

Brief Regulatory Refresher

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Aerodrome Certification

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EU-South East Asia Aviation Partnership Project (EU-SEA APP)

*This project is funded by the European Union and implemented
by the European Union Aviation Safety Agency - EASA*

Your safety is our mission.

An Agency of the European Union 

Brief Regulatory Refresher



ICAO



Brief Regulatory Refresher

→ EASA

→ EASA Regulation

→ ICAO ANNEX 14 VS EASA REG 139

The European Union Aviation Safety Agency

Established
2002

10 years+
in operation

800

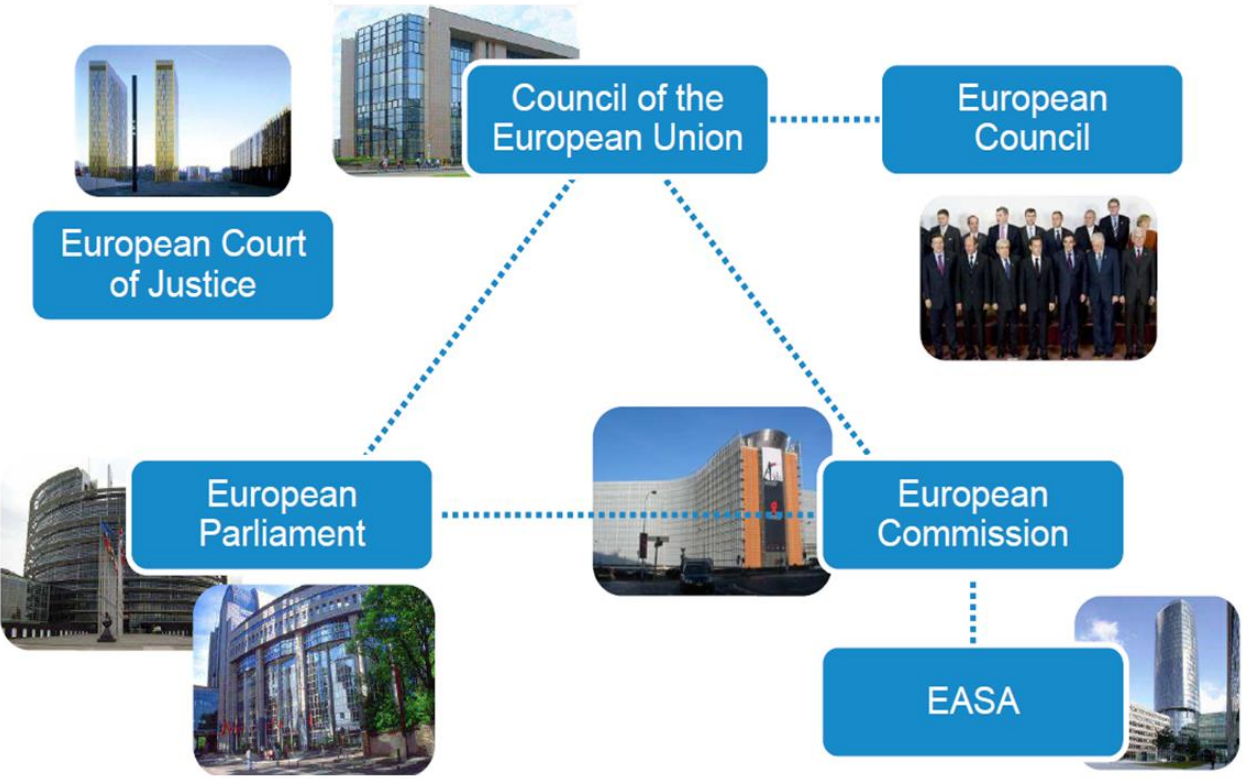
aviation experts
& administrators

Headquarters in
Cologne
Office in
Brussels

32 EASA member states
= 28 + 4
EU + Switzerland, Norway
Iceland, Liechtenstein



The European Union Aviation Safety Agency



The European Union Aviation Safety Agency

EASA develops regulation, on behalf of the EU, on:

Safety significantly affects all aviation domains:

Total System Approach

Airworthiness

Operations
& FCL

3rd Country
Operations

Aerodromes

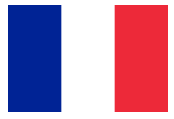
ATM/ANS

The European Union Aviation Safety Agency

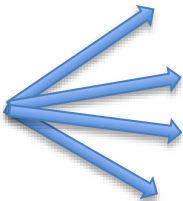
The European Union regulates



States are Responsible to implement the European Regulations



EASA oversees States looking for standardization and maturity



Brief Regulatory Refresher

→ EASA

→ **EASA Regulation**

→ ICAO VS EASA

SCOPE OF THE REGULATION

This Regulation *shall apply to:*

- *the design, maintenance and operation of aerodromes, as well as personnel and organisations* involved therein and, without prejudice to Community and national legislation on environment and land-use planning, the safeguarding of surroundings of aerodromes
- *the design, production, maintenance and operation of safety-related aerodrome equipment* used or intended for use at those aerodromes
- *the provision of ground handling services* at those aerodromes
- *the provision of Apron Management Services (AMS)* at those aerodromes

SCOPE OF THE REGULATION

This Regulation *shall not apply to:*

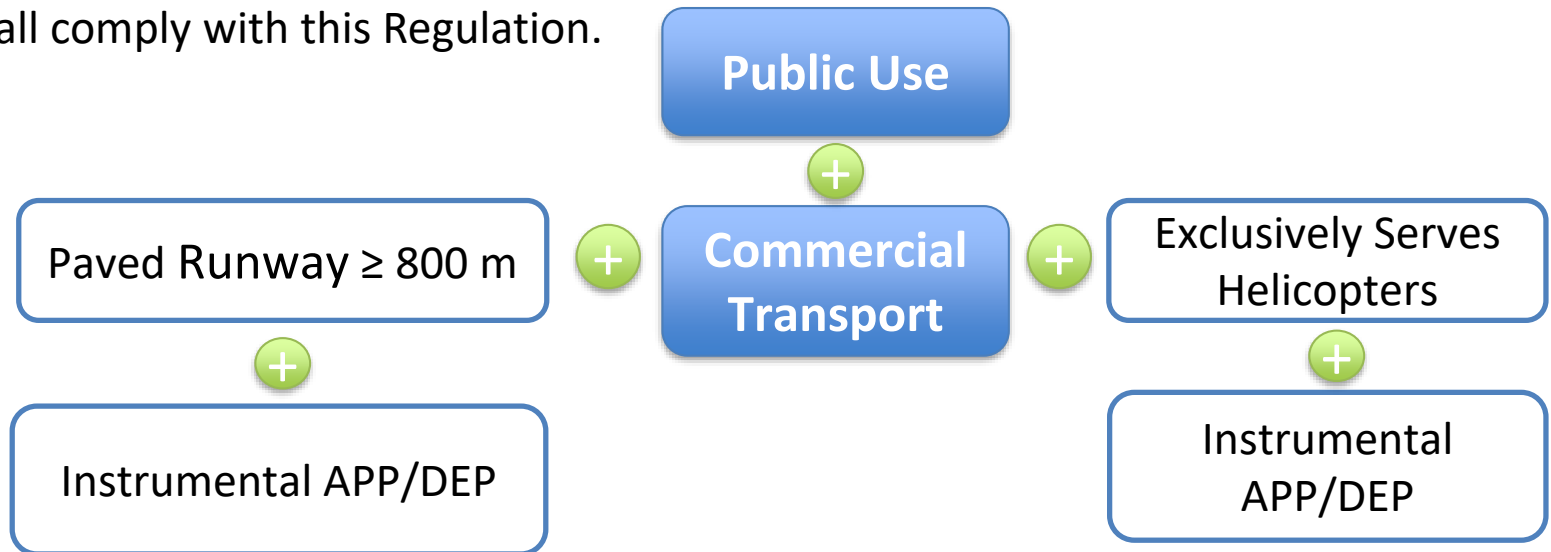
- aerodromes or part thereof, as well as equipment, personnel and organisations, that are controlled and *operated by the military*;

