

**CIVIL AVIATION AUTHORITY OF MALAYSIA**



# **AERODROME CERTIFICATION** – The **CAAM** Experience



# Milestones

Aerodrome Certification Program for International & Domestic Airport

New Civil Aviation Regulation 2016  
Establishment of Malaysia Aviation Commission (MAVCOM)

Transformation of DCA to CAA Malaysia (CAAM)

Enhancement of Aerodrome Standard Directives (ASDs)

2004–2012

2013–2015

2016

2017

2018

2019

2020

2021–2025

Establishment of Malaysia Aviation Commission Act 2015

ICAO USOAP Audit 2016  
Establishment of Aerodrome Standard Directives (ASD)

Establishment of Civil Aviation Authority Malaysia (CAAM) Act 2017

Aerodrome Recertification Program for International & Domestic Airport (Single Certification)


STOLport Certification Program


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# AIRPORTS IN MALAYSIA

 International

 Domestic

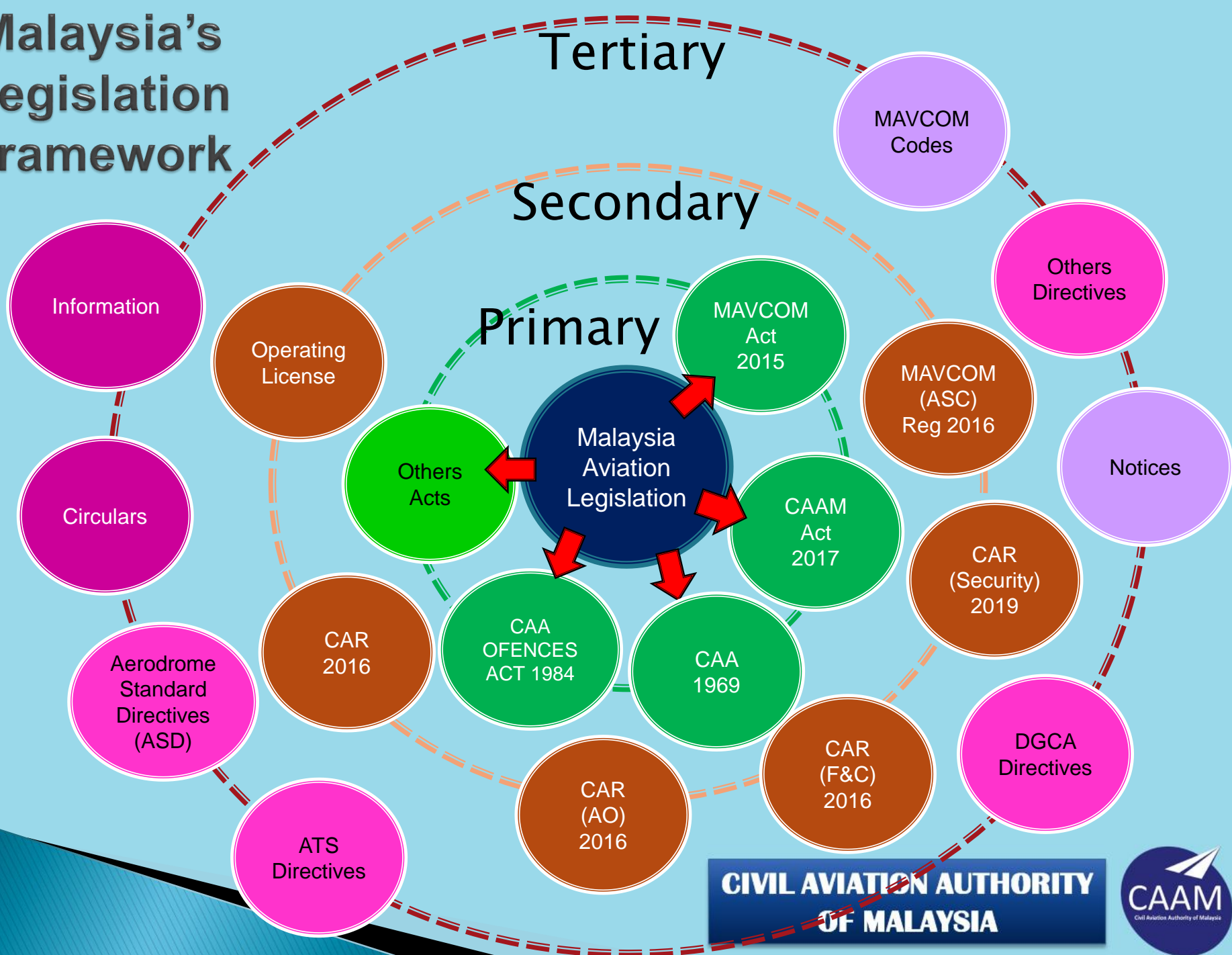
