EVOLUTION OF GASP/GANP, AN CONF/13 AND CYBER SECURITY

Capt. Denis Guindon

Deputy Director, Monitoring and Oversight, Air Navigation Bureau
International Civil Aviation Organization (ICAO)

7th Meeting of AFI Directors General of Civil Aviation
20 July 2018, Niamey, Niger
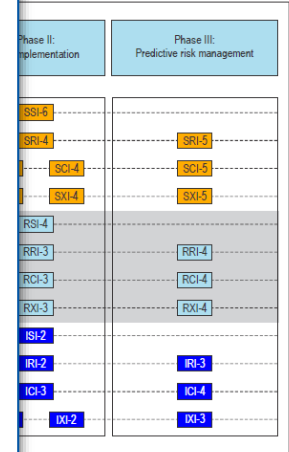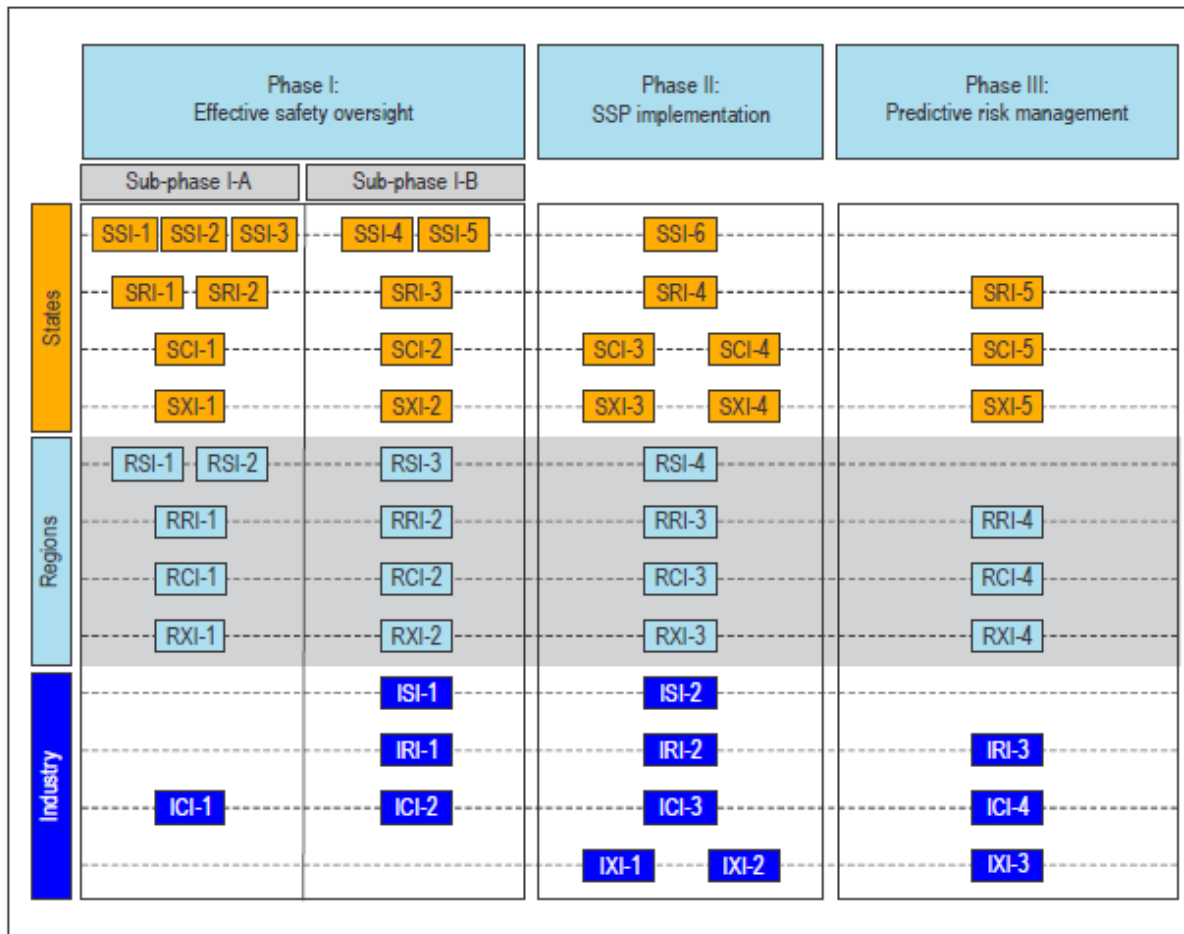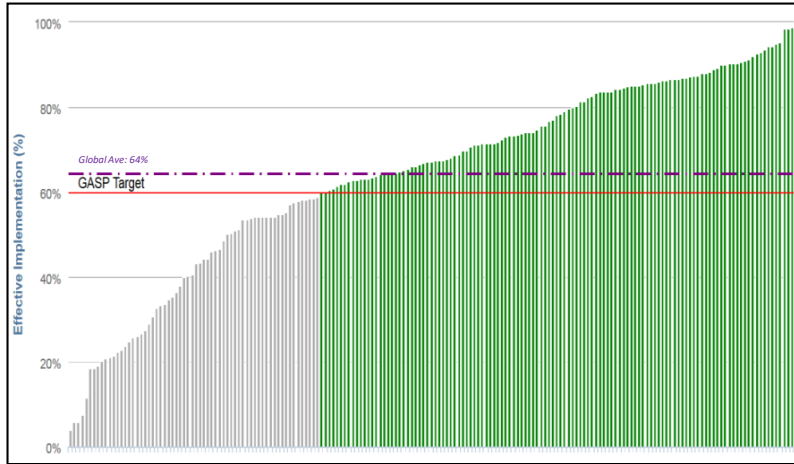
Figure A-2. Global aviation safety roadmap diagram

