



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of the Environment, Transport,
Energy and Communications DETEC

Federal Office of Civil Aviation FOCA
UAS Authorization and Oversight



New Drone Regulation

Explanations and background on the new rules in Switzerland

2023-02-15



Agenda

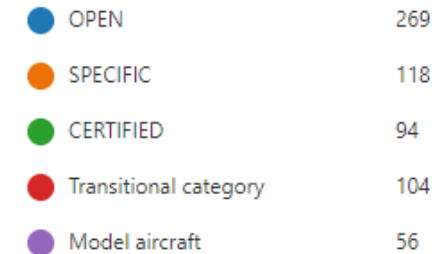
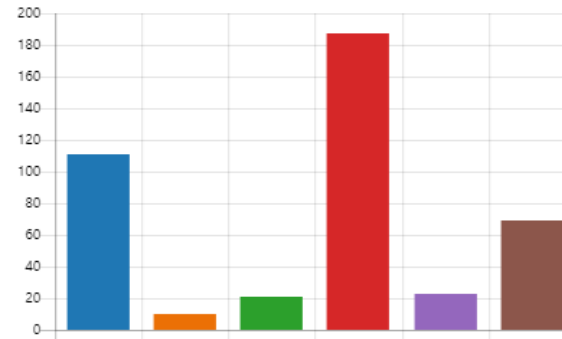
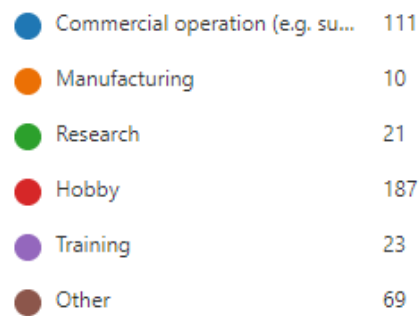
- Introduction
- Brief overview of the regulatory framework
- Categories
 - **OPEN:** A1/A2/A3, C-labels, model aircraft
 - **SPECIFIC:** STS, PDRA, SORA, (LUC)
 - **(CERTIFIED)**
- Platform UAS.gate
 - Registration
 - Pilot certificates
- Transitional category & period
- Q & A





Introduction: Closed Loop

- Survey results:

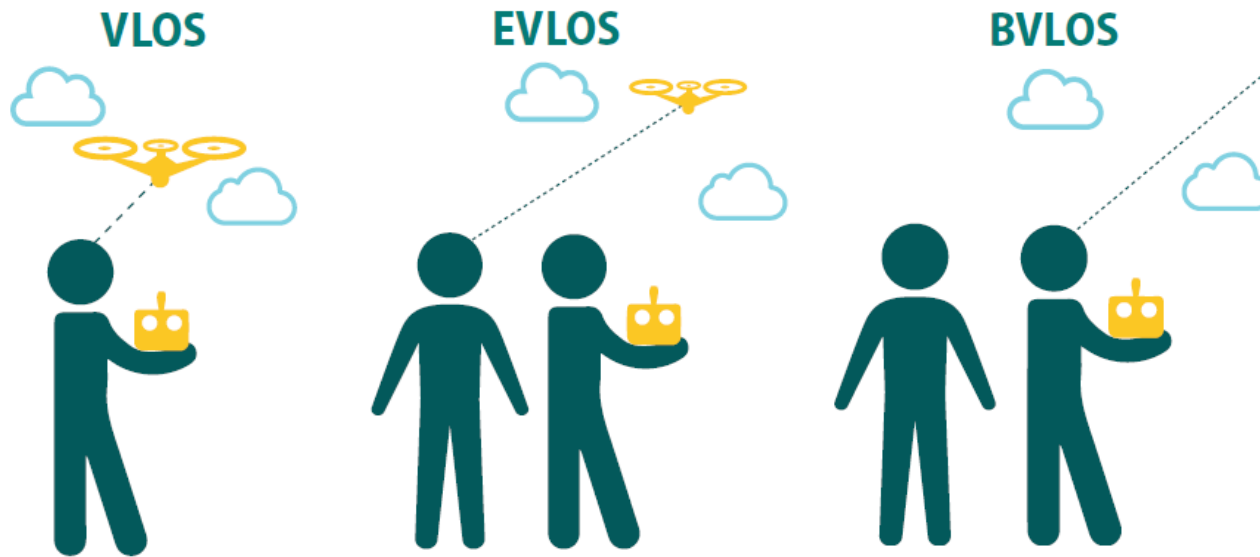


- Cameras and microphones are disabled during presentation
- Slides will be made available after the webinars
- Unanswered questions: Q & A



Introduction: A few Definitions

Involved vs unininvolved



Special case: Night
→ Green flashing light

Special case: FPV
→ Spotter required



Assembly of people
("crowds")



Legal Background



EASA – Rules applicable to UAS:

- Implementing Regulation (EU) 2019/947
- Delegated Regulation (EU) 2019/945



FOCA – Implementation in CH:

- Revised ordinance - OSCA
(Ordinance on special category aircrafts)
- Entry into force: 2023-01-01



Categories of Operation



OPEN

VLOS
< 25kg
< 120m AGL
Not over crowds

No authorization needed



SPECIFIC

Cannot respect conditions
from OPEN category

e.g. BVLOS

FOCA approval needed



CERTIFIED

Air-taxi
Freight transport

e.g. > 1m & over crowds

Licensed crew & certified UAS



OPEN: General Rules

Minimum age: 12 years

VLOS (visual line of sight)

Max. 120m above ground

No overflying of crowds

Respecting geozones

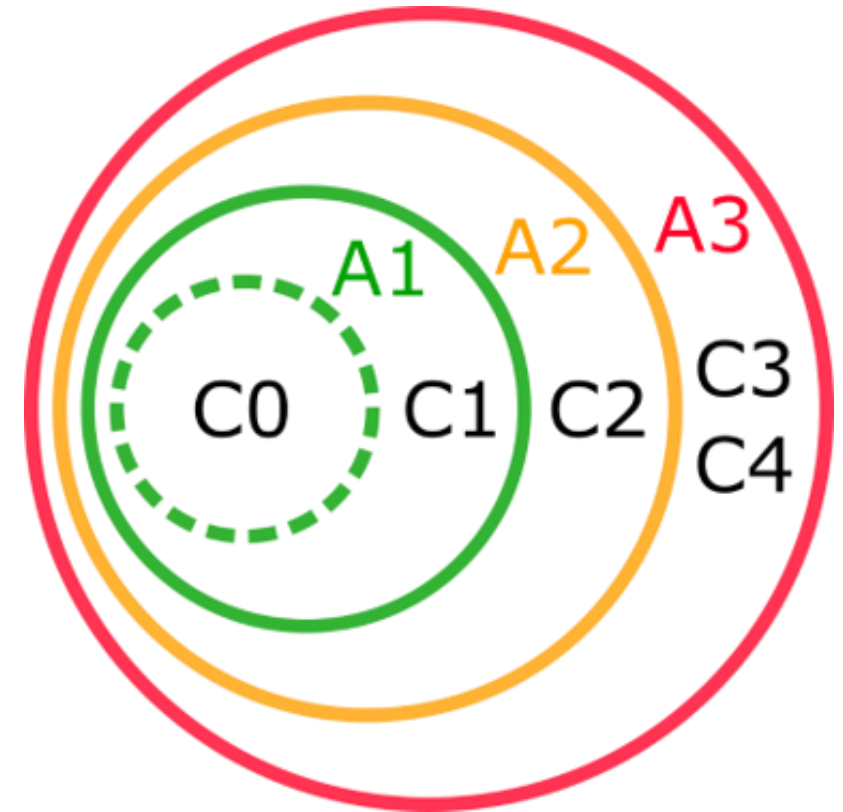
Mandatory insurance:
1 Mio. CHF for drones > 250g





