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ASSOCIATION OF ASIA PACIFIC AIRLINES

Aviation Safety Challenges

Asia Pacific Perspectives

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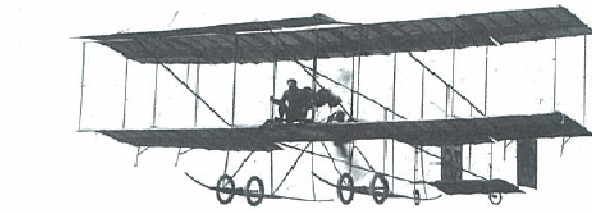


MAG SAFETY DAY 2019

Malaysia Airlines Academy

26 August 2019

We came a long way



Aviation: delivering global mobility

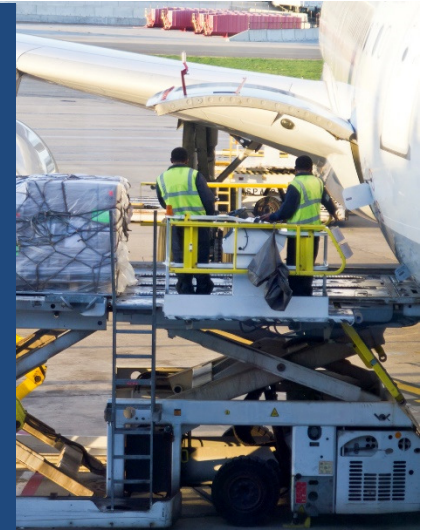


4.6 billion
passengers

12 million daily

35%
*by value of
global trade*

*Goods worth
US\$6 trillion*



- ***Safely connecting people and business***
- ***Wider social and economic benefits***
- ***Outstanding safety record***
- ***Committed to sustainable growth***

Asia Pacific aviation



US\$205 billion revenue

US\$5 billion net profit

1,600 million passengers

1,150 million domestic

450 million international

23 million tonnes of cargo

8,448 aircraft

Asia Pacific carriers overall market share:

