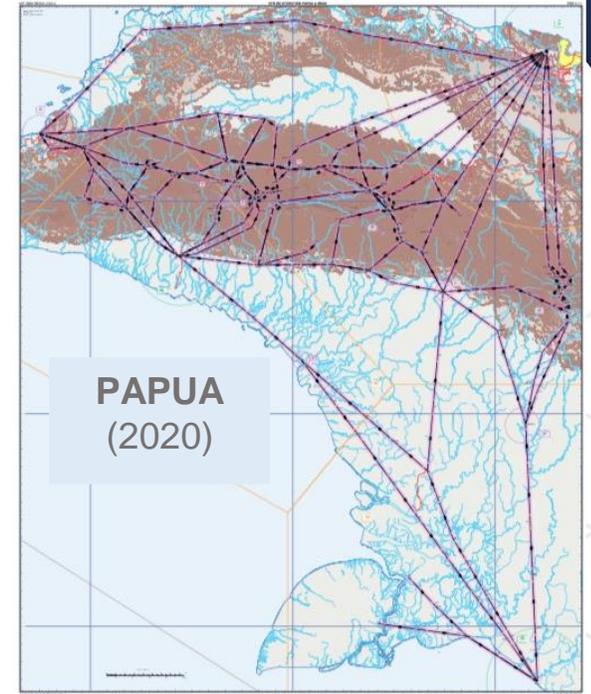
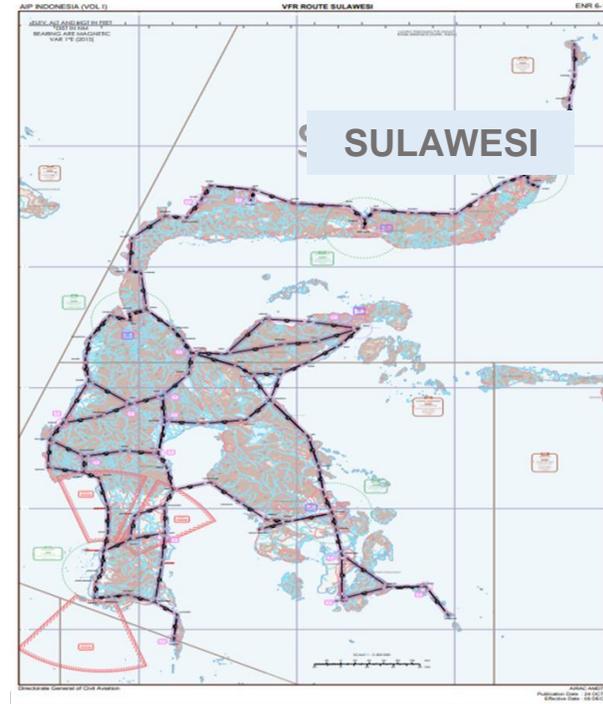
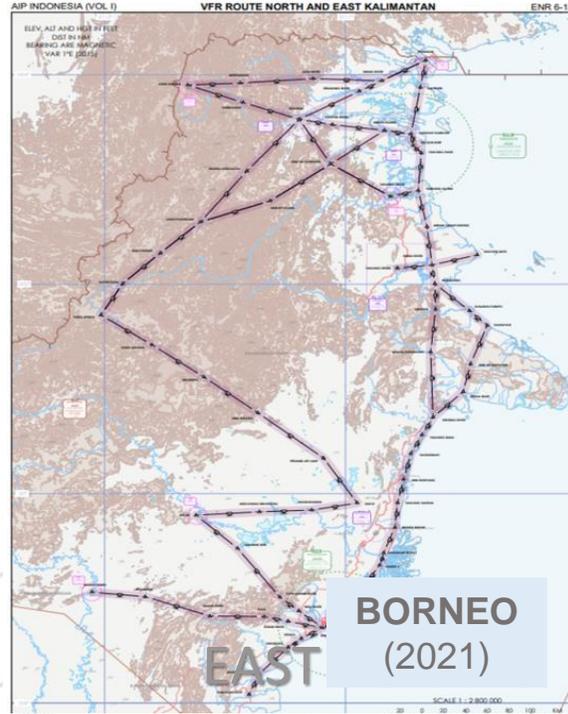
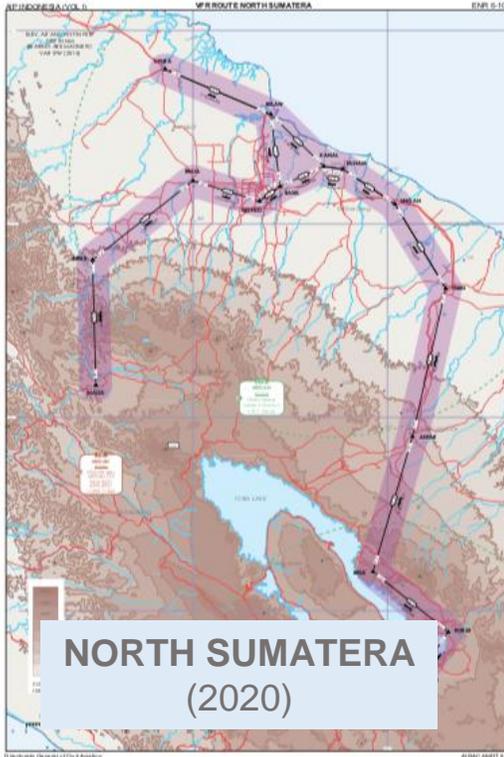


