

AIRCADEMY



Human Performance

shortcut

Medical Fitness

Human Perception



Health Restrictions

Sickness

- Impact of minor symptoms on flight safety
- If the UAS is already in the air, land as soon as possible



Medication

- Question yourself: Why?
- Consider direct or side effects of the medication



Alcohol

- No alcohol before flight (at least 8h)
- Blood alcohol limit: 0,2 per mille



Fatigue

- Caused by lack of sleep, awake for a long time, physical exhaustion
- 17h awake → 0,5 per mille
- 23h awake → 1,0 per mille

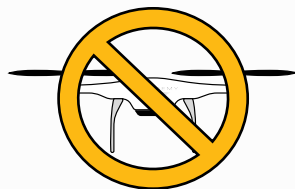


Influence and Consequences

i Before every flight:
Check your personal fitness!



I'M SAFE Checkliste



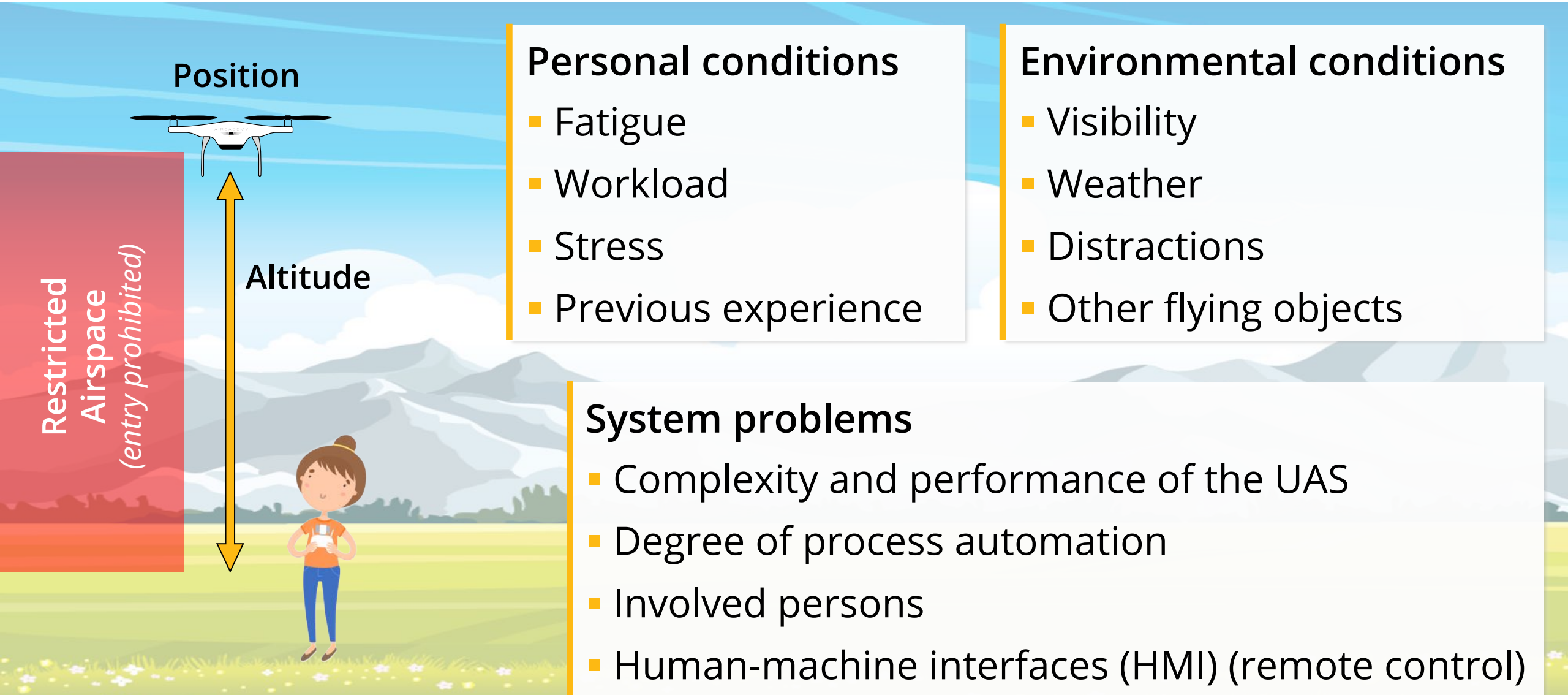
Possible Effects

- decreased cognitive performance
- impaired judgement
- distorted perception
- increased error rate
- increased risk disposition
- impaired spatial orientation
- impaired situational awareness
- loss of focus

'I'M SAFE' Checklist

I	Illness	Are there any symptoms of illness that could influence your capability to control a UAS?
M	Medication	Are you currently taking any medication?
S	Stress	Are you under stress or psychological pressure?
A	Alcohol	Have you drunk alcohol in the past 8–24 hours?
F	Fatigue	Have you had enough sleep, food and drink?
E	Emotion	Do you have sufficient distance from any extreme emotional situations?

