



BUSINESS PLAN · INDIA

Ground-Handling Services

The cause and the discovery happen in different places, so instrument the cause rather than argue about the effect

AVIATION AND AEROSPACE SERVICES

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This document is confidential and prepared for planning purposes. All financial figures are illustrative model assumptions for an Indian MSME context and must be validated against live quotes, local rates and professional advice before any investment or borrowing decision.

1. Executive Summary

This plan sets out a **Ground-Handling Services** business at four Indian airports — ramp and full handling, passenger and terminal services, cargo and mail, into-plane and third-party GSE maintenance, and a ramp-safety systems line sold to other handlers. By Year 3 it handles **6,120 turnarounds** across a fleet of **148 ground support units** with **167 ramp agents**, and sells **₹42.00 crore**.

This plan is the third in vertical 57 and **inherits the ten aviation anchor rules (a)-(j)** set out in §17 of the drone services plan.

Item	Detail	Year 3
What is sold	Ramp and full handling for scheduled domestic carriers, passenger and terminal services, cargo and mail handling, into-plane and GSE maintenance for third parties, international and wide-body handling, and contact-logging systems and training sold outward	₹42.00cr
Turnarounds / GSE / stations	5,700 domestic and 420 international; 360,000 passengers; 24,000 tonnes	6,120; 148; 4
PAT / net margin	A volume business on thin margins and heavy equipment	₹1.71cr / 4.1%
ROCE on ₹16.00cr	GSE fleet, contact detection, workshop, training simulator	19.5%
Contact events logged / of which the operator did not notice	The sensor knows something the driver genuinely did not	214 / 171
Damage paid on attributed liability against the contractual cap	One event, and we are the only party who knows it was ours	₹1.34cr vs ₹0.28cr

□ THE CAUSE AND THE DISCOVERY HAPPEN IN DIFFERENT PLACES. A belt loader touches a fuselage at one airport; the aircraft flies three sectors; an engineer finds the crease that night at a fourth, and raises the report there. THE PARTY WHO CAUSED IT DOES NOT KNOW, THE PARTY WHO FINDS IT CANNOT PROVE WHO, AND ATTRIBUTION RUNS BACKWARDS THROUGH TURNAROUND RECORDS THAT WERE NEVER DESIGNED TO ATTRIBUTE ANYTHING.

So the industry settles by contract instead of by cause. Standard ground-handling agreements cap the handler's liability, which means a handler with poor ramp discipline pays almost exactly what a handler with excellent discipline pays. THE INDUSTRY HAS SOLVED AN ATTRIBUTION PROBLEM BY AGREEING NOT TO ATTRIBUTE — AND IN DOING SO HAS REMOVED THE ONLY MECHANISM THAT WOULD EVER REWARD PREVENTION.

2. Business Description, Vision & Legal Structure

A private limited company holding ground-handling concessions at four airports, operating ramp, passenger and cargo services with its own GSE maintenance workshop, contact-detection telemetry and training centre.

Element	Position
Legal form	Private limited company; ground-handling concession or licence from each airport operator; BCAS security clearance and AVSEC-trained staff; DGCA requirements applicable to ground handling; airport airside driving permits
Where the money is made	Domestic ramp handling is 38% of revenue and the thinnest margin; cargo, into-plane, GSE maintenance and the systems line carry the profit
What is different	Every ground support unit logs contact, every turnaround is imaged before and after, and we accept liability our own data attributes to us
Vision	A handler whose ramp record is a measured quantity rather than a claim, in an industry that has agreed not to measure it

Why this shape	Reasoning
Contact detection on every GSE unit	A 3.5-tonne loader contacting an aluminium skin at walking pace produces no sensation in the cab. The sensor is not checking on the driver — it is telling him something he has no way of knowing
Attributed liability instead of the contractual cap	The cap is what makes prevention worthless. Accepting uncapped liability for damage our own logging attributes to us is the only way to convert ramp discipline into a price
Ramp pay above the station median	The people with their hands on the asset are the lowest-paid at the airport and the highest-turnover; that is not a coincidence and it is not free to fix
Systems and training sold outward	The telemetry and the investigation capability are built for ourselves and no small handler can develop them

3. Promoter & Ownership

Item	Position
Promoter	Twenty-one years in airline and handler operations, nine of them as a station manager; spent four years signing damage reports raised at his station for events he was fairly sure had happened somewhere else
Promoter equity	₹5.76cr of the ₹16.00cr project cost (36%), unsecured and not withdrawable during the loan term
Ownership	Promoter and family 66%; ESOP and key staff 20%; aviation investor 14%
Governance	A contact event recorded by telemetry is investigated, and no disciplinary consequence attaches to the operator for the event itself — only for failing to report one he did know about. The investigation line reports to safety, not to the station manager whose numbers it affects

That separation is anchor rule (g) and it is load-bearing here in a specific way. **Our own telemetry produces evidence against us — 214 contact events a year, of which 19 became reportable damage. A SYSTEM THAT GENERATES PROOF OF ITS OWNER'S LIABILITY WILL BE SWITCHED OFF, DISPUTED OR QUIETLY DEGRADED UNLESS SOMEBODY WHOSE JOB IT IS NOT TO MIND OWNS IT.**