PROPOSAL FOR NEXT GASP
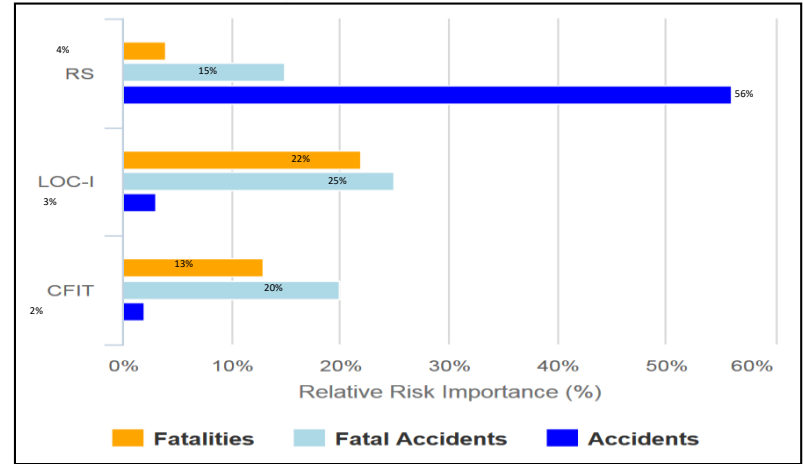
Effective Implementation

USOAP Audit Results

GANP
ASBU
BBBs

Operational Risks

Scheduled Commercial flights on airplanes above 5.7t 2012-2016

TARGET 4.1	TARGET 2.1	TARGET 2.2	TARGET 3.1	TARGET 3.2	TARGET 6.1	TARGET 1.1	TARGET 5.1	TARGET 5.2	TARGET 4.2	TARGET 4.3
ICAO **Recognized** functions	Implement **Safety Oversight**	Positive **Safety Margin**	Sustainable **SSP**	Effective **SSP**	Appropriate **Infra-structure**	Reduced **Accident rate**	**INDUSTRY** assessment programmes	Harmonized KPIs in **SMS**	Safety risk information to **RASG**	**RASG** Risk mgmt. activities
2020	2022+	2022	2022	2025	2022	Yearly	2020	2022	2022	2022

Contents of the 2016-2030 GANP

Aviation System Block Upgrades (ASBU) Methodology

Technology Roadmaps and Module Dependencies

The Global Air Navigation Plan (GANP)

