*International Civil Aviation Organization*

**MIDANPIRG/22 & RASG-MID/12 Meetings**

***(Doha, Qatar, 4 – 8 May 2025)***

**Agenda Item 5.3: ANS (AIM, PBN, AGA-AOP, ATM-SAR, CNS and MET)**

# USE OF ALPHANUMERIC CALLSIGNS TO REDUCE CALLSIGN CONFUSION

*(Presented by IATA)*

**SUMMARY**

This paper aims to promote the use of alphanumeric callsigns in the MID Region as a means of reducing the risk of callsign confusion and hence improving aerodrome safety and, in particular, runway safety. The meeting will be invited, inter alia, to consider proposing the use of alphanumeric callsigns as a Safety Enhancement Initiative in the next editions of Regional Aviation Safety Plans.
Action by the meeting is at paragraph 4

## 1. INTRODUCTION

1.1 The danger of an aircraft taking action on an instruction directed to another aircraft in- flight or on the ground can lead to safety incidents and events. Miscommunication can occur between ATC and flight crews if identification is at a risk of being confused. Callsign confusion is not a rare occurrence when aircraft with 'callsign similarity' operate in the same airspace volume, or at the same aerodrome, during the same time frame.

1.2 Similarities between callsigns, resulting in callsign confusion, can be within the same airline and /or between more than one airline. This type of confusion is a recognized safety risk and has been identified as a contributing factor to serious incidents such as mid-air collisions (MAC) and runway incursions (RI), both of which are Global High-Risk Categories of Occurrence (G-HRC) in ICAO Doc 10004: GASP 2023–2025.

1.3 It is not only an airspace matter – callsign confusion on runways and taxiways can have many undesirable outcomes including the following examples with potentially severe aerodrome safety and air navigation efficiency consequences:

a) Risk to the accuracy of communication between Airfield Ops and ATC particularly during low visibility;
b) Monitoring of VHF during peak times becomes more difficult increasing chance of errors being missed;
c) Confused communication between AOCC and Airfield Operations on live flights;
d) Communication accuracy between AOCC and ATC via phone;
e) Risk of runway and taxiway incursion and ground collision between aircraft and ground vehicle, or aircraft with aircraft; and
f) Risk of wrong entry into a closed WIP area, wrong parking stand, or taking a wrong and longer taxiing route resulting in loss of surface navigation efficiency e.g. longer taxiway occupancy times can lead to congestion, and a need for redirecting aircraft to the right stands.

## 2. DISCUSSION

2.1 The Callsign confusions have been on the agenda of numerous safety related meetings at ICAO and many International Organizations.

2.2 Many of these organizations recommend the use of alphanumeric callsigns as a means to reduce the likelihood of callsign confusions. For example, the Global Action Plan for the Prevention of Runway Incursions first published by Eurocontrol in 2006 and the Guidance Materials Related to Callsign Similarity published by RASG-MID in May 2015 recommends the use of alphanumeric callsigns as a means to reduce the likelihood of callsign confusion.

2.3 An alphanumeric callsign is a combination of English alphabetical letters, i.e. A to Z, and numbers, i.e. 0 to 9, to uniquely identify an aircraft, flight or even vehicle on the ground, to provide many more possible combinations than a conventional numerical callsign consisting of numbers only, thereby reducing the chance of similar callsigns. The following are some examples of conventional ICAO callsigns converted into alphanumeric callsigns to reduce the risk of callsign confusions:

| **Operator** | **ICAO Call Sign (conventional)** | **ICAO Alpha Numeric Call Sign** |
|---|---|---|
| Emirates | UAE408 | UAE58E |
| Qatar Airways | QTR672 | QTR71C |
| Qatar Airways | QTR663 | QTR43F |
| Ryanair | RYR9647 | RYR9QV |

2.4 The issue of callsign confusion ("CSC") and similarity, and the implementation of alphanumeric callsigns have been followed up several times at ICAO MID region since the publication of the Guidance Materials Related to Callsign Similarity in May 2015.