4. Market Analysis — India

Segment	What drives it	Position taken
Scheduled domestic ramp and full handling	Fleet growth, new airports and route expansion; contracts are multi-year, price-led and concentrated in a few carriers	5,700 turnarounds at ₹28,000
Passenger and terminal services	Check-in, boarding, special assistance and lost baggage; labour-intensive and volume-driven	360,000 passengers at ₹210
Cargo and mail handling	Express and e-commerce growth, perishables, and dedicated freighter operations	24,000 tonnes at ₹2.80/kg
International and wide-body	Higher fee, higher scope, and the segment where a handler's damage record is actually examined	420 turnarounds at ₹1.10 lakh
Into-plane, GSE maintenance and systems	Third-party equipment servicing and, increasingly, contact-logging retrofits for other handlers	60 GSE units fitted at ₹3.50 lakh

What a contact event looks like from each side

Party	What they experience
The loader operator	Nothing at all
The turnaround supervisor	Nothing
The departing crew	Nothing; it is out of sight
An engineer, three sectors later	A 40 mm crease
Whose paperwork it lands on	Whoever is standing there

Indian aviation is adding aircraft and airports faster than almost any market on earth, and ground handling grows with it mechanically. IT IS ALSO A BUSINESS TENDERED ALMOST ENTIRELY ON PRICE PER TURNAROUND, BECAUSE THE ONE DIMENSION ON WHICH HANDLERS GENUINELY DIFFER — HOW MUCH DAMAGE THEY CAUSE — IS A QUANTITY NO AIRLINE CAN ATTRIBUTE AND THEREFORE CANNOT PUT IN A TENDER.

5. Competition & Position

Competitor type	What they do well	Where the gap is
National ground-handling majors	Scale, airport relationships, equipment depth, genuine operational competence at large stations	Liability settled at the SGHA cap like everybody else; damage is a cost of doing business rather than a measured output
Airline self-handling units	Alignment of interest — the airline damaging its own aircraft bears the whole cost	Only viable at base stations; the economics do not work across a network
Small local handlers	Cheap, flexible, embedded at regional airports	Thin equipment, high attrition, no telemetry; the damage they cause is genuinely invisible to them
Airport operators' own units	Concession advantage and infrastructure access	Same measurement gap; incentives shaped by throughput rather than by damage

This business	Contact telemetry, pre/post imaging, attributed liability and a paid, retained ramp workforce	Positioned on a difference the tender cannot score and the contract is written to ignore
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The competitive problem is unusually pure. Our advantage is that we cause less damage and can prove which damage is ours — **AND THE STANDARD CONTRACT MAKES BOTH FACTS COMMERCIALY IRRELEVANT**, because the airline's recovery is capped either way and it has no means of comparing handlers on a number nobody produces. We are therefore selling to the few carriers who track damage internally and can see what their own engineering costs look like station by station.

6. The Cause and the Discovery Happen in Different Places

This is the finding, and it concerns damage whose origin is real, traceable in principle, and untraceable in practice.

Stage	Where	Who
Contact occurs	Station A, 06:12	Our loader
Aircraft departs	Station A, 06:40	Nobody noticed
Three further sectors	B, C, D	Three other handlers
Damage found	Station D, 21:40	A different company's engineer
Report raised against	Station D	Whoever is there

Ground support equipment strikes aircraft constantly and almost always gently: a belt loader, a catering hi-lift, a cargo loader, a boarding bridge, a pushback tug. A three-and-a-half tonne loader contacting an aluminium skin at two kilometres an hour transmits nothing to the cab — **THE OPERATOR IS NOT CONCEALING ANYTHING, HE GENUINELY DID NOT FEEL IT**. The aircraft then flies three sectors, and the crease is found that night by an engineer working for a different company at a different airport, who raises the report where he is standing.

Attribution then has to run backwards through four turnarounds handled by three companies, using records that were built to prove a turnaround happened rather than to prove who touched what. **THE PARTY WHO CAUSED IT DOES NOT KNOW, THE PARTY WHO FOUND IT CANNOT PROVE WHO, AND THE COST LANDS WHEREVER THE PAPERWORK STOPS.**

So the industry does the only sensible thing available to it and settles by contract instead of by cause. The standard ground-handling agreement caps the handler's liability and requires gross negligence to be shown, which is unprovable when nobody can even establish location. The airline absorbs the residue and prices it into the handling rate — for every handler equally. **AND THAT IS THE DEFECT: A HANDLER WITH EXCELLENT RAMP DISCIPLINE AND ONE WITH POOR RAMP DISCIPLINE PAY ALMOST THE SAME AND ARE CHARGED ALMOST THE SAME. THE MARKET CANNOT PAY A PREMIUM FOR A SAFE HANDLER BECAUSE IT CANNOT IDENTIFY ONE, SO NOBODY CAN AFFORD TO BE ONE.**

