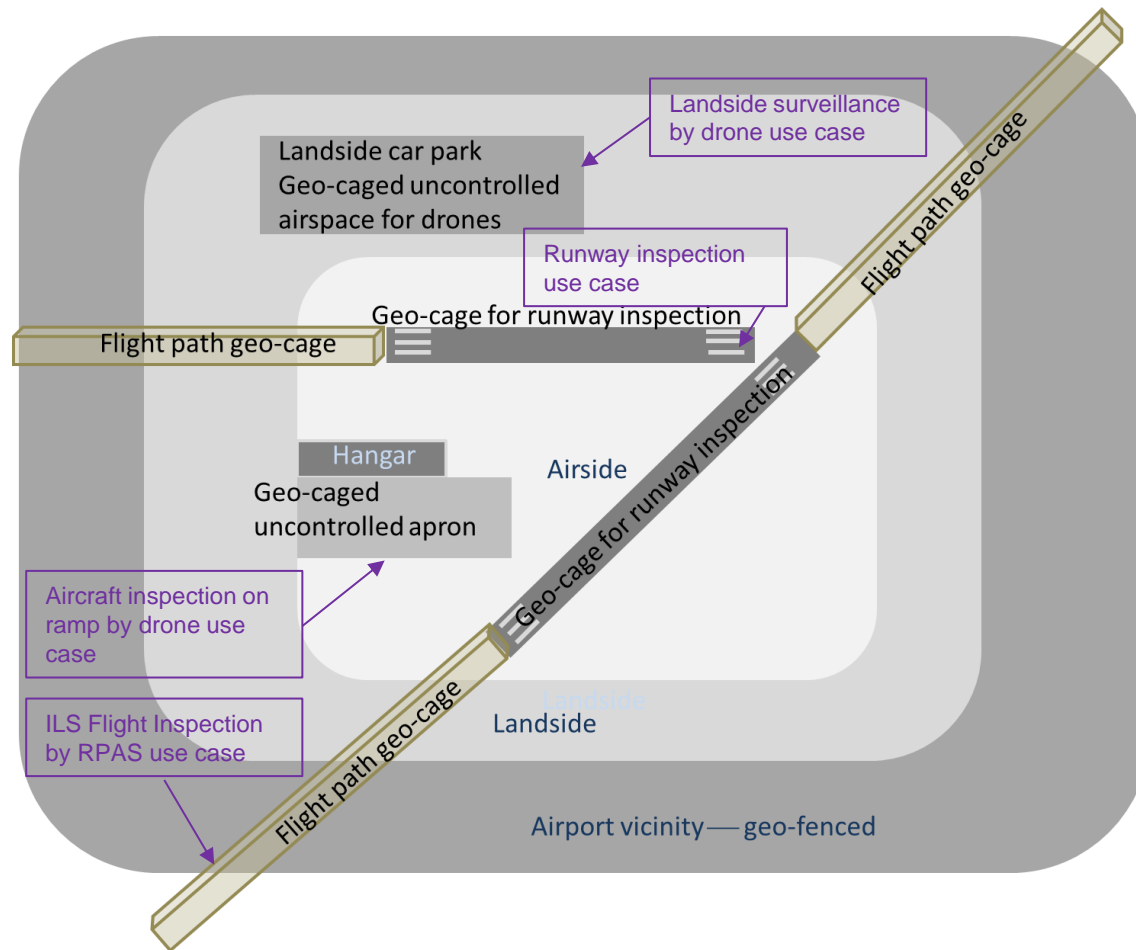




Drones at Airport

UAS in Airport Environment

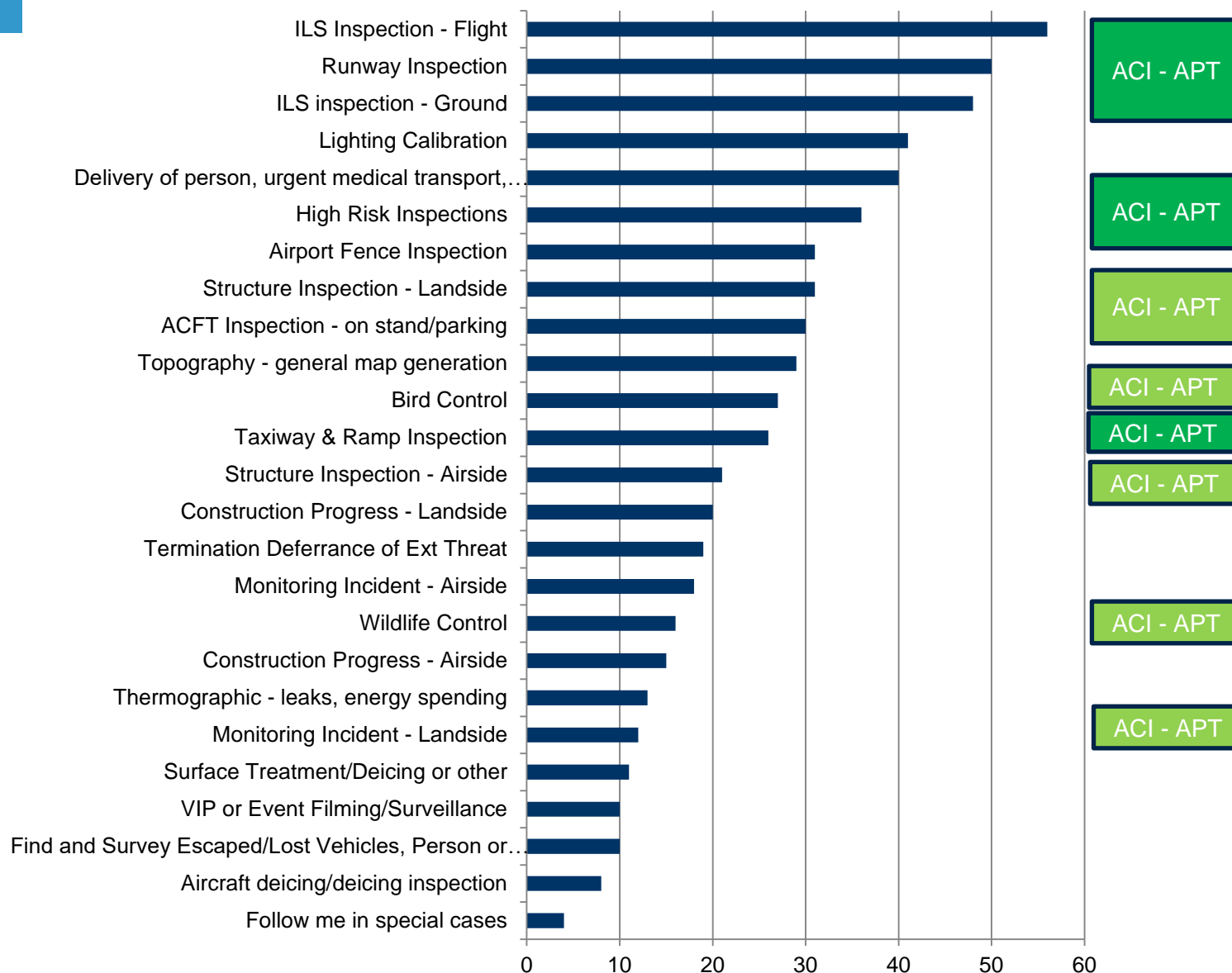


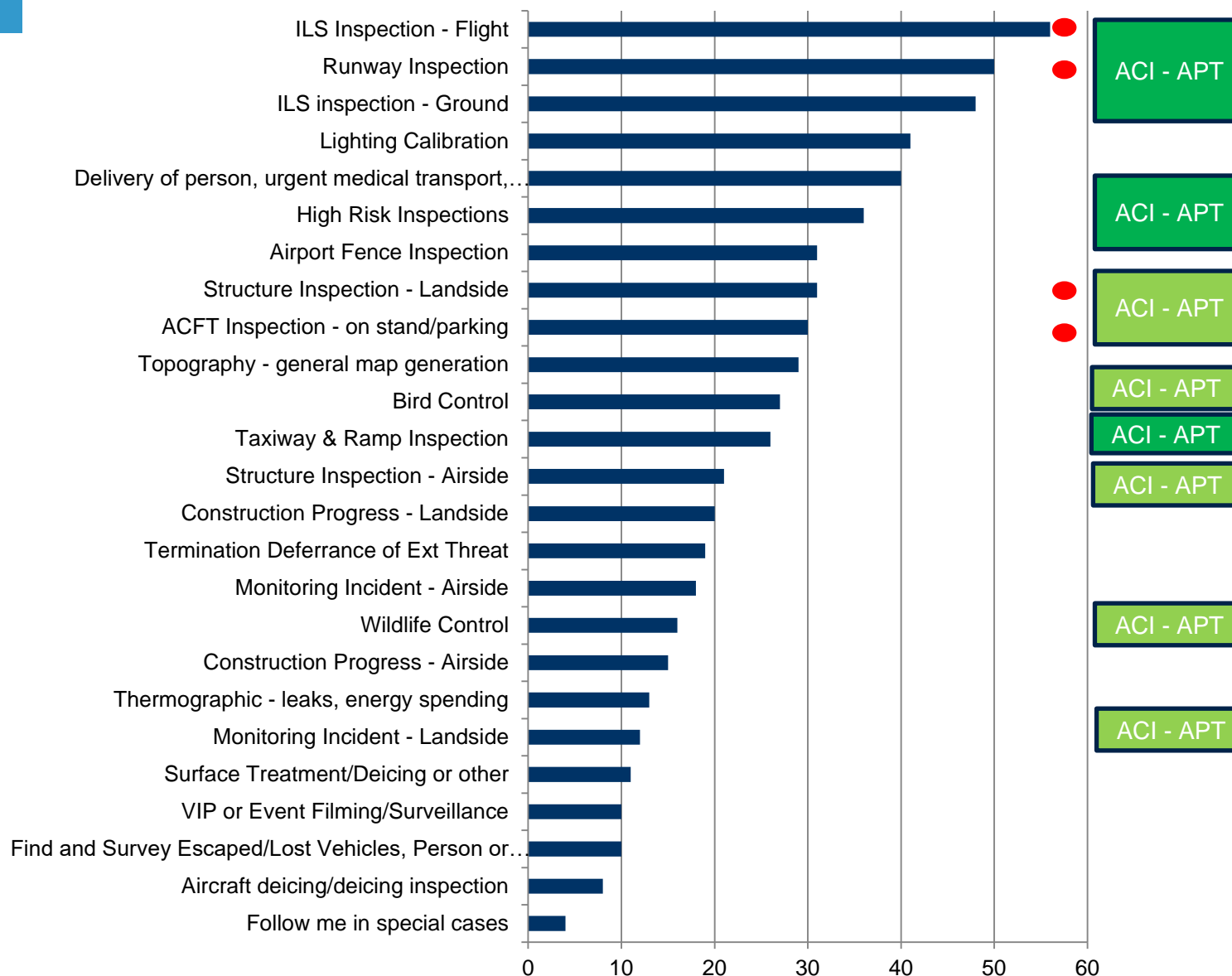
ACI Questionnaire on Drones

Family	Sub Family	Sub Sub Family	ACI airport group 1: 25+ mppa	ACI airport group 2: 10-25 mppa	ACI airport group 3: 5-10 mppa	ACI airport group 4: Below 5 mppa
1.0 Inspections	1.1 Runway		8	4	2	2
	1.2 Taxiway		9	3	2	2
	1.3 Deicing aircraft		3	1	0	0
	1.4 Deicing ground		3	2	0	1
	1.5 Flight aids	1.5.1 ILS	5	2	0	0
		1.5.2 VOR	3	0	0	0
		1.5.3 PAPI	6	3	0	0
	1.6 Lighting (approach, runway, taxiway)		6	3	1	0
