



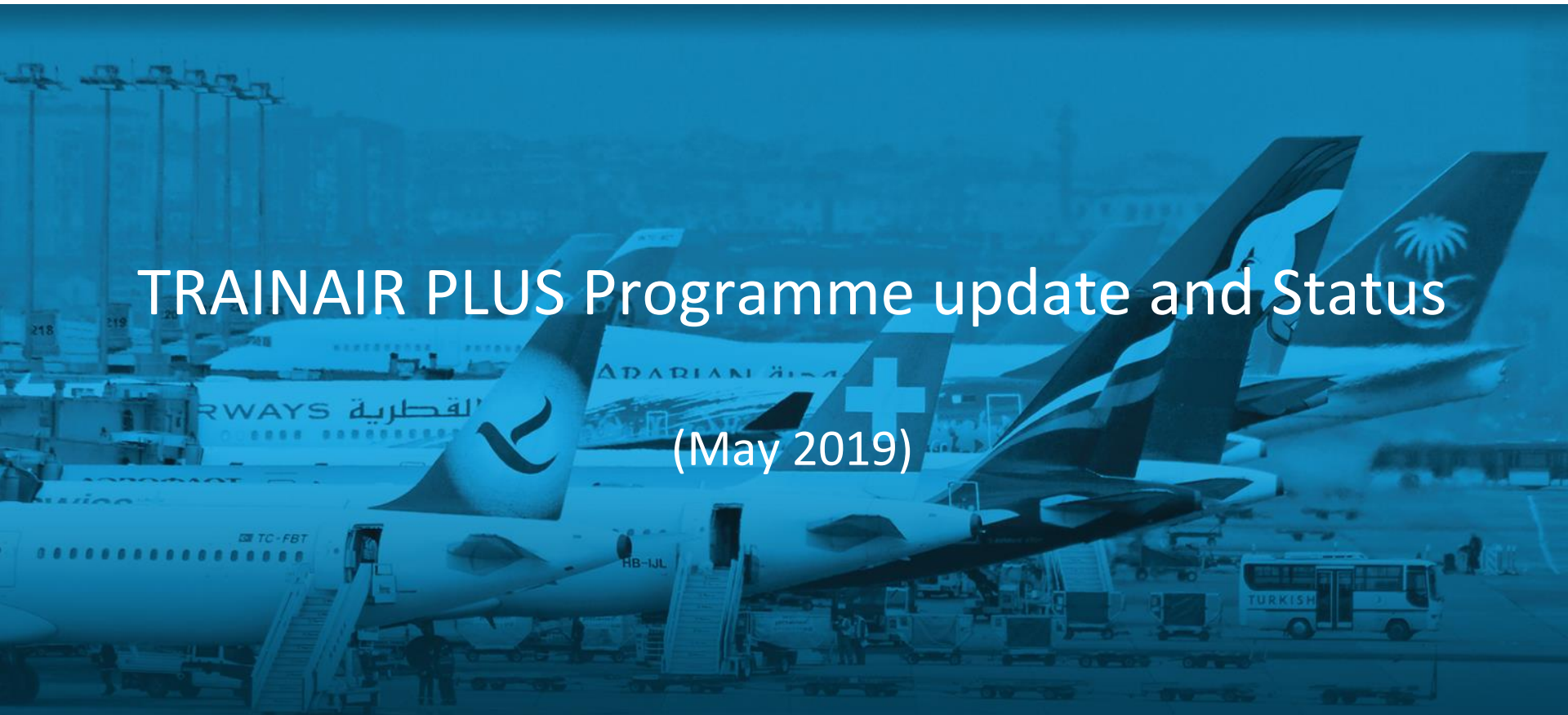
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GLOBAL AVIATION TRAINING

TRAINAIR PLUS™

# TRAINAIR PLUS Programme update and Status

(May 2019)





## Agenda

- ✈ ICAO Civil Aviation Training Policy
- ✈ GAT Office
- ✈ Training Assessment
- ✈ Training Development
- ✈ TRAINAIR PLUS Programme
- ✈ Global Aviation Training Catalogue
- ✈ Agreements with Academic Institutions
- ✈ Aviation Training Intelligence™

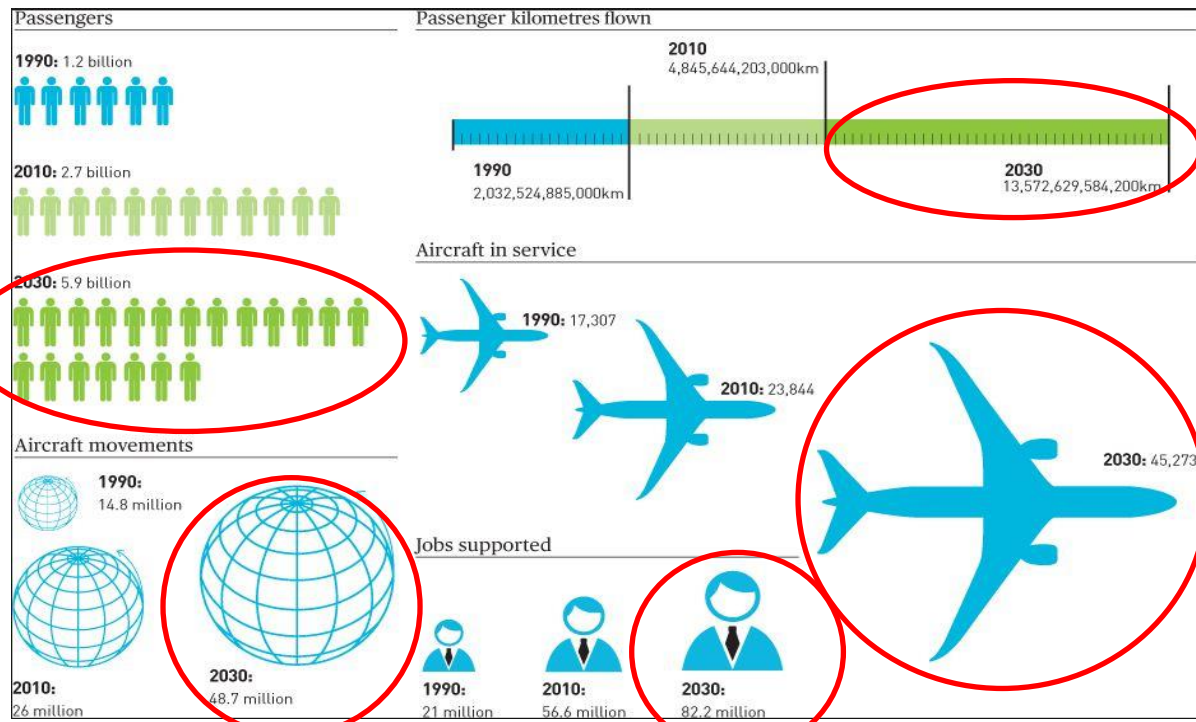


## Agenda

- ✈ **ICAO Civil Aviation Training Policy**
- ✈ GAT Office
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# Aviation industry forecast to 2030



## Representing a growth of:

**438,356** new passengers / day

**3** new aircrafts in service / day

**3,110** new aircraft movements/ day

**3,507** new supporting jobs/ day  
Including:

- **103** new pilots / day
- **10** new ATC /day
- **80** new Main. Tech. /day



# Regional Growth Forecast: 2010-2030

- ✈ Pilots
- ✈ Maintenance Personnel
- ✈ Air Traffic Controllers

## Air traffic controller populations and associated training needs: 2010–2030

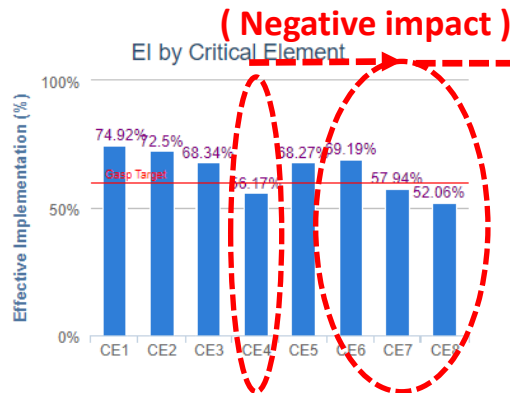
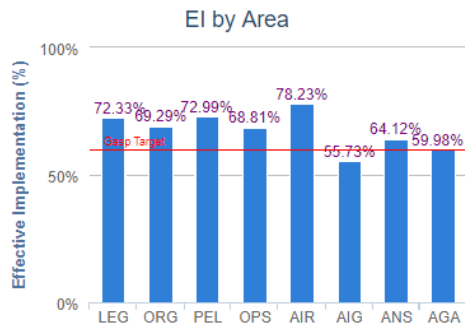
	Movements: 2030	ATCOs: 2030	Annual (Attrition: 5% per annum)		
			Training needs	Training capacity	Shortage/surplus
Africa	1 059 000	2 863	169	210	41
Asia/Pacific	16 379 000	44 282	2 931	1 865	-1 066
Europe	12 064 000	32 616	1 755	1 440	-315
Latin America	4 005 000	10 828	750	935	185
Middle East	1 507 000	4 074	253	90	-163
North America	16 694 000	45 133	2 860	2 200	-660
World	51 708 000	139 796	8 718	6 740	-1 978

Source: \*ICAO Doc 9956 - Global and Regional 20-year Forecasts, Pilots, Maintenance Personnel and Air Traffic Controllers.

# Training Deficiencies in ICAO Member States

## USOAP Results by Area and Critical Element

6 areas and 5 critical elements are above the target of 60% EI.



Critical elements that are key State performances for the implementation of a safety oversight system

**CE 6:** licensing, certification, authorization and approval obligations;

**CE 7:** surveillance obligations; and

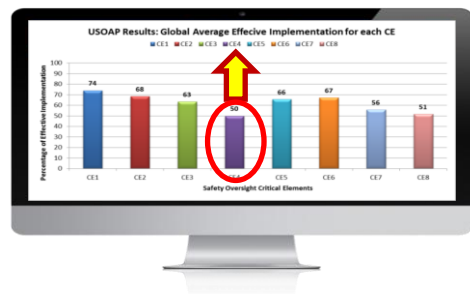
**CE 8:** the resolution of safety concerns.

**CE 4:** “Technical personnel qualification and training” indicates **56 %** of effective implementation



## ICAO's Response

- ✈ ICAO Assembly A38 identifies the scope of ICAO training activities
- ✈ ICAO Civil Aviation Training Policy
- ✈ Establishment of the Global Aviation Training (GAT) Office (1 January 2014)
- ✈ Improvement of the Critical Element (CE 4) “Technical Personnel Qualifications and Training” Results
- ✈ The 39th Assembly of ICAO unanimously supported the ICAO civil aviation training programme and capacity-building in aviation.



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# Global Aviation Training (GAT) Office

## Vision

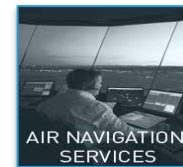
Lead Human Resources Development in aviation.

## Mission

Establish coordinated, effective and efficient mechanisms to support the development of human resources in aviation, appealing to Member States and the industry.

## Objectives

- Facilitate the global implementation of ICAO Provisions;
- Set up acceptable training and qualifications standards and frameworks;
- Provide guidance to States and industry in skills development;



## ICAO GAT Office

### 1 Training Assessment



Training Organization

### 2 Training Development



ICAO TD Methodology

### 3 Training Implementation



ICAO Training Catalogue



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# What do we do?

## Training Assessments and Consulting (TAC):

- ✓ Conducts assessments of Training Organizations (TOs) in line with ICAO reference documents
- ✓ Provides support services in Training

## Training Design and Development (TDD):

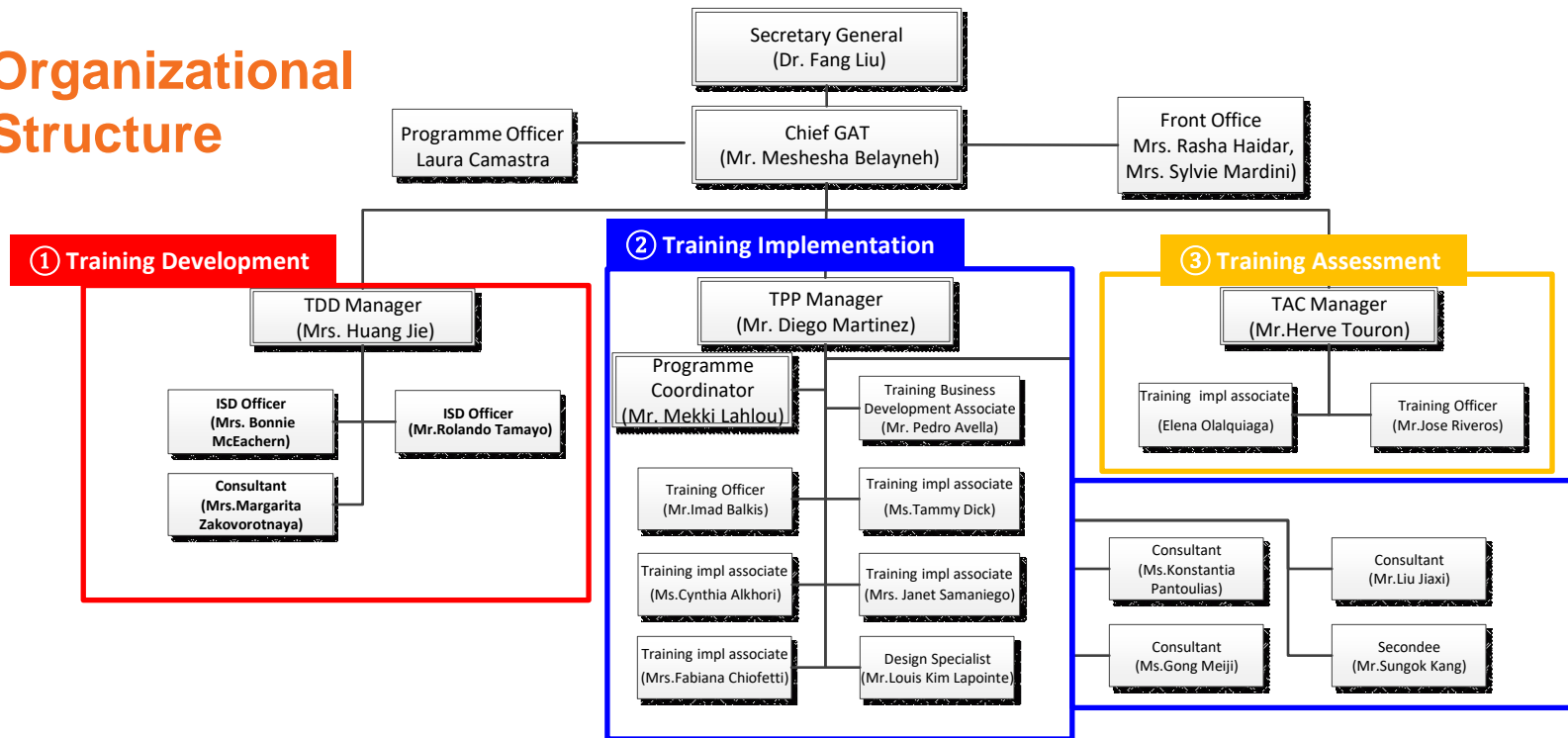
- ✓ Designs and produces ICAO courses
- ✓ Validates ICAO harmonized training packages

