

Risikominderung gefährlicher Situationen zwischen Linienverkehr und G/A

Raphaël Bellwald, Flight Operations Safety Investigator, F/O A330
Flight Instructor FI(A)/FI(H)
Flight Safety Dialogue Ittigen, 18.03.2026

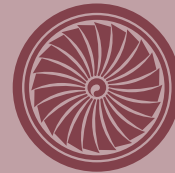


Swiss International Airlines 2025

Facts and figures



100+
destinations



92
aircraft



50
countries out of
ZRH and GVA

143,000
flights a year



18.1 million
passengers per year

9,603
employees



(period January–December 2025)

Wenn Kleinflugzeuge und Verkehrsjets den selben Luftraum teilen



Switzerland

Airspace categories and traffic separation

Our aircraft usually fly in controlled airspace classes A, B, C and D. However, we sometimes we also fly in airspace classes E, F and G.

ATS Airspace classification Switzerland and Liechtenstein

C	D	E	G	CONDITIONS FOR VFR
ATC/ TFC INFO	TFC INFO	TFC INFO O/R	FIS	Services provided
●				Separation IFR/VFR
●	●			RTF and ATC CLR prior entry compulsory
●	●	●	●	MAX speed below FL100: 250kt IAS

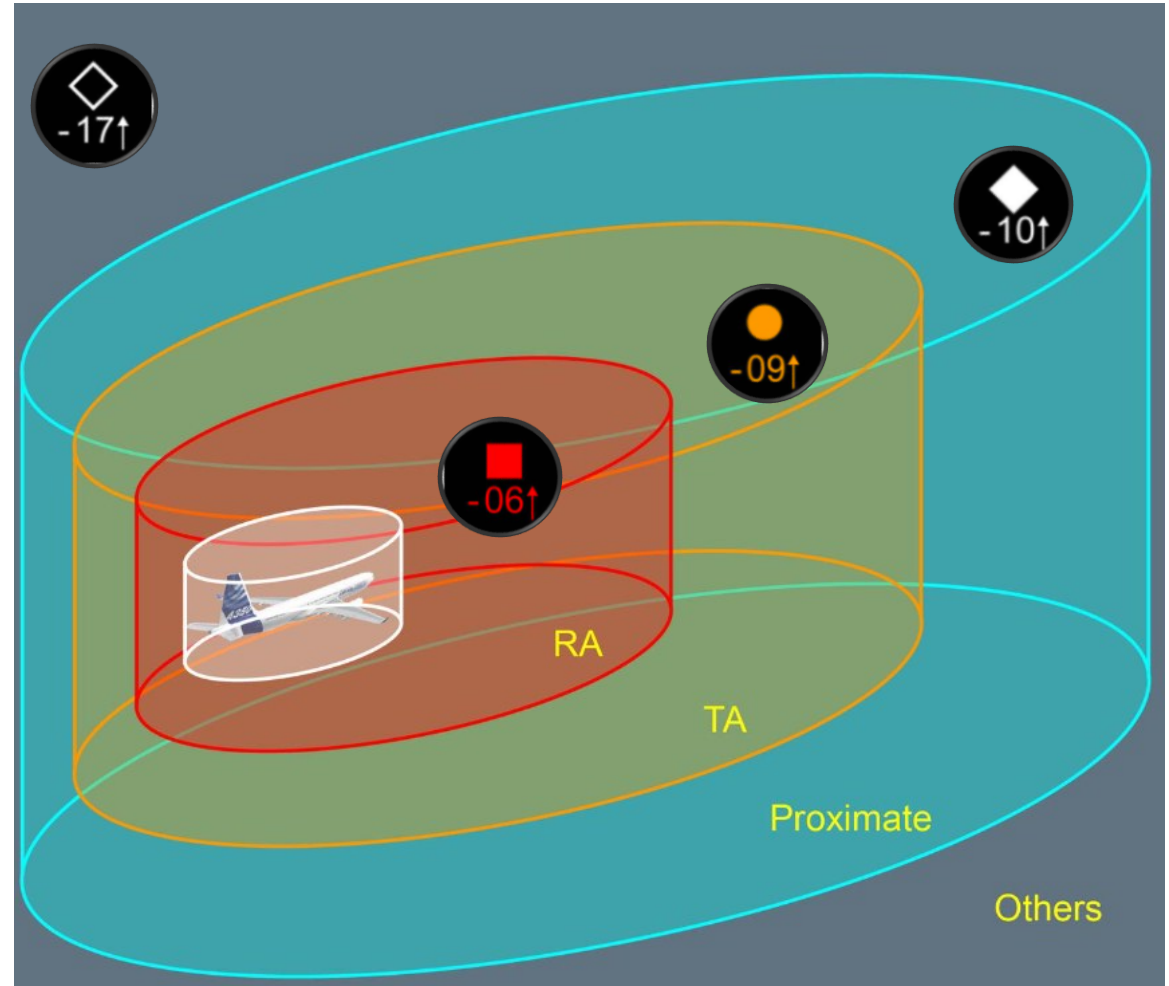
Onboard systems

Traffic collision avoidance

Traffic Collision Avoidance System TCAS:

- Detects and displays surrounding aircraft that have a transponder
- Calculates and display possible collision threats
- Triggers vertical speed orders, in order to avoid collisions

Only aircraft with a working transponder are detected by TCAS!



Operation

Threats

- Traffic without transponder operation
- Airspace violations
- High climb or descent rates
- Flights into airspaces without radar control
- Visual approaches through airspace E or G
- Wake turbulence (separation)
- Flights in marginal weather (IFR and VFR)
- Improper situational awareness

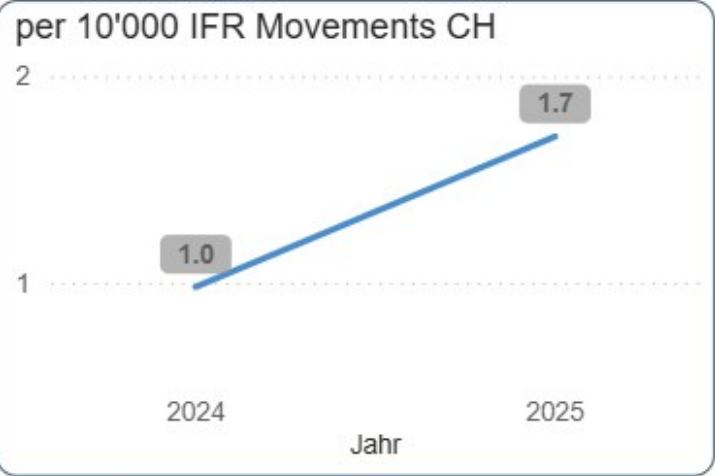
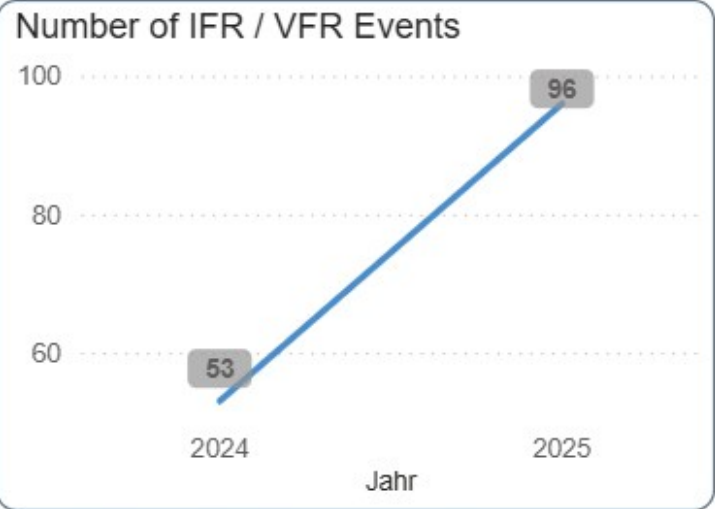
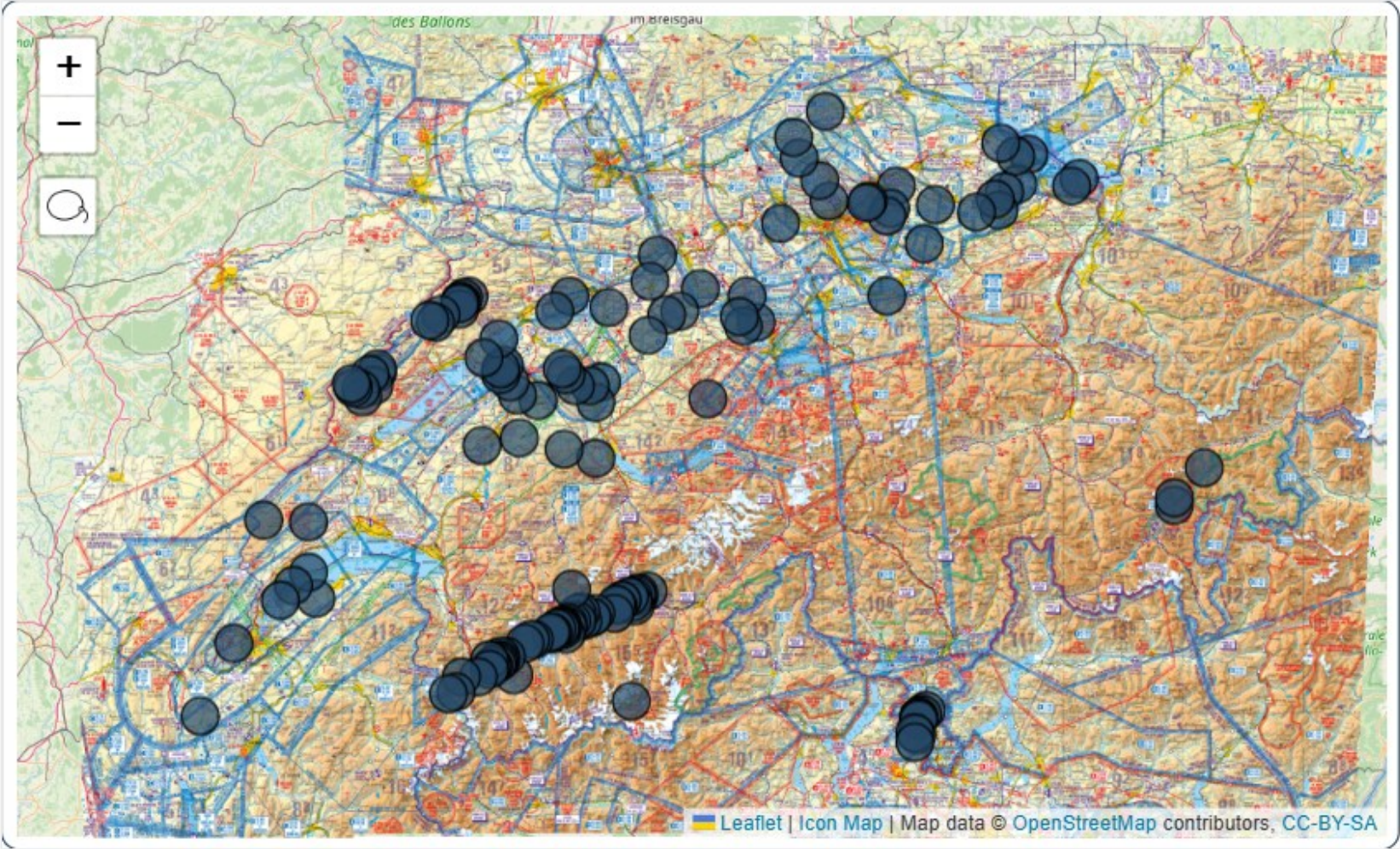
Operation

