

Air Corridor

Cherbourg | Alderney | Guernsey

Market analysis | Vertipad Network | Logistics

DragonFlyPads

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Executive Summary



140 km

Total loop
4 segments

81%

Gross margin
per flight (est.)

+£34k

Yr 1 EBIT
(demonstrator)

+£544k

Yr 4 EBIT
(phase 3)

Opportunities

- MoU signed with Edeis : CER infrastructure available
- Constant need for postal services
- Existing demand/Unanswered segment
- Medical & critical market: £30–60/kg (10× letters)
- First mover: no drone operator on this corridor
- Potential for important ROI

Challenges

- Numerous restricted/prohibited airspaces
- Heavy regulatory burden
- Potentially restrictive weather (85 days non-operational)
- Major investment required
- Non-existent framework (GEMS drone procedure to create)

01 Distances & physical feasibility

VP1 (Cherbourg) → VP2 (Alderney)

44 km

30 min

FEASIBLE

Within PW.Orca range (40–50 km)

CER → Guernsey direct

72 km

—

IMPOSSIBLE

Double the max range of PW.Orca: no relay = impossible

VP2 (Alderney) → VP3 (Guernsey)

40 km

25 min

FEASIBLE

Comfortable: natural and mandatory relay for Guernsey

Full loop VP1→VP2→VP3→VP2→VP1

140 km

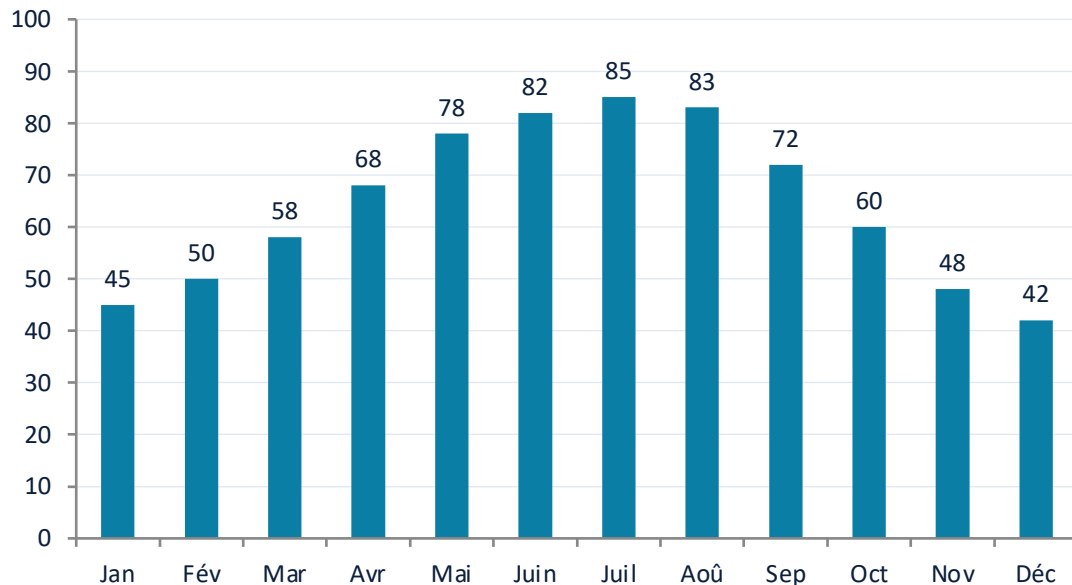
1h50 min

LOOP

4 flights – via Alderney vertipad (mandatory) – 2h20 min with 3 stops (VP2-VP3-VP2)

02 Weather & operational availability

Disponibilité vol estimée par mois (%)



Average winds in the Channel: 20–30 mph, frequent gusts >40 mph in winter



Fog & reduced visibility: frequent in autumn-winter, incompatible with standard operations



