



**THE INDEPENDENT VOICE OF TRUST**

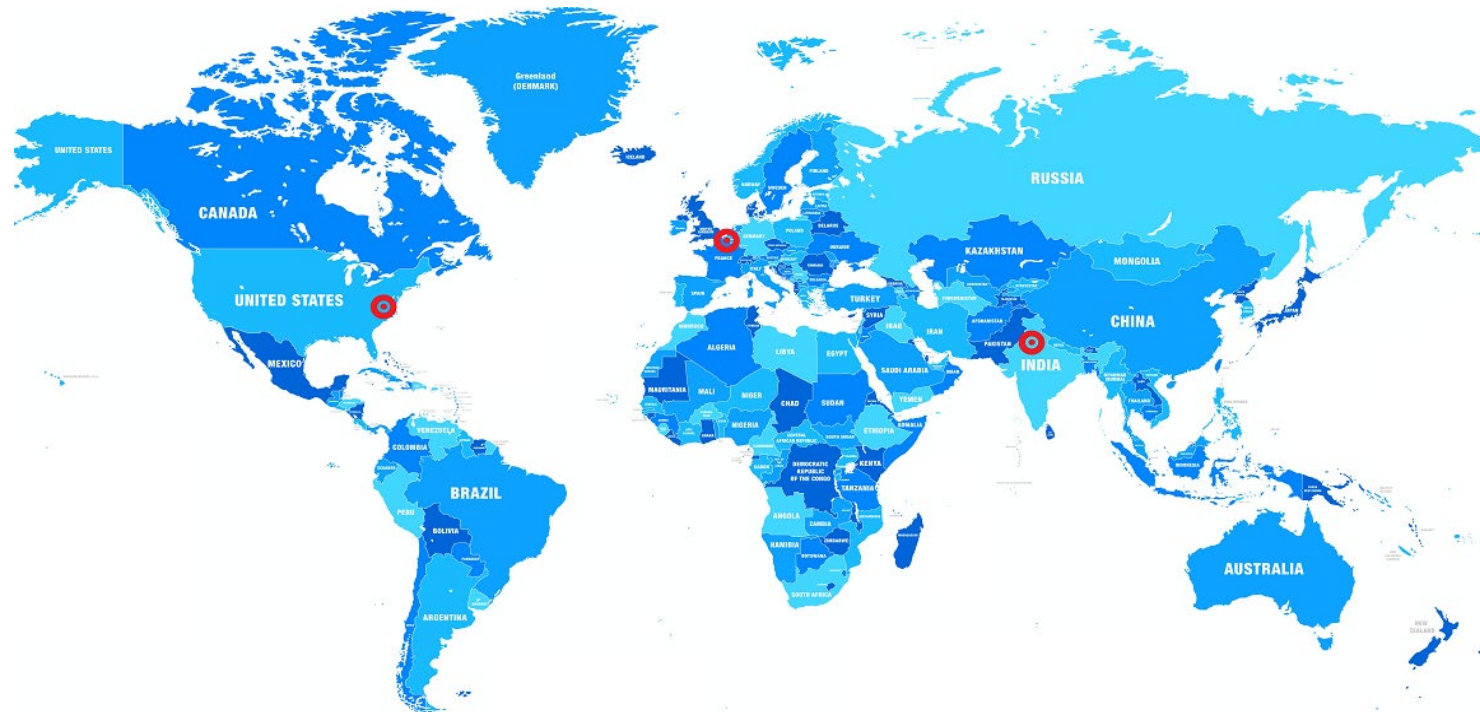


# TIC Council

## The Independent Voice of Trust



- Born from the merger of IFIA and CEOC
- ~90-member companies & organizations active in more than 160 countries (HQ mapped)
- TIC Council has its head office in Brussels. It is also present in Washington DC, China and India.



# TIC Council Mission



As the voice of the global independent testing, inspection and certification industry, the TIC Council engages governments and key stakeholders to advocate for effective solutions that protect the public, support innovation and facilitate trade.

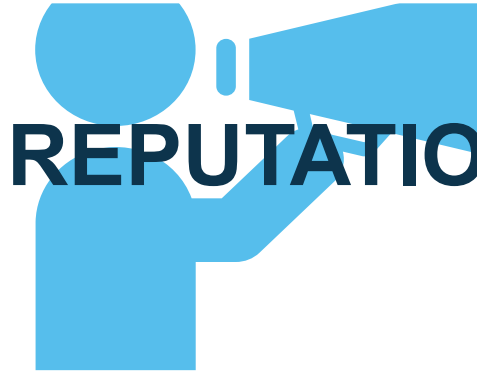
The TIC Council works with its members to promote best practices in safety, quality, health, ethics and sustainability.

# TIC Council Strategic Objectives



## ADVOCACY

Advocating for a balanced and informed regulatory framework



## REPUTATION

Enhancing the reputation and raise awareness of the role of independent TIC



## BEST PRACTICES

Raising standards of the TIC industry's practices in order to enhance trust in the TIC industry

