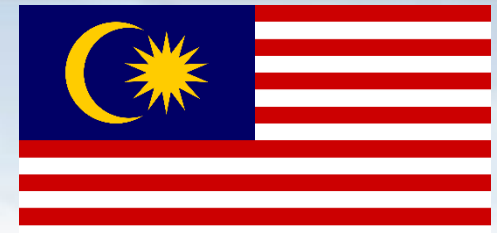


Civil Military Cooperation

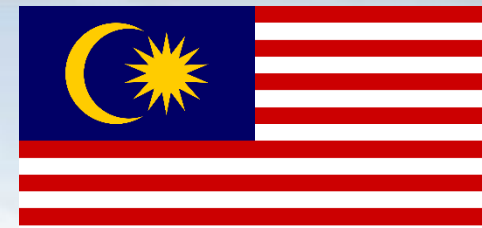


Airspace Risk Assessment

Lt Col Mohamad Daud Sulaiman
Policy / Legal Adviser
Royal Malaysian Air Force

ICAO APAC Office, Bangkok
20 Nov 2015

MH 17 incident



Friday 18 July 2014

Star **WIN WITH WORDS** A E I O WIN CASH PRIZES IN EVERY SERIES

www.thestar.com.my

The people's paper **Star**

Captive in jungle hell
Kons Zakiah Aleq is being held in a jungle hell by Abu Sayyaf terrorists. -2

MH17 down

295 feared dead in crash
In a second catastrophe in recent months, Malaysia Airlines Flight MH17 has crashed in the war-torn Russian-Ukraine border, with 295 people on board. It is believed to have been shot down by a missile and all 280 passengers and 15 crew members on board are dead. The crash comes four months and 10 days after Flight MH370 went missing. -See reports on Pages 3 and 4B

Maximum RM300 fine
No mercy for motorists who use emergency lanes to beat traffic jams and they will be slapped with a maximum fine of RM300. -6

On top of his game
M'sian snubbed in US is believed to have made millions from high-stake poker games. -14

A common goal
Former rugby star Jagjit Singh is delighted that his daughter, son-in-law (Shah), shares his passion. -2

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NewsSum

FREE INSIDE: HISTORY COMES ALIVE IN OUR 1914 EDITION OF THE MAIL

Daily Mail

FRIDAY, JULY 18, 2014 www.dailymail.co.uk 60p

295 dead - up to ten British - as airliner is downed ++ Ukraine rebels blamed ++ US says if Putin's involved ...

THERE'LL BE HELL TO PAY

ACCLAIM offers in hand, four pro-Russian separatists survey the smouldering wreckage of a passenger jet destroyed by a missile in war-torn Ukraine. At 190 passengers and crew - up to ten of them believed to be British and including around 100 children - debris emerged, the tragedy spared a half-million in the national crisis last night. Increasing tensions between Moscow and Washington. While Ukraine and Russia blamed each other, US senator John McCain vowed there would be 'hell to pay' if it was confirmed that the surface-to-air missile had been fired by the rebels or their Russian backers. We are claimed to have intercepted a phone call between the parents and Russian intelligence boasting of owning the jet, while one rebel commander boasted: 'We welcome you - do not fly in our sky' - airlines were advised to cease flights. **Turn to Page 2**

By Michael Smeaton, Ray Massey and Louise Eccles

It was a 777 flying from Amsterdam to Kuala Lumpur scheduled to fly at 33,000ft near the Russian border yesterday afternoon.

As shocking pictures of bodies and

NEW YORK POST Just a Buck!

FRIDAY, JULY 18, 2014 / Sunny, 85° / Weather: P 30 + + LATE CITY FINAL nypost.com \$1.00