The remedy is to instrument the cause rather than argue about the effect. **ALL 148 GROUND SUPPORT UNITS CARRY CONTACT DETECTION AND EVENT LOGGING — time, unit, position, closing speed — AND EVERY TURNAROUND IS PHOTOGRAPHED BEFORE AND AFTER**, so the aircraft's condition on arrival and departure is a

record rather than a memory. 214 contact events were logged in Year 3 AND 171 OF THEM WERE NOT NOTICED BY THE OPERATOR AT THE TIME — four in five — of which 19 became reportable damage. And the commercial half that makes it bite: WE CONTRACT ON ATTRIBUTED LIABILITY RATHER THAN THE CAP, paying ₹1.34 crore in Year 3 against a contractual exposure of ₹0.28 crore. GENERAL RULE: WHERE THE CAUSE AND THE DISCOVERY HAPPEN IN DIFFERENT PLACES, THE INDUSTRY WILL SETTLE BY CONTRACT INSTEAD OF BY CAUSE — AND THE MOMENT IT DOES, PREVENTION STOPS BEING WORTH ANYTHING. SO INSTRUMENT THE CAUSE.

7. The Lowest-Paid People and the Most Expensive Asset

The second thread explains where the contact events come from, and it closes a loop with the first.

Item	Position
Ramp agent monthly pay, industry	₹16,000-24,000
Value of the aircraft he works against	₹300-500 crore
Cost of a serious ramp strike	₹40 lakh to ₹2 crore
Annual ramp attrition, industry	40% to 70%
So the operator is very often	In his first six months

The people whose hands are on the equipment are the lowest-paid at the airport and the fastest-leaving. Ramp work is shift-based, outdoors, monsoon-exposed and at the bottom of the airside pay scale, and annual attrition of forty to seventy per cent is ordinary — WHICH MEANS THE PERSON DRIVING A LOADER AGAINST A THREE-HUNDRED-CRORE AIRCRAFT IS FREQUENTLY IN HIS FIRST SIX MONTHS OF EVER HAVING DONE IT. In Year 3, 61% of our own contact events were caused by agents with under six months' service, down from 78%.

Now put the two threads together, because they form a closed loop. THE LIABILITY CAP REMOVES THE REASON TO PAY THE RAMP AGENT MORE, AND THE LOW PAY PRODUCES THE DAMAGE THE CAP ABSORBS. Each half is individually rational and the pair is self-sustaining: no handler can justify a wage premium for an outcome no customer can measure, and no customer can measure an outcome no handler is instrumented to produce.

Breaking it costs money in one direction before it earns any in the other. Ramp pay is set at 136% of the station median, equipment-type licensing carries pay progression so tenure is worth something, and nobody operates live equipment before a low-speed manoeuvring simulator sign-off. Attrition fell 58% to 24% and median tenure went from 11 months to 31; the programme costs ₹1.01 lakh per ramp agent per year, ₹1.68 crore in total — WHICH IS MORE THAN THE ENTIRE YEAR'S ATTRIBUTED DAMAGE BILL, AND IS SPENT PRECISELY SO THAT THE DAMAGE BILL IS SMALL.

8. Operations Plan (brief, image, handle, log, investigate)

- **Brief.** Turnaround plan by aircraft type with equipment positions and approach paths; airside driving permits and type licences checked at roster, not at the stand.
- **Image.** Photographic sweep of the aircraft on arrival and again before departure, time-stamped and retained — the comparison is the evidence, not the report.
- **Handle.** Contact detection and speed governors active on all GSE; approach to the aircraft under a defined speed with the sensor armed.

- **Log.** Every contact event recorded automatically with unit, time, position and closing speed, whether or not anybody felt it; self-reported events carry no penalty.
- **Investigate.** Safety investigates every event independently of the station manager, and damage our own data attributes to us is accepted on uncapped liability.

Step	What is recorded	Why
Roster	Type licence and airside permit currency	Rule (f): duty limits set the relief factor
Imaging	Aircraft condition arrival and departure	100% of 6,120 turnarounds
Contact log	Unit, time, position, closing speed	214 events; 171 unnoticed
Investigation	Cause, agent tenure, equipment state	Reports to safety, not the station
Settlement	Attributed liability, not the cap	₹1.34cr against ₹0.28cr

The operational hinge is a single event and it is the whole of the ₹1.06 crore excess. At 06:12 a belt loader touches the fuselage below the forward cargo door at Station A. The operator feels nothing. The aircraft flies three sectors and at 21:40 an engineer at Station D finds a 40 millimetre crease and raises a report there. Under the standard agreement it settles at the cap: ₹28 lakh against a repair and disruption cost of ₹1.34 crore, and nobody ever learns which loader it was. Our telemetry says: unit 41, Station A, 06:12:34, contact at 2.1 km/h, forward lower fuselage. We pay the ₹1.34 crore. AND WE ARE THE ONLY PARTY WHO KNOWS. WE COULD HAVE SETTLED AT ₹28 LAKH AND NOBODY WOULD EVER HAVE DISCOVERED OTHERWISE — INCLUDING THE OPERATOR OF UNIT 41, WHO STILL DOES NOT BELIEVE HE TOUCHED IT.