# TIC Council Compliance Programme

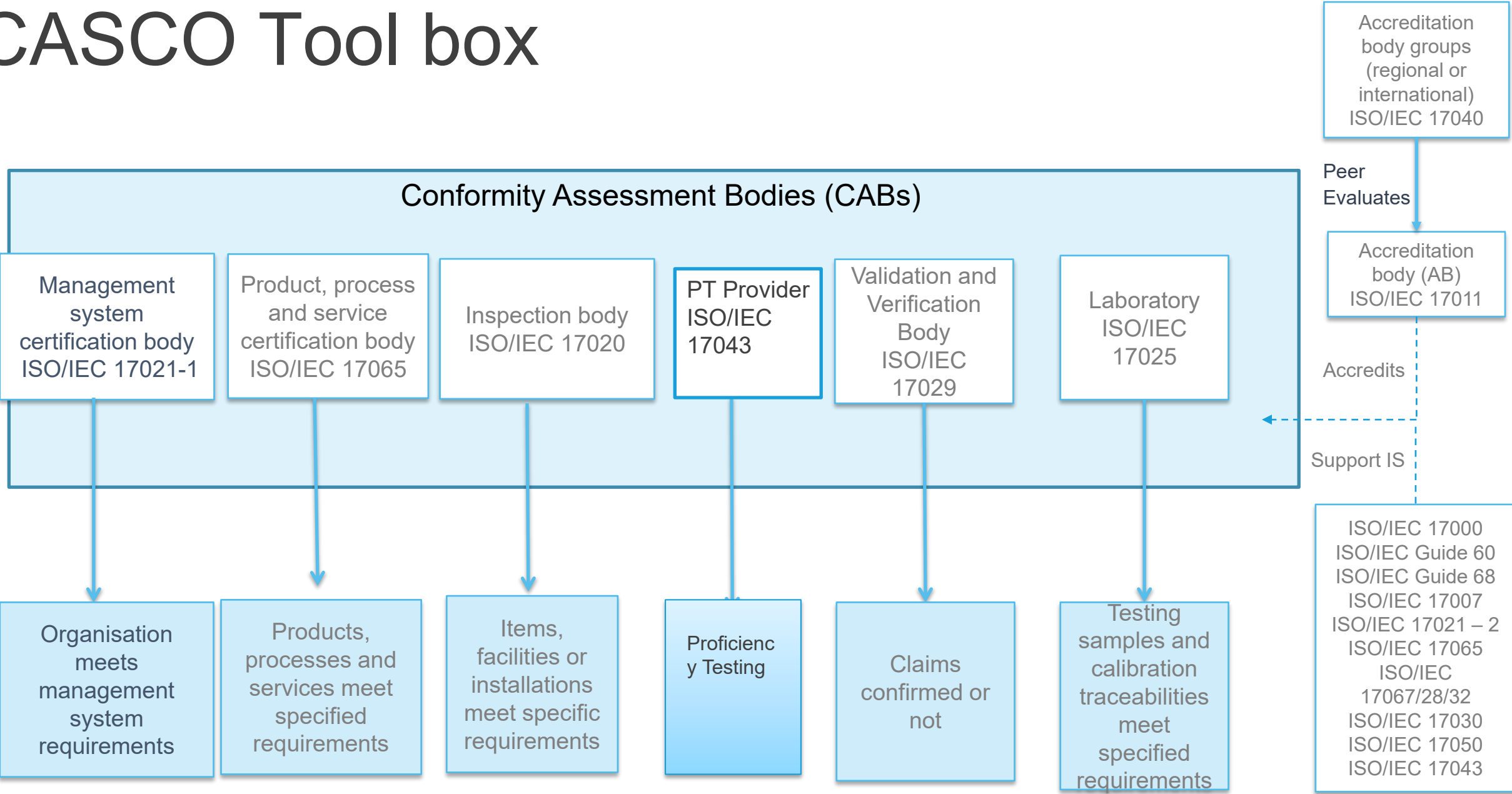


Protect the trust, social responsibility and reliability of the sector

## Principles:

- Integrity
- Conflict of Interest
- Confidentiality and Data Protection
- Anti-Bribery
- Fair Business Conduct
- Health and Safety
- Fair Labour

# CASCO Tool box



# ISO/IEC 17029:

## Conformity Assessment – General Principles and Requirements for Validation and Verification Bodies



Published in Nov 2019 as CASCO believed that its existing standards did not adequately address activities characterized as “Validation” and “Verification” as ISO 14065 was focused on Green House Gases only.

### Application:

- Application to validation/verification bodies in any sector, in conjunction with sector specific programmes that contain requirements for validation/verification processes and procedures
- Validation/verification bodies can provide validation/verification as first party, second party as well as third party activity.
- Bodies can be validation bodies only, verification bodies only, or provide both activities.
- General principles and requirements for the competence, consistent operation and impartiality of bodies performing validation/verification as conformity assessment activities



## ISO/IEC 17029:

### Conformity Assessment – General Principles and Requirements for Validation and Verification Bodies



- This document can be used as a basis for accreditation by accreditation bodies, peer assessment within peer assessment groups, or other forms of recognition of validation/verification bodies by international or regional organizations, governments, regulatory authorities, programme owners, industry bodies, companies, clients or consumers.



# Programme Contents



Discussion about the requirements in Standard



Update on the programme requirements



Case studies w.r.t programme implementation and challenges with regard to ICAO-CORSIA scheme

# ISO/IEC 17029 and ISO 14065 Clauses



ISO 14065:2013 : Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition

ISO 14064-3:2006: Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions

ISO 14066:2011: Greenhouse gases – Competence requirements for greenhouse gas validation team and verification teams

CORSIA SARP

ICAO Environmental Technical Manual

IAF MD 6: IAF Mandatory Document for the Application of ISO 14065:2013

# OBJECTIVES and IMPARTIALITY



- CORSIA Eligible Emissions Units (3.2.2)
- Cancellations of CORSIA Eligible Emissions Units are accurately reported (3.2.2.a)
- To ensure Impartiality a review of all COI situations is required.
- Assessment to be conducted in impartiality and independence manner and for which the VVB shall document how it relates to other parts of the same legal entity (SARP: 2.2.6; 4.3.1, 5 of ISO/IEC 17029)
- Threats to impartiality to be highlighted and documented
- Top management commitment to impartiality
- The lead verifier is limited to six annual verifications of GHG emissions (SARP: 2.2.1)

# RISK ASSESSMENT

## Risk Assessment [ETM 3.3.4.2(3), 4.3.7 of ISO/IEC 17029]

Considerations for the risk assessment:

Complexity of the Emissions Monitoring Plan

Determination of sample size

Maturity of the internal control activities and integrity of IT systems

Assessment of whether CORSIA data and information are part of a certified management system

Number of data gaps

Multiple locations for data gathering and processing

Risk related to Competence of personnel

Use of CORSIA eligible fuels

Liability Issues

# Liability

**Requirements to review the liabilities as per 5.4 of ISO/IEC 17029 to be considered.**

- Include proper backup of software systems and review the risks and develop a liability coverage.
- Inappropriate Claim wherein there is a need to inform the regulator
- Liability not able to serve the client due to incompetent persons

# Liability

**Requirements to review the liabilities as per 5.4 of ISO/IEC 17029 to be considered.**

- Include proper backup of software systems and review the risks and develop a liability coverage.
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- Liability not able to serve the client due to incompetent persons

# Resource requirements

2.3.1 of SARPS, 7.1, 7.2, 7.3 of ISO/IEC 17029 and ISO 14065

Requirements is that VVBs to ensure that its personnel is knowledgeable and competent with regards to programme requirements. Criteria to be established for same and should include:

- Methods for evaluating the competence of verification team personnel
- Records to demonstrate competence of verifiers and other personnel
- Authorization of personnel
- Monitoring the performance




# Outsourcing



VBs may use contracted verifiers (SARP 2.8, 7.4 ISO/IEC 17029)

- VVB to maintain full responsibility and retain authority for decision.
- The expectation is contracted verifiers are managed in substantially the same way as employed personnel with respect to training, use of VB procedures, etc.
- The SARP allows the independent review to be outsourced to competent and appropriate staff and covered under accreditation.

# Process requirements



Pre engagement  
Engagement  
Planning  
Execution  
Review  
Decision.

# Pre-engagement


Appropriate review of all details including clients locations, reports data points, resources, competence.

Finalisation of time frame.

ICAO has added requirements/guidance in the following areas:

1. Conflict of interest
2. Management and personnel
3. Competence of personnel
4. Verification team knowledge
5. Verification team technical expertise
6. Verification team data and information auditing

# Planning

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A well-planned verification that is executed properly forms the basis for the assurance that is expressed in the verification statement. Without proper planning, verification activities do not produce audit evidence sufficient to conclude that the risk of material misstatement has been reduced to an acceptably low level.