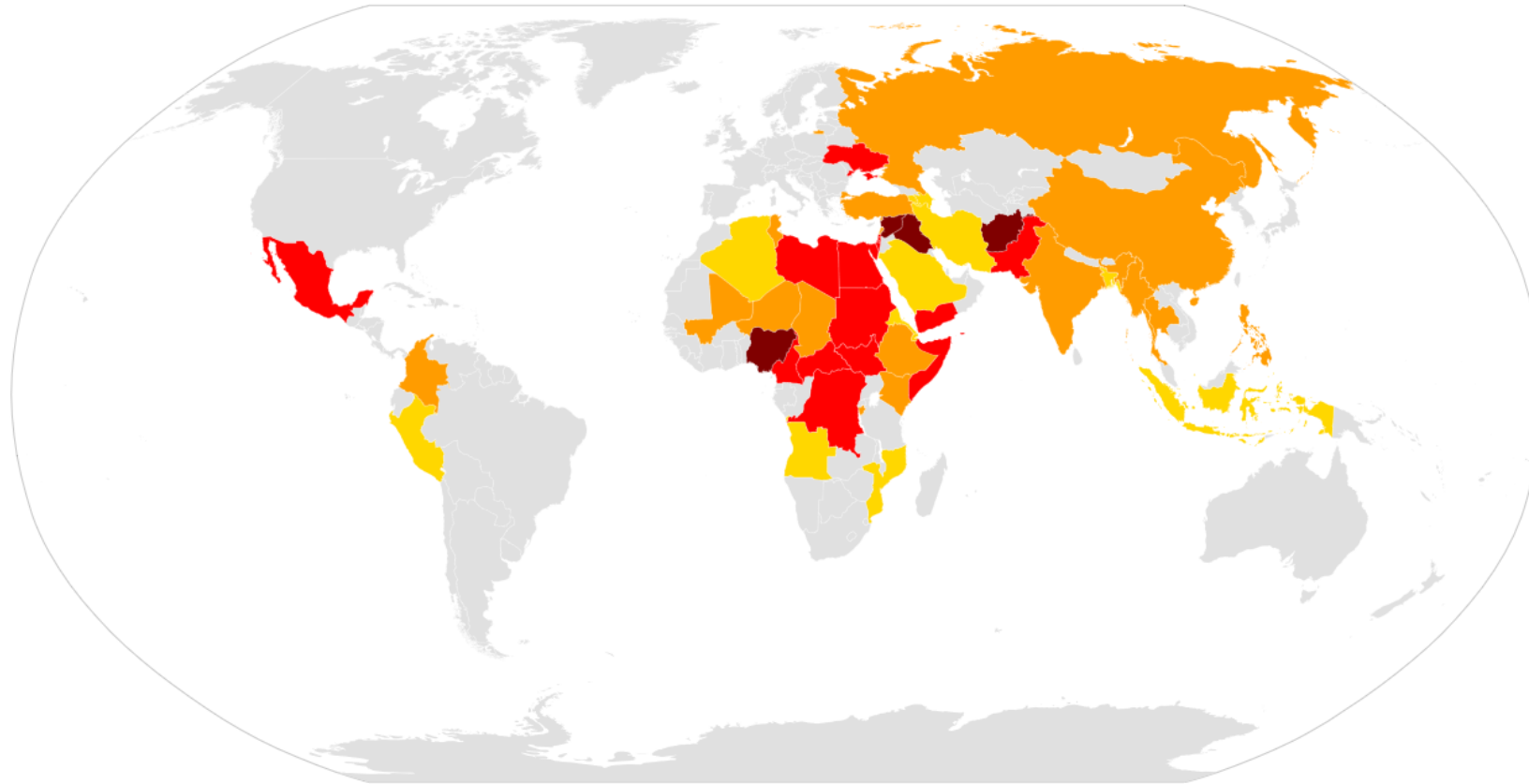
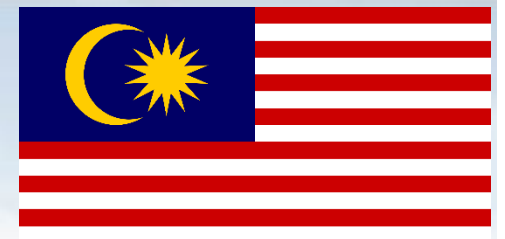
MURDER AT 33,000 FEET

298 killed as missile shoots down airliner

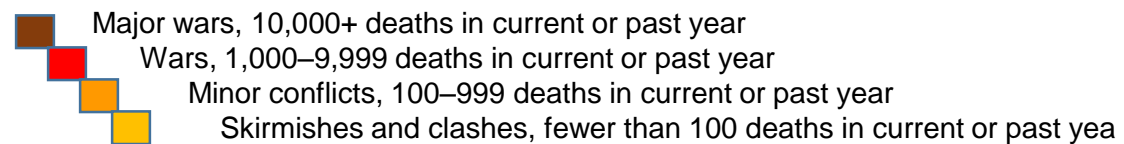
A Russian-made missile blasted a Malaysia Airlines jet out of the sky 33,000 feet over war-torn Ukraine yesterday, killing all 298 aboard, including 23 Americans. The Boeing 777 is seen below taking off on its ill-fated flight from Amsterdam.

PAGES 2-9

World Conflict



Locations of ongoing conflicts worldwide, October 2015





ICAO

UNITING AVIATION

News Release

www.icao.int

ICAO COUNCIL ADOPTS UNANIMOUS RESOLUTION CONDEMNING MH17 DOWNING

MONTREAL, 28 October 2014 – The 36 State Council of the International Civil Aviation Organization (ICAO), joined extraordinarily during its 203rd Session yesterday by the Honorable Dato' Sri Liow Tiong Lai, Minister of Transport for Malaysia, in addition to a high-level Delegation from Ukraine, unanimously adopted a Resolution condemning, in the strongest terms, the downing of Malaysia Airlines Flight MH17 over eastern Ukraine earlier this year.

The Resolution was adopted after an address to Council by Minister Liow Tiong Lai, who stood before ICAO in solidarity with the families of the passengers and crew who were lost. Minister Lai outlined a series of statements and recommendations on both MH370 and MH17, all of which were aimed at enhancing related measures supporting greater safety and security in international civil aviation.

