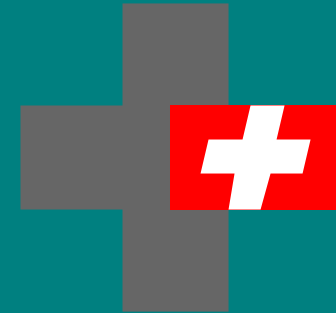




LUFTWAFFE
FORCES AERIENNES
FORZE AEREE
SWISS AIR FORCE



ADS 95 RANGER

Training & Lessons Learned

EURO UVS, Paris, June 14, 2002

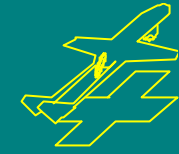
Report Documentation Page

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Agenda



- Prerequisites
- Types of Operators
- Training and Formation
- Mission Simulator
 - Technical Aspects
 - Training Aspects
- Experience / Lessons Learned
- Questions



- **Two governing documents**
 - MFV defines ,overhead' directives of personnel involved in flight operations
 - MFV = Militärflugdienstverordnung = Military Flight Service Regulation
 - VDO defines directives of personnel involved in ADS 95 operations
 - VDO = Verordnung für Drohnenoperateure = UAV Operator Regulation

Prerequisites



- **Flight duty regulations:**
 - Maximum no-flight/sim time 6 weeks (calendar time)
 - Minimum 45 flight hours p.a., of which max. 50% in the MISIM
- **Military regulations:**
 - 25 Service days
 - 17 Days in Training Courses
 - 8 Days individual training

Types of Operators



- **Internal Pilots:**

The Internal Pilot is responsible for the conduction of the flight from Take-Off to Landing.

- **Payload Operators:**

The Payload Operator operates the TV- or Infrared Camera from Take-Off to Approach. His support is required for the Approach and Landing Phase.

Training & Formation



Requirements for professional operators

Internal Pilots:

CPL I FR-Licence

Observers:

PPL-Licence

Initial Training Course, Duration:

Total 2-3 months

2 weeks theory including first MI SIM-Exercises

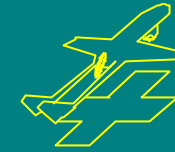
6-10 weeks flight training/MI SIM

Total 7 to 10 flights and
7 to 10 MI SIM-missions
before first Solo-Flight

Total 15 flights and
5 MI SIM-missions
before first Solo-Flight

Graduation to Drone Operator after ~60 hrs of real flight time.

Training & Formation



Requirements for militia operators

Internal Pilots:

ATPL-Licence
150 of 'Service-Days' left

Observers:

PPL-Licence
150 of 'Service-Days' left
Intelligence Officer

Initial Training Course, Duration:

Total 6 weeks

2 weeks theory including first MI SIM-Exercises

4 weeks flight training/MI SIM

Total 7 to 10 flights and
7 to 10 MI SIM-missions
before first Solo-Flight

Total 15 flights and
5 MI SIM-missions
before first Solo-Flight

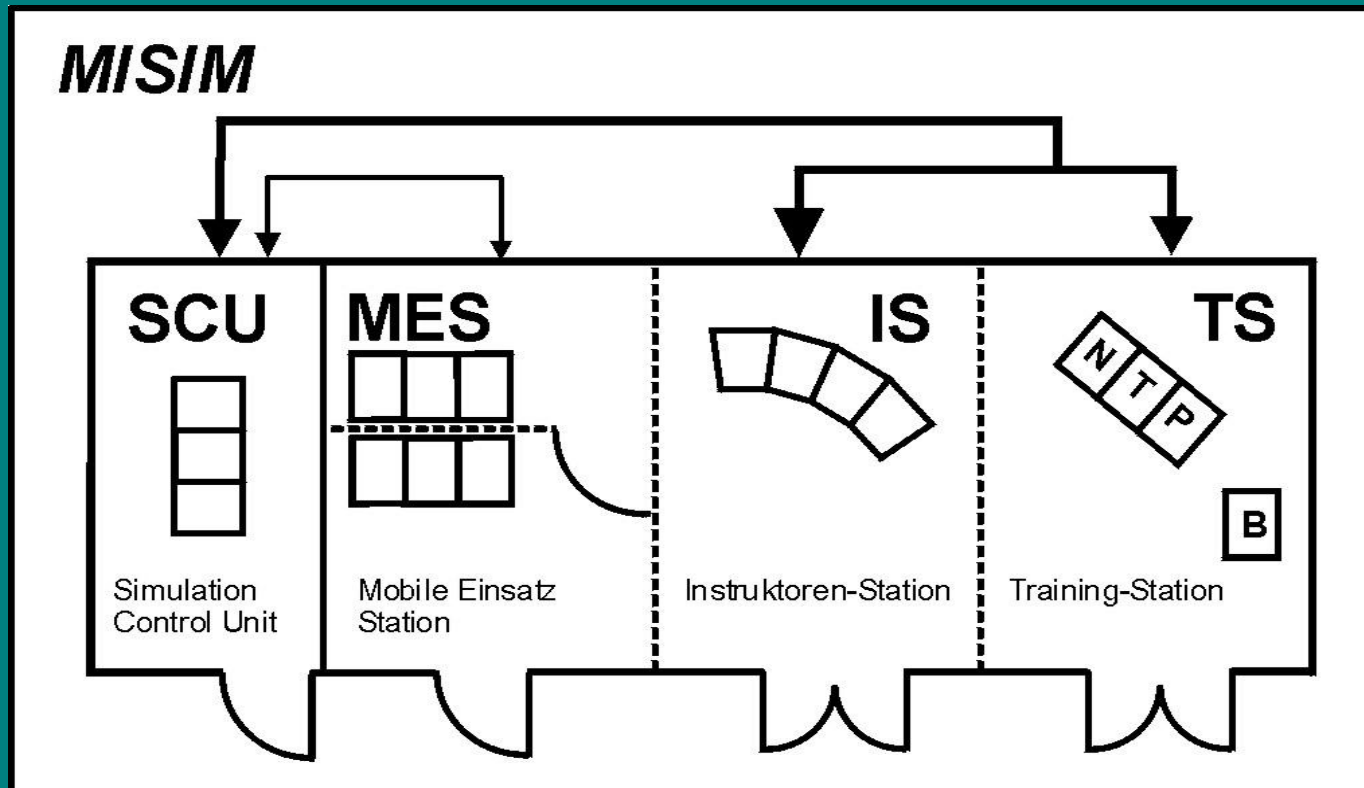
Graduation to Drone Operator after ~60 hrs of real flight time.