2.5 For example, in June 2015, MIDANPIRG/15 adopted the following conclusion:

CONCLUSION 15/2: CALL SIGN SIMILARITY PROVISIONS AND GUIDELINES:

That, States be urged to:

a) take necessary measures to ensure that their Aircraft Operators (AOs) implement a mechanism to de-conflict callsign similarity between the same AO flights and thereafter between their local AOs and other Middle East AOs flights;

b) report call sign similarity/confusion cases using the template at Appendix 4.1C; and

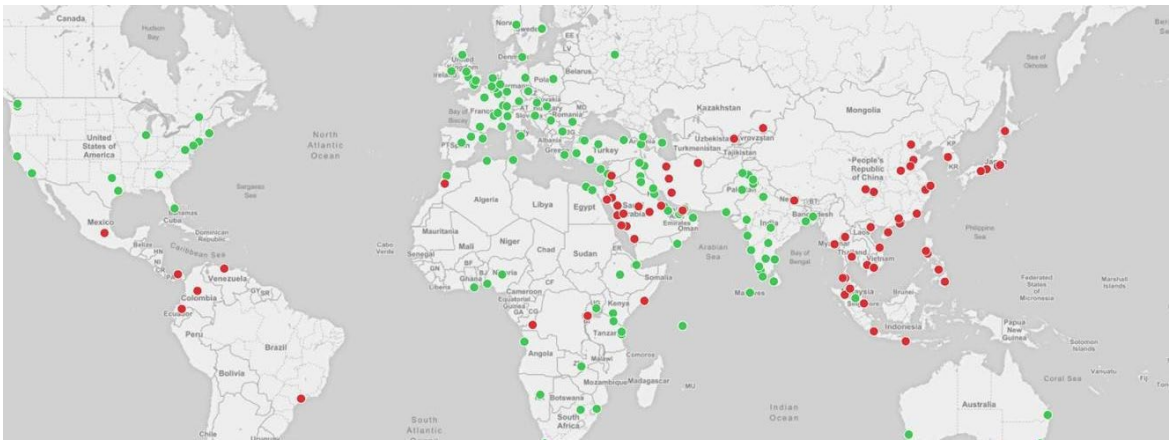
c) develop a simplified mechanism to trigger the reporting of call sign similarity/confusion by ATCOs.

2.6 This was followed by a 2017 ICAO MID ATM-SG/3 encouragement for States inter alia to "follow up with their operators to implement the procedures for the de-conflicting of callsign similarities in coordination with the CSC initiative team".

2.7 However, MIDANPIRG/20 held in 2023 “noted with concern the reduced level of implementation …” in reference to MIDANPIRG Conclusion 15/2.

2.8 It should be considered that the implementation of alphanumeric callsigns is not wholly in the hands of aircraft operators and is dependent on airport and air navigation service provider systems acceptance and the updating of procedures to accept/recognise alphanumeric callsigns. It is important for all stakeholders to work together to ensure safety of aircraft be it in flight or on the ground.

2.9 In the below map the green dots are airports that were capable of handling alphanumeric callsigns and red dots not yet capable as of 2024, according to the data of a single airline with global operations.




2.10 It is important to highlight, however, that the use of alphanumeric callsigns is not a standalone solution. Without a systematic approach to deconfliction, both within individual aircraft operators and across different operators, the continued implementation of alphanumeric callsigns may fall short of effectively addressing callsign confusion. In the absence of appropriate tools or platforms to support this process, such as the Call Sign Similarity Tool (CSST) used in Europe, the implementation could introduce additional complexity and operational challenges, potentially offsetting the safety and efficiency benefits.

## 3. CONCLUSION AND RECOMMENDATION

3.1 It may be surmised that the slow take up of alphanumeric callsigns that MIDANPIRG/20 noted at certain States are due to:

a) Lack of awareness of the issue of callsign confusion;

b) Lack of understanding of alphanumeric callsigns as a possible solution to such confusion; andResistance to change the existing methods of working.

3.2 To overcome the issues listed in paragraph 3.1, it is recommended that:

a) The issue of callsign confusion be put on the agenda of ASPIG/8;

b) Invite Eurocontrol to share the use of Call Sign Similarity Tool (CSST) in reducing callsign conflict

c) States to include callsign de-confliction initiatives into National Safety Plan or State Safety Program.

d) MIDANPIRG to include Alphanumerics and Callsign Deconfliction Capacity Building with States, ANSPs, aerodrome operators, airlines and other stakeholders, to discuss the issue of callsign confusion, deconfliction, and alphanumeric callsigns implementation throughout the life cycle of the flight as part of its future work program.

e) Include the implementation of alphanumeric callsigns as a mitigation to addressing the risk associated to callsign confusion as part of the MID safety enhancement initiative in the 2026 to 2028 edition of the Regional Aviation Safety Plan (RASP).

## 4. ACTION BY THE MEETING

4.1 The meeting is invited to:

a) note the information in this paper; and

b) review the recommendations made in paragraph 3.2 above.

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