Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bundesamt für Zivilluftfahrt BAZL
Office fédéral de l'aviation civile OFAC
Ufficio federale dell'aviazione civile UFAC
Federal Office of Civil Aviation FOCA

SASOC 2024

Evaluations from oversight activities and use of FSTD

Section «Training Organisations and Light Aircraft Operation»

03. May, 2024, Zentrum Paul Klee

Referents

David Bieli
Head of Section SBFL

Matthias Türler
FOI H

Simon Laub
FSTD-I & FOI A

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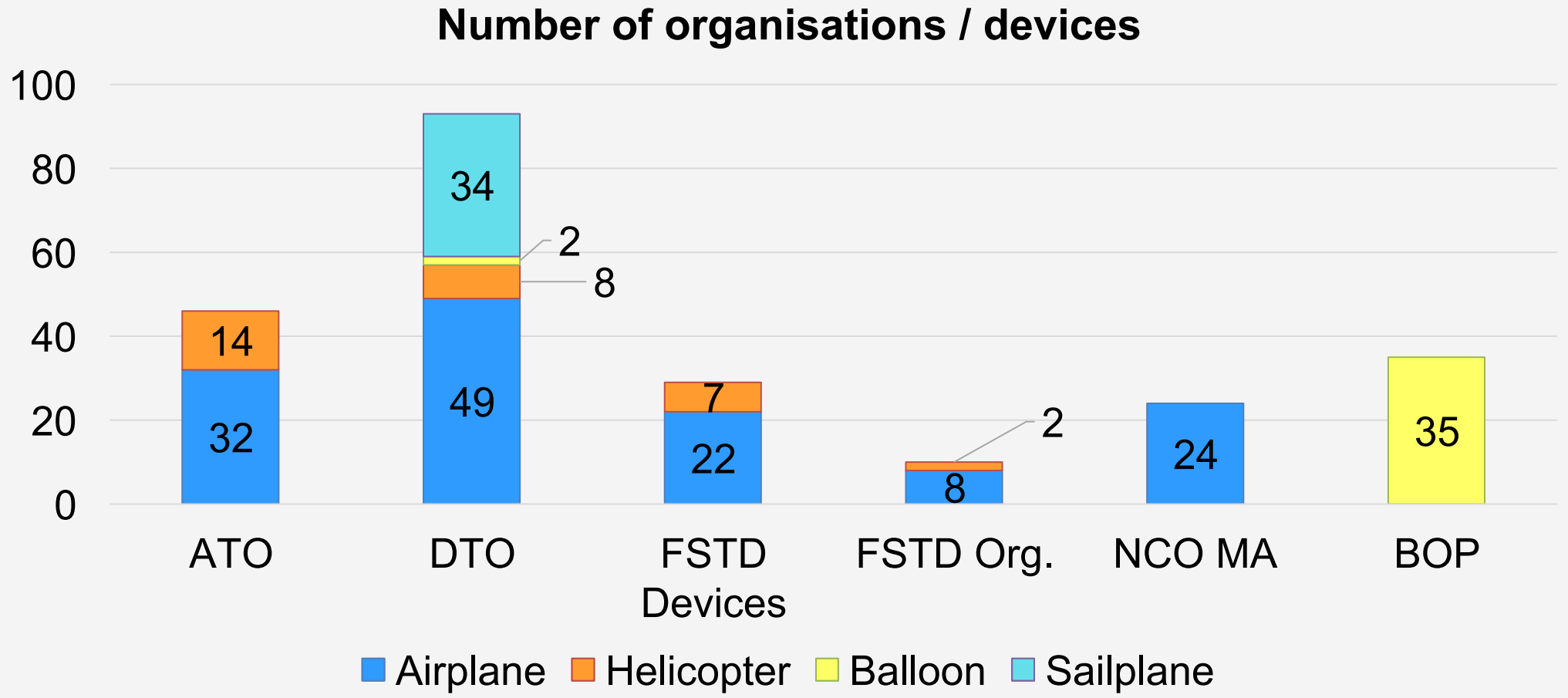
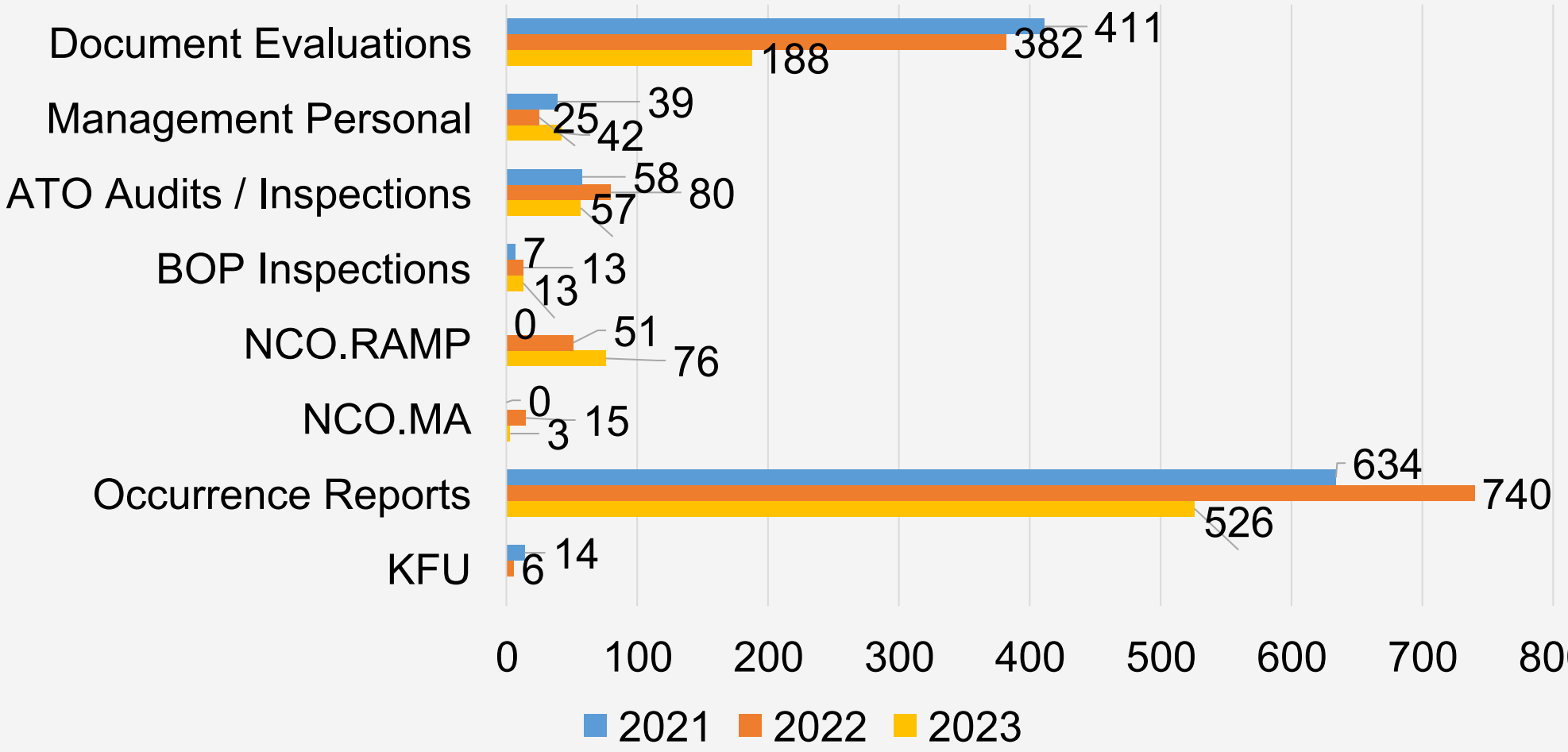


