

Seminario Internacional de Capacitación Basada en la Competencia para ATCOs y Personal ATSEP



Decimoctava Reunión de Directores de Centros de Instrucción de Aviación Civil de la Región Sudamericana de la OACI (CIAC/18)
(Lima, Perú, del 1º al 5 de abril de 2019)

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El Manual de Instrucción Documento OACI 10056



Propósito del Seminario



Identificar los conceptos y criterios de implementación de la capacitación basada en la competencia para Controladores de Tránsito Aéreo (ATCOs) y Personal ATSEP (Air Traffic Safety Electronic Personnel) y compartir experiencias para la mejora continua de la instrucción aeronáutica en la Región Sudamericana de la OACI.



Overview of Doc 10056

Chapter 1	<ul style="list-style-type: none"> - Regulatory requirements for ATCO training - Competency-based training and framework - The organization of ATC training - How to use the manual
Chapter 2	Step-by-step process for analysing and designing competency-based training
Chapter 3	Role of instructors and assessors
Chapter 4-7	Phases of training (initial, unit, refresher and conversion)



Doc 10056

Manual on Air Traffic Controller
Competency-based Training and Assessment

First Edition, 2017



Approved by and published under the authority of the Secretary General

INTERNATIONAL CIVIL AVIATION ORGANIZATION



Expect from the manual:

- a) A step-by-step **process** to analyse local training needs and design competency-based training and assessment based on PANS-TRG;
- b) Fundamental **elements** to the development, conduct and evaluation of competency-based training;
- c) Elements that are specific to each of the **phases of training**.

Do *not* expect from the manual:

- A template **syllabus**,
- Generic instructional techniques
- Administrative policies
- Procedures for training programmes.



The Workflows



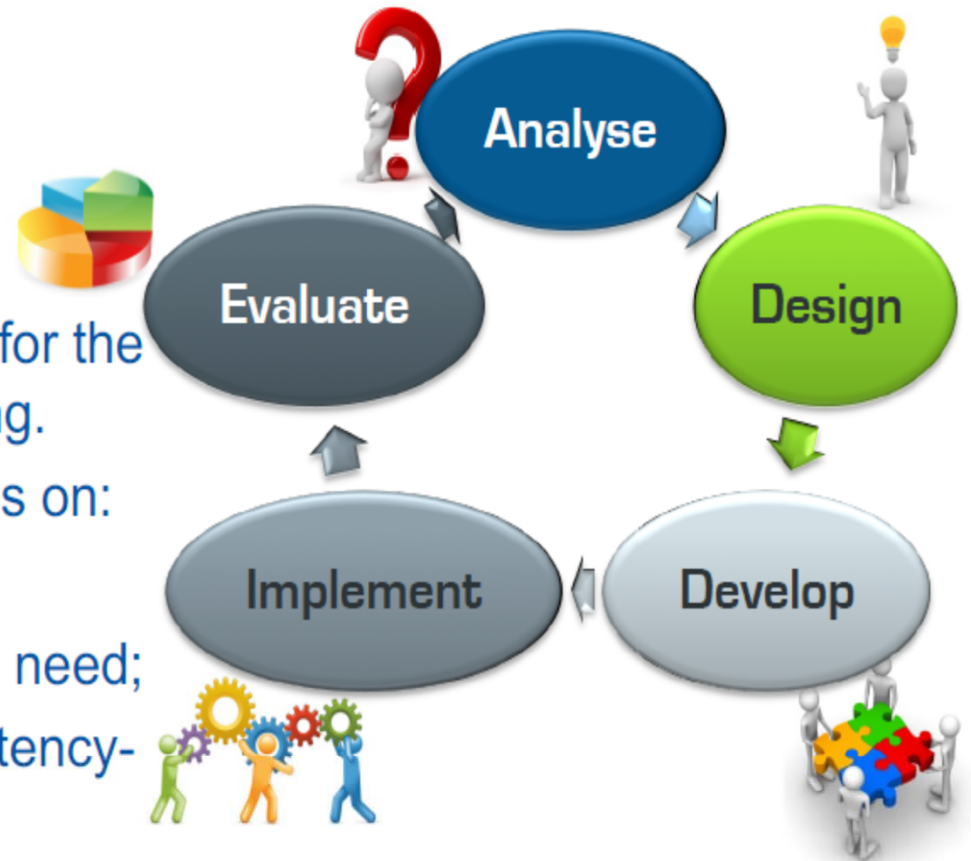


The ADDIE ISD model

Other valid models are appropriate for the design of competency-based training.