9. Concession, Security & Airside Compliance (India)

Area	Requirement
Ground-handling authorisation	Concession or licence from each airport operator, with the number of handlers per airport limited by policy and by the operator's own tender. Anchor rule (b): the concession is the asset, and its scope and renewal set the revenue ceiling regardless of demand
Security	BCAS approval, AVSEC training and periodic re-certification for all airside staff, background verification and airport entry permits; a lapsed permit removes an agent from the roster instantly
Airside operations	Airport operator's airside driving permits and type authorisations, apron safety rules, FOD control, and equipment serviceability standards
Liability	Ground handling agreements based on the IATA standard form, whose liability provisions limit the handler's exposure and require gross negligence to be established. Under rule (d) insurance is priced on the operator's own record, so the record is worth building even where the contract caps it
Labour	Contract Labour Act, Minimum Wages, EPF, ESI, shift and overtime rules; a large, young, high-turnover workforce with statutory obligations that scale with it
Equipment	GSE serviceability, emission and airside roadworthiness standards; imported equipment and spares under anchor rule (h)
Tax	Fully taxable business income; GST on handling services; concession fees to the airport operator, which are revenue-linked and revisable

What the framework reaches	What it does not
Who may work airside and with what training	How much damage a handler causes
Equipment serviceability standards	Whether contact is detected at all
Security clearance and permits	Ramp pay, tenure or experience distribution
The form of the handling agreement	Any obligation to attribute damage to a cause

The regulation here is strong on security and on who may be airside, and silent on the thing that actually costs money. THERE IS NO REQUIREMENT ANYWHERE THAT A HANDLER DETECT, RECORD OR REPORT AIRCRAFT CONTACT — and the contract that governs the commercial relationship is drafted on the assumption that attribution will fail. A handler causing four times our damage is fully compliant and will bid lower.

10. Organisation & Manpower Plan

Function	Yr 1	Yr 3	Note
Managing director	1	1	Cannot overrule a safety attribution
Ramp agents	106	167	Derived under rule (f): 4 stations × 3 shifts × 9 per shift × 1.55 relief factor = 167.4
Passenger service agents	62	96	360,000 passengers
Cargo handling staff	48	74	24,000 tonnes
GSE technicians and workshop	24	38	148 units plus third-party work
Station supervisors and duty managers	21	32	Four stations, three shifts
Sales, contracting and administration	11	16	—
Finance, HR and payroll	9	13	A 462-person payroll
Ramp safety, contact investigation and imaging	8	14	Reports to safety, not to the station
Training and licensing	7	11	Simulator sign-off before live equipment
Total	297	462	6,120 turnarounds; 148 GSE; 4 stations

The 14 people in ramp safety, contact investigation and imaging are the commitment made flesh, and their output is evidence against their own employer. Their salaries are ₹0.38 crore — ₹2.71 lakh average CTC across 14 — with ₹0.20 crore for investigation, analysis and the reporting system. **Contact logging and imaging cost ₹1,765 a turnaround, or 6.3% of a ₹28,000 domestic handling fee; the ramp pay programme costs ₹1.01 lakh per agent per year.**

11. Implementation Timeline & Milestones

Phase	Months	Milestone
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Concessions and finance	0-10	Ground-handling authorisation at the first two airports, BCAS approvals, equipment finance
GSE fleet and workshop	4-16	148 units phased across four stations; workshop and spares
Contact detection before first live turnaround	3-9	Telemetry fitted and the safety reporting line established BEFORE the first aircraft is handled
Training centre and simulator	6-14	Low-speed manoeuvring simulator and type licensing before agents reach the ramp
Stations three and four	14-28	Concessions, fleet and workforce at the remaining airports
Systems line	24-34	Contact-logging retrofits and training sold to other handlers

Milestone that must not slip	Why
Telemetry before the first turnaround	A handler that has operated without contact logging has a period it cannot account for, and the attributed-liability offer is only credible if it covers everything since day one
Safety reporting line before the first event	The first serious contact event must land in a structure that already existed; a reporting culture cannot be introduced afterwards and be believed
Simulator before agents reach the ramp	61% of contact events come from agents under six months. Training after first exposure is training after the damage
Pay structure at recruitment	Agents hired at the station median and moved up later produce a two-tier ramp, which is worse for retention than not having done it

12. Financial Plan (Illustrative)

All figures are illustrative model assumptions in Indian rupees, not forecasts or guarantees. Drivers are shown so every number can be changed.

12.1 Revenue build (₹ lakh)

Stream	Yr 1	Yr 2	Yr 3	Share	GM
Ramp and full handling, scheduled domestic	912	1,235	1,596	38.0%	26.0%
Passenger and terminal services	432	585	756	18.0%	30.0%
Cargo and mail handling	384	520	672	16.0%	32.0%
Into-plane and third-party GSE maintenance	288	390	504	12.0%	38.0%
International and wide-body handling	264	358	462	11.0%	36.0%
Ramp-safety systems, contact logging and training	120	162	210	5.0%	56.0%
Total	2,400	3,250	4,200	100%	31.7%

The international and wide-body line is 11% of revenue and carries a 36% margin, and it is retained for a reason beyond the margin. IT IS THE ONLY SEGMENT IN WHICH A CARRIER ROUTINELY EXAMINES A HANDLER'S DAMAGE RECORD BEFORE AWARDING WORK — so it is the one place where this plan's entire investment can

currently be converted into a contract.