Evaluations of oversight activities 2023



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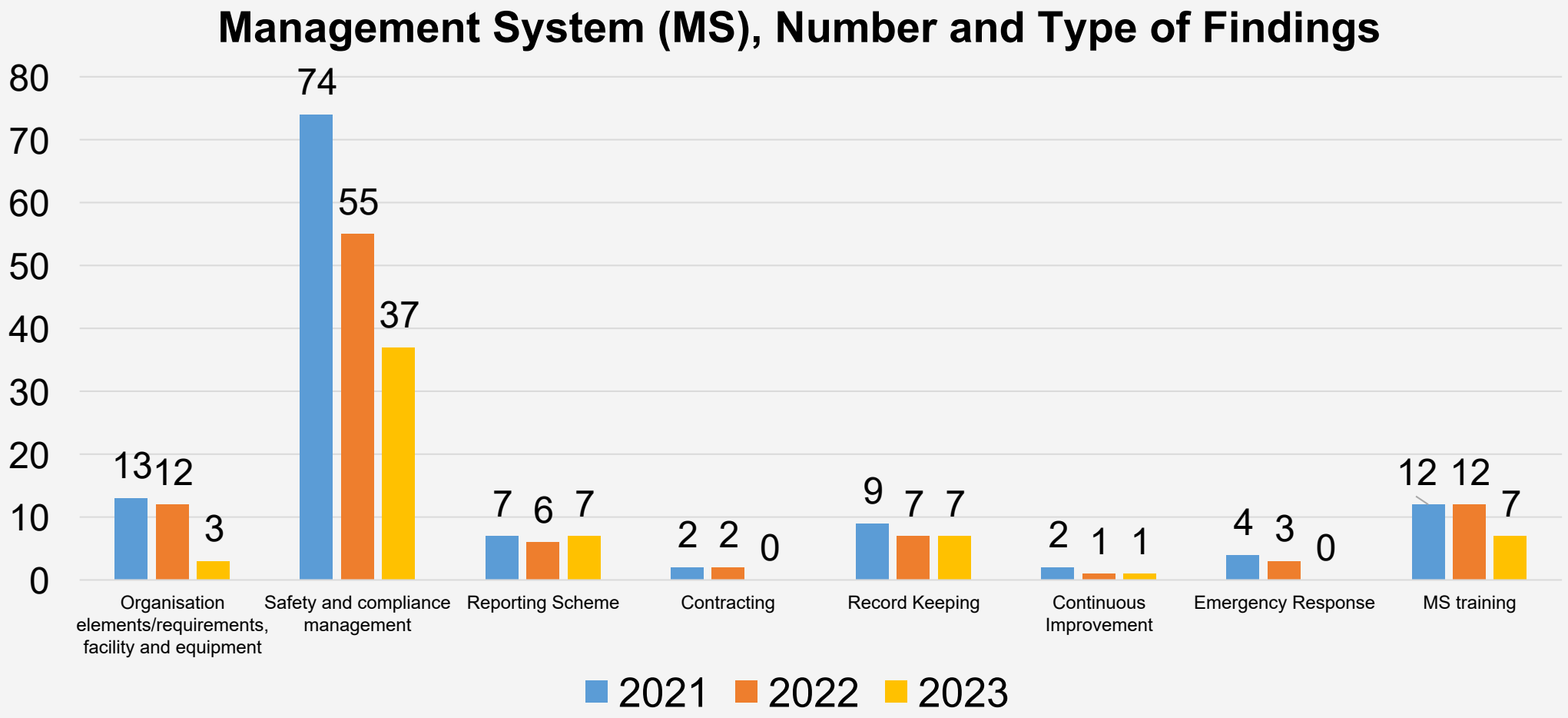
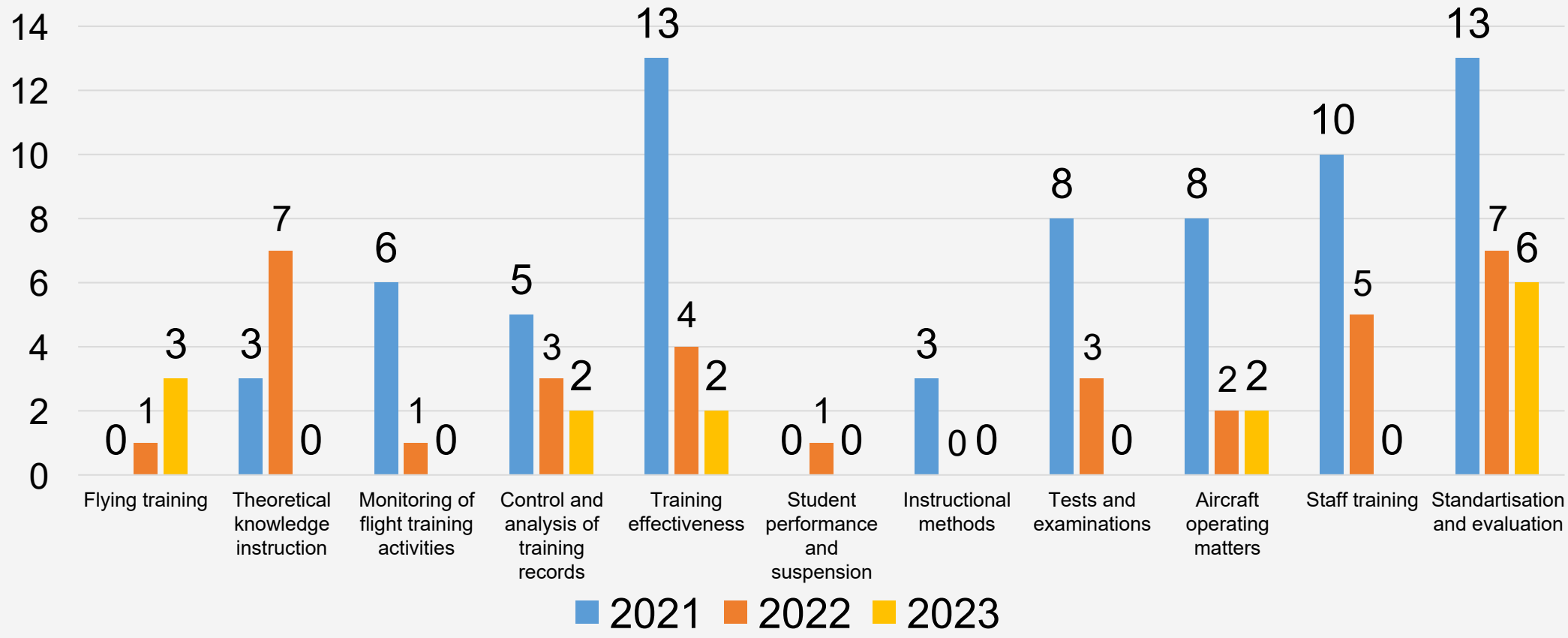


