Wir sind TFC


A320-200 FT76
CAE
CAE 7000 XR
First Class Airline Training


D-GTFC

Mobile

Switch to

FLIGHT MODE

or **MUTE**

Support

Every **input** is

appreciated

Feedback

Feedback is

welcome

Opinions may differ

Share your **needs**

Discretion

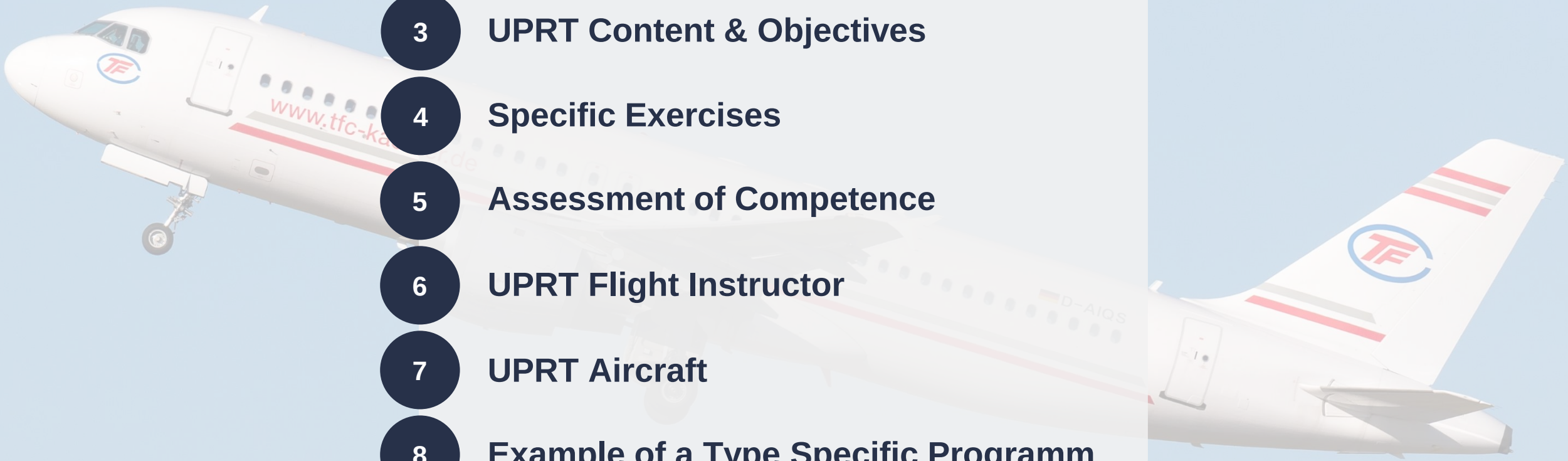
What happens in

Vegas, stays in

Vegas!

„Hi there, my is Bob.“...

Agenda



1. Introduction
2. Abbreviations & Definition
3. UPRT Content & Objectives
4. Specific Exercises
5. Assessment of Competence
6. UPRT Flight Instructor
7. UPRT Aircraft
8. Example of a Type Specific Programm

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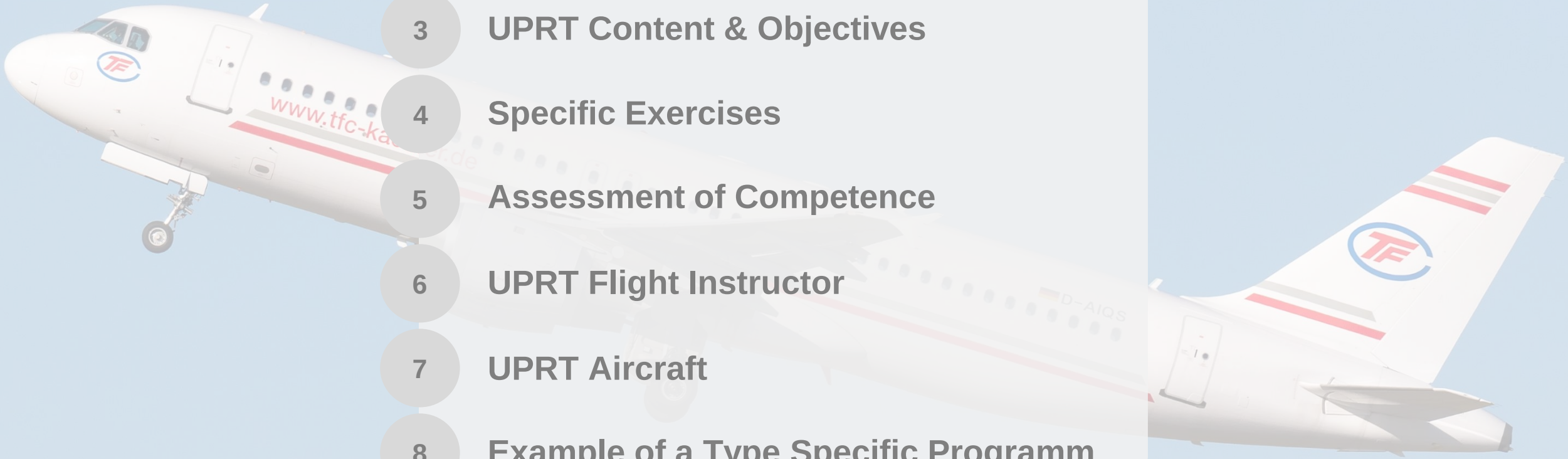

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UPSET Prevention & Recovery

NEW TRAINING REGULATIONS

Commission Regulation 1178/2011

Provision on approval requirements for:

- Flight Simulators
- Pilots
- Person/ Organisation involved in the training/ checking of pilots