USER PREFERRED ROUTE

BENEFIT



VFR ROUTE IN MAJOR ISLAND

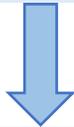


Accelerating Change | Emerging Stronger

AIRNAV INDONESIA DIGITAL MAP

Aeronautical Chart used for:

- Aircraft Navigation;
- Pilots;
- Air Traffic Controller;
- Ground Operation Officer.



Disadvantages of Conventional Aeronautical Chart:

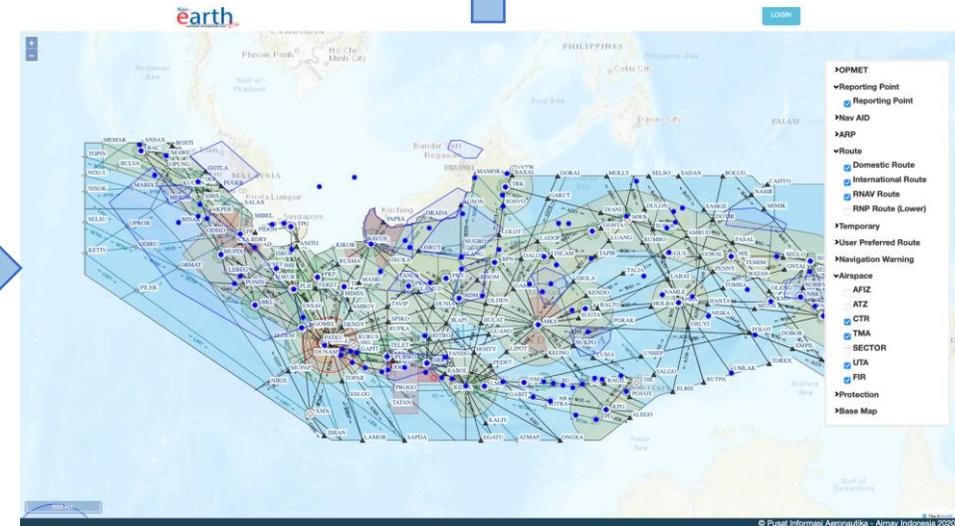
- **Accessibility;** only available in hardcopy, cannot be access as online.
- **Time;** take time deliver to customers, not real-time.
- **Cost;** require a high operational cost.



Using NavEarth

Real Time,
Flexible Access,
Cost Efficiency.

Saving Ops Cost
± USD 90.000 / edision



➤ FEATURES



DIGITAL AERONAUTICAL CHART

DIGITAL FLIGHT MAP INTEGRATED WITH DYNAMIC FLIGHT DATA/INFORMATION.



REAL-TIME METEOROLOGICAL INFORMATION

UP-TO-DATE INFORMATION ON AVIATION WEATHER AND VOLCANIC ERUPTION INFORMATION (ASHTAM).



DRONE AND AIRSPACE MANAGEMENT

DRONE AND AIRSPACE MANAGEMENT.



USER PREFERRED ROUTE (UPR) VALIDATION

VALIDATION OF THE USE OF THE AIR/UPR TOLL ROAD.

BUMN UNTUK INDONESIA



AirNav Indonesia

TERIMA KASIH

AirNav Indonesia 2022



SUSTAINABLE ATM

Facilitator: Swaminathan Subramanian, General Manager of ATS, Airports Authority of India

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THANK YOU

TO OUR NETWORKING BREAK SPONSOR



Organiser:



Host:



THANK YOU

TO OUR EXHIBITORS

FREQUENTIS

indra

LAMINAAR
AVIATION INFOTECH

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AVIATION
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