Evaluations of oversight activities 2023

Training Activity (TA), Number and Type of Findings



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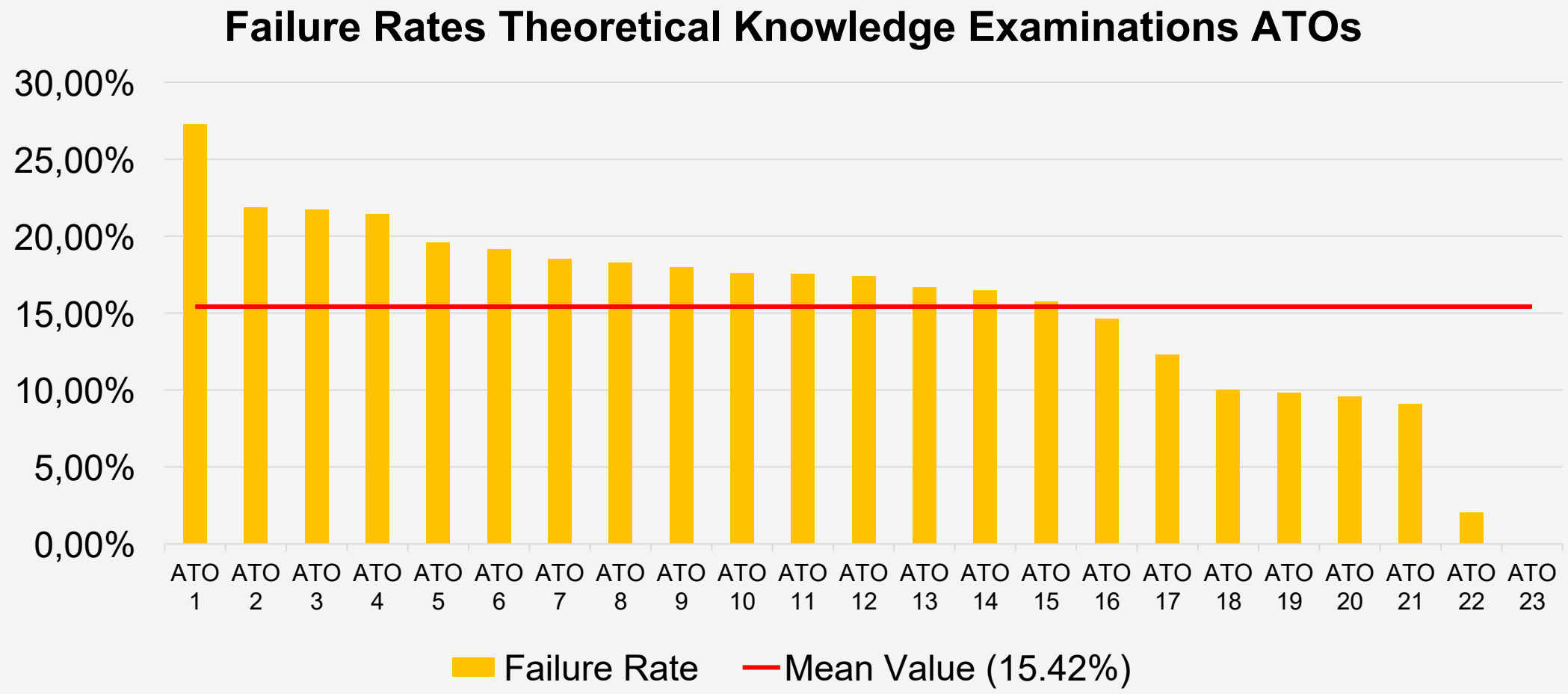

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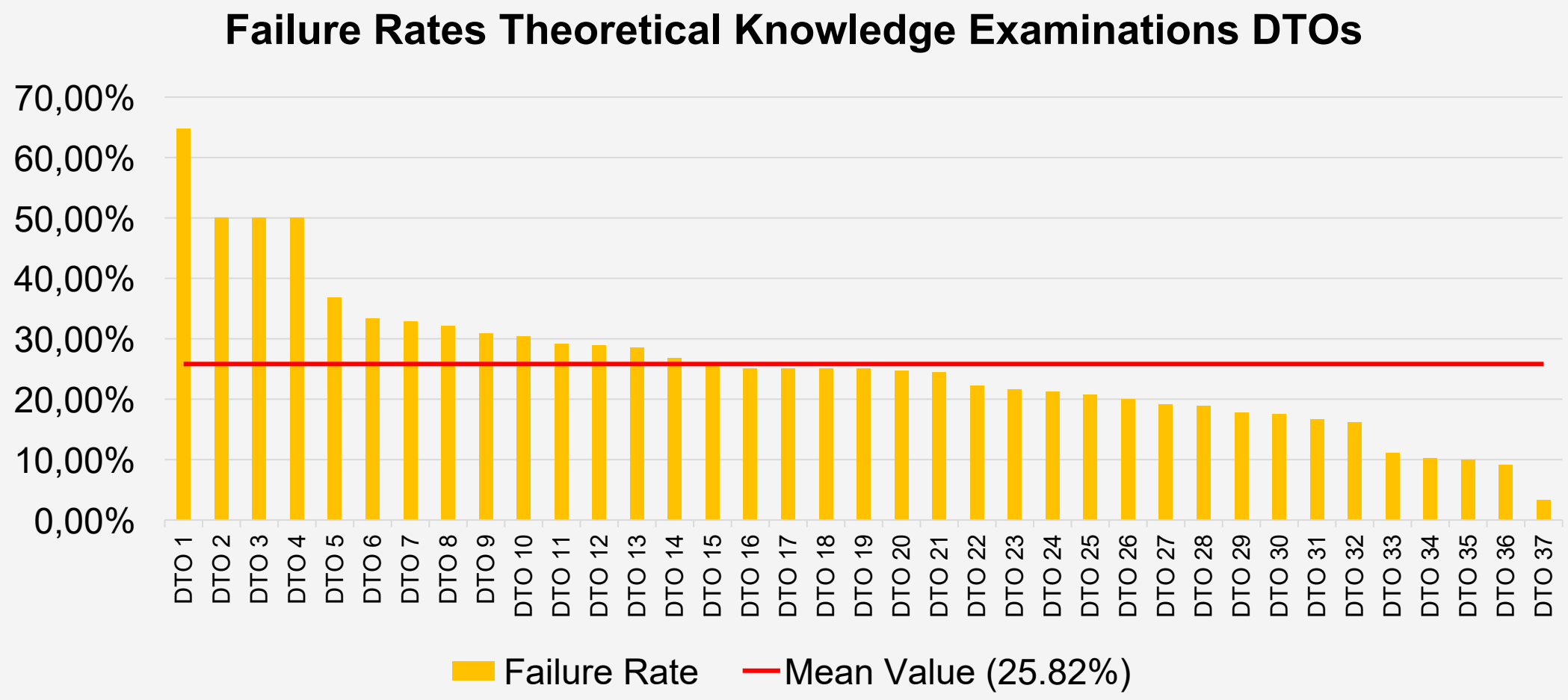