In a closely-related development, the Council also reviewed the Report of the Task Force established under ICAO to explore Risks to Civil Aviation Arising From Conflict Zones. The Report proposed that the existing framework for managing international civil aviation remains fit for purpose, that States should continue to be responsible to ensure the safety of operations in their sovereign and delegated airspace, and that airspace users have the ultimate responsibility to decide where they fly.

**CONVENTION
ON INTERNATIONAL CIVIL AVIATION**

Signed at Chicago, on 7 December 1944

CONVENTION

RELATIVE À L'AVIATION CIVILE INTERNATIONALE

Signée à Chicago, le 7 décembre 1944

CONVENIO

DE AVIACIÓN CIVIL INTERNACIONAL

Firmado en Chicago, el 7 de diciembre de 1944

ICAO



OACI

Article 89

War and emergency conditions

In case of war, the provisions of this Convention shall not affect the freedom of action of any of the contracting States affected, whether as belligerents or as neutrals. The same principle shall apply in the case of any contracting State which declares a state of national emergency and notifies the fact to the Council.

Article 3

Civil and state aircraft

a) This Convention shall be applicable only to civil aircraft, and shall not be applicable to state aircraft.

b) Aircraft used in military, customs and police services shall be deemed to be state aircraft.

c) No state aircraft of a contracting State shall fly over the territory of another State or land thereon without authorization by special agreement or otherwise, and in accordance with the terms thereof.

d) The contracting States undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft.

CONVENTION
ON INTERNATIONAL CIVIL AVIATION

Signed at Chicago, on 7 December 1944

CONVENTION

RELATIVE À L'AVIATION CIVILE INTERNATIONALE

Signée à Chicago, le 7 décembre 1944

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DE AVIACIÓN CIVIL INTERNACIONAL

Firmado en Chicago, el 7 de diciembre de 1944

ICAO



OACI



Agenda Item 4: Asia/Pacific and inter-regional SAR planning, coordination and cooperation

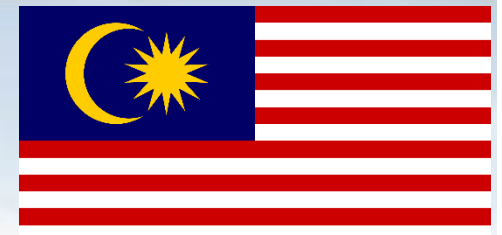
MH370 SEARCH AND RESCUE OPERATIONS AND LESSON LEARNT

(Presented by Malaysia)

as all SAR personnel are air traffic controller rostered for operational duties at KL ATCC. At the same time, many SAR trained officers were also assigned tasks at various locations either at the main operations room located in hotels in the city, and briefing the Next of Kin.

- e) The verification of the military radar data took longer than expected and this resulted in the KL ARCC initially conducting the search in the Eastern and Western areas of Peninsular Malaysia.
- f) The outdated directory of SPOC within the Asia Pacific region as stated in ICAO documents delayed the transfer of information between the respective RCC's.
- g) Incomplete detailed information made available to the KL ARCC on how certain search area was derived hampered fast action by other States, as they are acquiring this information to do their SAR operation.
- h) The participation of numerous military organizations during the search in KL SRR and within neighboring States SRR required continuous detailed briefings to be given. This turned out to be a daunting task. The availability of a Liaison Officer from BASARNAS and AMSA at the KL ARCC ensured smoother coordination of the SAR operation.

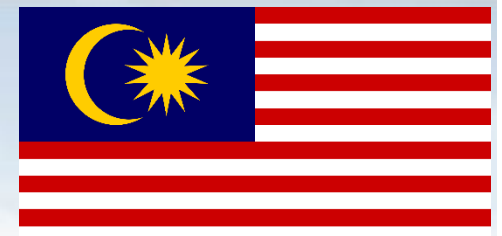
Civil Military Cooperation



Lessons Learned

- You have to start somewhere!! SO start talking.
- Keep at it...and eventually something good will be achieved. It took us 18 months.
- Do a through analysis of each others requirements
- Find out how to accommodate as much of each others needs without compromises.
- It's a matter of give and take.
- Acknowledged the Military's need
- Then comes the fine art of negotiations.
- In our case, we managed to make significant changes to the reserved airspace without seriously impacting the Military Exercise

