



Under the High Patronage of
the Custodian of the Two Holy Mosques
King Salman Bin Abdulaziz Al Saud



GMA RIYADH

Global Ministerial Aviation Summit المؤتمر الوزاري العالمي للطيران المدني

برعاية كريمة من خادم الحرمين الشريفين
الملك سلمان بن عبد العزيز آل سعود

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GMA RIYADH



Global Ministerial Aviation Summit
المؤتمر الوزاري العالمي للطيران المدني

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Under the Theme "SAFETY & SECURITY"

تحت شعار "الأمن والسلامة"

Middle East Regional Monitoring Agency (MIDRMA)



Mohamed Smaoui

ICAO, Deputy Regional Director, Cairo

بالتعاون مع
IN COLLABORATION WITH



إشراف
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Reduced Vertical Separation Minima (RVSM)

- **Benefits**
 - ✓ Significant increase in Capacity
 - ✓ Improved flight profiles
 - ✓ Improve environment
- **ICAO Provisions**
 - ✓ The provisions related to RVSM were introduced to ICAO Annex 2 through Amendment 31 and Annex 11 through Amendment 35 in 1994.
 - ✓ First Edition of the RVSM Manual (Doc 9574) was issued in 1992

The introduction of RVSM should be based on a regional air navigation agreement

RVSM Implementation in the MID Region

- **Initiated by MIDANPIRG/5 through Decision 5/3 in 1998**
- **MIDANPIRG RVSM Task Force established to develop an implementation strategy/plan in accordance with the RVSM Manual (Doc 9574):**
 1. *identify the need for RVSM;*
 2. *preliminary assessment of system safety;*
 3. *planning and preparation;*
 4. *verification phase; and*
 5. *operational use of RVSM.*
- **RVSM has been successfully implemented in the MID Region since 27 Nov. 2003**

Regional Programme for height-keeping monitoring

*Annex 11 para. 3.3.5.1, “for all airspace where a reduced vertical separation minimum of 300 m (1 000 ft) is applied between FL 290 and FL 410 inclusive, **a programme shall be instituted, on a regional basis,** for monitoring the height-keeping performance of aircraft operating at these levels, in order to ensure that the implementation and continued application of this vertical separation minimum meets the safety objectives. The coverage of the height-monitoring facilities provided under this programme shall be adequate to permit monitoring of the relevant aircraft types of all operators that operate in RVSM airspace”.*

Middle East Regional Monitoring Agency (MIDRMA)

- **The MIDRMA was established in Bahrain (Host) on 24 November 2005 to carry out the following main duties and responsibilities:**
 - ✓ support the implementation and continued safe use of RVSM (i.e. satisfaction of the ICAO Target Levels of Safety (TLS))
 - ✓ establish and maintain a central registry of States' RVSM approvals
 - ✓ initiate checks of the "approval status" of aircraft operating in the relevant RVSM airspace, identify non-approved operators and aircraft using RVSM airspace and notify the appropriate State of Registry/State of the Operator and other RMAs, accordingly
 - ✓ establish and maintain a database containing the results of height keeping performance monitoring and all altitude deviations

Middle East Regional Monitoring Agency (MIDRMA)

- ✓ assume overall responsibility for assessing compliance of operators and aircraft with RVSM height keeping performance requirements
- ✓ conduct safety analysis for RVSM operations and prepare RVSM Safety Monitoring Reports (SMR) as instructed by MIDANPIRG
- ✓ Based on information provided by States related to planned changes to the ATS routes structure, advise States and MIDANPIRG on the effects of such changes on the safe RVSM operations in the MID Region
- ✓ liaise with other Regional Monitoring Agencies and organizations to harmonise implementation strategies

MIDRMA Project

- All MID States are members of the MIDRMA (signed the MOA)
- The Custodian Agreement signed by the ICAO Secretary General, the Under Secretary for Civil Aviation Affairs of Bahrain (Host State) and the MIDRMA Board Chairman on behalf of the MIDRMA member States, represents the legal document which describes the support functions provided by ICAO (TCB) in the MIDRMA project
- MIDRMA Board composed of members from all participating States was established for overall supervision, direction, and management of the MIDRMA project
- For the sustainability of the project, States pay annual contributions in accordance with the funding mechanism agreed by the MIDRMA Board and MIDANPIRG

MIDRMA Funding mechanism

(MIDRMA Board Conc. 14/3)

...

d) the annual amounts to be paid by the MIDRMA Member States are, as follows:

- i. Bahrain, Egypt, Iran, Oman, Saudi Arabia and UAE annual contribution is US\$ 30,000 each; and*
- ii. Iraq, Jordan, Kuwait, Lebanon, Libya, Qatar, Sudan, Syria and Yemen annual contribution is US\$ 10,000 each;*

...

MIDRMA main achievements

- 7 Safety Monitoring Reports (TLS met)**

Risk Values							
	SMR 2006	SMR 2008	SMR 2010	SMR 2011	SMR 2012/13	SMR 2014	SMR 2015
Technical Risk ($<2.5 \times 10^{-9}$)	2.17×10^{-14}	1.93×10^{-13}	3.96×10^{-15}	5.08×10^{-14}	6.37×10^{-12}	3.18×10^{-12}	Ongoing
Overall Risk ($<5 \times 10^{-9}$)	Not Calculated	4.19×10^{-13}	6.92×10^{-12}	1.04×10^{-11}	3.63×10^{-11}	4.91×10^{-11}	Ongoing

- Online RVSM Minimum Monitoring Requirements (MMR) tool
- Online Large Height Deviation (LHD) Reporting tool
- Collision Risk Assessment software
- Airspace Collision Risk Hot-spot Analysis software
- 114 GMU missions/303 Aircraft monitored/448,032 US\$ generated (*as of 11 August 2016*)

Conclusion (MIDRMA Success)

- Project implemented based on identified needs (capacity issue/increasing traffic) and mandatory ICAO provisions
- Economic and environmental benefits derived from RVSM implementation
- Involvement and collaboration of all stakeholders (States, IATA, airlines, EUROCONTROL, etc)
- Clear functions and responsibilities
- Clear Legal & Institutional arrangements:
 - ✓ established as a legal entity in Bahrain
 - ✓ MOA signed by member States
 - ✓ Custodian Agreement signed with ICAO/TCB

Conclusion (MIDRMA Success)

- **Clear funding arrangements**
 - agreed funding mechanism & revenue generation from GMU activities
- **Support provided by Bahrain as a Host State**
 - set up, premises, personnel, etc
- **Cooperation with other RMAs/Regions**
 - in particular with EUROCONTROL (training of the MIDRMA Experts and use of software)
- **Good management and monitoring by the MIDRMA Board and MIDANPIRG**
- **Step-by-step approach in the development of the MIDRMA**
- **Dedicated and professional personnel**
- **Continuous improvement**
 - development of online tools, databases and software customized to the MID Region needs)

- For more info:

www.midrma.com

Thank you