# Verification Plan

## Verification Plan (SARP 3.6 and 9.4 ISO/IEC 17029)

The verification plan shall include the following:

Verification team members, roles, responsibilities, and competence

Assess the risk to material misstatements

Evidence gathering criteria

Any external resources required (e.g. technical experts, interpreters)

Schedule of verification activities

Sampling plan, including the processes, controls and information to be verified and details of the risk assessment

The ETM suggests the following additions:

Test plan for control activities

Data sampling plan

The VVB shall carry out substantive data testing consisting of analytical procedures and data verification to assess the plausibility and completeness of data (SARPS and ISO 14044: 3)

# Site Visits and Witness Assessments



## Site Visits [ETM 3.3.4.2(4)]

Site visits are an essential part of the verification activities under CORSIA

If a VB decides not to perform a site visit, this has to be clearly indicated in the verification report with a detailed explanation of the technical means used to perform the verification

A major role for AB technical assessors is to observe VB verifiers performing verifications. Assessors should ask VB verifiers for their strategic analysis, risk assessment, verification plan, and sampling plan prior to the site visit.

# Confidentiality



## Confidentiality (SARP 2.10 and 10.4 of ISO/IEC 17029)

- VVB should inform client in advance of information it will seek and place in public domain.
- Information should be confidential
- CORSIA has requirement that the VB must seek the aeroplane operator's approval prior to submitting the verification report and statement to the State authority
- The mechanism for obtaining the approval must be part of the agreement between the VB and the aeroplane operator



# Agreement



## Agreement (SARP 2.12) 1/2

The agreement covers the “conditions for verification by stating:”

The verification’s scope, objectives, level of assurance, materiality threshold and

relevant verification standards (ISO 17029, ISO 14064-3, SARP, ETM)

Amount of time allocated for the verification

Flexibility to change time allocation if this proves necessary because of findings

during the verification

Conditions that have to be fulfilled to conduct the verification, such as access to all


relevant documentation, personnel and premises

# Publicly Available Documents

## Publicly Available Documents (10.1)

- Information of VVB process, commitment to impartiality, activities which VVB provides
- Candidate VBs should already have publicly available information about their GHG verification activities and the sectors in which they operate
- Are they exclusively a “verification body”? Or a “validation and verification body”
- Does the description of their activities conform to the technical assessor’s understanding of what a GHG VB does?
- Are the sectors in which they operate consistent with the competence of personnel

# Aspects to be cross verified during assessment

- 
- A solid blue square located on the left side of the slide.
- a) Calculation of average fuel burns and applying them on individual flights as reference (check whether maximum, minimum and average fuel burn per hour is reasonable or can be explained by aeroplane operator);
  - b) Maximum tank capacity and uplift per flight;
  - c) Average fuel burn according to aeroplane age;
  - d) Tracking of aeroplane registrations within the aeroplane operator's data to check consistency of data;
  - e) Use of data (e.g. invoices) from air navigation service providers if available in a digital format; and
  - f) Checks to ensure the correct set of State pairs included in the offsetting requirements of the CORSIA.
  - g) Appropriateness of source document for the fuel consumption data
  - h) Use of correct report template approved by State after confirmation of EMP, preparation of ER by AO.

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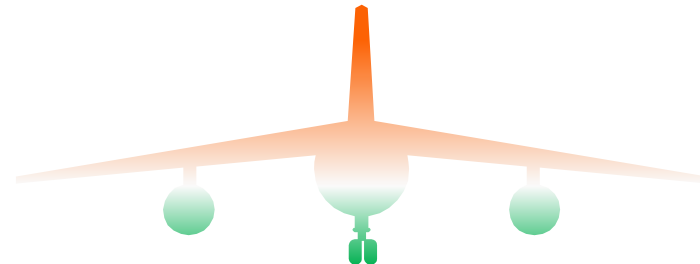
Wikipedia page:  
Testing, inspection and  
certification

**TIC-Council.org**





# REGULATORY FRAMEWORK FOR CORSIA VERIFICATION, AND CHALLENGES



**EKTA AGRAWAL**  
**ASSISTANT DIRECTOR**  
**o/O DGCA**  
**07.12.2021**

# AVIATION & THE ENVIRONMENT

In 2008, the aviation industry agreed a global, sector-wide climate action framework - a world first. The framework is based on a set of three global goals: short, medium and long-term.

**Short-term goal-** 1.5% average annual fuel efficiency improvement from 2009 to 2020

**Medium-term goal-** Stabilise net aviation CO<sub>2</sub> emissions at 2020 levels through carbon-neutral growth.

**Long-term goal-** Halving net CO<sub>2</sub> emissions by 2050 compared to what they were in 2005.

Also known as ICAO Aspirational Goals



# CORSIA: HOW IT ALL BEGAN



ICAO

ENVIRONMENT



ICAO Environmental  
Symposium 2019

DESTINATION GREEN: THE NEXT CHAPTER



CORSIA was adopted through Assembly Resolution 39-3

The **first global MBM scheme** for any industry sector

To achieve ICAO's global aspirational goal of carbon neutral growth from 2020 (CNG 2020), CORSIA is one complementary element in the basket of measures to:

- aircraft technology
- operational improvements
- sustainable aviation fuels





# CORSIA

- CORSIA sets up two key obligations, with different timetables but extremely related and dependent between each other.

MRV  
From 2019

Offsetting  
from 2021

# MRV from 2019

- A key component of CORSIA implementation
- Essential for a robust and effective implementation of CORSIA and has a key role to ensure environmental integrity, transparency and a level playing field among all aeroplane operators (AO) as well as trust and confidence in the scheme
  - MRV is needed to determine the CORSIA baseline
  - MRV is needed to collect information on CO<sub>2</sub> emissions from international aviation on an annual basis to compare against the baseline.

# Offsetting from 2021

- **Participation** of States from 2021 determines the **coverage** of emissions to be offset by CORSIA:
- A flight covered by CORSIA for offsetting requirements if both States connecting the flight are participating
- A flight will not be covered by CORSIA for offsetting requirements if one or both of States connecting the flight are not participating
- However, AOs are required to monitor, verify and report **all international flights from 2019** (unless the AO is excluded).



# WHAT IS VERIFICATION

- A process to ensure that the information is accurate without any error prior to the aeroplane operator submit it to State
- Requires an independent third party to verify the data
- Already in use in various forms such as financial auditing, greenhouse gas inventory, emissions reduction projects, etc
- Verification is an important and integral part of CORSIA as it ensures the accuracy of the information related to:
  - Amount of CO<sub>2</sub> emissions from international flights,
  - Calculating offset requirements,
  - Purchase of emissions units to address offsetting requirements, and
  - Cancellation of eligible emissions units

# Regulatory issues

## Civil Aviation Requirements

- ❖ Operators to carry out internal verification on their fuel and emissions data
- ❖ Verification body to verify the data as per the approved EMP
- ❖ To ensure that emissions data submitted is complete and correct in all aspects.