CAPACITY & EFFICIENCY

2016–2030
Global Air Navigation Plan

Doc 9750-AN/963   Fifth Edition – 2016
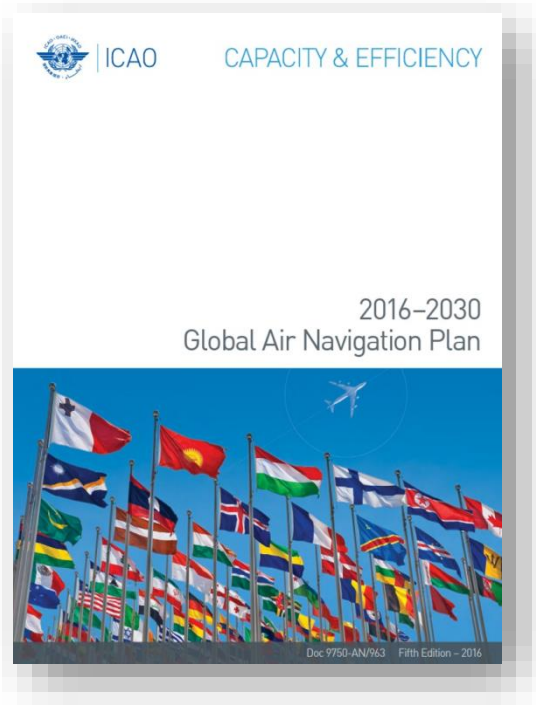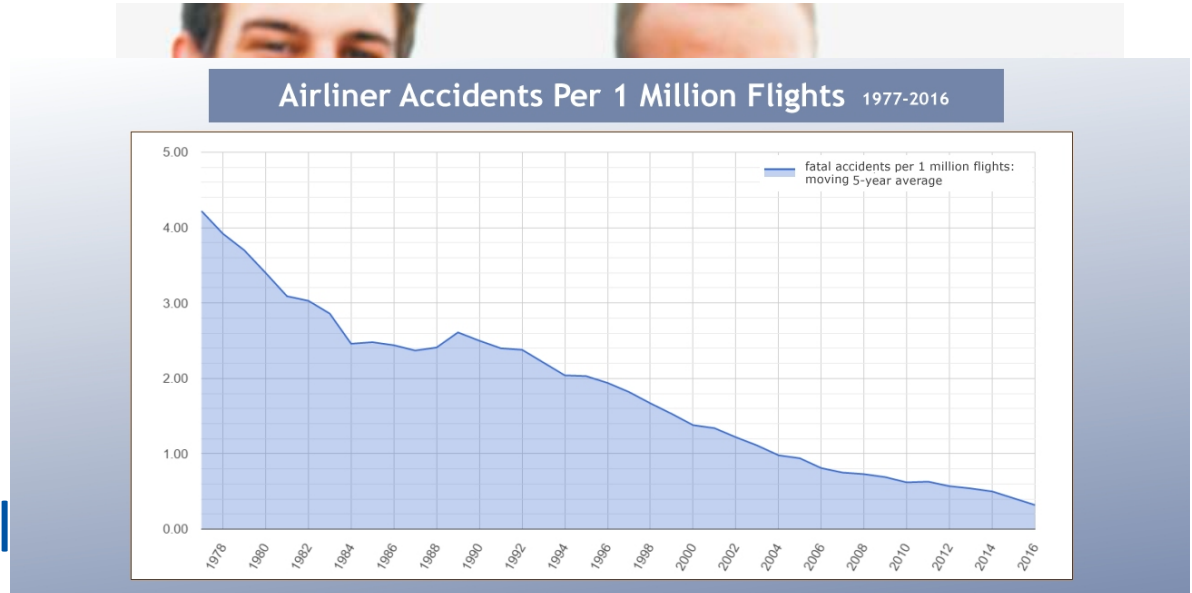
➤ Strategy to achieve a global interoperable air navigation system offering safe, secure and efficient air transport for people and goods worldwide, while limiting the impact of aviation on the environment.

➤ 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.