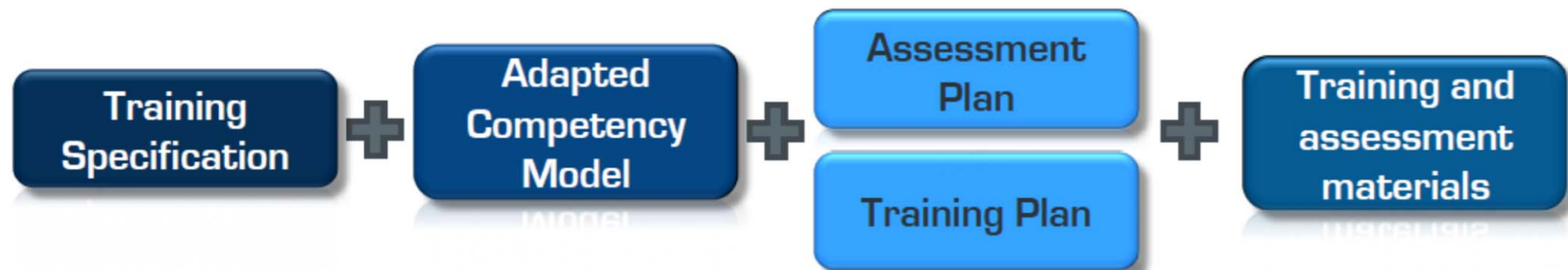
The main emphasis of this manual is on:

- a) Workflow 1: **Analyse** the training need;
- b) Workflow 2: **Design** local competency-based training and assessment.





The Components: how it works





Training Specification

Purpose of the training, task list and requirements

Adapted Competency Model

Competencies with their description and performance criteria

COMPETENCIES required to be achieved by the end of training
PERFORMANCE CRITERIA: observable behaviours, conditions and standards used to judge if the performance has been achieved.

Assessment Plan

Events & tools used to determine if competence has been achieved.

Training Plan

Document used to structure, develop and deliver the training.

Training and assessment materials

Course programme, training notes, manuals, presentations, simulated exercises, etc.



WORKFLOW 1 : Analyse

INPUTS

Training request
Task list
Documents:
- Operational
- Technical
- Regulatory
- Organisational

PROCESS

Identify the purpose of the training;
Identify the tasks associated with the purpose of the training;
Identify operational, technical, regulatory and organisational requirements.