 Short Take-Off & Landing Port



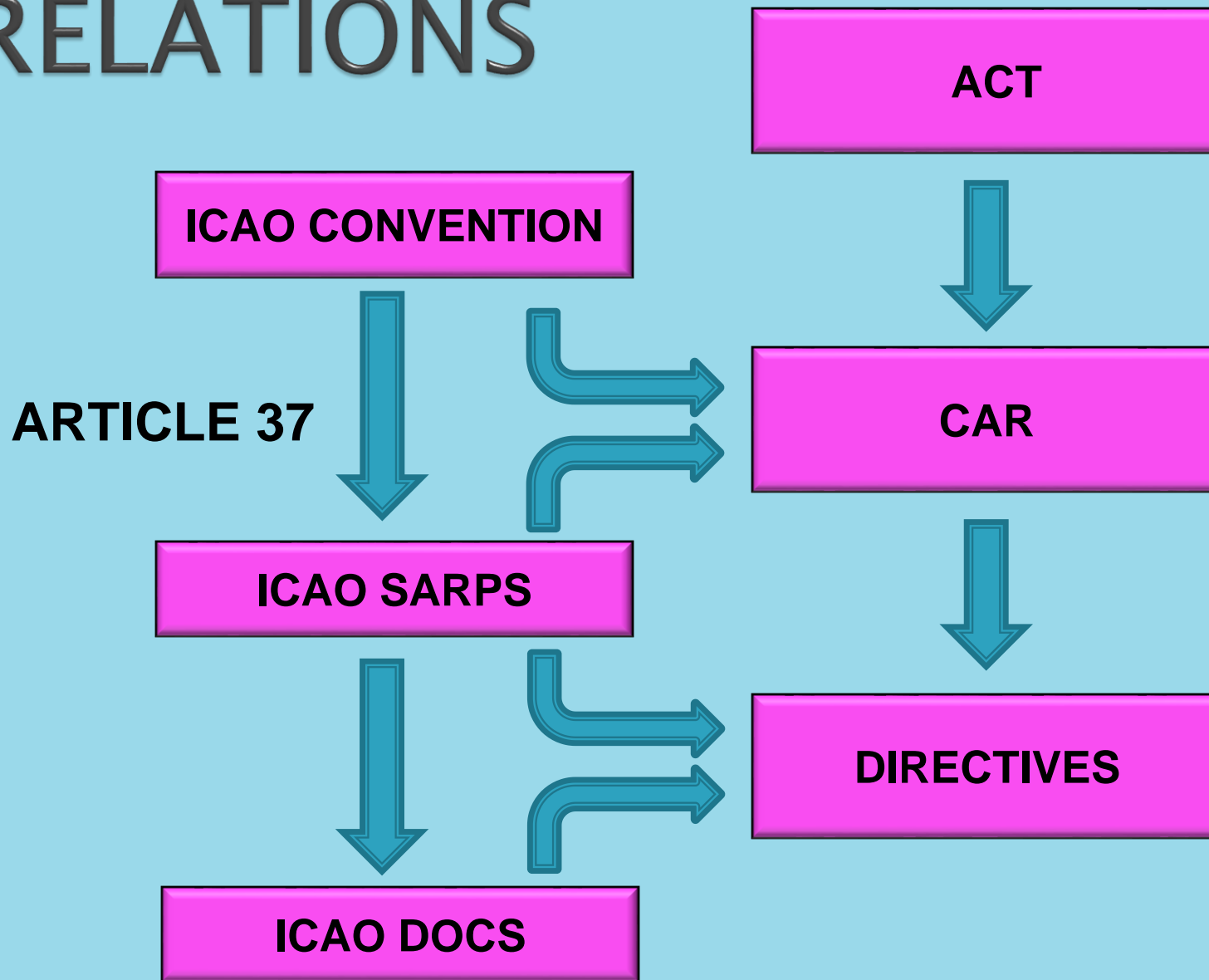
# AERODROME CERTIFICATION STATUS

No	Aerodrome Name	Location Indicator	Date Aerodrome Certified
1	KL International Airport	WMKK	11 May 2004
2	Kota Kinabalu International Airport	WBKK	12 Mac 2005
3	Penang International Airport	WMKP	21 Mac 2005
4	Kuching International Airport	WBGG	30 Mac 2005
5	Langkawi International Airport	WMKL	11 April 2005
6	Miri Airport	WBGR	07 May 2007
7	Ipoh/Ipoh Sultan Azlan Shah Airport	WMKI	23 Nov 2009
8	Alor Setar/Sultan Abdul Halim Airport	WMKA	10 April 2007
9	Kota Bharu/Sultan Ismail Petra Airport	WMKC	25 Dec 2011
10	Kuala Terengganu/Sultan Mahmud Airport	WMKN	20 Aug 2009
11	Tawau Airport	WBKW	03 Mac 2006
12	Sandakan Airport	WBKS	24 Jan 2007
13	Sandakan Airport	WBKS	24 Jan 2007
14	Bintulu Airport	WBGB	20 Jun 2006
15	Sibu Airport	WBGs	28 Nov 2006
16	Malacca Airport	WMKM	24 Dec 2012