OPEN: Subcategories and Drone Classes

Category	Class	Weight	Safety distance
A1	C0	< 250g	Flying over people
A1	C0, C1	< 900g	Flying over people
A2	C0 - C2	< 4kg	Flying close to people
A3	C0 - C4	< 25kg	Flying far from people

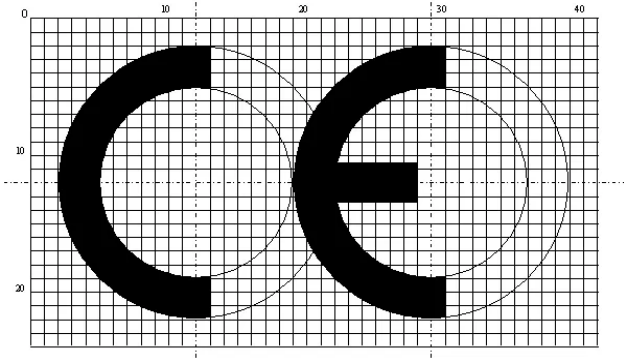




CE Marking vs. Class Identification Label

CE marking

The manufacturer affirms the product's conformity with *all* the relevant European *health, safety and environmental protection* requirements.



Attention: It is forbidden to fly a drone without CE marking!

Exception: Self-built drones (no CE & C label required)

Class identification label (“C”)

0 Lightweight, toys OPEN

1 2 3

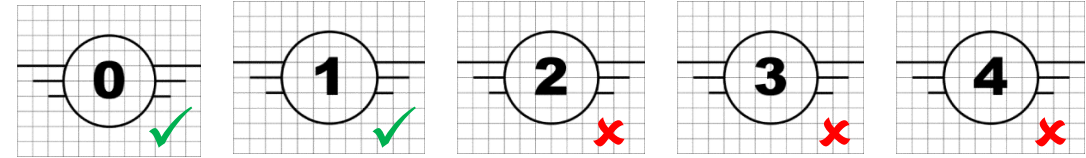
4 Model aircraft

5 6 SPECIFIC

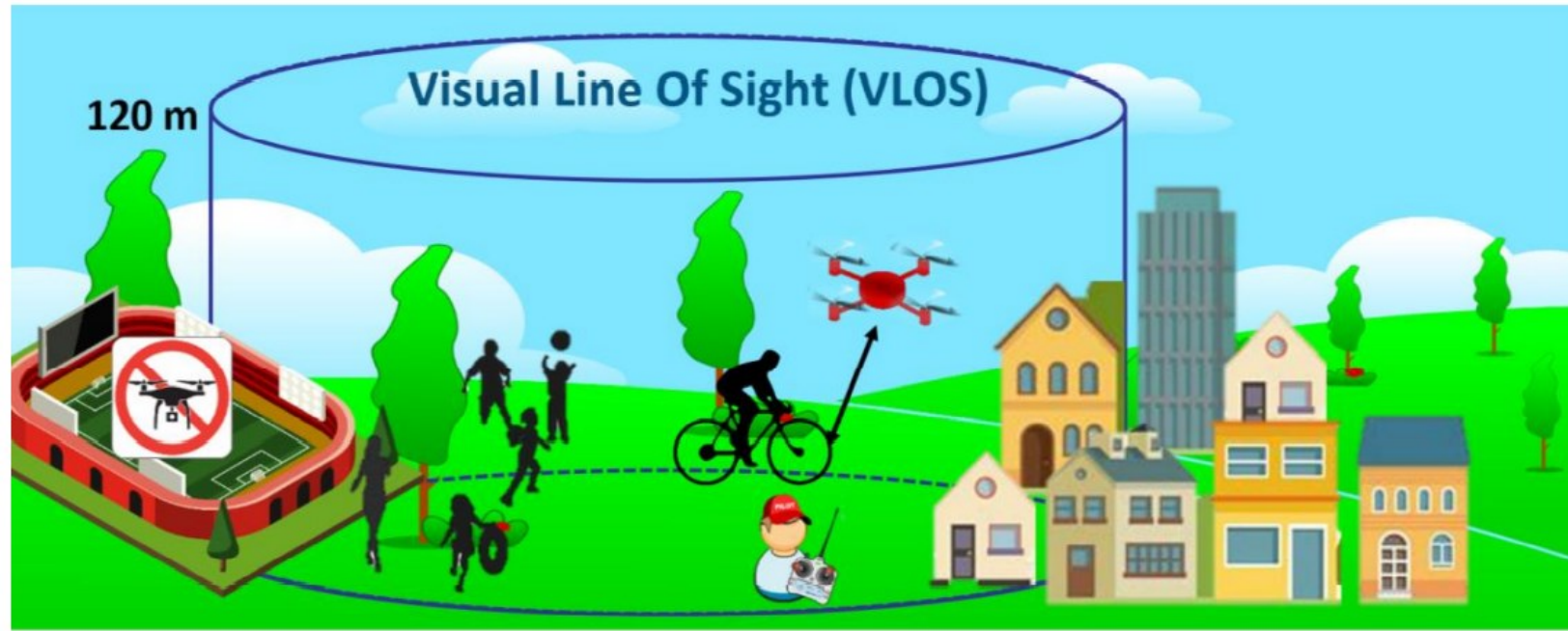
EU-STS-01 EU-STS-02



OPEN A1

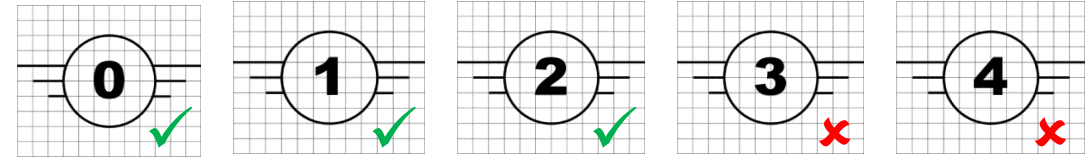


- Class labels: C0 and C1
- Forbidden to fly over crowds
- Reasonably expect not to fly over uninvolved people

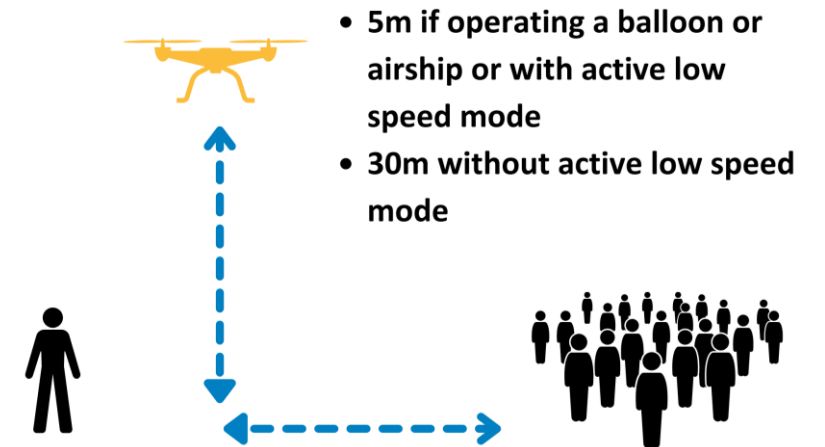




OPEN A2

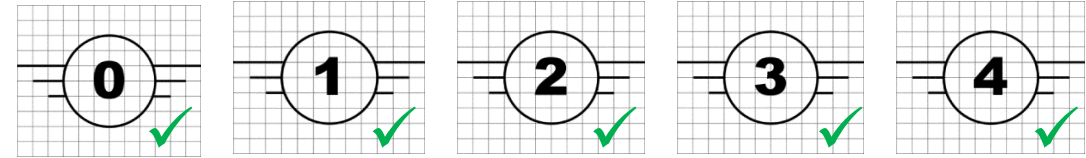


- Class labels: C0, C1, C2
- Horizontal distance to uninvolved persons:
 - According to the **1:1 rule** → safety distance \geq height
 - Lower limit depending on low-speed mode (3m/s):
 - Without low-speed mode: **30m**
 - With activated low-speed mode: **5m**