## TRAINAIR PLUS (TPP):

- ✓ Manages the network of ICAO Training Partners (Training Centres, International Organizations, Universities)
- ✓ Conducts ICAO courses

# ICAO GAT Office

## Organizational Structure



## ICAO GAT Office

### Regional Focus in Training Implementation & Business Development





## Agenda

- ✈ ICAO Civil Aviation Training Policy
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# Training Assessments

✈ One of the pillars of the ICAO Civil Aviation Training Policy: Recognition of Training Organizations (TO)

✈ Baseline:

- Appendix 2 of Annex 1
- Manual on the Approval of Training Organizations (ICAO Doc. 9841)
- TRAINAIR PLUS - Training Development Guide - Competency-based Training Methodology (ICAO Doc. 9941)

✈ Objectives:

- Identifying critical areas requiring improvements
- Helping TOs to justify additional funding to acquire additional resources and equipment
- TO meets ICAO requirements before joining TPP
- Providing a clear and independent evaluation to management of TOs, CAAs...

# Training Re-Assessments

## Review of the CAP from previous assessment

1. Organization

2. Training and Procedures Manual

3. Training Programmes and Training Delivery

4. Training Needs Assessment

5. Facilities

6. Personnel

7. Records

8. Quality System / Post Training Evaluation

9. Training Management System

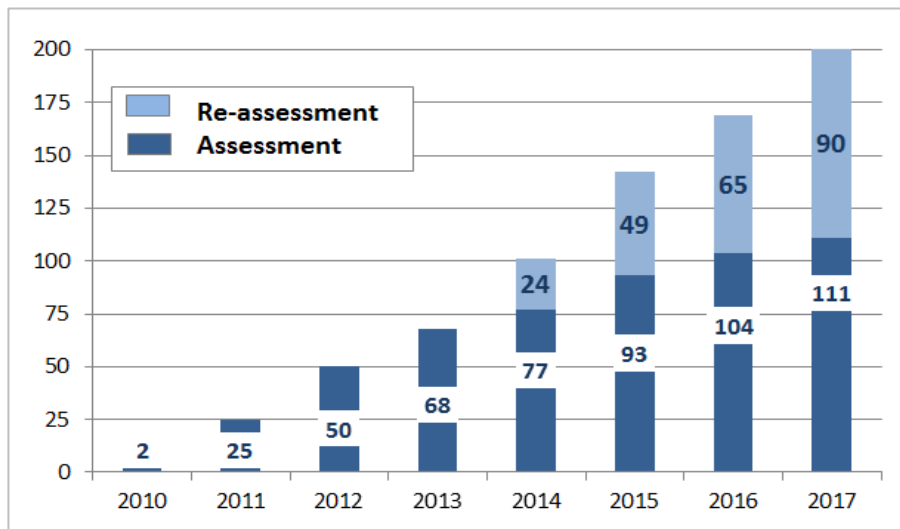
10. Safety Management (if applicable)

11. RTCE Criteria

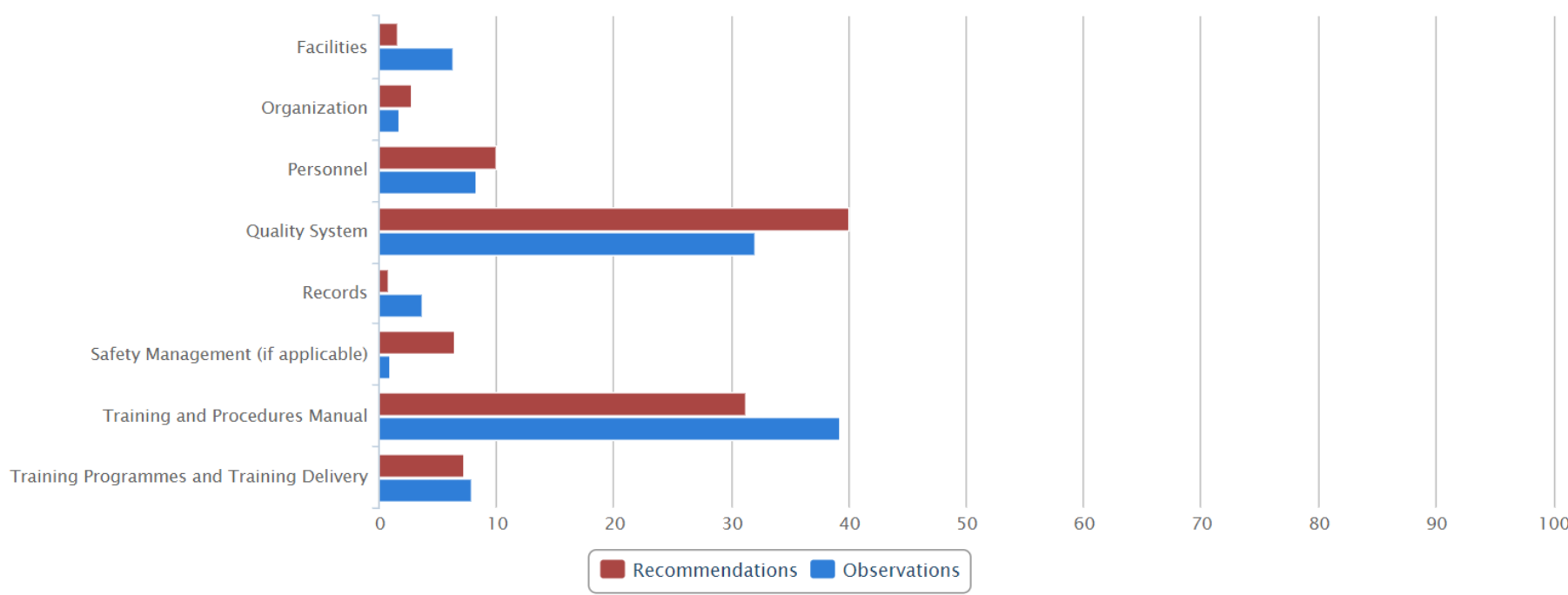
# Training Assessments

## Number of assessments by year

- 201 assessments/reassessments (cumulative) since 2010 (111 assessments and 90 reassessments)



# Training Assessments, Findings by Area





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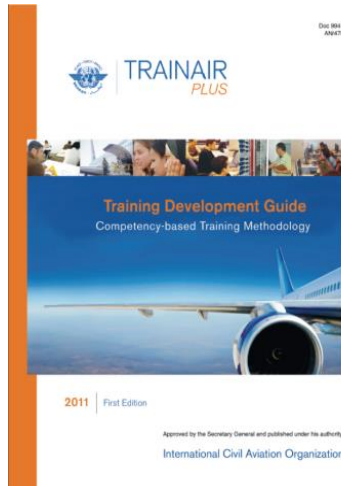
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# Training Development



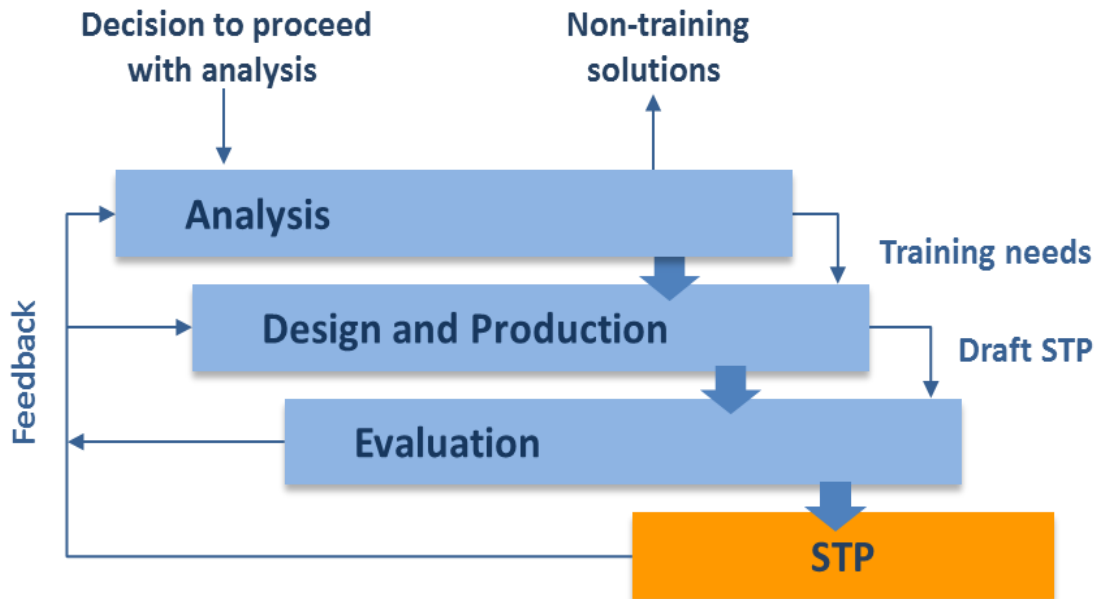
- ✈ Training Development Guide, ICAO Doc 9941
- ✈ Competency-based training methodology
- ✈ Design and develop ICAO Courses
- ✈ On-line Job Task Catalogue
- ✈ Qualification of instructors and validators

*Providing expertise and support to develop competency-based training*



# Training Development

## Competency-based training development methodology

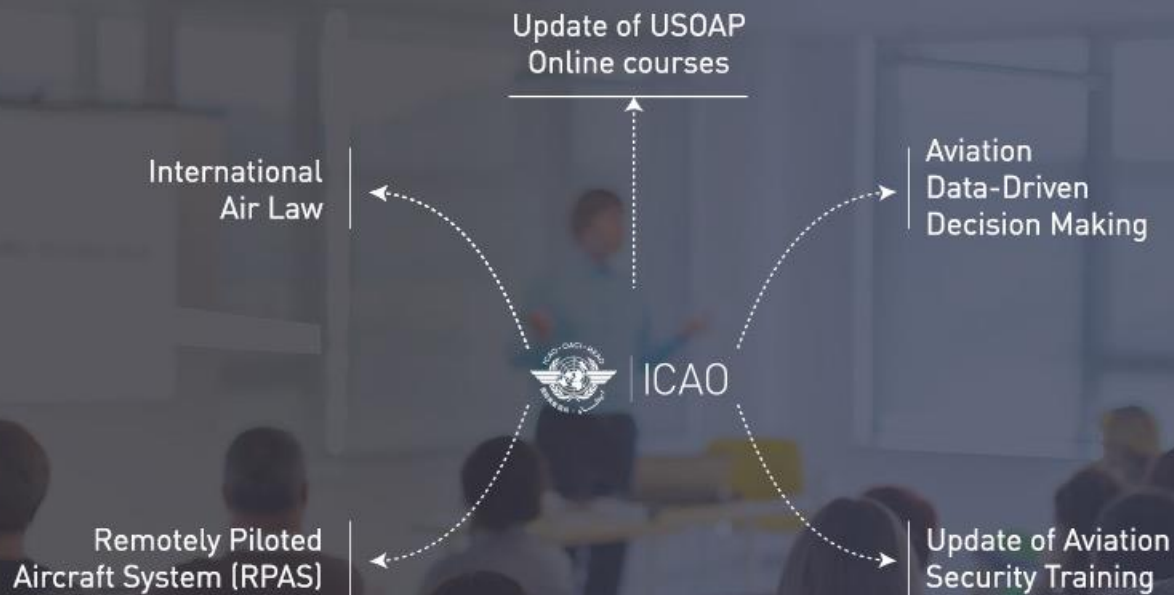




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TRAINING DEVELOPMENT  
2017 Activities

## ICAO rosters of qualified experts Supporting the implementation of training activities

Qualification procedures for:

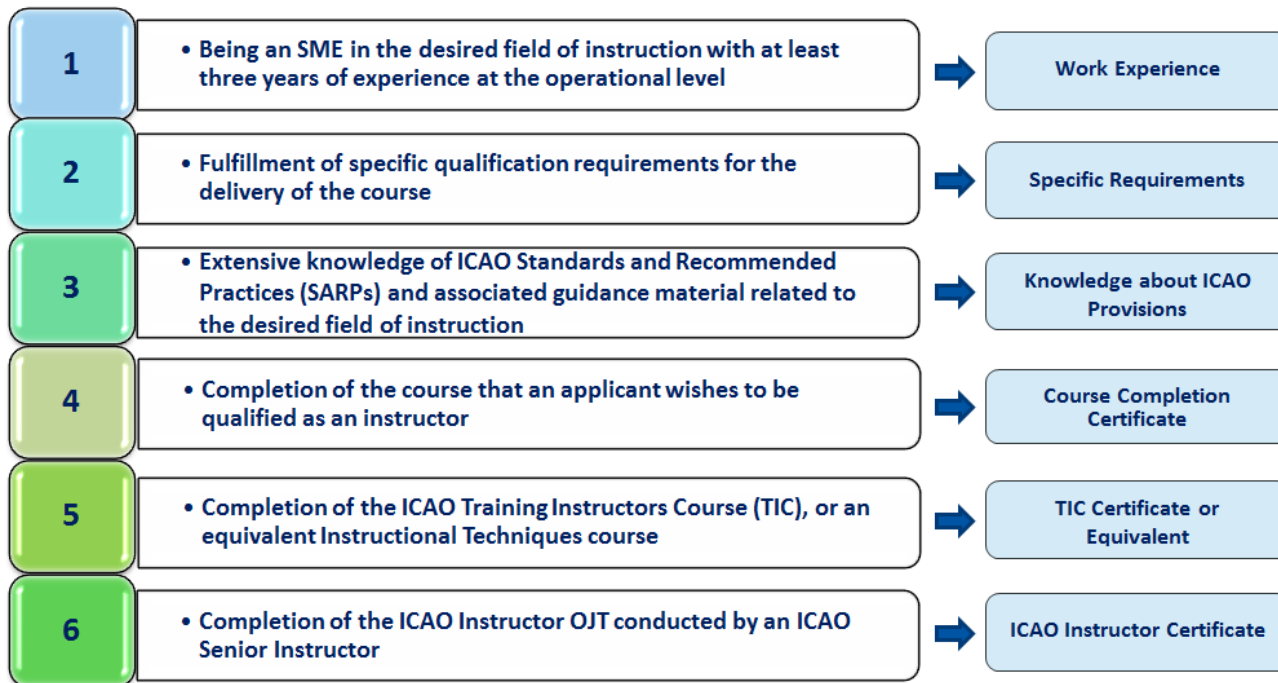
- Assessors
- Instructors
- Course developers
- Course validators
- Subject Matter Experts (SMEs)



# ICAO ISD Validator Qualification Process



## ICAO Instructor Qualification Process



Continuous  
monitoring  
and evaluation



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## What is the TRAINAIR PLUS Programme (TPP)

### A cooperative global network of training partners which:

- ✓ Implement a **standardized methodology** to develop competency-based training courses
- ✓ **Share** competency-based training packages
- ✓ Deliver **ICAO Recognized Training Packages**

#### Who can join the programme:

- Training arms of CAAs, airlines, airports, and maintenance organizations;
- Private training organizations recognized by the State where they are located;
- Training centres involved in any specialized aviation-related safety training



## TRAINAIR PLUS Membership benefits

### ✈ Associate Members



- ICAO recognition
- Deliver ICAO courses

### ✈ Full Members



- All above
- Develop STPs and generate revenues from STP sales

### ✈ Regional Training Centres of Excellence (RTCE)



- All above
- Develop and deliver RTCE ITPs
- Regional training implementation

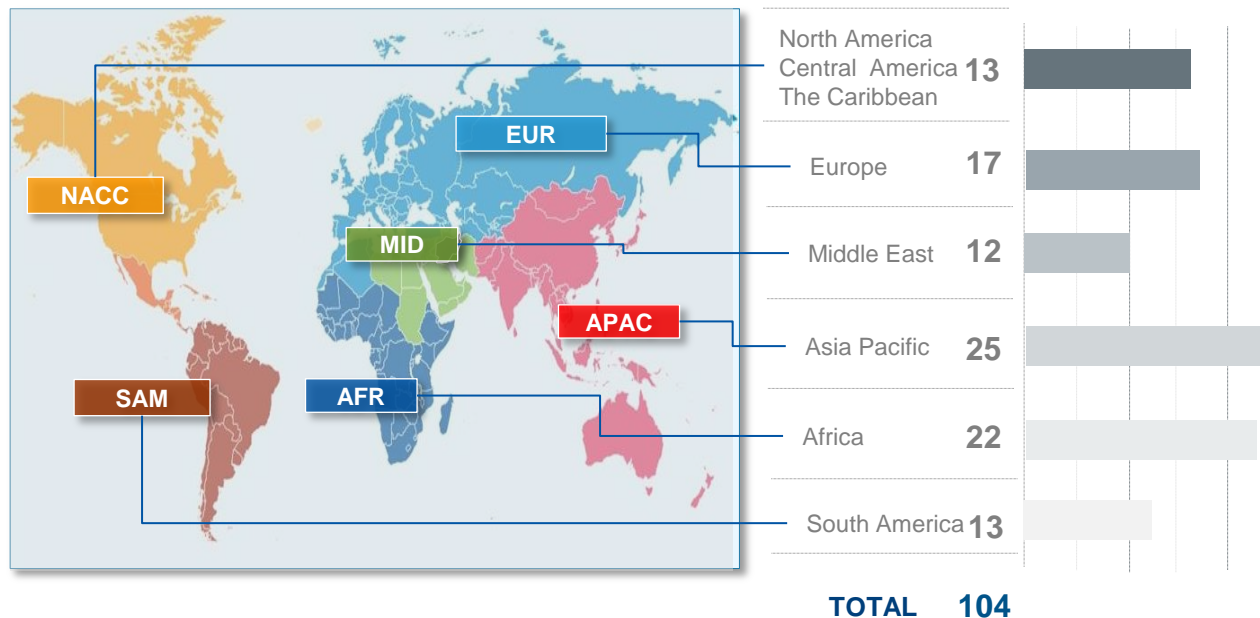
### ✈ Corporate Partners



- Develop and deliver Partnership Training Packages (PTPs)

# TPP Membership Distribution

## Membership Regional Distribution



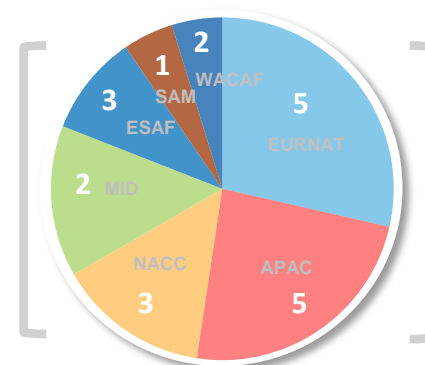
## Membership Category

Associate 37

Full 41

**RTCE 21**

Corporate 5



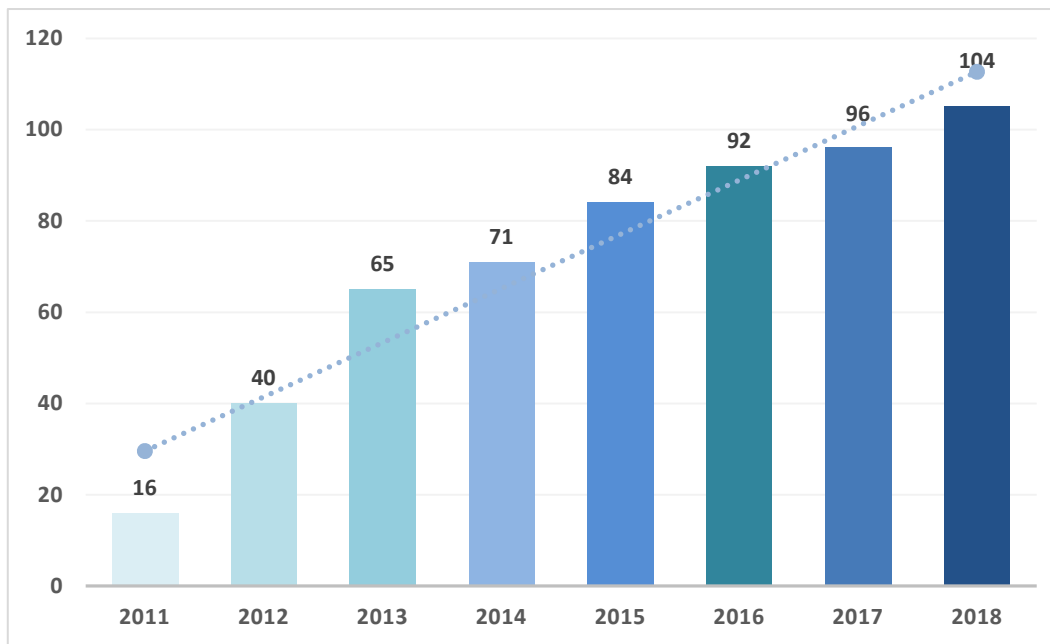


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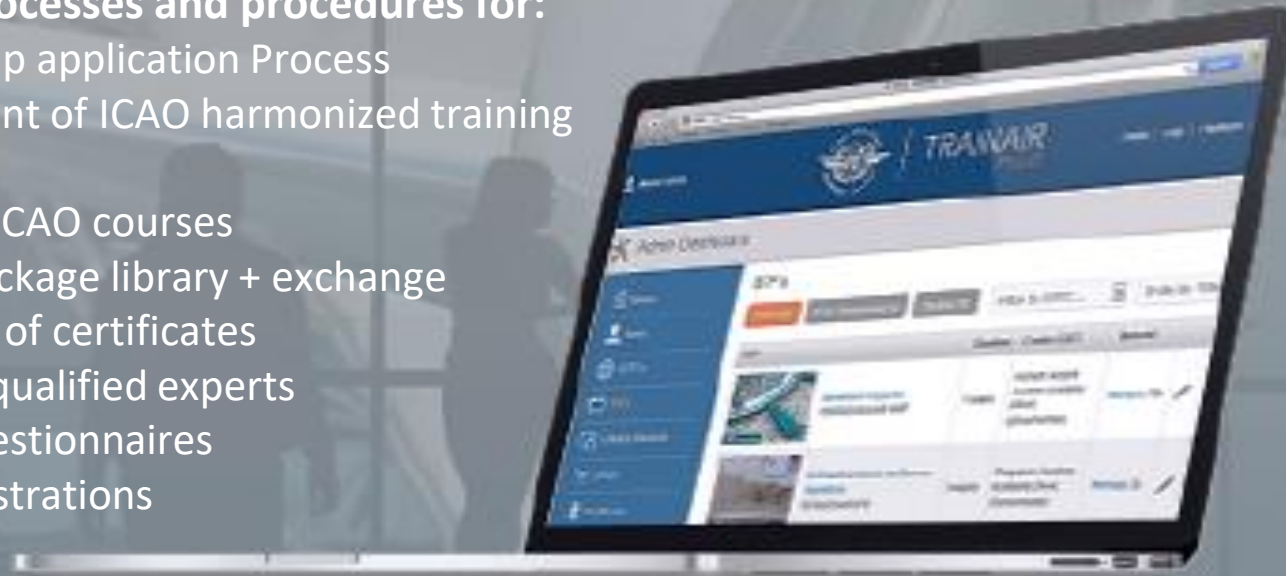
# Cumulative TRAINAIR PLUS Members per year



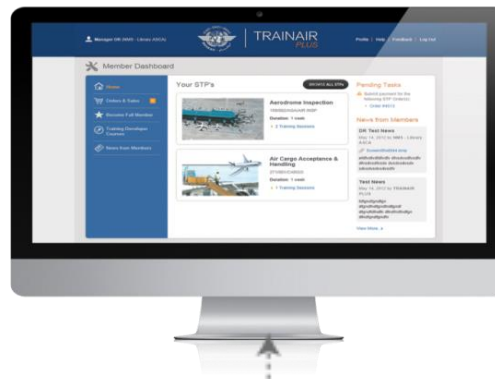
# TRAINAIR PLUS Electronic Management System (TPeMS)

## Integrated processes and procedures for:

- ✈ Membership application Process
- ✈ Development of ICAO harmonized training packages
- ✈ Hosting of ICAO courses
- ✈ Training package library + exchange
- ✈ Production of certificates
- ✈ Rosters of qualified experts
- ✈ Trainee questionnaires
- ✈ Online registrations
- ✈ Post Training Evaluation Process