Mission Simulator (MISIM)



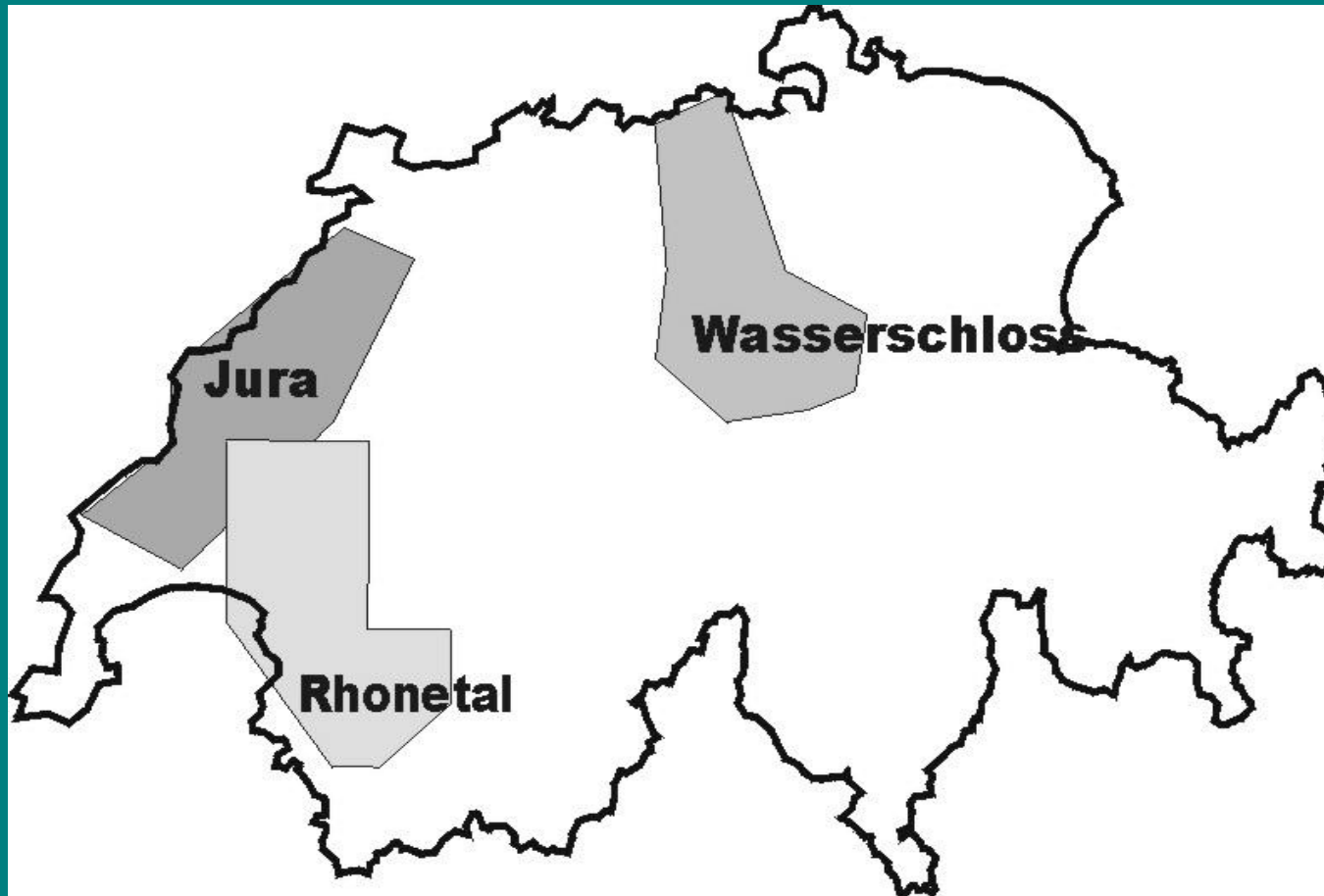
- Purpose
 - Essential tool for the formation/training of both professional and militia operators at all levels (initial training upwards)
 - All crew stations and crew functions can be trained and exercised:
 - Internal Pilot
 - Payload operator
 - MRU-operator
 - UAV intelligence officer
 - Artillery fire control officer
 - other (i.e. fire fighter operations officer etc.)

Mission Simulator (MISIM)



General Layout

Mission Simulator (MISIM)



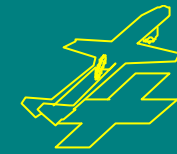
Database

Mission Simulator (MISIM)



Instructor Station

Mission Simulator (MISIM)



Trainee Station

Questions ?