Commission Regulation 1178/2011

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Regulation 2015/445

New requirements for the training of professional pilots

Theory + Flight Instruction to UPRT

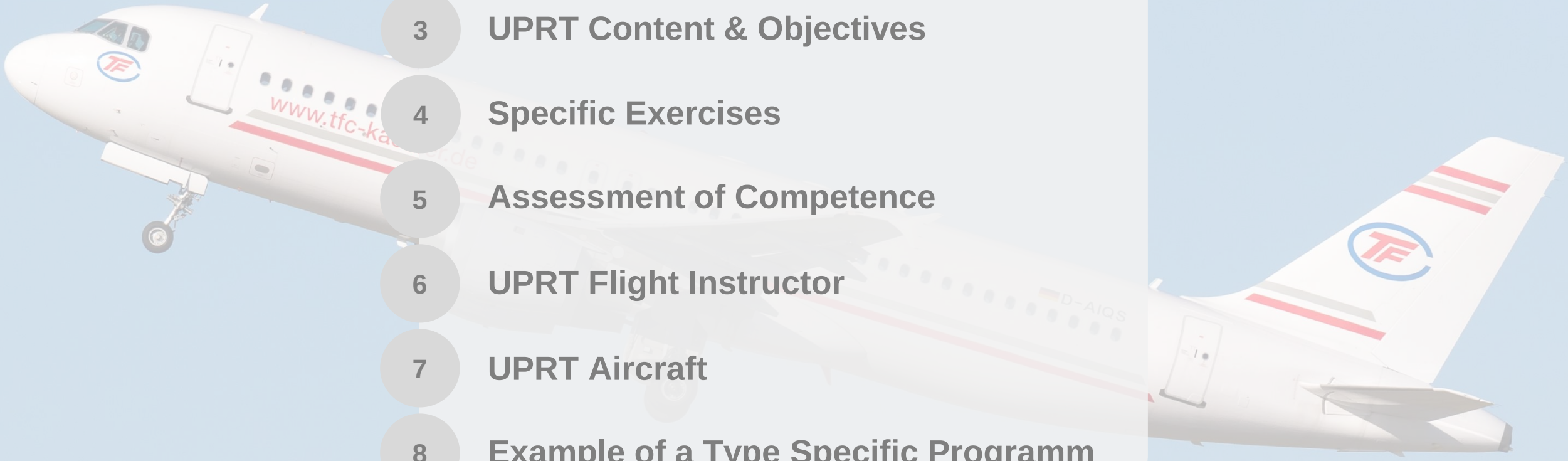
- CPL
- MPL
- Type Rating for multi-pilot aircraft

WHAT´S NEW?

VO 2018/1974

BASIC UPRT → **ADVANCED UPRT** → **TYPE-REALTED UPRT**

Agenda



Abbreviations
& Definitions

A/C	Aircraft
AOA	Angle of Attack
ANU	Aeroplane Nose Up
AND	Aeroplane Nose-Down
ATO	Approved Training Organization
AURTA	Airplane Upset Recovery Training Aid
CBT	Competency-Based Training
CAA	Civil Aviation Authority
CFE	Certified Flight Envelope
FBW	Fly by wire
FOQA	Flight Operational Quality Assurance
IMC	Instrument Meteorological Conditions
IOS	Instructor Operating Station
LOSA	Line Operations Safety Audit
LOC-I	CDLoss of Control In-Flight
NAA	National Aviation Authority
NFE	Normal Flight Envelope
OEM	Original Equipment Manufacturer
PF	Pilot Flying
PM	Pilot Monitoring
QRH	Quick Reference Handbook
RAeS	Royal Aeronautical Society
SIB	EASA Safety Information Bulletin
SOP	Standard Operating Procedure
VTE	Validated Training Envelope
Vls	Vls Lowest Selectable Speed / Maneuvering Speed
VMC	Visual Meteorological Conditions
Vs	Stall Speed

Aeroplane upset

An airplane in flight unintentionally exceeding the parameters normally experienced in line operations or training, normally defined by the existence of at least one of the following parameters:

a) Pitch attitude greater than 25 degrees, nose up; or
b) Pitch attitude greater than 10 degrees, nose-down; or
c) Bank angle greater than 45 degrees; or
d) Within the above parameters, but flying at airspeeds inappropriate for the conditions.

Developing upset

Any time the aeroplane begins to unintentionally diverge from the intended flight path or airspeed.

Angle of attack (AOA)
Angle of attack is the angle between the oncoming air, or relative wind, and a defined reference line on the aeroplane or wing.

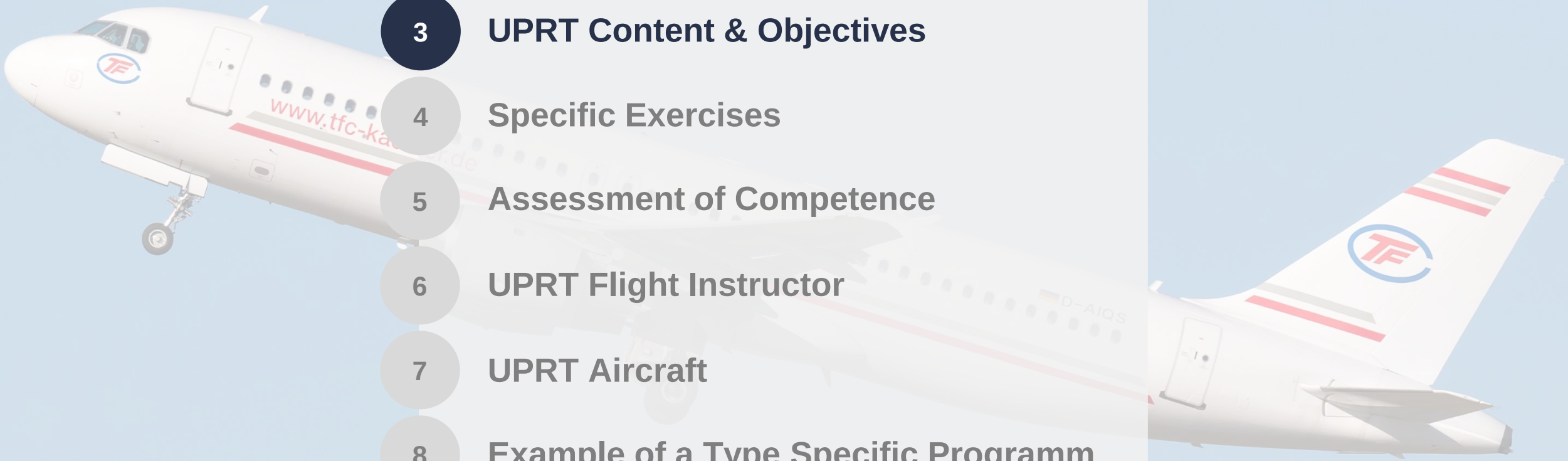
Critical angle of attack
The angle of attack that produces the maximum coefficient of lift beyond which an aerodynamic stall occurs

Competency
A combination of skills, knowledge, and attitudes required to perform a task to the prescribedstandard.

Core competencies.
A group of related behaviors, based on job requirements, which describe how to effectively perform a job and what proficient performance looks like. They include the of the competency, a description, and a list of behavioral indicators.

