



ICAO

# INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY



# 5G and aviation safety: Keeping Your Flight Safe in Crowded Skies

ICAO

ANB/ICAO

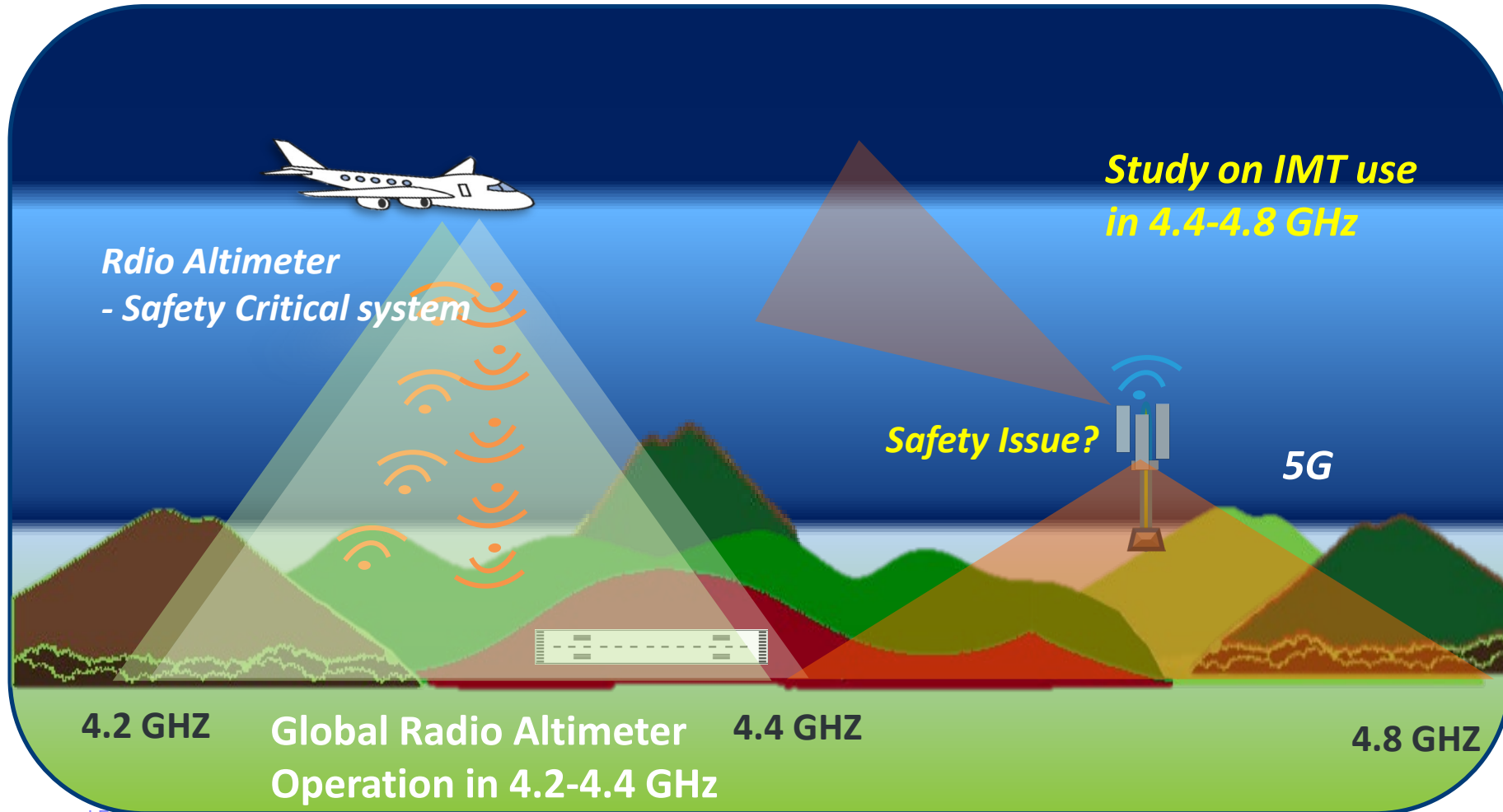
ITU  
WRC-27





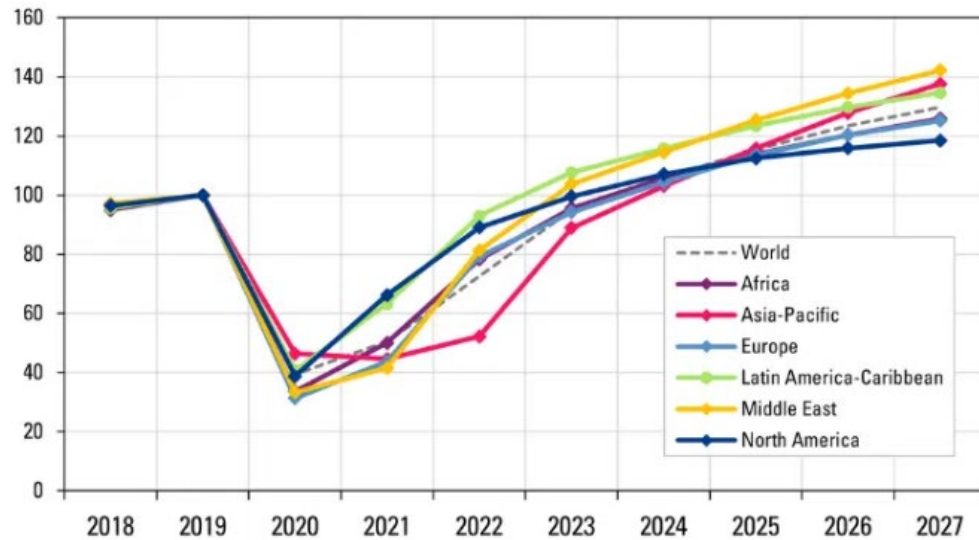
WRC-27

## WRC-27 Agenda Item 1.7: Study on IMT Use in the frequency bands 4400-4800 MHz

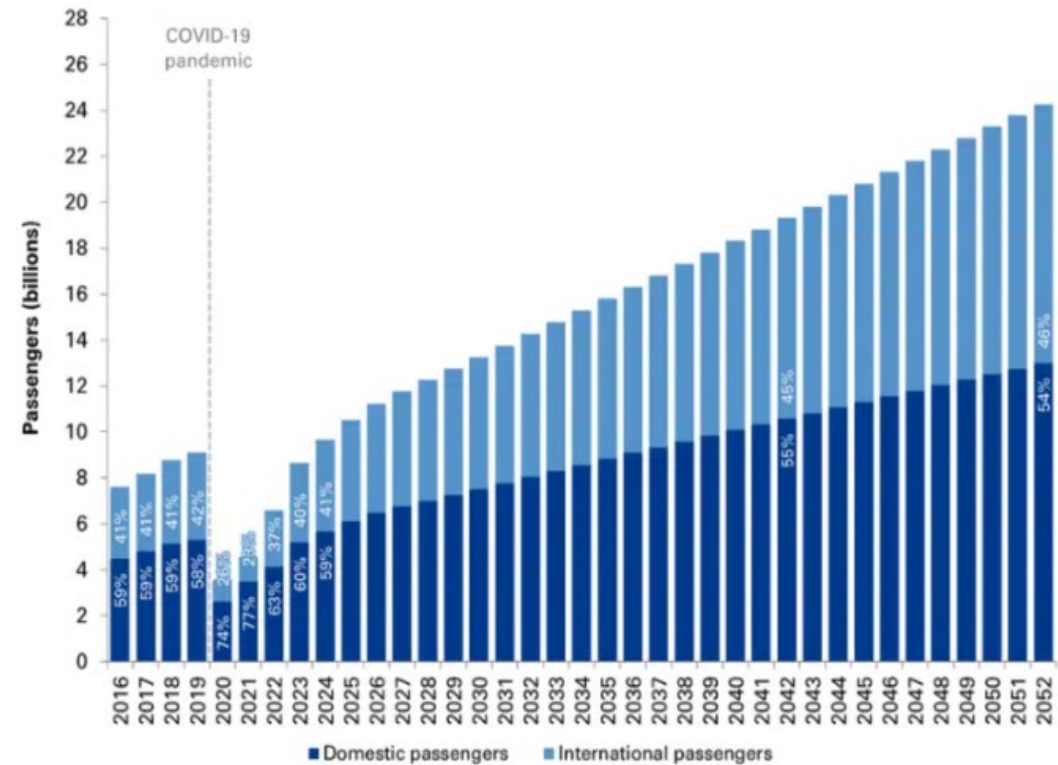


# World wide consistent growth of air traffic

Medium-term passenger traffic forecast by regions  
(indexed, 2019 = 100)



Long-term international and domestic passenger traffic (2016–2052)



Between 2023 and 2052, global passenger traffic is expected to reach close to 25 billion, approximately 2.5 times the 2024 projection