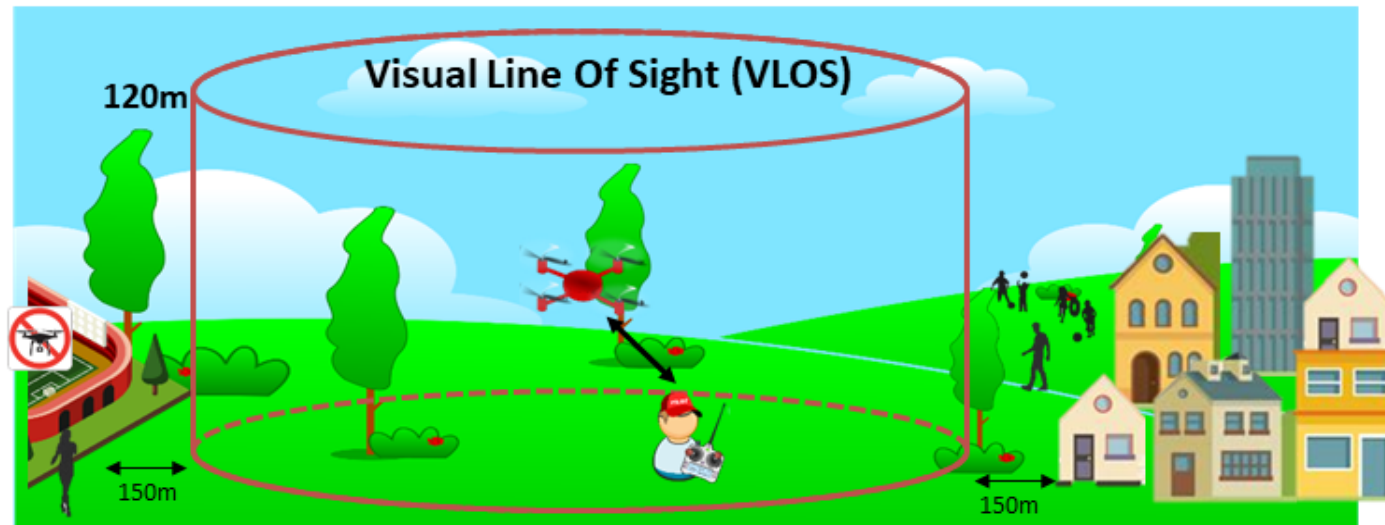




OPEN A3



- Class labels: C0, C1, C2, C3, C4
- Horizontal distance to uninvolved persons:
 - According to the **1:1 rule** and never lower than **30m**, or
 - Distance of **2s** with max speed (which ever is higher)
- At least **150m** away from residential, commercial or industrial areas





Model Aircraft

- Member of the Swiss Model Aircraft Association (SMV)
- Operation according [Code of Good Practice](#) (CoGP) of SMV

Two options depending on operation

Operation	< 25kg	25 – 30kg	> 30kg
SMV	• Privileges		• Privileges
CoGP	• No authorization*		• Authorization
Drone	• OPEN A3	• SPECIFIC	
Rules	• No authorization	• Authorization	

* Optional for > 25kg: Operation in foreign countries

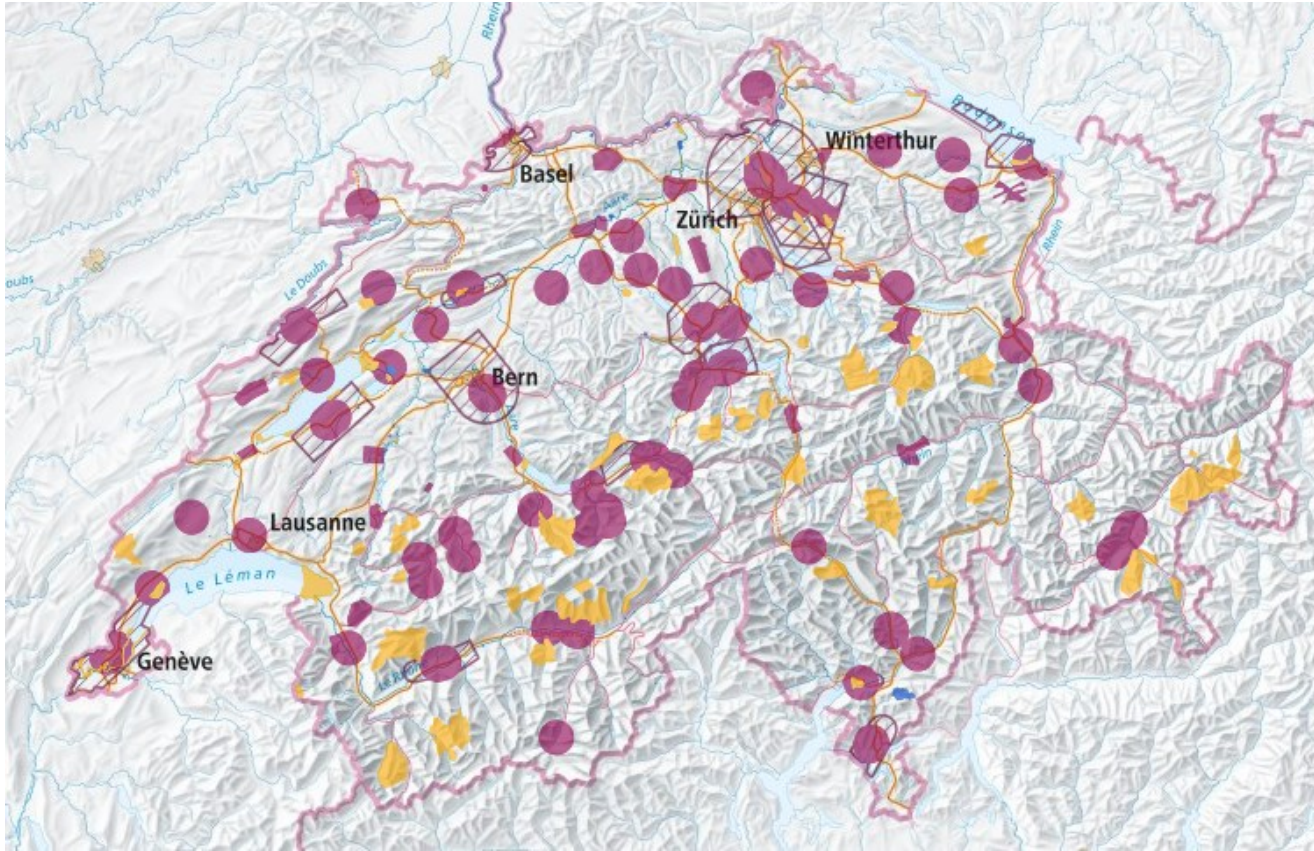
CoGP Privileges (in CH only)

- Minimum age: 5 years
- VLOS (> 120m AGL)
- No registration
- No pilot certificates

More on [SMV](#) & [FOCA](#) websites



Drone Map: Geozones



<https://map.geo.admin.ch/?layers=ch.bazl.einschraenkungen-drohnen>

Existing ones:

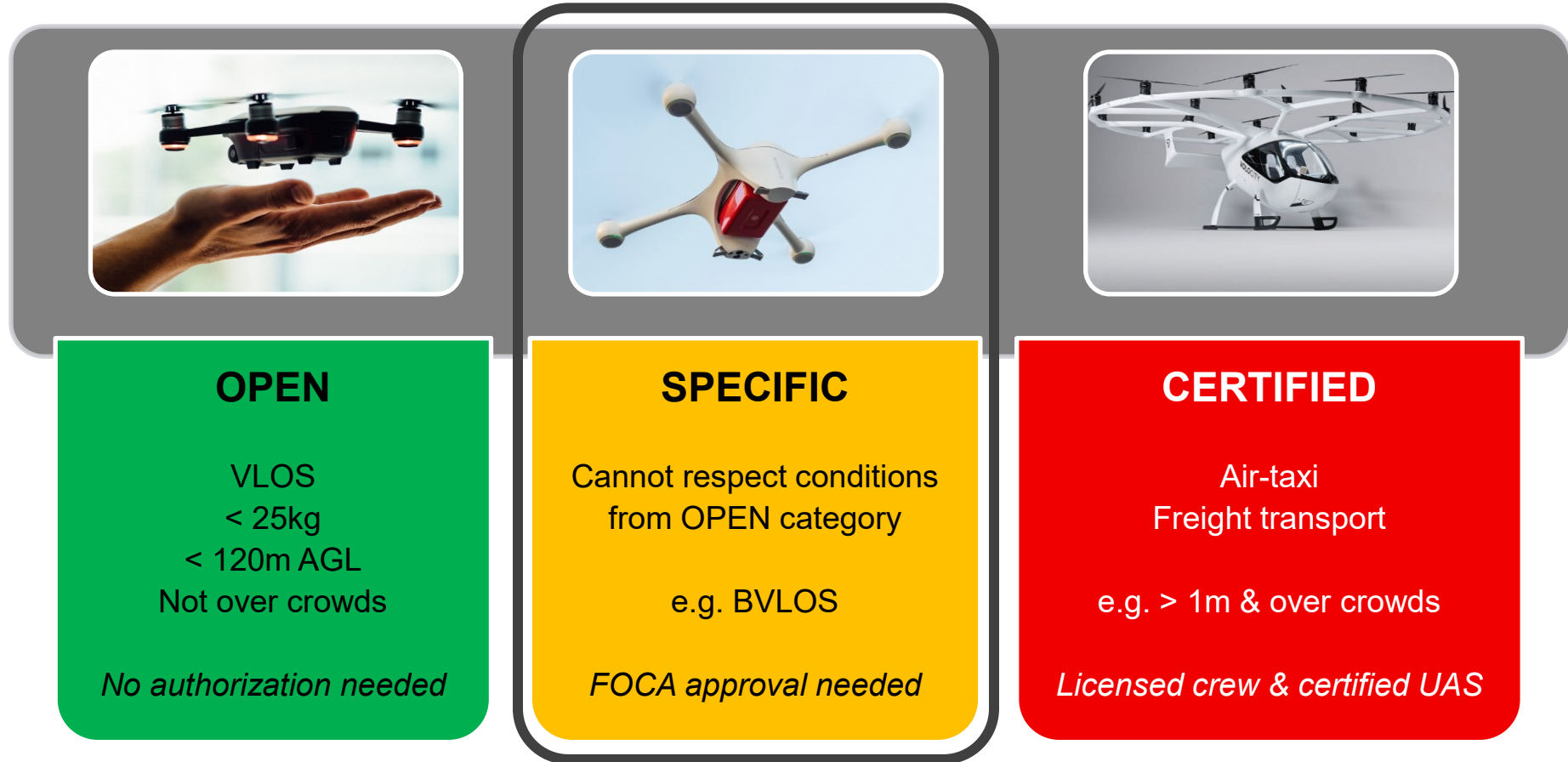
- 5km around airports
- Control zone (CTR)
- Wildlife reserves

New:

- Military infrastructure
- Airport perimeter
- Nuclear power plants
- Certain energy infrastructure
- Prisons
- Cantonal geozones

