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Informal Briefing to ICAO Council on SAR and ELTs

Presenter: Richard Macfarlane, DD/ANB



Briefing will cover the following:

- Annex 12
- Regional SAR Work
- Cospas Sarsat
- ELTs
- GADSS





Annex 12

- Seen as a very mature Annex.
- USOAP/CMA results show continued problems with implementation of this Annex
- World results for SAR Effective Implementation **61.9%**
 - **English Language for RCC radio operators- 30.77%**
 - **RCC staffed H24- 46.15%**
 - **SAR staff regularly trained- 46.15%**
 - **State has sufficient skilled workforce- 53.85%**
- However...



Annex 12

- Amendments being developed by ICAO/IMO Joint Working Group on Harmonization of SAR (JWG).





Annex 12 – Under consideration

- Recommendations from AF447 Investigation
 - Carriage of Self Locating Datum Buoy
- Recommendations from HLSC 15
 - Transition from Annex 12 to Annex 13
- Considerations from GADSS CONOP
 - GADSS Advisory Group to recommend





Annex 12 – Areas for consideration

- Consequential Standards from Distress Tracking Annex 6 SARPs
- Ongoing harmonization with Maritime SAR Convention





Regional SAR Work

- Focus on addressing deficiencies identified from USOAP audit results and CMA (61.9% effective implementation)
 - Resources limited both at Regional and State levels
 - Progress hampered
 - HQ supporting Regions via Seconded SAR Expert from Australia
 - Secondment ends Jan 2017
 - Regions creating SAR Task Forces to aid implementation
 - Progress varies from Region to Region





Regional SAR Work – APAC 61.91% EI

- Most advanced of the Regions in regard to Task Force activity
- Regional SAR Plan has been developed and approved
 - Being used as a Model for the other Regions
- Implementation via newly appointed SAR Work Group
 - First meeting in August 2016
- A long way to go



Regional SAR Work – EUR/NAT 82.5% EI

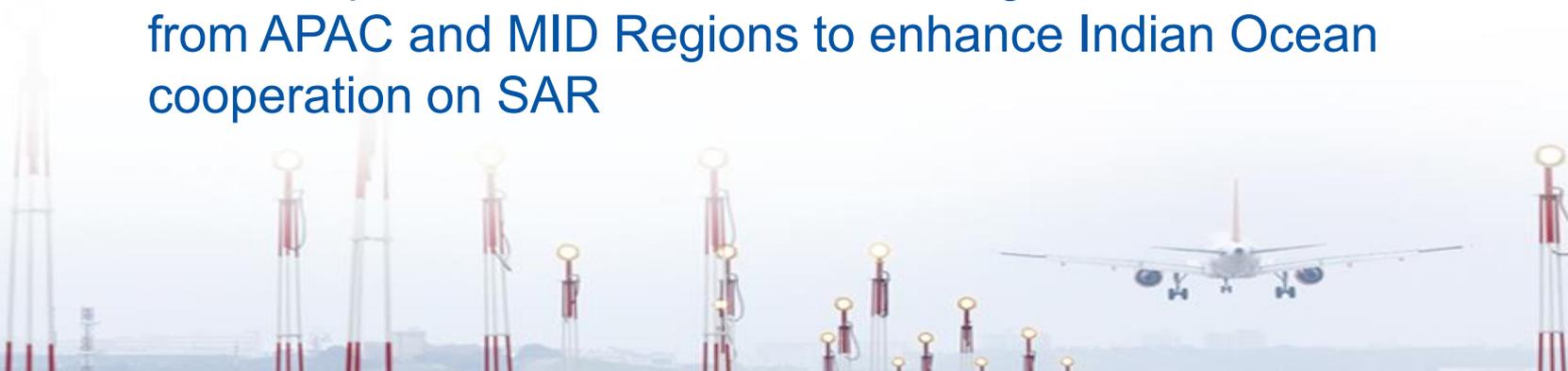
- SAR Task Force formed and focused on:
 - Development of Regional SAR plan
 - Development of SAR Training Package in cooperation with HQ and Eurocontrol
 - Identifying and rectifying Implementation issues
- Next meeting in Cyprus, October 2016