Source: ACI World Airport Traffic Forecasts (WATF) 2023-2052

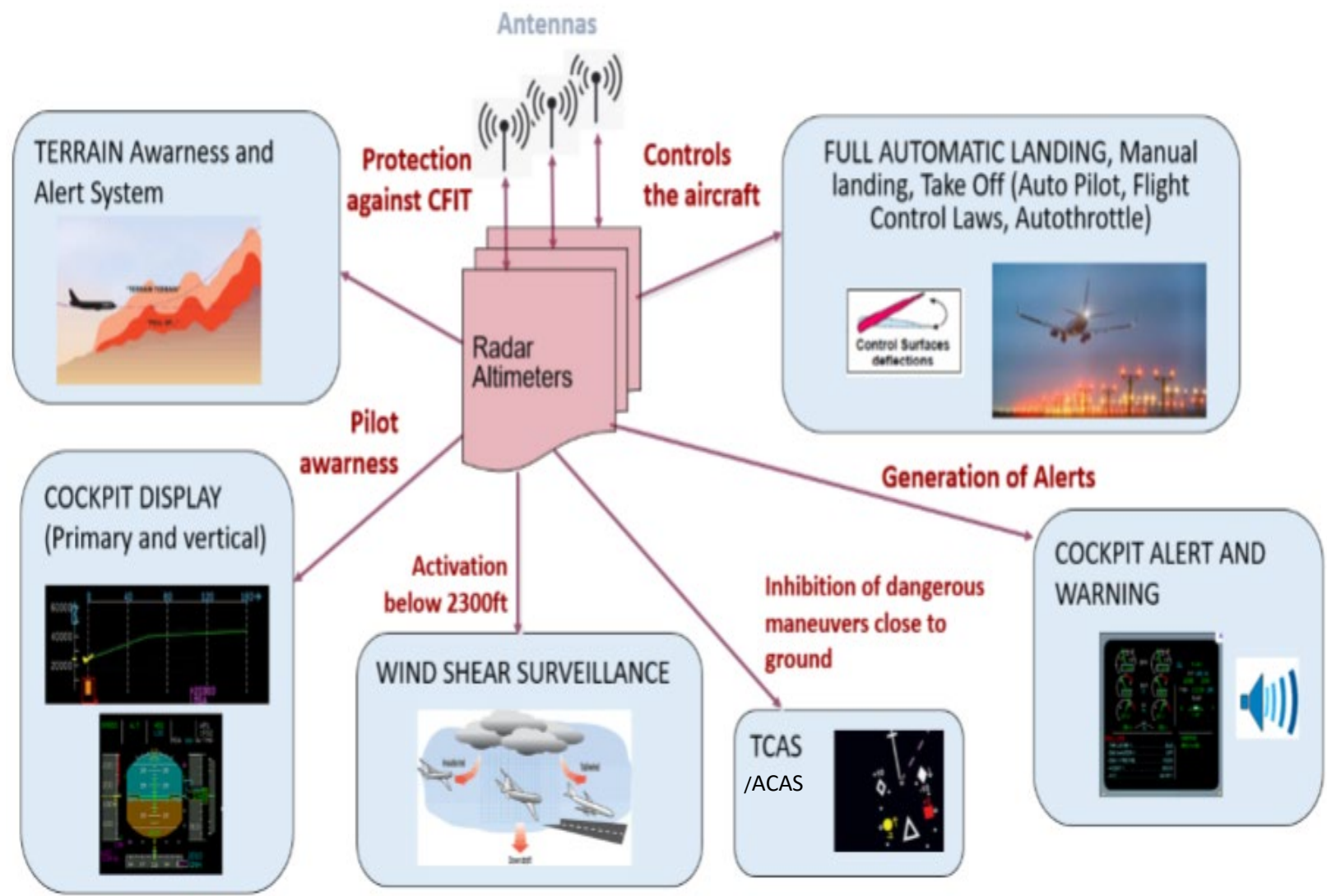
# How to Maintain Safety While Expanding Capacity

State of Global Aviation Safety



- Proper and improved operational procedures
  - Training programs for aviation personnel
  - Accident analysis and lessons learned
- **Introduction of systems to prevent accidents**
  - **Aviation crosses borders — safety requires global standards**
  - **One country's measures alone cannot ensure worldwide passenger safety , etc**

# Critical Roles of Aircraft Radio Altimeters



# Critical Roles of Aircraft Radio Altimeters. cont

*The Radio Altimeter is used for aircraft operations in **all types of weather environments across the globe***

It is very critical for

- low-visibility approaches,
- landings, and
- obstacle avoidance, especially in challenging weather conditions.