Member States shall ensure that, *military facilities open to the public*, or services provided by military personnel, offer a **level of safety and interoperability with civil systems** that is as effective as that resulting from the application of the essential requirements.

SCOPE OF THE REGULATION

This regulation shall be complied by aerodromes, including equipment, located in the territory subject to the provisions of the Treaty, ***open to public*** use and which ***serve commercial air transport***, and:

- have a ***paved instrumental runway of 800 metres*** or above; or
- exclusively serve ***helicopters using instrument approach or departure procedures***; shall comply with this Regulation.



Overview of EASA Regulation

SCOPE OF THE REGULATION



IMPLEMENTATION IN A MEMBER STATE



EASA AERODROMES

PUBLIC USE, COMMERCIAL; PAVED INSTRUMENT RUNWAY OF 800 METERS OR MORE, OR EXCLUSIVELY SERVE HELICOPTERS USING INSTRUMENT APPROACH OR DEPARTURE PROCEDURES



NOT EASA AERODROMES

PUBLIC USE

**NATIONAL REGULATION
≈ ANNEX 14**

PRIVATE

**NATIONAL REGULATION
≈ "SOFT" ANNEX 14**



IMPLEMENTATION IN A MEMBER STATE



NON EASA AERODROMES

PUBLIC USE

**NATIONAL REGULATION
≈ ANNEX 14**

PRIVATE

**NATIONAL REGULATION
≈ "SHOFT" ANNEX 14**

IMPLEMENTATION IN A MEMBER STATE

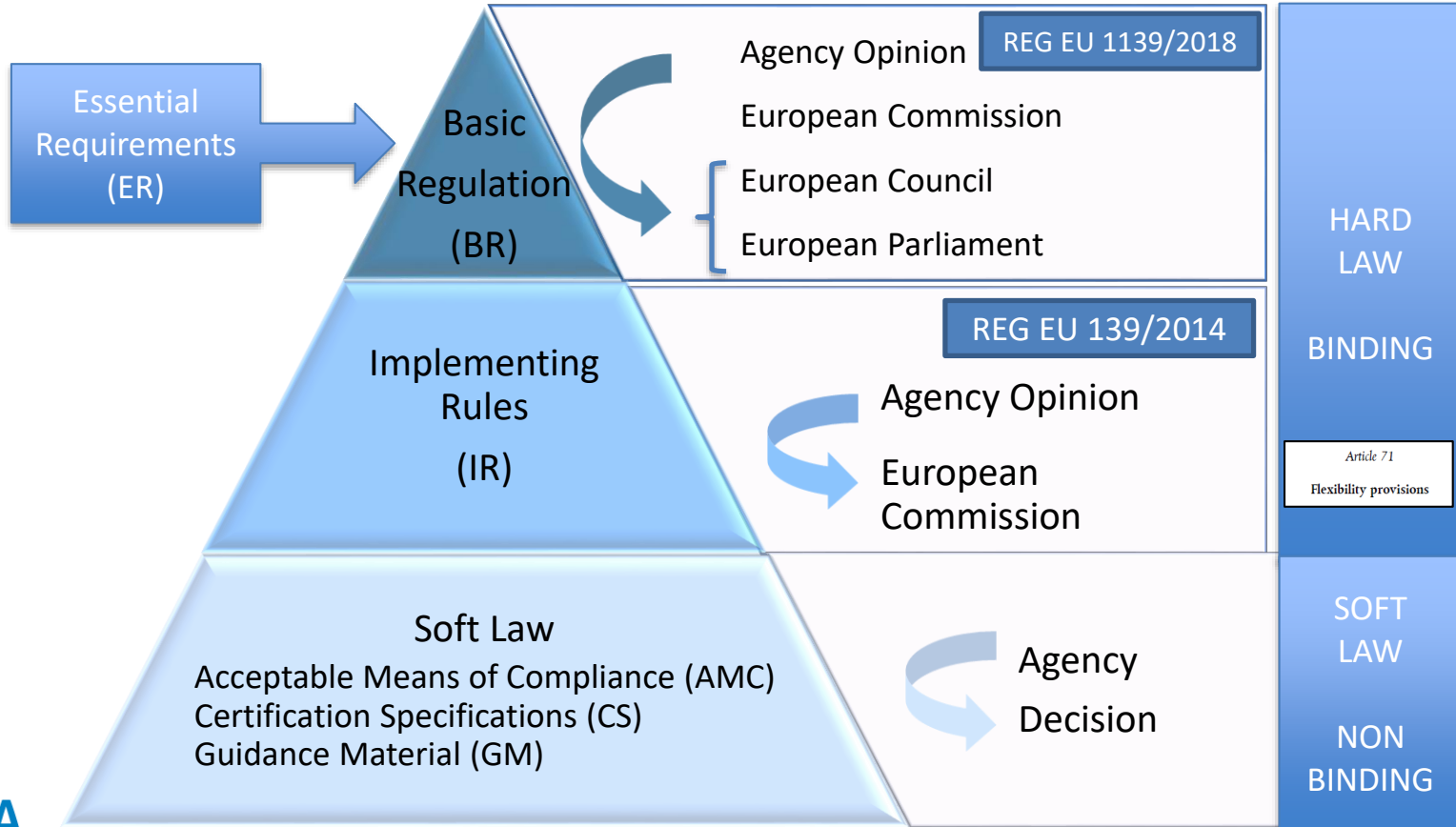
WHAT ABOUT YOUR COUNTRY?

WHAT INTERNATIONAL REGULATION DO YOU APPLY?

IS THERE ANY NATIONAL REGULATION?



