BUSINESS PLAN · INDIA

Inland-Waterways Transport Business

survey it yourself and load to your own

SHIPPING, PORTS AND MARINE SERVICES

AISEVAK.IN · BY ABL DIGITAL TECHNOLOGIES

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1. Executive Summary

This plan sets out an **Inland-Waterways Transport** business — bulk and containerised cargo over a 340-kilometre national waterway stretch, its own first and last mile road fleet, jetty handling and storage, and ro-pax ferry services. By Year 3 it moves **1,120,000 tonnes by water** across **800 trips** and bills **₹28.70 crore**, loading to **its own surveyed depth rather than the notified one**.

> This plan is the ninth in vertical 58 and **inherits the ten maritime anchor rules (a)–(j)** set out in §17 of the ship-repair yard plan.

Item	Detail	Year 3
What is sold	Bulk cargo movement by water, containerised and break-bulk by water, first and last mile road haulage on our own fleet, jetty handling storage and stevedoring, and passenger and ro-pax ferry services	**₹28.70cr**
Water tonnage / trips / road tonnage	900,000t bulk at ₹140, 220,000t containerised at ₹350, 600,000t on our own road fleet, 1,120,000t through the jetty, 700,000 passengers	1.12Mt; 800; 0.60Mt
PAT / net margin	Eight barges, two ferries and a road fleet, on a river whose depth somebody else declares	**₹1.94cr / 6.8%**
ROCE on ₹9.20cr	Four owned barges and four chartered, road fleet, jetty, ferries and our own survey launch	**29.9%**
Surveyed chainages shallower than the notified depth	**11 of 42, post-monsoon, on our own echo-sounding**	**26.2%**
Break-even water leg: friendly road rates / a competitor's	**He can move it 68 kilometres without touching a single cost of ours**	**94 km / 162 km**

> □□ **THE DEPTH IS DECLARED BY THE PARTY WHO PAYS NOTHING IF IT IS WRONG. A waterway authority notifies the least available depth on each stretch, every operator loads his barge to it, and the notification carries a disclaimer. WHEN THE BARGE TOUCHES, THE LIGHTERING, THE TUG, THE DELAY, THE CARGO CLAIM AND THE HULL SURVEY ARE ALL OURS — AND THE FINDING WILL BE THAT THE MASTER SHOULD HAVE EXERCISED HIS OWN JUDGEMENT ABOUT A NUMBER HE HAD NO MEANS OF CHECKING.**

> **On our own echo-sounding, 11 of 42 chainages on the core stretch were shallower than notified after the monsoon — 26.2%. Loading to the notified 2.5 metres puts 1,600 tonnes in a barge; loading to the 2.1 metres we actually measured puts 1,400 — 12.5% less on every trip, a hundred extra trips a year and ₹0.62 crore of fuel and crew. IT ALSO TOOK GROUNDINGS FROM EIGHTEEN A YEAR TO THREE, WHICH IS ₹0.96 CRORE — SO THE DISCIPLINE PAYS FOR ITSELF AND STILL NOBODY ELSE DOES IT.**

2. Business Description, Vision & Legal Structure

A private limited inland vessel operator on a national waterway, running four owned and four chartered self-propelled barges, two ro-pax ferries, a jetty with covered storage, and its own road fleet for the first and last mile.

Element	Position
Legal form	Private limited company; inland vessel registration and survey certificates under the Inland Vessels Act; waterway operating permissions and jetty licence from the waterways authority and the state; crew certification for inland navigation; passenger-vessel survey and safety approvals for the ferries
Where the money is made	Bulk water movement is 43.9% of revenue at 31%; jetty handling at 38% and ferries at 34% earn without a barge moving, and the road fleet at 22% exists to control the first and last mile rather than to make money on it
What is different	We survey the fairway ourselves twenty-four times a year and load to our own soundings rather than the notified depth, and we own the road legs instead of buying them from the operators we compete with on the line haul
Vision	A river operator whose loading plan is based on a depth somebody in this company actually measured

Why this shape	Reasoning
Our own hydrographic survey and our own loading rule	**The notified depth is a number published by a body that bears no cost if it is wrong, and the river moves between surveys. Anybody loading to it has accepted a risk he did not price and cannot recover**
Own road fleet for the first and last mile	**This is the control on the first remedy: loading light raises the water cost per tonne, which makes the road legs a larger share of the total — and those legs are bought from the very hauliers who want the whole door-to-door move**
Jetty and storage owned	Under rule (f) a berth is a physical constraint; a waterway operator without his own jetty is scheduling round somebody else's queue
Four barges chartered rather than owned	River cargo is seasonal and monsoon-dependent; chartering half the fleet lets capacity contract in a bad water year without a forced sale