Year-round rain: drone must be IP-certified for maritime operations



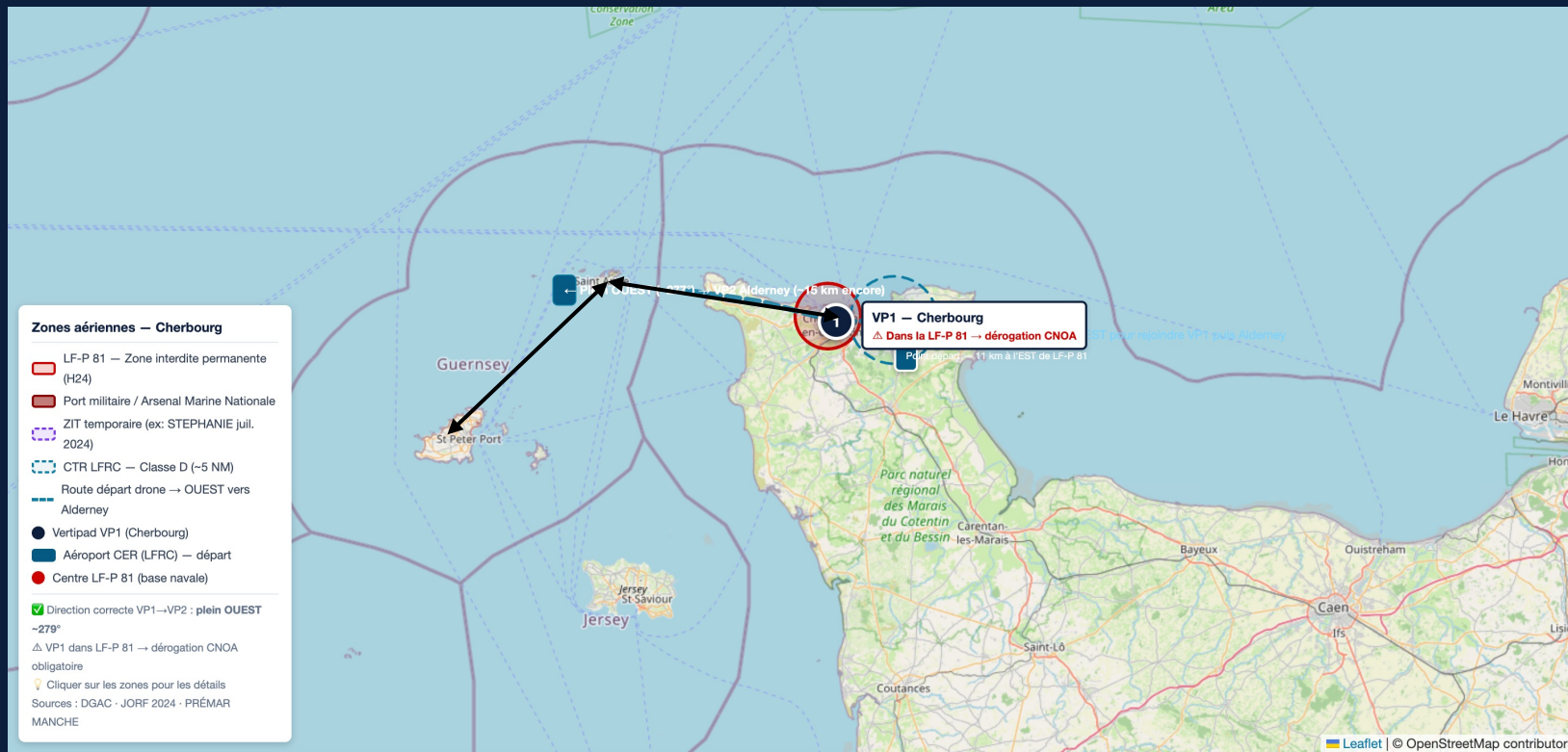
Summer (May–Aug): favourable conditions, ideal for demonstrator phase