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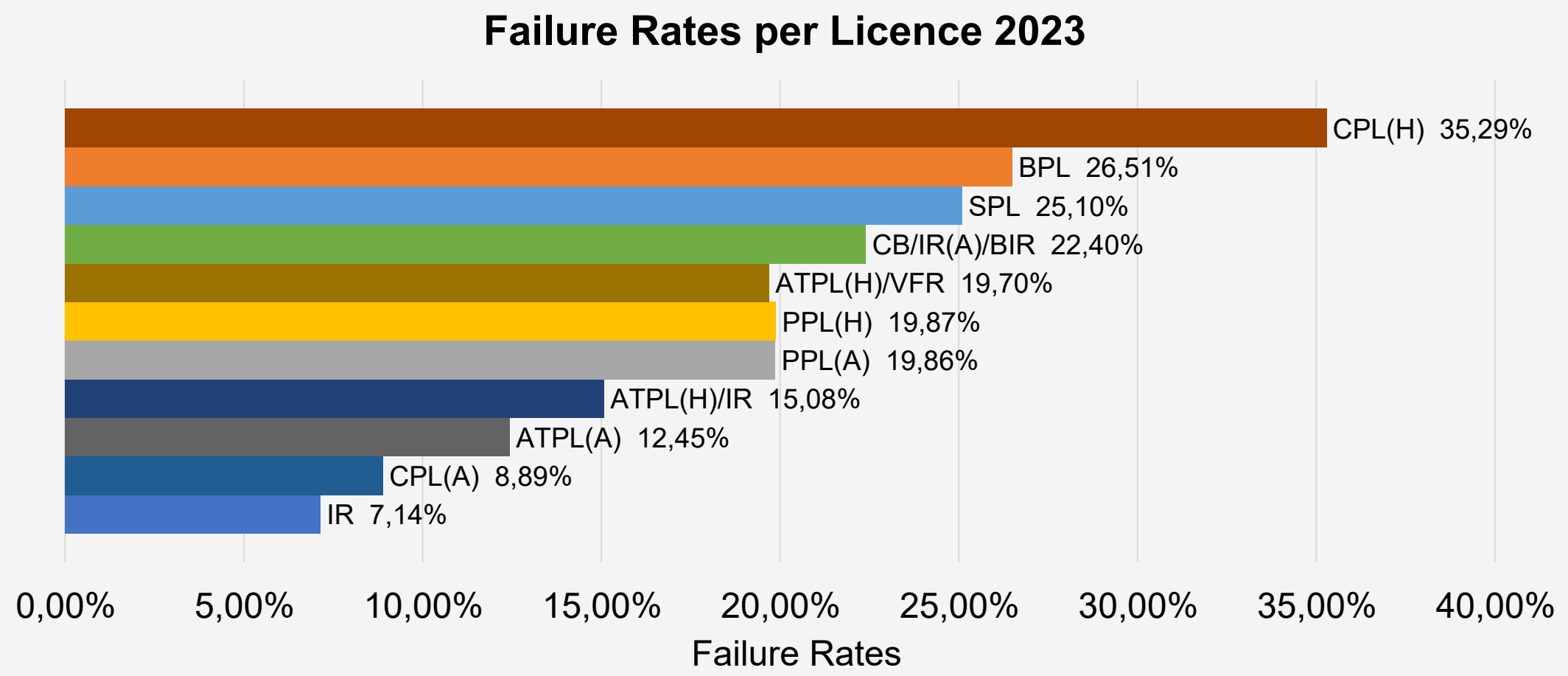
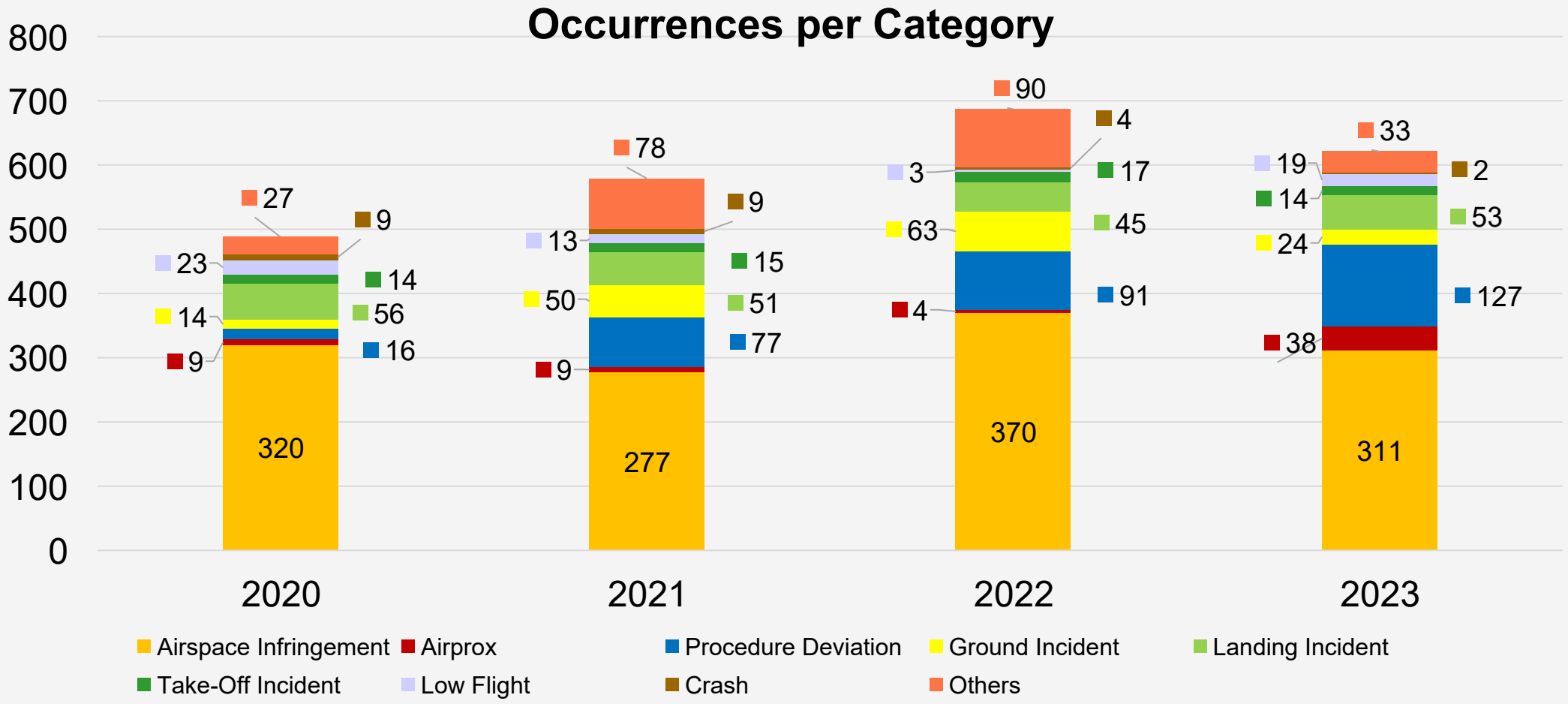
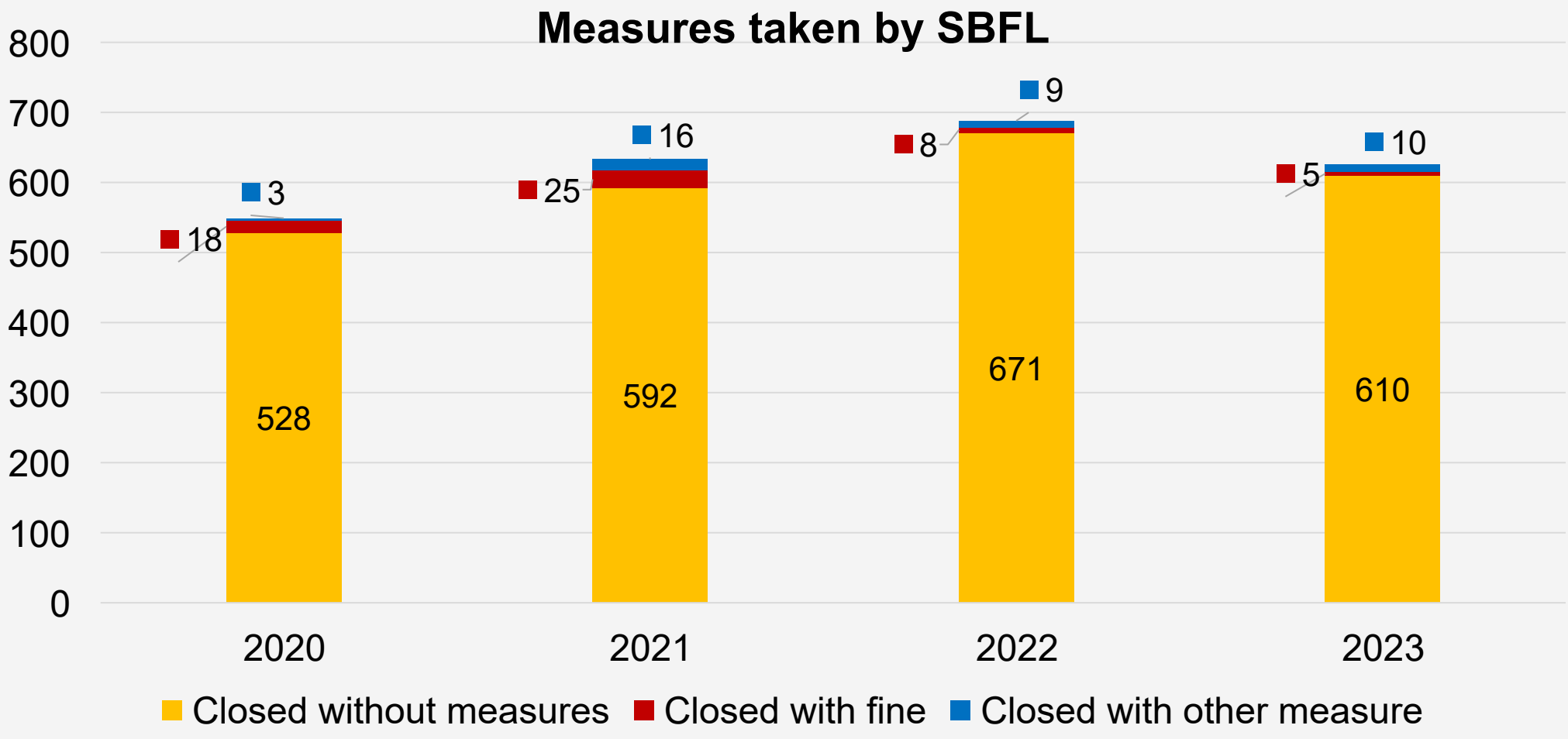