## Members exchanging STPs



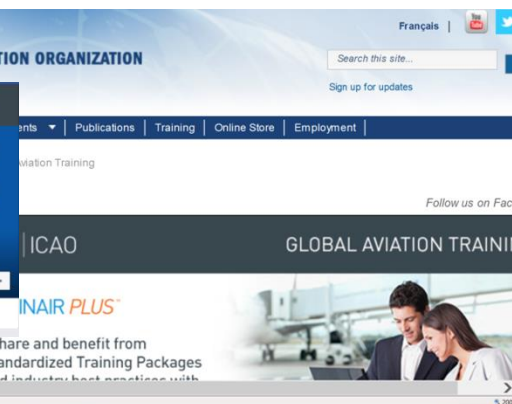
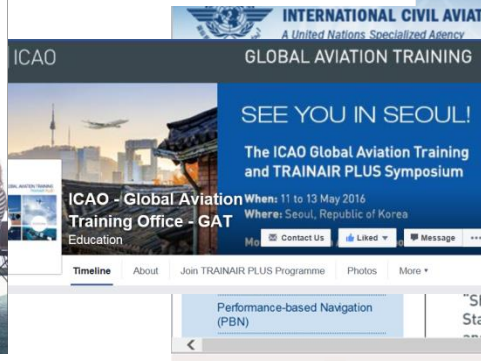
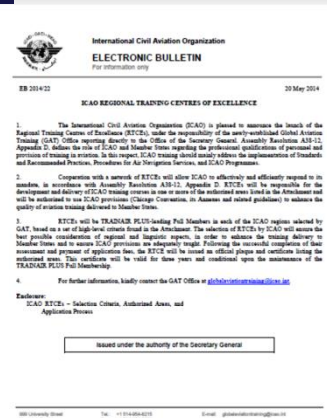


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- ✈ Electronic Bulletin
- ✈ Course Catalogue
- ✈ ICAO Website
- ✈ Newsletter
- ✈ Social Media
- ✈ Training Report





# ICAO Training Implementation

## Customer Satisfaction Survey on GAT Activities Results TPP Members

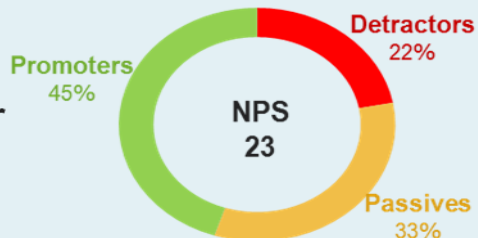
Overall  
Satisfaction

8.1/10

Satisfaction  
by Theme

Membership application & assessment process	8.3/10
Events	8.2/10
Communications	8.2/10
Development of ICAO-recognized training packages	7.6/10
Standardized Training Package Exchange using the TRAINAIR PLUS Electronic Management System	7.5/10
Delivery of ICAO-recognized training packages	7.4/10
Membership requirements & benefits	7.3/10

Net  
Promoter  
Score®



Intend to Remain a Member



83%



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- ✈ Agreements with Academic Institutions
- ✈ Aviation Training Intelligence™





## Global Aviation Training Catalogue

- ✈ More than 200 ICAO recognized courses;
- ✈ 54 of which were implemented in 2018;
- ✈ Classroom, online and blended formats;
- ✈ Technical, management and academic levels;

# ICAO Training Portfolio (Searching)

<https://www.icao.int/Training/Pages/default.aspx>

## GLOBAL AVIATION TRAINING

Welcome to ICAO's Global Aviation Training (GAT) homepage

The Global Aviation Training Office (GAT) aims to lead Human Resources Development strategies established by Member States and the aviation community to ensure they have access to a sufficient number of qualified and competent personnel to operate, manage and maintain current and future air transport system at prescribed international standards for:



SEARCH FOR ICAO TRAINING COURSES

## Training Catalogue

Training Area:  Language:

Level:  Delivery:

Keyword:  Region:

- ☐ Show only training courses with scheduled sessions.
- ☐ Show courses with group pricing structure for Civil Aviation regulatory bodies.

Search

Reset

Showing 1 to 48 of 48 entries

Details	Course Title	Language	Duration - week(s)
	Aerodrome Firefighters Breathing Apparatus Wearer	English	2
	Aerodrome Inspection	English	1
	Aerodrome Safety Management Incorporating PANS-Aerodromes	English	1
	Aircraft Fire Fighting and Rescue Operation	Chinese	1

## ICAO Training Portfolio (1)

### General

1. Fundamentals of the Air Transport System 
2. CAA Senior and Middle Managers Training Course: Managing Compliance with ICAO SARPs
3. International Air Law Course

### Safety Audit and Inspection

1. Universal Safety Oversight Audit Programme Computer-based Training (USOAP CBT) 
2. ICAO Government Safety Inspector Operations – Air Operator Certification Course (GSI-OPS-18700)
3. ICAO Government Safety Inspector Personnel Licensing Course (GSI-PEL-18710)
4. ICAO Government Safety Inspector Airworthiness – Air Operator and Approved Maintenance Organization Certification

### Economics

1. Air Transport Forecasting Course
2. Air Transport Statistics Course
3. Air Transport Economics and Regulation course

### Training Competency Development

1. Validating Competency-based Training (VCT) – EN/SP
2. Post-Training Evaluation (PTE) Course - EN/SP
3. Post-Training Evaluation (PTE) On site OJT
4. Managing Aviation Training Intelligence (MATI) - EN
5. Training Developers Course (TDC) - EN/ SP
6. Training Instructors Course (TIC) Part 1 
7. Training Instructors Course (TIC) Part 2 – EN/SP
8. Training Managers Course (TMC) - EN/SP
9. Training Needs Analysis (TNA) OJT

## ICAO Training Portfolio (2)

### SMS

1. Safety Management for Practitioners (SMxP)
2. Aerodrome Safety Management Incorporating PANS-Aerodromes
3. Online Safety Management Training Course



### Aerodrome

1. Management Certificate in Civil Aviation
2. Wildlife & Habitat Management at Aerodromes - Control & Reduction (Part One)
3. ICAO-ACI Management of Airport Security
4. ICAO-ACI Aerodrome Certification Course
5. ICAO-ACI Course in Airport User Charges

### Personnel Licensing

1. Personnel Licensing (PEL) System (Part 1)
2. Personnel Licensing (PEL) System (Part 2)



### ANS - PBN

1. Performance-Based Navigation (PBN) Operations
2. Performance-Based Navigation (PBN) - Airspace Design Performance-Based Navigation (PBN) Overview Course
3. Performance-Based Navigation (PBN) for Pilots Course

### Others

1. Dangerous Goods Part 1 – Using the Technical Instructions for the Safe Transport of Dangerous Goods by Air
2. Control of the Authenticity and Validity of Travel Documents at Airport Borders - Level 1
3. ECCAIRS - European Co-ordination Centre for Accident and Incident Reporting Systems (ECCAIRS) Technical Course
4. ECCAIRS - European Co-ordination Centre for Accident and Incident Reporting Systems (ECCAIRS) End User Course



# Training Competency Development Courses



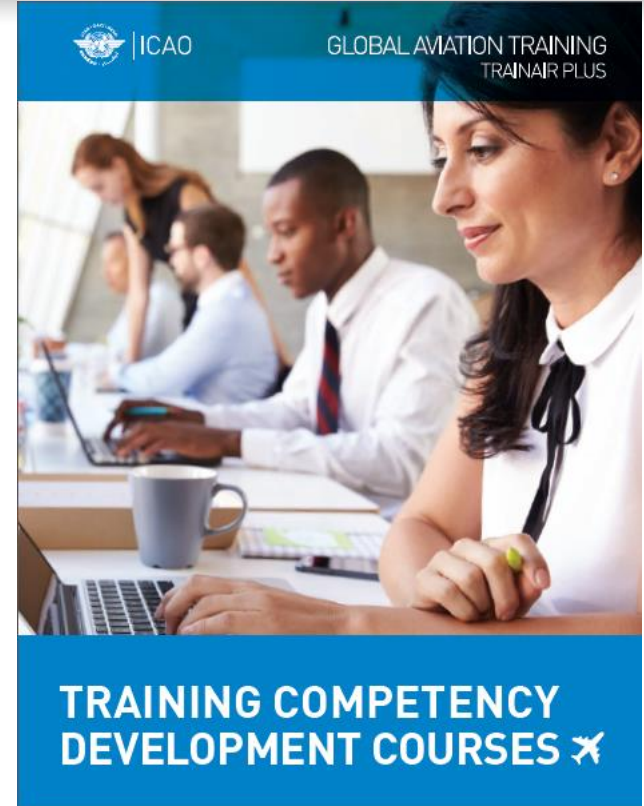
**Training Developers Courses (TDC)**



**Training Instructors Course (TIC)**

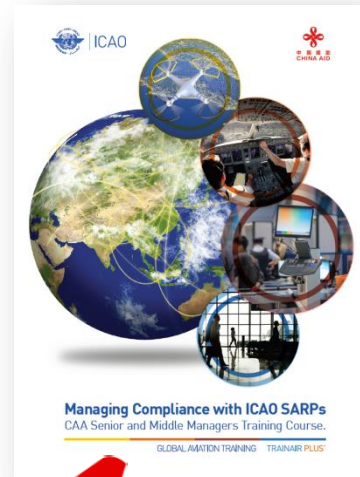
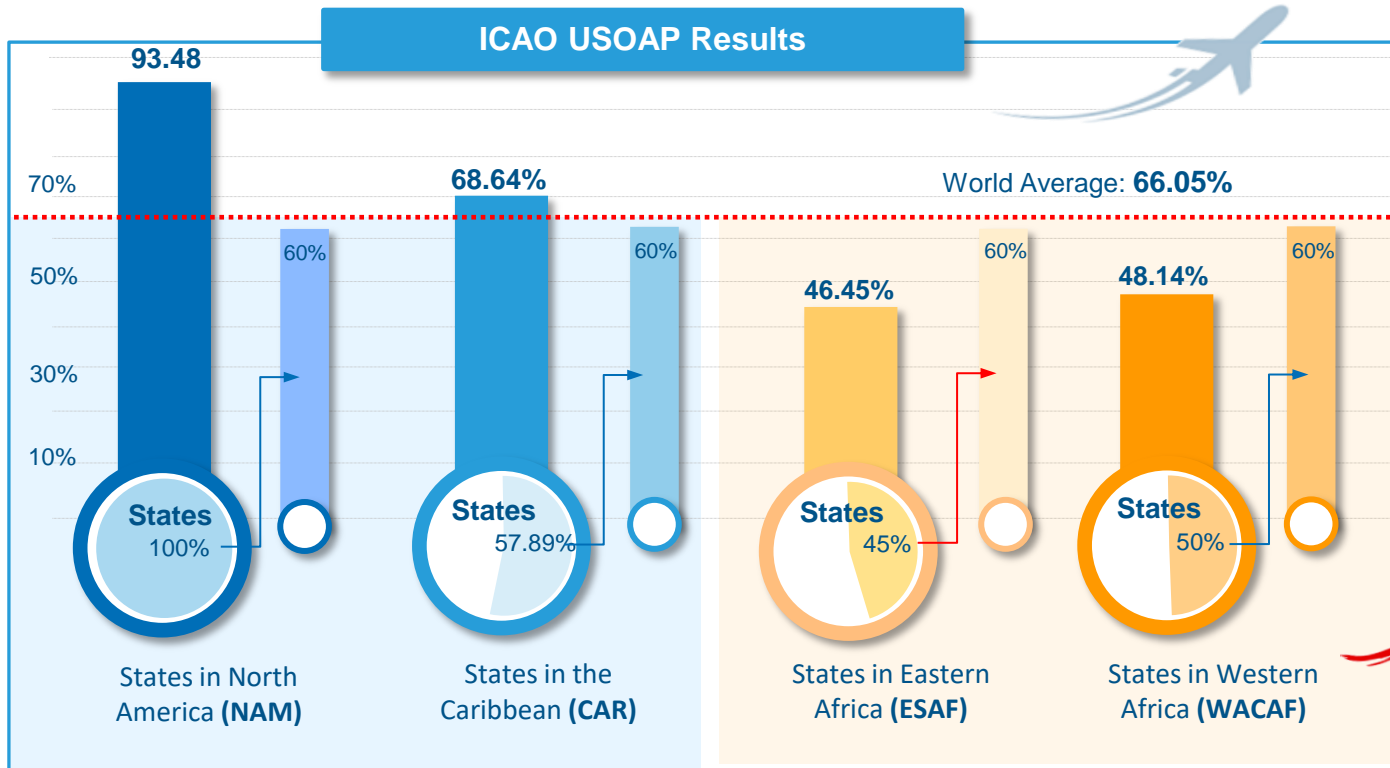


**Training Managers Course (TMC)**





# Challenges in the Implementation of SARPs



Priority States of lowest compliance

# CAA Senior and Middle Managers Training Course (CAA SMMTC)

## Course goal

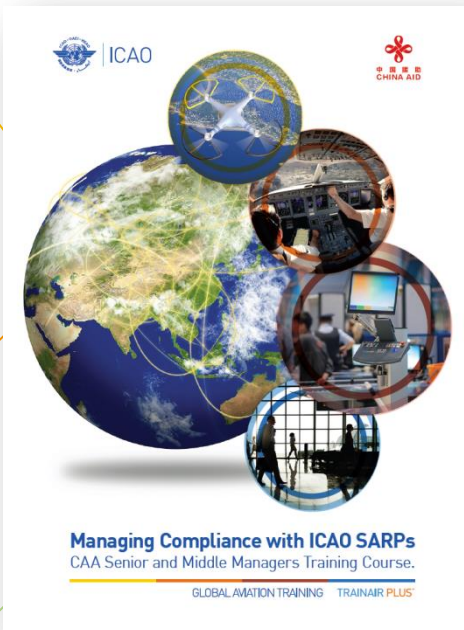
This course aims to enable CAA senior and middle managers to effectively plan, manage and assess the implementation of ICAO SARPs in their States.