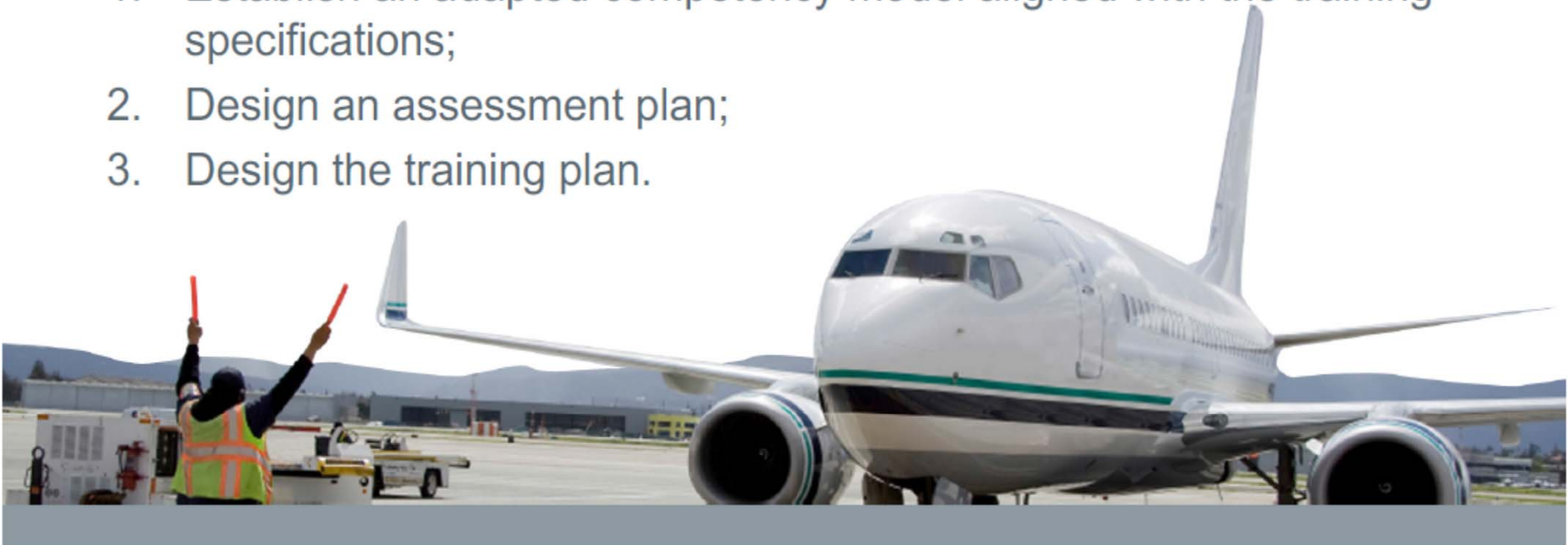
OUTPUTS

Training Specification



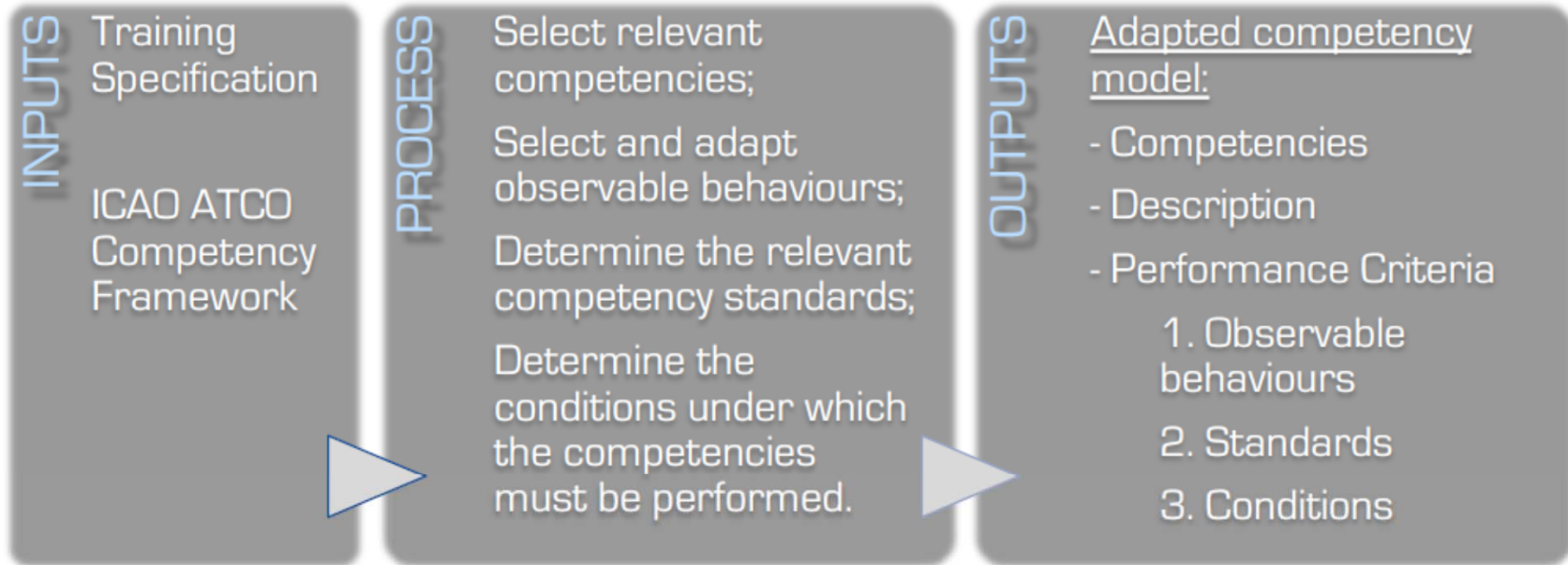
Workflow 2: Design training and assessment

1. Establish an adapted competency model aligned with the training specifications;
2. Design an assessment plan;
3. Design the training plan.