Occurrences



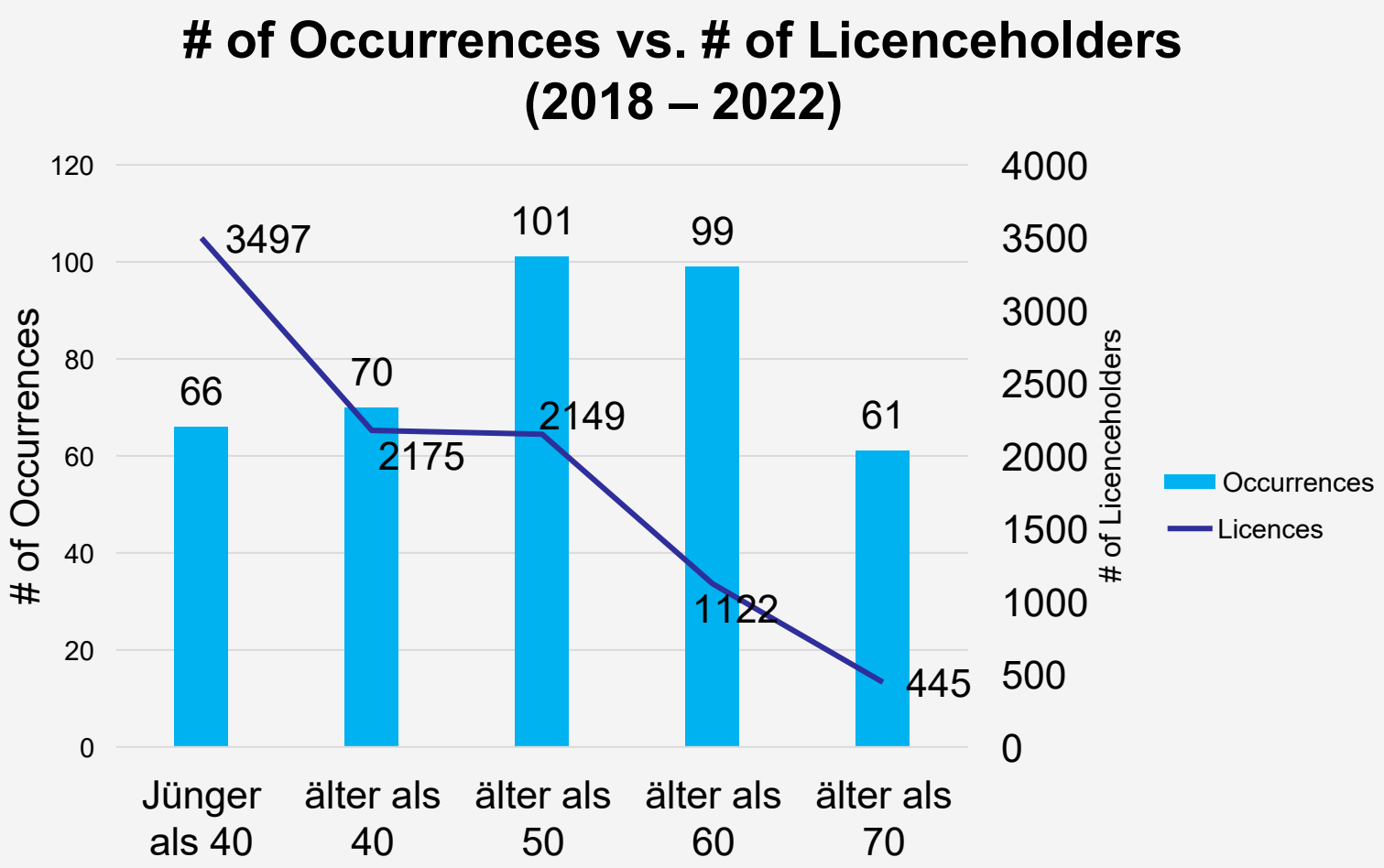
Occurrences



Key concerns from occurrence reports

- Landing Incidents: Currency on legal minimum
- Airspace Infringements: Deficiencies in flight planning, radio communication and knowledge of airspace structures
- High proportion of occurrences involving pilots age 60 and over

Key concerns from occurrence reports



Ratio (# Occurrences / # Licenceholders):

- Age <40: 0.02
- Age >40: 0.03
- Age >50: 0.05
- Age >60: 0.09
- Age >70: 0.14

News SBFL

Source:
Foto zum Thema Blau-weißes Flugzeug tagsüber auf braunem Feld – Kostenloses Bild zu Luftfahrt auf Unsplash

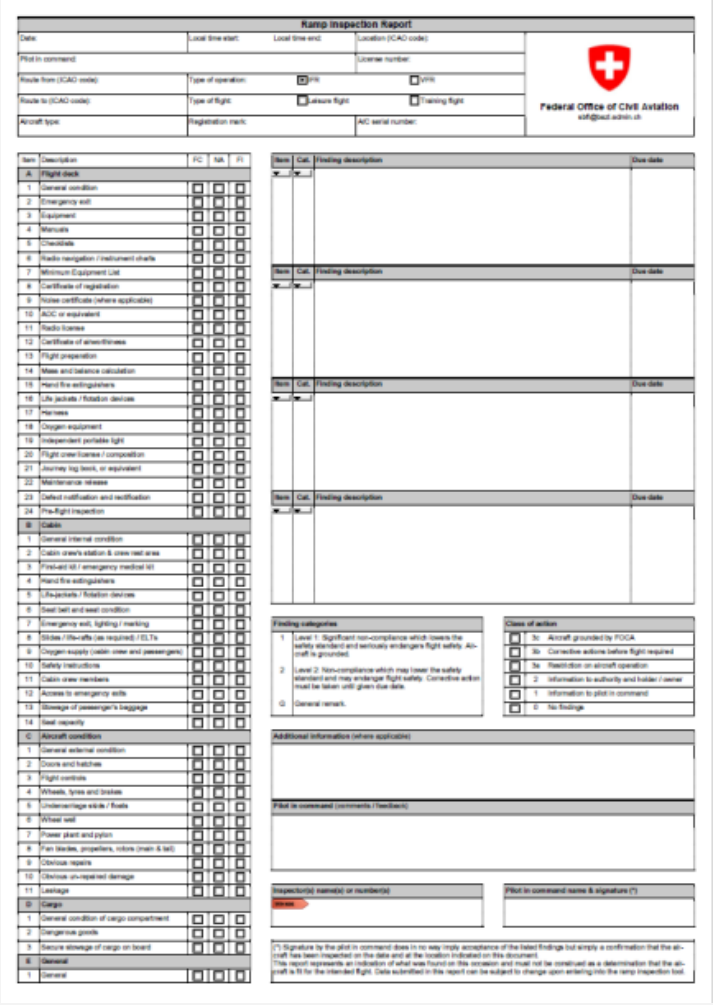
- Oversight of DTOs
- Desktop Review Process
- Form 105
- Ramp Inspections
- Oversight Concept 2024

Oversight of DTOs

- FOCA in charge of oversight since 1 April 2024

quality control management

Ramp Inspections


Ramp Inspection Report

Federal Office of Civil Aviation

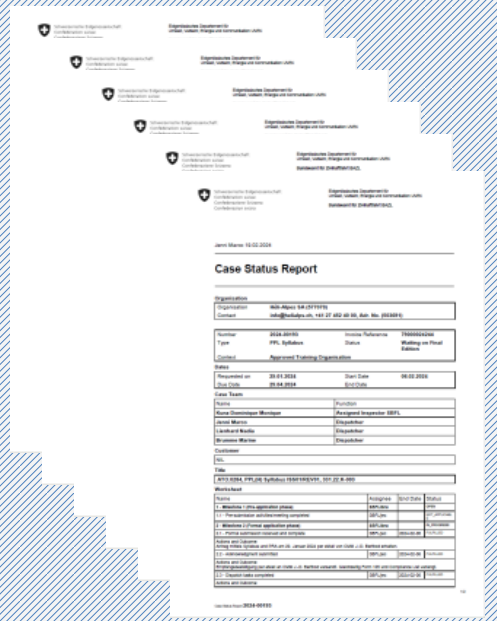
- Inspection of Requirements Part-NCO of the Air Ops Regulations ((EU) No 965/2012)
- Licence & Medical shall be carried on board in the originals (FCL.045(a))
- Flight preparation: Deficiencies in the performance (take-off and landing distances) and weight & balance calculations → also acceptable in digital form
- Questionnaire available FOCA website: Non-complex aircraft - NCO (admin.ch)

