

ICAO Radio Navigation Workshop for NAM & SAM Regions

Outcome of ICAO Regional Radio Navigation Activities

Mexico City - Mexico

3 September 2025



— Awareness Activities

- The AN-Conf/14 requested ICAO to continue awareness activities and noted the planned Regional Workshops
 - ✓ EUR/MID Radio Navigation Symposium, Feb 2024
 - ✓ ACAO/ICAO Radio Navigation Workshop, Feb 2025
 - ✓ ICAO APAC Radio Navigation Symposium, 7-9 April 2025
 - ☐ ICAO NAM/SAM Radio Navigation Workshop, 2-4 September 2025

ICAO EUR/MID Radio Navigation Symposium (Feb 2024)

ICAO organized a Radio Navigation Symposium with the focus on GNSS RFI for ICAO EUR & MID Regions.

SL dated 30 April 2024 circulated the outcome of the symposium and requested States to disseminate the guidance material and implement recommendations, as applicable.



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30 April 2024

Ref.: E 3/5-24/54

Subject: Aviation safety concerns regarding interference to the Global Navigation Satellite System (GNSS)

Action required: a) disseminate guidance material; and
b) implement recommendations, as applicable

Sir/Madam,

1. I have the honour to bring to your attention the concerning escalation of jamming and spoofing activities targeting the global navigation satellite system (GNSS), which have been increasingly observed recently in various regions globally. GNSS, as one of the main enablers for performance-based navigation (PBN), provides navigation guidance for all phases of flight, from enroute through to precision approach. By providing accurate position and timing information, GNSS enables several systems critical to the safety of flight.

2. Since 2003, the International Civil Aviation Organization (ICAO) has been actively developing recommendations and guidance concerning GNSS Radio Frequency Interference (RFI). It is pertinent to recall ICAO Assembly Resolution A41-8, Appendix C: *Ensuring the resilience of ICAO CNS/ATM systems*, which serves as the latest ICAO policy on GNSS resilience.

3. To bring attention to the critical issue of GNSS interference, and to foster discussions on the management of GNSS vulnerabilities and potential mitigation measures against GNSS RFI, ICAO recently convened the ICAO EUR/MID Radio Navigation Symposium from 6 to 8 February 2024 in Antalya, Turkey. One important outcome of this symposium is the attached list of recommendations regarding Stakeholders' continued efforts towards ensuring safe, reliable, and resilient air navigation.

4. I would like to take this opportunity to refer to recent safety-related publications by the European Union Aviation Safety Agency (EASA), [Safety Information Bulletin No. 2022-02R2](#) and the Federal Aviation Administration (FAA), [Safety Alert for Operators \(SAFO 24002\)](#).



ACAO/ICAO Radio Navigation Workshop (24-26 Feb 2024, Morocco)

- The Workshop aimed to raise awareness about the impact of GNSS RFI on aviation.
- The Workshop developed Draft GNSS RFI Reporting procedure for ICAO AFI Regions to be reviewed and improved, as deem necessary, by the relevant technical groups for endorsement by the PIRG.



नागर विमानन मंत्रालय
MINISTRY OF CIVIL AVIATION



ICAO APAC RADIO NAVIGATION SYMPOSIUM

GNSS RFI: Collectively Bridging Gaps and Shaping the Path Forward

7th – 9th April 2025 New Delhi, India



ICAO APAC Radio NAV Symposium examined existing and potential mitigation strategies with the objective to identify gaps and offer insights into actions required to address the evolving challenges posed by GNSS RFI in terms of technological, procedural, and human-centric aspects of mitigation.



ICAO

ICAO APAC Radio Navigation Symposium (April 2025)

Electronic Bulletin
(EB2025/20) was published
on 28 July 2025, includes link
to the Symposium's webpage,
for information and
awareness of Member States

Link :
Recommendations from
Radio Navigation
Symposium.pdf



International Civil Aviation Organization

ELECTRONIC BULLETIN

For information only

EB 2025/20

28 July 2025

**RECENT REGIONAL RADIO NAVIGATION WORKSHOPS AND
SYMPOSIA TO PURSUE INCREASED RESILIENCE TO
GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)
RADIO FREQUENCY INTERFERENCE (RFI)**

1. To address growing concerns about the impact and potential consequences of GNSS RFI and its detrimental effect on aviation safety, ICAO has been actively engaging its Regions through radio navigation workshops and symposia to develop timely and effective mitigation strategies.
2. The ICAO Asia Pacific (APAC) Radio Navigation Symposium was held from 7 to 9 April 2025, in New Delhi, India, under the theme “GNSS RFI: Collectively Bridging Gaps and Shaping the Path Forward”. This Symposium examined existing and potential mitigation strategies with the objective to identify gaps and offer insights into actions required to address the evolving challenges posed by GNSS RFI in terms of technological, procedural, and human-centric aspects of mitigation.
3. The Symposium further echoed the discussions of the ACAA/ICAO Radio Navigation Workshop, held in Rabat, Morocco, from 24 to 26 February 2025 as well as the recommendations made by the EUR/MID Radio Navigation Symposium held in Antalya, Türkiye, from 6 to 8 February 2024 (State letter 24/54 refers).
4. The Symposium reaffirmed the significance of the recent International Telecommunication Union (ITU), ICAO and International Maritime Organization (IMO) Joint Statement on the Protection of the Radio Navigation Satellite Service (RNSS) from Harmful Interference. For information and awareness of Member States, information on the ICAO APAC Radio Navigation Symposium can be accessed at: icao.int/APAC/Meetings/Pages/Radio-Navigation-Symposium.aspx.
5. The ITU, ICAO and IMO Joint Statement on the Protection of the RNSS from harmful interference can be accessed at: [ITU, ICAO and IMO Joint Statement](#)

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ICAO APAC Radio Navigation Symposium (April 2025)



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Thank You!