34% of global passenger traffic

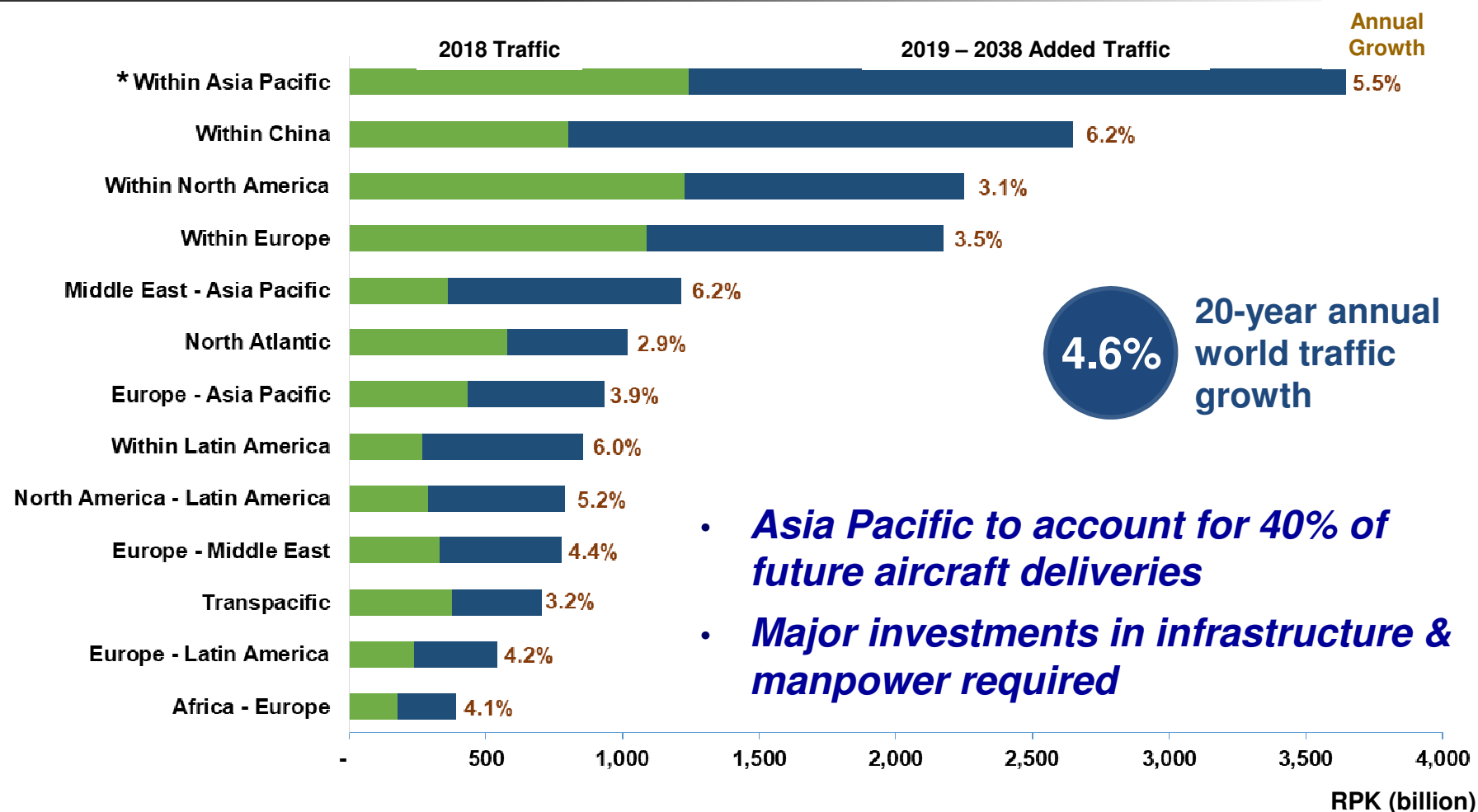
35% of global cargo traffic

Source: Combined AAPA + non-AAPA airlines GMT+5 to GMT+12

Data: Traffic: ICAO and IATA Preliminary 2018, Financials: AAPA Preliminary 2018

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Asia Pacific leading global markets