3. Promoter & Ownership

Item	Position
Promoter	Inland master and then fleet manager, twenty-one years on the river; loaded to the notified depth for most of them and was, on each of the four occasions his barges touched, entirely responsible for a number he had been given
Promoter equity	**₹3.68cr** of the ₹9.20cr project cost (40%), unsecured and not withdrawable during the loan term
Ownership	Promoter and family 57%; masters and operations leadership under ESOP 23%; a logistics-infrastructure investor 20%
Governance	**No barge is loaded to a depth this company has not itself sounded within the preceding fortnight, whatever the notified figure says and whatever the shipper is willing to pay for the extra tonnes. First and last mile road capacity is owned or contracted from hauliers who do not compete on the line haul, and no consignment is accepted where the only available road legs must be bought from a door-to-door competitor**

> The first rule costs tonnage on every single trip and the second costs consignments. **Twelve and a half per cent less in every barge is a hundred extra trips a year and ₹0.62 crore of fuel and crew; twenty-six consignments worth ₹1.24 crore were declined because the road legs could only be bought from a haulier who wanted the whole move. NEITHER RULE HAS EVER BEEN THANKED BY A SHIPPER. THE FIRST IS INVISIBLE UNLESS A BARGE TOUCHES, AND THE SECOND LOOKS LIKE AN OPERATOR TURNING DOWN WORK HE COULD PERFECTLY WELL**

HAVE DONE.

4. Market Analysis — India

Segment	What drives it	Position taken
Bulk cargo by water	Coal, fly ash, cement, stone and foodgrain over 340 km; the mode is cheapest per tonne-kilometre and the volume segment	900,000t at ₹140
Containerised and break-bulk by water	Project cargo, over-dimensional consignments and containerised movement where road permits are hard; better rates, more planning	220,000t at ₹350
First and last mile road haulage on our own fleet	Every water consignment starts and ends on a truck; the segment exists to control an input, not to earn 22%	600,000t at ₹70
Jetty handling, storage and stevedoring	Loading, discharge, storage and evacuation for our own cargo and for third parties; 38% and it earns when the river is low	1,120,000t at ₹25
Passenger and ro-pax ferry services	Crossings that replace a long road detour; steady, licence-gated, and unaffected by cargo cycles	700,000 passengers at ₹20

Why the mode wins, and how easily it can be made to lose

Cost per tonne, 340 km by water plus 62 km of road legs	₹ per tonne
Water line haul at ₹1.15 a tonne-kilometre	391.00
Road first and last mile at ₹4.80 a tonne-kilometre	297.60
Multimodal total	**688.60**
Pure road, 402 km at ₹2.60 a tonne-kilometre	**1,045.20 — we save 34%**
The same road legs priced at ₹6.40 a tonne-kilometre	**396.80 — break-even moves from 94 km to 162 km**

Indian inland waterways have real momentum — declared national waterways, dredging and terminal investment, cargo targets and genuine policy support for a mode that is cheaper and cleaner per tonne-kilometre than road. IT IS ALSO A MODE WHOSE OPERATING DEPTH IS PUBLISHED BY A BODY THAT BEARS NO COST IF IT IS WRONG, AND WHOSE FIRST AND LAST MILE MUST USUALLY BE BOUGHT FROM THE COMPETITOR IT IS TRYING TO DISPLACE.

5. Competition & Position

Competitor type	What they do well	Where the gap is
Road trucking fleets	Door to door, no transhipment, dense network, and a price everybody understands	Two-and-a-quarter times our line-haul cost per tonne-kilometre, and they know the water option dies if the road legs are dear enough
Established barge operators	Real river knowledge, long shipper relationships and low unit costs	They load to the notified depth because everybody does, and the groundings are treated as weather rather than as a pricing error

Rail and rail-linked movers	Cheapest of all at scale on the trunk, with sidings and long-term rakes	Rake availability, siding access and a first and last mile problem of exactly the same kind
Shipper's own arrangements	Control, and no intermediary margin	No jetty, no barges, and no answer at all when the notified depth is wrong
This operator	Own soundings and loading rule, own road legs, own jetty, published passage plans	**Carries 12.5% less in every barge than a competitor with the same hull**