Competency-based training.
Training and assessment that are characterized by a performance orientation, emphasis on standards of performance and their measurement and the development of training to the specified performance standards.

Agenda



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UPRT Content & Objectives

Basic Training

BASIC UPRT | **ADVANCED UPRT** | **TYPE-RELATED UPRT**

- **ATP(A), MPL(A), CPL(A)**
- Achieve **competence in applying** prevention and recovery techniques
- Reference to **Instruments**
- Instructors **do not require** additional **Qualifications**

UPRT Content & Objectives

Basic Training: Developing Upsets

BASIC UPRT | **ADVANCED UPRT** | **TYPE-RELATED UPRT**

Stall event recovery

Nose-high & **Nose-low** recovery strategy

Spin avoidanc

BASIC UPRT | **ADVANCED UPRT** | **TYPE-RELATED UPRT**

ATP(A), MPL(A), CPL(A)

1. **Physiological and psychological aspects** of dynamic upsets in aeroplanes

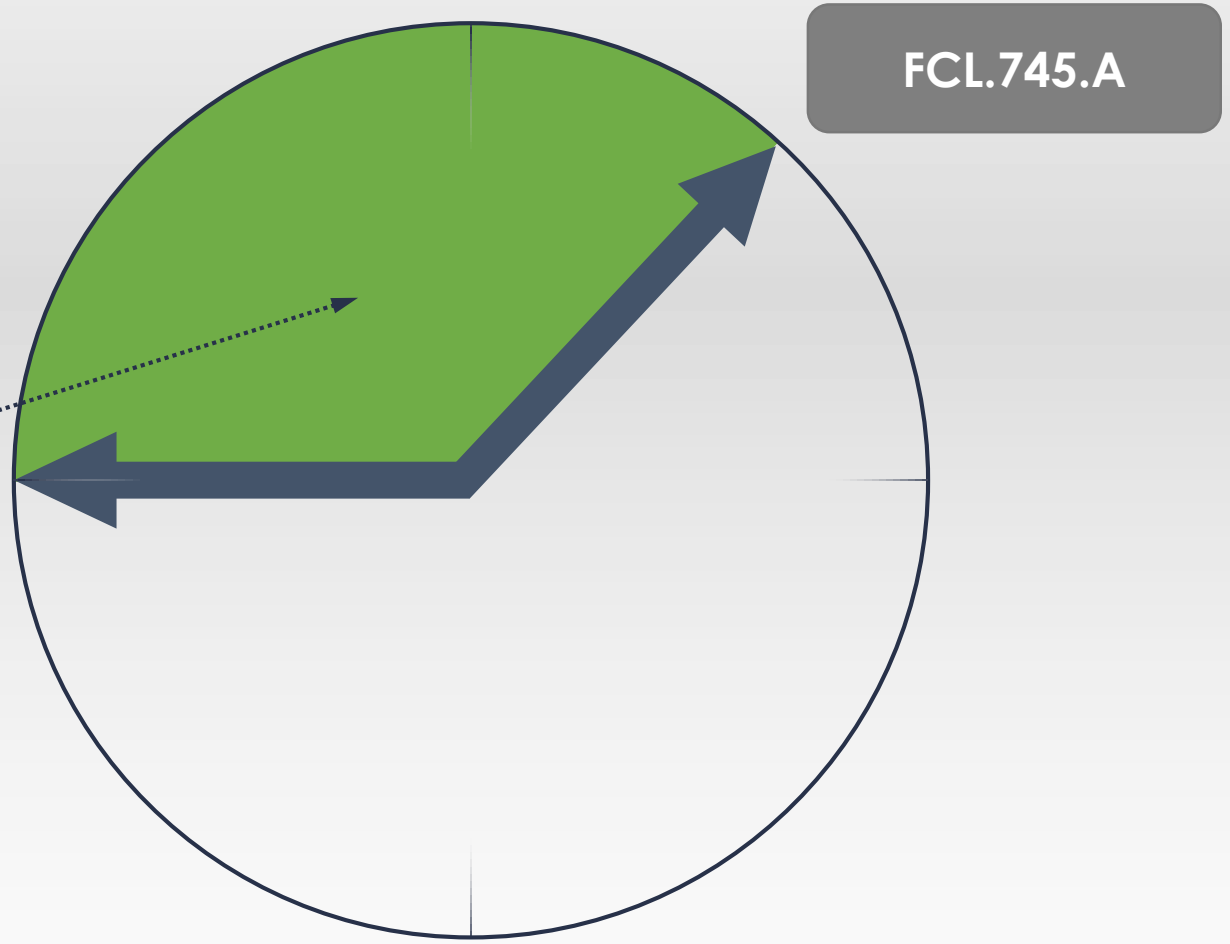
2. **Competence** and **resilience** to apply appropriate recovery techniques during upsets