12.2 What is committed, and what it is measured on

Commitment	Yr 1	Yr 3
Ground support units carrying contact detection and event logging	23%	100%, 148 of 148
Contact events logged / of which the operator did not notice at the time	not logged	214 / 171
Pre- and post-turnaround imaging sweeps	nil	100% of 6,120
Damage accepted on attributed liability rather than the contractual cap	nil	₹1.34cr against a ₹0.28cr cap
Ramp pay against the station median / annual ramp attrition	100% / 58%	136% / 24%
Share of contact events caused by agents with under six months' service	78%	61%

Row two is the finding in two numbers: 214 contact events and 171 of them invisible to the person who caused them. FOUR IN FIVE. That is not a discipline problem and it cannot be trained away — it is a sensory limit, and the only thing that crosses it is an instrument. Without telemetry this business would honestly and sincerely report that it had 43 contact events last year.

12.3 Profit & loss (₹ lakh)

Line	Yr 1	Yr 2	Yr 3
Revenue	2,400	3,250	4,200
Cost of goods (ramp and passenger labour, GSE running, consumables, subcontract)	(1,639)	(2,219)	(2,868)
Gross profit	761	1,031	1,332
Ramp pay premium, licensing progression and simulator training	(96)	(130)	(168)
Contact detection, telemetry and turnaround imaging	(62)	(84)	(108)
Non-punitive contact reporting, investigation and ramp safety	(34)	(46)	(58)
Station operations, supervision and rostering	(104)	(140)	(178)
GSE maintenance, fuel and spares	(76)	(102)	(130)
Airport concession fees, licences and security	(68)	(92)	(116)
Sales, contracting and administration	(58)	(78)	(98)
EBITDA	263	359	476
Depreciation and amortisation	(128)	(146)	(164)
Finance cost	(96)	(110)	(122)
Other income (equipment hire, scrap, misc)	20	28	38
PBT	59	131	228
Tax (fully taxable business income, ~25%)	(15)	(33)	(57)
PAT	44	98	171

Net margin	1.8%	3.0%	4.1%
ROCE on ₹16.00cr	8.4%	13.3%	19.5%

12.4 Project cost & funding (₹ lakh)

Use of funds	₹L	%	Source of funds	₹L
GSE fleet: 148 units across four stations	640	40%	Promoter equity	576
Contact detection, telemetry and imaging systems	256	16%	Term and equipment finance	640
Workshop, GSE maintenance facility and spares	224	14%	Working capital limit	224
Station fit-out, offices and staff facilities	176	11%	Scheme and subsidy support	160
Training centre and low-speed manoeuvring simulator	144	9%	—	—
Safety equipment, PPE, communications and IT	96	6%	—	—
Working capital margin and pre-operative	64	4%	—	—
Total	1,600	100%	Total	1,600

12.5 Sensitivities (₹ crore PAT, Year 3)

Scenario	What changes	PAT
Base case as planned	As above	₹1.71cr
Trade-standard practice instead	Settle at the contractual cap instead of attributed liability (+₹1.06cr), pay ramp agents the station median (+₹1.68cr), fit no telemetry or imaging (+₹1.08cr), keep safety to the minimum (+₹0.58cr), run GSE to failure (+₹0.52cr), and win 14% more domestic and passenger volume on the lower cost base (+₹3.29cr revenue, +₹0.89cr) — but lose the systems line entirely (–₹2.10cr revenue) and 20% of the wide-body work that examines damage records (–₹0.92cr): revenue ₹42.27cr at 41.7% gross margin	₹7.42cr
Loss of a major airline contract	Ground handling is concentrated and one carrier can be a third of a station: ₹3.86cr and a ₹1.19cr loss. The workforce and the concession do not shrink with the contract	(₹1.19cr)
A serious ramp incident with injury or major damage	₹2.94cr including concession and licence exposure under rule (b)	(₹0.49cr)
Airport concession fee revision	₹1.18cr. The airport operator sets the fee, it is revenue-linked, and the handler is a price-taker on its single largest fixed charge	₹0.82cr
Minimum wage revision and statutory cost on 462 staff	₹1.74cr; a labour business carries this in full and cannot pass it through mid-contract	₹0.41cr

The trade-standard row is ₹7.42 crore against ₹1.71 crore, and the composition is the argument. ₹3.34 crore of it is simply not spending on pay, telemetry and safety, and ₹1.06 crore is settling at a cap the contract entitles anybody to settle at. NOTHING IN THAT LIST IS A BREACH OF ANYTHING. IT IS THE INDUSTRY'S

NORMAL ARRANGEMENT, AND IT IS MORE PROFITABLE BY A FACTOR OF FOUR.