Civil Military Cooperation



Assembly Resolution A37-15 App.O

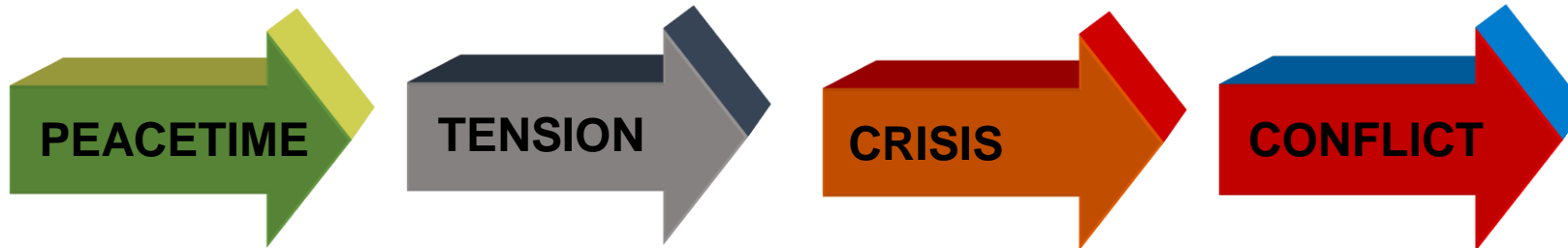
- The common use by civil and military aviation of airspace and of certain facilities and services shall be arranged so as to ensure the safety, regularity and efficiency of international civil aviation as well as to ensure the requirement of military air traffic are met;
- Regulation of States ensure operations state aircraft do not compromise safety, regularity and efficiency of civil air traffic over high seas and comply with Annex 2;
- ICAO to provide advice and guidance on best practices for civil/military coordination and cooperation;
- Contracting States include representatives of military authorities in their delegations to attend ICAO meetings; and
- ICAO should serve as international platform to facilitate improved civil/military cooperation, collaboration and sharing of best practices.

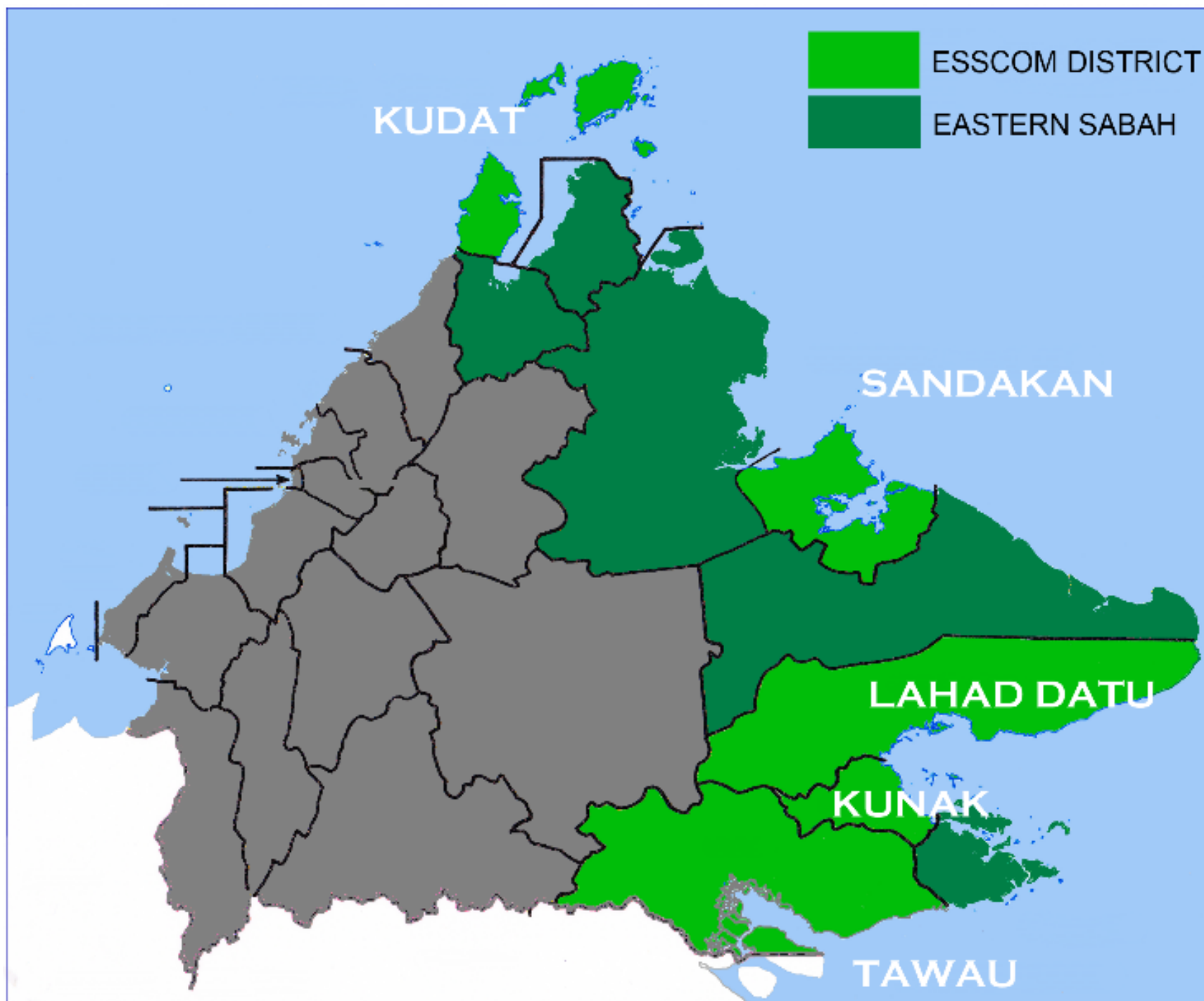
LESSON LEARNT FROM ESSCOM AIRSPACE PLANNING

ESSCOM is the authoritative body that oversees [Eastern Sabah Security Zone](#) (ESSZONE), which comprises the districts of Kudat, Kota Marudu, Pitas, Beluran, Sandakan, Kinabatangan, Lahad Datu, Kunak, Semporna and Tawau