	1.7 Buildings		6	2	1	1
	1.8 Fence		7	3	2	1
	1.9 Aircraft		3	0	1	1
	1.10 Incident		6	2	1	1
2. Emergencies	2.1 Fire		5	2	1	2
	2.2 Collision		4	1	1	1
	2.3 Medical assistance		3	0	0	0
	2.4 Command and control video link		5	2	1	1
3. Transportation of goods and humans			1	0	0	0
4. Surveillance service for ATC			0	0	0	0
5. Security uses	5.1 Security surveillance		6	5	1	1
	5.2 Security intervention (hot pursuit)		2	1	0	4
6. Wild life management			7	3	2	2
7. Vehicle flow monitoring			1	0	1	0
8. Videos / pictures for training purposes			5	4	1	1
9. Photography, video and mapping -documentation	9.1 Events		4	2	0	1
	9.2 Incidents		4	4	1	2
	9.3 Accidents		4	3	1	3
	9.4 Marketing & Promotional activities		6	4	1	2
10. Landside services (select below)	10.1 Inspections: Infrastructure		7	4	1	2
	10.2 Inspections: incidents		4	1	0	2
	10.3 Inspections: Accidents		2	0	0	2
	10.4 Surveillance	10.4.1 Surveillance: Road traffic	3	0	0	1
		10.4.2 Surveillance: Security	4	3	0	2
		10.4.3 Surveillance: Parking facilities	3	1	0	0
	10.5 Capacity management	10.5.1 Capacity management: Passenger flow monitoring	2	0	0	0
		10.5.1 Capacity management: Vehicle flow monitoring	2	0	0	0
	10.6 Air-taxi		0	0	0	0
11. Other	11.1 obstacle assesment		0	0	1	0