SOCIAL WELLBEING ALL PEOPLES OF THE WORLD

- More quiet

- Cleaner

- Safer

- More resilient

- More profitabl

Airliner Accidents Per 1 Million Flights 1977-2016

fatal accidents per 1 million flights: moving 5-year average

Statistics are based on all worldwide fatal accidents involving civil aircraft with a minimum capacity of 14 passengers, from the ASN Safety Database
https://aviation-safety.net

AviationSafetyNetwork

A high-performing Air Navigation System

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

Proposals for Enhancement

2019 Update of GANP:

Creating a Multilayer Structure
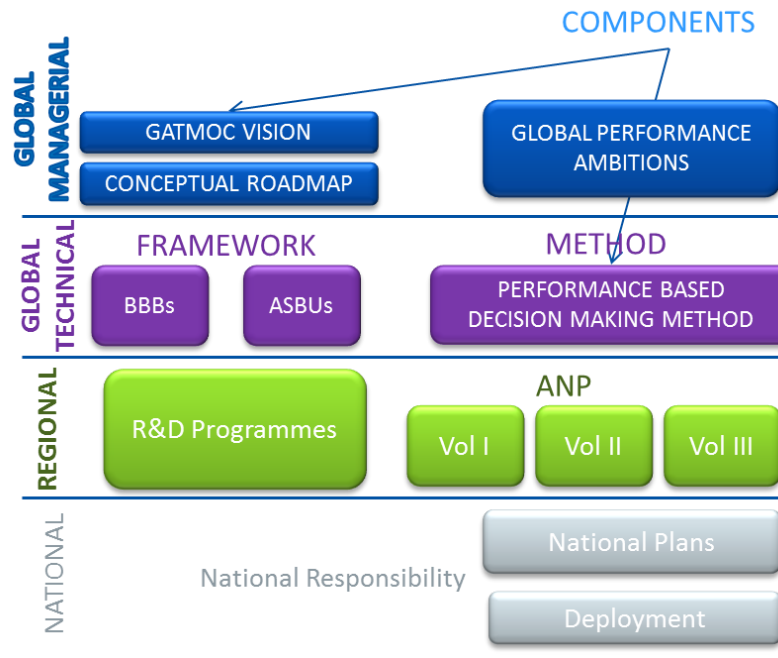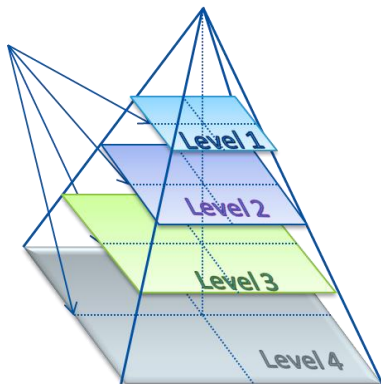
13th Air Navigation Conference (AN-Conf/13)
9 – 19 October 2018, Montréal, Canada

- **State letter 2017/54 sent out on 28 April 2017 to propose the need, agenda, date, organization, site and languages for AN-Conf/13**
  - **46 replies received**: 41 States and 5 International Organizations
  - Principal subjects circulated from the State letter as basis of meeting agenda

- **Invitation State letter 2017/120 sent out on 15 December 2017**

- **2 Committee structure working in parallel and reporting back to Plenary**
  - Air Navigation Committee (Committee A)
  - Aviation Safety Committee (Committee B)

13th Air Navigation Conference (AN-Conf/13)
9 – 19 October 2018, Montréal, Canada

- **Theme:** *From development to implementation*

- **Languages in English, French, Spanish, Russian, Arabic and Chinese**

- **A forum for detailed technical discussions leading to agreement on high-level recommendations**
  - Recommendations to be submitted to Council and subsequent **endorsement by the Assembly**
  - Allows the Assembly to **focus on strategic issues** based on sound technical advice, contributing to a more efficient and effective ordinary session (C-DEC 210/6)