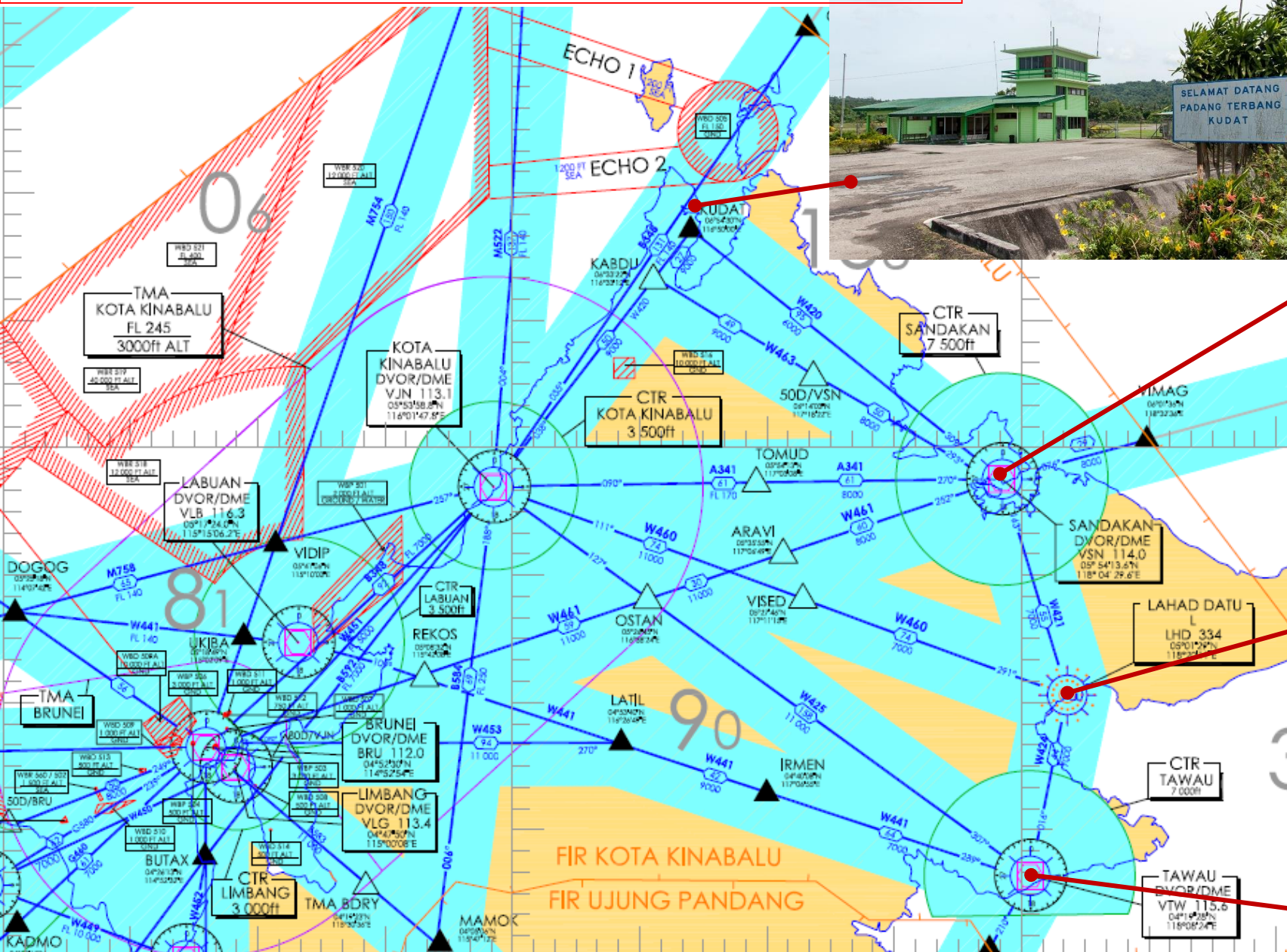
It was established by a declaration by Malaysian Prime Minister on 7 March 2013.

Its purpose is to strengthen maritime security in the eastern part of Sabah following the [2013 invasion crisis](#) and prevent terrorist activities in the waters of Sabah, while at the same time ensuring that trade and business activity are not affected.





ESSCOM AIRSPACE



LEGAL CONSIDERATION

1. Preservation of Public Security (Sabah) Ordinance, 1962
2. Preservation of Public Security Regulations 2013.
3. Malaysia Civil Aviation Regulations 1996.