17	Limbang Airport	WBGJ	10 Mac 2008
18	Senai International Airport	WMKJ	20 Dec 2005
19	Subang/Sultan Abdul Aziz Shah Airport	WMSA	15 Dec 2015
20.	Kerteh Airport	WMKE	15 Sep 2018

# Malaysia's Legislation Framework



# RELATIONS



# CAAM Directives

## DGCA Directives

No	Titles
1.	Rules of the Air
2.	Units of Measurement to be Used in Air and Ground Operations in Malaysia

## Flight Operations Directives

No	Doc No.	Titles
1.	FOD 001/2015	Carriage Of Battery-Powered Portable Electronic Smoking Devices
2.	FOD 001/2015	Flight Operations Directive (FOD) on Carriage of Lithium Batteries

## Air Traffic Inspectorate Directives

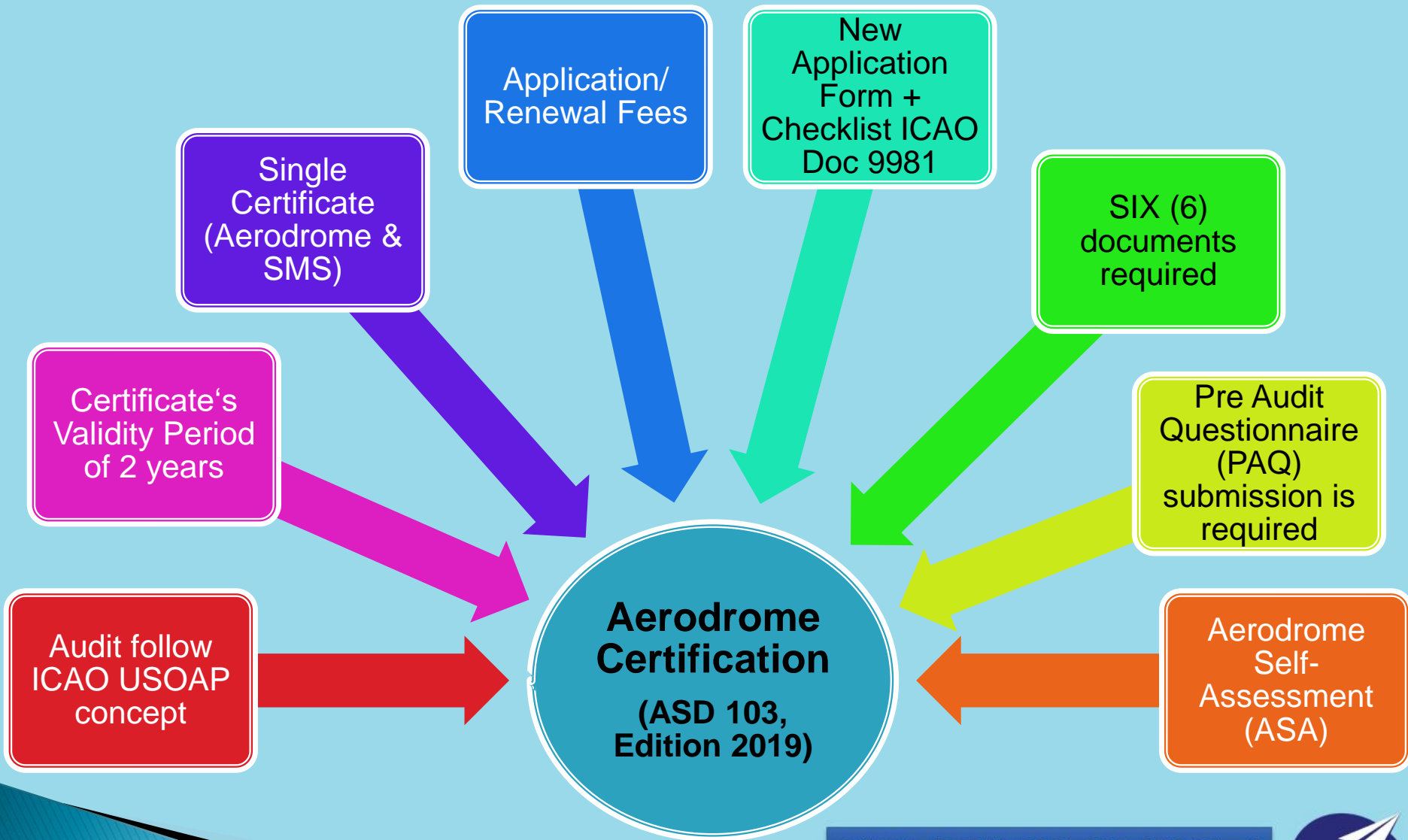
No	Doc No.	Titles
1.	ATID-AIS Chart Ed. 2	Aeronautical Information Services and Aeronautical Chart
2.	ATID-ATS Ed. 2	Air Traffic Services
3.	ATID-MET Ed. 2	Metrological For International Air Navigation
4.	ATID-SAR Ed. 2	Search and Rescue