> **The competitive difficulty is that our discipline shows up as a smaller number in the same barge. A shipper comparing two quotes for the same 2,000-tonne hull is told 1,600 tonnes by one operator and 1,400 by us, and the difference is a depth measurement he has no way to adjudicate. WE ARE ASKING HIM TO PAY MORE PER TONNE FOR A RISK HE HAS NEVER BEEN SHOWN, ON THE STRENGTH OF A SURVEY HE DID NOT COMMISSION AND CANNOT VERIFY — AND UNTIL SOMEBODY'S BARGE TOUCHES, THE OTHER QUOTE IS SIMPLY BETTER.**

6. The Depth Is Declared by the Party Who Pays Nothing If It Is Wrong

This is the finding, and it concerns a published number that induces reliance and carries no liability.

Who	Position
Declares the least available depth	**The waterways authority**
Loads a barge to it	**The operator**
Pays for the lightering, tug, delay and claim	**The operator**
Bears any cost if the number was wrong	**Nobody**
Is found responsible after a grounding	**The master**

> **A waterway is operated on a notified least available depth: the authority surveys a stretch, publishes the controlling depth, and every operator loads to it. The notification is issued in good faith and it is issued with a disclaimer, because no authority could sensibly guarantee a riverbed. SO THE OPERATOR IS RELYING ON A MEASUREMENT HE DID NOT TAKE, CANNOT CHECK AND IS NOT ENTITLED TO RELY ON — AND HE IS THE ONLY PARTY IN THE ARRANGEMENT WITH ANY MONEY AT RISK.**

> **And the river does not wait for the survey cycle. A stretch sounded before the monsoon is a different stretch afterwards; a single flood moves a bar several hundred metres and shoals a channel that was clear in the last notification. On our own echo-sounding of 42 chainages across the core stretch after the monsoon, 11 WERE SHALLOWER THAN NOTIFIED — 26.2%, and the worst of them by four hundred millimetres, which on a loaded barge is the whole margin. The notification was not false. It was true when it was taken, and nobody undertook to keep it true.**

> **What makes this structural rather than merely unlucky is where the consequence lands. When a barge touches, the lightering, the tug assistance, the delay, the cargo claim, the hull survey and the off-hire are all the operator's, and the enquiry that follows asks whether the master exercised proper judgement about under-keel clearance. HE IS ANSWERABLE FOR HAVING BELIEVED A NUMBER THE PUBLISHER EXPRESSLY DECLINED TO STAND BEHIND — AND THAT IS NOT A REGULATORY FAILURE, BECAUSE NO BODY ON EARTH COULD WARRANT THE DEPTH OF A LIVE RIVER. At intake the fleet grounded eighteen times a year at about**

₹6.40 lakh each: ₹1.15 crore.

So we sound the fairway ourselves and load to what we measured. 340 kilometres swept twenty-four times a year with our own echo sounder, DGPS and survey launch at ₹0.54 crore, no barge loaded to a depth not sounded within the preceding fortnight, and the passage plan published to the shipper with the controlling depth and its date. It costs 12.5% of every barge-load — 1,400 tonnes instead of 1,600, a hundred extra trips and ₹0.62 crore — and it took groundings from eighteen a year to three, ₹0.96 crore. GENERAL RULE: WHERE YOU LOAD TO A NUMBER SOMEBODY ELSE PUBLISHES AND YOU ALONE PAY IF IT IS WRONG, SURVEY IT YOURSELF AND LOAD TO YOUR OWN.

7. The First and Last Mile Are Road, So the Competitor Is Also the Supplier

The second thread is the control on the hazard the first one's remedy creates, and it concerns who sells us the legs we cannot avoid.

Per tonne, door to door	₹
Water line haul, 340 km at ₹1.15	391.00
Road legs, 62 km at ₹4.80	297.60
The same legs at ₹6.40	**396.80**
Break-even water leg at ₹4.80 / at ₹6.40	**94 km / 162 km**
Who sets the road rate	**A door-to-door haulier**

No cargo begins or ends on a river. Every consignment we carry is trucked to a jetty and trucked away from one, and the hauliers who do that are the same firms that would otherwise have carried it the whole way by road. WE BUY AN ESSENTIAL INPUT FROM A DIRECT COMPETITOR WHO KNOWS THAT IF HE PRICES IT HIGH ENOUGH, THE MULTIMODAL OPTION FAILS AND HE KEEPS THE ENTIRE MOVE.