Overview of EASA Regulation



Overview of EASA Regulation

ER	What MUST be ACHIEVED	BINDING
IR	What MUST be DONE and by WHOM	
AMC	HOW it can be ACCOMPLISHED	NON BINDING
GM	EXAMPLES or BEST PRACTICES or CLARIFICATIONS	
CS	HOW you can KNOW that you have done what must be done - MEASURABLE	

Overview of EASA Regulation

Essential requirements

REG EU 1139/2018



Aerodrome infrastructure



- Aerodrome infrastructure
- Protection areas & OLS
- Visual & non visual aids
- Aerodrome equipment



Aerodrome operator



- Aerodrome procedures and resources
- Emergency response plan
- Aerodrome flight procedures
- Aerodrome data
- Aerodrome operator responsibilities
- AO arrangements with other organisations
- AO management system

Overview of EASA Regulation

REG EU 1139/2018

3

Essential
Requirements

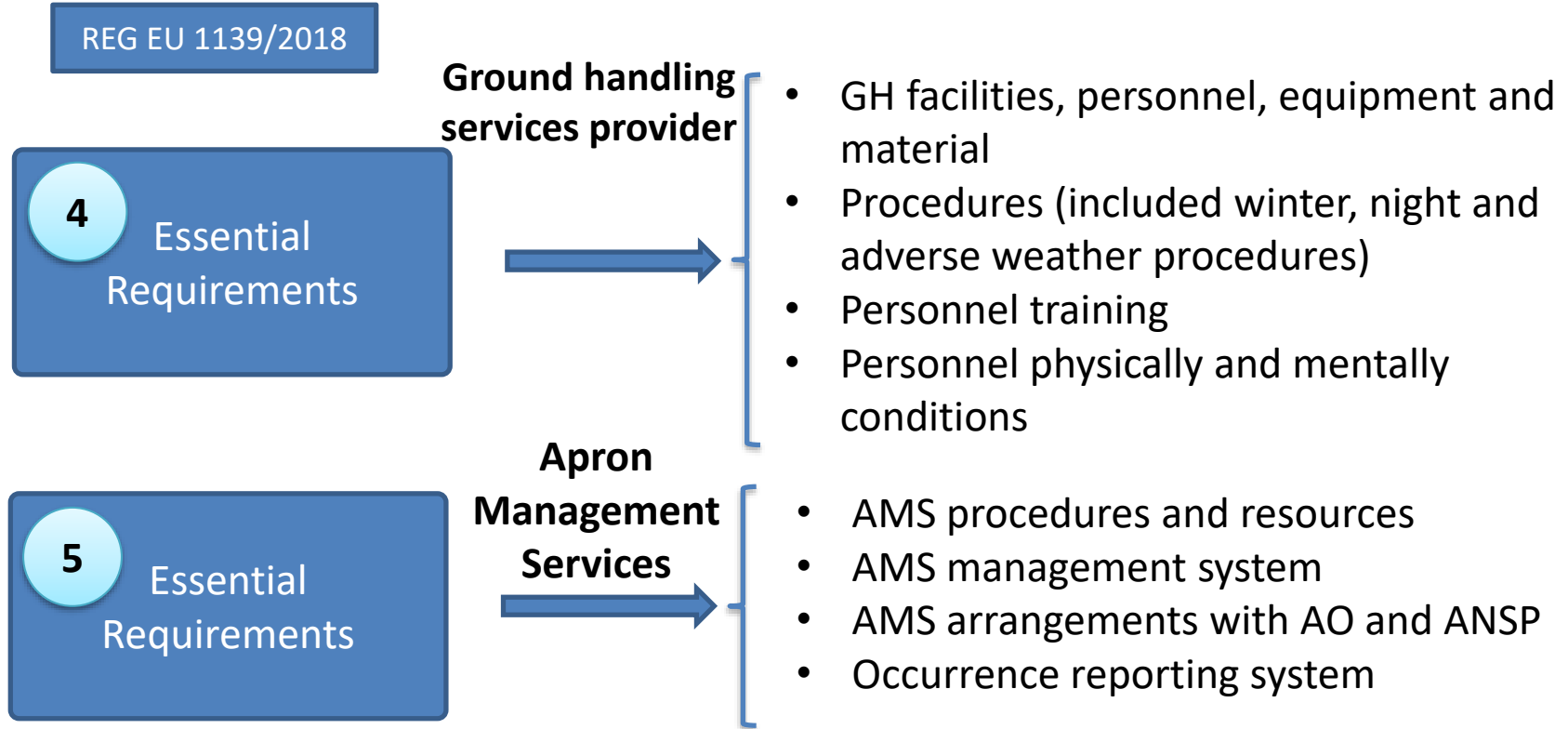
Civil Aviation
Authority



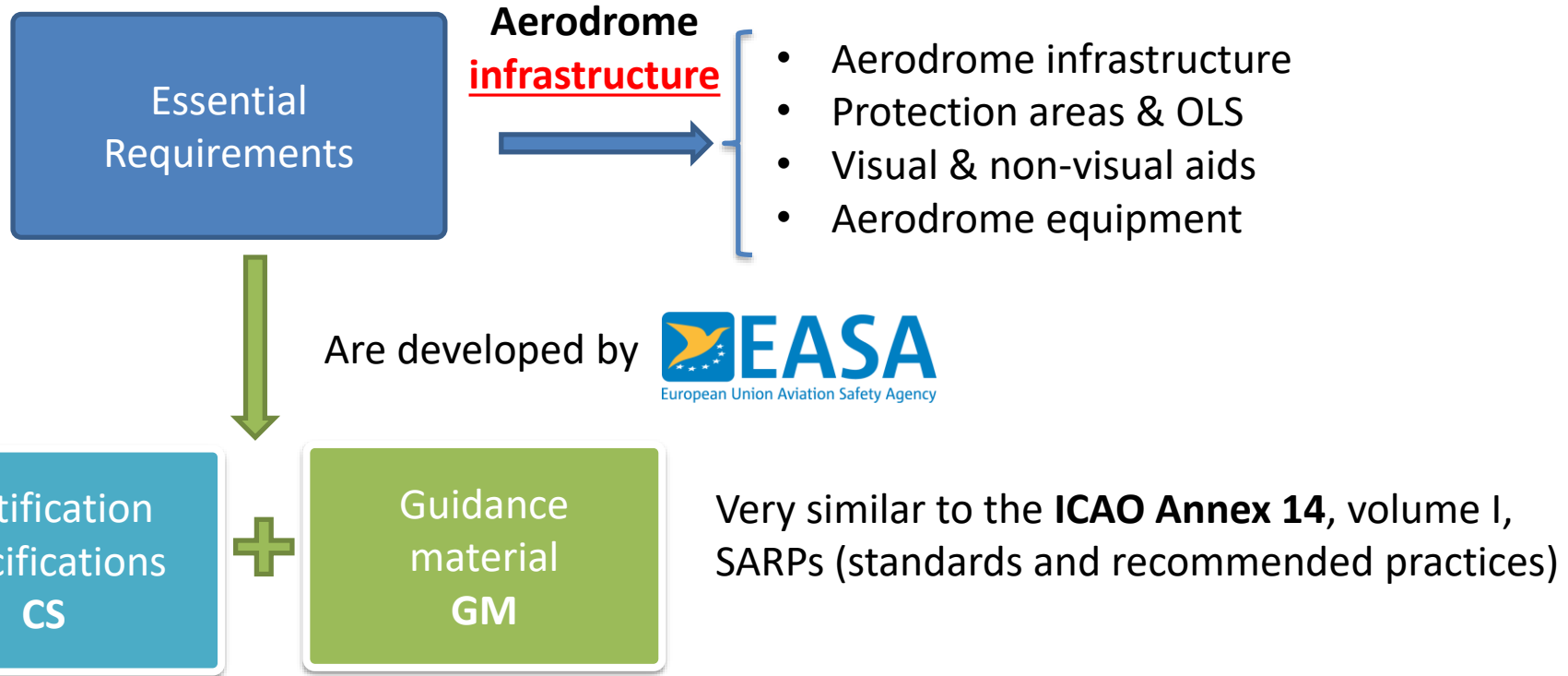
- Aerodrome surroundings (protection from obstacles and activities)
- Aerodrome certification and conversion