## Airport Standard Directives (ASD)

Total 31 (Existing 14, New 17)

	ASD No.	Title
1	ASD 101	Airport Standard Directives
2	ASD 102	Notice to aerodrome Operator (NOTA)
3	ASD 103	Certification of Aerodrome
4	ASD 104	Approval and Registration Non-Licensed Aerodrome
5	ASD 105	Safety Management System
6	ASD 106	Runway Safety Program
7	ASD 401	Control and Denoting Obstacles
8	ASD 402	Control of Obstacles at Aerodrome
9	ASD 403	Marking of Obstacles
10	ASD 404	Lighting of Obstacles
11	ASD 901	Standards for Airstrip
12	ASD 902	Standards for Surface-Level Heliport
13	ASD 903	Standards for Elevated Heliport
14	ASD 904	Standards for Helideck
15	ASD 501	Visual Aids For Navigation-AGL, Electrical Sys
16	ASD 502	Visual Aids For Navigation-Signs
17	ASD 503	Aerodrome Data
18	ASD 504	Aerodrome Operation Services
19	ASD 505	Aeronautical study
20	ASD 506	Airside Vehicle Requirement
21	ASD 510	Aerodrome Physical Characteristic
22	ASD 511	Aerodrome Marking
23	ASD 512	Strength of Pavement
24	ASD 513	Pavement Maintenance
25	ASD 514	Visual Aids for Denoting Restricted Use Area
26	ASD 515	Standard for Aerodrome Markers
27	ASD 701	Aerodrome Emergency Planning
28	ASD 702	Rescue and Fire Fighting
29	ASD 801	Aerodrome Operating Minima
30	ASD 802	Airport Wildlife Hazard Management Plan
31	ASD 803	Airport Disabled Aircraft Removal Plan

# New Concept for Aerodrome Certification 2019/2020



# Requirements for New Aerodrome Certification 2019 / 2020

	Descriptions	Previous Requirements	New Requirements
1	<b>CAAM's Directive for Aerodrome Certification</b>	Old version of CAAM's Airport Standards Directive (ASD) 103	<b>New Version of CAAM's Aerodrome Standards Directive (ASD) 103 – Effective Jan 2019 &amp; ICAO Doc 9981</b>
2	<b>Application</b>	No New Application Required for Certified Airport	<b>All Certified Airport have to apply for new aerodrome certificate</b>
3	<b>Fees</b>	NA	<b>RM25,000.00 for Application / Renewal</b>
4	<b>Documentations</b>	2 Documents required for submission 1-Application Form 2- Aerodrome Manual	<b>6 Documents required for submission</b> 1- Application Form 2- Aerodrome Manual 3- Aerodrome Emergency Plan 4- SMS Manual 5- Wildlife Hazard Management Plan (WHMP) 6- Aerodrome Disabled Aircraft Removal Plan (ADARP)
5	<b>Type of Aerodrome Certification</b>	Dual Certificate 1- Aerodrome Certificate 2- Safety Management System (SMS) Certificate	<b>Single Certificate</b> 1- Aerodrome Certificate (including SMS)
6	<b>Concept of Certification</b>	No PAQ	<b>PAQ to be submitted to CAAM prior audit</b>
7	<b>Validity of Certificate</b>	Open Ended	<b>2 years</b>