Certification Process

Form 105 / Compliance List / ATO Docs

Desktop Review

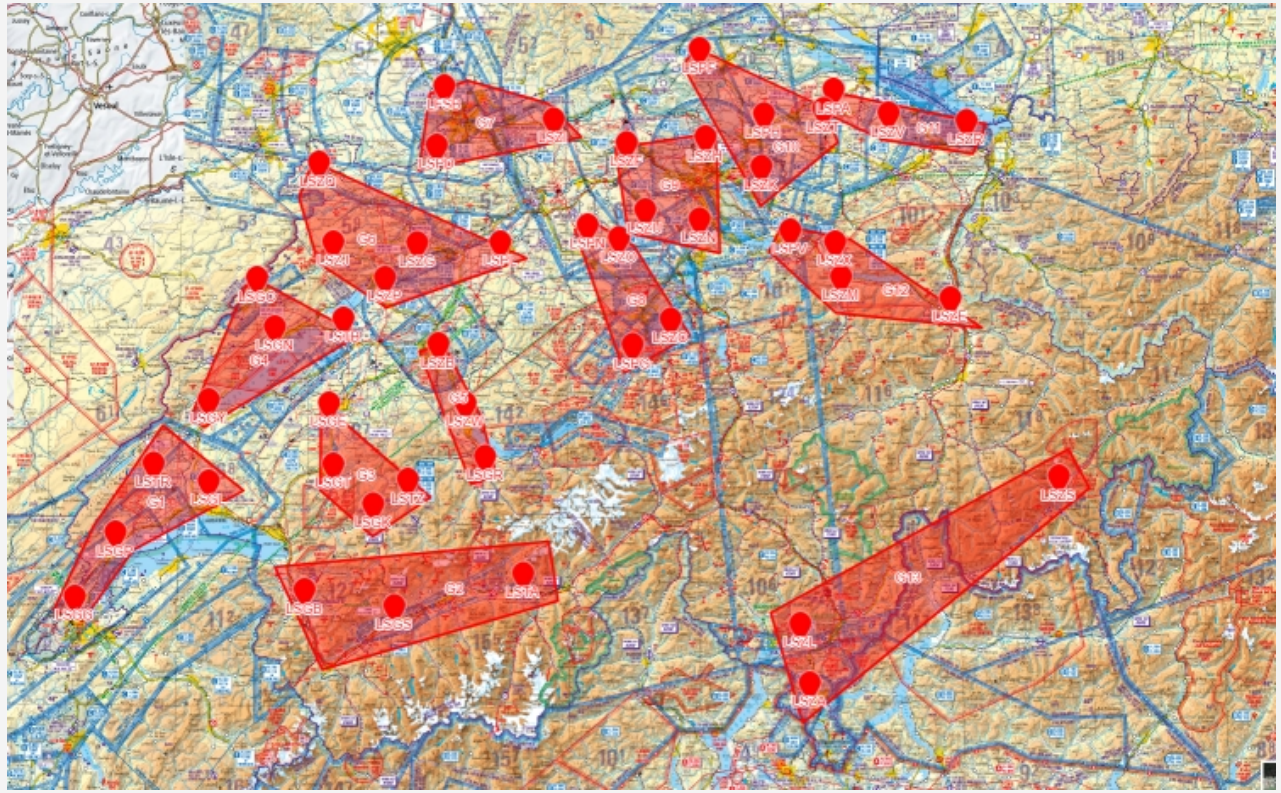
Case Status Report



ATO Certificate / Form 105

Oversight Concept 2024

- Focus «on-side» oversight activities
- Ramp Inspections
- ATO Inspections: FTI / TKI
  - FT Inspections on 2-seat aircraft with action cameras
- DTO Inspections
- NCO.MA Inspections



Categories of FSTD

Basic Instrument Training Device

Source: Avenger Flight Group

Flight Training Device

Source: Pilatus Flugzeugwerke AG

Flight Navigation Procedure Trainer

Source: Aviation Flight Center

Full Flight Simulator

Source: Schweizerische Rettungsflugwacht Rega

Categories of FSTD

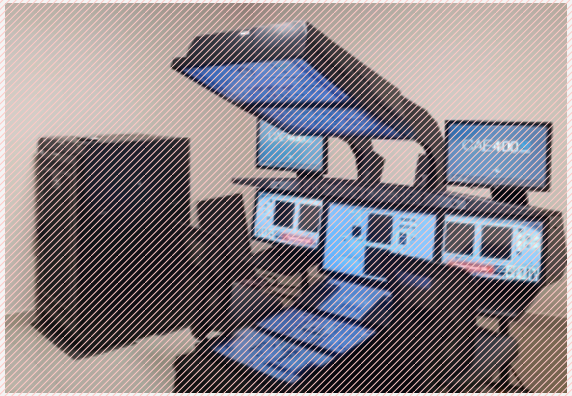
Basic Instrument Training Device

Flight Navigation Procedure Trainer

Basic Instrument Training Device

- Represents student pilot‘s station of a class of aeroplanes
- May use screen based instrument panels and spring loaded flight controls
- Providing a training platform for at least the procedural aspects of instrument flight
- No different qualification levels
- For aeroplanes only

Categories of FSTD



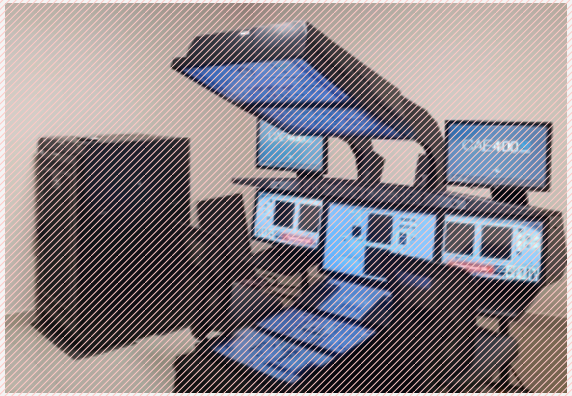
Basic Instrument Training Device

Flight Navigation Procedure Trainer

Flight Navigation Procedure Trainer

- flight deck/cockpit environment to represent an aircraft or class of aeroplane
- Generic only (e.g. MEP based on DA42 or SET Helicopter)
- Systems appear to function as in an aircraft
- Different Qualification Levels
  - FNPT Type I
  - FNPT Type II
  - FNPT Type II MCC

Categories of FSTD



Basic Instrument Training Device

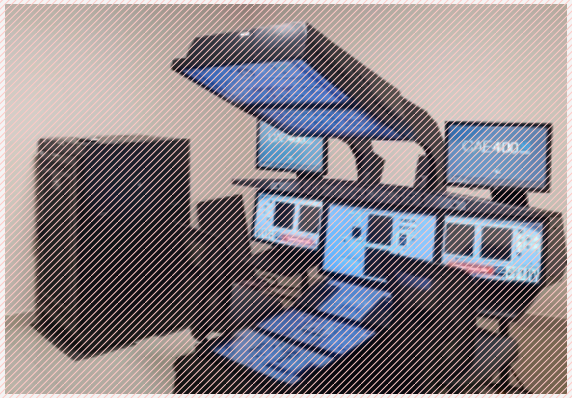
Flight Navigation Procedure Trainer

Flight Navigation Procedure Trainer

Additional technical requirements for FNPT Type II:

- Aerodynamic modelling for effects of airframe icing and the rolling moment due to yawing
- A visual system (night/dusk or day) with a FOV (field of view) of a minimum of 45 degrees horizontally and 30 degrees vertically
- Etc.