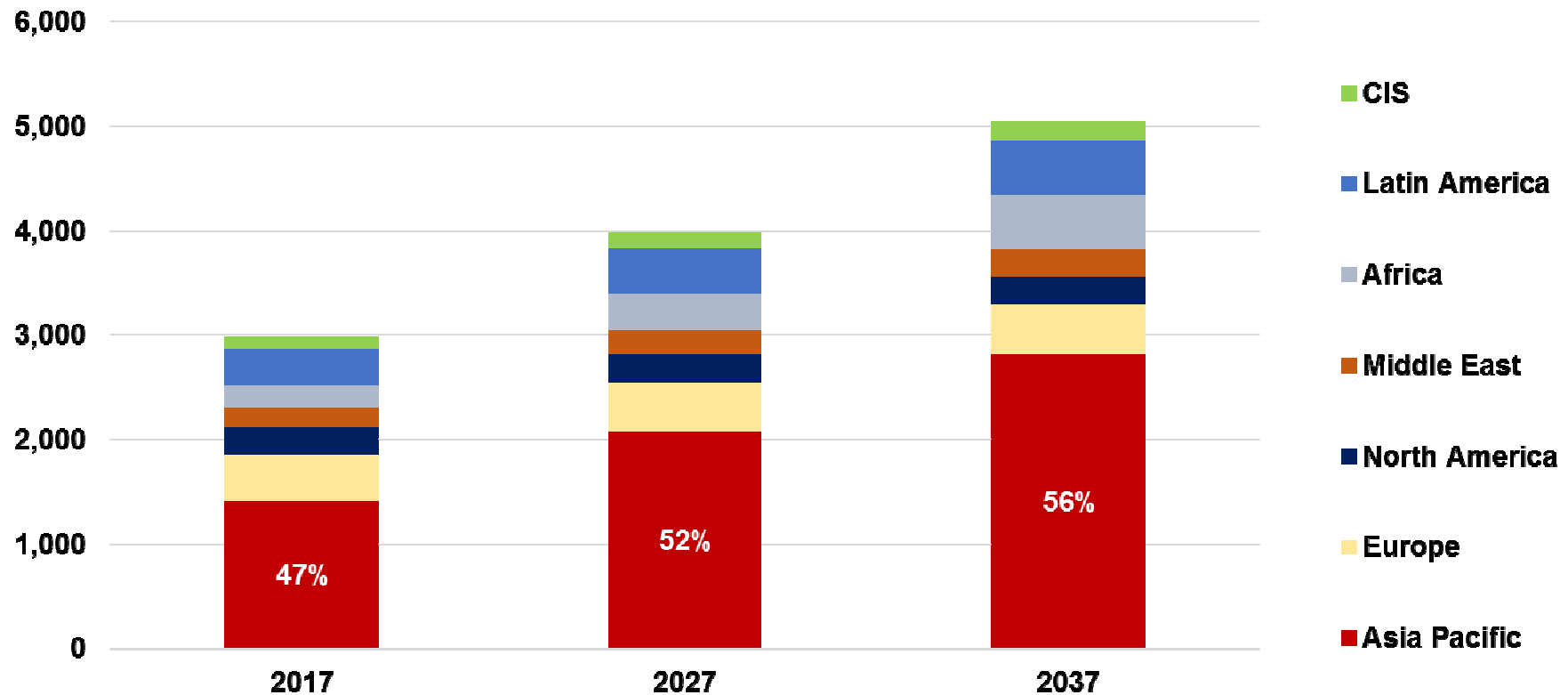


*does not include travel within China

Source: Boeing CMO 2019-2038

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Growth of Asian middle class consumers



Rising demand for goods & services including air travel

Source: Airbus GMF 2018 - 2037

Households with yearly income between \$20,000 and \$150,000 at PPP in constant 2017 prices

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Projected Global Fleet in 2040



Over the next twenty years:

- **Global air travel demand projected to grow x 2.5**
- **Commercial jet fleet will double in size led by Asia**



Aviation System



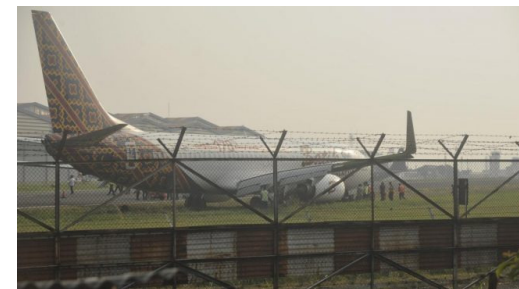
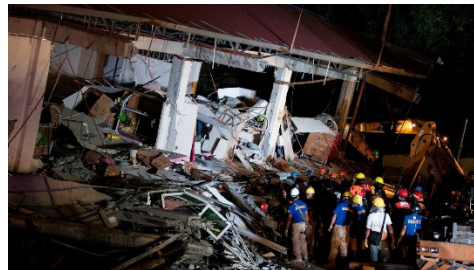
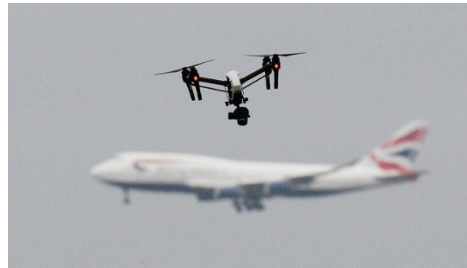
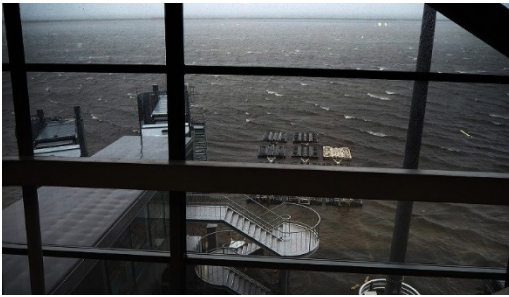
- Aviation is a complex global system
- Airports & airspace modernisation required to keep pace with rapid traffic growth
- Greater focus on operating efficiency, productivity and cost-effectiveness
- Multi-stakeholder cooperation key to coordinated long term planning & capital investment
- Manpower training & development
- Delivering long term environmental sustainability