12.6 Volumes and unit economics (Year 3)

Physical driver	Volume	Realisation	Revenue
Domestic turnarounds handled	5,700	₹28,000	₹1,596L
Passengers processed	360,000	₹210	₹756L
Cargo and mail handled	24,000 t	₹2.80/kg	₹672L
International and wide-body turnarounds	420	₹1.10L	₹462L
GSE units fitted with contact logging for third parties	60	₹3.50L	₹210L
Total turnarounds	6,120	148 GSE units	₹4,200L

Derived figure	Working	Result
Turnarounds	5,700 domestic + 420 international	6,120
Ramp agents	4 stations × 3 shifts × 9 per shift × 1.55 relief factor	167.4, staffed at 167
Contact logging and imaging	₹1.08cr over 6,120 turnarounds	₹1,765, or 6.3% of the fee
Ramp pay programme	₹1.68cr over 167 ramp agents	₹1.01 lakh each a year
Contact events per thousand turnarounds	214 events over 6,120 turnarounds	35.0
Excess paid above the cap	₹1.34cr attributed less a ₹0.28cr contractual cap	₹1.06cr, one event

₹1,765 a turnaround is what it costs to know who caused the damage. It is 6.3% of a domestic handling fee, and it produced 214 findings in a year of which 171 could not have been produced any other way. NOTHING IN THE REGULATION REQUIRES IT, NO TENDER SCORES IT, AND EVERY COMPETITOR'S BID IS CHEAPER BY ROUGHLY THAT AMOUNT PLUS THE PAY PREMIUM — WHICH IS ₹1,765 PLUS ₹2,745, OR ABOUT SIXTEEN PER CENT OF THE FEE.

13. Funding Requirement & Bankability

Item	Position
Requirement	₹16.00cr: ₹5.76cr promoter equity, ₹6.40cr term and equipment finance, ₹2.24cr working capital limit, ₹1.60cr scheme support
Security	Hypothecation of the GSE fleet, telemetry, workshop and simulator; receivables from airline contracts; personal guarantee of the promoter
Debt service	Year 3 EBITDA ₹4.76cr against interest ₹1.22cr and scheduled repayment; DSCR above 1.7x from Year 3
The concession is the asset and it is not owned	Under rule (b), a ground-handling business exists at the pleasure of four airport operators on renewable terms. That is a weaker asset than the fleet securing the loan, and a lender should understand it is lending against contracts that can end

Uncapped liability	Accepting attributed liability above the contractual cap is a deliberate uninsured-tail exposure. It is provisioned from operations rather than covered, and a lender is entitled to treat it as a real and recurring cost
What a lender should test	Not the contract book — the contact-event rate per thousand turnarounds and the ramp attrition figure. Contracts turn over in eighteen months; both of those take two years to move, and a rising attrition figure predicts the damage bill long before the damage bill moves

Year	EBITDA	Interest	Repayment	DSCR
Year 1	₹2.63cr	₹0.96cr	Moratorium	—
Year 2	₹3.59cr	₹1.10cr	₹1.04cr	1.68x
Year 3	₹4.76cr	₹1.22cr	₹1.48cr	1.76x

14. Risk Analysis & Mitigation

Risk	Impact	Mitigation
The cause and the discovery happen in different places	Ground equipment strikes aircraft constantly and gently. A 3.5-tonne loader contacting aluminium at 2 km/h transmits nothing to the cab — the operator is not concealing anything, HE GENUINELY DID NOT FEEL IT. The aircraft flies three sectors and the crease is found that night by a different company's engineer at a fourth airport, who raises the report where he stands. Attribution must then run backwards through four turnarounds and three companies using records built to prove a turnaround happened, not who touched what. THE PARTY WHO CAUSED IT DOES NOT KNOW, THE PARTY WHO FOUND IT CANNOT PROVE WHO, AND THE COST LANDS WHEREVER THE PAPERWORK STOPS. So the industry settles by contract: the standard agreement caps the handler's liability and requires gross negligence, which is unprovable when location cannot be established. A HANDLER WITH EXCELLENT DISCIPLINE AND ONE WITH POOR DISCIPLINE PAY ALMOST THE SAME AND ARE CHARGED ALMOST THE SAME — THE MARKET CANNOT PAY A PREMIUM FOR A SAFE HANDLER BECAUSE IT CANNOT IDENTIFY ONE, SO NOBODY CAN AFFORD TO BE ONE	INSTRUMENT THE CAUSE RATHER THAN ARGUE ABOUT THE EFFECT. All 148 GSE units carry contact detection logging time, unit, position and closing speed; every turnaround is photographed on arrival and before departure so condition is a record rather than a memory. 214 events logged and 171 NOT NOTICED BY THE OPERATOR — four in five, a sensory limit no training crosses — of which 19 became reportable damage. And the commercial half that makes it bite: WE CONTRACT ON ATTRIBUTED LIABILITY RATHER THAN THE CAP, paying ₹1.34cr against a ₹0.28cr contractual exposure — ₹1.06cr of excess, all of it one event we alone could identify. Cost ₹1,765 a turnaround, 6.3% of the fee. GENERAL RULE: WHERE THE CAUSE AND THE DISCOVERY HAPPEN IN DIFFERENT PLACES, THE INDUSTRY WILL SETTLE BY CONTRACT INSTEAD OF BY CAUSE — AND THE MOMENT IT DOES, PREVENTION STOPS BEING WORTH ANYTHING. SO INSTRUMENT THE CAUSE

