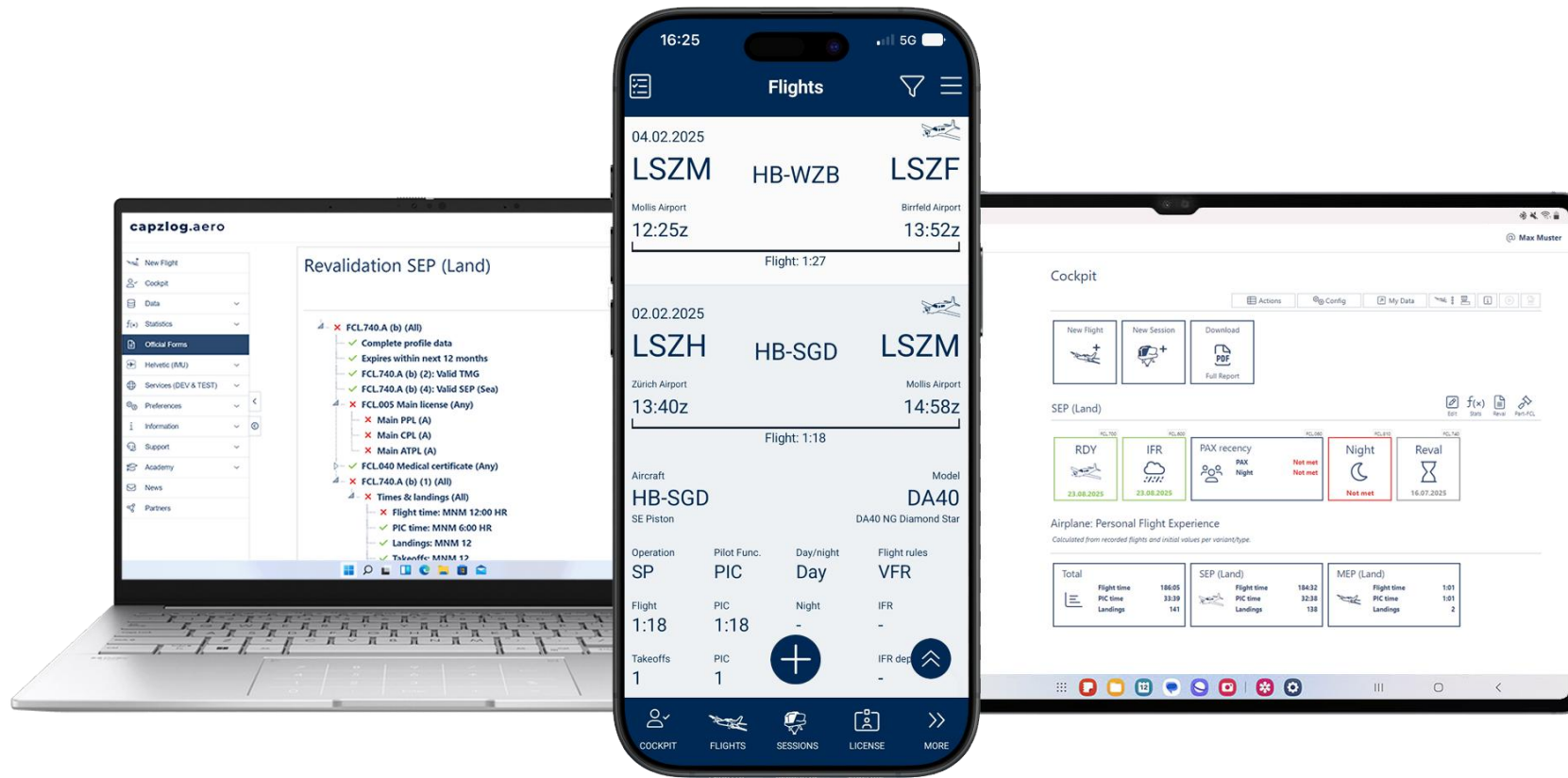


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**Crew and operator responsibilities: Recording of flight time**  
*First ever officially EASA AMC1 FCL.050 certified digital pilot logbook*