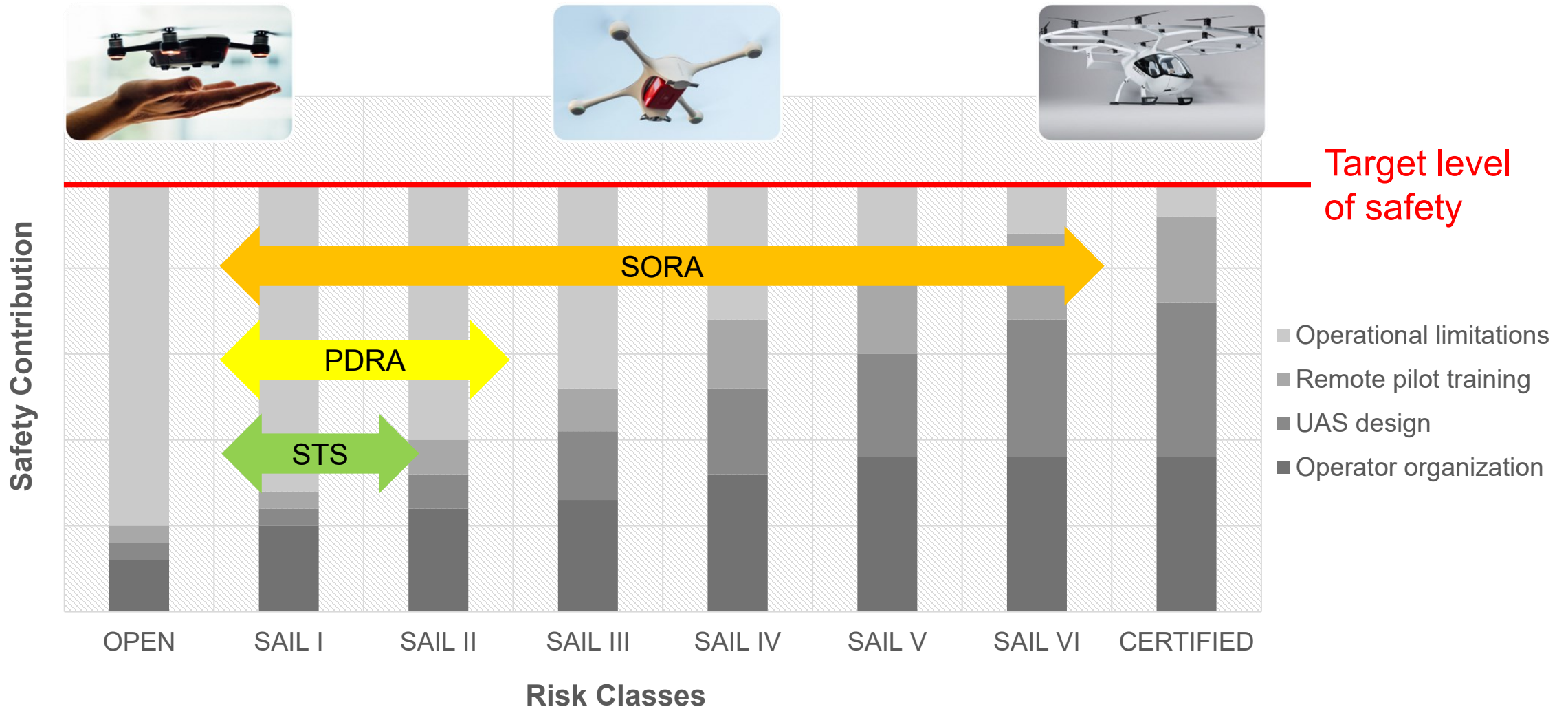


Categories of Operation



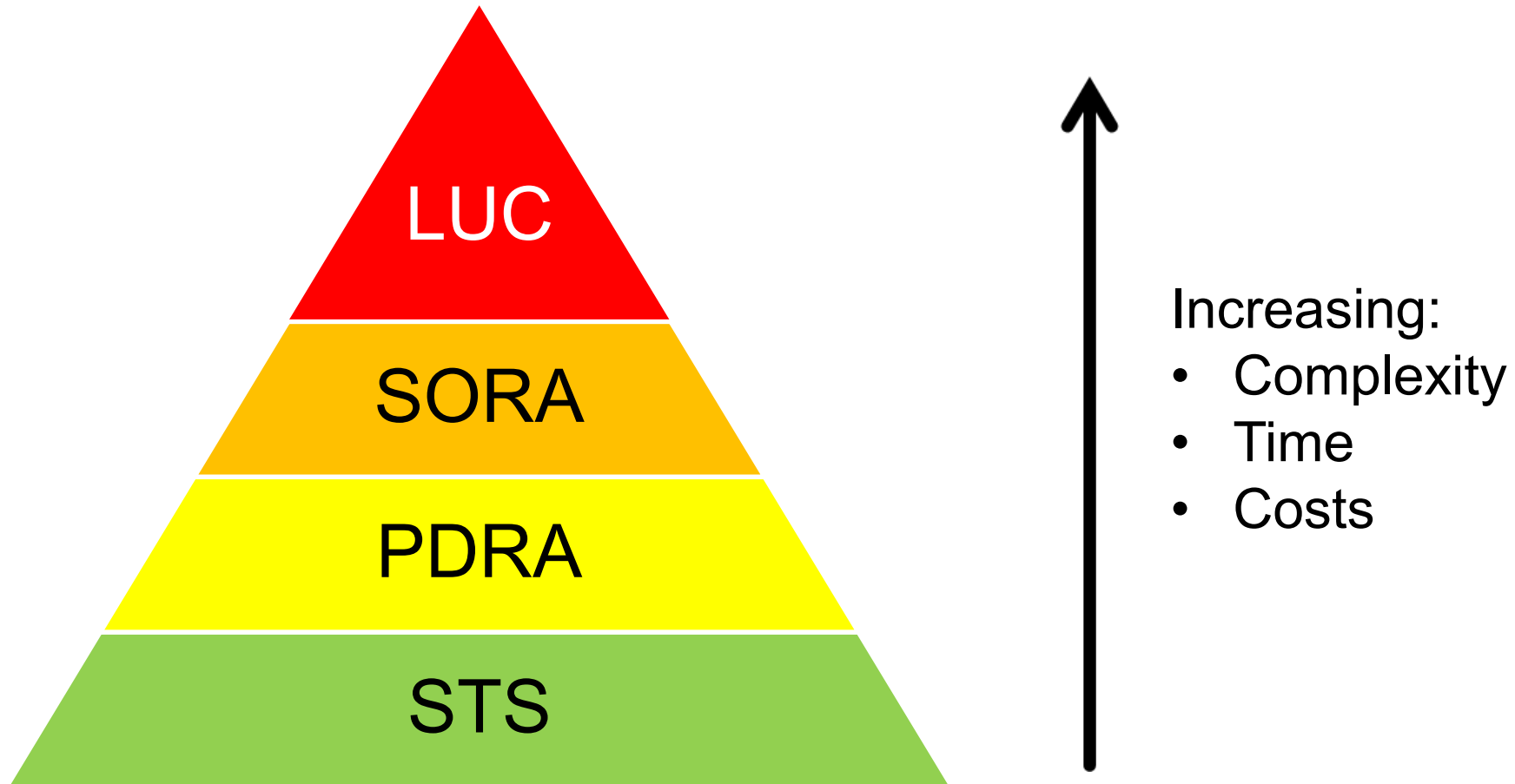


Philosophy: Risk-based Approach





Type of Approvals in the SPECIFIC





STS: Standard Scenarios

- Common use-cases
- Validity of authorization: 2 years
- Mostly location-independent
- Two types of **standard scenarios** (STS):

National: CH-STS

- Issued till end of 2023
- Validity: only CH
- Drone: No C-label required
- Mostly based on declarations

European: EU-STS

- Available from 2024
- Validity: CH and EU
- Drones: C5 or C6 label
- Only declarations