Application

Assessment of  
Application

Certification  
Inspection

Inspection  
Report

Remedial  
Action

Grant of  
Refusal

Promulgation  
in the AIP

Periodic  
Verification

# Aerodrome Certification Process

*(Based on CAAM's ASD 103)*

AERODROME STANDARDS DIRECTIVE 103  
(ASD 103)

VOLUME I  
CERTIFICATION OF AERODROME



AERODROME STANDARDS DIVISION  
CIVIL AVIATION AUTHORITY OF  
MALAYSIA

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# Aerodrome Inspection – Scope of Inspection

**Staff Training & Competency**

**Aerodrome Physical inspection**

**Aerodrome Operational & Performance Inspection**

**Area of Inspection**

- Operations
- Rescue and Fire Fighting
- Engineering and Maintenance
  - Electrical
  - Mechanical
  - Civil

# Aerodrome Inspection – Inspection Reports

- The Authority will issue an audit report to the Applicant within thirty (30) days upon the completion of a certification audit.
- The audit findings, if any, are registered in the Non-Compliance/Observation Report Form ASD103/Cert/IR
- Findings and shortcomings are classified as follows –

## MAJOR

Findings that are recognized as necessary for the safety and efficiency of aircraft operations and **immediate action by Applicant is required**

## MINOR

Findings that are recognized as necessary for the safety and efficiency of aircraft operations and **immediate action by Applicant is encouraged.**

## OBSERVATION

Findings that are recognized as **desirable** for the safety and efficiency of aircraft operations.