November 27th, 2025

# FFAC / CFAC Safety Forum 2025 Zürich Flughafen

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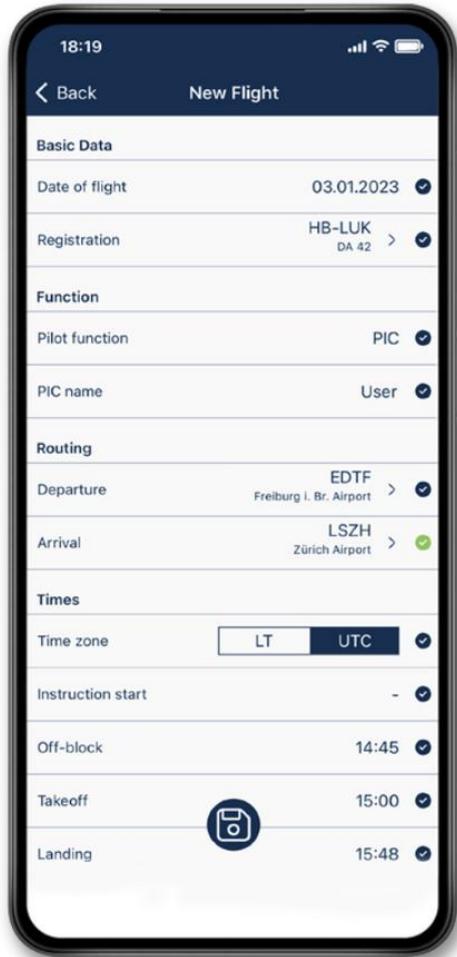
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- MSc ETH Information Technology with focus Machine Learning
- Lecturer in Computer Science at the Zurich University of Applied Sciences ZHAW

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# Digital pilot logbook for personal experience



- First ever official acceptance **acc. EASA AMC1 FCL.050**
- For **private and commercial** pilots on (A), (H), (S), (B)
- **Swiss data centers** compliant to GDPR and DSG
- **400+ technical integrations** with aviation software
- **Independent tool** offering pilots their own, complete record

# Flight time, duty and rest: Responsibility and data ownership

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- Crew members must maintain individual records
- Operators must maintain records per crew member



Do commercial pilots have to keep a personal logbook?

Who is responsible to comply with cumulative limitations?

What if a pilot works for multiple operators?

Who “owns” what data?

# Do commercial pilots have to keep a personal logbook?

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- Yes, *every pilot* must keep a personal logbook.

## FCL.050 Recording of flight time

*Regulation (EU) No 1178/2011*

The pilot shall keep a reliable record of the details of all flights flown in a form and manner established by the competent authority.

# Do commercial pilots have to keep a personal logbook?

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- Operators *may* offer a maintained format

## FCL.050 Recording of flight time

*Regulation (EU) No 1178/2011*

The pilot shall keep a reliable record of the details of all flights flown in a form and manner established by the competent authority.

(c) Format of the record:

- (1) details of flights flown under commercial air transport **may** be recorded in an electronic format **maintained by the operator.**

In this case an operator should make the records of all flights operated by the pilot, including differences and familiarisation training, available upon request to the flight crew member concerned;

# Do commercial pilots have to keep a personal logbook?

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- Limits require time horizon of at least 12 consecutive months

## CAT.GEN.MPA.100 Crew responsibilities

*Regulation (EU) 2021/2237*

- (b) The crew member shall:
- (5) when undertaking duties for more than one operator:
    - (i) maintain his or her individual records regarding flight and duty times and rest periods as referred to in the applicable FTL requirements;
    - (ii) provide each operator with the data needed to schedule activities in accordance with the applicable FTL requirements; and
    - (iii) provide each operator with the data needed regarding operations on more than one type or variant.