Route 100% over water: no terrain turbulence, predictable conditions

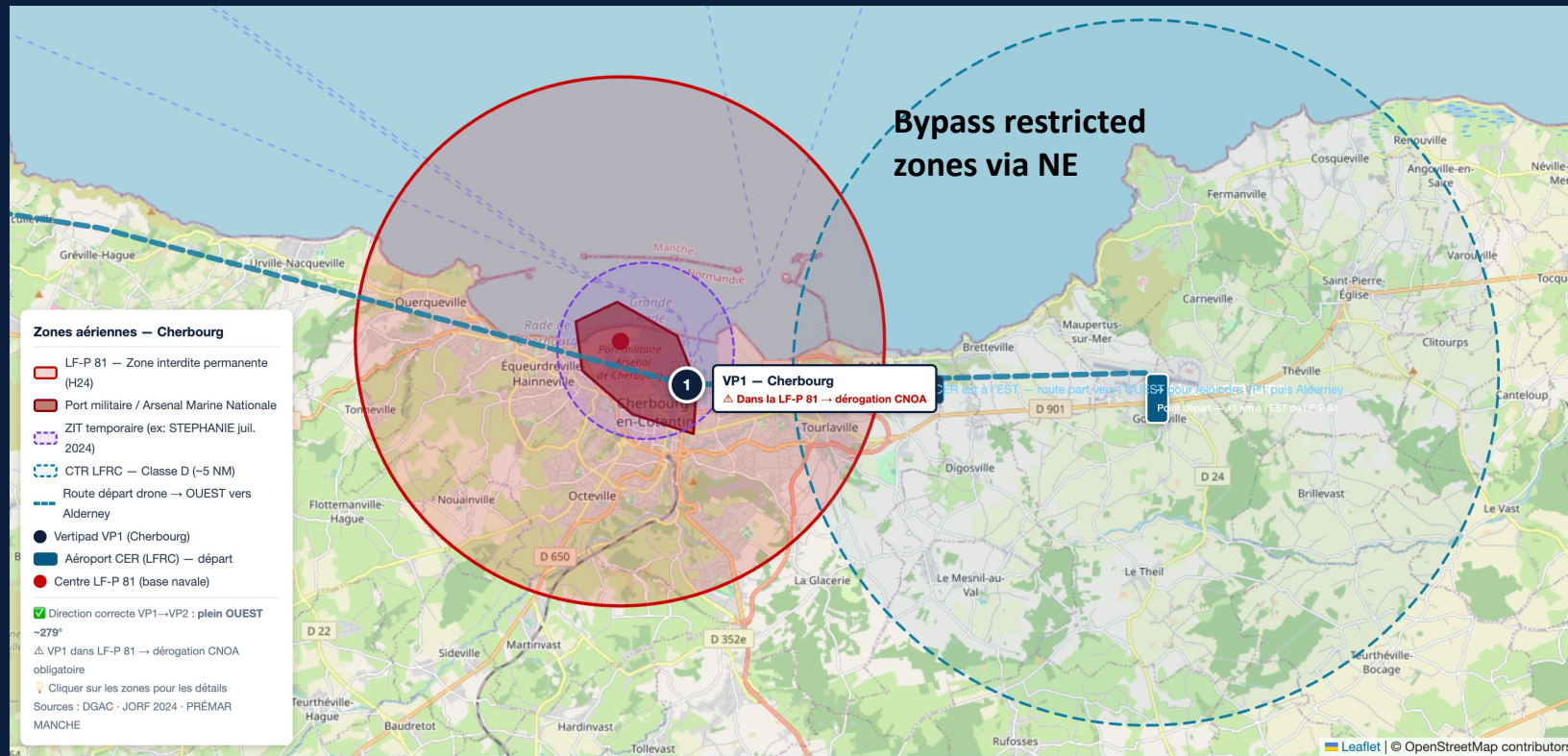
Question : What is the max wind speed the PW.Orca may withstand? If >15 m/s, corridor can operate year round
If <10 m/s, operations may be complicated if not impossible in winter

03 Operational loop



VP1 = Cherbourg | VP2 = Alderney | VP3 = Guernsey | ● = LF-P 81 center (prohibited zone H24, r=6km)