# CAR ON CORSIA VERIFICATION

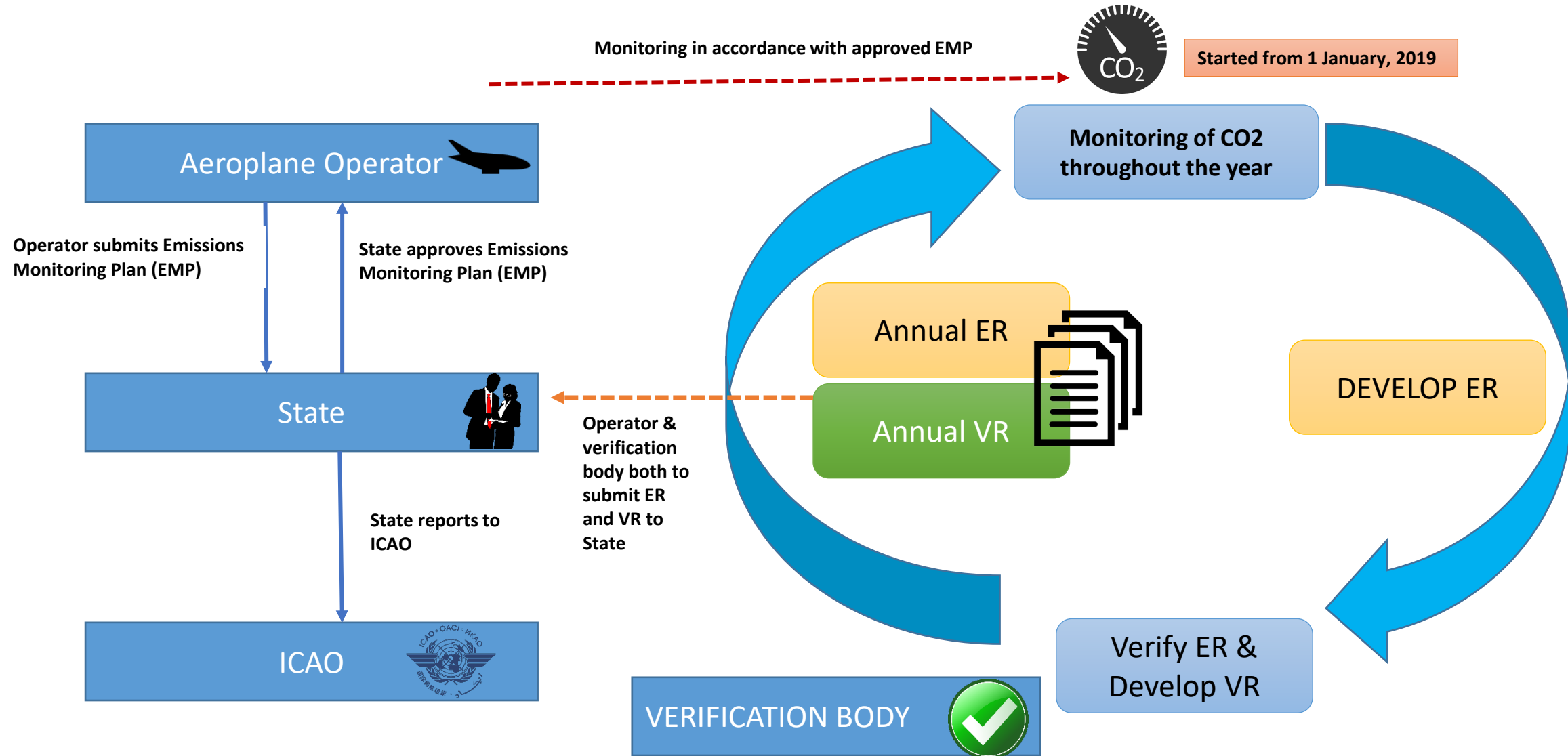
## DGCA's CAR, Section-10, Series-C, Part-1, Chapter-3

- Monitoring of annual fuel consumption and emissions data from international operation from 1<sup>st</sup> January, 2019.
- The Aeroplane Operators:-
  - Annual Emissions Report 2019 –
  - Annual Verification Report 2019 –
- Emissions Report Template – DGCA

by 31<sup>st</sup> March, 2020

***The operators must engage VB at the earliest in order to avoid any delay in submission of reports***

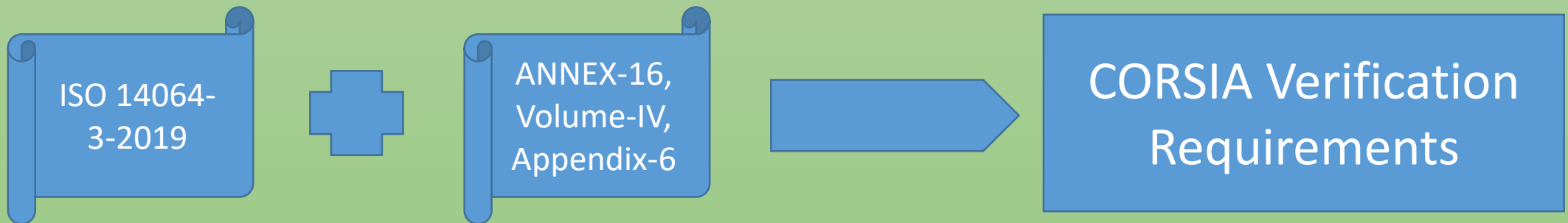
# Annual Cycle for MRV





# ROLE OF VERIFICATION BODY

- Verification Body shall ensure completeness and correctness of the emissions data submitted by the aeroplane operator
- Verification Body will also ensure that the monitoring has been done as per approved EMP
- The aeroplane operator and the verification body, both shall submit the ER and VR independently to DGCA as per the timeline specified



# ROLE OF VERIFICATION BODY

- The Verification Body:-
  - Verified Annual Emissions Report 2019 –
  - Annual Verification Report 2019 –
  - Verification Statement –
- Verification Body has to issue a Verification Statement after the verification
- Statements shall be as follows:
  - Verified as **Satisfactory**
  - Verified as **Satisfactory with Comments**
  - Verified as **Not Satisfactory**

by 31<sup>st</sup> March, 2020

# RESPONSIBILITY OF VERIFICATION BODY

- **Verified as Satisfactory**
  - No misstatements/mismatch
  - No non-conformities
- **Verified as Satisfactory with Comments**
  - Includes non-material misstatements
  - Non-conformities
- **Verified as Not-Satisfactory**
  - Includes material misstatements
  - Non-conformities
  - No confidence in data
  - No Emissions Monitoring Plan
  - Scope of verification too limited

ACCEPTABLE



NOT ACCEPTABLE



# MISSTATEMENTS

- Examples:-
  - ❖ Missing flights in the sequence of flights
  - ❖ Non addressed data gaps as missing fuel uplift
  - ❖ Implausible data, such as:
    - ✓ Fuel uplifts larger than tank capacity
    - ✓ Block-on fuel higher than Block-off fuel
    - ✓ Unit mismatch