Need for close collaboration beyond geographic & organisational boundaries



Aviation Faces a Variety of Disruptions



Accidents, earthquakes, typhoons, floods, fires, volcanic ash, bombs, health pandemics, cyber, airspace closures and geopolitical risks

Safety Focus



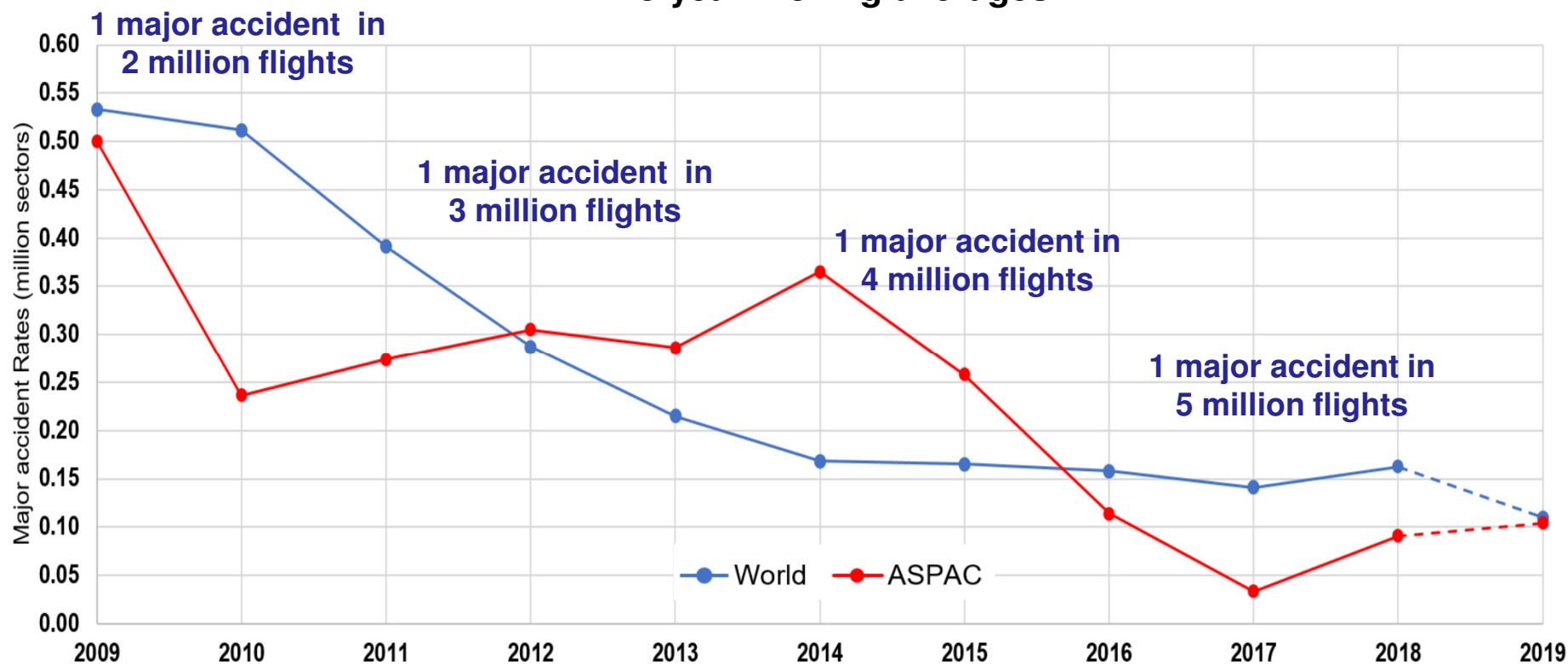
- **Airlines operate in a complex and challenging business environment**
- **Asian airlines are listed among some of the world's leading safe airlines**
- **Safety requires long term investment and commitment of resources by all stakeholders**
- **Greater focus on effective regulatory oversight aligned with ICAO global standards**
- **Enhanced safety performance relies on transparency, collaboration and cooperation between regulators and industry**