WORKFLOW 2-1 : Framework



The principles of assessment

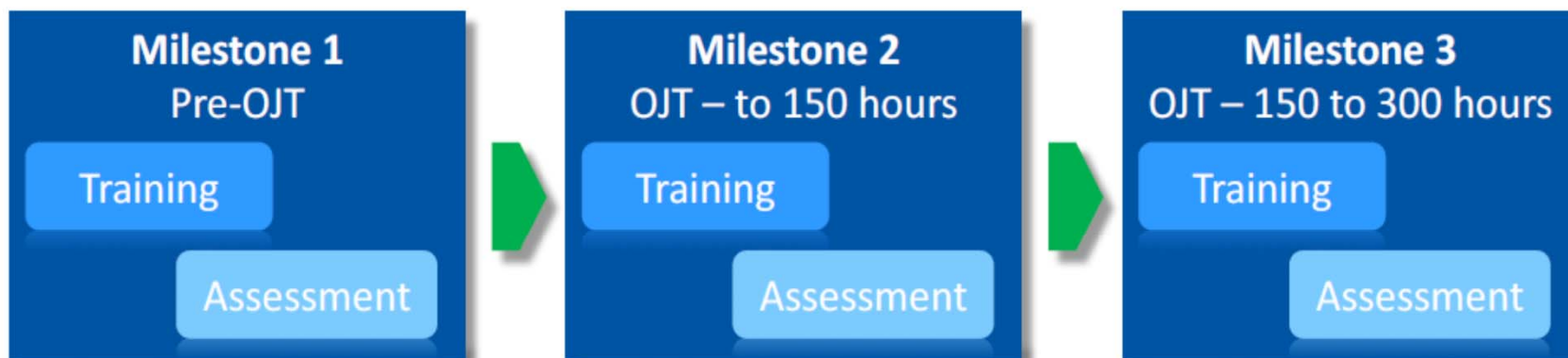
- a) Clear performance criteria are used;
- b) An integrated performance is observed;
- c) Multiple observations are taken;
- d) Assessments are valid;
- e) Assessments are reliable.





Milestones

Milestones are cohesive chunks or units of learning that are organized into a logical sequence that generally progress from the simple to the complex. Each milestone is comprised of both training and assessment/s.





Final and interim competency standards

If a course has been divided into milestones, it will be necessary to define an interim competency standard for each milestone. This is achieved by:

- a) modifying the adapted competency model, especially the conditions and/or standards;
- b) stating the degree of achievement for each performance criteria.

Interim competency standards are easier to achieve in a simulator. During OJT there are less opportunities to modify the conditions.