# Who is responsible to comply with cumulative limitations?

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## ORO.FTL.210 Flight times and duty periods

*Regulation (EU) No 83/2014*

- (a) The total duty periods to which a crew member may be assigned shall not exceed:
  - (1) 60 duty hours in any 7 consecutive days;
  - (2) 110 duty hours in any 14 consecutive days; and
  - (3) 190 duty hours in any 28 consecutive days, spread as evenly as practicable throughout that period.
- (b) The total flight time of the sectors on which an individual crew member is assigned as an operating crew member shall not exceed:
  - (1) 100 hours of flight time in any 28 consecutive days;
  - (2) 900 hours of flight time in any calendar year; and
  - (3) 1 000 hours of flight time in any 12 consecutive calendar months.
- (c) Post-flight duty shall count as duty period. The operator shall specify in its operations manual the minimum time period for post-flight duties.

# Who is responsible to comply with cumulative limitations?

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- Both pilots and operators are responsible
- Operators
  - Subpart Q (EU-OPS)
  - Subpart FTL (AIR-OPS)

## CAT.GEN.MPA.100 Crew responsibilities

*Regulation (EU) 2021/2237*

- (a) The crew member shall be responsible for the proper execution of his or her duties that are:
  - (1) related to the safety of the aircraft and its occupants; and
  - (2) specified in the instructions and procedures in the operations manual.
- (b) The crew member shall:
  - (4) comply with all flight and duty time limitations (FTL) and rest requirements applicable to their activities;

## ORO.FTL.100 Scope

*Regulation (EU) No 83/2014*

This Subpart establishes the requirements to be met **by an operator and its crew members** with regard to flight and duty time limitations and rest requirements for crew members.

SPO.GEN.105  
NCC.GEN.105  
NCO.SPEC.115

# What if a pilot works for multiple operators?

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## ORO.FTL.245 Records of home base, flight times, duty and rest periods

*Regulation (EU) No 83/2014*

- (a) An operator shall maintain, for a period of 24 months:
  - (1) individual records for each crew member including:
    - (i) flight times;
    - (ii) start, duration and end of each duty period and FDP;
    - (iii) rest periods and days free of all duties; and
    - (iv) assigned home base;
  - (2) reports on extended flight duty periods and reduced rest periods.

# What if a pilot works for multiple operators?

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## ORO.FTL.245 Records of home base, flight times, duty and rest periods

*Regulation (EU) No 83/2014*

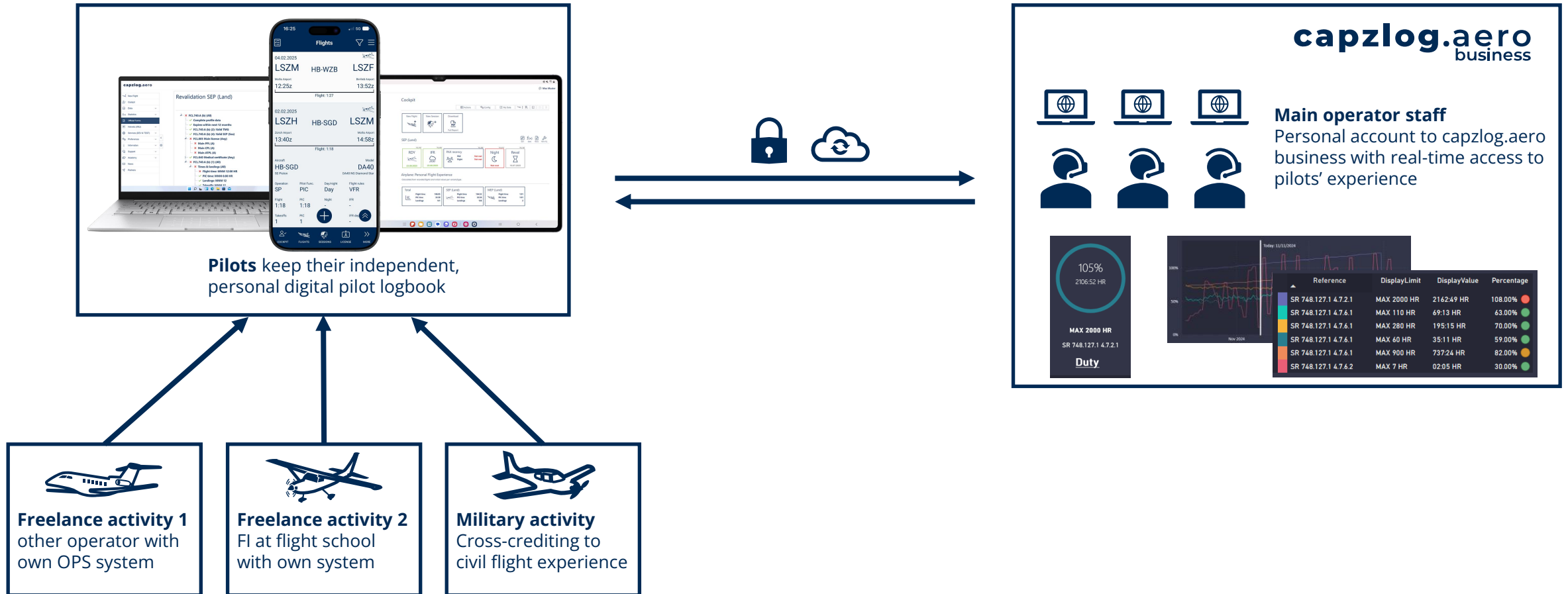
- (b) Upon request, **the operator shall provide copies of individual records of flight times, duty periods and rest periods to:**
- (1) the **crew member concerned**; and
  - (2) to **another operator**, in relation to a crew member who is or becomes a crew member of the operator concerned.