Safety Performance Trends



Western-built Jet Aircraft Major Accident Rates by Operator Region 2009-2019 3-year moving averages



Source: AAPA

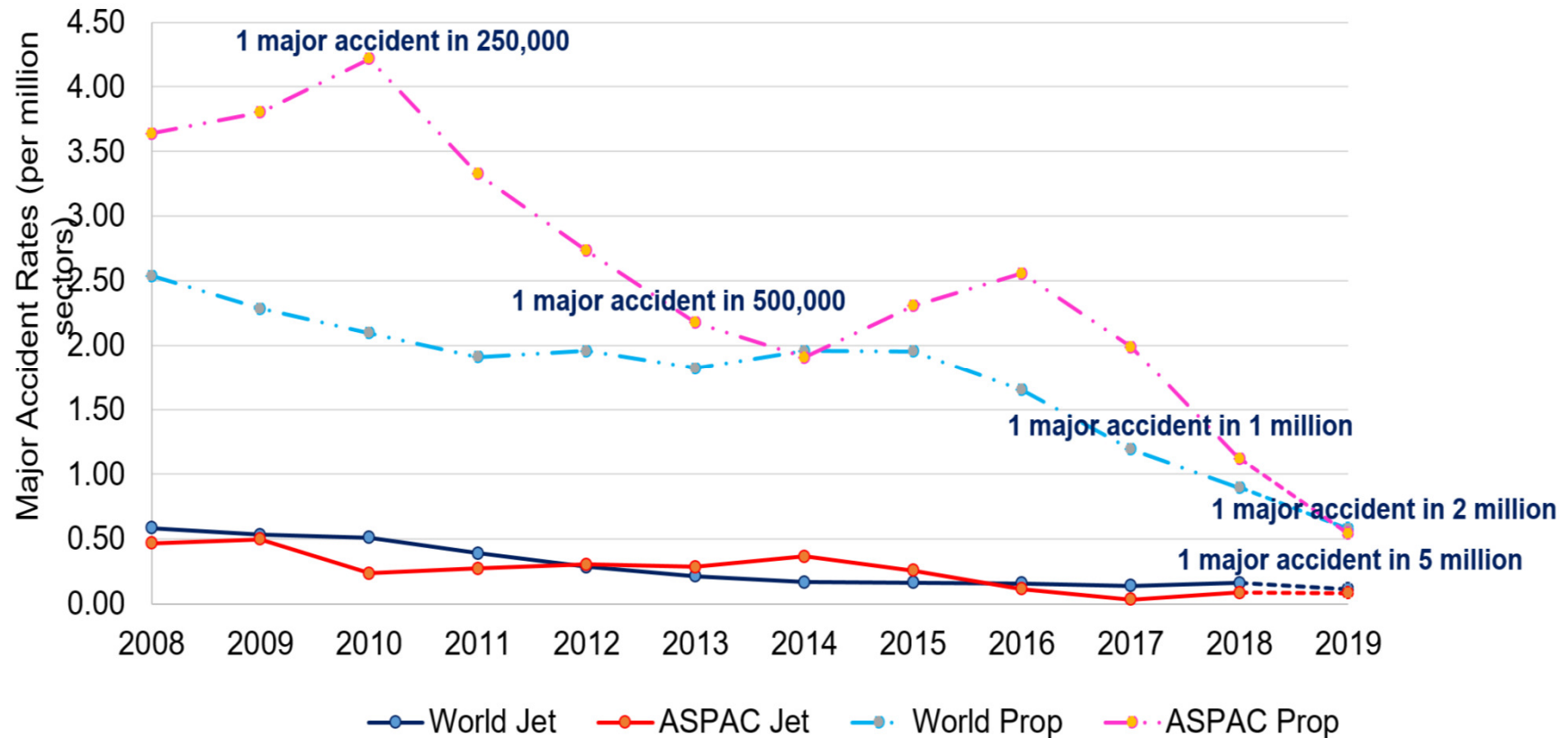
Data as of 21 June 2019

***Outstanding safety record built on focus,
commitment and cooperation***

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Safety Performance Trends: Turboprop aircraft