## Course objectives

1. Developing the ICAO SARPs Implementation Plan
2. Managing the ICAO SARPs implementation
3. Assessing the ICAO SARPs implementation

## Target Audiences

Senior and middle managers of State's CAA in charge of SARPs implementation



## Course Format

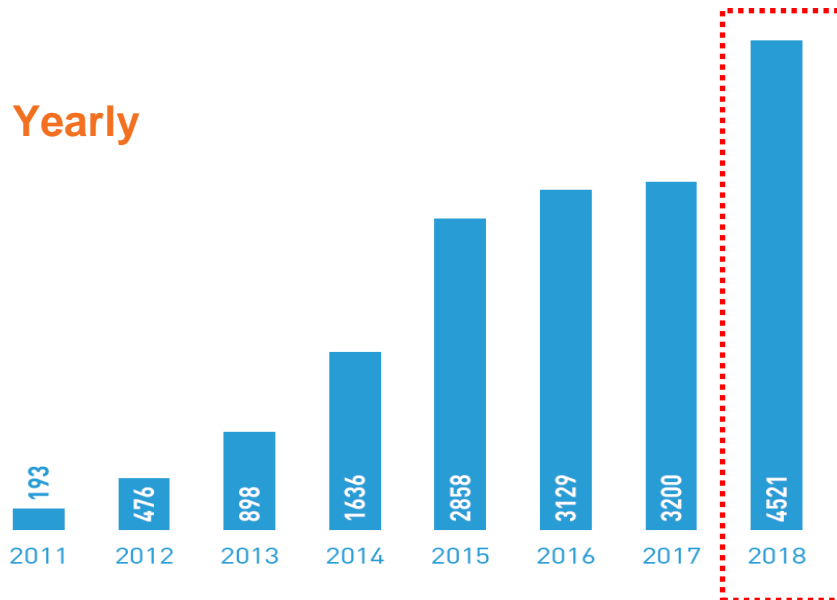
- **Mode** : Blended (online + classroom)
- **Duration** : 1 week / 5days
- **Language** : Spanish, English, French

## 2018 Deliveries

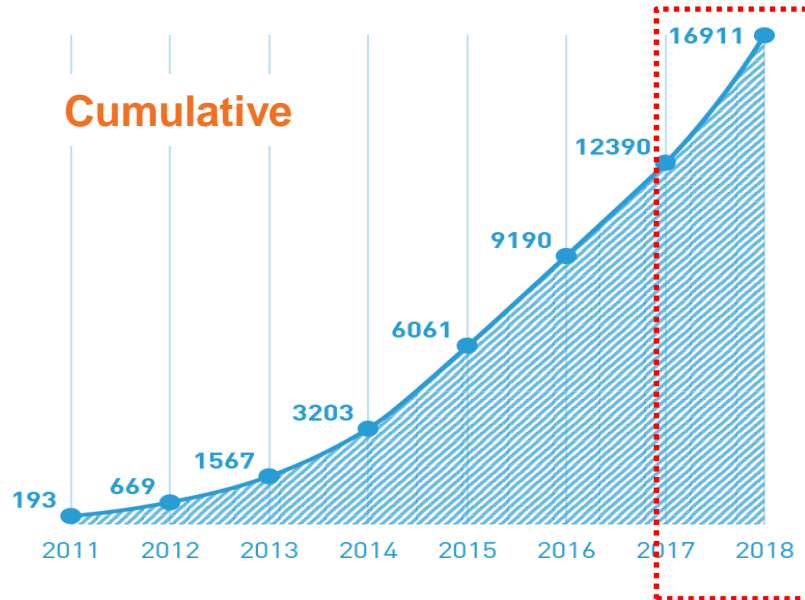
- **Deliveries** : 21 sessions
- **Trainees** : 540 audiences from over 90 States and 4 regional safety organizations.  
A total of 540 scholarships were awarded.

## Number of Trainees participated by Year

Yearly

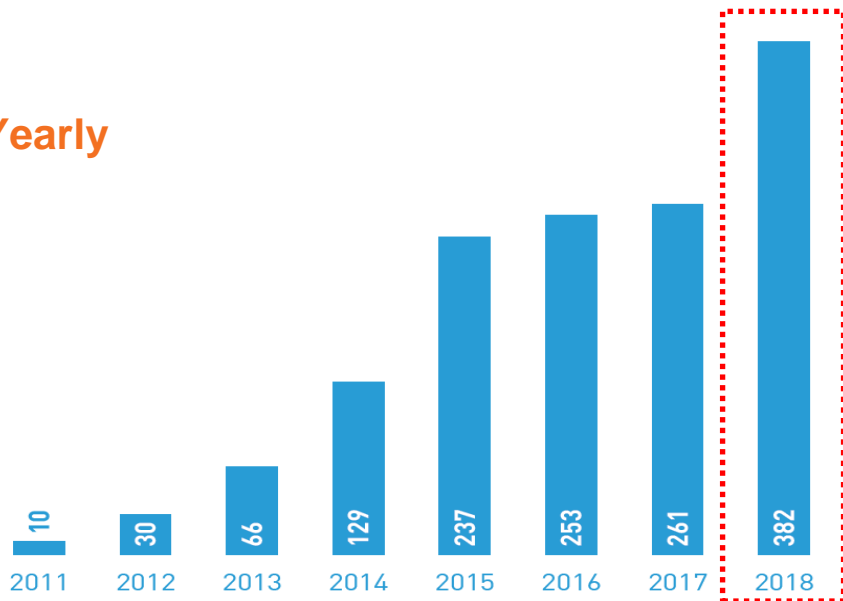


Cumulative

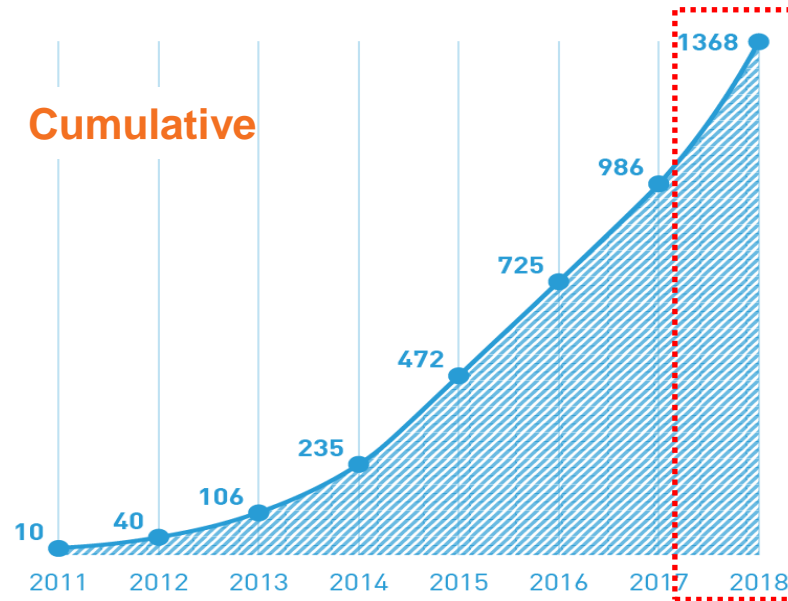


## Number of Courses delivered by Year

Yearly



Cumulative





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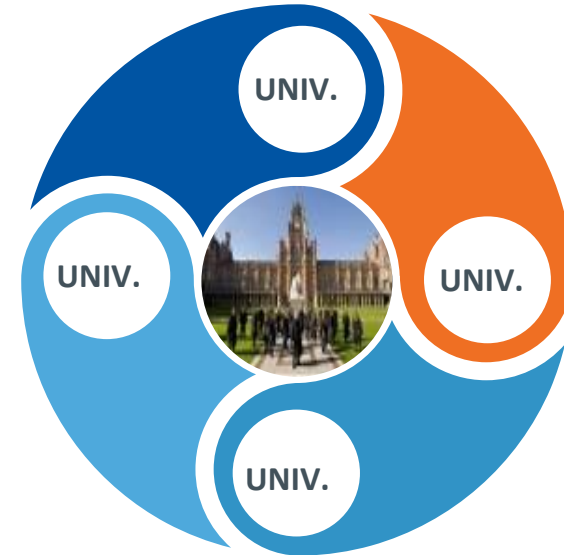
## Professional network



↔  
Learning Itineraries  
Host F-to-F Modules  
Franchise Model  
Credits Recognition  
↔



## Academic network



# Cooperation & Partnership



## Universities in cooperation

- **Concordia University (Canada):**  
Management Certificate in Civil Aviation.
- **École Nationale de l'Aviation Civile (ENAC – France):**  
Masters Degree in Safety Management
- **Waterloo University (Canada):**  
Fundamentals of the Air Transport System
- **Nanyang Technological University (China):**  
ICAO Aviation Data-driven Decision-Making (AD3M)

## International Organizations in cooperation

- **Airports Council International (ACI):**  
Airport Management Professional Accreditation (AMPAP)
- **International Federation of Freight Forwarders (FIATA):**  
Dangerous Goods Training Programme
- **European Organization for the Safety of Air Navigation (EUROCONTROL):** Managing Security in ATM





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## Airport Management Professional Accreditation Programme (AMPAP)

Graduate-level Credit

ESC Toulouse Aerospace MBA's "Airport Management"



- ✈ The Toulouse Business School provides academic recognition for AMPAP. The four mandatory AMPAP courses are recognized as equivalent to:
  - ✈ 20% of the MBA programme.
  - ✈ Represents a 28.5% reduction in the AeMBA's tuition fee.

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- ✈ **Aviation Training Intelligence™**



## Aviation Training Intelligence (ATI)

An **integrated information structure** to **collect diverse data** required for conducting up-to-date, needs-based aviation training activities.



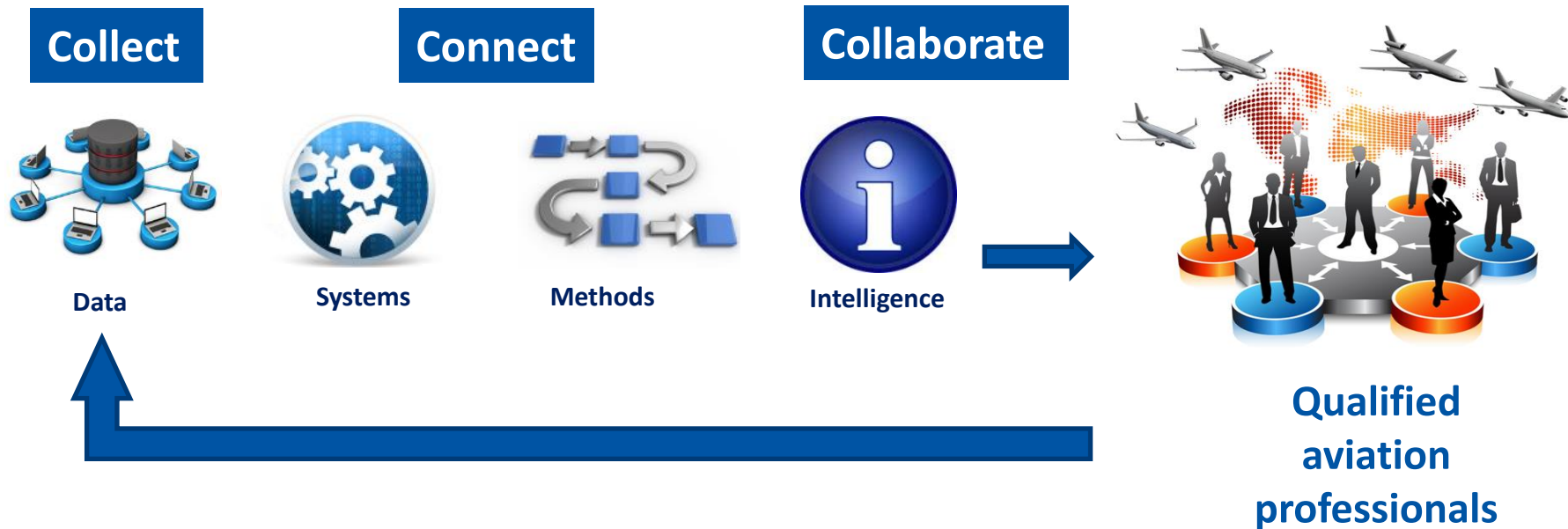
A **set of tools** and **methodologies** to **connect decision-useful information** for strategic and operational planning, business implementation, course development and delivery.

A **cooperative** network to **share intelligence** and close training gaps.

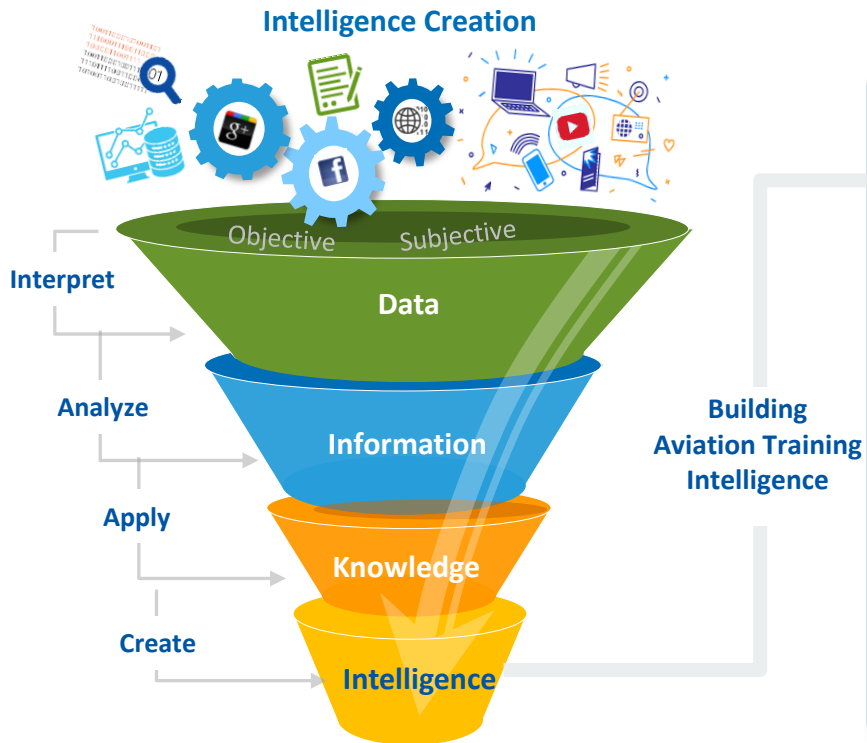
# Aviation Training Intelligence sources



# Aviation Training Intelligence sources



## How is ATI™ created ?





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## Essential Component 1 (EC: 1)

### Integrated Safety Trend Analysis and Reporting System (iSTARS)

Collection of **web applications** and data sets that facilitate and assist users in conducting aviation safety, efficiency and risk analyses

Provides a framework for **data and intelligence** needed for **decision-making and the prioritization** of ICAO programmes such as the **Universal Safety Oversight Audit Programme (USOAP)**, the **Aviation Safety Implementation Assistance Partnership (ASIAP)** and **Global Aviation Training (GAT)**.