APPENDIX B
ORGANIZATIONAL PLAN

BODY	AGENDA ITEM	T 9 am	pm	W 10 am	pm	T 11 am	pm	F 12 am	pm	S 13 am	pm	S 14 am	pm	M 15 am	pm	T 16 am	pm	W 17 am	pm	T 18 am	pm	F 19	
Plenary		O/P	O/P																			J	P
Committee A	1.1 to 1.4																						
	2.1 to 2.4																						
	3.1 to 3.5									R1													
	4.1 to 4.4													R2									
	5.1 to 5.4																						
Committee B	6.1 to 6.3																R3						
	7.1 to 7.3							R6											R4	R5			
	8.1 to 8.2									R7	R8											R	R

LEGEND:

O – Opening session
P – Plenary meeting
R – Review of draft report
J – Joint Meeting of Committees A and B

Cybersecurity vulnerabilities and threats

- Reduced interoperability

- Requirement for increased digital certificates

- Creates overlap and gaps at the seems

- Shift of authority from States to Commercial Certificate Authorities
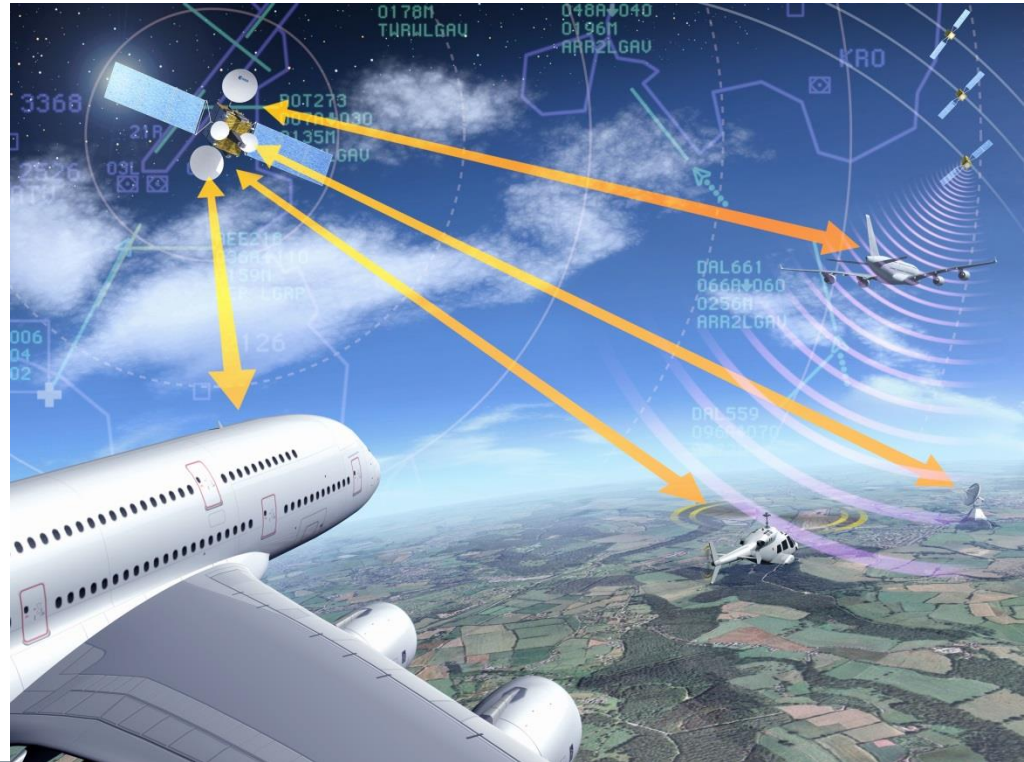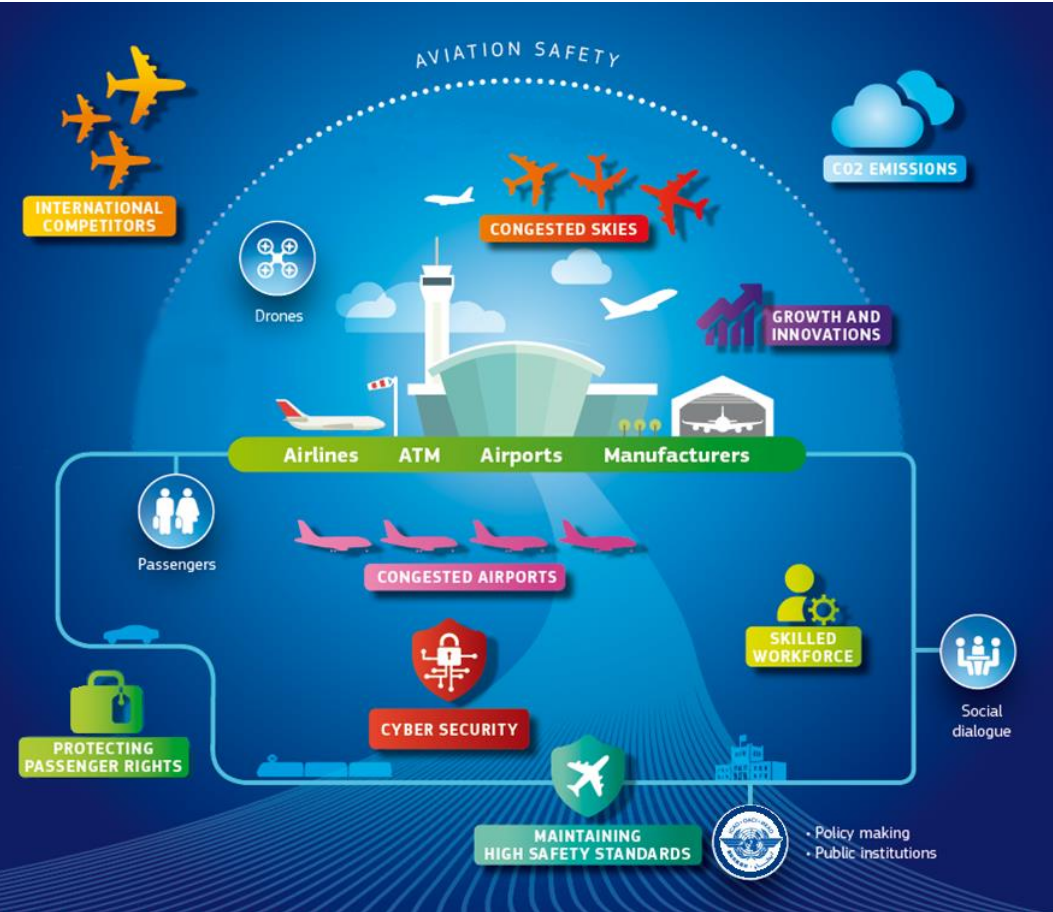
Improved Efficiencies
- Increased Traffic Flow to meet Industry Growth Projections
  - Impacts routing and fuel cost
  - Impacts airport operations
  - Impacts ATM and Airline Operations
- Drives Operational Changes
  - A more interconnected community
    - Aircraft communications
      - Cockpit (Safety Services)
      - Cabin (Passenger)
    - Ground communications