Western-built Jet & Turboprop Aircraft Major Accident Rates
by Operator Region 2008-2019
3-year moving averages



Turboprop safety performance has also shown marked improvement

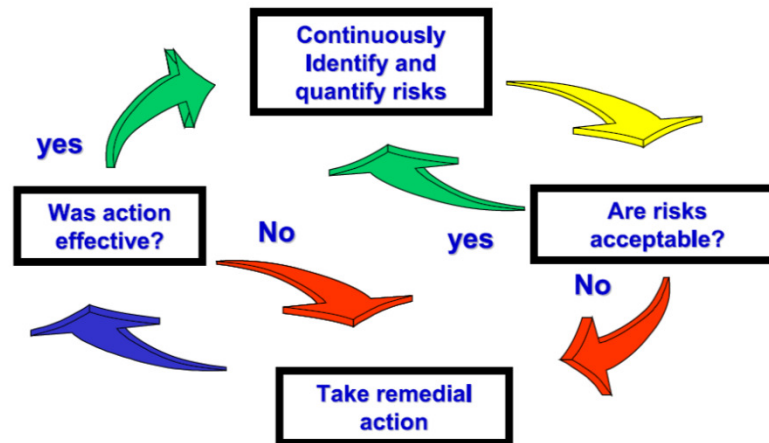
Aviation Safety Fundamentals



- **Safety Management System (ICAO Annex 19)**
 - **Organization Commitment**
 - **Accountable Executives & Managers**
- **Risk-based and data-driven**
- **Collaboration and cooperation**
- **Sharing information, learning from mistakes**
- **“Just Culture” philosophy**
 - **Does not mean a non-punitive culture**
 - **But a punitive culture does not ensure safety**

Aviation is the safest mode of transportation due to its culture of openly sharing information and lessons learned

Benefits of Flight Data Monitoring



- Essential safety management tool
- Identify trends and underlying safety risks
- Improve flight operational procedures and training
- Improve operational reliability and reduce aircraft maintenance costs



Current Safety Priorities

Identified Risk Factors:

- **Controlled Flight into Terrain (CFIT Turboprop)**
- **Loss of Control in Flight**
- **Mid Air Collisions (MAC)**
- **Approach & Landing**
- **Runway Excursions**
- **Non-Adherence to Standard Operating Procedures**
- **Human Factors**
- **Ground Accidents and incidents**