## What do we see in practice?

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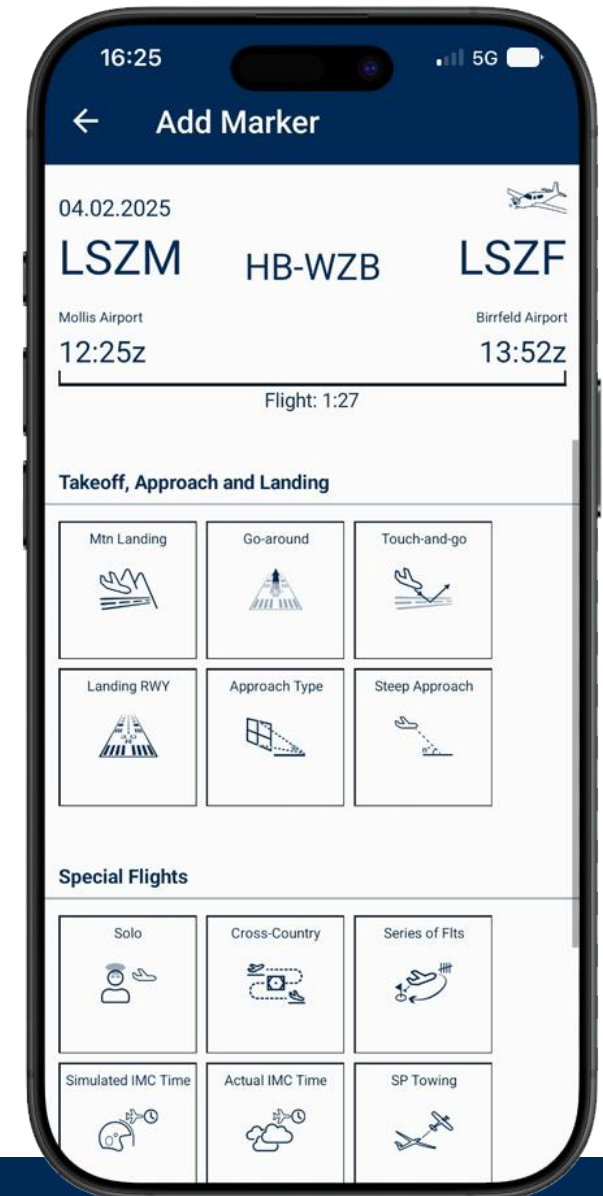
- Operators try to shift responsibility by requiring signed documents
- Pilot are asked to fill in duty time spreadsheets at the end of the month
- Many pilots *think* their operator keeps their logbook, but operators always say: this is in the pilot's responsibility
- Some operators require the pilots to enter external duties into their OPS systems
- Most OPS systems do not comply with the requirements in FCL.050
- Balance: Regulatory requirements, data protection, business secrets