These changes can only be accomplished through:
- Technology Enhancements
- Modernized software applications
Drives modernized methods of securing the global aviation community end-to-end

Digital Trust Framework

Unique Digital Identity

Available for all participants in the aviation ecosystem

Unique Digital Certificate

2041:0000:130F:0000:0000:07C0:853A:140B

Enhancing Security and Network Performance

- ICAO to procure contiguous address block

  - Requires support of ICANN & IETF

- Address block remains private

  - Non-routable over the public Internet

- Protects the single sky environment we enjoy today

Next Steps

- Secretariat WP "Cyber Resilience" recommends ICAO develop a trust framework

- 14 August and 17 September dates of submission

- 13th Air Navigation Conference 9-19 October 2018

Questions and Comments

MONTRÉAL
(HEADQUARTERS)

PARIS
(EUROPEAN AND
NORTH ATLANTIC)

BEIJING
(ASIA-PACIFIC
SUB-OFFICE)

MEXICO CITY
(NORTH AMERICA AND CARIBBEAN)

CAIRO
(MIDDLE EAST)

DAKAR
(WESTERN AFRICA)

BANGKOK
(ASIA-PACIFIC)

NAIROBI
(EASTERN AFRICA)

LIMA
(SOUTH AMERICA)

THANK YOU!