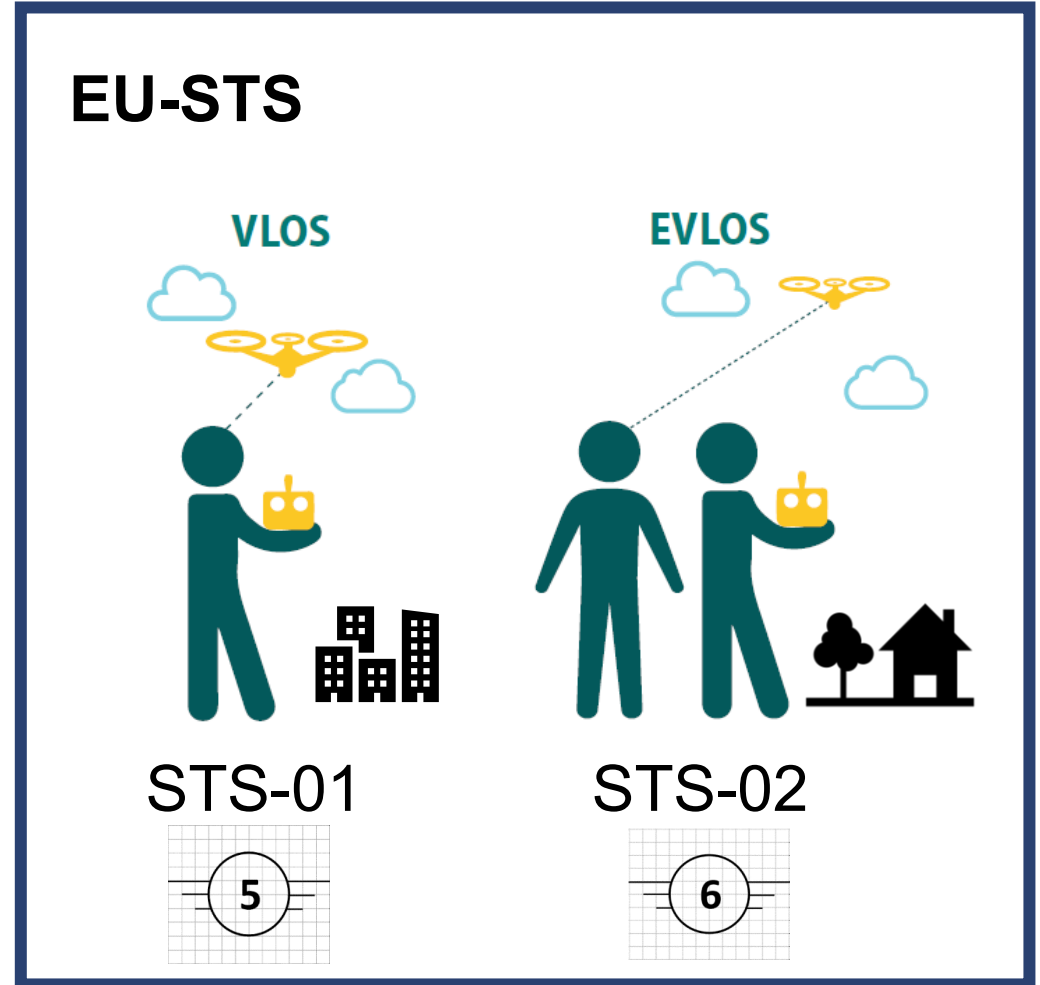


STS: CH vs EU

CH-STS



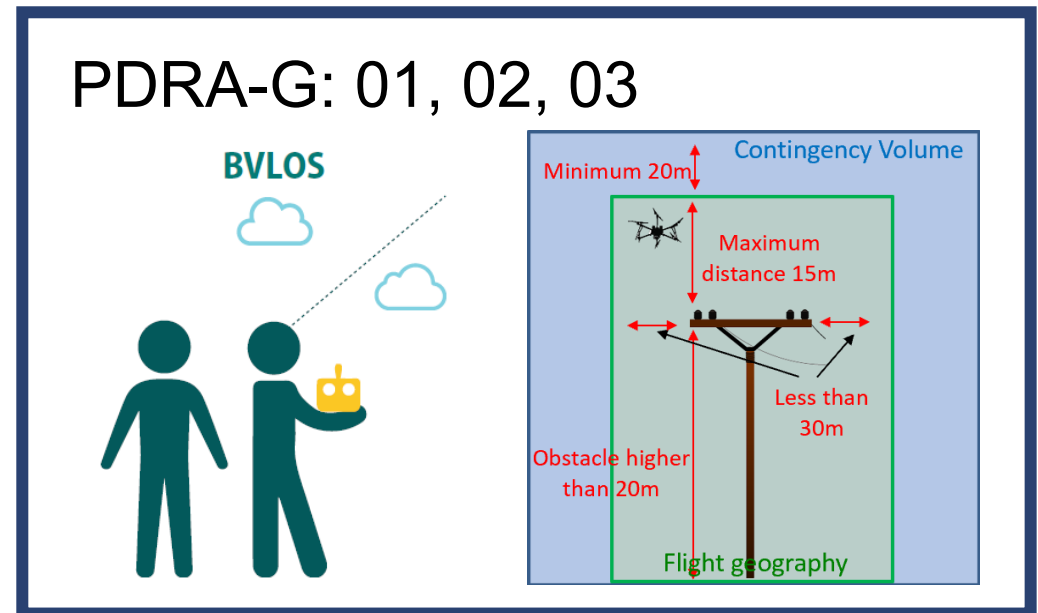
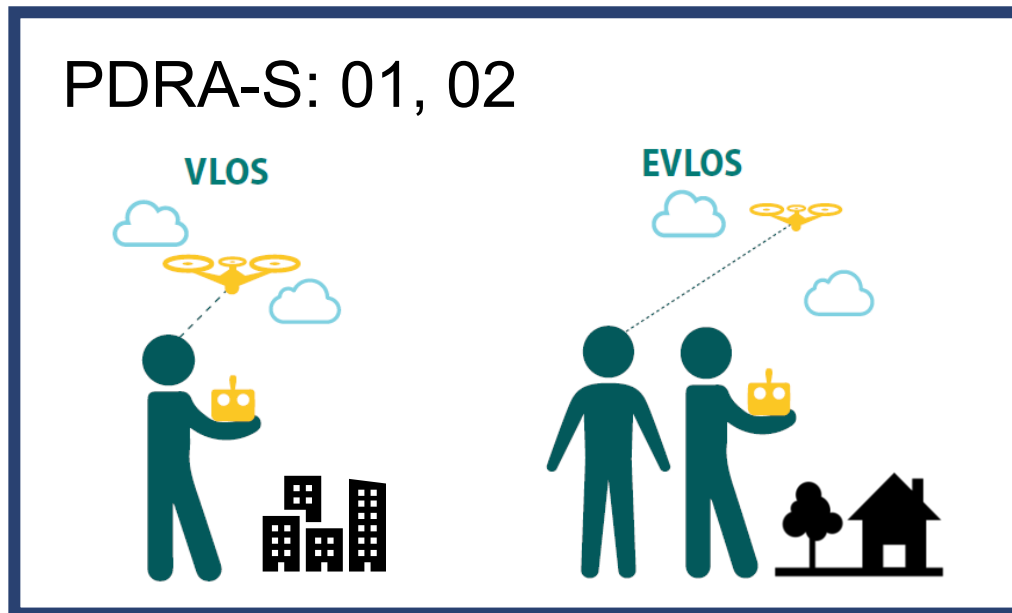
EU-STS





PDRA: Pre-defined Risk Assessment

- For drones **without** class marking
- Tailored to "typical" use-cases: Currently 5, but growing
- Declaration plus evidence (OM)
- Validity of authorization: 2 years