# The cross-operator data-driven approach



# Value proposition to CAT/NCC operators

- Find candidates for open positions
- FTL, duty and rest: **cross operator data**
- **Independent, compliant** solution for flight crew
- Insurance reporting
- Training progress tracking
- Client experience request verifier





# Our state of knowledge

## Letter of acceptance

Switzerland

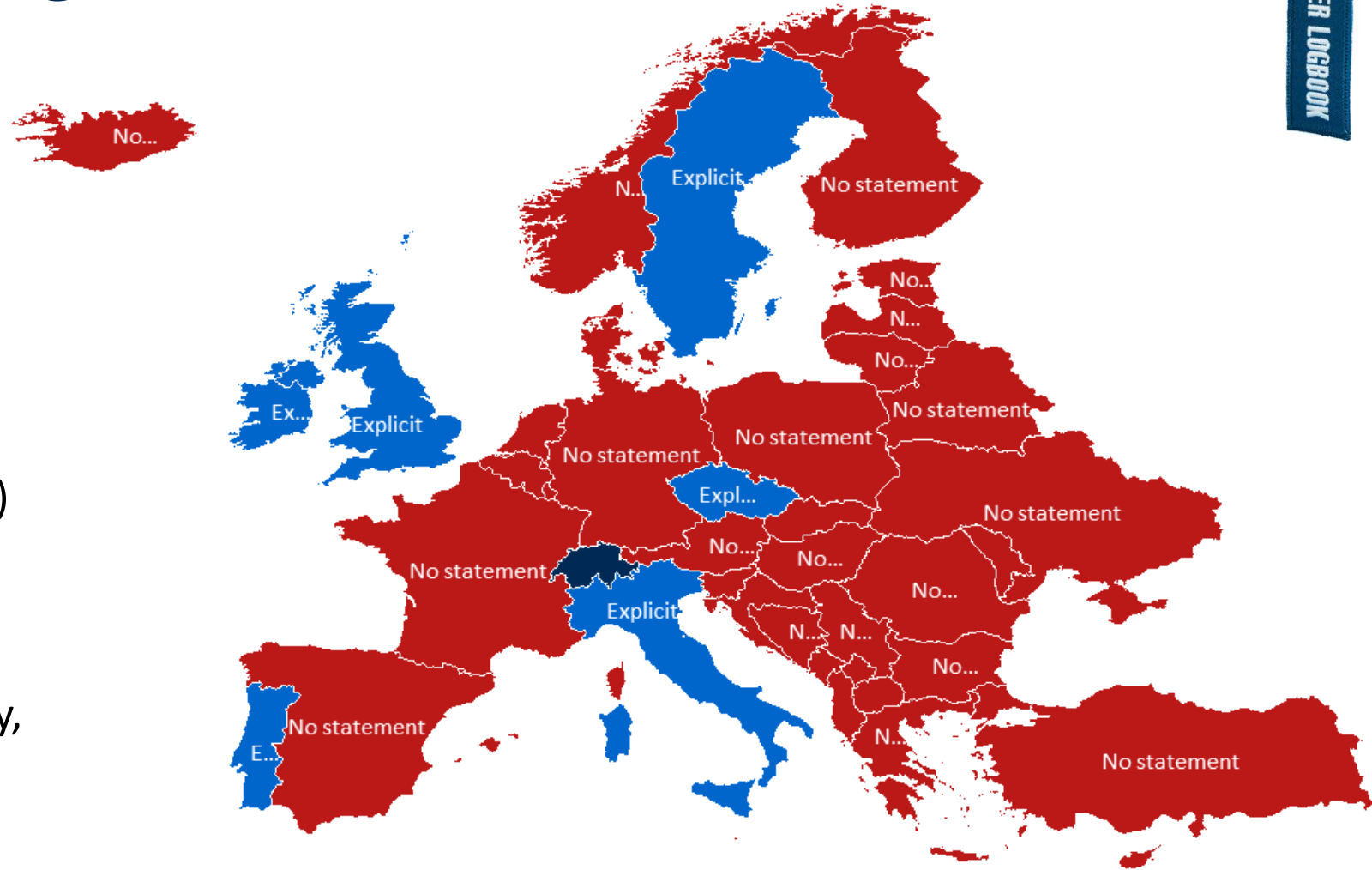
## Explicit acceptance

Czech Republic, Ireland, Italy, Portugal, Sweden, (United Kingdom)