Overview of EASA Regulation

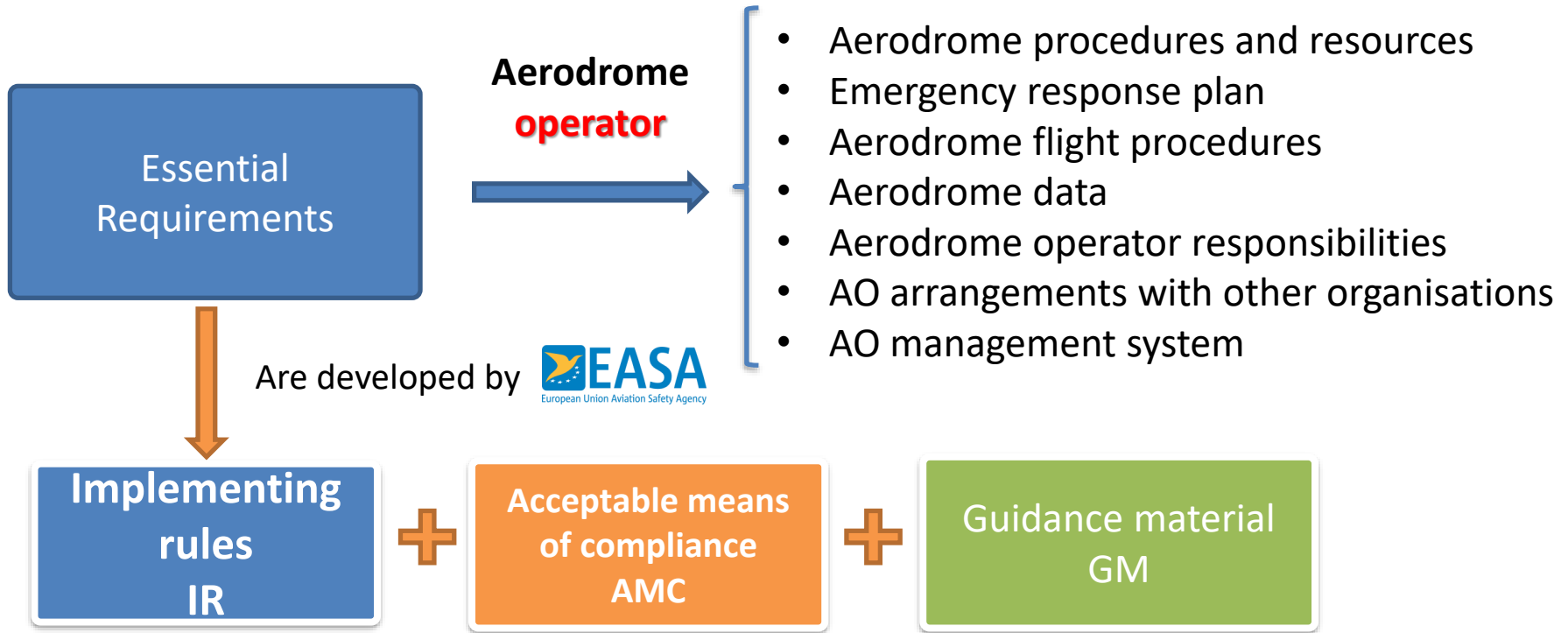
REG EU 1139/2018



Overview of EASA Regulation



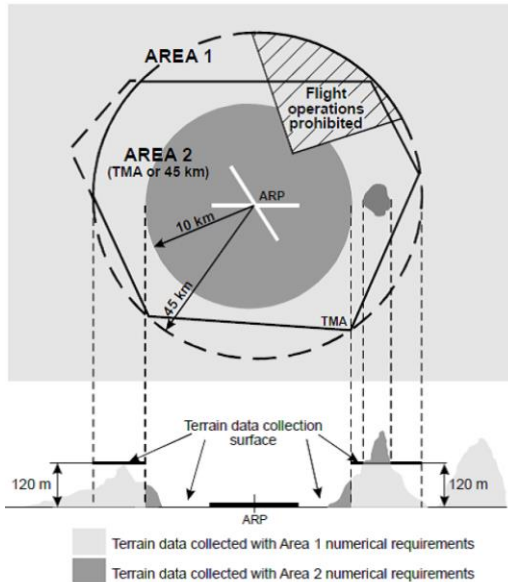
Overview of EASA Regulation



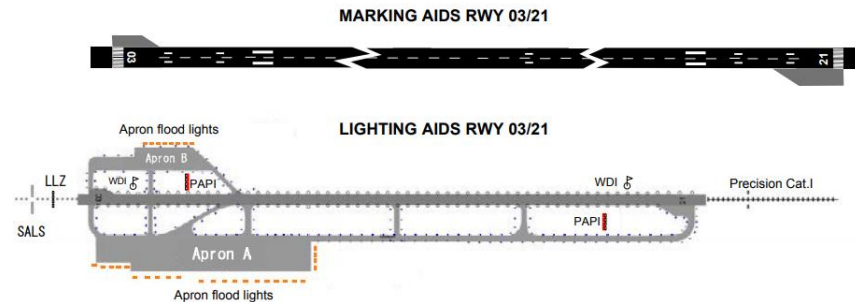
The IR could be complied by complying the AMC

Overview of EASA Regulation

EXAMPLE 1 OPERATIONAL REQUIREMENT Management of Aeronautical Data



RWY Designations	TRUE & MAG BRG	Dimensions of RWY	Strength (PCN) and surface of RWY and SWY	THR & RWY end coordinates THR geoid undulation	THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
03	034.00°	3414 M x 61 M	56/R/C/X/T Concrete and asphalt	165352.58N 0960736.80E	THR: 33.6M
21	214.00°			165525.45N 0960840.04E	THR: 13.1M



Overview of EASA Regulation



Overview of EASA Regulation

ER

What **MUST** be **ACHIEVED**

22.8.2018

EN

Official Journal of the European Union

L 212/103

ANNEX VII

Essential requirements for aerodromes

1. PHYSICAL CHARACTERISTICS, INFRASTRUCTURE AND EQUIPMENT
 - 1.4. Aerodrome data
 - 1.4.1. Data relevant to the aerodrome and the available services shall be established and kept up to date.
 - 1.4.2. The data shall be accurate, readable, complete and unambiguous. Authenticity and appropriate integrity levels shall be maintained.
 - 1.4.3. The data shall be made available to the users and the relevant ANS providers in a timely manner, using a sufficiently secure and expeditious method of communication.