# Initiatives for Airports Performance's Improvement

**1** Pre Audit Questionnaires (PAQ) by CAAM Aerodrome Standards

**2** Aerodrome Self Assessment (ASA) & On-Site Verification by Aerodrome Operator

**3** Performance Measurement

a. Demerit System by Aerodrome Operator

b. Score Card System by Aerodrome Operator

**4** Staff's Competency Assessment & Training Program

**5** Online Tracking & Monitoring System for Non Compliance Issues

# THE CHALLENGE

1

Infrastructure  
Standardization of color  
marking

2

State Policy

3

AIP Data:  
WGS 84 – MSL vs Earth  
Mass  
Pavement Strength LCN  
vs PCN

4

New Version of  
Documentations

Aerodrome Manual  
SMS Manual  
AEP  
WHMP  
ADARP  
SOPs

# Runway-holding position marking

← Runway

Taxiway →

Infrastructure  
\*Standardization  
of color marking



Annex 14 — Aerodromes Volume 1

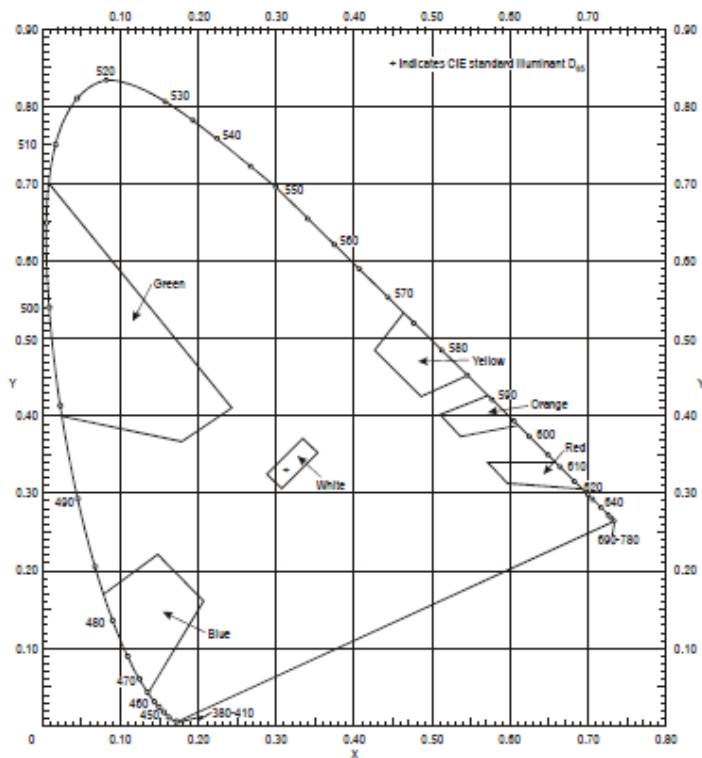
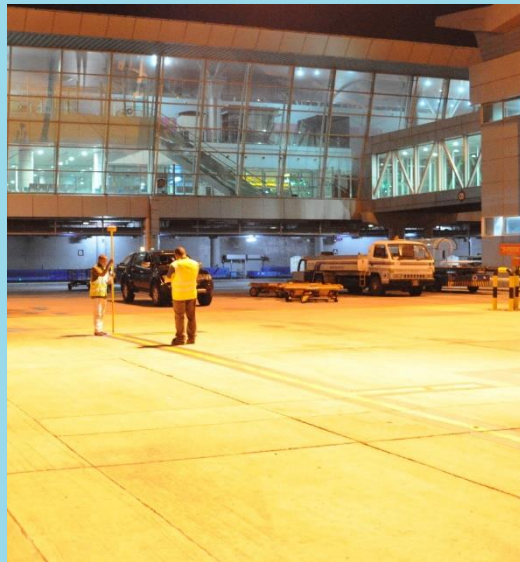
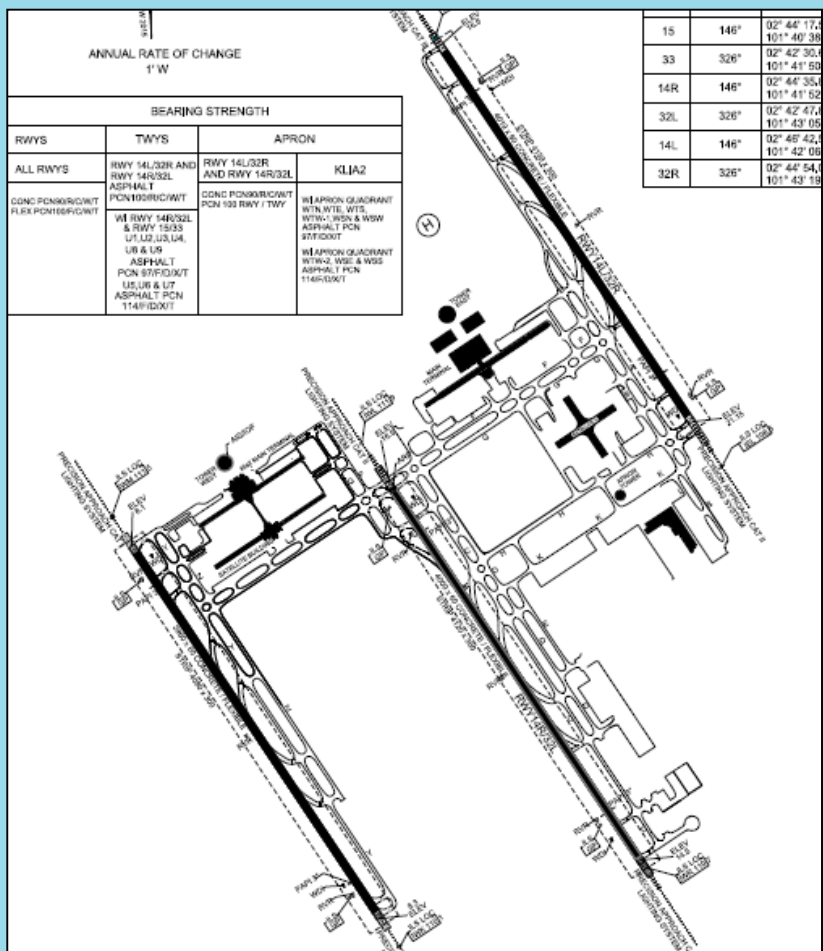


Figure A1-3. Colours of retroreflective materials for markings, signs and panels

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# Verify AIP Data:

- \* Re-surveyed coordinates according to WGS 84
- \* Re-test Pavement to obtain it Strength



# New Version of Documentations:

\*Time taken during establishment of:

Aerodrome Manual

SMS Manual

AEP

WHMP

ADARP

SOPs

Establishment of  
State Policy:

ACT

Regulations

Directives

# Issues during Aerodrome Certifications

1

Calculation Method for Intersection Take Off Distance

2

Aircraft Upgrade Characteristic at Existing Aerodrome

3

Safety Assessment for Non Compliance Issues

4

Non Compliance Issues for STOLPort (preparation towards certification)