Mitigations Airliners

- **Briefing:** At every briefing for departure or approach, we discuss the specific threats and how we can mitigate them (traffic; weather; environment, emergencies etc.)
- **Rate of climb/descent:** Limiting the rate of climb and descent when reaching the cleared altitude/FL
- **ATC:** We are always or whenever possible in contact with an active ATC service
- **Sterile flightdeck phase:** Pause all non-essential activities during critical phases of flight
- **Lookout:** See and avoid principle
- **Special Procedures:** Self reporting of intentions (TIBA (Traffic Information Broadcast by Aircraft) for flights in airspace class G (Afghanistan) or IFBP in some African FIR's as well as North Atlantic Operation).

Airborne conflicts IFR-VFR

Switzerland



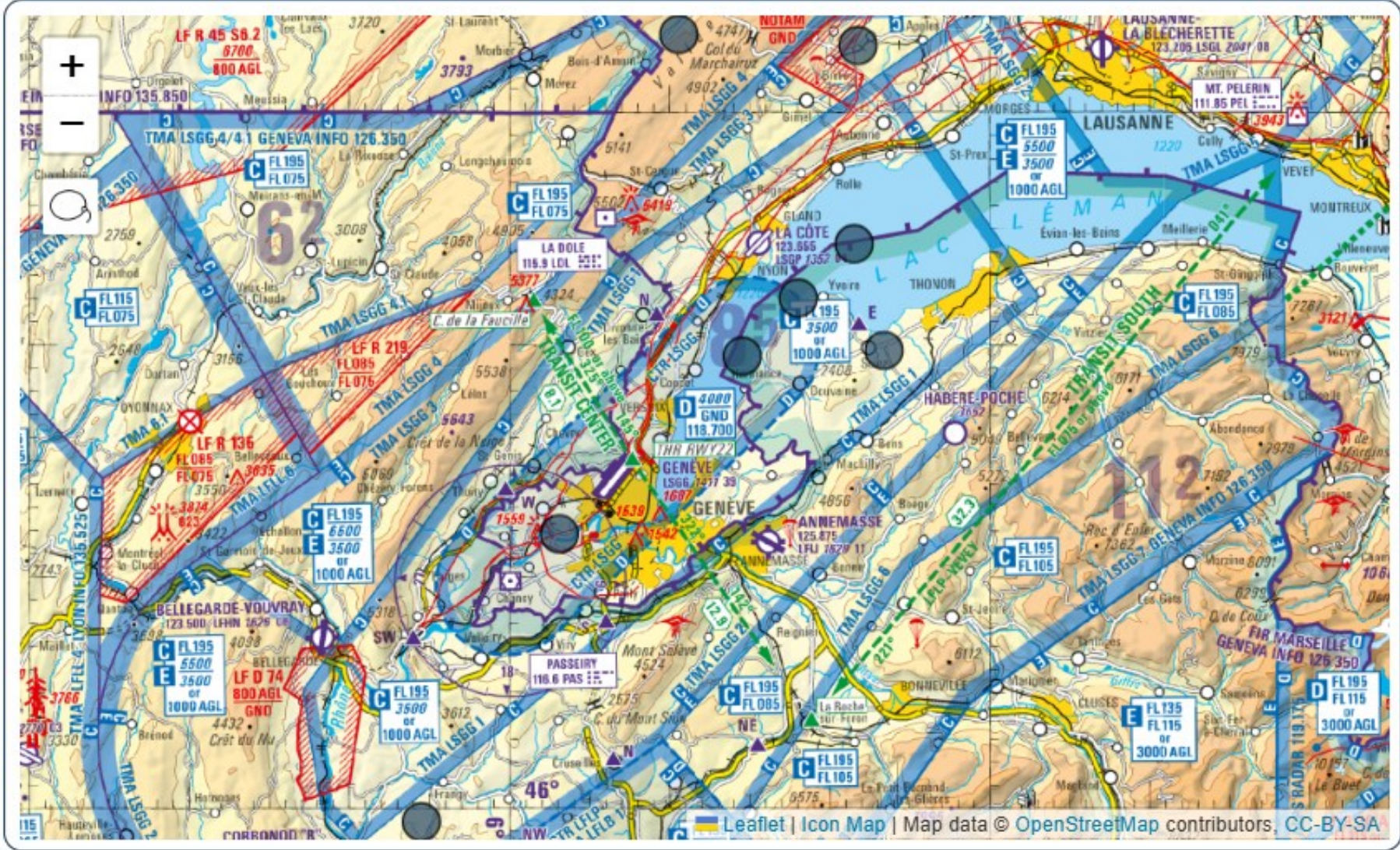
Airborne conflicts IFR-VFR

ZRH area



Airborne conflicts IFR-VFR

GVA area



Operation

Mitigations VFR Traffic

- **Transponder operation:** Always use your transponder with altitude reporting
- **Airspace structure:** Pay close attention to upper and lower as well as lateral airspace boundaries
- **Altimeter setting:** Make sure, your ALT is set correctly to QNH or QNE
- **Flight planning:** Prepare your flight properly and with enough safety margins
- **ATC or Information Service:** If possible, establish contact with information, ATC or aerodromes and communicate your intentions.
- **Lookout:** See and avoid principle
- **Collision avoidance:** Operate Flarm or PowerFlarm if available or any other traffic system
- **Specials:** IFR-Approaches in LSGS, LSGC and LSMP through airspace E

Other airspaces outside Switzerland

Special operations

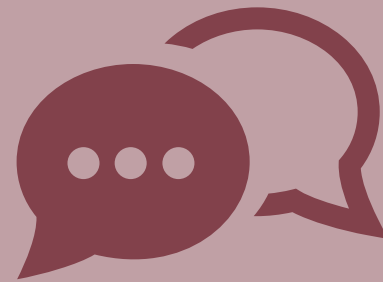
- **Operation through airspace "E" USA**
 - From 18 000 ft downwards use of headsets and pay attention to more G/A traffic
- **Operation through airspace "G" Afghanistan**
 - TIBA (Traffic Information Broadcast by Aircraft)
- **Operation AFI Region**
 - IFBP (In-flight Broadcast Procedure)
- **Operation North Atlantic (NAT)**





**Together we are stronger and can
make the airspace safer!**

Questions?



Thank you
Danke
Merci
Grazie
Grazia