# NON-CONFORMITIES

- Examples:-
  - ❖ Incorrect application of the fuel use
  - ❖ Incorrect application of the CERT
  - ❖ Incorrect version of EMP used
  - ❖ Required quality procedures not followed
  
- **Aeroplane operator has to correct all misstatements and non-conformities raised by the Verification Body during the verification process prior to submitting the data to DGCA**

# REQUIREMENTS FOR VERIFICATION BODY

## Eligibility for Verification Body:

- ❑ Accredited to **ISO/IEC 17029:2019 and ISO 14065:2020** by any National Accreditation Body
- ❑ National Accreditation Body shall be working in accordance with ISO/IEC 17011:2004
- ❑ Verification body shall conduct the verification process in accordance **with ISO 14064-3:2019** and the other requirements
- ❑ Verification body shall have sufficient knowledge of aviation industry and associated Greenhouse Gas Inventory
- ❑ Recommended – shall have a Certificate of Participation in ICAO's Verifier Course

***Duly qualified verification bodies have to approach DGCA for their empanelment before taking up verification tasks in India.***

# VERIFICATION BY DGCA

- On receipt of operator's Annual Emissions Report, DGCA will carry out order of magnitude check on the data
- The objective of DGCA's order of magnitude check of an aeroplane operator's Emissions Report is to assess the completeness and correctness of the data reported by the operator
- The Verification Report and Verification Statement issued by Verification Body will be used as an evidence towards completeness and correctness of the data
- Once satisfied, the data will be submitted to ICAO

***A Verification Body will not be considered next time incase it is found that the Annual Emissions Report is not correct and an attempt has been made to hide the facts.***



# ACHIEVEMENTS AND CHALLENGES







# CORSIA : STATE

ACHIEVEMENTS	STATUS
Establishment of national/regional regulatory frameworks	✓
Identifying of all scheduled and non-scheduled aeroplane operators attributed to DGCA that are covered under CORSIA	✓
Nomination of focal points to be obtained for both scheduled and non-scheduled aeroplane operators	✓
Sensitization of the aeroplane operators & verification bodies about CORSIA by conducting meetings and workshops	✓
Developing template for Emissions Monitoring Plan (EMP) for use by the aeroplane operators	✓
Instruction to the aeroplane operators to submit the Emissions Monitoring Plan	✓
Submit Emissions Monitoring Plan to DGCA for approval	✓
Approve the aeroplane operator's Emissions Monitoring Plan	✓
Send a list of aeroplane operators attributed to the State to ICAO	✓
Identify Nationally Accredited Verification Bodies and communicate to ICAO	✓

# ACHIEVEMENTS

- DGCA published Guidance in respect of CORSIA requirements.
- Guidance for verification bodies was published which included :
  - Procedure for carrying out verification
  - Verification Report and Verification Statement template
- Emissions report Template was published.
- CORSIA Procedure manuals to be submitted by Operators, for which guidance was provided by DGCA.
- More meetings and workshops to be planned for further guidance in CORSIA.



# **CIVIL AVIATION REQUIREMENTS**

**SECTION 10 – AVIATION  
ENVIRONMENT PROTECTION  
SERIES 'C' PART I**

**CARBON OFFSETTING AND REDUCTION  
SCHEME FOR INTERNATIONAL AVIATION  
(CORSIA)**

**ISSUE I (Revision 0)  
December 2018**

# **GUIDANCE MATERIAL ON CIVIL AVIATION REQUIREMENTS ON CORSIA**



**Document No. 02/2018/CORSIA**

**GOVERNMENT OF INDIA  
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION  
TECHNICAL CENTRE, OPP, SAFDURJUNG AIRPORT,  
NEW DELHI**



## TEMPLATE FOR EMISSIONS MONITORING PLAN (EMP) UNDER CORSIA

### CONTENTS

- 1 Version control of Emissions Monitoring Plan
- 2 Aeroplane operator identification and description of activities
- 3 Fleet and operations data
- 4 Methods and means for calculating emissions
- 4.1 Fuel Use Monitoring Method
- 4.2 ICAO CORSIA CO<sub>2</sub> Estimation and Reporting Tool (CERT) (OPTIONAL)
- 5 Data management, data flow, control system, risk analysis and data gaps

### Template Information

Template provided by:	Director General of Civil Aviation
Version (publication date):	1.0 (14 Aug 2018)

GOVERNMENT OF INDIA  
MINISTRY OF CIVIL AVIATION  
DIRECTOR GENERAL OF CIVIL AVIATION  
NEW DELHI INDIA

## GUIDANCE MATERIAL FOR EMISSIONS MONITORING PLAN (EMP) UNDER CORSIA



Document No. 01/2018/CORSIA

August, 2018

GOVERNMENT OF INDIA  
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION  
TECHNICAL CENTRE, OPP, SAFDURJUNG AIRPORT,  
NEW DELHI.



## **CORSIA**

### **EMISSIONS REPORT (ER)**

#### **CONTENTS**

- 1 Aeroplane operator identification and description of activities
- 2 Underlying basic information of the Emissions Report
- 3 Aeroplane fleet and fuel types
- 4 Fuel density
5. Reporting
- 5.1 Reporting - State pairs
- 5.2 Reporting - Aerodrome pairs
- 6 Data gaps

#### **Template Information**

Template provided by:	Director General of Civil Aviation
Version (publication date):	1.0 (23 Aug 2019)

**GOVERNMENT OF INDIA**  
**MINISTRY OF CIVIL AVIATION**  
**DIRECTOR GENERAL OF CIVIL AVIATION**  
**NEW DELHI INDIA**

## **GUIDANCE MATERIAL FOR ANNUAL EMISSIONS REPORT (AER) UNDER CORSIA**



**Document No. 02/2019/CORSIA**

**NOVEMBER, 2019**

**GOVERNMENT OF INDIA**  
**OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION**  
**TECHNICAL CENTRE, OPP, SAFDURJUNG AIRPORT,**  
**NEW DELHI.**

# CORSIA: MAJOR CHALLENGES





# CORSIA – 2019

- Search for organization began which could accredit the verification bodies by DGCA.
- Started working with National Accreditation Board for Certification Bodies (NABCB) for developing Verification body within the country
- Accreditation for CORSIA verification was launched
- Two verification bodies Bureau of Veritas India Pvt. And TUV India Pvt. Ltd. Were accredited by NABCB, wherein DGCA was involved in all processes.