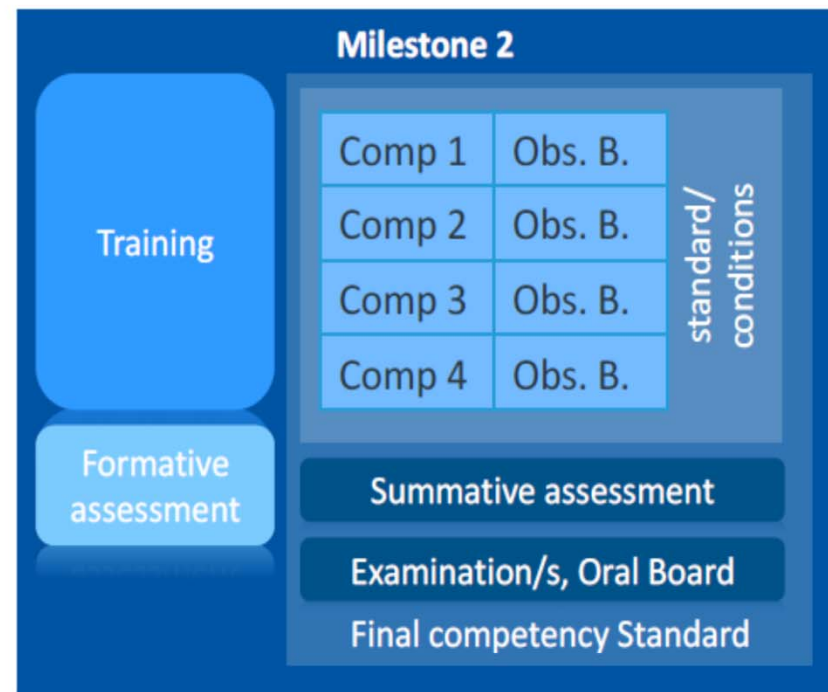
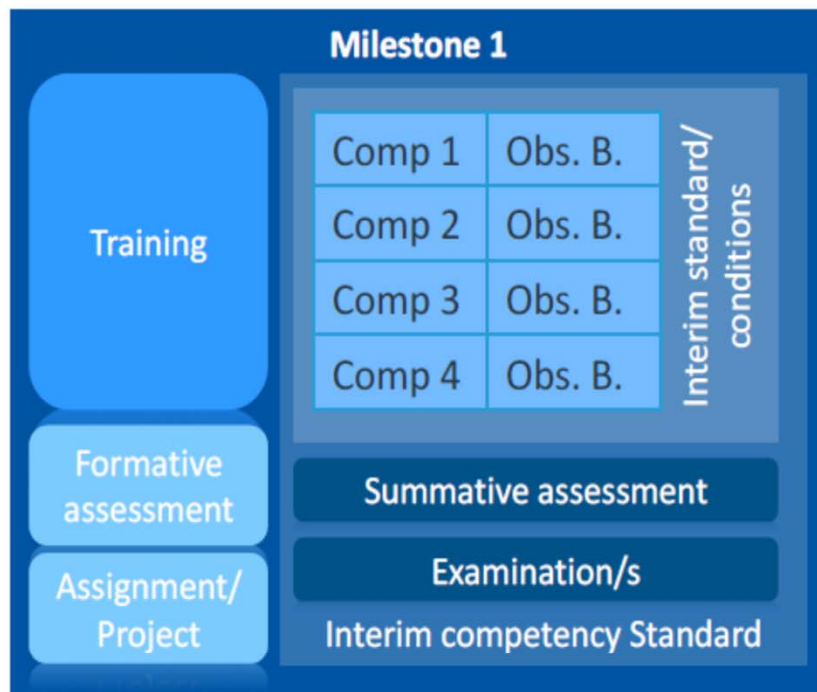
Final and interim competency standards

EXAMPLE of degree of achievement expected (area surveillance):

Traffic & Capacity Management			
Uses a variety of techniques to manage the traffic	ICS 1	ICS 2	FCS
	Makes predominate use of vectoring. Will occasionally use speed control when prompted but with difficulty.	Uses vectoring and ROC/ROD techniques effectively. Applies speed control correctly but may need to be prompted.	Uses vectoring, ROC/ROD and speed control effectively.