Regional SAR Work – ESAF 40.8% EI

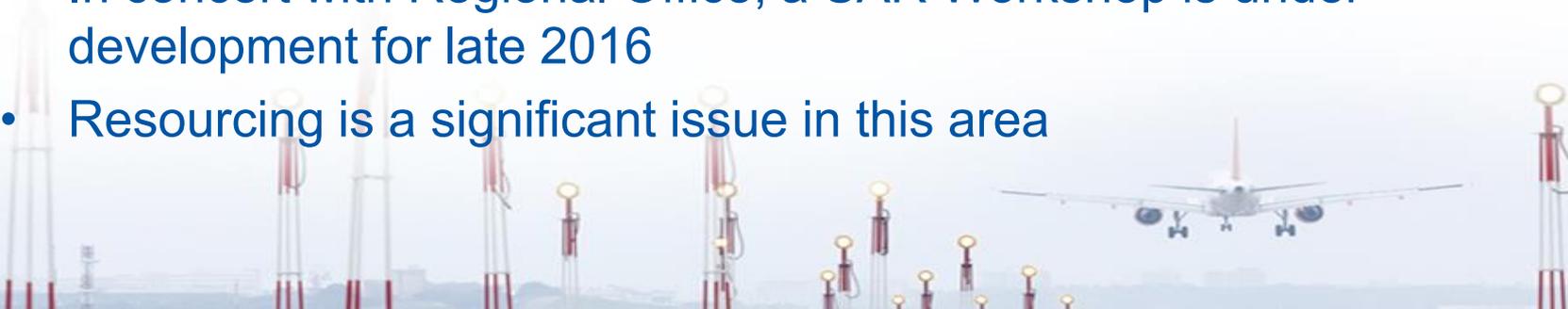
- Less formal SAR Working Group arrangements
- Currently developing Regional SAREX and Workshop in Seychelles, July 2016
- Workshop and SAREX will include Regional Officers from APAC and MID Regions to enhance Indian Ocean cooperation on SAR





Regional SAR Work – WACAF 35.92 EI

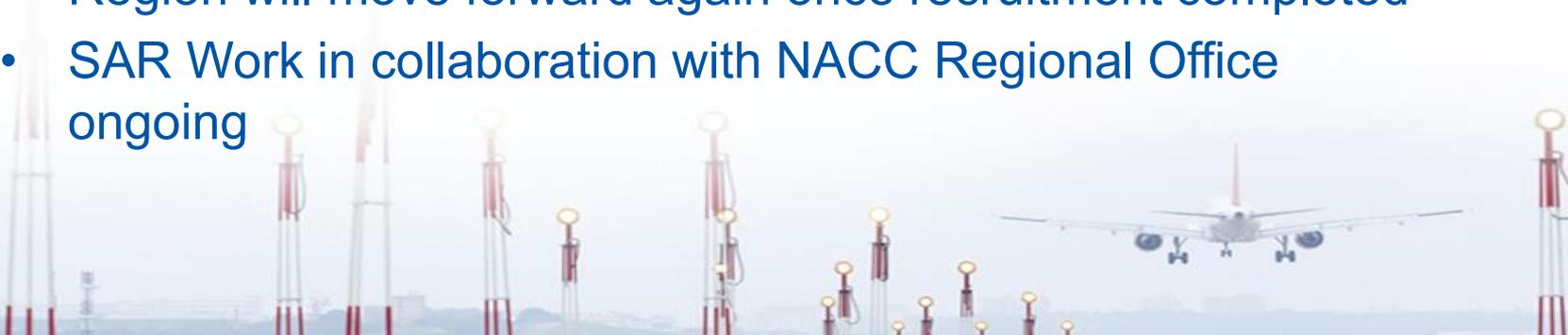
- Less formal SAR Working Group
- Area of greatest need
- Secretariat & Cospas Sarsat have held discussions with ASECNA on ways forward for Regional SAR
- In concert with Regional Office, a SAR Workshop is under development for late 2016
- Resourcing is a significant issue in this area





Regional SAR Work – SAM 69.63% EI

- Slight delay in progressing SAR due to retirement of Regional Officer
- Interim contracted person available for urgent issues
- Region will move forward again once recruitment completed
- SAR Work in collaboration with NACC Regional Office ongoing





Regional SAR Work – NACC 53.25% EI

- The Central American SAR Committee active and met in Belize (14-18 March 2015)
- NACC Regional Office organized a CAR/SAM Regional SAR and Civil-Military Coordination Seminar Cuba (13-17 April 2016)
- A Regional SAR Meeting in Trinidad and Tobago (15-18 October 2015), reviewed SAR agreements so as to improve regional coordination on emergency response in prevention to natural disasters.
- All NACC States have SAR plans and regulations on ELT 406; training is still a challenge
- States also organize periodic national meetings to improve their SAR assistance plans.