ACI Summary of Interest

Inspections		109
Landside Services		46
Photo/Video/mapping		42
Emergencies		29
Security uses		20
Wild life Management		14
Video/Pictures training		11
Others:		4





Benefits

Question:

What are the main benefits per service (use cases)? Add the benefits you believe your choice of services will bring

Mainly

- Cost efficiency (with respect to aircraft ops)
- Time efficiency

But also

- Noise reduction (night flights)
- Enhanced quality of services

Concerns

Question:

What are your main concerns? Drone operations might also have adverse impact on the airport operations

Mainly

- Safety, Security and with a correct integration

But also

- Lack of standard procedures
- Impact on capacity
- Approval / legal framework

Regulation information

Question:

Has your competent authority provided adequate regulatory information on how to conduct such operations including an approval process?

- Some regulation information published but focused towards **medium and small airports**,
- but lacking for major airports

Priorities for approved standard scenarios

Question:

The new EU regulatory framework for drones includes the possibility of defining “standard scenarios” involving fast-tracked approvals for drone operations at airports. Which top-3 Standard Scenarios (for drones at airports) should be developed as a priority?

1. Inspections

- Runways, PAPI, Lighting

2. Security

- Buildings, surveillance

3. Wildlife management

External drones at airport

Question:

Un-cooperative drones flown in the vicinity of the airport could endanger the safety and security of aviation.

Who is responsible for detecting and mitigating the threat of external drones at your airport?

No consensus

- 3 main actors :
 1. Airport
 2. ANSP
 3. Police
- **Grey area** as no standard responsibilities defined → **Issue**

Restricted or no-fly zone

Question:

Has a restricted or no-fly zone been set up around your airport in order to protect the safety of aviation?

- Varies 1, 1.5, 3, 5 and 8 km from airport boundary or runway protected area
- No indication of height restriction
- No standard, locally defined by local regulator

Protecting Airports

- **Restricted or no-fly zones at airports vary greatly** from one airport/ Member State to another
- Proposed legislation promotes for such zones but **without any specifications**
- Such **restrictions are essential** to protect safe operations at airports
- **One size doesn't fit all**, but **common approach** is beneficial
- There is lack of clarity on **responsibilities** and **means to handle intruder drones**
- **Geofencing** seems to be the optimal approach

Conclusion

The ACI questionnaires suggest:

- There is a **strong interest in using drones at airport** with few current operations but there are plans and studies
- Benefit mainly in terms of **cost and time efficiency** are foreseen
- **Main airport concerns** are: safety, security and integration but also the lack of standard procedures, unknown approval/legal framework, lack of regulatory information
- Responsibilities for handling **“intruder” drones** are not clear
- There are **no standards** for defining **no-fly zone**
- **Technical solutions** are **not validated / implemented** at many airports

Next Steps

- ✓ In coordination with **ACI** (ACI Task Force),
- ✓ In coordination with **EASA** (safety case buy-in),
- ✓ In coordination with **SJU** (context of CORUS),

EUROCONTROL:

1. To **develop a library of aerodrome/Drone operations Use Cases and associated Safety Cases** (as a basis for stakeholders to develop local implementation procedures and safety cases for regulatory approval)
2. To initiate the **validation of Use Cases** with the support of Airports, ANSPs and drones operators

Next Steps

ACI:

1. To **liaise with EUROCONTROL and other ACI TF members** to develop and validate Use Cases for specific use of drones in an airport environment, taking into account the input and conclusions from the **ACI survey** and **work already done in CORUS**.
2. To approach suitable **member airports** willing to **facilitate Use Case validations** for drones
3. To assist in developing **Guidance Material** how to operate drones at airports (checklists etc)
4. To assist in further developing and promoting the **Cost Benefit Analysis (CBA)** of drone operations, in order to support business cases.