# 1 – Calculation Method for Intersection Take Off Distance

RWY Threshold to Centerline of TWY Intersection

← 2500 m      2500 m →

INTERSECTION TAKE-OFF

RWY Threshold to Point of Tangency of TWY Intersection

Method of Measuring Intersection Take Off Distance

KLIA – Runway 1 and 2  
TORA 4019  
Intersection TWY A1 – 4007

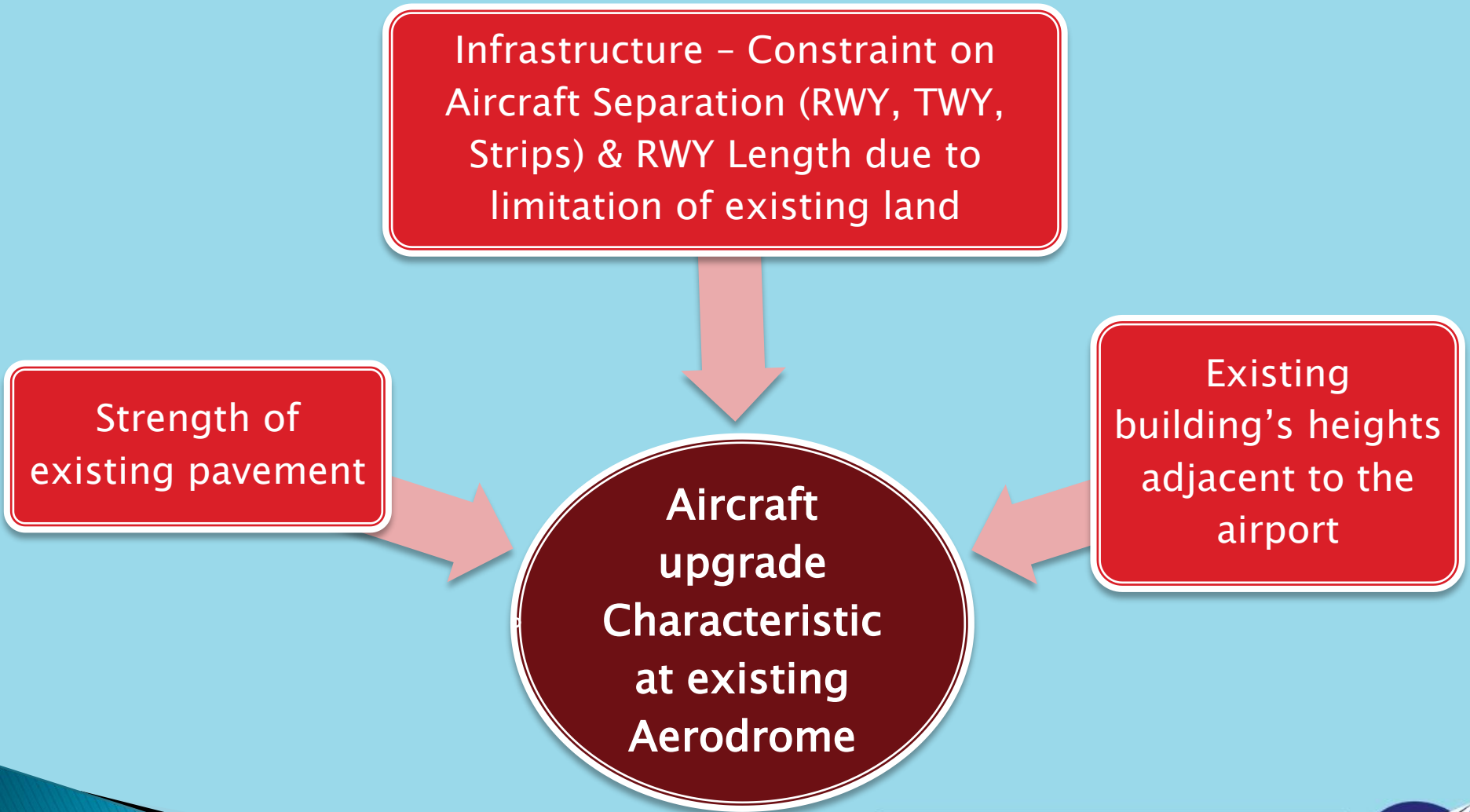
KLIA – Runway 3  
TORA 3960  
Intersection TWY Y1 – 3847



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# 2 – Aircraft Upgrade Characteristic at Existing Aerodrome