The arithmetic of that leverage is brutal and entirely legitimate. At ₹4.80 a tonne-kilometre for 62 kilometres of road legs, water beats pure road on any leg over 94 kilometres. At ₹6.40 — a rate no regulator would look at twice — the break-even moves to 162 kilometres. A COMPETITOR CAN MOVE OUR VIABILITY THRESHOLD BY SIXTY-EIGHT KILOMETRES WITHOUT TOUCHING A SINGLE ONE OF OUR COSTS, SIMPLY BY PRICING A SERVICE HE WOULD RATHER NOT SELL US AT ALL.

Which is exactly the hazard the §6 remedy creates, and why the two threads are one arrangement. Loading to our own soundings puts 12.5% less in each barge, which raises the water cost per tonne and makes the road legs a LARGER share of the door-to-door total. THE MORE HONESTLY WE LOAD, THE MORE OF OUR ECONOMICS SITS IN A PRICE SET BY THE PERSON WHO WANTS US TO FAIL — SO THE LOADING RULE CANNOT BE AFFORDED UNTIL THE ROAD RELATIONSHIP HAS BEEN TAKEN OUT OF HIS HANDS.

So we own the road legs, and we accept that they earn badly. A road fleet sized to our own jetty pattern runs at lower utilisation than a dedicated haulier's — ₹0.48 crore a year of that — and it earns 22%, the worst margin in the book, on 14.6% of revenue. It is not a business line; it is an input we refuse to buy from a rival. Where our own capacity cannot cover a movement we contract from hauliers who do not compete on the line haul, and twenty-six consignments worth ₹1.24 crore were declined because neither was available.

8. Operations Plan (sound, plan, load, move, evacuate)

- **Sound.** 340 kilometres swept twenty-four times a year with our own echo sounder, DGPS and survey launch, with every chainage dated.
- **Plan.** A passage plan per voyage stating the controlling depth, its survey date and the resulting maximum draught, issued to the shipper before loading.
- **Load.** To our own sounding within the preceding fortnight — 1,400 tonnes against the 1,600 the notified depth would allow — with the loading plan signed by the master.
- **Move.** 800 trips a year across eight barges at 3.2 days each, scheduled against berth availability and daylight navigation limits under rule (f).
- **Evacuate.** Discharge at our own jetty and onward on our own road fleet, or on contracted capacity from hauliers who do not compete on the line haul.

Step	What is recorded	Why
Own soundings against the notification	**Chainage by chainage, dated**	**11 of 42 shallower — 26.2%**
Loaded tonnage against notified capacity	**Our sounding, not the published depth**	**1,400t against 1,600t — 12.5%**
Groundings a year	**With cause, published to the shipper**	**18 down to 3**
Road legs bought from a line-haul competitor	Own fleet or non-competing contractor only	nil; 26 consignments declined
Passage plan issued before loading	**Controlling depth and its survey date**	**800 of 800 voyages**

> **The operational hinge is a fly-ash movement quoted against a notified 2.5 metres, where our sounding eleven days earlier had found 2.1 at two chainages sixty kilometres apart. We quoted 1,400 tonnes a barge; a competitor quoted 1,600 and won the contract on a rate per tonne that was eight per cent better. His third barge touched at the second of those chainages, took four days to lighter and refloat, and delivered the season's tonnage late. THE SHIPPER'S CLAIM WENT AGAINST THE OPERATOR, THE OPERATOR'S ENQUIRY WENT AGAINST HIS MASTER, AND THE NOTIFICATION THAT PRODUCED THE WHOLE THING WAS NEVER MENTIONED IN ANY DOCUMENT — BECAUSE IT HAD SAID, IN WRITING, THAT IT SHOULD NOT BE RELIED ON.**

9. Inland Vessel, Waterway and Multimodal Framework (India)

Area	Requirement
Vessel and crew	**Inland vessel registration, survey and certificate of fitness under the Inland Vessels Act; crew certification for inland navigation; under rule (d) the barge is asset, workplace and confined space at once, and under rule (b) the certificate of fitness runs on a calendar**
Waterway and depth	**Waterway operating permissions, notified least available depth and navigation notices, night-navigation and channel-marking limits. The notification induces reliance and disclaims liability, which is the whole of §6 and is not a defect in the law — no body could warrant a live riverbed**
Jetty and terminal	Jetty licence, land and foreshore permissions, storage and stevedoring approvals, pollution control consent for dust and effluent
Passenger operations	Passenger vessel survey, life-saving appliances, manning scale and passenger certificate; a distinct and stricter regime from the cargo fleet