Overview of EASA Regulation

ADR.OR.D.007 Management of aeronautical data and aeronautical information

Regulation (EU) No 139/2014

- (a) As part of its management system, the aerodrome operator shall implement and maintain a quality management system covering:
 - (1) its aeronautical data activities; and
 - (2) its aeronautical information provision activities.
- (b) The aerodrome operator shall define procedures for meeting the safety and security management objectives with respect to:
 - (1) aeronautical data activities; and
 - (2) aeronautical information provision activities.

IR

What **MUST** be **DONE** and by **WHOM**

Overview of EASA Regulation

AMC1 ADR.OR.D.007(a) Management of aeronautical data and aeronautical information

ED Decision 2014/012/R

QUALITY MANAGEMENT SYSTEM FOR AERONAUTICAL DATA AND AERONAUTICAL INFORMATION PROVISION ACTIVITIES

- (a) A quality management system supporting the origination, production, storage, handling, processing, transfer, and distribution of aeronautical data and aeronautical information should:
- (1) define the quality policy in such a way as to meet the needs of different users as closely as possible;
 - (2) set up a quality assurance programme that contains procedures designed to verify that all operations are being conducted in accordance with the applicable requirements, standards and procedures, including the relevant requirements of [Part-ADR.OPS](#);
 - (3) provide evidence of the functioning of the quality system by means of manuals and monitoring documents;
 - (4) appoint management representatives to monitor compliance with, and adequacy of, procedures to ensure safe and efficient operational practices; and
 - (5) perform reviews of the quality system in place, and take remedial actions, as appropriate.

AMC

HOW it can be ACCOMPLISHED

Overview of EASA Regulation

GM1 ADR.OR.D.007(a) Management of aeronautical data and aeronautical information

ED Decision 2014/012/R

QUALITY MANAGEMENT SYSTEM FOR AERONAUTICAL DATA AND AERONAUTICAL INFORMATION PROVISION ACTIVITIES

An aerodrome operator does not need to duplicate functions and activities in order to discharge the responsibilities related to the management of aeronautical data and aeronautical information provision activities.

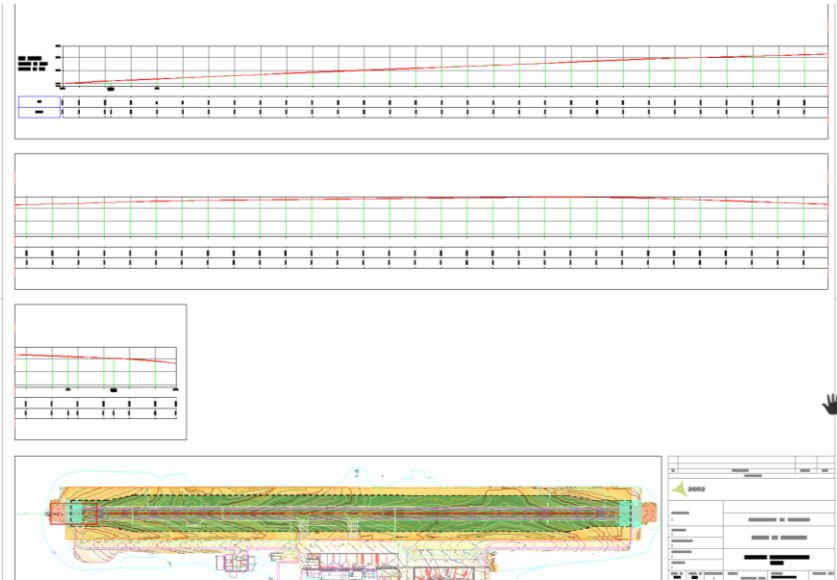
In this respect, the compliance monitoring may be used for the purposes of ensuring compliance with the relevant requirements for management of aeronautical data and aeronautical information provision activities.

GM

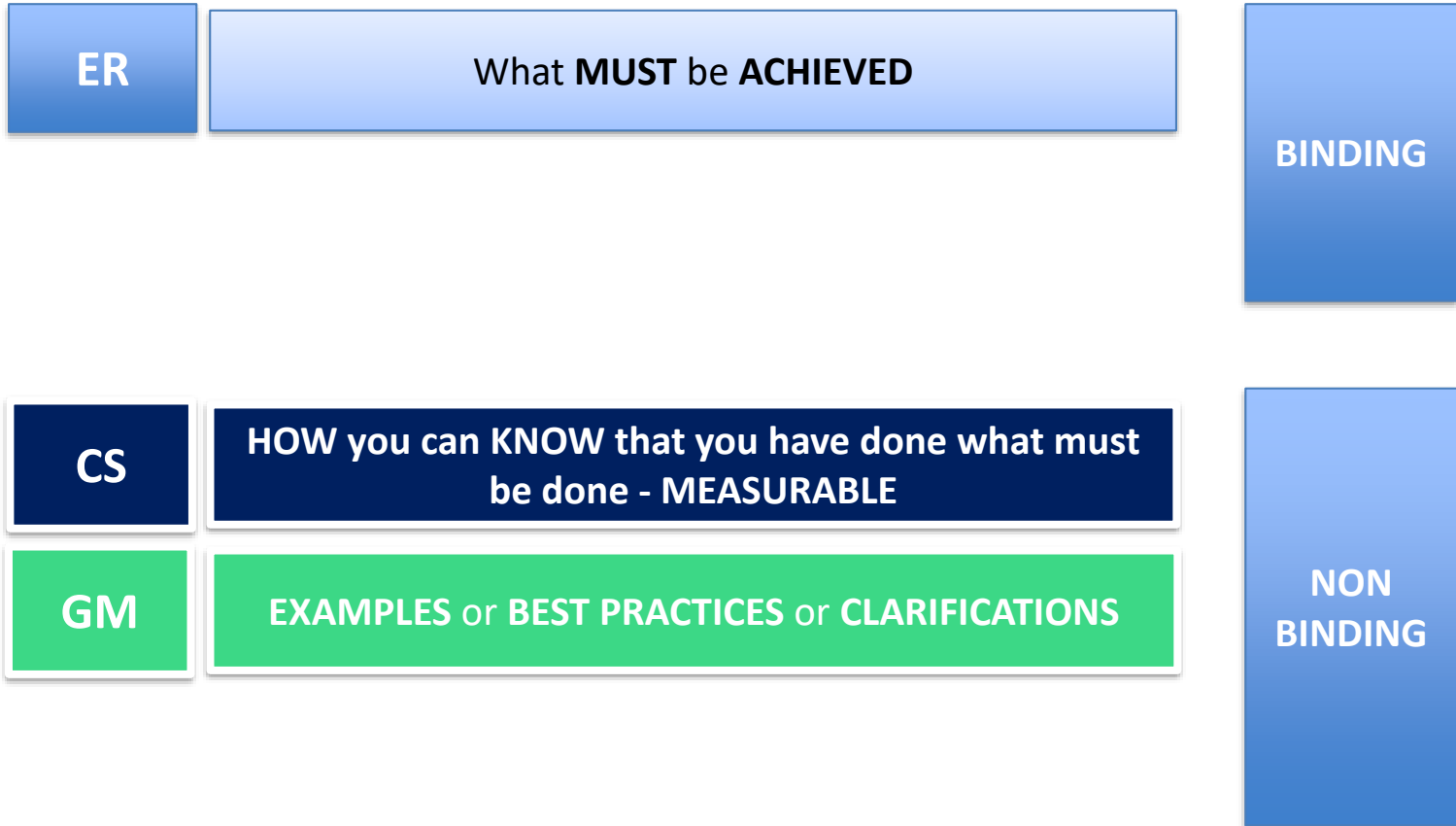
EXAMPLES or BEST PRACTICES or CLARIFICATIONS