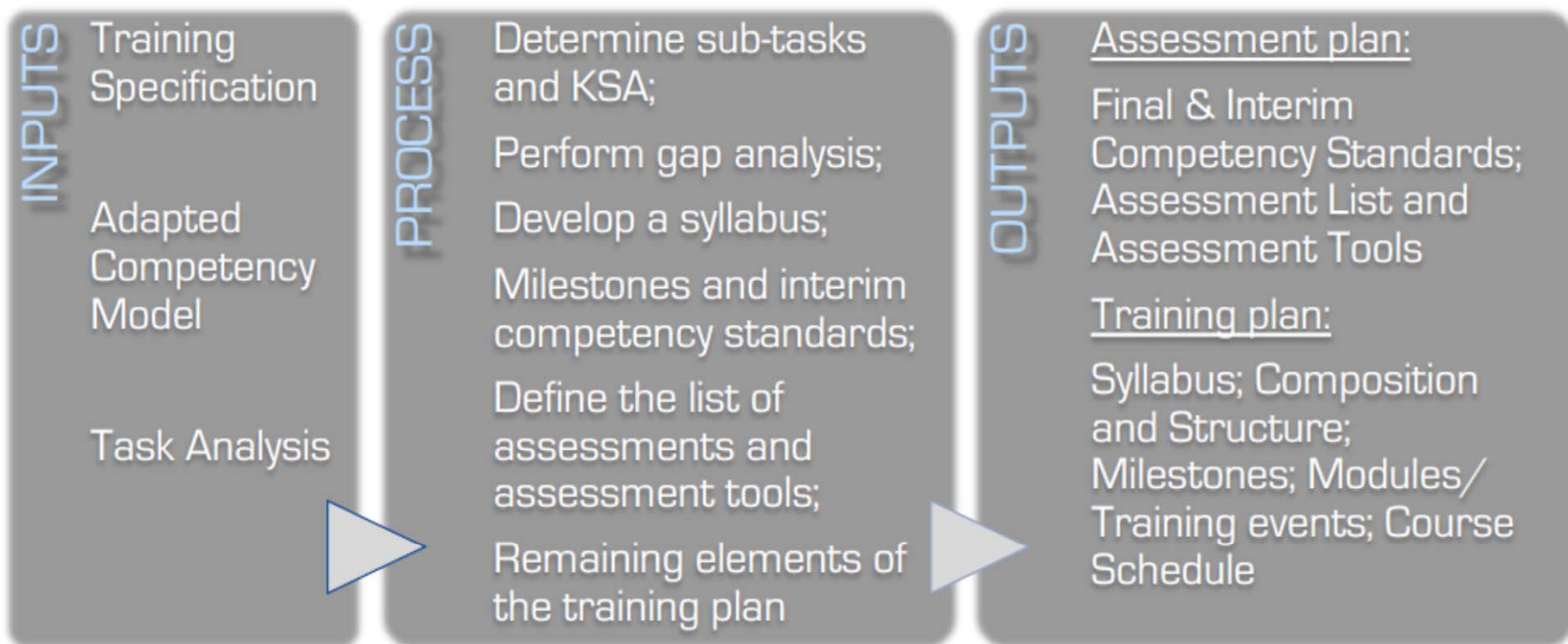


Final and interim competency standards





WORKFLOW 2-2 : Training and assessment





Instructing and Assessing



KSA

Competencies
Conditions
Standards



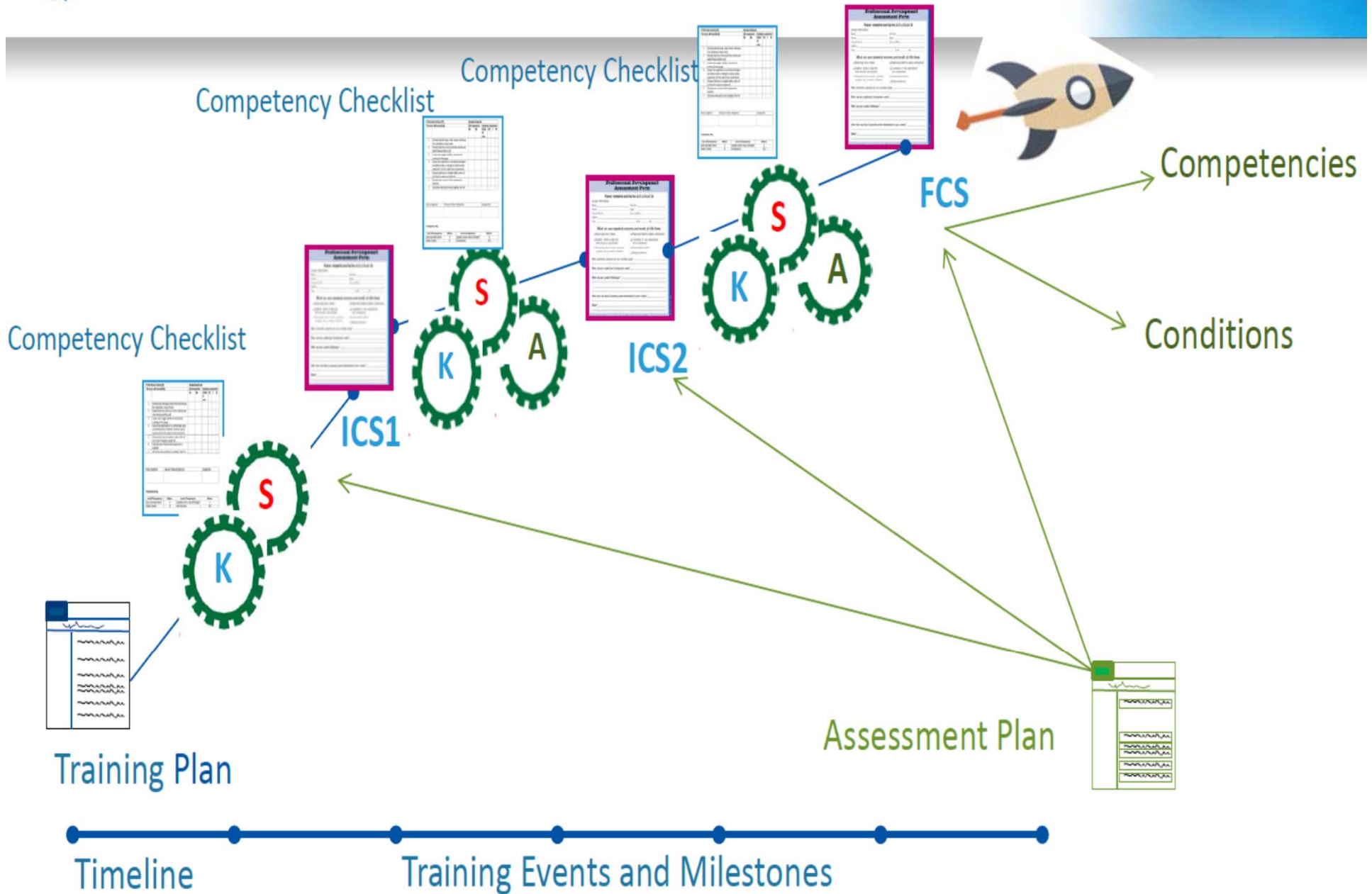
Airspace

Regulations
Procedures
Traffic
Complexity



System

Training Plan
Assessment Plan
Competency tools



Formative Assessments

- Multiple observations
- Mainly teaching and feedback
- Determine progress and deficiencies
- Uses Competency checklist
- No judgment of competence



Summative Assessment

- Interim milestone and / or Final competency
- Uses the competency assessment form
- Competent or Not Competent



Instructor responsibilities

Deliver the training according to the Training Plan

Monitor trainee's progress against the interim and final competency standard

Provide timely and continuous feedback on performance

Diagnose deficiencies and provide remediation in a timely manner



Assessor Role

In a competency-based environment, the assessor:

- gathers evidence of competent performance through practical observations (and any associated interviews), and
- analyses all the evidence to determine if the competencies detailed in the adapted competency model have been acquired or maintained.



Assessment principles in Competency based training environment

- All competencies must be achieved as an integrated performance at the required standard
- All the underpinning performance criteria must be observed under the specified conditions
- The evidence gathered must be sufficient, reliable, current and consistent