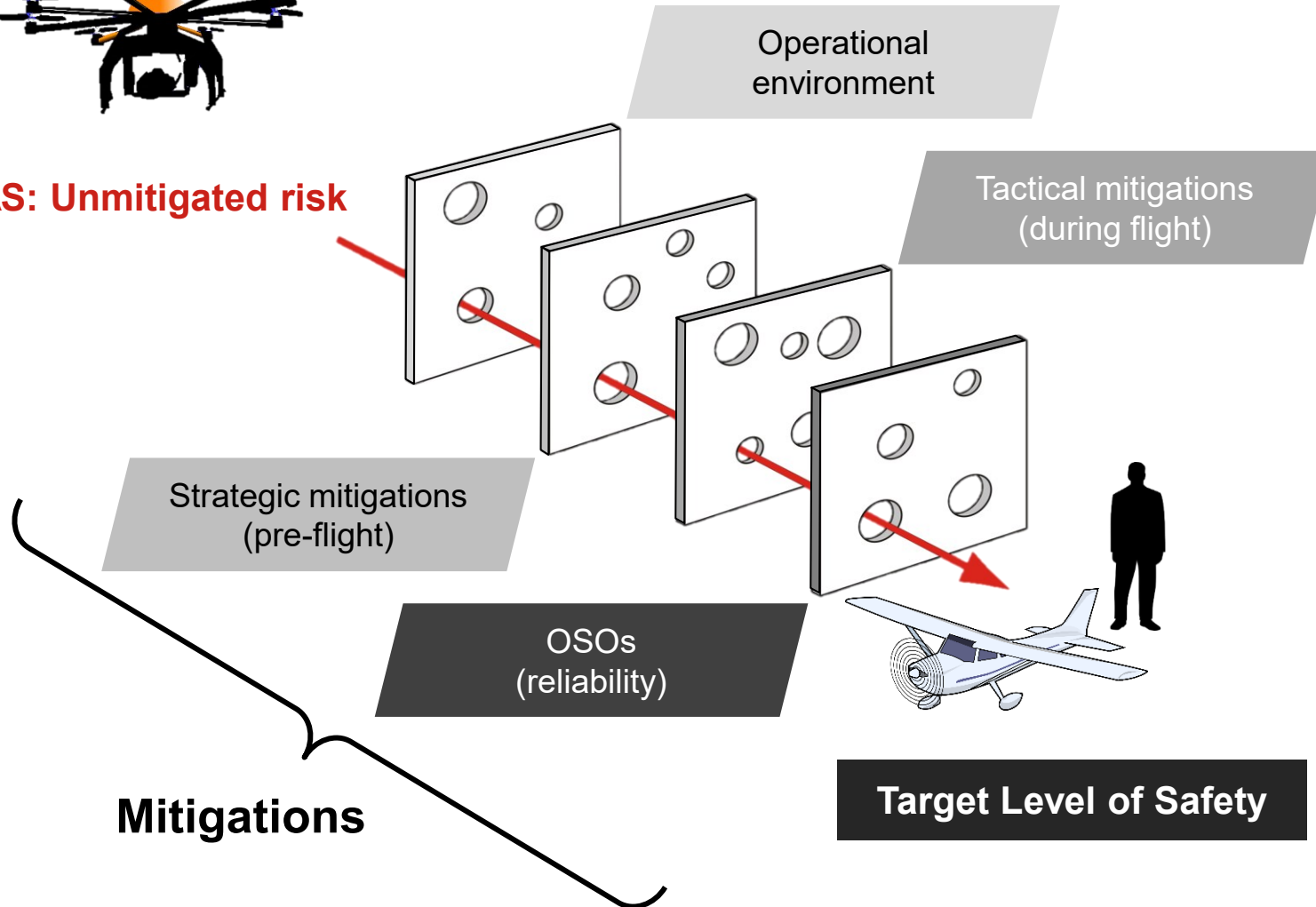




SORA: "Swiss cheese" & Bird's-eye View

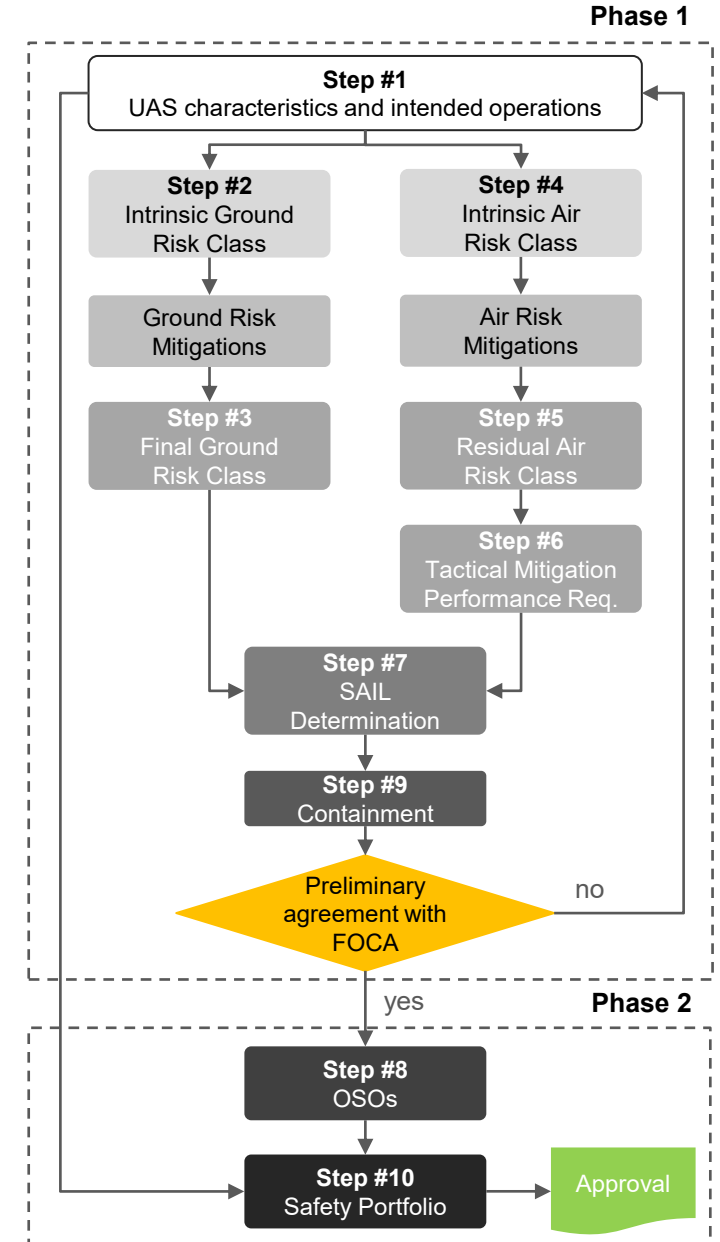


UAS: Unmitigated risk



Mitigations

Target Level of Safety





New: Registration & Pilot Training

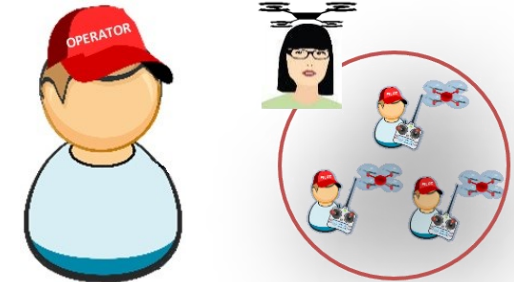
First, some definitions...

Remote pilot
“flying the drone”



→ Pilot certificates

UAS Operator
“owner of the drone”



→ Registration

Person	Natural		✓	✓
	Legal		✗	✓



UAS Operators: Registration

Registration as operator

Mandatory, if:

- $\geq 250\text{g}$ MTOM, or
- Equipped with "sensor to capture personal data" (e.g. camera)

Exception: No registration required for model aircraft operated according to CoGP

Example: DJI Mini Series



- $< 250\text{g}$ MTOM
- Equipped with camera

**Registration
REQUIRED**



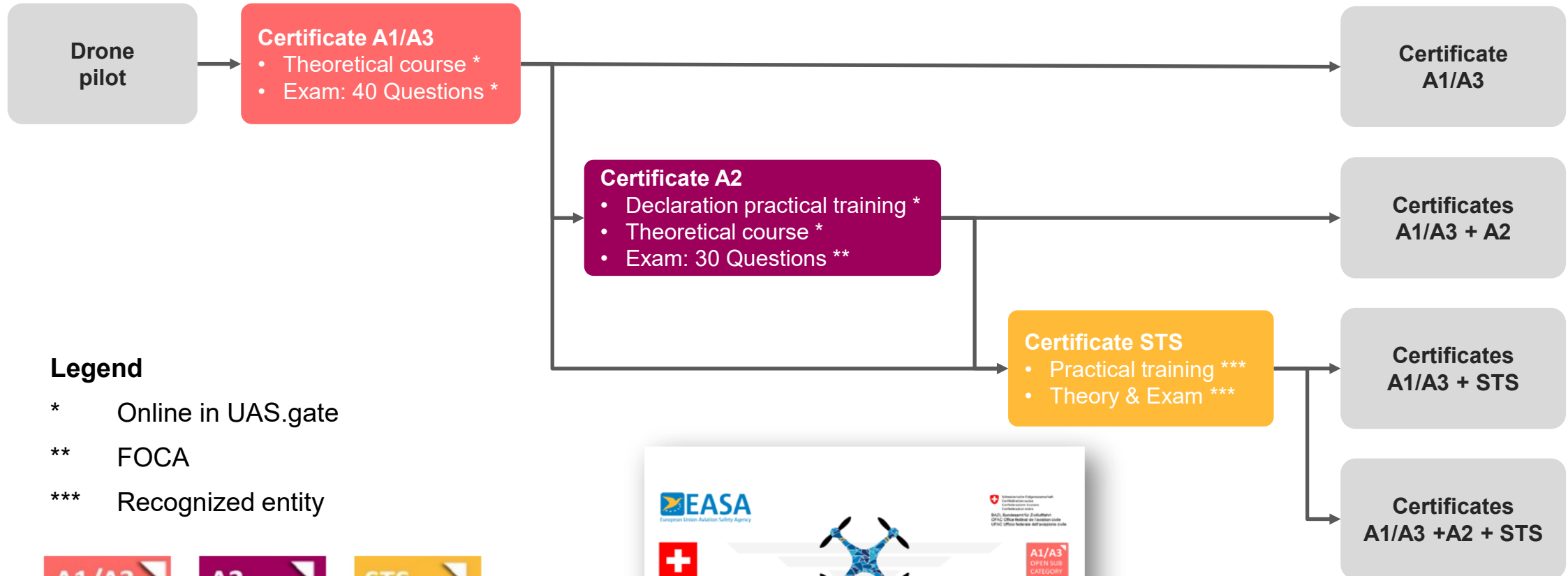
Remote Pilots: Training / Certificates

OPEN		
Category	Class	Certificate
A1	C0	None
A1	..., C1	A1/A3
A2	..., C2	A1/A3 + A2
A3	..., C3, C4	A1/A3
Exception: No certificate required for remote pilots flying model aircraft according to CoGP		