# 2020 Activities : At a Glance

- Preparatory meeting – Verification Bodies & Aeroplane Operators
  - ❖ **First verification** – Air India: 24 – 29 February, 2020
  - ❖ EU-SA APP Workshop at Sri Lanka from 25-28 February, 2020
  - ❖ **Second verification** – Spicejet: 2 – 5 March, 2020
  - ❖ **Third Verification** –Indigo: scheduled for March but delayed



# COVID – 19 PANDEMIC: BREAKOUT

- ❑ COVID-19: Started in January, 2020
- ❑ Complete Lockdown: 25 March, 2020 – both domestic and international scheduled operations
- ❑ However, non scheduled international flights were operating to bring back the international stranded passengers
- ❑ Consequences: global civil aviation activities came to a halt
- ❑ The global emissions level from aviation reduced drastically due to COVID-19
- ❑ Domestic flights resumed: 25 May, 2020 with 33% capacity

# COVID – 19 PANDEMIC: CHALLENGES

- ❑ **Challenge** – With complete lockdown in place, verification activities for aeroplane operators was a big challenge
- ❑ Matter taken up with National Accreditation Body and Verification Bodies – Alternative solution
- ❑ Off-site verification – Final solution
- ❑ Procedure for off-site verification developed by VBs was approved by NAB
- ❑ DGCA granted permission to carry out off-site verification before ICAO's decision

# OFF-SITE VERIFICATION

- ❑ **Challenge** – Off-site verification was not easy – verification of huge emissions data, a new concept for the first time
- ❑ No clarity from ICAO regarding postponement of CORSIA data submission deadline
- ❑ **Third Verification** – Indigo: 14 – 17 May, 2020
- ❑ **Fourth Verification** – GoAir: 26 – 28 May, 2020
- ❑ Even after so many hurdles, the verification of all aeroplane operators was completed within May, 2020 – deadline specified by ICAO



# ANNUAL EMISSIONS/ VERIFICATION REPORT

- ☐ Annual Emissions Reports – submitted on time
- ☐ Annual Verification Reports – submitted on time
- ☐ Emissions Reports and Verification Reports – examined
- ☐ Necessary corrections – AOs and VBs were advised
- ☐ Final reports with corrections – accepted
- ☐ Individual data – transferred into Excel sheet
- ☐ **Challenge** – In-person meetings were not possible
- ☐ **Challenge** – Possible through phone, webex, etc

# CORSIA – FUTURE

- CORSIA – A new concept with daily new challenges
- Learning everyday with time
- Availability of VVBs for CORSIA Verification
- CORSIA Eligible Emissions Units criteria, CORSIA Eligible Fuels & Sustainability Certification schemes for CEF- areas of concern
- Offsetting calculations
- Completion of one compliance cycle



# AVIATION AND THE ENVIRONMENT





# AVIATION AND THE ENVIRONMENT





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# AVIATION AND THE ENVIRONMENT

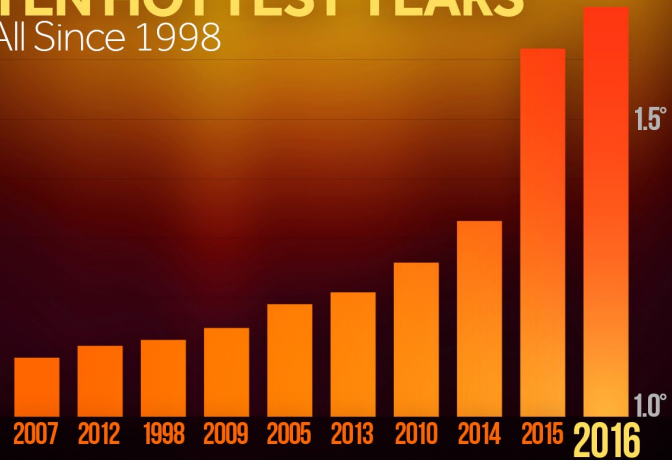




# AVIATION AND THE ENVIRONMENT

## TEN HOTTEST YEARS

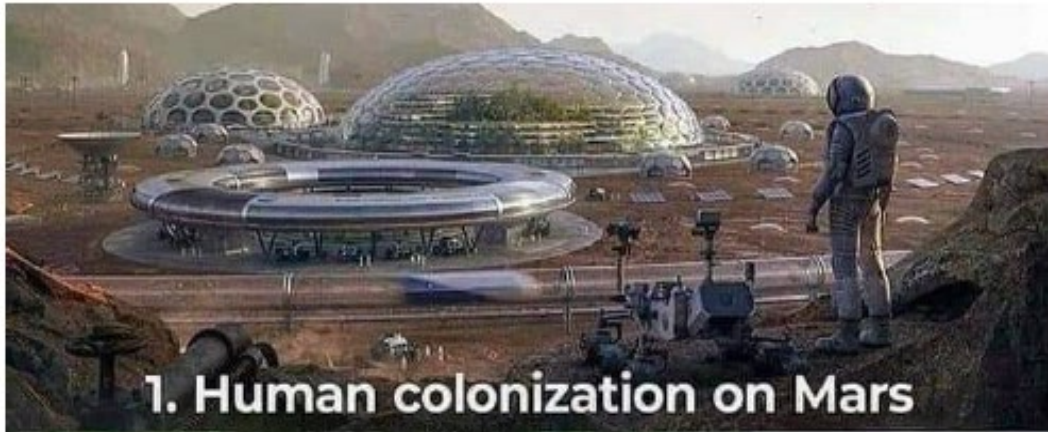
All Since 1998



2003 and 2006 (not shown) tied with 2007. Columns represent difference from 20th century average. Data as of January 18, 2017. Subject to change based on NCEP revisions. Source: NOAA/NCEP

**THE EARTH CALLED.  
SHE WANTS HER CLIMATE BACK.**





**1. Human colonization on Mars**



**2. Making earth a better place to all life**

WHICH ONE WOULD YOU CHOOSE  
?





# ISO/IEC 17029

Conformity assessment —  
General principles and requirements for  
validation and verification bodies

## Requirements for bodies

1

## ISO/IEC 17029 – Structure

- **Individual requirements** indicated, where applicable
  - for validation / verification
  - for 1<sup>st</sup> / 2<sup>nd</sup> / 3<sup>rd</sup> party
- **Common structure** (QS-CAS-PROC-01)
- **Common elements** (QS-CAS-PROC-33)
  - Draft (June 2018) for revised version implemented

2

## ISO/IEC 17029 – Structure

- **Introduction**
- Clause 1 – **Scope**
- Clause 2 – **Normative references**
- Clause 3 – **Terms and definitions**
- Clause 4 – **Principles**

3

## ISO/IEC 17029 – Structure

- Clause 5 – **General** requirements
- Clause 6 – **Structural** requirements
- Clause 7 – **Resource** requirements
- Clause 8 – Validation/verification **programmes** (with Annex A)
- Clause 9 – **Process** requirements
- Clause 10 – **Information** requirements
- Clause 11 – **Management system** requirements

4

## ISO/IEC 17029 – Structure

- Annex A (informative) – Validation/verification **programmes**
- Annex B (informative) – **Terminology** and concepts
- Annex C (informative) – **Illustrations**

5

## CASCO Common elements

Clauses in ISO/IEC 17029 with **mandatory text** of CASCO Common elements:

- Impartiality – 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 6.1.2, 7.2.4
- Confidentiality – 7.2.6, 10.4.1, 10.4.2, 10.4.3, 10.4.4
- Appeals – 9.9.1, 9.9.2, 9.9.3, 9.9.4, 9.9.5, 9.9.6, 9.9.7, 9.9.8
- Complaints – 9.10.1, 9.10.2, 9.10.3, 9.10.4, 9.10.5, 9.10.6, 9.10.7, 9.10.8
- Competence – 7.2.1, 7.3.1, 7.3.3
- Management system – 11.1.1, 11.1.2, 11.1.3

6

## ISO/IEC 17029 Scope

This document contains general principles and requirements for the **competence, consistent operation** and **impartiality** of bodies performing validation/verification as conformity assessment activities.