Situational Awareness



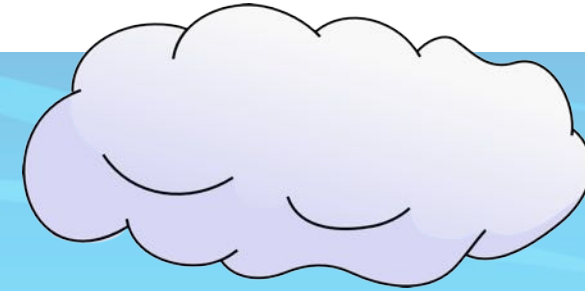
Altitude and Distance



Use GPS if possible!

Comparison with reference objects

- Height of the object must be known
- UAS and object must have same distance from observer



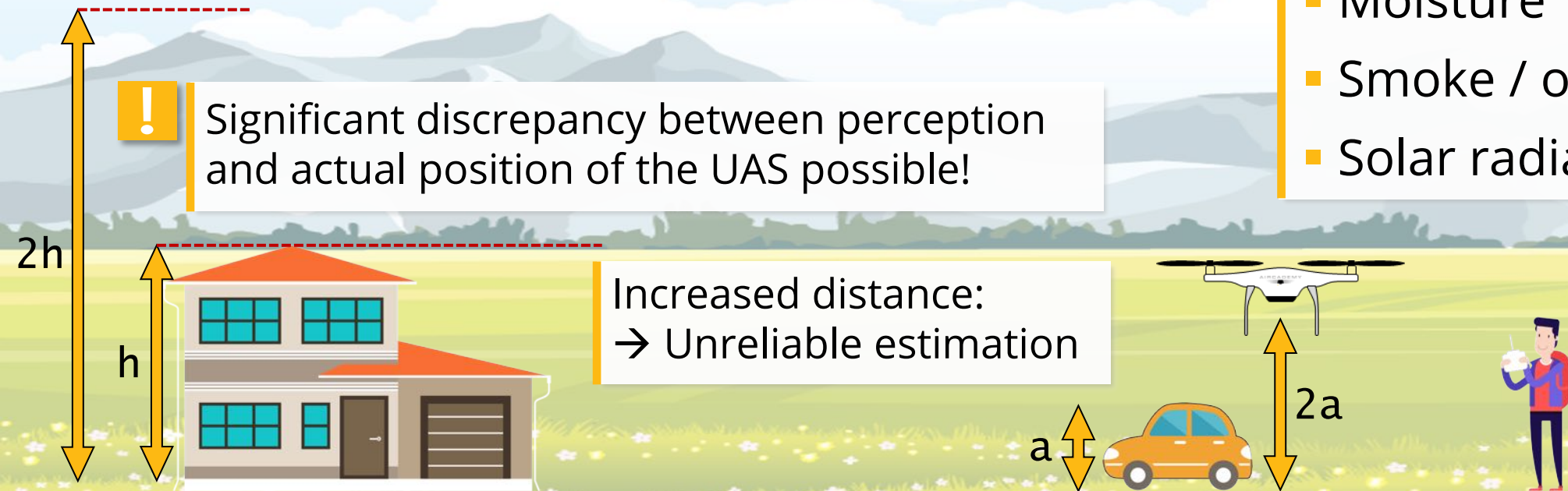
Other influencing factors

- Clouds
- Moisture
- Smoke / other particles
- Solar radiation

! Significant discrepancy between perception and actual position of the UAS possible!

Increased distance:
→ Unreliable estimation

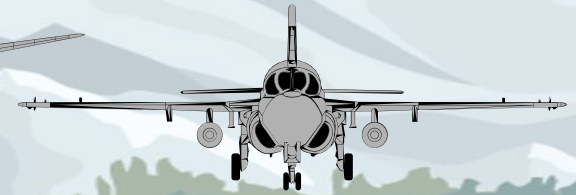
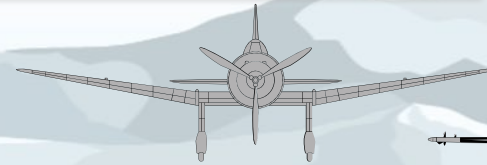
Very accurate at short distance (arm length)



Velocity

Factors in judgement

- Experience (previous observations) → Reference
- Direction of travel of the approaching traffic
 - **Easy:** direction of travel vertically
 - **Difficult:** direction of travel directly ahead or at an angle



Darkness

Adaptation of the eyes

- 30 minutes
- Avoid bright light

Influencing factors

- Colours of light
 - **Green**: brighter = closer
 - **Red**: darker = further away
- Smoking / exhaust gases
 - carbon monoxide poisoning