SPECIFIC		
Category	Class	Certificate
STS-CH	-	A1/A3 + A2
STS-EU	C5, C6	A1/A3 + STS
PDRA-S	-	A1/A3 + STS
PDRA-G	-	Case-specific
SORA	-	Case-specific



UAS.gate: Remote Pilot Certificates



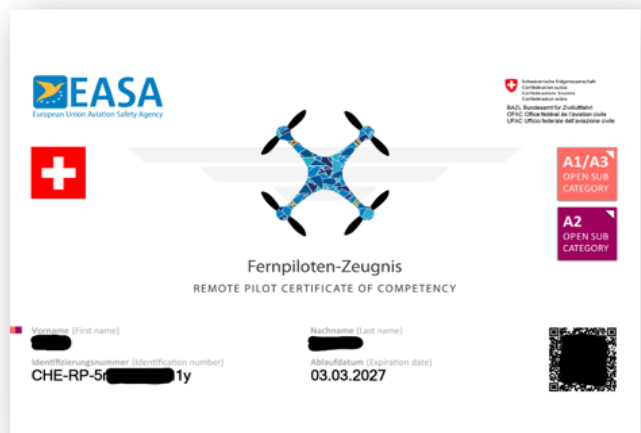
Legend

- * Online in UAS.gate
- ** FOCA
- *** Recognized entity

A1/A3
OPEN SUB
CATEGORY

A2
OPEN SUB
CATEGORY

STS
STANDARD
SCENARIOS





How does this look in practice?



Registration as UAS operator

1. Go to [UAS.gate](https://uas.gate)

2. Obtain UAS operator number:
CHExxxxxxxxxxxxx-yyy

3. Attach operator number to drone
(as visible as practicable)

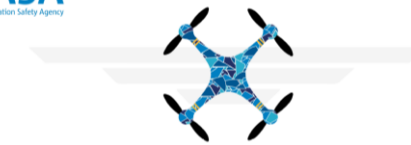


WNG 999T



Remote pilot certificates

1. Go to [UAS.gate](https://uas.gate)
2. Chose certificates
3. Pass training & exams



Fernpiloten-Zeugnis
REMOTE PILOT CERTIFICATE OF COMPETENCY

Vorname (First name)
[Redacted]
Identifizierungsnummer (Identification number)
CHE-RP-5[Redacted]1y

Nachname (Last name)
[Redacted]
Ablaufdatum (Expiration date)
03.03.2027

Swissair Transport Services
Confédération suisse
Confédération suisse
BAGL: Bundesamt für Zivilluftfahrt
OFAC: Office fédéral de l'aviation civile
UFAIC: Ufficio federale dell'aviazione civile

A1/A3
OPEN SUB
CATEGORY

A2
OPEN SUB
CATEGORY





UAS.gate: Login & Accounts

Two possibilities

Natural person

- Remote pilot and/or operator
- Use of personal credentials (e.g. personal email address)

Legal person

- Operator (company or institution with multiple pilots flying company drones)
- Use of a general e-mail address, e.g.: drone@company.ch

Specify account during registration

The screenshot shows the 'Auswahl Login-Verfahren' (Select login method) page of the eIAM system. At the top left is the Swiss flag logo and the text 'Schweizerische Eidgenossenschaft', 'Confédération suisse', 'Confederazione Svizzera', and 'Confederaziun svizra'. To the right is the 'eIAM' logo. Below the header, the title 'Auswahl Login-Verfahren' is displayed. The main text asks the user to choose a login method and provides a link for more information. A large card for 'CH-LOGIN' is highlighted, featuring the Swiss flag logo, the text 'CH-LOGIN', and the tagline '& bring your own identity eGovernment'. Below the card, the text 'CH-LOGIN (eGovernment)' is visible.



UAS.gate: First Steps

Login – 6 steps

- Account type, contact details
- ID & insurance

Dashboard

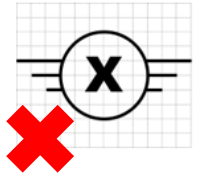
- UAS operator number
- Remote pilot certificates

The screenshot shows the registration process for UAS operators. It features a progress bar at the top with six steps: 1. Benutzerkonto, 2. Art der Registrierung (current step), 3. Kontaktdaten, 4. Identitätsnachweis, 5. Versicherung, and 6. Abschluss. Below the progress bar, the page is titled 'Schritt 2 - Art der Registrierung'. It presents four options for registration type: 'Natürliche Person' with 'Wohnsitz Schweiz', 'Natürliche Person' with 'Wohnsitz innerhalb EU-Mitgliedsstaaten', 'Natürliche Person' with 'Wohnsitz ausserhalb Schweiz und EU', and 'Juristische Person' with 'Firmensitz Schweiz'. Each option includes a brief description and a button to 'Ausgewählt' (selected) or 'Auswählen' (select). A red warning box indicates that the 'Wohnsitz innerhalb EU-Mitgliedsstaaten' option is not available. Navigation buttons 'Zurück' and 'Weiter' are at the bottom.

The screenshot shows the user's dashboard. At the top, it says 'Willkommen in Ihrem persönlichen Dashboard für UAS-Betreiber und Fernpiloten.' The user's name is 'Müller, Max', their 'Fernpiloten-ID' is '-', and their 'UAS-Betreibernummer' is 'CHEey13h8yp2ax0p-8nl'. A central message reads 'Los geht's! Kompetenznachweis A1/A3. Klicken Sie hier, um das Online-Training und die Online-Prüfung für den Kompetenznachweis A1/A3 abzulegen.' Below this, there are four cards representing different sections: 'Kontaktdaten' (Daten vollständig), 'Identitätsnachweis' (Hinterlegt), 'Versicherungsdaten' (Hinterlegt), and 'Benutzerkonto verwalten'.



Transitional Category: Drones without C-Label



Until 2023-12-31

Weight	Certificate	Operation in	Additional operating restrictions
< 250g	Not required	A1	None
< 500g	A1/A3	A1	None
< 2kg	A1/A3 + A2	A2	Horizontal safety distance of at least 50m to uninvolved persons
< 25kg	A1/A3	A3	None

WIP: Exemption to have same restrictions as in regular A2



From 2024-01-01

Weight	Certificate	Operation in	Additional operating restrictions
< 250g	Not required	A1	None
< 25kg	A1/A3	A3	None

Note:
< 2kg drones will fall into the < 25kg class





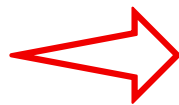
Transitional Period



8-months transitional period: From 01.01.2023 until 31.08.2023

Exemptions from the OPEN category

Flying according to [old national rules](#) **ONLY** for operators who will get an approval



Aim: Allow operators to start preparing for an authorization
Attention: Plan enough time, i.e. 3-4 months for a SORA



Latest information

The screenshot shows the FOCA website with the following elements:

- Navigation tabs: Subjects, Infrastructure, Aircraft, **Drones**, Flight operations, Personnel, Passengers.
- Recent news section (highlighted with a red box):
 - Open category**: A1 (under 250g), A1 (under 900g), A2 (under 4Kg), A3 (under 25Kg), Transitional category, Model aircraft.
 - Specific category**: Standard scenario, PDRA, SORA, LUC, Recognised and qualified entities.
- Support section: Drones map, Drone guide, FAQ, Glossary.
- U-space section.
- UAS GATE section: Swiss registration platform UAS.gate, Help to login.

www.bazl.admin.ch

AltMoC for SORA step 9 is available

Certificates with the EASA logo are available
→ Refresh certificate in UAS.gate

Outlook A2 & STS: Outsourcing?
→ Recognized/qualified entities



Questions & Answers





The End

- Consult FOCA's website frequently for more information.
- Check the drone map before each flight to be aware of the latest flight restrictions
- Subscribe to the "Innovation and Digitalization" newsletter

For any questions: rpas@bazl.admin.ch

THANK YOU