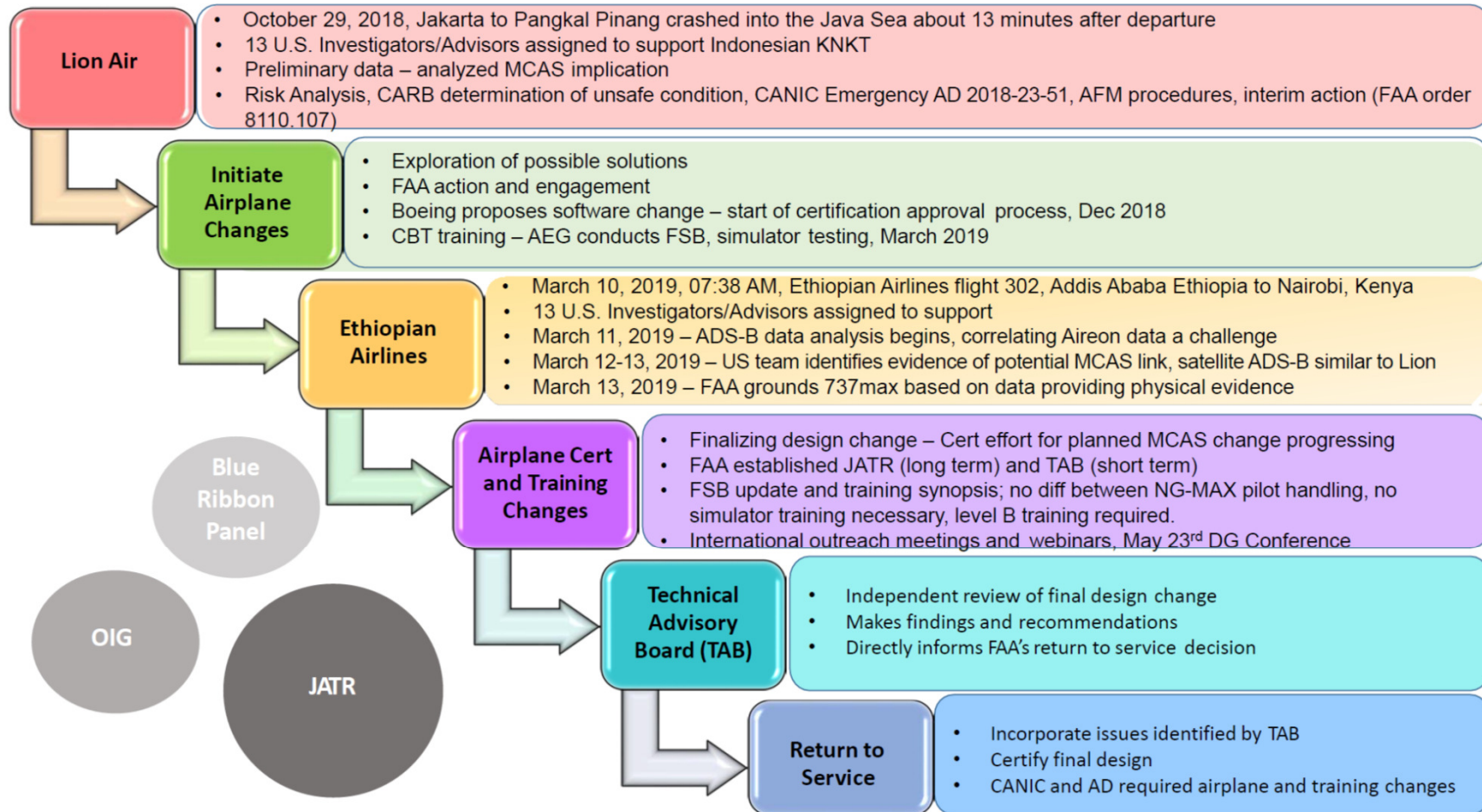
Focusing on joint action plans to proactively manage such risks

Maintaining Public Trust

- Flying is extraordinarily safe
- But every fatal accident brings human tragedy & close scrutiny
- Lessons from accident investigations need to be shared globally
- Maintaining public trust is a challenge requiring close international cooperation and coordinated action by both industry and regulatory authorities



What have we learned from the B737 MAX ?



Source: US FAA

B737 MAX: a crisis of public confidence

- Questions over the integrity of the certification process
- Confidence in the mutual recognition, trust, and reciprocity among international safety regulators has been undermined
- Loss of confidence in the pilot community
- Loss of passenger trust and confidence
- Aircraft will remain grounded until all issues are resolved
- As State of Design the FAA is responsible for the certification of the B737MAX
- Joint Authorities Technical Review (JATR) team to coordinate information sharing with other international regulators

The key challenge is to rebuild public trust in the integrity of the processes of international regulatory oversight and industry collaboration

Closing Thoughts

- Aviation drives economic and social development
- Flying is extraordinarily safe and secure
- Aviation safety is built on strong foundations of effective regulatory oversight and close international collaboration
- Safety is a shared responsibility and collective achievement of all stakeholders
- Committed to continuous improvements in safety performance

Keeping air travel safe, secure and convenient



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