Instructors require additional Qualifications acc. to **FCL.915(e)**

UPRT Content & Objectives

FCL.745.A

BASIC UPRT | **ADVANCED UPRT** | **TYPE-RELATED UPRT**



5 hours

Theoretical knowledge instruction

UPRT Content & Objectives
FCL.745.A

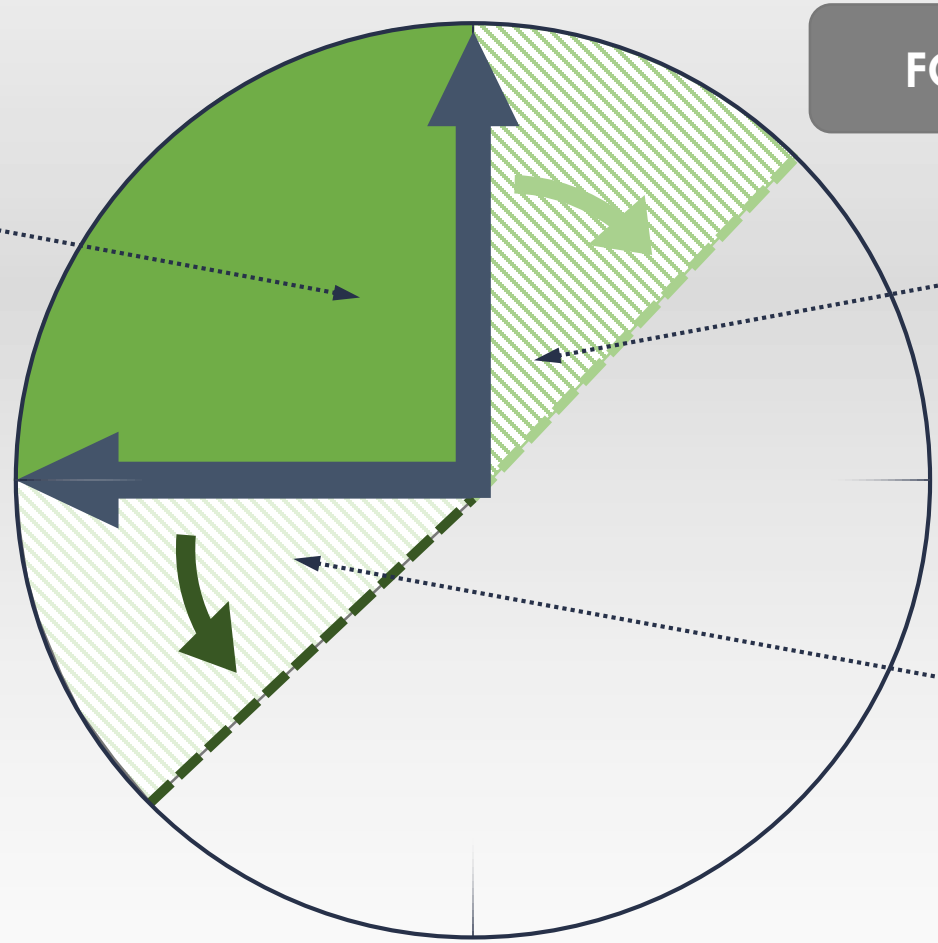
WE MAKE YOU FLY...

BASIC UPRT | **ADVANCED UPRT** | **TYPE-RELATED UPRT**

3 hours

Dual Flight Instruction
with FI(A) in acc. to FCL.915e

Aircraft qualified for UPRT



Post-Flight Briefing

Pre-flight Briefing

UPRT Content & Objectives
FCL.745.A

BASIC UPRT | **ADVANCED UPRT** | **TYPE-RELATED UPRT**

Relevant **Specific Aerodynamics** of the used UPRT Aircraft

Theoretical Knowledge

Review **Basic Aerodynamics** (including case studys)

Physiological and Psychological **effects of an upset**

Surprise & Startle Effect

Memorising appropriate **procedures & techniques**

BASIC UPRT | **ADVANCED UPRT** | **TYPE-RELATED UPRT**

Flight Instruction

1. Demonstration

a) SPD,ATT,AoA
b) Effects of G-Load
c) Stalls
d) Surprise & Startle effects

2. Recovery Training

a) Nose high / low at various bank angles
b) Spiral Dives
c) Stalls Events
d) Incipient Spin

3. Resilience & Startle Effect

a) training to develop strategies to mitigate the startle effect

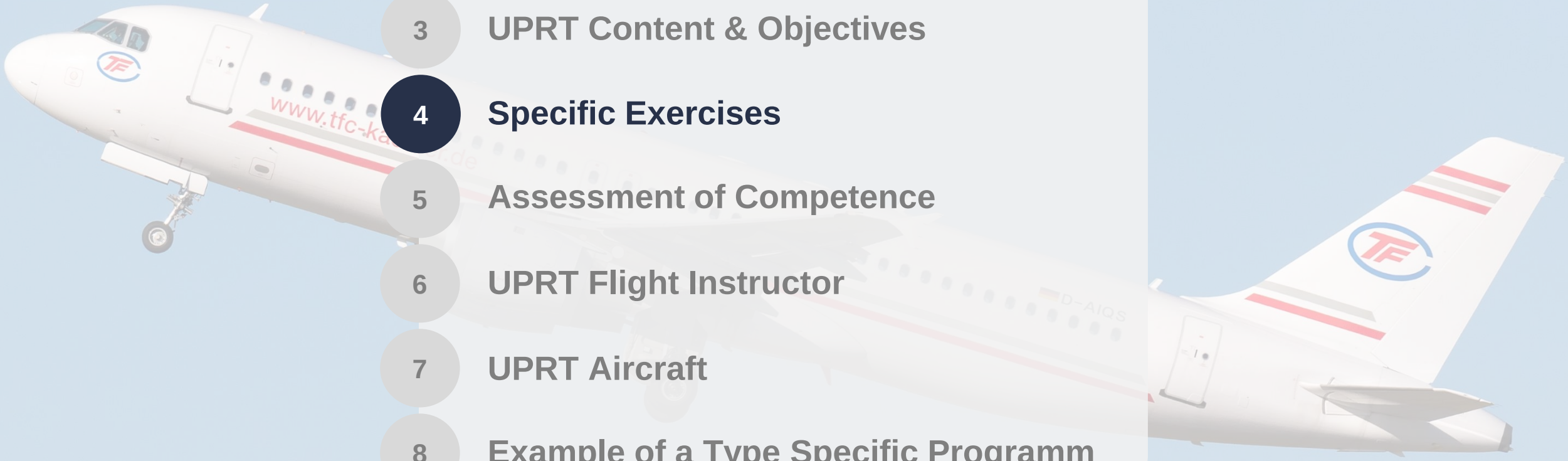
BASIC UPRT | **ADVANCED UPRT** | **TYPE-RELATED UPRT**

ATO | **OPERATOR**

- **TYPE** specific (OEM recommendations)
- Operator specific **SOP´s**
- Operator training content

Agenda

WE MAKE YOU FLY...