## Integrated Safety Trend Analysis and Reporting System (iSTARS)

Web applications are listed in a **catalogue** and grouped into different categories, depending on what aviation field they relate to.



### Main categories:

- Accident statistics
- ACE
- Airlines
- CAA HR Toolkit
- Documentation
- Implement
- Integrated Analysis
- Natural Hazards
- SSP / SMS
- Traffic
- USOAP

# ICAO Training Implementation

## ICAO Training Electronic Tools:

### iStars Statistics

#### Each Member State's Records

#### Training Activities in France

There are 3 TRAINAIR PLUS Members in France. 3 ICAO-recognized courses have been developed. 2 ICAO-recognized courses are under development. In total, 12 ICAO-recognized courses have been delivered with 83 participants.

#### Courses Delivered

12

#### Courses Developed

3

#### Training Centres

3

#### Total Participants

83

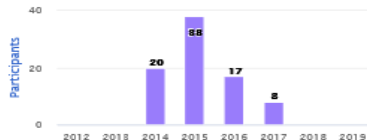
#### Courses Delivered

France



#### Course Participants

France



#### Training Centre's Performance

Ecole Nationale de l'Aviation Civile (ENAC) RTCE

Governmental Training Organization, Member since August 2014

Courses delivered: **4** Courses developed: **1** Courses under development: **0**

#### Courses Developed:

- Utilisation d'un appareil radioscopique conventionnel en vue de la détection de menaces (132/076/AVSEC X-RAY DET), delivered once  
en fr cn ar es ru

#### Courses Delivered - Summary:

- Training Developers Course (TDC), delivered 1 time with 10 participants total  
en fr cn ar es ru
- Utilisation d'un appareil radioscopique conventionnel en vue de la détection de menaces, delivered 1 time with 10 participants total  
en fr cn ar es ru
- Cours de Formation Instructeurs, delivered 2 times with 20 participants total  
en fr cn ar es ru

+ Courses Delivered - Detailed (click to expand)



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## Essential Component 2 (EC: 2)

### ICAO DATA +



Tool that presents in a dynamic and graphical environment the air transport statistic data collected from its 192 Member States.

Provide accurate, reliable and consistent aviation data so that States, international organizations, aviation industry, and other stakeholders can:

- make better projections;
- control costs and risks;
- improve business valuations; and
- benchmark performance.

# ICAO DATA +

Includes the following apps:



## Air Carrier Traffic



Covers monthly or annual traffic of aircraft movements, number of passengers embarked and disembarked and tons of freight and mail loaded and unloaded.

## Traffic by Flight Stage



Covers annual traffic on-board aircraft of international scheduled services

## Air Carrier Finances



Shows international scheduled airlines financial data, including revenues and expenditures for the year (calendar or fiscal) well as summary traffic data.

## Airport Traffic



Covers monthly or annual traffic data for major international airports.

## On Flight Origin and Destination



Shows on an aggregate basis the number of passengers, freight and mail tonnes carried between all international city-pairs on scheduled services

## Air Carrier Personnel



It deals with the personnel data of airlines. The data consist of statistics on the number of airline personnel by job category and the annual expenditures for these personnel.

## Air Carrier Fleet



It covers the fleet data of airlines. The data consist of statistics on the number and types of aircraft operated, their capacity and their utilization



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## Essential Component 3 (EC: 3)

Trainee perspective

### TRAINAIR PLUS electronic Management System (TPeMS)

#### • Learning Management

- Virtual Classroom/Mobile Learning
- Embedded e-learning and blended learning
- Track On-the-Job Training



#### • Informal Collaborative Learning

- Communities of Practice (CoPs)
- Testing (Level 2)
- Social learning
- Learning using "Serious games"

#### • Competency Management

- Job Analysis
- Job Catalogue

#### • Training Management

- Training Content
- Training Delivery
- Training Evaluation (Level 1, 2 and 3)



#### • Communication and Reporting

- Networking
- Statistics and Report
- Surveys and Polls

#### • Training Development Management

- Methodology Validation
- Content Validation

#### • HRD Expert Management

- Instructional System Designer (ISD)
- Training Validator
- Instructor
- Training Centre Assessor

#### • Training Centre Management

- Assessment
- Membership (Associate/Full/RTCE)



### Learning Management System (LMS)

Administrative perspective



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## Essential Component 4 (EC: 4)

### Training Needs Analysis (TNA)



### TNA Report

Final Report

Completed: 17/10/2017

**Training Needs Analysis Report**

This report reflects the results of data gathered and analyzed through a guided process based on the ICAO TRAINAIR PLUS methodology of job task analysis, and performance gap analysis to identify training needs and determine training solutions. The guidance provided in the ICAO Training Needs Analysis (TNA) web-based application is consistent with the State aviation training and capacity-building roadmap, and the organizational review, in order to yield the most targeted results for human resource and aviation professional development. Results of the TNA and training recommendations for specific jobs and professionals compose the content of this report and belong to the responsible organization.

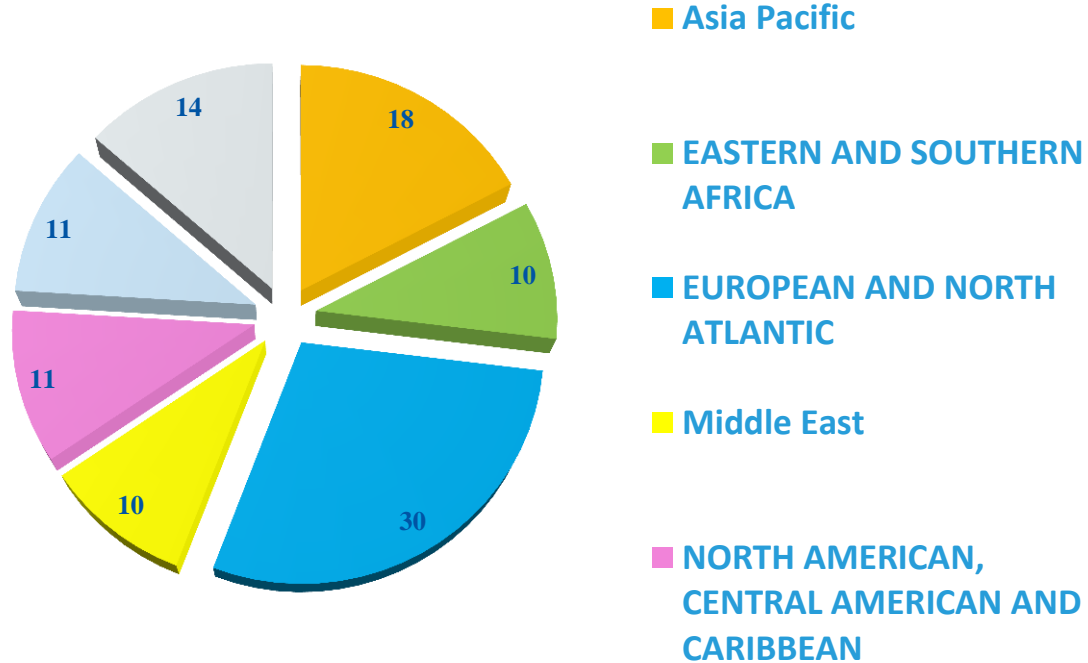
Training Needs Analysis		
<b>Organization</b> Rolando Tamayo	<b>State</b> Dominican Republic	<b>Date Started</b> 17/10/2017
<b>Needs Analysis Title</b> TNA 1 Test	<b>What is the problem to investigate?</b> Aerodrome inspectors are not able to execute inspections procedures as established in Aerodrome Operation Manual	<b>Date Completed</b> 17/10/2017
<b>What are the consequences of NOT addressing this problem?</b> Under performance, cannot meet KPIs	<b>Which PRIMARY document must be consulted to understand the problem?</b> ICAO audit report	<b>Other Documents</b>
<b>Organization</b> <u>About the Organization</u>	<b>What is the organizational model?</b> State / Non-profit	<b>When was the Organizational Review conducted?</b> 2013
<b>When was THIS organization established (year)?</b> 20	<b>Organizational Review was conducted by?</b> Internal Experts	<b>Result of the Organizational Review</b> Organizational structure adequately 1 main activities

Aerodrome of this department? Aerodrome operations surveillance

Indicator is affected by the problem identified?  
No of detected findings

## Regional TNA Accounts – PHASE 1

Since 2017



## TNA - Phase 2 - 2019

- ✓ Dynamic data management
- ✓ Links to ICAO or external information systems hosting regional or national data on air transport growth and HR needs
- ✓ Links to data and results of Universal Security Audit Programme (USAP), USOAP - Continuous Monitoring Approach (CMA), and the Monitoring and Assistance Review Board's (MARB) significant safety concerns (SSCs) and significant security concerns (SSeCs)
- ✓ Links to data on results of CE4, CE7, CE 8 - majority of States are below 60%
- ✓ Dynamic link to available training solutions




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# TNA Web-based Tool



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ICAO / Global Aviation Training / TNA

[Home](#)[About TNA](#)[Step 1: Initiate/Continue a TNA](#)[Step 2: Prepare](#)[Step 3: Gather Data](#)[Step 4: Analyze](#)[Report](#)

[SITE CONTENTS](#)

## Home



### ICAO Training Needs Analysis

Building capacity through human performance improvement

Welcome to ICAO's website on conducting effective Training Needs Analysis (TNA)! It provides aviation organizations working with ICAO with help identifying and addressing human performance improvement needs through training and development.

[Login](#)[Request an Account](#)

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Password

[LOGIN](#)

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[Home](#)[About TNA](#)[Step 1: Initiate/Continue a TNA](#)[About Training Needs Analysis](#)[Stating the Problem to Address](#)[Working with Documents](#)[Step 2: Prepare](#)[Performance Indicators](#)[Employment Categories](#)[Job Task Analysis](#)[Step 3: Gather Data](#)[Methods for Data Gathering](#)[Data Analysis](#)[Step 4: Analyze](#)[Report](#)

## Account Request

### Organization Information

Organization Name \*

Address  City  Country  Postal Code

What is the organization's purpose?  Industry segment

Number of employees

### Contact Information

Salutation  First Name \*  Middle Name  Last Name \*

Position title

Telephone  Email \*

Password \*  Confirm Password \*

[SUBMIT](#)



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# Essential Component 5 (EC: 5)

Aviation Training & Education Directory (ATED)

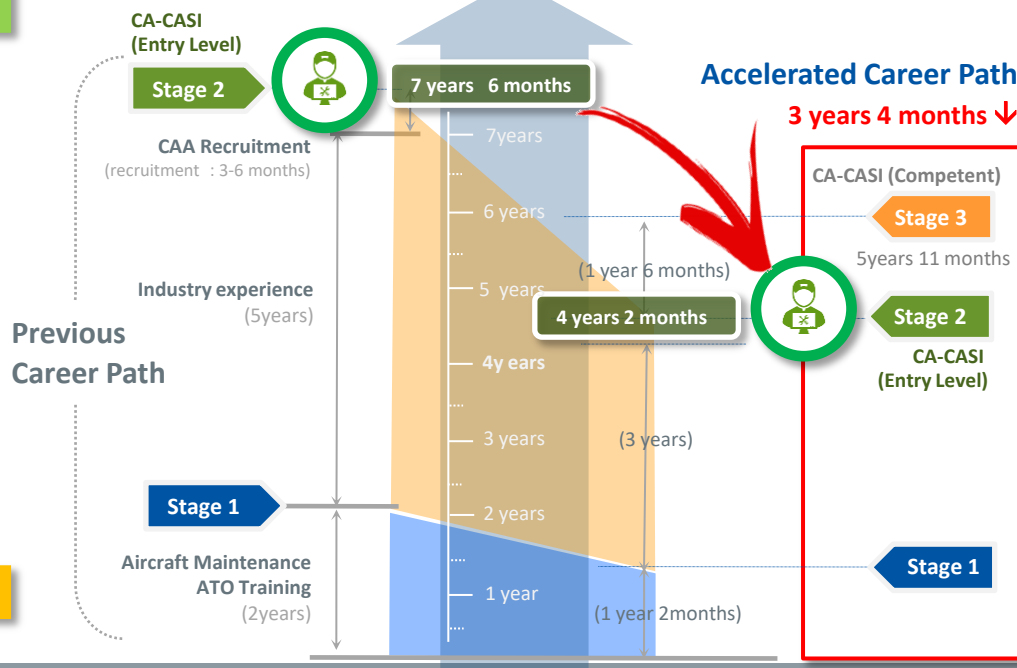
Aviation Career Path Portal (ACPP)