Multimodal and cargo	Multimodal transport documentation where a single document covers water and road; carrier liability for cargo; GST on transport of goods by inland waterway at its own treatment
Commercial	Hull and P&I cover priced under rule (d) on our own record; under rule (h) engines and marine equipment are import-priced and long-lead; Companies Act, EPF, ESI, Minimum Wages and TDS

The framework does its job: it registers and surveys the vessel, certifies the crew, licenses the jetty, publishes navigational information and holds the carrier liable for the cargo. NEITHER PROBLEM IN THIS PLAN IS A REGULATORY FAILURE. The first is a disclaimer that is entirely proper — a riverbed cannot be warranted, so somebody must carry that risk and it can only be the person operating on it; the second is that a haulier pricing his own service as he likes is doing nothing whatever wrong. In both, the rule is sound and the exposure has simply been allocated to the party least able to refuse it.

10. Organisation & Manpower Plan

Function	Yr 1	Yr 3	Note
Vessel crew (masters, engineers, deckhands)	54	**117**	**Derived: 24,080 crew-days ÷ 207 = 116.3**
Road fleet drivers and supervisors	16	34	600,000t on our own trucks
Jetty handling and storage	12	26	1,120,000t through the jetty
Fleet maintenance and workshop	6	12	Eight barges and two ferries
Operations, scheduling and traffic	5	9	800 voyages against berth and daylight
Finance, administration and compliance	4	8	—
Hydrographic survey and passage planning	3	**7**	**340 km swept 24 times a year**
Sales and customer service	3	6	26 declined consignments to explain
Managing director	1	1	Cannot authorise the notified depth
Total	**104**	**220**	**₹3.32L average CTC; ₹7.30cr payroll**

Crew headcount is derived, not chosen	Working	Crew-days
Cargo barges	**8 barges × 320 operating days × 8 crew**	**20,480**
Ro-pax ferries	2 ferries × 300 days × 6 crew	3,600
Total crew-days required	**800 barge voyages at 3.2 days each**	**24,080**
Crew required	**24,080 ÷ 207 working days per crew-year**	**116.3, staffed at 117**

The 207 working days are 273 available days (365 less 52 weekly offs, 12 holidays, 18 days of leave and 10 of certification and training) times a 76% deployable factor — the 24% being low-water days when a stretch will not take a loaded barge, fog and night-navigation limits under rule (f), berth waiting and breakdowns. **THAT 24% IS THE FINDING RESTATED AS A STAFFING NUMBER: NEARLY A QUARTER OF A CREW'S PAID YEAR IS SPENT NOT MOVING, MOSTLY BECAUSE OF WATER DEPTH — WHICH IS PRECISELY THE VARIABLE THIS PLAN REFUSES TO TAKE ON TRUST.** Payroll runs at **25.4% of revenue** and fuel at **34.4% of running cost**.

11. Implementation Timeline & Milestones

Phase	Months	Milestone
Vessels, jetty and licences	0–12	Four owned barges, four charters, jetty licence, registrations, 104 staff
Survey capability before the first loaded voyage	0–6	**Echo sounder, DGPS and survey launch commissioned before any barge is loaded to anybody's number**
Road fleet before the loading rule is priced in	0–10	**Because loading light raises the water cost per tonne, which is exactly when the road legs become worth attacking**
Jetty, storage and evacuation	8–20	1,120,000 tonnes a year and third-party handling at 38%
Ro-pax ferry services	14–26	700,000 passengers; earns when the river will not take cargo
Passage plans published to shippers	6–16	Controlling depth and survey date on every voyage

Milestone that must not slip	Why
Own soundings before the first loaded voyage	**An operator who has loaded to the notified depth for a season has no baseline of his own, and the first time he loads lighter he is telling his shippers that the earlier voyages were carrying a risk he had not mentioned**
Road capacity before the loading rule bites	**Loading light and buying road legs from a competitor at the same time is the worst of both: a higher water cost per tonne and an input priced by somebody who benefits from your failure**
Passage plans published from the start	A controlling depth disclosed only after a grounding looks like a defence; disclosed before every voyage it is the product
Chartered barges rather than eight owned	A bad water year is a capacity problem, not an asset-value problem, and only a charter can be handed back

