

Supporting
European
Aviation



Required Interrogator Code Allocation Coordination

MICA Workshop for ICAO MID States
Agenda Item #2

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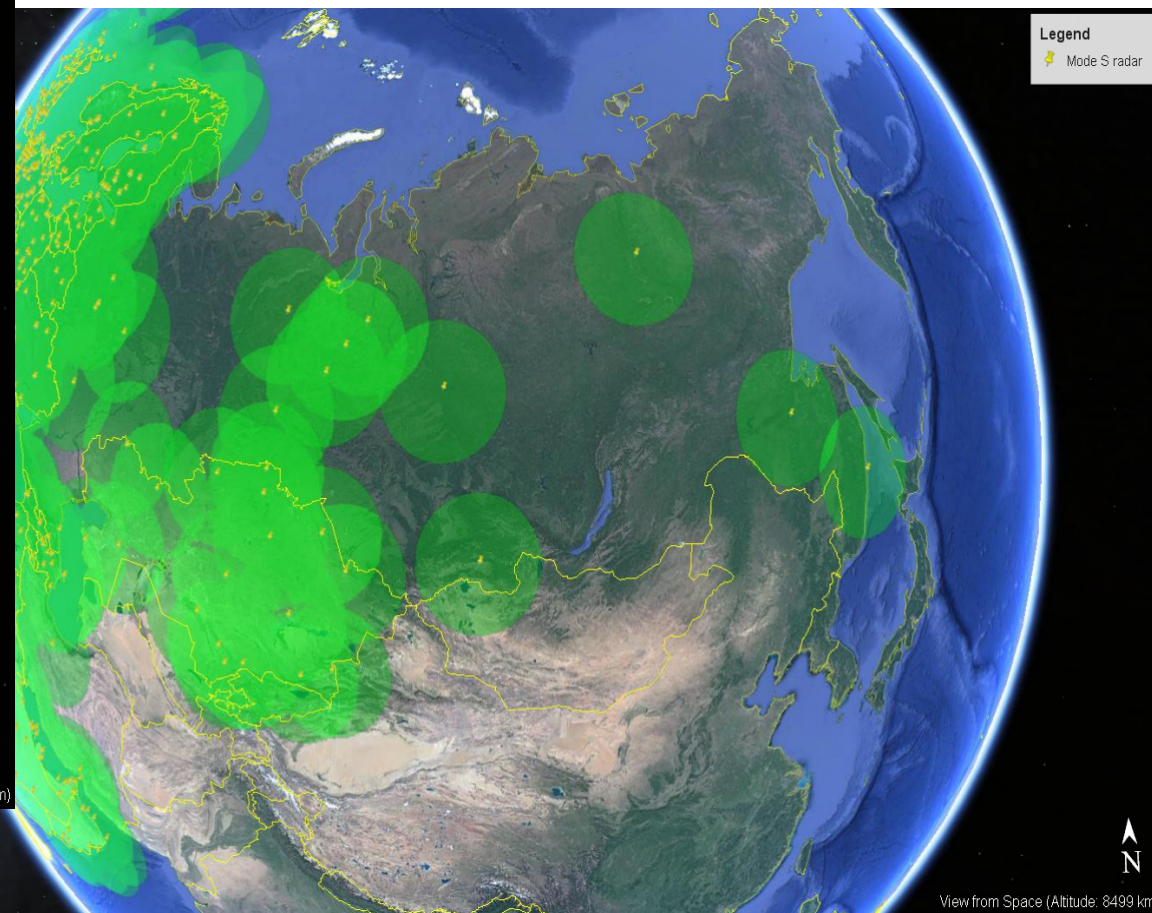
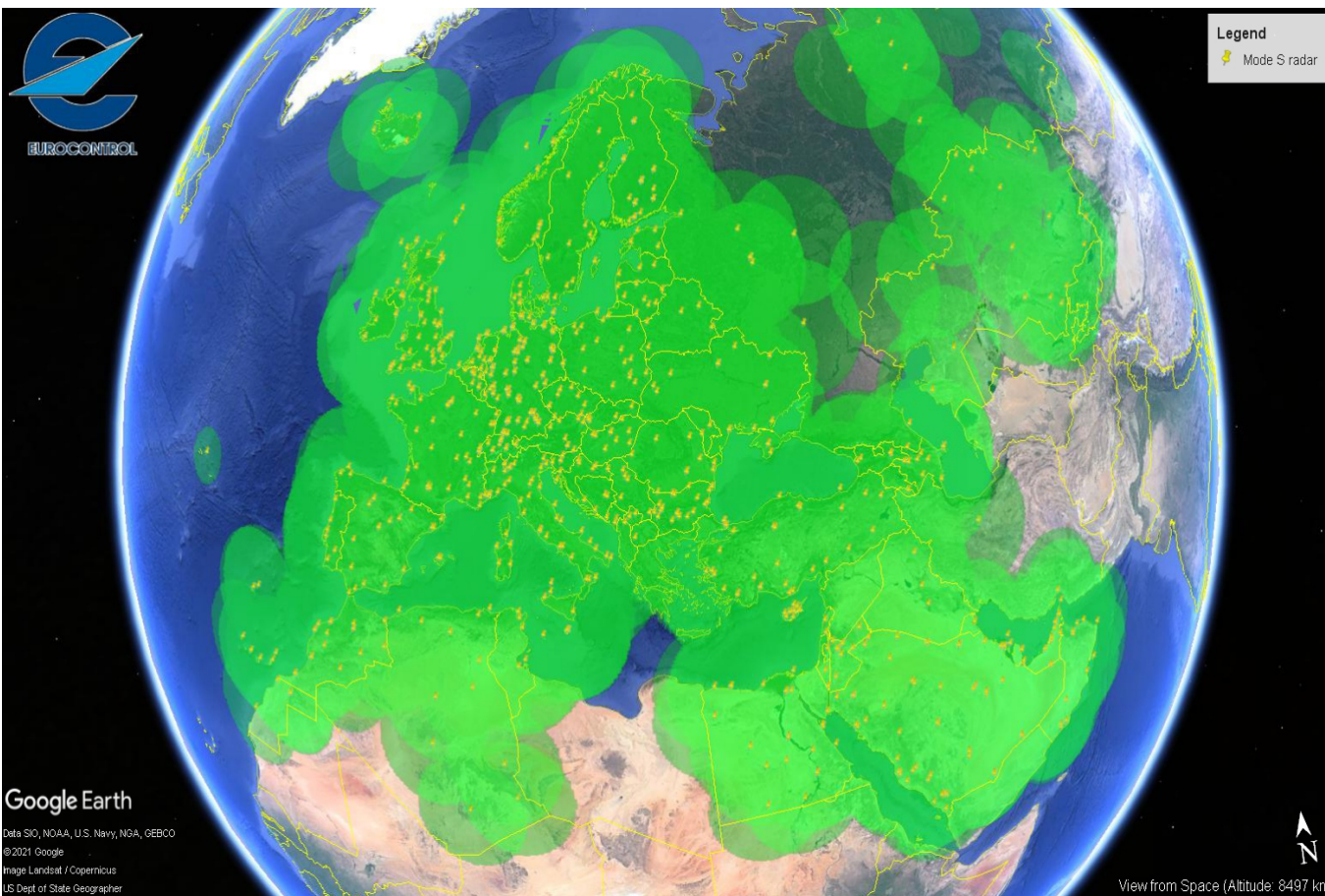
Required IC Allocation Coordination