Categories of FSTD



Basic Instrument Training Device

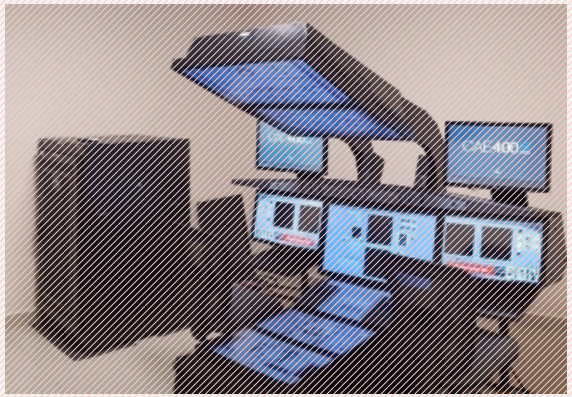
Flight Navigation Procedure Trainer

Flight Navigation Procedure Trainer

Additional technical requirements for FNPT Type II **MCC for aeroplane**:

- Turbo-jet or turbo-prop engines
- Performance reserves acc. CS-25 (engine failure case)
- Pressurization system
- Fire detection/suppression system
- Dual controls
- Etc.

Categories of FSTD



Basic Instrument Training Device

Flight Navigation Procedure Trainer

Flight Navigation Procedure Trainer

Additional technical requirements for FNPT Type II **MCC for helicopter**:

- Multi-engine and multi-pilot helicopter
- Performance reserves in accordance with Category A criteria (engine failure case)
- Fire detection/suppression system
- Dual controls
- Etc.

Categories of FSTD

Flight Training Device

- Full size replica of a specific aircraft (instruments, equipment, panels…)
- Represent the aircraft in ground and flight conditions to the extent of the systems installed
- No motion or visual required
- Different Qualification Levels
  - FTD Level 1
  - FTD Level 2

Flight Training Device

Full Flight Simulator

Categories of FSTD

Flight Training Device

FTD Level 1

- Type specific with at least one system fully represented
- Enclosed or open flight deck

FTD Level 2

- Type specific with all applicable systems fully represented
- An enclosed flight deck with an on-board instructor station
- Etc.

Flight Training Device

Full Flight Simulator

Categories of FSTD

Full Flight Simulator

- Full size replica of a specific type or make, model
- Assemblage of all equipment and computer programms
- Visual system
- Force cueing motion system
- Different Qualification Levels
  - FFS Level A, B, C, D

Flight Training Device

Full Flight Simulator

Categories of FSTD

Full Flight Simulator

FFS Level A:

- Lowest level of FFS technical complexity

FFS Level B (As for Level A, plus):

- Validation flight test data

FFS Level C (As for Level B, plus):

- Windshear simulation

FFS Level D (As for Level C, plus):

- Extended set of sound and motion buffet tests

Flight Training Device

Full Flight Simulator

Use of simulators for flight training/testing/checking

	BITD	FNPT	FTD	FFS
	Basic Instrument Training Device	Flight Navigation Procedure Trainer	Flight Training Device	Full Flight Simulator
Aeroplane	• BITD	• Type I • Type II • Type II MCC	• Level 1 • Level 2	• Level A • Level B • Level C • Level D
Helicopter		• Level I • Level II • Level III • Level II MCC • Level III MCC	• Level 1 • Level 2 • Level 3	• Level A • Level B • Level C • Level D

Use of simulators for flight training/testing/checking

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Office of Civil Aviation FOCA

Flight Simulation Training Device Qualification Certificate

Pursuant to Commission Regulation (EU) No 1178/2011 and subject to the conditions specified below, the Federal Office of Civil Aviation of Switzerland hereby certifies that

AIRBUS HELICOPTER

Serial No

located at

CH

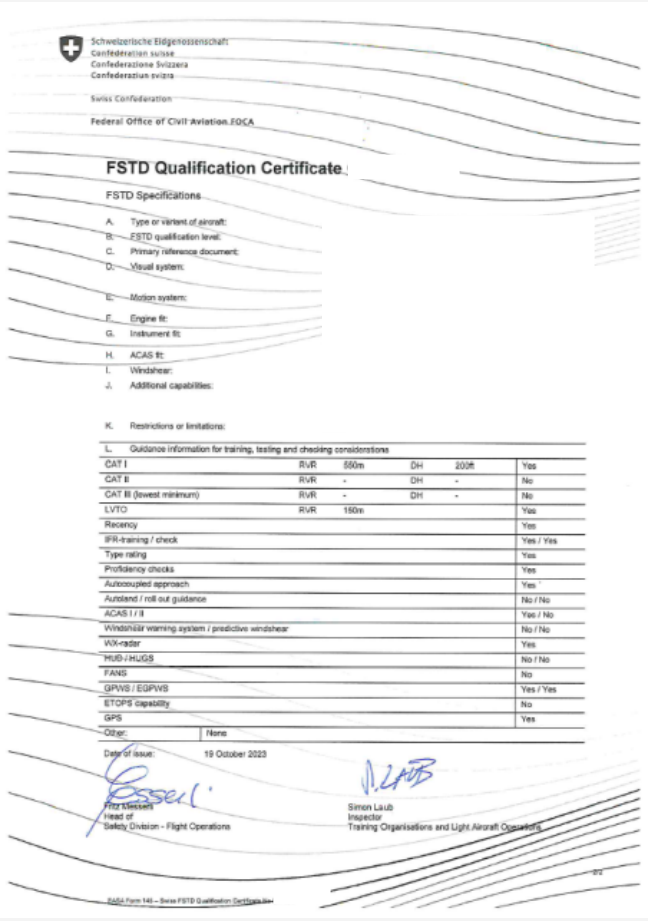
has satisfied the qualification requirements prescribed in Part-ORA, subject to the conditions of the attached FSTD specifications.

This qualification certificate shall remain valid subject to the FSTD and the holder of the qualification certificate remaining in compliance with the applicable requirements of Part-ORA, unless it has been surrendered, superseded, suspended or revoked.

Date of issue: 10 October 2023

Fritz Messerli
Head of
Safety Division - Flight Operations

Simon Laub
Inspector
Training Organisations and Light Aircraft Operations



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Office of Civil Aviation FOCA

FSTD Qualification Certificate

FSTD Specifications

A. Type or variant of aircraft:
B. FSTD qualification level:
C. Primary reference document:
D. Visual system:
E. Motion system:
F. Engine fit:
G. Instrument fit:
H. ACAS fit:
I. Windshear:
J. Additional capabilities:

K. Restrictions or limitations:

L. Guidance information for training, testing and checking considerations

CAT I	RVR	550m	DH	200ft	Yes
CAT II	RVR	-	DH	-	No
CAT III (lowest minimum)	RVR	-	DH	-	No
LVTO	RVR	150m			Yes
Recency					Yes
IFR-training / check					Yes / Yes
Type rating					Yes
Proficiency checks					Yes
Autocoupled approach					Yes
Autoland / roll out guidance					No / No
ACAS I / II					Yes / No
Windshear warning system / predictive windshear					No / No
WX-radar					Yes
HUD / HUGS					No / No
FANS					No
GPWS / EGPWS					Yes / Yes
ETOPS capability					No
GPS					Yes
Other:	None				

Date of issue: 19 October 2023

Fritz Messerli
Head of
Safety Division - Flight Operations

Simon Laub
Inspector
Training Organisations and Light Aircraft Operations

FSTD-Certificate:

- General Information
- FSTD Specifications

Use of simulators for flight training/testing/checking

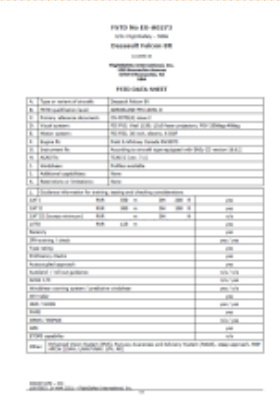
L.	Guidance information for training, testing and checking considerations							
CAT I	RVR	500	m	DH	200	ft	yes
CAT II	RVR	300	m	DH	100	ft	n/a
CAT III (lowest minimum)	RVR		m	DH		ft	n/a
LVTO	RVR	125	m				n/a
Recency							yes
IFR-training / check							yes (partially) / n/a
Type rating							yes (partially)
Proficiency checks							yes
Autocoupled approach							n/a
Autoland / roll out guidance							n/a / n/a
ACAS I / II							n/a / n/a
Windshear warning system / predictive windshear							n/a / n/a
WX-radar							n/a
HUD / HUGS							n/a / n/a
FANS							n/a
GPWS / EGPWS							n/a / n/a
ETOPS capability							n/a
GPS							no
Other	High altitude operations, mountain operations, elevated platform landing, slope landing, confined area landing						

To be evaluated by ATO & submitted to NAA

Use of simulators for flight training

Application Forms

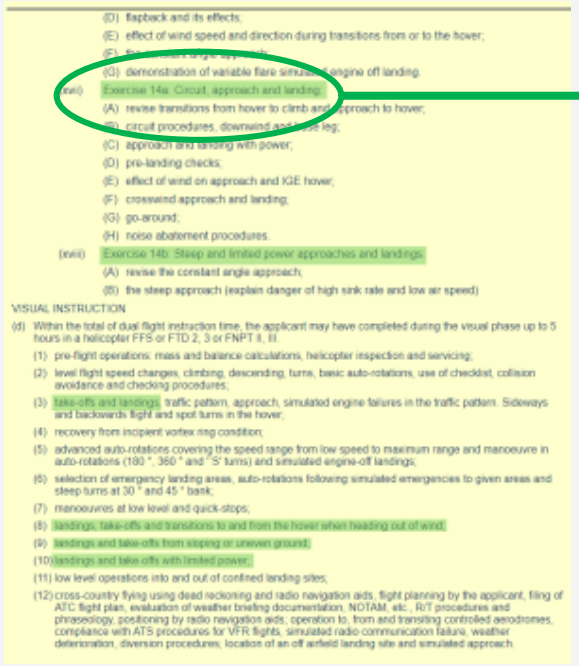
Form 105 / ATO Documentation /
FSTD Certificate / (Evaluation Report) /
FSTD Diff. List



Acceptance/Approval Documentation

Form 105 / ATO Certificate

Standardisation Helicopter Flight Training



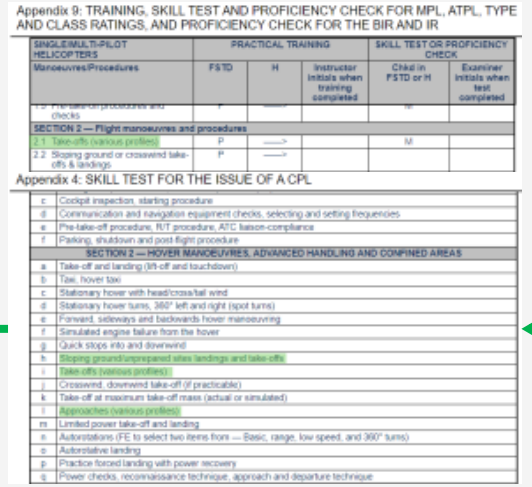
(D) flapback and its effects;
(E) effect of wind speed and direction during transitions from or to the hover;
(G) demonstration of variable flare simulated engine off landing;
(xvi) Exercise 14a: Circuit, approach and landing:
(A) revise transitions from hover to climb and approach to hover;
(B) circuit procedures, downwind and base leg;
(C) approach and landing with power;
(D) pre-landing checks;
(E) effect of wind on approach and IGE hover;
(F) crosswind approach and landing;
(G) go-around;
(H) noise abatement procedures.
(xvii) Exercise 14b: Steep and limited power approaches and landings:
(A) revise the constant angle approach;
(B) the steep approach (explain danger of high sink rate and low air speed)

VISUAL INSTRUCTION

(d) Within the total of dual flight instruction time, the applicant may have completed during the visual phase up to 5 hours in a helicopter FFS or FTD 2, 3 or FNPT II, III.
(1) pre-flight operations: mass and balance calculations, helicopter inspection and servicing;
(2) level flight speed changes, climbing, descending, turns, basic auto-rotations, use of checklist, collision avoidance and checking procedures;
(3) take-offs and landings, traffic pattern, approach, simulated engine failures in the traffic pattern. Sideways and backwards flight and spot turns in the hover;
(4) recovery from incipient vortex ring condition;
(5) advanced auto-rotations covering the speed range from low speed to maximum range and manoeuvre in auto-rotations (180 °, 360 ° and ' S' turns) and simulated engine-off landings;
(6) selection of emergency landing areas, auto-rotations following simulated emergencies to given areas and steep turns at 30 ° and 45 ° bank;
(7) manoeuvres at low level and quick-stops;
(8) landings, take-offs and transitions to and from the hover when heading out of wind;
(9) landings and take-offs from sloping or uneven ground;
(10) landings and take-offs with limited power;
(11) low level operations into and out of confined landing sites;
(12) cross-country flying using dead reckoning and radio navigation aids, flight planning by the applicant, filing of ATC flight plan, evaluation of weather briefing documentation, NOTAM, etc., R/T procedures and phraseology, positioning by radio navigation aids; operation to, from and transiting controlled aerodromes, compliance with ATS procedures for VFR flights, simulated radio communication failure, weather deterioration, diversion procedures; location of an off airfield landing site and simulated approach.

Part-FCL AMCs (Training Courses)

Part-FCL Appendices (Skill Tests)



Appendix 9: TRAINING, SKILL TEST AND PROFICIENCY CHECK FOR MPL, ATPL, TYPE AND CLASS RATINGS, AND PROFICIENCY CHECK FOR THE BIR AND IR

SINGLE/MULTI-PILOT HELICOPTERS	PRACTICAL TRAINING			SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/Procedures	FSTD	H	Instructor initials when training completed	Child in FSTD or H	Examiner initials when test completed
SECTION 2 — Flight manoeuvres and procedures					
2.1 Take-offs (various profiles)	P	——>		M	
2.2 Sloping ground or crosswind take-offs & landings	P	——>			

Appendix 4: SKILL TEST FOR THE ISSUE OF A CPL

c	Cockpit inspection, starting procedure
d	Communication and navigation equipment checks, selecting and setting frequencies
e	Pre-take-off procedure, R/T procedure, ATC liaison-compliance
f	Parking, shutdown and post-flight procedure
SECTION 2 — HOVER MANOEUVRES, ADVANCED HANDLING AND CONFINED AREAS	
a	Take-off and landing (lift-off and touchdown)
b	Taxi, hover taxi
c	Stationary hover with head/cross/tail wind
d	Stationary hover turns, 360° left and right (spot turns)
e	Forward, sideways and backwards hover manoeuvring
f	Simulated engine failure from the hover
g	Quick stops into and downwind
h	Sloping ground/unprepared sites landings and take-offs
i	Take-offs (various profiles)
j	Crosswind, downwind take-off (if practicable)
k	Take-off at maximum take-off mass (actual or simulated)
l	Approaches (various profiles)
m	Limited power take-off and landing
n	Autorotations (PE to select two items from — Basic, range, low speed, and 360° turns)
o	Autorotative landing
p	Practice forced landing with power recovery
q	Power checks, reconnaissance technique, approach and departure technique

EASA
together4safety
14a CIRCUIT, APPROACH AND LANDING
togeth
For Helicopter Flight

EASA Helicopter Flight Instructor – Training Guide

Standardisation Helicopter Flight Training

- The EASA Helicopter Flight Instructors – Training Guide is regarded as the sole reference to standardised basic manoeuvres
- Licence training constitutes training to learn and consolidate flying skills and techniques pertaining to the licence level sought
- Type rating training constitutes training solely focusing on operating a new type of aircraft
- Touchdown termination of autorotation: Is anticipated to be the sole termination of a manoeuvre in a FSTD (pending FOCA Risk Assessment and communication to EASA)

FOCA

Bern und Zürich

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