Overview of EASA Regulation

EXAMPLE 2 INFRASTRUCTURE REQUIREMENT LONGITUDINAL SLOPES OF RUNWAY



Overview of EASA Regulation



Overview of EASA Regulation

22.8.2018

EN

Official Journal of the European Union

L 212/103

ANNEX VII

Essential requirements for aerodromes

1. PHYSICAL CHARACTERISTICS, INFRASTRUCTURE AND EQUIPMENT

1.1. Movement area

1.1.1. Aerodromes shall have a designated area for the landing and take-off of aircraft, which satisfies the following conditions:

- (a) the landing and take-off area shall have dimensions and characteristics suitable for the aircraft intended to use the facility;
- (b) the landing and take-off area, where applicable, shall have a bearing strength sufficient to support repetitive operations of the intended aircraft. Those areas not intended for repetitive operations only need to be capable of supporting the aircraft;
- (c) the landing and take-off area shall be designed to drain water and to prevent standing water becoming an unacceptable risk to aircraft operations;

ER

- Goal oriented, general requirements
- Very little flexibility for aerodromes, equipment and operations

Overview of EASA Regulation

CS

Technical standards
used as building blocks
for ADR certification

Flexibility for different
aerodromes
environments

CS ADR-DSN.B.060 Longitudinal slopes of runways

ED Decision 2016/027/R

- (a) The safety objective of limiting the longitudinal runway slope is to enable stabilized and safe use of runway by an aircraft.
- (b) The slope computed by dividing the difference between the maximum and minimum elevation along the runway centre line by the runway length should not exceed:
 - (1) 1 % where the code number is 3 or 4; and
 - (2) 2 % where the code number is 1 or 2.
- (c) Along no portion of a runway should the longitudinal slope exceed:
 - (1) 1.25 % where the code number is 4, except that for the first and last quarter of the length of the runway where the longitudinal slope should not exceed 0.8 %;
 - (2) 1.5 % where the code number is 3, except that for the first and last quarter of the length of a precision approach runway Category II or III where the longitudinal slope should not exceed 0.8 %; and
 - (3) 2 % where the code number is 1 or 2.

[Issue: ADR-DSN/3]

Overview of EASA Regulation

GM

EXAMPLES or BEST PRACTICES or CLARIFICATIONS

GM1 ADR-DSN.B.060 Longitudinal slopes on runways

ED Decision 2017/021/R

Slopes should be so designed as to minimise impact on aircraft and so not to hamper the operation of aircraft. For precision approach runways, slopes in a specified area from the runway end, and including the touchdown area, should be designed so that they should correspond to the characteristics needed for such type of approach.

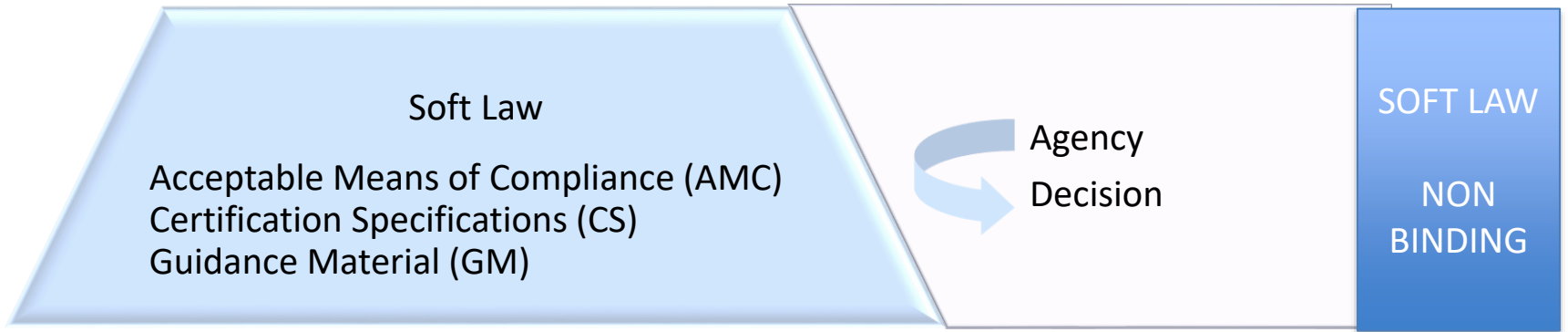
[Issue: ADR-DSN/4]

Overview about EASA Regulation



Overview of EASA Regulation

Why do we say NON BINDING?