ICAO

UNITING AVIATION

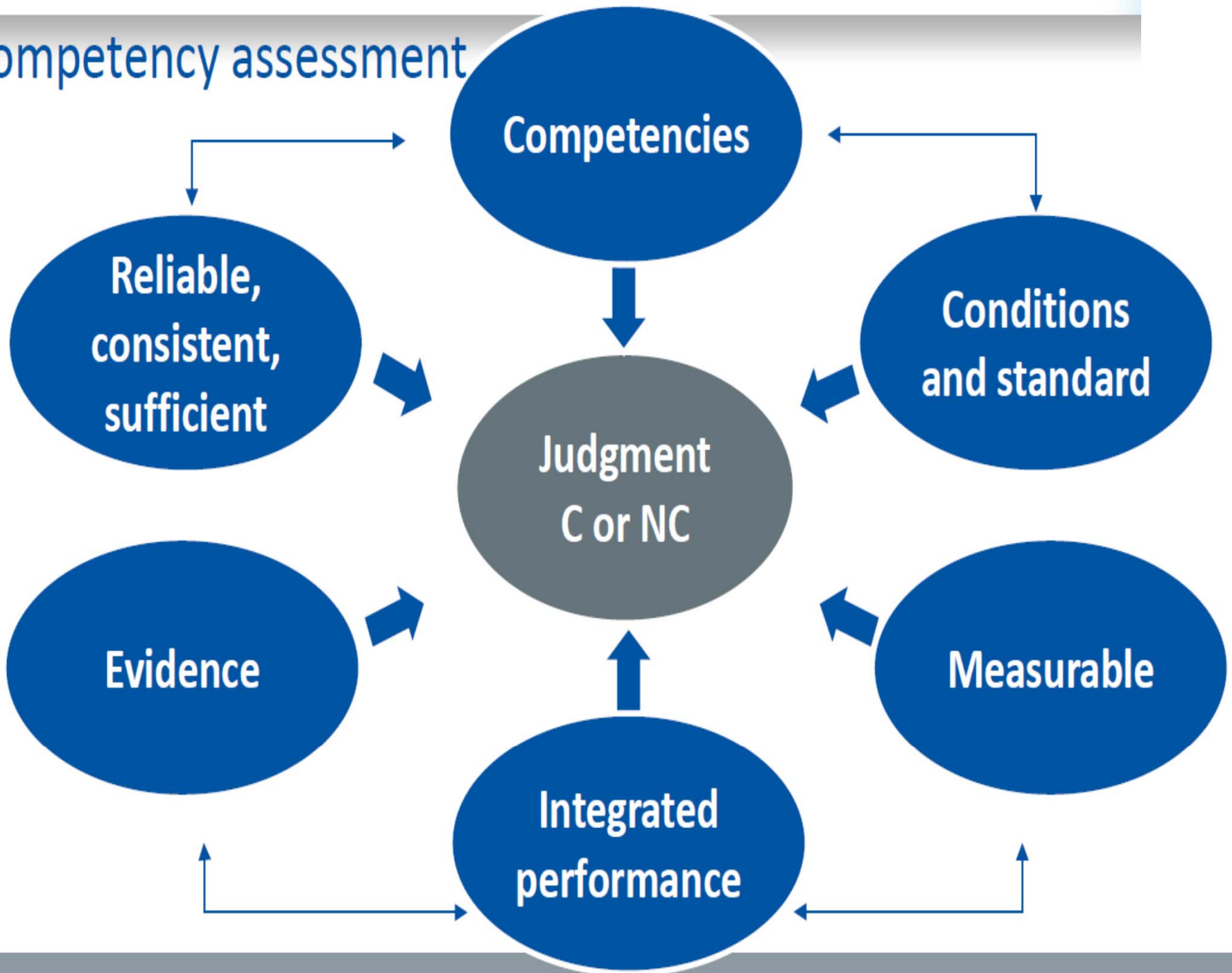
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How

- Have an **Assessment Plan** to detail how evidence of competence will be gathered (examinations, assessments, competencies, conditions, standards, what evidence, when and how)
- Gather evidence - undertake multiple practical observations and examine knowledge
- Use **Competency Checklists** to record evidence and consistency of performance (prior to interim and final competency milestones)
- Use an **Evidence Guide** to clarify expected performance and ensure reliability and consistency across instructors and assessors

Competency assessment





In a competency system an assessor must:

- Understand the competency based assessment system
 - Be familiar with and know the competencies to be achieved, the conditions under which they are to be achieved, and the required standard.
 - Ensure the evidence gathered is reliable, consistent and current
 - Gather sufficient evidence to make a judgment of Competent or Not Competent
 - Be familiar with the assessment tools available to him to make a judgment.
-



Outcomes

Instructors – **instruct through:**

- Use of clear criteria
- Focused briefings on learning and practice
- Focused briefings on deficiency diagnosis and skill focus
- Track progress, record evidence

Managers – have **more visibility of training progress** and are able to **have confidence in the competence** of their workforce.

Assessors – are better able to provide **reliable and valid assessments** based on consistent evidence and objective criteria

Trainees - are empowered to take responsibility for their progress, use criteria to build understanding and apply behaviours, accept and use feedback. More energy, drive and resilience

- **Success through achievement**
- **Build capability**

Desempeño Competente



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