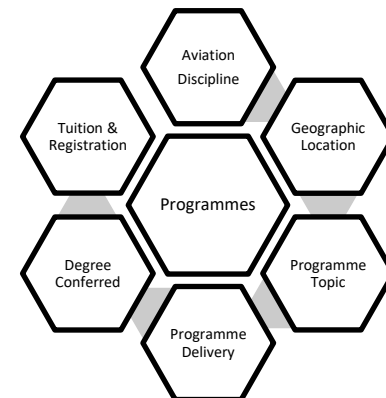
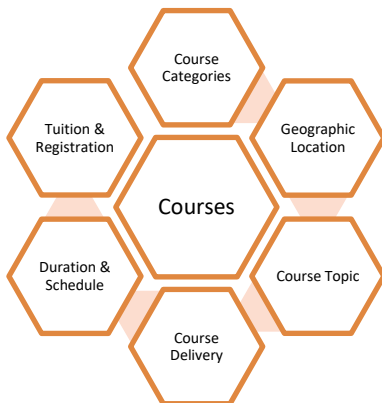
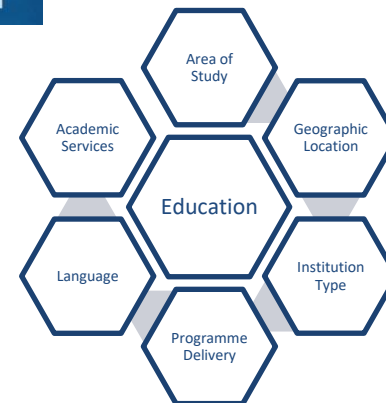
Expand your reach across the global community of aviation professionals



Example : Airworthiness Civil Aviation Safety Inspector



## AVIATION TRAINING AND EDUCATION DIRECTORY





# Aviation Training and Educational Directory

The screenshot displays the ICAO Aviation Training Directory website. At the top, the ICAO logo and name are visible, along with a search bar and social media links. The main navigation menu includes links for About ICAO, Strategic Objectives, Aviation Development, Events, Publications, Training, Store, and Careers. The left sidebar contains a list of links for the Aviation Training Directory, including ABOUT, FIND A TRAINING CENTER, REGISTER YOUR TRAINING CENTER, UPDATE YOUR PROFILE, ADVERTISING, and CONTACT US. The main content area features a large banner image of an airplane with the text 'A→Z' and 'ICAO AVIATION TRAINING DIRECTORY'. Below the banner, there is a welcome message and a description of the directory's purpose and features. A small advertisement for SIMglish B737 is also visible on the right side.

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INTERNATIONAL CIVIL AVIATION ORGANIZATION  
A United Nations Specialized Agency

Franglais | YouTube | Twitter | RSS

Search this site...  
Sign up for updates

About ICAO | Strategic Objectives | Aviation Development | Events | Publications | Training | Store | Careers

ICAO > Global Aviation Training > Aviation Training Directory

## ICAO Aviation Training Directory

**ABOUT**

- ICAO
- Aviation Training Directory
- Terms & Conditions

**FIND A TRAINING CENTER**

**REGISTER YOUR TRAINING CENTER**

- Benefits
- How to Register
- New Registration
- Renew Registration

**UPDATE YOUR PROFILE**

- How to Update Your Profile
- Course Categories

**ADVERTISING**

- Training Report Magazine
- Magazine Media Rate Card
- ICAO ATD Site

**CONTACT US**

Welcome to the ICAO Aviation Training Directory.

The International Civil Aviation Organization's Aviation Training Directory (ATD) is a global web-based listing of aviation training providers. It offers a comprehensive list of government approved aviation training centres, which allows visitors to freely browse through the site and obtain detail information on training courses; recognizing the authenticity of the center.

The ATD provides aviation training centres with global visibility and marketing opportunities, enabling them to reach the aviation community and training stakeholders from ICAO's 191 member states. The ATD site is becoming one of the world's most visited, comprehensive and effective online aviation training directories. It contains more than 300 training centres from 100 countries, 5850 course listings from close to 200 course categories.

In 2016, ICAO ATD will undergo major upgrades to provide Civil Aviation Training Centres's and aviation professionals with new user-friendly and interactive search features to find training catered to their professional development needs.

**NEW**  
SIMglish  
**B737**  
Aircraft-specific  
Aviation English  
learning system  
for pilots and  
managers



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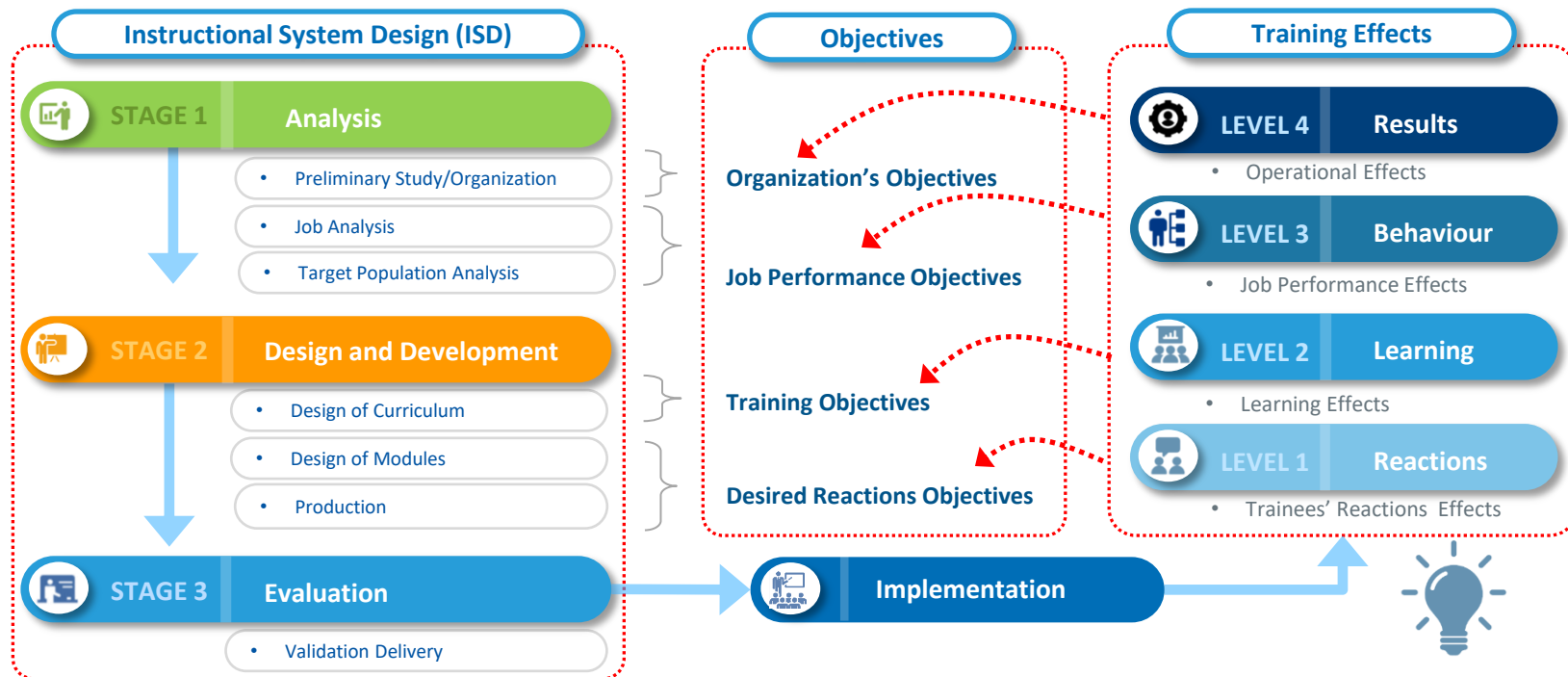
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# Essential Component 6 (EC: 6)

## TRAINAIR PLUS Methodology - Instructional System Design (ISD)





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## Essential Component 7 (EC: 7) - L3 PTE





## Post-training related questions in the workplace ...

What happened **after** the course?

Was the Organization able to obtain **better results** due to this training?

Did participants develop and apply the **desired competencies**?

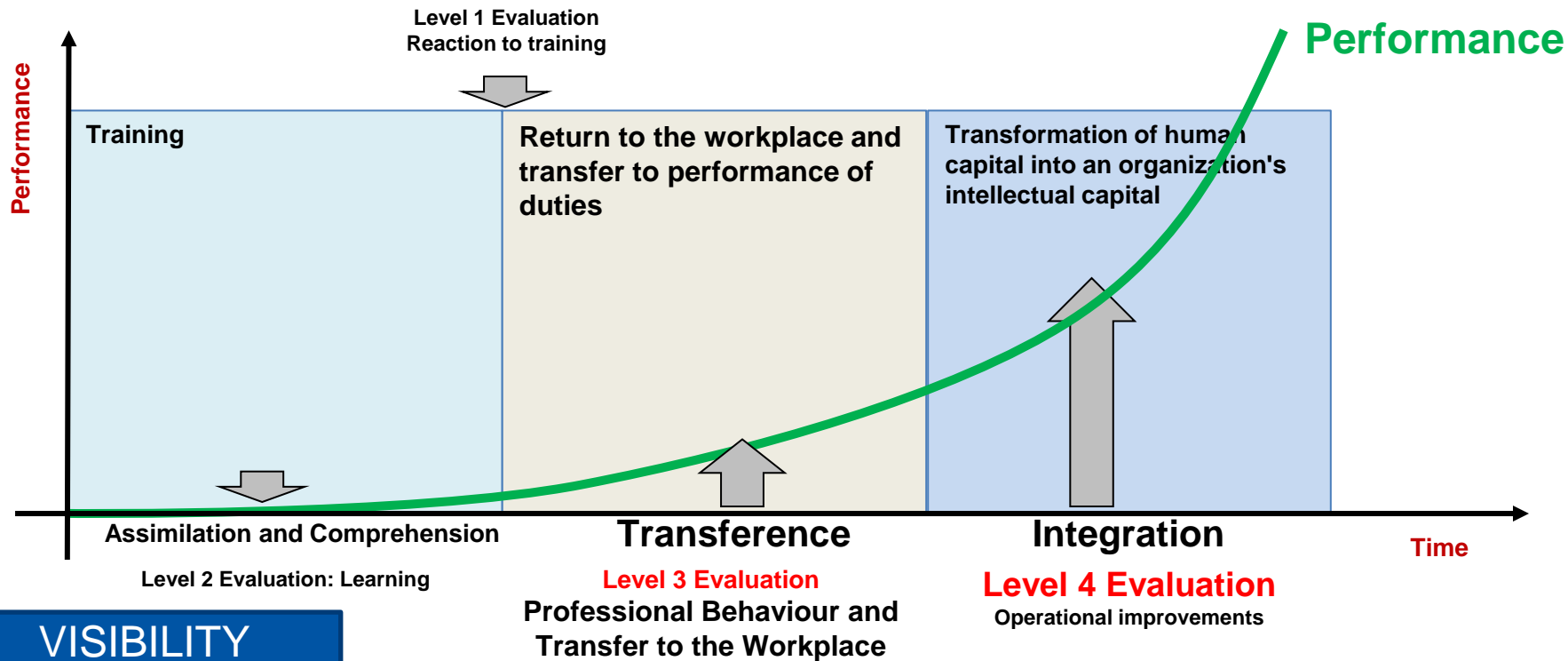
Was the **trainee's performance** improved?



# The fundamentals of training effectiveness

- ❑ Training has to provide expected results
- ❑ Evaluating training effectiveness sheds light on four aspects, as follows:
  - How well the training program met the learner's needs and objectives
  - What knowledge and skills it has provided to learners
  - What desirable change has it brought to the learners' performance
  - What organizational benefits has it yielded

# Training performance curve






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# Automated Training Course Evaluation

 Jie (Annie) Huang

Validator | Course Developer | **Instructor** | Admin | Assessor



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Validating Competency-based Training (VCT) 1 Oct - 5 Oct, 2018



[Back Home](#)

## Session Info

- Participants
- Attendance
- Grades
- Evaluation Questionnaires
- Instructor's Remarks
- eReport



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VALIDATING COMPETENCY-BASED  
TRAINING  
ITP/TCD/VCT/004E

## Validating Competency-based Training (VCT)

ITP/TCD/VCT/004E

**Training Center:** Turkish Aviation Academy

**Dates:** 1 Oct - 5 Oct, 2018

**Total Participants:** 6

**Status:** Completed

## Session Details

The Validating Competency-based Training course will provide training centres with internal validation capabilities for the development and evaluation of competency-based training.

# Essential Component 7 (EC: 7)

## Level 3 Post Training Evaluation (L3 PTE) Methodology

Overall Impact on Professional Performance

PTE Weighted Impact Index (WIN) Equation

$$Win = \frac{\sum_{i=1}^6 \text{Impact Dimension Value (DI)} \times \text{Relative Weight (Wt)}}{100}$$

Total PTE results are the accumulated total values of the Evaluated Impact Dimension values multiplied by the corresponding Relative Weight.

The closer to 5 in the *Win*, the greater the impact of the training in the trainees' opinions; the closer to 1, the lesser the impact.