Overview of EASA Regulation

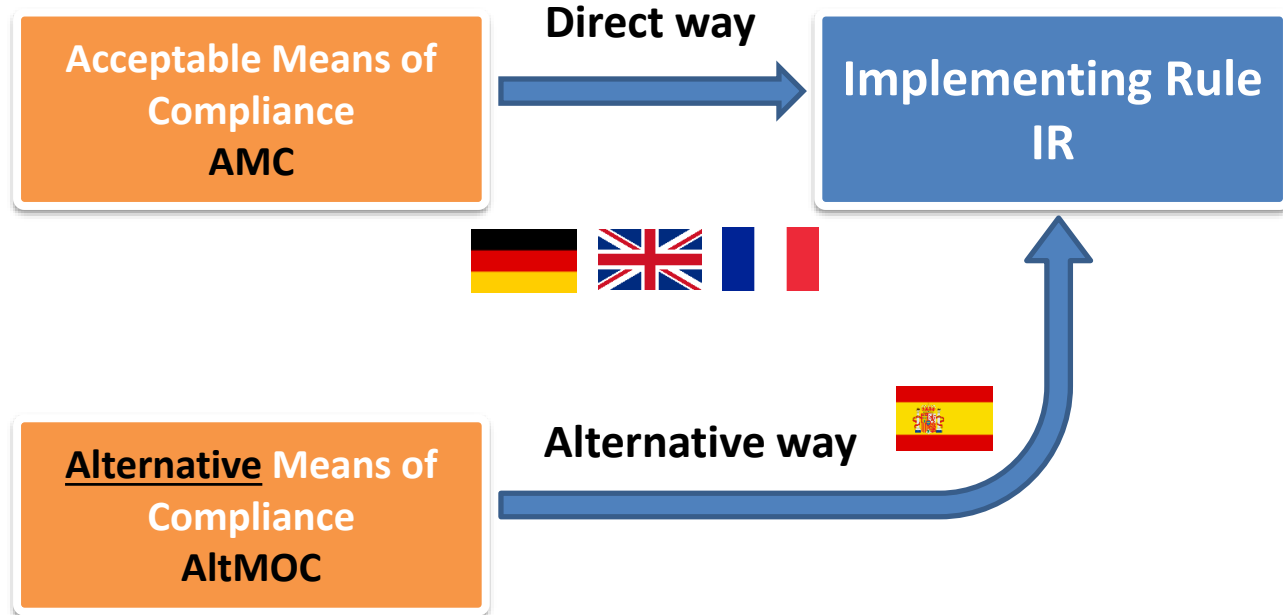
Because of the

FLEXIBILITY

That the regulation has established for the
AMC and CS

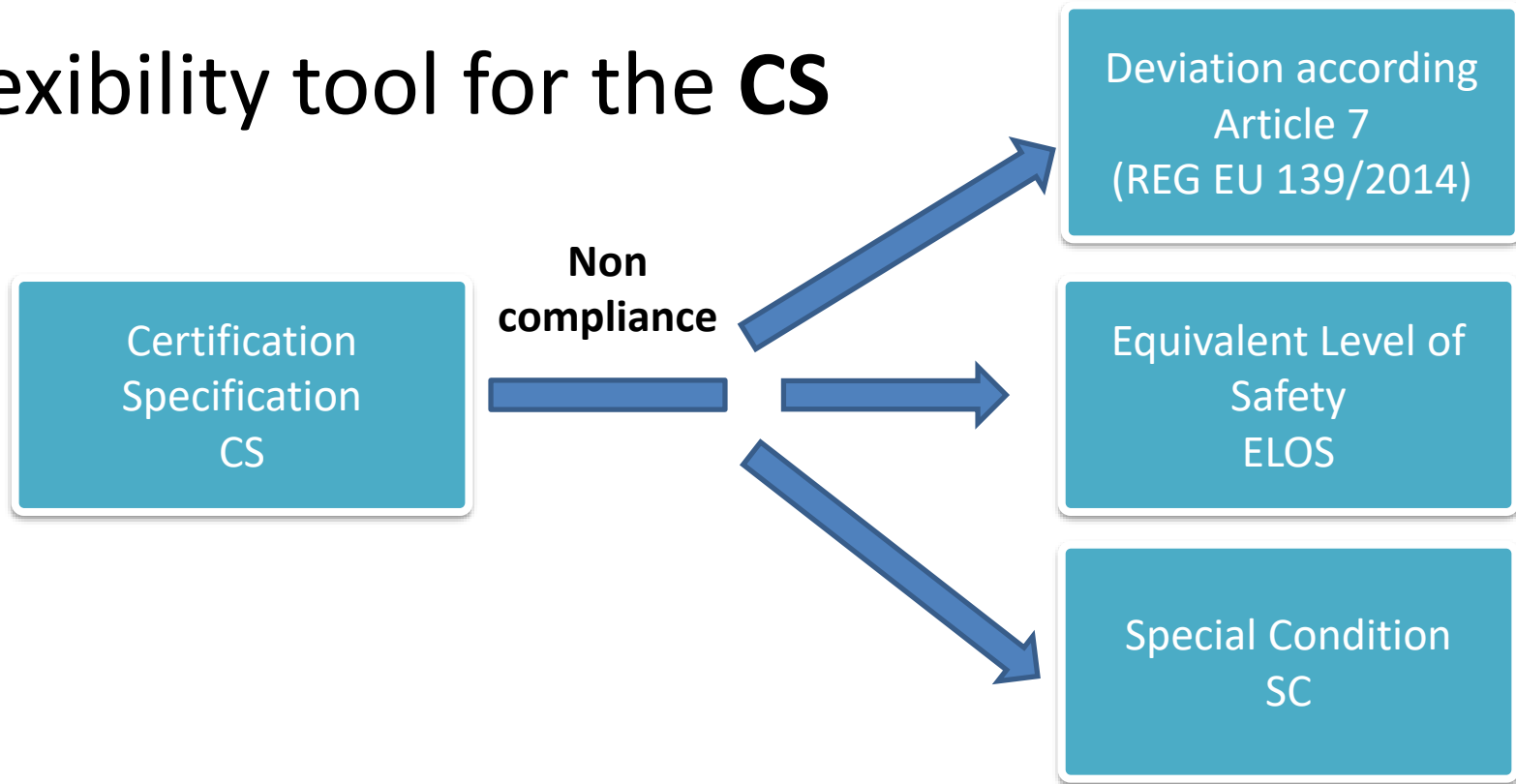
Overview of EASA Regulation

Flexibility tool for the AMC



Overview of EASA Regulation

Flexibility tool for the CS



Overview of EASA Regulation



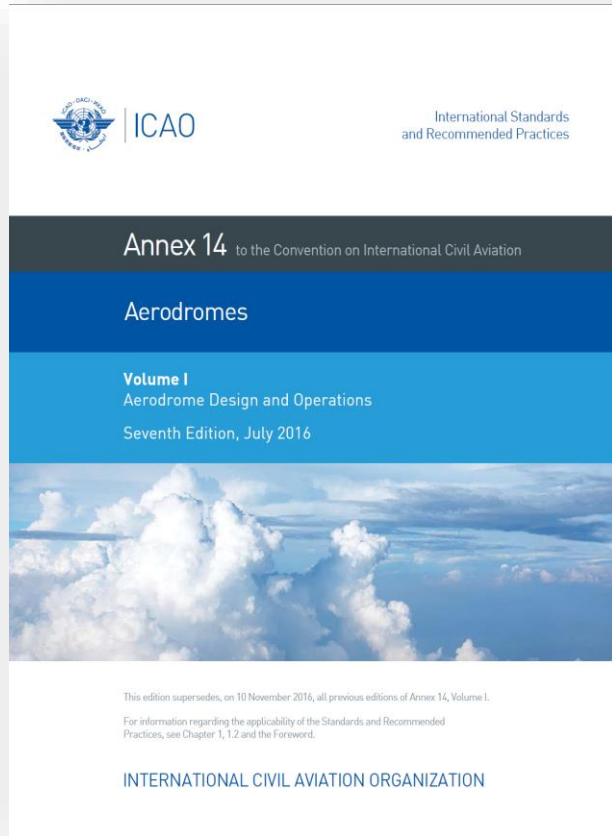
Brief Regulatory Refresher

→ EASA

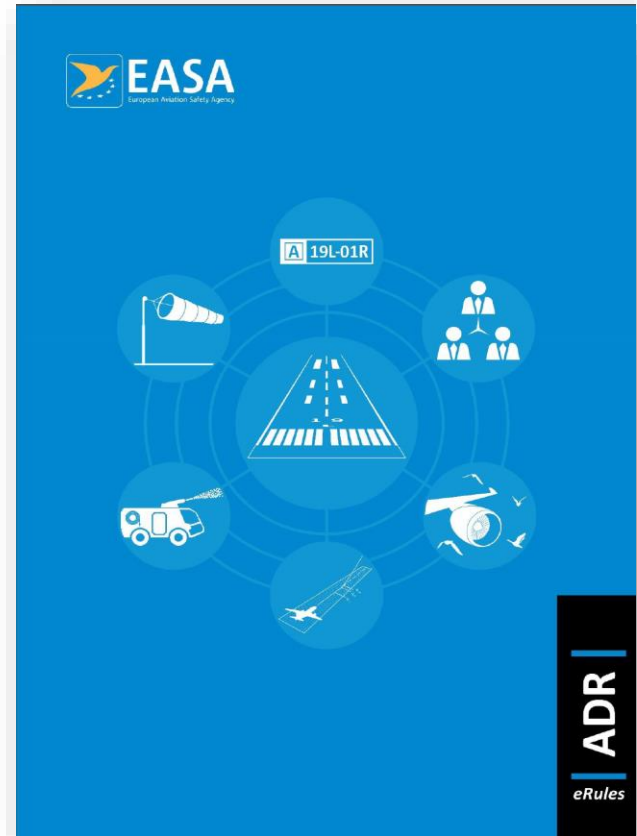
→ EASA Regulation

→ **ICAO ANNEX 14 VS EASA REG 139**

ICAO ANNEX 14 VS EASA REG 139



VS



ICAO ANNEX 14 VS EASA REG 139



CHAPTERS 2, 9 AND 10

Aerodrome data
Aerodrome operational services,
equipment and installations
Aerodrome maintenance

IRs OPERATIONS
REQUIREMENTS

CHAPTERS 3 TO 8

Aerodrome infrastructure

CERTIFICATION
SPECIFICATIONS

ICAO ANNEX 14 VS EASA REG 139



AUTHORITY REQUIREMENTS

- A. GENERAL REQUIREMENTS**
- B. MANAGEMENT**
- C. OVERSIGHT, CERTIFICATION & ENFORCEMENT**

ORGANISATIONS REQUIREMENTS

- A. GENERAL REQUIREMENTS**
- B. CERTIFICATION**
- C. AD OPERATOR RESPONSIBILITIES**
- D. MANAGEMENT**
- E. AERODROME MANUAL**

ICAO ANNEX 14 VS EASA REG 139



ICAO ANNEX 14 VS EASA REG 139



ICAO



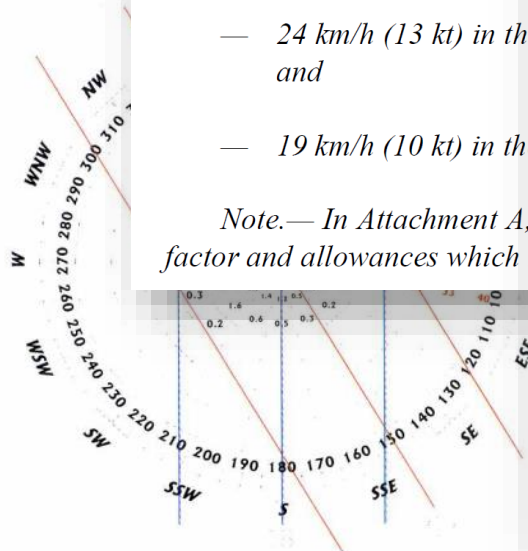
ICAO ANNEX 14 VS EASA REG 139

3.1.3 Choice of maximum permissible crosswind components

Recommendation.— *In normal circumstances, precluded*

- 37 km/h (20 kt) in the case of aeroplanes whose reference field length is 1 500 m or over, except that when poor runway braking action owing to an insufficient longitudinal coefficient of friction is experienced with some frequency, a crosswind component not exceeding 24 km/h (13 kt) should be assumed;
- 24 km/h (13 kt) in the case of aeroplanes whose reference field length is 1 200 m or up to but not including 1 500 m; and
- 19 km/h (10 kt) in the case of aeroplanes whose reference field length is less than 1 200 m.

Note.— *In Attachment A, factor and allowances which*



CS ADR-DSN.B.020 Choice of maximum permissible crosswind components

