



ICAO UNITING AVIATION

# GLOBAL AIR NAVIGATION PLAN

**Secretariat  
P/18 Agenda Item 5**

GANIS/SANIS



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## The Global Air Navigation Plan (GANP)



ICAO CAPACITY & EFFICIENCY

2016–2030  
Global Air Navigation Plan



- Strategy to achieve a global interoperable air navigation system offering safe, secure and efficient air transport for people and goods worldwide, while limiting the impact of aviation on the environment.
- The GANP serves as a worldwide reference to transform the air navigation system in an evolutionary and inclusive manner so that no State or Stakeholder is left behind.



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## Flight Plan

- Our goal
- Trends and emerging opportunities
- The air navigation system ahead of us
- Evolutionary transformation
- Scalable implementation
- Conclusion



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Global Air Navigation Plan

## OUR GOAL



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## SOCIAL WELLBEING ALL PEOPLES OF THE WORLD

- More quiet
- Cleaner
- Safer
- More resilient
- More profitable





Global Air Navigation Plan

# TRENDS AND EMERGING OPPORTUNITIES

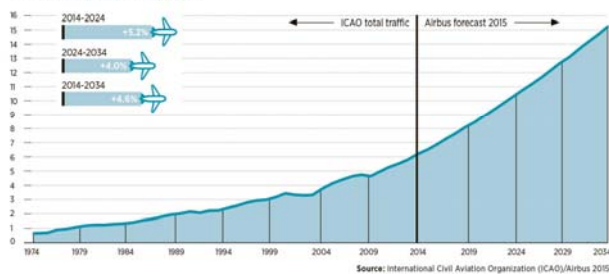


## A NEW ERA IN AVIATION

- Demand, including new entrants

GLOBAL AIR TRAFFIC (TRILLION REVENUE PASSENGER KILOMETRES)

Traffic is expected to double in the next 15 years



World Civil UAS Production Forecast





## A NEW ERA IN AVIATION

- Technology and information

- Autonomous systems
- Artificial intelligence



## A NEW ERA IN AVIATION

- Technology and information

- Full connectivity

**“ANYTHING THAT CAN BE  
CONNECTED, WILL BE CONNECTED”**





# A NEW ERA IN AVIATION

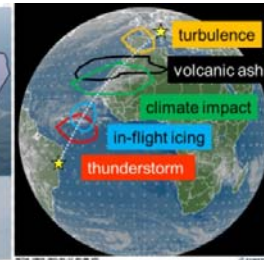
- Humans

ITA 17008KT 4SM HZ OVC015 M01/M  
11007KT 8SM -RA OVC008 02/02 A2  
FRI 042045Z AUTO 11007KT 8SM -RA  
CQT 042047Z AUTO VRB03KT 10SM  
FEW027 BKN048 17/09 A2994 RMK A  
07 BKN077 OVC011/08 A2994 RMK  
14KT 10000 FT007 BKN0107  
CORG 042045Z AUTO 08010G14KT 1  
A00 042056Z AUTO 34031G39KT 1  
14031G39KT 1 1/4SM HZ CLR M18/M2  
18/M22 A3002 RMK AO2 TSNO 5602  
A3002 RMK AO2 TSNO 56021 T11831Z16 PK WND 34039/205Z SLP1

# META



poor weather  
reduced visibility  
noise



# A NEW ERA IN AVIATION

- Business Models





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Global Air Navigation Plan

# THE AIR NAVIGATION SYSTEM AHEAD OF US



Eighth Meeting of the North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/08)  
Ottawa, Canada, 31 July to 2 August 2018



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## A high-performing Air Navigation System

<b>Global interoperability</b>	Ensure global interoperability
<b>Access and equity</b>	Access and equity to all airspace users
<b>Capacity</b>	Capacity to accommodate forecast demand
<b>Efficiency</b>	Increase efficiency of air operations
<b>Flexibility and predictability</b>	Enable flexibility to meet arrival times
<b>Sustainability</b>	Secure air navigation system sustainability
<b>Resilience</b>	Resilience to cope with system disruptions