04 Cherbourg restricted airspace



05 Vertipad demonstration



06 Regulations & airspaces

LF-P 81 Cherbourg

- Permanent prohibited zone — 6 km radius (3.24 NM)
- Vertically: surface (SFC) to FL195 (5,943 m) — covers all drone low altitude
- Entry prohibited to all drones except: IFR procedure LFRC, SAR missions, CNOA waiver $\geq 48h$
- NE route to CER bypasses the zone ✓

Temporary ZIT: PRÉMAR MANCHE

- Temporary Prohibited Zones activatable at any time
 - Ex: ZIT STEPHANIE (11 Jul. 2024): submarine Tourville
- Check NOTAM + SUPAIP before each flight

CTR Cherbourg-Maupertus

- Class D - 5 NM radius around LFRC
- CER located 11 km EAST — outside prohibited zone
- NE departure route bypasses LF-P 81
- Coordination Cherbourg Info 119.630 MHz mandatory

DCA Channel Islands

- ATZ Alderney (EGJA): 2 NM · mandatory coordination
- CTR Guernsey (EGJB) · UK CAA framework (post-Brexit)
- CNOA waiver: derog-zones.defense.gouv.fr
- Separate framework EASA & UK CAA

07 Liability insurance: legal obligations & pricing

Legal obligation (Reg. EC 785/2004)

- Third-party liability mandatory for all professional operators (DGAC)
- **Assurance civile:** Couverture minimale : 750 000 DTS ≈ 1 million €
- Policy must explicitly cover BVLOS flights
- Maritime coverage recommended: flights over the sea
- Check exclusions: strong winds, electronic failures, special payloads

Points d'attention BVLOS maritime

- Exiger mention explicite "BVLOS maritime" dans les conditions
- Specialist drone insurers: Coverdrone, DroneAssur/Franssur, AXA Pro
- Multi-drone on single policy = economies of scale
- Ajouter "perte d'exploitation" si SLA avec logisticien
- Check strong wind exclusion clause — critical for the Channel

Leisure liability (not applicable)

€30-80/yr

Outside professional scope

Standard professional liability

€150-270/yr

Drone <20 kg, standard operations

BVLOS / maritime professional liability

€800-2,500/yr

BVLOS coverage + maritime zones

Multi-drone (2 PW.Orca)

€2,000-5,000/yr

Project fleet estimate (to be negotiated)

08 Operational model: vertipads & rotations



Infrastructure: 3 vertipads

Site	Role	Infrastructure	Est. CAPEX	Main constraint
VP1 - Cherbourg	Departure/return hub	Port freight zone / CER airport (MoU Edeis ✓)	10k€	LF-P 81 waiver via CNOA (48h min)
VP2 - Alderney (EGJA)	Relay VP1↔VP3 + local delivery	Airport zone / Braye Harbour port	10k€	DCA Channel Islands permit — ATZ 2 NM
VP3 - Guernsey (EGJB)	Main terminus (64,000 inhabitants)	Guernsey Airport freight zone	10k€	DCA permit + GEMS procedure (GCI customs)

Fleet sizing by throughput

Phase	Loops/day	Letters/day	Active drones	Maintenance	Vertipads	Gross rev/day (£)
Demonstrator	2	200	1	—	VP1+VP2	~£ 280
Phase 1	4	400	2	1 rotating	VP1+VP2+VP3	~£ 560
Phase 2	8	800	3	1 rotating	VP1+VP2+VP3	~£ 1,120
Phase 3	12	1 200	4	1 in maintenance	VP1+VP2+VP3	~£ 1,680

Length full loop : 2h 20 min. **1 drone** = max 4–5 loops/day (daylight ~10h). 2nd drone required beyond this.