However, at present,

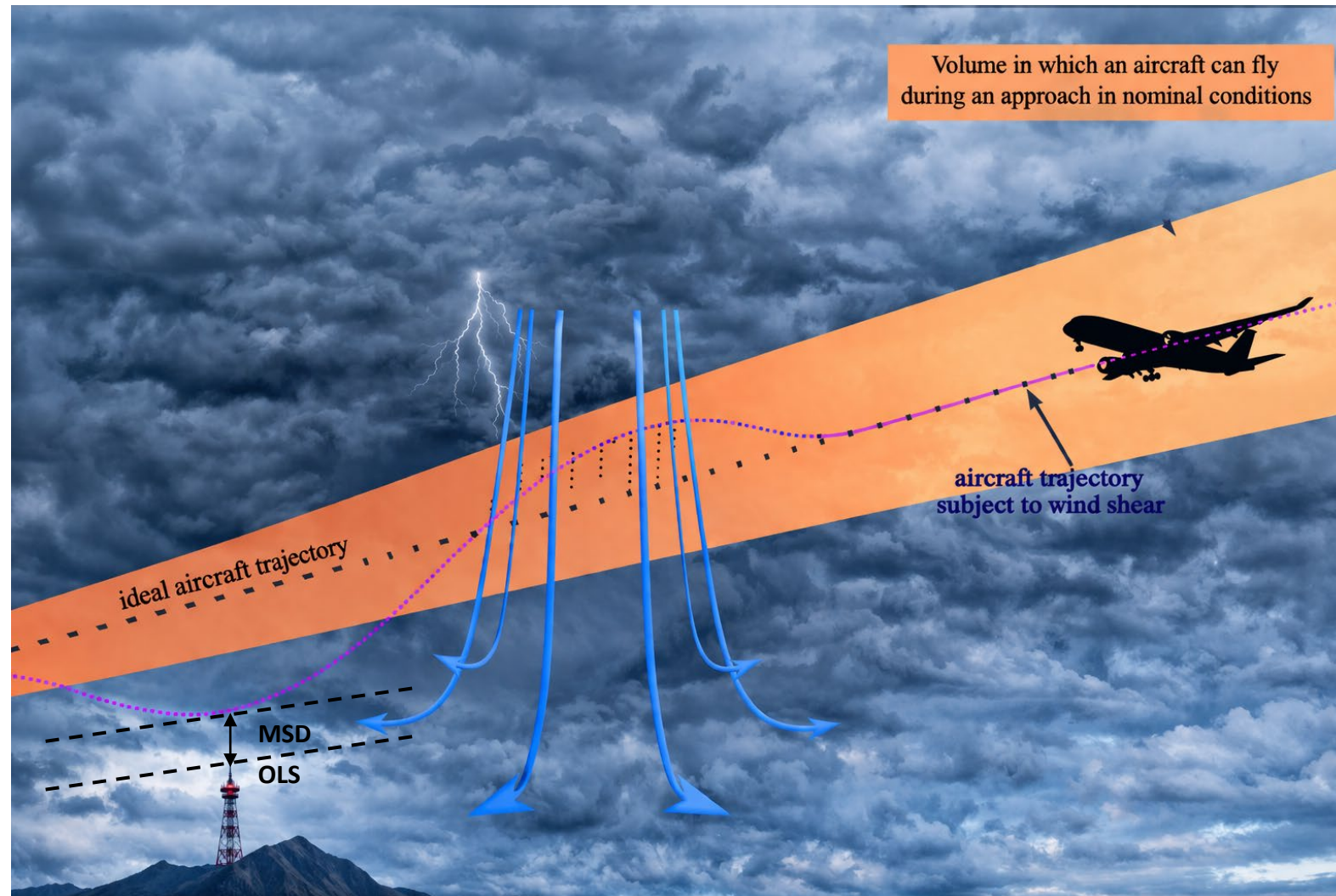
**Potential safety risk!!**

The ITU study on Agenda Item 1.7:

**does not** address the critical phase of radio altimeter operation, and  
**does not** address global implications of the aviation systems.

# Aviation Safety Concerns:

## Missing scenario: Off-nominal operations



If the radio altimeter fails to provide accurate altitude information, the consequences could be severe ...  
This scenario must be thoroughly addressed under WRC-27 Agenda Item 1.7





## Conclusion

### Current concerns with WRC-27 preparatory studies:

- **Incomplete Studies:** Current ITU WP5D work does not cover several critical operational scenarios for radio altimeters.
- **Safety Risks Ignored:** Radio Altimeters (RA) are safety net systems – for instance for off-nominal landing scenarios. Yet, those off-nominal landing scenarios are not being studied. Without such scenarios, the studies fail to capture the real-world risks that the RA were intended to address, leaving aviation exposed to the very incidents that the safety net was intended to capture.
- **Timing Problem:** New RA SARPs will not be available until 2027, too late to inform WRC-27 decisions.
- **Cross-Border Operations:** Aviation is inherently global; treating this as a “national issue” overlooks the fact that aircraft routinely cross borders during critical phases of flight, and that their safety-net systems need to function reliably on both sides of any border.

**Unsatisfactory Outcome:** Unless studies demonstrate no impact on Radio Altimeters and Wireless Avionics Intra-Communications, aviation may be forced to oppose new IMT allocations in 4,400–4,800 MHz.

**Balanced Future!** We welcome the advancement of 5G networks worldwide — but their deployment must be balanced with uncompromising aviation safety, to ensure both innovation and protection of lives.

---

# Thank You