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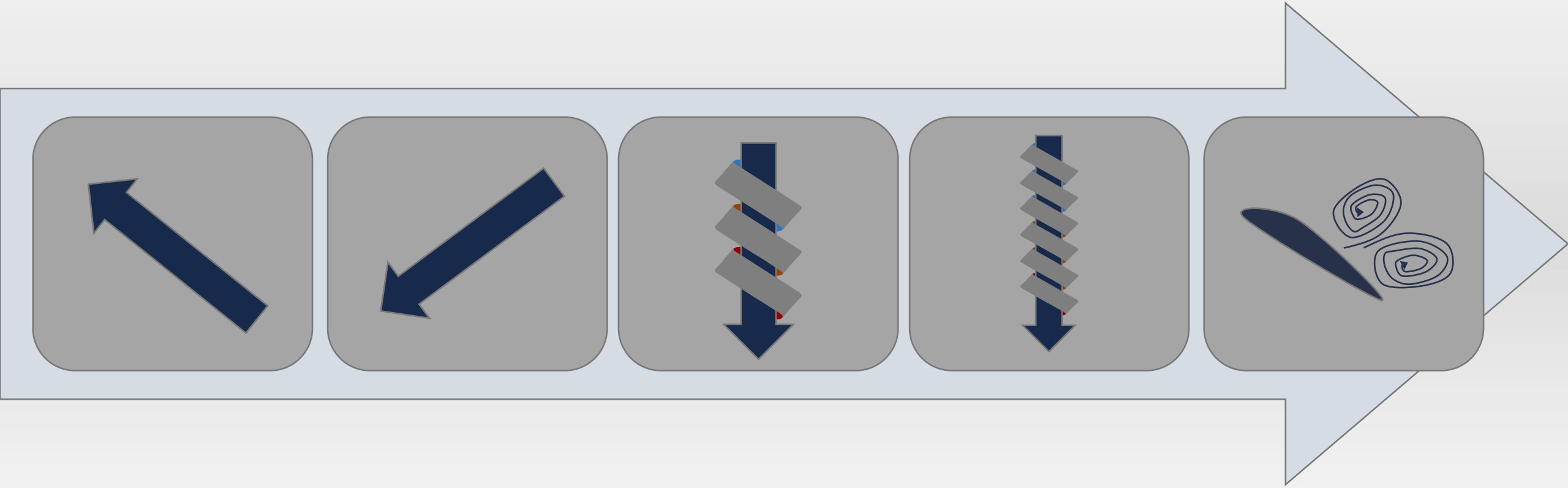
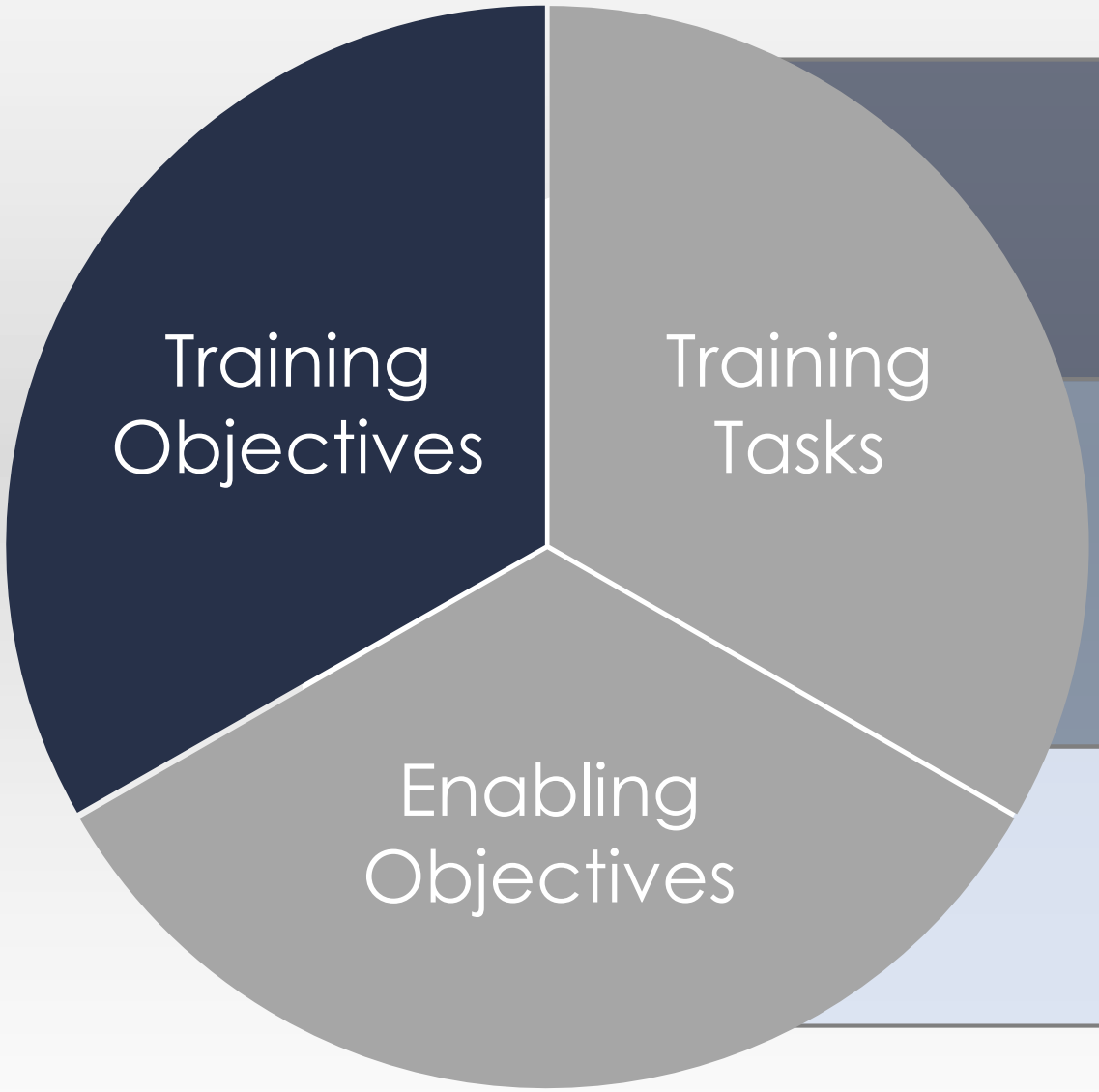