**P.U.(A) 139/96
CIVIL AVIATION REGULATIONS 1996
PART X- CONTROL OF AIR TRAFFIC**

Regulation 90. Power to prohibit or restrict flying

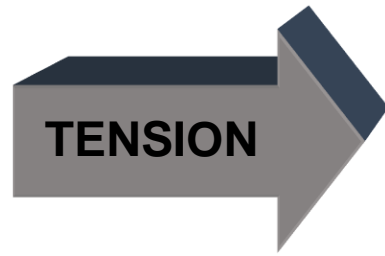
(1) Where the Minister deems it necessary in the public interest to restrict or prohibit flying by reason of

- (a) any intended gathering or movement of large number of persons on the ground within the area;
- (b) any intended holding of an aircraft race or contest or of an exhibition of flying; or
- (c) national defence or any other reason affecting the public interest,

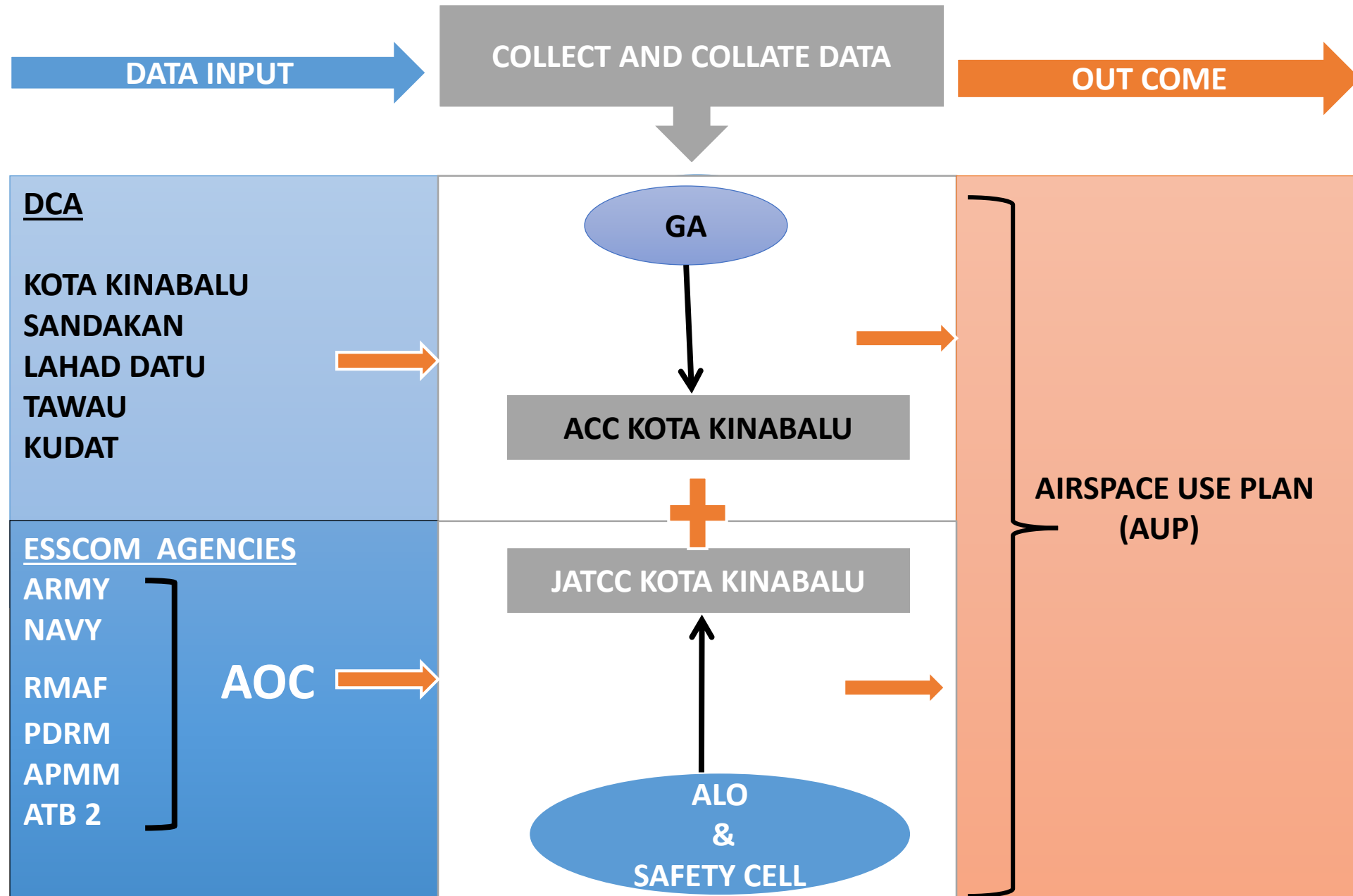


4 PHASES PROPOSED

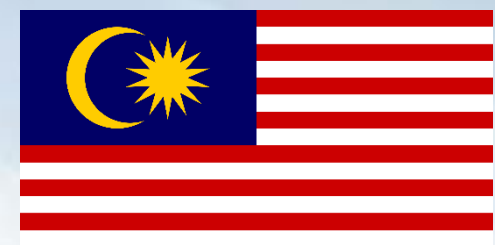
1. **Peacetime**. If no operational requirement from ESSCOM – AOC, airspace will be controlled by KK ACC (DCA Malaysia).
2. **Tension**. *Controlling Authority* handed over to ESSCOM – AOC however *Air Space Management* still under KK ACC.
3. **Crisis**. *Controlling Authority* handed over to ESSCOM – AOC while *Air Space Management* still under KK ACC. Positioning of RMAF Air Traffic Controllers to airports affected in ESSZONE will be done in stages before situation deteriorate.
4. **Conflict**. *Controlling Authority* and *Air Space Management* will be handled by ESSCOM – AOC and RMAF Air Traffic Controllers will support the airspace management in all airports within ESSZONE.