Cargo : 50 letters/flight, £2/letter = £200/loop at full capacity. Here, 70% avg capacity (e.g. 2×200×70%=£280)

Attention :4 loops per drone per day = 10 hours daily flight. Only possible in suitable periods. Otherwise 3 loops/day

09 Financial analysis



Assumptions

- Cost per flight (one-way VP1→VP2 or VP2→VP3): €15 / £13 — energy + maintenance + depreciation + insurance (estimate)
- Target cargo: mix letters/priority mail — average revenue: £70/flight (€80)
- Revenue/flight: 50 letters × £2 × 70% = £70 | Revenue/loop: 4 × £70 = £280 | Variable cost/loop: 4 × £13 ≈ £52 | Gross margin: £228 (81%)
- Operational days/year: 250 (Channel weather, maintenance, regulatory constraints)

Projected P&L (k£/year - base 250 days)

Line	Demonstrator (1 drone/2VP) 2 loops/day	(CER-ALD)	Phase 1 (Full loop) (2 drones/3 VP) 4 loops/day	Phase 2 (Full loop) 3 drones/3 VP) 8 loops/day	Phase 3 (Full loop) (4 drones/3 VP) 12 loops/day
Revenue — £70/flight		140 k£	280 k£	560 k£	840 k£
Variable cost (£13/flight ≈ €15)		– 26k£	– 52 k£	– 104 k£	– 156 k£
Gross profit (Revenue – variable costs)		114 k£	228 k£	456k£	684 k£
Fixed annual OPEX ①		– 80 k£	– 100 k£	– 120 k£	– 140 k£
Operating result (EBIT)		+34k£	+128k£	+336k£	+544k£
Cumulative CAPEX ②		170k£ (145k£)	280k£ (239k£)	380k£ (325k£)	480k£ (410k£)
Payback period		4.3 yrs	1.9 yrs	<1 yr	<1 yr

① Annual fixed costs, non-cumulative: (insurance, staff, certification, waivers) | ② Cumulative CAPEX = X drones × €100k + Y vertipads × €10k + €50k cert./software

Revenue = gross receipts - Gross profit = Revenue - variable costs - EBIT = Gross profit - fixed overhead

10 Cargo strategy analysis

Letters are the most profitable “regular cargo” while medical and urgent cargo have very high returns, although rarer

Type	Weight	GP price	Units/15 kg	Max rev /flight	£/kg	Attractiveness
Standard letter	250 g	£ 2,00	60	£ 120	£ 8,00	★★★★★
Large envelope	500 g	£ 3,50	30	£ 105	£ 7,00	★★★★☆
Mix 40 letters + 5 kg parcel	10+5 kg	£ 90,00	1 mix	£ 90	£ 6,00	★★★★☆
5 kg parcel	5 kg	£ 10,00	3	£ 30	£ 2,00	★★★☆☆
10 kg parcel	10 kg	£ 14,00	1	£ 14	£ 1,40	★★☆☆☆
Medical urgency (premium)	≤ 5 kg	£ 80–150	1–2	£ 80–300	£ 30–60+	★★★★★

GP = Guernsey Post (public prices). Parcels >15 kg impossible (max drone weight). Priority use cases: medical logistics, critical spares, sovereign supply — then letters & parcels.

✓ Medical & critical: highest-value use case

- ✓ Médical & critique : £30–60/kg — jusqu’à 10× le tarif lettre
- ✓ Sovereign & offshore wind: critical parts to isolated infrastructure — no alternative
- ✓ Letters: £8/kg vs £2/kg parcels — 4× ratio, predictable weight, optimised payload
- ✓ Regular flow: subscriptions, invoices, pharmacy, admin — scalable base load

✗ 5–10 kg parcels: minimise

- ✗ 3 parcels × 5 kg = £30 only — 4× less profitable than 60 letters
- ✗ Weight irrégulier → sous-utilisation fréquente de la charge utile
- ✗ Large volumes better handled by Condor ferry: drone = emergencies only
- ✗ Reserve for one-off critical cases, never as regular volume

11 Customs: France → Alderney → Guernsey

Recap: Major customs challenges (port of entry | tax | declaration of goods | searches & inspections)