Bodies operating according to this document can provide validation/verification as a **first-party, second-party** or **third-party activity**.

Bodies can be **validation bodies** only, **verification bodies** only, or provide **both activities**.

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## ISO/IEC 17029 Scope

This document is applicable to validation/verification bodies in **any sector**, providing **confirmation** that **claims** are either plausible with regards to the intended future use (validation) or truthfully stated (verification).

This document is applicable to any sector, in conjunction with sector specific **programmes** that contain requirements for validation/verification processes and procedures.

NOTE This document contains generic requirements and is neutral with regard to the validation/verification programme in operation. Requirements of the applicable programmes are additional to the requirements of this document.

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## ISO/IEC 17029 Scope

This document can be used as a basis for accreditation by accreditation bodies, peer assessment within peer assessment groups, or other forms of **recognition** of validation/verification bodies by international or regional organizations, governments, regulatory authorities, programme owners, industry bodies, companies, clients or consumers.

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## ISO/IEC 17029 Scope

Results of other conformity assessment activities (e.g. testing, inspection and certification) are **not considered to be subject to validation/verification** according to this document.

Neither are situations where validation/verification activities are performed as steps within another conformity assessment process.

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## ISO/IEC 17029 – Normative references

### ISO/IEC 17000 – Vocabulary and general principles

**Revision** (2020) with new or revised definitions of

- object of conformity assessment
- validation, verification
- first-, second-, third-party conformity assessment activity,
- impartiality, independence

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## ISO/IEC 17029 – Terms and definitions

### **claim**

information declared by the client

- object of conformity assessment
- representing a situation at a point in time or covering a period of time
- clearly identifiable and capable of consistent evaluation or measurement against specified requirements by a validation/verification body
- synonyms (report, statement, declaration, project plan, data...)

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## ISO/IEC 17029 – Terms and definitions

### **client**

organization or person requesting validation/verification

### **validation body / verification body**

body that performs validation/verification

- conformity assessment body
- organization or part of an organization

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## ISO/IEC 17029 – Terms and definitions

### **validation statement / verification statement**

declaration by the validation/verification body of the outcome of the validation/verification process

- statement of conformity
- reflecting situation at time of issue
- confirming or not confirming the claim, with or without comments
- synonyms (decision, opinion, report...)

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## ISO/IEC 17029 – Terms and definitions

### **validation**

confirmation of a claim, through the provision of objective evidence, that the requirements for a specific intended future use or application have been fulfilled

- conformity assessment activity
- confirmation of plausibility

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## ISO/IEC 17029 – Terms and definitions

### **verification**

confirmation of a claim, through the provision of objective evidence, that specified requirements have been fulfilled

- conformity assessment activity
- confirmation of truthfulness

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## ISO/IEC 17029 – Terms and definitions

### **scope of validation/verification**

identification of:

- the claim to be the object of validation or verification, including the boundaries of the claim
- the applicable validation/verification programme
- the standards and other normative documents, including their date of publication, to which the claim is validated/verified

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## ISO/IEC 17029 – Terms and definitions

### **validation programme / verification programme**

rules, procedures and management for carrying out validation/verification activities in a specific sector

- conformity assessment scheme
- international, regional, national, sub-national, sector-specific

### **programme owner**

person or organization responsible for developing and maintaining a specific validation/verification programme

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## ISO/IEC 17029 – Terms and definitions

### **consultancy**

participation in establishing the claim that will be the object of validation/verification

- activities of validation/verification bodies, their personnel and organizations related or linked to the validation/verification bodies
- involvement in design of the object leading to the claim or providing object specific expertise that supports the preparation of the claim
- generic information (e.g. during training) is not considered consultancy, provided that no client specific solutions are given

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## ISO/IEC 17029 – Terms and definitions

### **level of assurance**

degree of confidence in the claim

- according to the programme (e.g. absolute, reasonable, limited)

### **material**

significant to intended users

- influence on the reliability of the claim or decisions made by intended user
- qualitative or quantitative

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## ISO/IEC 17029 – Principles

- **General (4.1)**
- Principles for the validation/verification **process** (4.2)
  - evidence-based approach to decision making
  - documentation
  - fair representation

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## ISO/IEC 17029 – Principles

- Principles for validation/verification **bodies** (4.3)
  - impartiality
  - competence
  - confidentiality
  - openness
  - responsibility
  - responsiveness to complaints
  - risk-based approach

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## ISO/IEC 17029 – General

- Validation/verification bodies shall be a **legal entity**, or a defined part of a legal entity, that can be held legally responsible for all its validation/verification activities; governmental bodies are legal entities on the basis of their governmental status (5.1)
- Validation/verification bodies shall be **responsible** for, and shall retain authority for, their validation/verification **statements** (5.2)
- Validation/verification body shall evaluate **risks** arising from its validation/verification activities and cover the respective **liabilities** (5.4)

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## ISO/IEC 17029 – Impartiality

- **Review and decision** shall not be made by personnel who carried out the validation/verification **execution** (5.3.7)
- When providing both, **validation and verification, to the same client** the validation/verification body shall consider and manage the potential threat to impartiality, e.g. self-review and familiarity (5.3.8)
- Optional consultation with **committee of interested parties** (5.3.3)
- **Commitment** to impartiality shall be publicly available (5.3.6)

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## ISO/IEC 17029 – Impartiality

- **Consultancy** and **validation/verification** shall not be offered for the same claim from the same client (5.3.9)
- Validation/verification shall not be provided to clients who received consultancy from a **related body** if the threat to impartiality is unacceptable (5.3.10)
- Activities shall not be marketed or offered as **linked** with organisations providing consultancy (5.3.11)
- Actions are to be taken in case of threats to impartiality, including **outsourcing**, and **inappropriate links to consultancy** (5.3.12 and 5.3.13)

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## ISO/IEC 17029 – Structure

- Validation/verification bodies shall be **organised** and **managed** to perform their activities (6.1.1)
- **Organisational structure**, duties, responsibilities, authorities shall be documented, including top management, and communicated (6.1.3, 6.1.4 and 7.2.7)
- Operational control shall be effective and specified (6.2.1 and 6.2.2)
- **Risks** of activities for competence, consistency and impartiality shall be considered (6.2.3)

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## ISO/IEC 17029 – Resources