AIRSPACE MANAGEMENT PROCESS



Civil/military coordination and three levels ASM



Strategic Level 1 – Establishment of pre-determined airspace structures; CMAC and ASM procedures; Cross-border coordination and Separation Standards

NATIONAL ASM COMMITTEE



DGCA



ACOS DP

Operational

Pre-tactical Level 2 – ~~Day to day~~ allocation of airspace according to the conditions and procedures agreed upon at level 1

TECH COMMITTEE

- ASM
- AIRPORT
- SAFETY
- SAR

Tactical Level 3 — Real-time use of airspace : activation, de-activation, real-time reallocation of airspace

KL ACC



KK ACC

JATCC

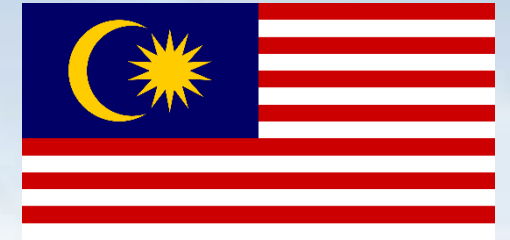
JATCC

#1 AOC



#2 AOC

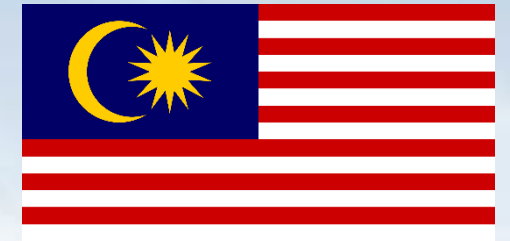
Civil Military Cooperation Project



- Malaysian Airspace Restructure
- FPDA Air Exercise Airspace Restructure
- New KL ACC / JATCC Complex Project
- Joint Air Intercept Procedures
- ESSCOM Airspace Planning
- Certification of Joint User Airport
- Air Force Air Traffic Controllers Licensing
- Zone SMS Meeting
 - **Airspace risk assessment?**
- etc

START TALKING

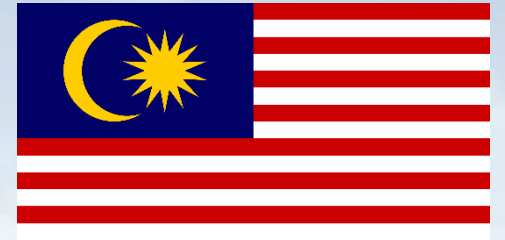
Civil Military Cooperation Project



or monthly golf game
.....?