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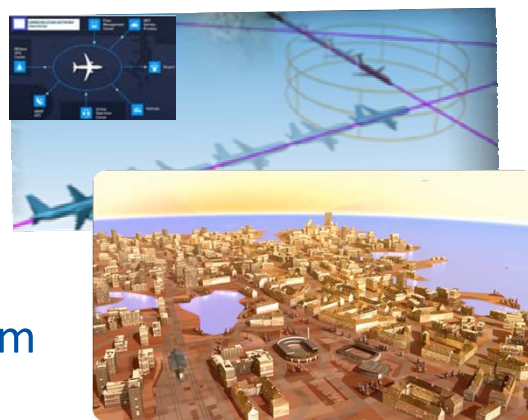
# TRANSFORMATIONAL EVOLUTION



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## Key Concepts

- Management by trajectory
- Information sharing
- Network and flight centric
- Integrated infrastructure
- Multi-modal transport system







Global Air Navigation Plan

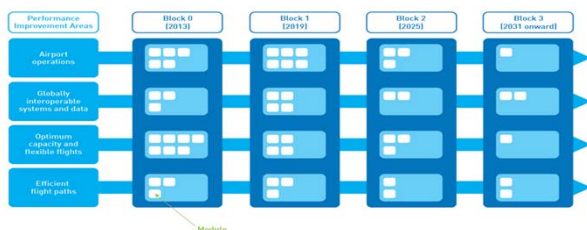
# SCALABLE IMPLEMENTATION



## Aviation System Block Upgrades Framework

- Global interoperable scalable implementation enabled by technological innovation

*“ONE SIZE DOES NOT FIT ALL”*





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# Global Air Navigation Plan CONCLUSION



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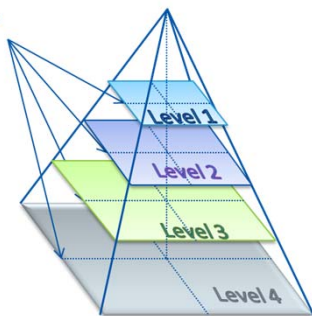
# No State or Stakeholder left behind



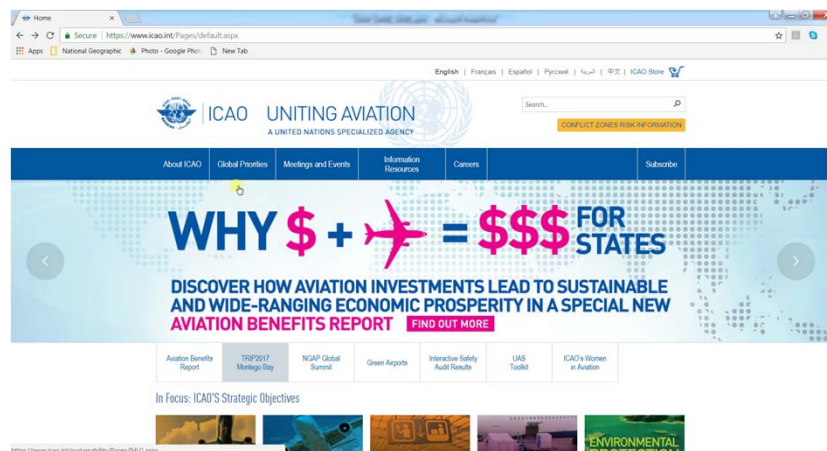
# DRAFT GANP 2019

## MULTILAYER STRUCTURE

LAYERS



<https://www.icao.int/airnavigation/Pages/GANP-Resources.aspx>





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**GANIS  
SANIS  
2017**

- > Second Global Air Navigation Industry Symposium (GANIS/2)
- > Safety and Air Navigation Implementation Symposium (SANIS)

ICAO Headquarters, Montréal, Canada, 11 to 15 December 2017

Global Aviation Safety & Air Navigation Updates

## **GANIS/SANIS – GLOBAL PLANNING FOR THE 40<sup>TH</sup> ASSEMBLY**



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**THANK YOU!**