Regional SAR Work – MID 65.18% EI

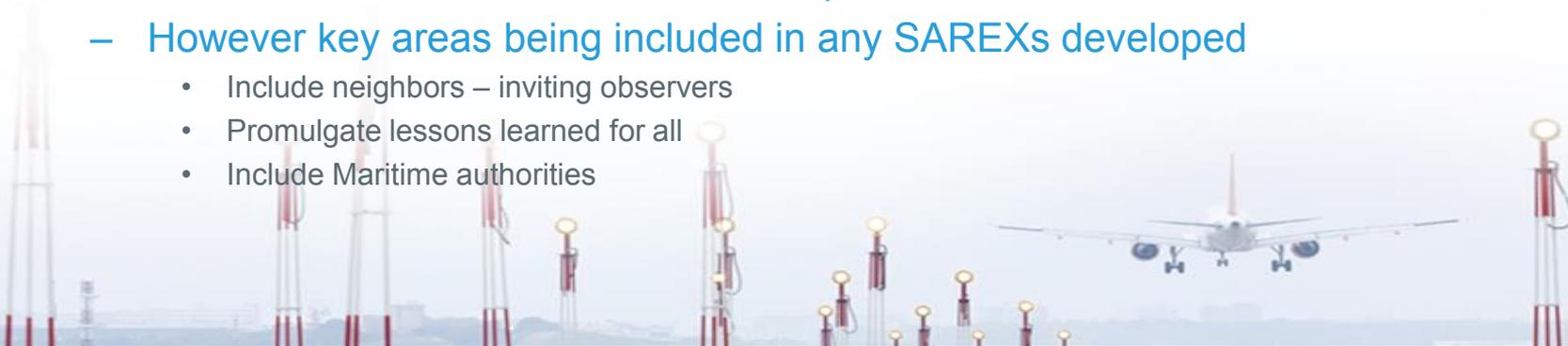
- SAR Action Group comprised of Regional Office and 4 States has been formed.
- Action Group working on:-
 - SAR gap analysis,
 - Development of SAR Plan for Region, and
 - Action plan for regional and sub-regional SAR Training
- Bilateral SAR Arrangements Template developed and endorsed by MIDANPIRG
- MID Regional Office participating in SAR Workshop in Seychelles, July 2016. Will address harmonization in SAR between the three Indian Ocean Regions.
- Global developments in SAR, including GADSS being addressed by MID States at all meetings





HLSC 15 – Regional SAREX

- Not enthusiastically received at some Regional Task Forces
- Value recognized but...
 - Resources are limited, particularly at Operational Levels (RCCs)
 - Allocation prioritized to Implementation and overcoming deficiencies
- Consideration is being given to Oceanic States cooperation as priority
- States unable/reluctant to commit to special exercises due resources
- However key areas being included in any SAREXs developed
 - Include neighbors – inviting observers
 - Promulgate lessons learned for all
 - Include Maritime authorities





Cospas Sarsat & ELTs

- ICAO Secretariat has been working closely with Cospas Sarsat Secretariat via seconded SAR Expert in areas such as-
- Development of strategies to overcome non responsive SAR Point of Contact (SPOC) communications
 - A model agreement has been jointly developed for widespread use
- Cospas Sarsat regularly attend Regional SAR Task Force meetings
- Close cooperation on GADSS and Distress Tracking





Cospas Sarsat & ELTs

- Cospas Sarsat and ICAO consulting on development of guidance on MEOSAR for RCCs (2017-18 distribution)
- GADSS CONOP and Distress Tracking input considered in development of new MEOSAR system and particularly development of Second Generation ELT
 - Coordination also occurring with RTCA and EUROCAE on Standards development for future ELTs
- Considerable effort being expended on development of an ELT to support Distress Tracking requirements





Cospas Sarsat & ELTs

- Cospas Sarsat, RTCA, EUROCAE, NASA, CNES had already been working on shortcomings of ELTs based on lessons from AF447 and other accidents
- Clearer focus on development requirements now available via Distress Tracking Annex 6 SARPs
- Space segment, ground segment and ELT all need to be in operation and approved by 2021 deadline
- Work plan also impacted by RTCA/EUROCAE Standard development
- Sufficient time also required for National Authorities to approve new TSOs and for airframe manufacturers to obtain Type Certificate approval for installation and integration of new ELT





Cospas Sarsat & ELTs

- Cospas Sarsat parties (USA, Russia, France & Canada) and many Participant States recognize the importance of developing an ELT to meet the needs of ICAO Distress Tracking Standards and are applying considerable resources to meet the 2021 deadline
- Once developed will need to amend Annex 10
- Considerable guidance and information still to be developed for States, Operators and RCCs





GADSS

- SAR input via seconded Technical Expert ongoing
- GADSS Advisory Group (AG) has been formed
 - Chairman, Mr. Henk Hof from Eurocontrol
 - Members made up of most previous AHWG members and other State experts (12 members plus advisors)
 - Holding Teleconferences fortnightly
 - First face to face meeting, June, Montreal



GADSS-AG

- Initially focusing on updating GADSS CONOP with SL feedback,
- Providing advice to ICAO on Work Program items required,
- Monitor progress of provision development to ensure consistency and alignment with GADSS CONOP, and
- Establish close working relationship with groups on similar issues (e.g. NATII2) that may impact GADSS CONOP

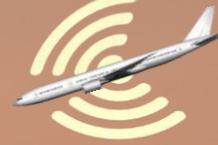
Search & Rescue Satellites
-ELT



Other Satellites
-other technology



DISTRESS TRACKING
TRIGGER
→ Automatic
→ Manual
AUTONOMOUS



Local User Terminal



Rescue Coordination Center



Rescue Coordination Center



Ground Station



Mission Control Center



ATC



Control Center



Distress Tracking Concept
GADSS CONCEPT



SWIM?



Summing Up

- Much work has been accomplished on SAR over the preceding 15 months
- However, much work remains to be completed over the coming years (out to 2021)
- Resources at all levels, HQ, Region and States are barely coping with the basic work needs
- SAR Seconded Expert finishes Jan 2017



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THANK YOU