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
Bulk cargo movement by water	560	880	1,260	43.9%	31.0%
Containerised and break-bulk by water	330	520	770	26.8%	27.0%
First and last mile road haulage, own fleet	250	340	420	14.6%	22.0%
Jetty handling, storage and stevedoring	130	200	280	9.8%	38.0%
Passenger and ro-pax ferry services	62	100	140	4.9%	34.0%
Total	**1,332**	**2,040**	**2,870**	**100%**	**29.4%**

The road stream is 14.6% of revenue at the worst margin in the book, and it is the most important line in this table. It exists so that the first and last mile is bought from ourselves rather than from a haulier who would rather carry the whole consignment. A 22% MARGIN ON AN INPUT WE REFUSE TO BUY FROM A RIVAL IS NOT A WEAK BUSINESS LINE — IT IS THE PRICE OF NOT LETTING SOMEBODY ELSE SET SIXTY-TWO KILOMETRES OF OUR COST BASE.

12.2 What is committed, and what it is measured on

Commitment	Yr 1	Yr 3
Barges loaded to a depth we sounded within the fortnight	100%	**100%, 800 of 800 voyages**
Loaded tonnage against notified capacity	1,400t vs 1,600t	**12.5% less; 100 extra trips, ₹0.62cr**
Groundings a year, with cause published to the shipper	18 at intake	**3 — an 83% reduction, ₹0.96cr avoided**
Road legs bought from a line-haul competitor	nil	**nil; 26 consignments declined, ₹1.24cr**
Passage plan with controlling depth and survey date issued before loading	100%	**100%, 800 of 800**
Crew certification and training above the manning scale	100%	**₹0.24cr**

Row three is the row that turns the first two from a cost into an argument. Loading light is a promise about a risk nobody can see; eighteen groundings falling to three is the same promise with a number attached. AND IT IS PUBLISHED WITH ITS CAUSE, INCLUDING THE THREE THAT WERE OURS — BECAUSE A GROUNDING LEDGER THAT ONLY EVER BLAMES THE RIVER IS NOT A LEDGER, IT IS AN ADVERTISEMENT.

12.3 Profit & loss (₹ lakh)

Line	Yr 1	Yr 2	Yr 3
Revenue	1,332	2,040	2,870
Direct cost (crew, fuel, charter hire, road running, jetty labour, dues)	(944)	(1,442)	(2,025)
Gross profit	**388**	**598**	**845**
Own hydrographic survey of the fairway and passage planning	(32)	(44)	(54)
Cost of loading to our own surveyed depth (100 extra trips)	(34)	(48)	(62)
Own road first and last mile capacity at low utilisation	(26)	(38)	(48)
Operations, scheduling and traffic control	(42)	(58)	(74)
Sales, customer service and multimodal pricing	(34)	(46)	(58)
Insurance, P&I, licences, crew certification and safety	(28)	(38)	(46)
Jetty overhead, utilities and equipment	(22)	(30)	(38)
Administration, finance, compliance and management	(54)	(62)	(88)

EBITDA	**116**	**234**	**377**
Depreciation and amortisation	(74)	(88)	(102)
Finance cost	(30)	(44)	(50)
Other income (third-party jetty use, scrap, misc)	20	26	34
PBT	**32**	**128**	**259**
Tax (fully taxable business income, ~25%)	(8)	(32)	(65)
PAT	**24**	**96**	**194**
Net margin	1.8%	4.7%	**6.8%**
ROCE on ₹9.20cr	4.6%	15.9%	**29.9%**

12.4 Project cost & funding (₹ lakh)

Use of funds	₹L	%	Source of funds	₹L
Four owned self-propelled barges (four more on charter)	368	40%	Promoter equity	368
Road fleet for first and last mile (tractors, trailers, tippers)	184	20%	Term loan	322
Jetty, storage, ramps and handling equipment	138	15%	Working capital limit	184
Two ro-pax ferries	92	10%	Unsecured promoter loan	46
Working capital margin	55	6%	—	—
Hydrographic survey equipment (echo sounder, DGPS, survey launch)	46	5%	—	—
Licences, registration, preliminary and contingency	37	4%	—	—
Total	**920**	**100%**	**Total**	**920**