Nose High	Nose Low	Incipient Spin	Spiral Dive	Stall

SPECIFIC EXCERSISES

Advanced UPRT – General Procedure



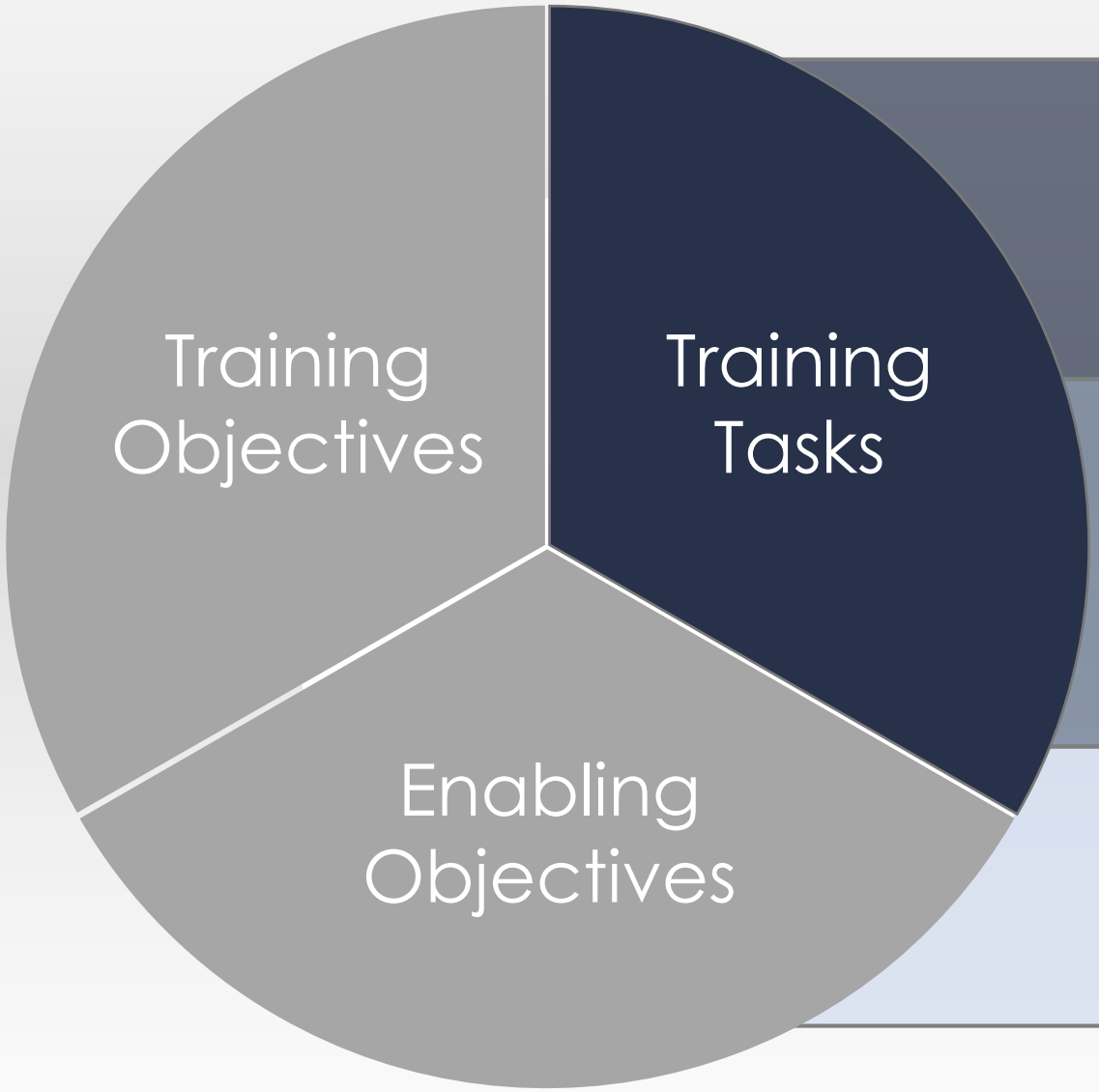
RECOGNITION PHASE

CONTROL PHASE

RECOVERY PHASE

SPECIFIC EXCERSISES

Advanced UPRT – Nose High Recovery



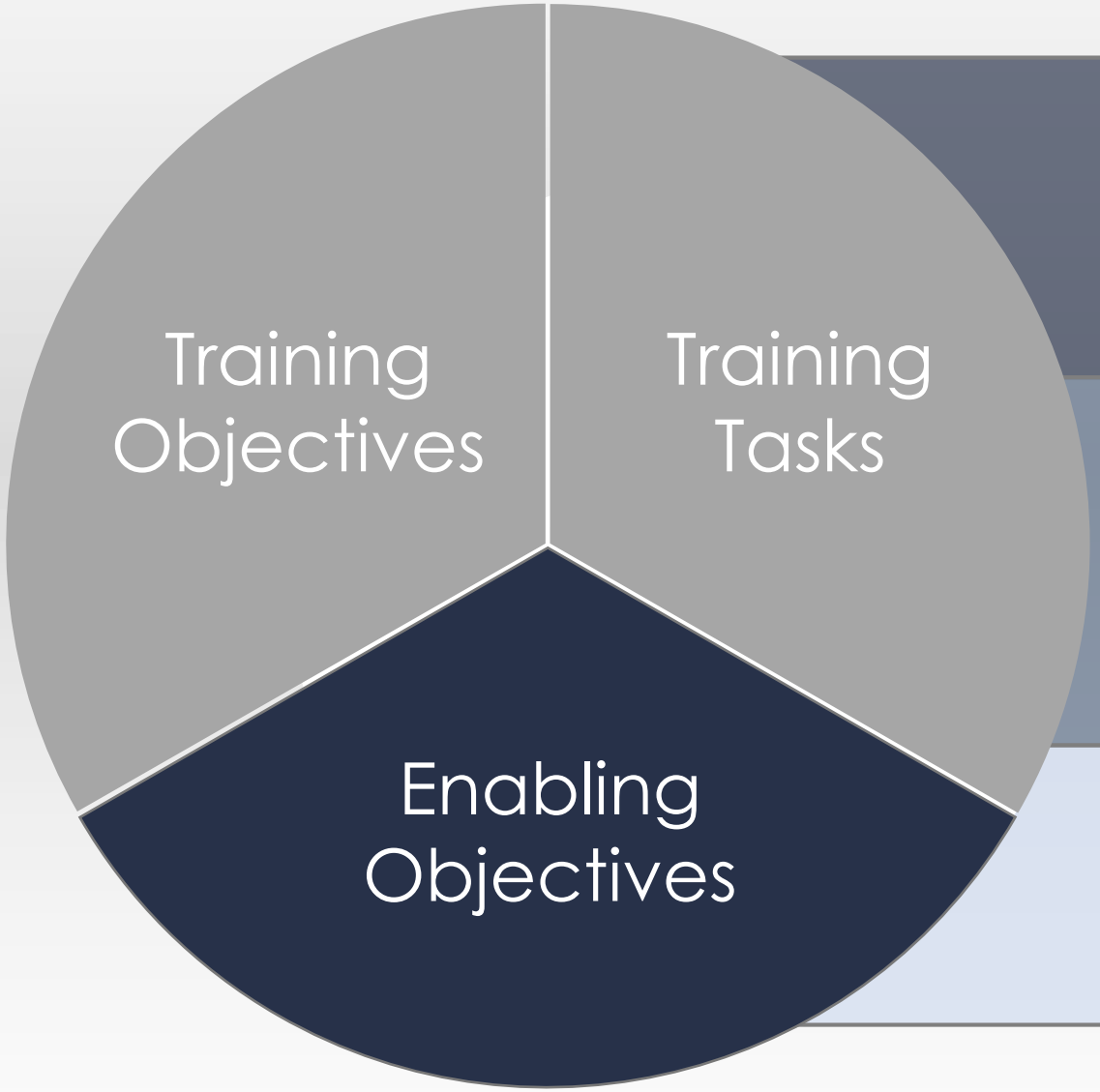
RECOGNITION PHASE

CONTROL PHASE

RECOVERY PHASE

SPECIFIC EXCERSISES

Advanced UPRT – Nose High Recovery



RECOGNITION PHASE

CONTROL PHASE

RECOVERY PHASE

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Assessment of Competence

Pilot competencies and behavioural indicators

1. Application of procedures
2. Communication
3. Aeroplane flight path management — automation
4. Aeroplane flight path management — manual control
5. Leadership and teamwork
6. Problem-solving and decision-making
7. Situation awareness and information management
8. Workload management

1 Application of procedures

(i) Follows the recommended Nose HIGH or Nose LOW recovery strategy or the Stall Event Recovery Template / STALL RECOVERY SOP

(ii) Identifies and follows operating instructions in a timely manner

(iii) Correctly operates aircraft systems and equipment

(iv) Applies relevant procedural knowledge

2 Communication

(i) Adheres to callouts

(ii) Verbalises the essential steps during the recoveries

3 Aeroplane flight path management — automation

(i) Disconnects **autopilot** and **autothrust**/autothrottle **before initiating** the **recovery**