# 3 – Safety Assessment for Non Compliance

PBB to Aircraft Clearance

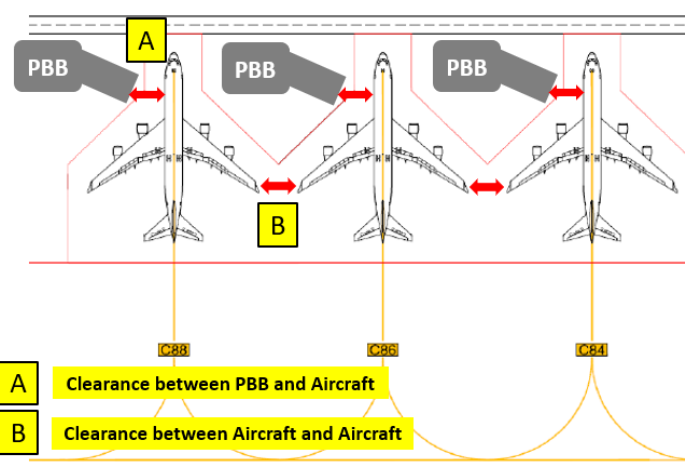


Obstacle surrounding Airport

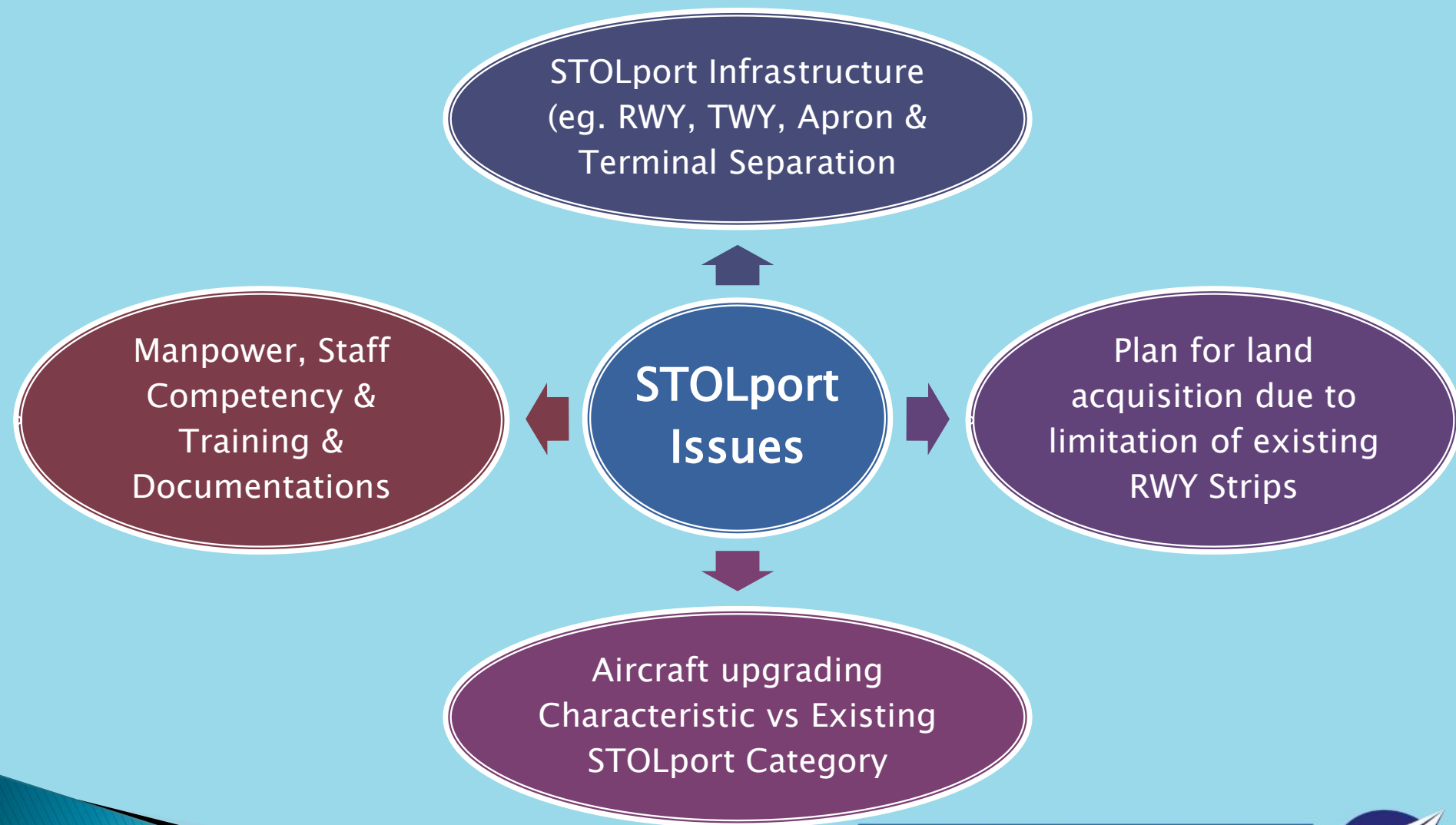
Safety Assessment Study

Larger Aircraft landing at small Airport

Aircraft Wingtip Clearance



# 4 – Non Compliance Issue for STOLport



# THANK YOU



MALAYSIA AIRWAYS

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