ED Decision 2014/013/R

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GM1 ADR-DSN.B.020 Choice of maximum permissible crosswind components

ED Decision 2014/013/R

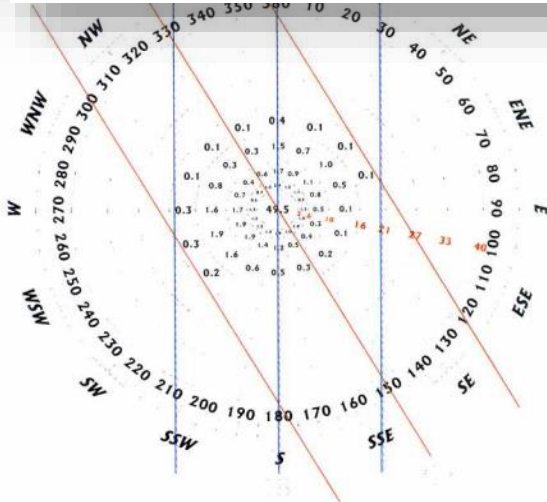
- (a) In the application of [GM1 ADR-DSN.B.015\(a\)](#) it should be assumed that landing or take-off of aeroplanes is, in normal circumstances, precluded when the crosswind component exceeds:
- (1) 37 km/h (20 kt) in the case of aeroplanes whose reference field length is 1 500 m or over, except that when poor runway braking action owing to an insufficient longitudinal coefficient of friction is experienced with some frequency, a crosswind component not exceeding 24 km/h (13 kt) should be assumed;
 - (2) 24 km/h (13 kt) in the case of aeroplanes whose reference field length is 1 200 m or up to but not including 1 500 m; and
 - (3) 19 km/h (10 kt) in the case of aeroplanes whose reference field length is less than 1 200 m.

ICAO ANNEX 14 VS EASA REG 139

3.1.4 Data to be used

Recommendation.— *The selection of data to be used for the calculation of the usability factor should be based on reliable wind distribution statistics that extend over as long a period as possible, preferably of not less than five years. The observations used should be made at least eight times daily and spaced at equal intervals of time.*

Note.— *These winds are mean winds. Reference to the need for some allowance for gusty conditions is made in Attachment A, Section 1.*



CS ADR-DSN.B.025 Data to be used

ED Decision 2014/013/R

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GM1 ADR-DSN.B.025 Data to be used

ED Decision 2017/021/R

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[Issue: ADR-DSN/4]

ICAO ANNEX 14 VS EASA REG 139



ICAO



Amendment 10



Issue 1

TWY min separation



Issue 2

Amendment 11-A



Issue 3

Amendment 13-A



Issue 4

ICAO ANNEX 14 VS EASA REG 139



ICAO

VS



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easa.europa.eu/connect



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