Specific Impact on Work Performance

Evaluated Impact Dimensions

D1

Work Environment and Culture of Collaboration

D2

Occupational Safety and Health

D3

Transferability to the Job

D4

Professional Competence attained under Real-Life Conditions

D5

Productivity and Operational Efficiency under Real-Life Conditions

D6

Working Conditions and Professional Career

Relative Weight

W1

10%

W2

15%

W3

15%

W4

25%

W5

25%

W6

10%

Impact Indicator

1

Quality of hierarchical relationships

2

Coordination and cooperation

3

Healthy conditions at work

4

Prevention of occupational hazards

5

Transferability of acquired knowledge

6

Responsiveness of work environment

7

Professional autonomy

8

Target competencies

9

Enhanced professional skills

10

Problem solving

11

Resource optimization

12

External customer satisfaction

13

Operational efficiency

14

Working conditions

15

Professional career

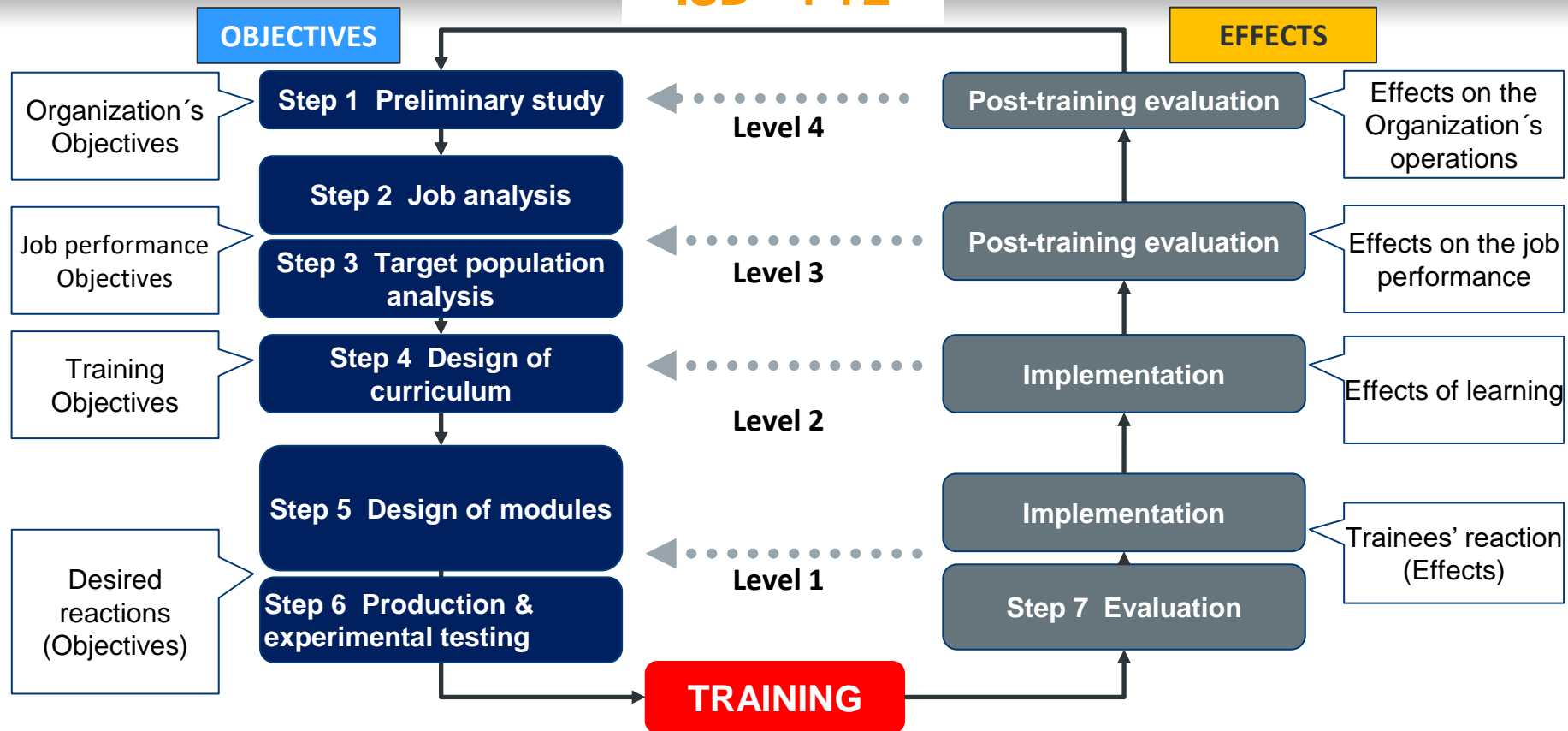


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## ISD – PTE





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## Essential Component 8 (EC: 8)

### Civil Aviation Authority

Strategic document that include the fundamental information about aviation in the State upon which the Roadmap will be developed, such as:



### Master Plan (CAAMP)

- a list of existing aviation activities in the State;
- a list of planned activities in short; mid-/long-term;
- existing aviation infrastructure;
- existing aviation service providers;
- planned changes in aviation infrastructure;
- planned changes in the aviation market;
- the institutional system of the State;
- expected changes affecting the institutional system of the State;
- State's aviation strategies;
- State's aviation development plans; and
- State's performance targets (safety, security, environment, state's objectives, etc.).



## Aviation Plans (Examples)

ICAO Global Air Navigation Plan 2016-2030 (GANP)

ICAO Doc 10004, Global Aviation Safety Plan 2017-2019 (GASP)

ICAO Global Aviation Security Plan (GASeP)

Regional Air Navigation Plans

National Air Navigation Plans

# Human Resources Development

## ❑ Objectives and challenges:

- ✈ Develop more people to meet specific performance **effectively and efficiently**
- ✈ Build new competencies for specific performance **continuously**
- ✈ Align the HR development strategy with the State's Aviation Master Plan

## ❑ HR strategies and techniques:

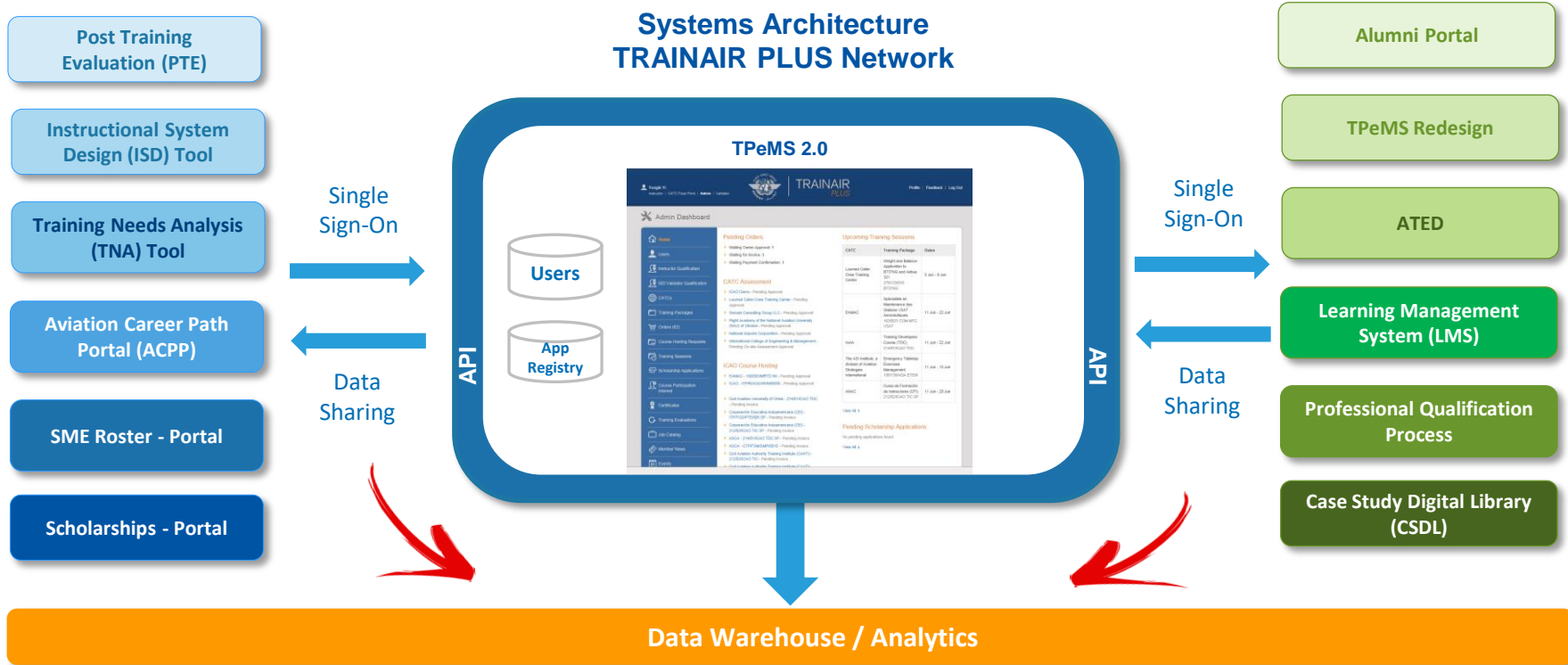
- ✈ Competency-based recruitment and training
- ✈ Training development strategy based on TNA
- ✈ Career development plan

## Aviation Training Intelligence™ – Benefits

- ✈ Assists executives, managers and other corporate end users to make informed business decisions.
- ✈ Improves efficiency.
- ✈ Assists in turning data into actionable information.
- ✈ Allows successful strategical planning, having access to key trends and patterns in data.
- ✈ Focuses on areas of training requirements from the aviation industry.
- ✈ Reports regarding effectiveness of training solutions.
- ✈ Saves money, leading to a sound ROI.
- ✈ Ensures compliance is aligned in accordance with international requirements and best practices.

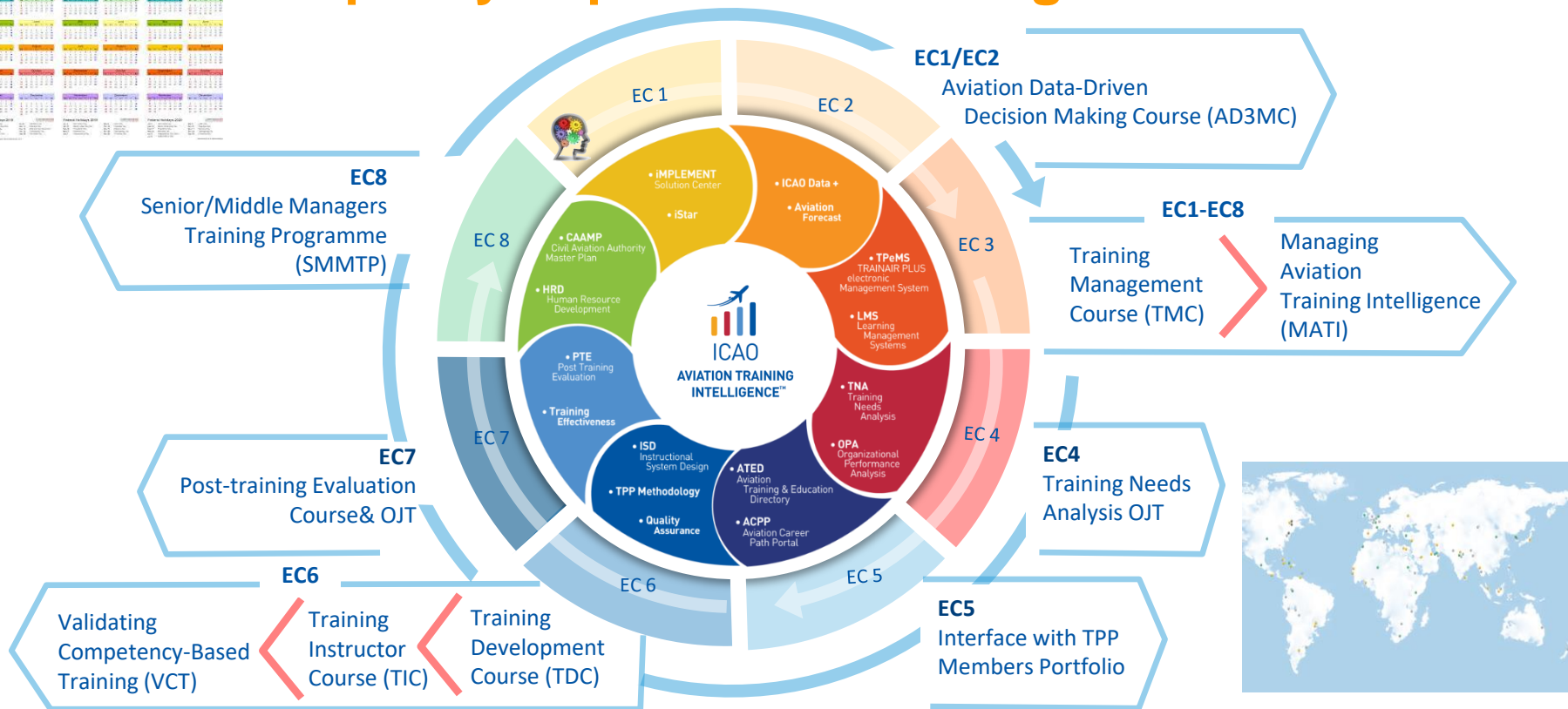
# Training Intelligence Integrated System

## Systems Architecture TRAINAIR PLUS Network



The figure displays three calendar grids for the years 2018, 2019, and 2020. Each grid is organized by month and day, with colors indicating different categories or themes. The colors used are blue, green, yellow, orange, red, and purple. The grids are arranged in a 3x3 layout, with the years 2018, 2019, and 2020 labeled at the top of each column. The rows represent the months of the year. The colors are distributed across the days of the month, with some days having multiple colors. The grids are used to illustrate the distribution of colors across the year, which is then used to generate the color-coded bar charts in the subsequent figure.

# Capacity Improvement through ATI™





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