12.5 Sensitivities (₹ crore PAT, Year 3)

Scenario	What changes	PAT
Base case as planned	As above	**₹1.94cr**
Trade-standard practice instead	Take the 26 declined consignments (+₹1.24cr revenue, +₹0.37cr), load to the notified LAD and save the extra trips (+₹0.62cr), no own survey (+₹0.54cr), no own road fleet at low utilisation (+₹0.48cr), road legs bought spot (+₹0.30cr), overload beyond even the notified depth on favourable stretches (+₹0.34cr), defer survey and drydocking (+₹0.84cr), thinner maintenance (+₹0.44cr), crew below the certificated scale (+₹0.38cr), no certification above scale (+₹0.24cr), minimum ferry safety (+₹0.22cr), cheaper jetty labour (+₹0.28cr), no passage-plan publication (+₹0.16cr), cover at market (+₹0.13cr), thinner ops (+₹0.18cr) — but ground eighteen times a year again (−₹0.96cr), lose the shippers who buy on reliability (−₹1.80cr revenue, −₹0.53cr) and buy road legs from a competitor at his price (−₹0.62cr): **revenue ₹28.14cr at 36.9% gross margin**	**₹4.49cr**
A bad monsoon shoals the fairway	**Controlling depth falls further and loaded tonnage with it for four months, so cargo is turned away or moved in more trips: ₹1.32cr. This is the exposure the whole plan is built around and it does not go away by being measured**	**₹0.95cr**

A grounding with cargo damage and a hull claim	**Even at three a year, one bad one is ₹0.94cr of lightering, claim, survey and off-hire; under rule (d) the next cover renewal is priced on our own record**	**₹1.23cr**
Diesel up 30%	Fuel is ₹5.20cr and 34.4% of running cost; half passed through: ₹0.78cr	₹1.35cr
First and last mile road rates up 33%	Our own fleet insulates most of it; the exposure is the share we still buy in: ₹0.55cr	₹1.53cr

The trade-standard row is ₹4.49 crore against ₹1.94 crore, and the largest single line in it is simply loading to the number on the notice board. That operator is not breaking any rule: he is loading to the officially notified depth, which is what the notification is for. HE EARNS MORE THAN TWICE AS MUCH, CARRIES 200 MORE TONNES IN EVERY BARGE, QUOTES A BETTER RATE PER TONNE — AND GROUNDS EIGHTEEN TIMES A YEAR, WHICH EVERYBODY ON THE RIVER HAS AGREED TO CALL WEATHER.

12.6 Volumes and unit economics (Year 3)

Physical driver	Volume	Realisation	Revenue
Bulk tonnage moved by water	**900,000t**	**₹140/t**	**₹1,260L**
Containerised and break-bulk tonnage	220,000t	₹350/t	₹770L
Road first and last mile tonnage	600,000t	₹70/t	₹420L
Jetty tonnage handled	1,120,000t	₹25/t	₹280L
Ferry passengers	700,000	₹20	₹140L
Water tonnage across 800 voyages	**1,120,000t**	**1,400t a barge**	**₹2,870L**

Derived figure	Working	Result
Chainages shallower than notified	**Our own post-monsoon sounding of 42 points**	**11 — 26.2%**
Loaded tonnage: notified depth against our own	**2.5 m gives 1,600t; 2.1 m gives 1,400t**	**12.5% less; 700 trips become 800**
Cost of the extra trips / groundings avoided	100 trips at ₹0.62L; 15 groundings at ₹6.40L	₹0.62cr; ₹0.96cr
Multimodal against pure road, per tonne	**₹391 water + ₹297.60 road legs vs ₹1,045.20**	**₹688.60 — 34% cheaper**
Break-even water leg: friendly road rate / hostile	**₹4.80 against ₹6.40 a tonne-kilometre**	**94 km / 162 km**
Crew / survey cost per kilometre swept	24,080 crew-days ÷ 207; ₹0.54cr ÷ 8,160 km	116.3 at 117; ₹662

₹662 a kilometre is what it costs to know how deep the river actually is, swept twenty-four times a year over 340 kilometres. It is one launch, one echo sounder and two people. THE REASON NOBODY ELSE DOES IT IS NEITHER COST NOR DIFFICULTY. IT IS THAT THE RESULT CAN ONLY EVER MAKE YOU LOAD LESS — A SURVEY