4 Aeroplane flight path management — manual control

(i) Detects deviations from the **desired aircraft trajectory** and **takes** appropriate **action**

(ii) **Controls** the aircraft using appropriate **attitude and power settings**

(iii) Contains the aircraft within the defined **flight envelope**

5 Leadership and teamwork

(i) Understands and agrees with the **crew's roles and objectives**

(ii) Uses initiative and **gives directions** when required

(iii) **Admits mistakes** and takes responsibility

(iv) **Communicates** relevant **concerns** and **intentions**

(v) Gives and receives **feedback** constructively

(vi) Projects **self-control** in all situations

6 Problem-solving and decision-making

(i) Seeks accurate and adequate **information** from appropriate sources

(ii) **Identifies** and **verifies** what and why things have gone wrong

(iii) Perseveres in working through the event safely

(iv) Sets **priorities** appropriately

7 Situation awareness and information management

(i) Identifies and assesses accurately the **state of the aircraft** and its systems

(ii) Identifies and assesses accurately the **aircraft's vertical and lateral position**, and its anticipated flight path

(iii) **Anticipates** accurately what could happen, plans and stays ahead of the situation

(iv) **Recognises** and effectively **responds** to indications of reduced situation awareness.

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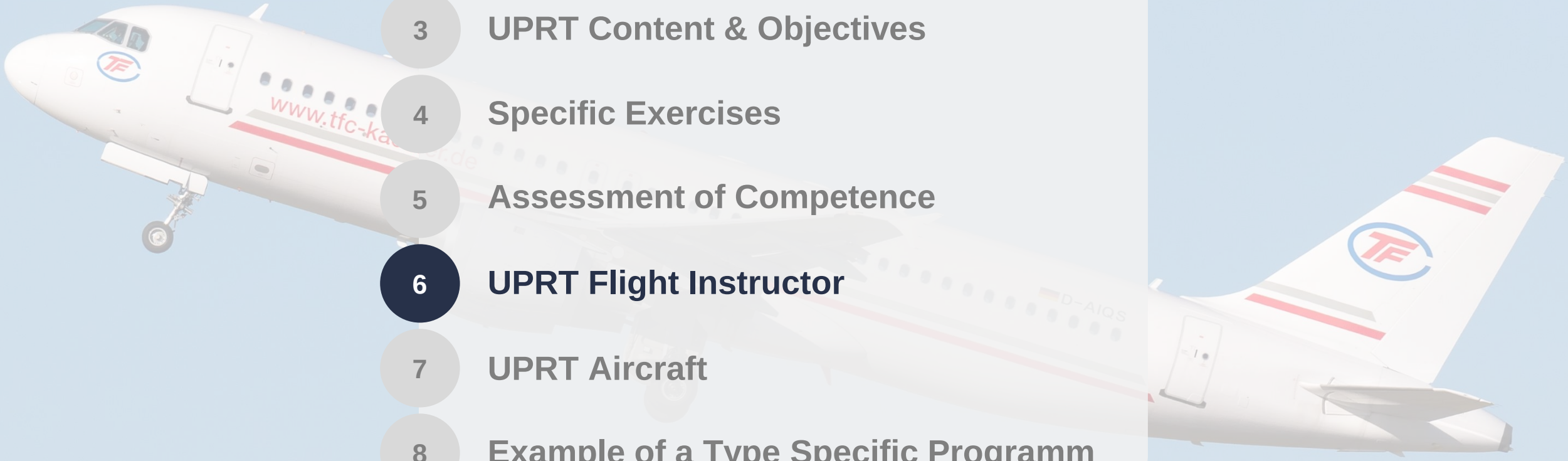