Export France: DGDDI

- Authority: French Customs (DGDDI) + DGAC for the flight
- Advantage: customs infrastructure already in place at Cherbourg-Maupertus + MoU signed with Edeis (airport operator)
- Mandatory EU export declaration before departure (DAE/ECS via DELTA-G)
- Goods must be cleared BEFORE the flight — no post-flight regularisation
- Approved logistics operator required on French side (DPD, customs freight forwarder)
- Phytosanitary/veterinary check if foodstuffs — to be verified product by product

Alderney: Guernsey Customs & Immigration (GCI)

- Authority: GCI (Guernsey Border Agency), same body as for Guernsey
- Post-Brexit (Jan. 2021): France = third country, mandatory import declaration
- GEMS system: electronic declaration before drone arrival
- Import duty applicable on goods from France (outside UK/Jersey/IoM customs territory)
- Entry points: Alderney Airport (EGJA) ou Braye Harbour.
- “ Drone » category to be created
- GCI customs officers not permanently based on Alderney. Prior coordination required

Guernsey: Guernsey Customs & Immigration (GCI)

- Customs union UK/Jersey/Isle of Man
France = third country, import duties applicable
- GEMS : all imported goods must be declared as "unaccompanied goods"
- TARIC code required for each category of goods transported by drone
- Import duty = value + freight France→first UK customs territory port × TARIC rate
- Points d'entrée officiels : St Peter Port Harbour, Guernsey Airport (EGJB)

Action clé : Contacter la GBA pour créer une procédure "livraison drone" dans GEMS, démarche inexistante. La douane Cherbourg existante côté France est un atout majeur.

12 DragonFlyPads Platform : Infrastructure, UTM, SaaS



DragonFlyPads is more than a drone operator. It possesses the infrastructure required to deliver a scalable and replicable drone delivery network.

Vertipad Network

Certified, standardised vertipad infrastructure deployable at ports, airports and logistics hubs across Europe.

Cherbourg Alderney is the first step towards a scalable drone delivery model.

Mission Orchestration

End-to-end flight planning, scheduling and real-time monitoring. Automated conflict resolution, weather gating and payload manifests.

UTM Integration

Native integration with EASA U-Space / UK CAA UTM frameworks. Automated NOTAM ingestion, real-time airspace deconfliction and regulatory reporting via API.

SaaS & Interoperability

Open API platform connecting drone operators, logistics partners and port authorities. One integration point for multi-operator corridors.

The Cherbourg–Alderney–Guernsey corridor will act as a pilot project for a commercially viable and replicable drone delivery model.

The infrastructure established through this project can then be deployed across island corridors throughout Europe.

13 Conclusions & next steps

What works

- ✓ CER (LFRC) EAST of LF-P 81 = clear NE departure route
- ✓ Customs infrastructure already in place in Cherbourg + MoU signed with Edeis
- ✓ First mover: no drone competitor. Scalable corridor model replicable across Europe
- ✓ Letters = £8/kg vs £2/kg parcel: 4x higher ratio
- ✓ Medical / offshore wind : multiplier 3-10x

Blockers

- ✗ Many prohibited/heavily restricted airspaces
- ✗ Direct Guernsey impossible (85 km): VP2 relay (ALD) mandatory
- ✗ Channel weather: 30–40% lost days in winter
- ✗ CAPEX 170–480k€ by phase: funding to secure
- ✗ Non-EU customs: GEMS procedure to create with GCI
- ✗ BVLOS maritime insurance: €800–5,000/yr to validate

Important next steps

- 1 Confirm specs PW.Orca (max wind, IP rating), critical for operations during winter. Price of drone, costs per flights and other financials.
- 3 Contact GCI to create a drone procedure for GEMS (*Guernsey Electronic Manifest System*)

- 2 Apply for authorisation for LF-P 81 via CNOA : *derog-zones.defense.gouv.fr* , at least 48h before flight
- 4 Negotiate the installation of VP2 (Alderney) with local airport: mandatory condition for Guernsey

DragonFlyPads

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Sissel Thorstensen
CEO

+ 33 6 16 64 68 85

Sissel.Thorstensen@dragonflypads.com

oscar.mcqueen@dragonflypads.com | www.dragonflypads.com