- For the safety of the air traffic surveillance system, the coverage of two Mode S radars operating on the same IC shall not overlap (except for radars operating in cluster).
 - Mode S radars with overlapping coverage shall operate on different ICs
 - A radar operating on a wrong IC can create an IC conflict and prevent one or several other Mode S radars to reliably detect incoming traffic
- ➔ **The allocation of Interrogator Code to Mode S radar needs to be coordinated**
 - The IC allocation coordination shall take place prior to any Mode S transmission.
- An Interrogator Code (IC) allocation grants a Mode S radar to operate
 - on a given **IC**
 - **within a given coverage** (surveillance and lockout coverage)
- ➔ Due to the limited number of Interrogator Codes (IC) and to avoid any IC conflict, it is necessary to have a **centralised Mode S IC allocation**

IC Allocation Coordination in ICAO MID and EUR

- In the **ICAO European region**, the allocation of Interrogator Code (IC) to Mode S radar, civil and military with a fixed position, is coordinated by the EUROCONTROL MICA (Mode S Interrogator Code Allocation) Cell on behalf of the **ICAO European Regional Office**
- In the **ICAO Middle-East region**, the EUROCONTROL MICA Cell supports the ICAO Middle-East Regional Office for Mode S Interrogator Code allocation
- **EUROCONTROL MICA Cell:**
 - operates the centralised Mode S IC allocation system
 - provides the centralised Mode S IC allocation service through the MICA website:
 - For all fixed Mode S radars in ICAO EUR and ICAO MID region
 - Issued IC allocations contain the Interrogator Code (IC), the surveillance and the lockout coverage that have to be programmed in the Mode S radars.

IC allocations in ICAO EUR and ICAO MID regions (734 Mode S radars in September 2021)



Coordination with adjacent ICAO regions

- Mode S radars are deployed in adjacent ICAO regions:
 - **Asia and Pacific (APAC)**
 - **Eastern and Southern Africa (ESAF)**
 - **Western and Central Africa (WACAF)**
- Two Mode S radars from two adjacent ICAO regions may have overlapping coverage
- ➔ **Inter-regional coordination is necessary to avoid IC conflict between Mode S radars**
 - ➔ Section 4.2.4 of Doc 9924 (Third Edition, 2020).

EUROCONTROL MICA Cell performs inter-regional coordination between ICAO EUR and ICAO MID regions

Coordination with adjacent ICAO regions (2)

- Coordination with adjacent ICAO Regional Office:
 - Only required for new Mode S radar having a coverage overlapping the adjacent ICAO region
 - Should take place before the Mode S radar starts Mode S transmission
- 2-steps coordination
 1. To identify free ICs in adjacent ICAO region that can be allocated to the new Mode S radar
 2. To confirm to adjacent ICAO region the IC and the coverage allocated to the new Mode S radar
 - This IC allocation will be recorded in the adjacent ICAO Regional Office in order to prevent any IC conflict in the future