## Implicit acceptance

Austria, Germany (partially), Norway, ...and probably more

■ No statement ■ Explicit ■ Letter of Acceptance

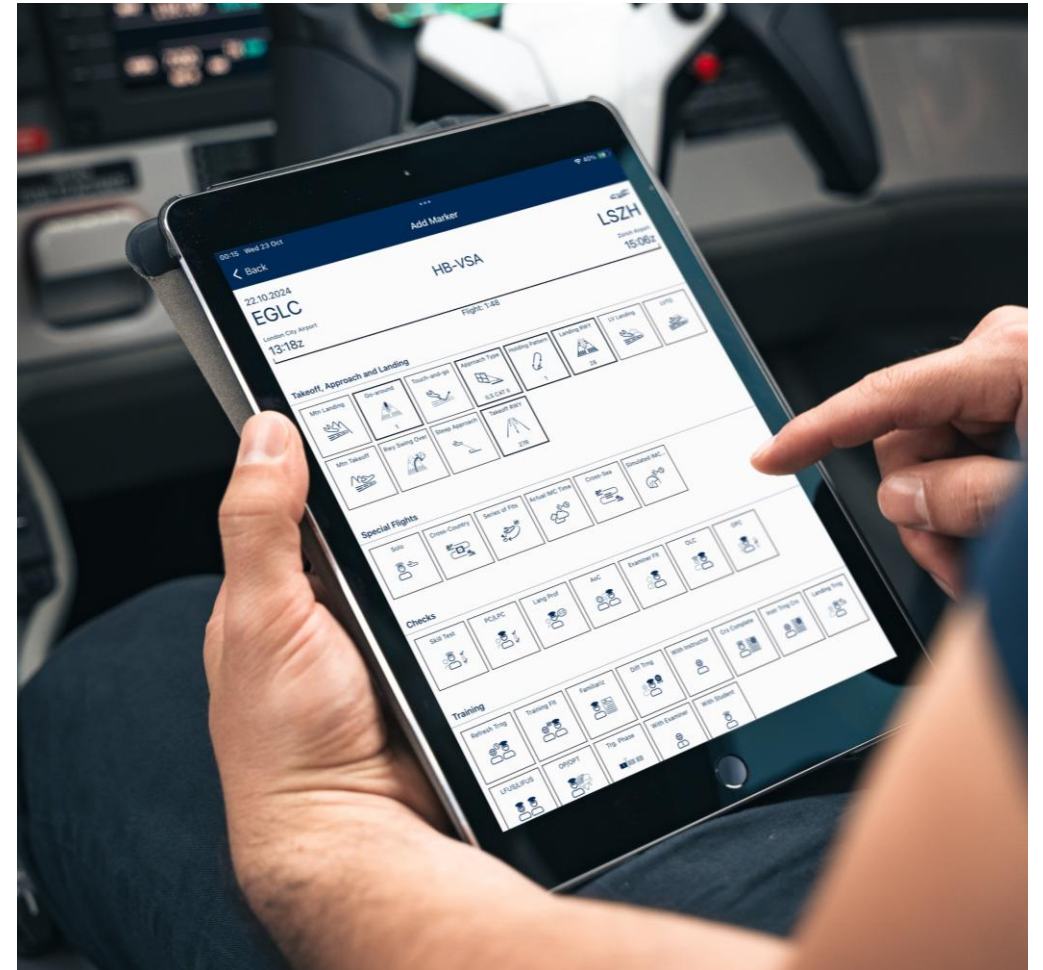


A strong data model

## High quality data

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- Responsibility with the pilot
- Structured, validated, audited
- Domain knowledge
- Integrity and traceability
- Swiss data centers
- Managed data sources