The lowest-paid people and the most expensive asset	Ramp agents earn ₹16,000–24,000 a month working against aircraft worth ₹300–500 crore where a strike costs ₹40 lakh to ₹2 crore. Attrition of 40–70% a year is ordinary, SO THE PERSON DRIVING THE LOADER IS FREQUENTLY IN HIS FIRST SIX MONTHS — 61% of our contact events came from agents under six months, down from 78%. And the two threads form a closed loop: THE LIABILITY CAP REMOVES THE REASON TO PAY THE AGENT MORE, AND THE LOW PAY PRODUCES THE DAMAGE THE CAP ABSORBS. Each half is individually rational and the pair is self-sustaining	Break it in the direction that costs first. Ramp pay at 136% of the station median, equipment-type licensing with pay progression so tenure is worth something, and no live equipment before a low-speed manoeuvring simulator sign-off. Attrition 58% → 24% and median tenure 11 → 31 months, at ₹1.01 lakh per agent a year and ₹1.68cr in total — WHICH IS MORE THAN THE WHOLE YEAR'S ATTRIBUTED DAMAGE BILL, AND IS SPENT PRECISELY SO THAT THE DAMAGE BILL IS SMALL
Contract concentration	One carrier can be a third of a station; losing a major contract is ₹3.86cr and a ₹1.19cr loss, and neither the workforce nor the concession shrinks with it	Four stations and six revenue lines rather than one; cargo, into-plane and GSE maintenance are not airline-contract dependent; the systems line sells to competitors; staggered contract expiry so no two majors renew in the same quarter
A serious ramp incident	Injury or major aircraft damage brings concession and licence exposure under rule (b) and reprises insurance under rule (d): ₹2.94cr	Non-punitive contact reporting under rule (g) so precursor events surface; investigation independent of the station manager; simulator training before live operation; speed governors and proximity alarms on all units
Concession fee revision	₹1.18cr. The airport operator sets a revenue-linked fee and the handler is a price-taker on its single largest fixed charge, with no ability to pass it through mid-contract	Fee revision clauses sought in airline contracts; four airports rather than one so a single operator's revision is partial; higher-margin lines grown faster than the fee base
Wage and statutory cost	A 462-person labour business carries minimum wage revision, EPF and ESI in full: ₹1.74cr, and cannot pass it through mid-contract	Contracts indexed to statutory wage revision where carriers will accept it; the retention programme reduces recruitment and training cost, which partly self-funds; productivity from lower attrition rather than from headcount reduction
Multi-handler competition and space	Airport policy sets how many handlers operate, and apron and equipment parking space is finite and allocated by the operator	Concession terms negotiated with space allocation explicit; equipment sized to allocated space rather than to peak ambition; systems line generates airport-operator goodwill independent of the handling tender

15. SWOT Analysis

Strengths	Weaknesses
The only measured contact-event record in the district; attributed liability that no competitor offers; 24% ramp attrition against an industry 40–70%; a simulator and licensing structure; a systems line saleable to competitors; four stations and six revenue lines	4.1% net margin; the commitment costs ₹4.40cr against ₹1.71cr of PAT; a 10-point gross-margin disadvantage to trade-standard handlers; the concession is not owned; a deliberate uninsured liability tail; wage exposure across 462 staff
Opportunities	Threats

Carriers that track engineering cost by station can see what we are selling; wide-body and international work already examines damage records; contact-logging retrofits are a genuine product; insurers under rule (d) will eventually price a measured record

Price-led tendering that cannot score damage; concession renewal; contract concentration; a serious incident; and the structural fact that the contract governing this industry is drafted on the assumption that attribution fails

The honest summary is that this business has built a measurement its customers' contracts are written not to use. The telemetry pays for itself only through lower damage, better retention and the few carriers who look — not through any premium the market currently offers. THE BET IS THAT AN AIRLINE'S OWN ENGINEERING LEDGER EVENTUALLY BECOMES THE THING THAT SELECTS A HANDLER, BECAUSE IT IS THE ONLY PLACE THE DIFFERENCE HAS EVER BEEN VISIBLE.

16. Recommended AiSevak Tools for This Business

- **Business plan and project report generator** — for equipment finance across a four-station rollout.
- **Compliance calendar** — concession renewals, BCAS and AVSEC re-certification, airside driving permits, GSE serviceability, EPF and ESI — remembering rule (a), that these expire independently.
- **Cost and pricing calculator** — cost per turnaround by aircraft type and scope, cost per passenger and per tonne, and the true cost of a contact event including disruption.
- **GST and invoicing helper** — handling service billing by contract and by movement, third-party GSE maintenance, and systems sales.
- **Labour and payroll toolkit** — shift rostering with the relief factor under rule (f), licence and permit currency, EPF and ESI across a 462-person payroll.
- **Loan and subsidy application helper** — equipment finance and a working capital limit sized to airline receivable cycles.
- **Contract and terms drafting helper** — the attributed-liability clause and its evidentiary standard, concession terms with space allocation, and systems supply agreements.

Every tool above is **free to use on AiSevak and needs no signup to explore**. The toolkit link at the end of this plan opens the whole aviation set.