- Validation/verification bodies shall have **access** to personnel, facilities, equipment, systems and support services (7.1 and 7.2.1)
- **Personnel** shall commit by legally enforceable agreement to comply with rules and reveal potential conflicts of interest (7.2.2)
- **Threats to impartiality** shall be identified and “cooling period” relating to consultancy shall be specified (7.2.3 and 7.2.5)
- Process required to **manage competence**, including competence criteria, training needs, formal authorisations, demonstrating and monitoring competence (7.3.2)

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## ISO/IEC 17029 – Resources

- Minimum requirements for **outsourcing** are (7.4):
  - full responsibility of validation/verification bodies
  - engagement and decision not to be outsourced
  - legally enforceable agreement
  - conformity of outsourced activities with ISO/IEC 17029
  - consent from client obtained
- Engagement of individually contracted persons or **individuals** acting under the MS to provide additional resources is not considered outsourcing

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## ISO/IEC 17029 – Programmes

- Application of at least one **programme** is required, **consistent** with ISO/IEC 17029 and not exclude any of the requirements (8)
- Set of rules, procedures and management for carrying out validation/verification activities in a specific sector or field, specify the **scope** of validation/verification, **competence** criteria, **process** steps, **evidence gathering** activities, **reporting**.
- **Programme owner** can be validation/verification bodies themselves, governmental authorities, trade associations, groups of validation bodies/verification bodies, external programme owners or others

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## ISO/IEC 17029 – Process

Pre-engagement Engagement Planning	Selection
Validation/verification execution, including evidence gathering	Determination
Review	Review
Decision	Decision
Issue of validation/verification statement	Attestation

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## ISO/IEC 17029 – Process

Facts discovered after issue of the validation/verification statement

Handling of appeals

Handling of complaints

Records

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## ISO/IEC 17029 – Process

- **Information** required to perform pre-engagement review (9.2.1)
- **Pre-engagement review** (9.2.2)
- Clearly identifiable **claim**, capable of consistent evaluation or measurement against specified requirements
- Identification of the boundaries of the claim, the applicable programme and requirements (**scope** of validation/verification)
- Responsibility of validation/verification bodies for accepted **inputs** to validation/verification activities (9.3.4)
- Acceptance or decline to perform validation/verification (9.2.3)

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## ISO/IEC 17029 – Process

- Form of **agreement** depends on status of validation/verification bodies with respect to the assessed claim (9.3.1)
- Agreement **specifies** the applicable requirements, particular conditions and necessary arrangements for the engagement (9.3.2 and 9.3.3)
- **Evidence-gathering plan** to be developed and used for **validation/verification plan** (9.4.1 and 9.4.2)
- **Communication** of validation/verification plan and team members to the client (9.4.3 and 9.4.4)

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## ISO/IEC 17029 – Process

- **Execution** to be according to the validation/verification plan (9.5.1, 9.5.2 and 9.5.3)
- **Evidence gathering** and development of complete understanding regarding fulfilment of the specified requirements, including appropriate evaluation of data and plans, reviewing documentation, performing alternative calculations, visiting sites or interviewing people
- **Conclusion** of the outcome (e.g. a report) and draft statement is to be prepared for the review (9.5.5)

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## ISO/IEC 17029 – Process

- **Review** by persons not involved in preceding execution (9.6.2)
- Review to confirm **completion** of all validation/verification activities in accordance with the agreement and the programme, sufficiency and appropriateness of **evidence** to support the decision, identification, resolution and documentation of significant **findings** (9.6.3)
- **Decision** whether or not to confirm the claim made by persons not involved in preceding execution (9.7.1.1 and 9.7.1.2)

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## ISO/IEC 17029 – Process

- Issue of **validation/verification statement** based on decision (9.7.1.3 and 9.7.1.4)
- Statement specifying the client, claim, scope of validation/verification, decision on confirmation (confirmed / not confirmed), type of activity provided (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> party) etc. (9.7.2)
- Consequences of **facts discovered after** issue of validation/verification statement to be communicated (9.8.1 and 9.8.3) and appropriate actions to be taken (9.8.2)

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## ISO/IEC 17029 – Process

- Handling **appeals** and **complaints** (9.9 and 9.10)
- **Records** to be maintained and managed for applications, essential conclusions and revisions, validation/verification statements, complaints, appeals and evidence of meeting the requirements of ISO/IEC 17029 (9.11)

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## ISO/IEC 17029 – Information

- Information on process, impartiality commitment, programmes, handling of appeals and complaints to be made **publicly available** (10.1)
- Information on activities, particular statements, fees, engagement and policies to be provided on request (10.2)
- **Reference** to validation/verification to be specified (10.3)
- **Confidentiality** is to be granted (10.4)

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## ISO/IEC 17029 – Management system

- Validation/verification bodies shall establish, document, implement and maintain a **management system**, e.g. according to ISO 9001, to support the requirements of ISO/IEC 17029 (11.1)
- Management review (11.2)
- Internal audits (11.3)
- Corrective actions (11.4)
- Actions to address risks and opportunities (11.5)
- Documented information (11.6)

# ISO/IEC 17029

Conformity assessment —  
General principles and requirements for  
validation and verification bodies

## Programmes

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## ISO/IEC 17029 – Programme

- Application of at least one **programme** is required, **consistent** with ISO/IEC 17029 and not exclude any of the requirements
- Set of rules, procedures and management for carrying out validation/verification activities in a specific sector or field, specify the **scope** of validation/verification, **competence** criteria, **process** steps, **evidence gathering** activities, **reporting**.
- **Programme owner** can be validation/verification bodies themselves, governmental authorities, trade associations, groups of validation bodies/verification bodies, external programme owners or others

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## ISO/IEC 17029 – Clause 8, Note

Programmes specify:

- the **scope** of validation/verification,
- **competence** criteria,
- **process** steps,
- **evidence gathering** activities,
- **reporting**

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## ISO/IEC 17029 – Annex A

Further specification of

- level of assurance, materiality
- impartiality monitoring function
- monitoring and training needs for personnel
- facilities, equipment, systems, support services
- conditions for consultancy, outsourcing, accepting results
- terminology and wording of statements, agreements
- reference to validation/verification, use of marks
- confidentiality requirements

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## ISO/IEC 17029 – Clause 4

### Principles of validation/verification as criteria for programmes

- **Interested parties** are clients, programme owners, users of validated/verified claims, regulatory authorities
- **Process** allows for collection of sufficient and appropriate evidence as basis for objective conclusion on confirming a claim
- Truthful and accurate **reflection** of the activities, findings, conclusions, statements, obstacles and diverging views
- **Risk-based approach** is implemented regarding threats to impartiality as well as quality of work and reliability of results

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## ISO/IEC 17029 – Examples

### ISO 14065 – Environmental information

- ISO 14064 – GHG Emissions
- ISO 14067 – Carbon footprint
- ISO 14017 – Water statements

### ISO/TS 17033 – Ethical claims

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## ISO/IEC 17029 – Examples

Supply chains (<https://www.iso.org/publication/PUB100452.html>)

Chain of custody (ISO 22095, ISO/IEC TR 17032)

Circular economy

Governance

Compliance

Artificial Intelligence