# OCR and Large Language Models

| YEAR             |                 | ROUTE OR FLIGHT |                 | DURATION        |                 | BIMLNAP1 CATEGORY ARI CLASS |                 |                 |                 |                 | GLU             |
|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| YEAR             | ROUTE OR FLIGHT | ROUTE OR FLIGHT | ROUTE OR FLIGHT | ROUTE OR FLIGHT | ROUTE OR FLIGHT | ROUTE OR FLIGHT             | ROUTE OR FLIGHT | ROUTE OR FLIGHT | ROUTE OR FLIGHT | ROUTE OR FLIGHT | ROUTE OR FLIGHT |
| 04/13            | NI4RC           | LIFE            | LIFE            | 15              | 15              |                             |                 |                 |                 |                 |                 |
| 04/18            | NI4RC           | 16G             | 16G             | 15              | 15              |                             |                 |                 |                 |                 |                 |
| 04/18            | NI4RC           | 16G             | 16G             | 04              | 04              |                             |                 |                 |                 |                 |                 |
| 04/18            | NI4RC           | 16G             | 16G             | 11              | 11              |                             |                 |                 |                 |                 |                 |
| 04/19            | NI4RC           | 16G             | KTOL            | 07              | 07              |                             |                 |                 |                 |                 |                 |
| 04/19            | NI4RC           | 16G             | 16G             | 06              | 06              |                             |                 |                 |                 |                 |                 |
| 04/25            | NI4RC           | 16G             | 16G             | 10              | 10              |                             |                 |                 |                 |                 |                 |
| 05/03            | NI4RC           | LIFE            | LIFE            | 10              | 10              |                             |                 |                 |                 |                 |                 |
| 05/03            | NI4RC           | LIFE            | EDN             | 21              | 21              |                             |                 |                 |                 |                 |                 |
| 05/05            | NI4RC           | LIFE            | LIFE            | 20              | 20              |                             |                 |                 |                 |                 |                 |
| 05/18            | NI4RC           | LIFE            | LIFE            | 04              | 04              |                             |                 |                 |                 |                 |                 |
| 05/23            | NI4RC           | LIFE            | LIFE            | 10              | 10              |                             |                 |                 |                 |                 |                 |
| 05/28            | NI4RC           | LIFE            | LIFE            | 07              | 07              |                             |                 |                 |                 |                 |                 |
| 05/30            | NI4RC           | LIFE            | LIFE            | 14              | 14              |                             |                 |                 |                 |                 |                 |
| TOTALS THIS PAGE |                 |                 |                 | 154             | 154             |                             |                 |                 |                 |                 |                 |
| AMT FORWARDED    |                 |                 |                 | 9722            | 973             | 2                           |                 |                 |                 |                 |                 |
| TOTALS TO DATE   |                 |                 |                 | 9876            | 987             | 8                           |                 |                 |                 |                 |                 |

| Year                 | Date | Time             | Aircraft | Single Pool Time |    | Total of P |
|----------------------|------|------------------|----------|------------------|----|------------|
|                      |      |                  |          | SE               | ME |            |
| 18                   | 07   | 15 <sup>24</sup> | P-28-A   |                  | 42 |            |
| 18                   | 07   | 17 <sup>24</sup> | HB-POF   |                  | 48 |            |
| 18                   | 07   | 15 <sup>24</sup> | P-28-A   | 1                | 00 |            |
| 03                   | 08   | 14 <sup>24</sup> | HB-POE   | 0                | 38 |            |
| 05                   | 08   | 13 <sup>24</sup> | HB-POE   | 1                | 04 |            |
| 07                   | 08   | 16 <sup>24</sup> | HB-POE   |                  | 59 |            |
| 10                   | 08   | 17 <sup>24</sup> | HB-POE   |                  | 51 |            |
| 19                   | 08   | 17 <sup>24</sup> | HB-POE   |                  | 58 |            |
| Total this Page      |      |                  |          | 6                | 57 | 6          |
| Total previous pages |      |                  |          | 14               | 19 | 14         |
| Total Time           |      |                  |          | 21               | 16 |            |



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