17. Key Assumptions & Notes

- **All financials are illustrative model assumptions, not forecasts, projections or guarantees.** Revenue, turnarounds, fees, event rates, attrition and liability outcomes are editable inputs; outcomes depend on airline contracts, concession terms, wage settlements and equipment costs. Figures are in Indian rupees. **This plan is the third in vertical 57 and inherits the ten aviation anchor rules (a)-(j) set out in §17 of the drone services plan — in particular (b) the concession is the asset and sets the revenue ceiling, (d) insurance is priced on the operator's own record, (f) duty and shift limits produce the 1.55 relief factor from which ramp headcount is derived, and (g) safety reporting must be non-punitive or it stops.**
- **The central finding is that the cause and the discovery happen in different places.** A loader touches a fuselage at one airport, the aircraft flies three sectors, and the damage is found that night by a different company's engineer at a fourth — **so attribution must run backwards through four turnarounds and three companies using records built to prove a turnaround happened, not who touched what.**
- **Nobody is concealing anything.** A 3.5-tonne loader contacting aluminium at 2 km/h transmits nothing to the cab; **171 of our own 214 logged contact events were not noticed by the operator at the time — four in five,**

which is a sensory limit rather than a discipline problem, and the only thing that crosses it is an instrument.

- **So the industry settles by contract instead of by cause, and that is the defect.** The standard agreement caps the handler's liability and requires gross negligence, which is unprovable when location cannot be established. **A handler with excellent discipline and one with poor discipline pay almost the same and are charged almost the same — the market cannot pay a premium for a safe handler because it cannot identify one, so nobody can afford to be one. GENERAL RULE: WHERE THE CAUSE AND THE DISCOVERY HAPPEN IN DIFFERENT PLACES, THE INDUSTRY WILL SETTLE BY CONTRACT INSTEAD OF BY CAUSE — AND THE MOMENT IT DOES, PREVENTION STOPS BEING WORTH ANYTHING. SO INSTRUMENT THE CAUSE.**
- **The second thread closes a loop with the first: the lowest-paid people work against the most expensive asset.** Ramp agents earn ₹16,000–24,000 a month against aircraft worth ₹300–500 crore, attrition of 40–70% is ordinary, and 61% of our contact events came from agents under six months. **The liability cap removes the reason to pay the agent more, and the low pay produces the damage the cap absorbs** — each half rational, the pair self-sustaining. Remedy: pay at 136% of the station median with licensing progression and simulator sign-off before live equipment; attrition 58% → 24%, tenure 11 → 31 months, at ₹1.68 crore — **more than the whole year's attributed damage bill, and spent precisely so that the damage bill is small.**
- **Volumes and unit economics.** 5,700 domestic turnarounds at ₹28,000 and 420 international at ₹1.10 lakh; 360,000 passengers at ₹210; 24,000 tonnes at ₹2.80 a kilogram; 60 GSE units fitted with contact logging for third parties at ₹3.50 lakh. Ramp headcount is derived under rule (f), not chosen: 4 stations × 3 shifts × 9 per shift × 1.55 relief = 167.4. Contact logging and imaging cost ₹1,765 a turnaround (6.3% of the fee) and the pay programme ₹1.01 lakh per agent; the contact rate is 35.0 events per thousand turnarounds.
- **The trade-standard comparison is uncomfortable in a specific way.** ₹7.42 crore against ₹1.71 crore, of which ₹3.34 crore is simply not spending on pay, telemetry and safety, and ₹1.06 crore is settling at a cap the contract entitles anybody to settle at. **Nothing in that list is a breach of anything — it is the industry's normal arrangement, and it is more profitable by a factor of four.**
- **Compliance and professional advice.** Ground-handling concession or licence from each airport operator, with the number of handlers limited by policy and tender — **under rule (b) the concession is the asset and its scope and renewal set the revenue ceiling regardless of demand**; BCAS approval, AVSEC training and re-certification, background verification and airport entry permits, a lapse of which removes an agent from the roster instantly; airside driving permits, type authorisations, apron safety and FOD control; **ground handling agreements on the IATA standard form, whose liability provisions limit exposure and require gross negligence to be established**; Contract Labour Act, Minimum Wages, EPF, ESI and shift rules across a 462-person workforce; GSE serviceability and airside roadworthiness, with imported equipment and spares under rule (h); GST and revenue-linked concession fees. **Note the structural gap: there is no requirement anywhere that a handler detect, record or report aircraft contact, and the governing contract is drafted on the assumption that attribution will fail — a handler causing four times our damage is fully compliant and will bid lower.** Professional advice should be taken on the attributed-liability clause and its evidentiary standard, concession and space-allocation terms, statutory wage indexation in airline contracts, and insurance scope against a deliberately uncapped tail.

► **Use these tools now — free on AiSevak**

Every tool referenced in this plan is available on aisevak.in. Open the [Aviation and Aerospace Services toolkit](#) to browse and use them all at <https://aisevak.in/verticals/aviation> — or go straight to any specific tool at <https://aisevak.in/service/<tool-name>>. No signup needed to explore; each tool guides you step by step.