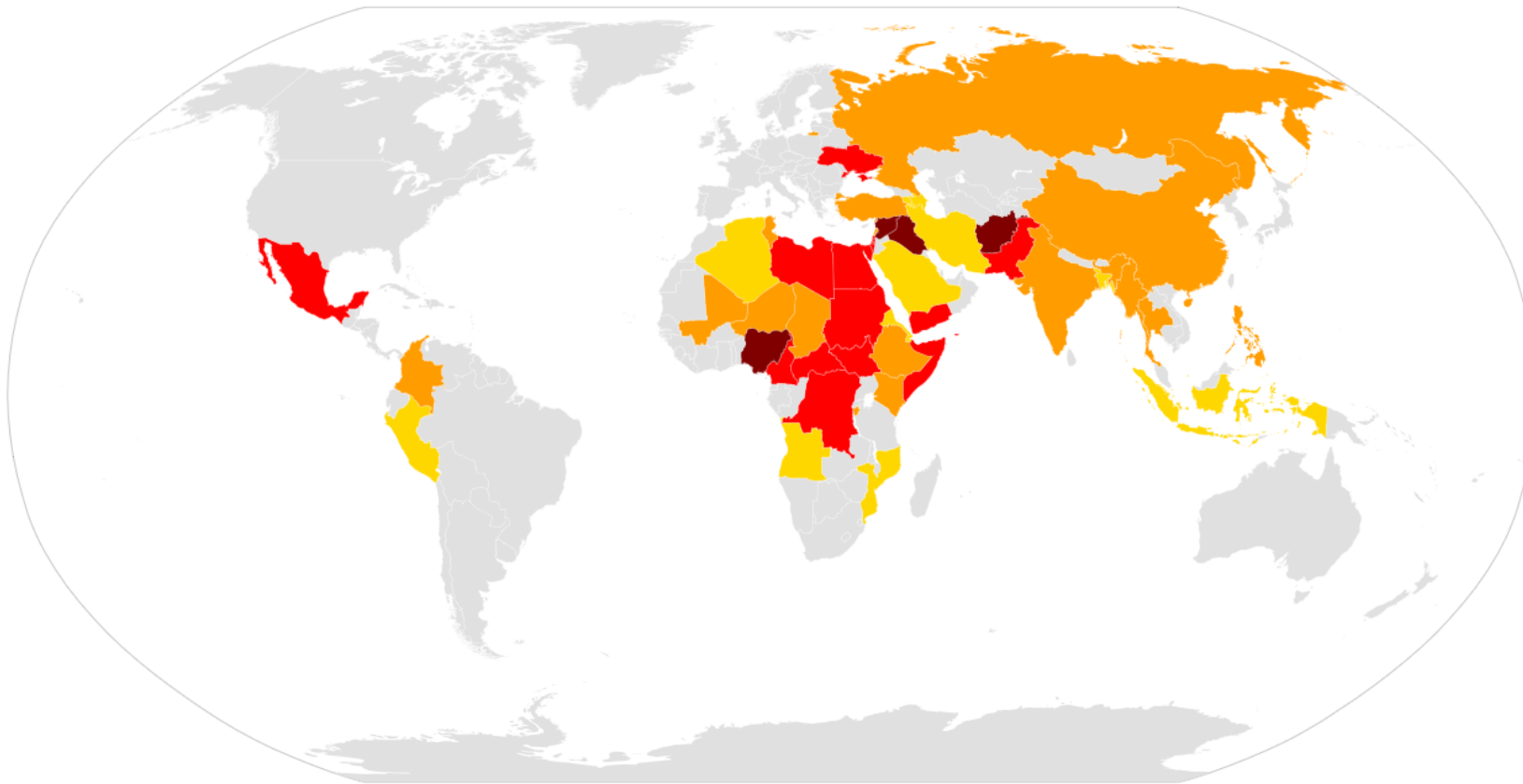
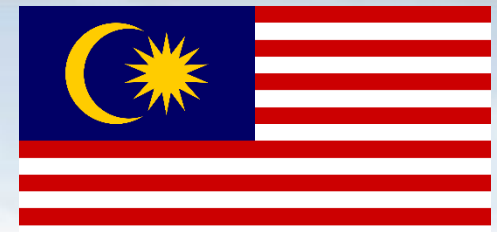
..... TALK to
each other !!

Airspace Risk Assessment



- **World armed conflict**
 - **International Relation / Strategic or/and Defence Studies**
 - **Military – Intelligence branch**
 - **Staff College / Defence College / War College**
 - **Open sources**
 - **Janes Books on Military Arsenal**
 - **CIA World Fact Book**
 - **Wikipedia**
 - **Newspaper reports / journals**
- **Get reports from your consultant or talk to your military friends**

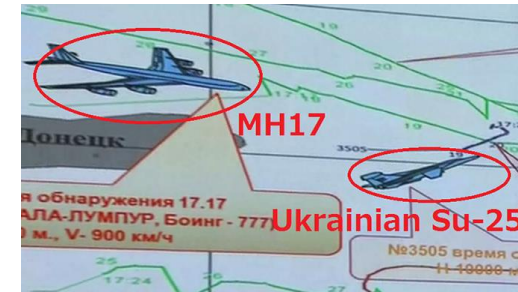
Airspace Risk Assessment



Locations of ongoing conflicts worldwide, October 2015

- Major wars, 10,000+ deaths in current or past year
- Wars, 1,000–9,999 deaths in current or past year
- Minor conflicts, 100–999 deaths in current or past year
- Skirmishes and clashes, fewer than 100 deaths in current or past year

Look for:



ALTITUDES AND MISSILE RANGES

A mobile Buk firing battery usually consists of

One or more launchers:

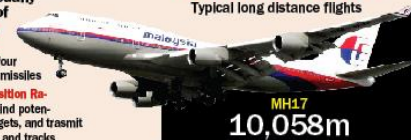
Each armed four radar-guided missiles

Target Acquisition Radar: Used to find potential aerial targets, and transmit their position and tracks

Command Post Vehicle: Contains the missile battery's data display and control system; digital fire-control computer, which assigns targets to individual launchers and computes the engagement

10,668m to 11,887m

Typical long distance flights



9,753m : Restricted airspace

7,924m
Approximate range of Kub missile



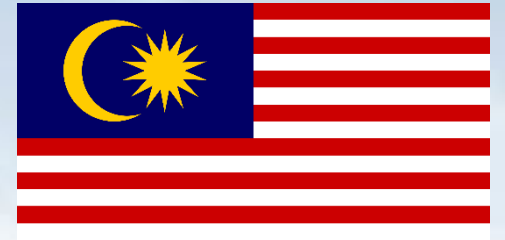
14,935m
Approximate range of Buk missile



3,962m
Range of manpad missile



Civil Military Cooperation



MH17 'n' MH370



dalam ingatan...

Thank you