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UPRT Flight Instructor

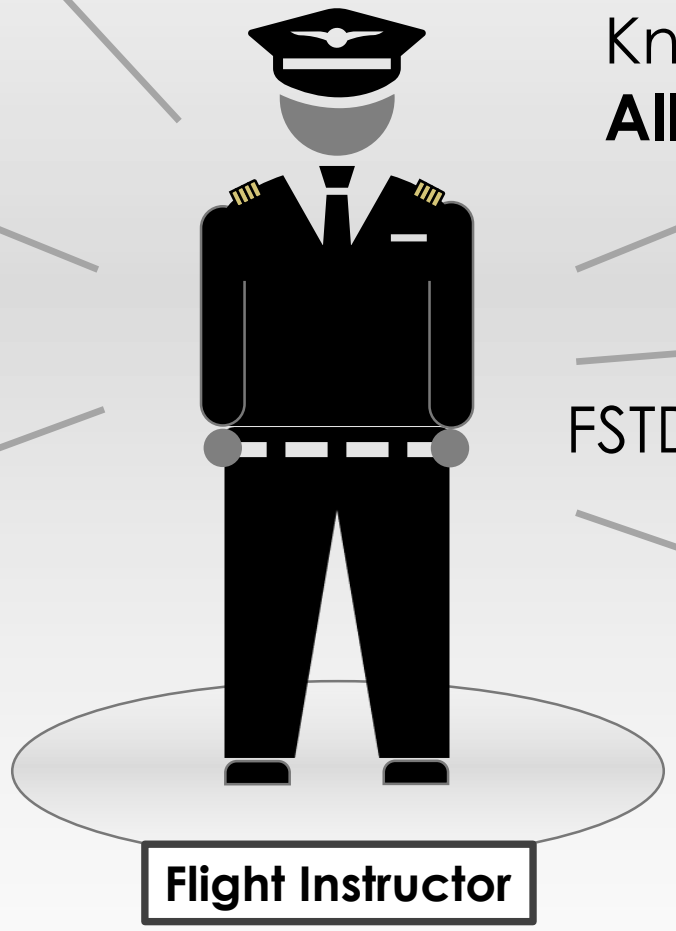
GM1 FCL.745.A

WE MAKE YOU FLY...

3 Focus on **Human-Factor** Training

2 Continuous **assessment** of **student performance**

1 Strict **adherance** to ATOs **risk mitigation** measures



4 Know the difference between **All-attitude UPRT & Aerobatics**

5 FSTD UPRT – On-Aeroplane UPRT

6 **Avoid negative** transfer of **training**

Instructors should be aware that the **safety** and potential **human factor implications** of poor upset recovery **instructional technique or misleading information** are ***more significant*** than in any other areas of pilot training.

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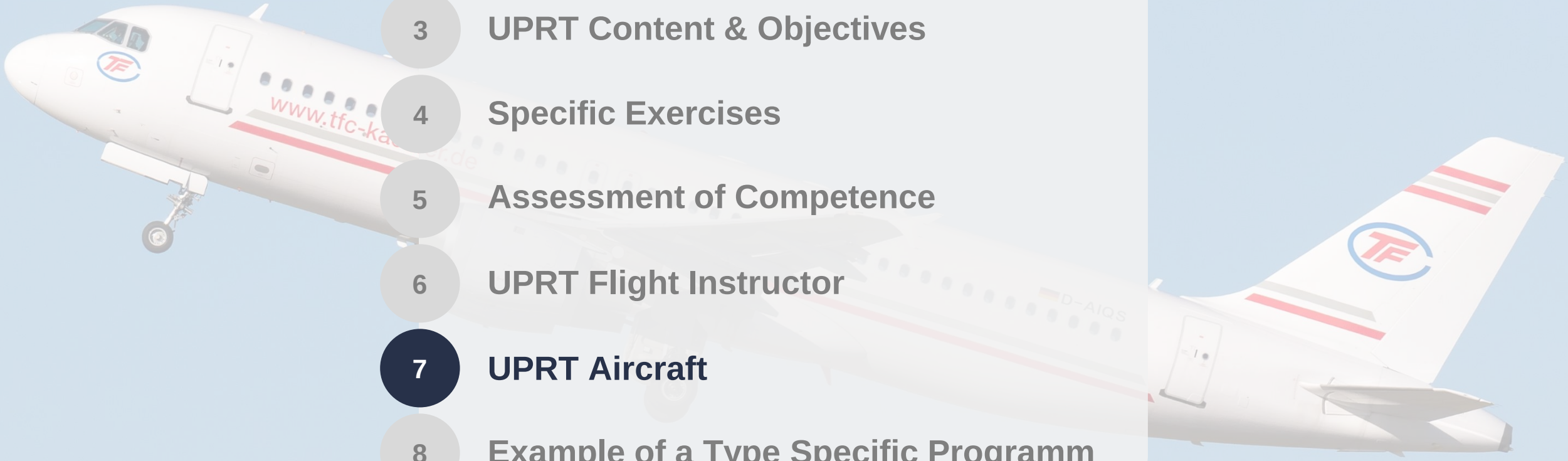

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Aeroplanes should be appropriately **certified & operated** by ATO

Taking into account:

- **Airframe fatigue life**
- **Sufficient safety margins**

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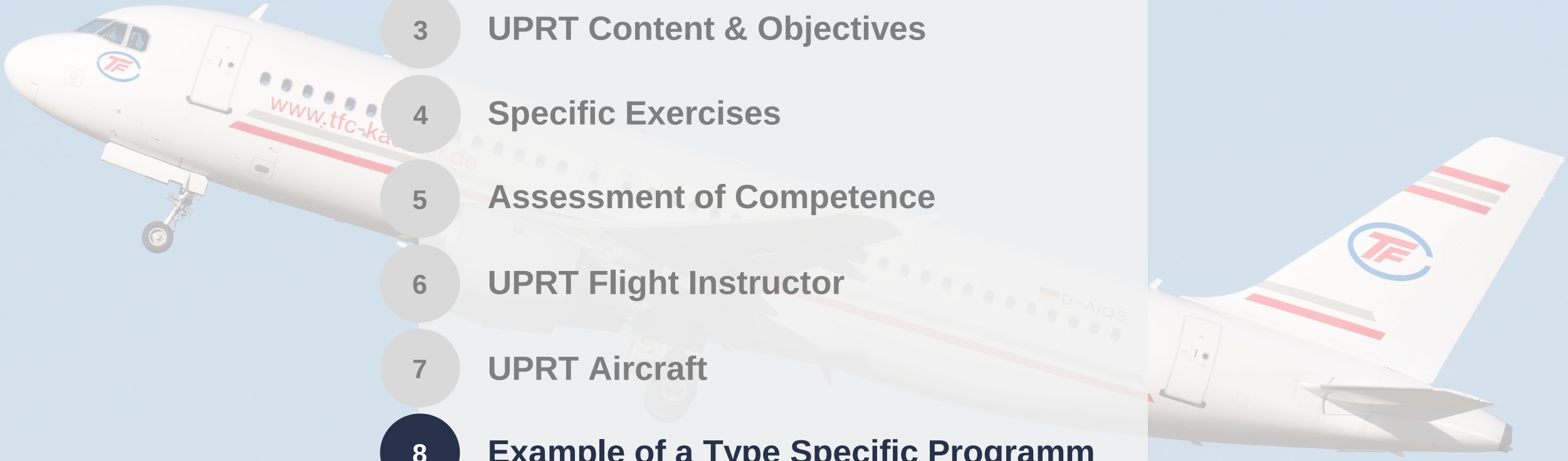
Agenda



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