> **THAT AGREES WITH THE NOTIFICATION CHANGES NOTHING, AND ONE THAT DISAGREES COSTS YOU TWO HUNDRED TONNES A TRIP.**

13. Funding Requirement & Bankability

Item	Position
Requirement	**₹9.20cr**: ₹3.68cr promoter equity, ₹3.22cr term loan, ₹1.84cr working capital limit, ₹0.46cr unsecured promoter loan
Security	Hypothecation of four owned barges, two ferries and the road fleet; jetty leasehold improvements; assignment of receivables; personal guarantee of the promoter
Debt service	Year 3 EBITDA ₹3.77cr against interest ₹0.50cr and scheduled repayment ₹0.52cr; DSCR 3.70x from Year 3
Half the fleet is deliberately not on the balance sheet	**Four barges are chartered rather than owned because a bad water year is a capacity problem and only a charter can be handed back. A lender should read the ₹3.68cr of owned hulls as the floor of the fleet, not its size**
Seasonality	Under rule (f) low water, fog and night-navigation limits remove roughly a quarter of the crew's paid year; the jetty, ferries and road fleet earn through it
What a lender should test	**Not the tonnage — the grounding count with causes and the share of road legs bought from a line-haul competitor. The first is the only measure of whether the loading rule is real, and the second should be nil in every month of the file**

Year	EBITDA	Interest	Repayment	DSCR
Year 1	₹1.16cr	₹0.30cr	Moratorium	—
Year 2	₹2.34cr	₹0.44cr	₹0.38cr	2.85x
Year 3	**₹3.77cr**	**₹0.50cr**	**₹0.52cr**	**3.70x**

14. Risk Analysis & Mitigation

Risk	Impact	Mitigation

The depth is declared by the party who pays nothing if it is wrong	A waterway runs on a notified least available depth: the authority surveys, publishes and **disclaims — properly, because no body could warrant a live riverbed. SO THE OPERATOR RELIES ON A MEASUREMENT HE DID NOT TAKE, CANNOT CHECK AND IS NOT ENTITLED TO RELY ON, AND HE IS THE ONLY PARTY WITH MONEY AT RISK.** And the river does not wait for the survey cycle: **on our own post-monsoon sounding of 42 chainages, 11 WERE SHALLOWER THAN NOTIFIED — 26.2%, the worst by four hundred millimetres, which on a loaded barge is the whole margin.** When a barge touches, **the lightering, tug, delay, cargo claim, hull survey and off-hire are all ours, and the enquiry asks whether the MASTER exercised proper judgement about under-keel clearance — HE IS ANSWERABLE FOR HAVING BELIEVED A NUMBER THE PUBLISHER EXPRESSLY DECLINED TO STAND BEHIND. At intake the fleet grounded 18 times a year at ₹6.40L each: ₹1.15cr**	**SOUND IT YOURSELF AND LOAD TO WHAT YOU MEASURED. 340 km swept 24 times a year with our own echo sounder, DGPS and survey launch — ₹0.54cr, ₹662 a kilometre — with NO barge loaded to a depth not sounded within the preceding fortnight, whatever the notification says and whatever the shipper will pay for the extra tonnes. A passage plan stating the controlling depth AND ITS SURVEY DATE issued to the shipper before loading, 800 of 800 voyages, and the grounding ledger published WITH CAUSES INCLUDING OUR OWN. It costs 12.5% of every barge-load — 1,400t instead of 1,600, 100 extra trips, ₹0.62cr — and took groundings from 18 a year to 3, ₹0.96cr. GENERAL RULE: WHERE YOU LOAD TO A NUMBER SOMEBODY ELSE PUBLISHES AND YOU ALONE PAY IF IT IS WRONG, SURVEY IT YOURSELF AND LOAD TO YOUR OWN**
The first and last mile are road, so the competitor is also the supplier	**No cargo begins or ends on a river: every consignment is trucked to a jetty and away from one, and those hauliers are THE SAME FIRMS THAT WOULD OTHERWISE HAVE CARRIED IT DOOR TO DOOR. We buy an unavoidable input from a direct competitor who knows that if he prices it high enough the multimodal option fails and he keeps the whole move. At ₹4.80 a tonne-km for 62 km of road legs, water beats road on any leg over 94 km; at ₹6.40 — a rate no regulator would look at twice — the break-even moves to 162 km. A COMPETITOR CAN MOVE OUR VIABILITY THRESHOLD BY 68 KILOMETRES WITHOUT TOUCHING A SINGLE ONE OF OUR COSTS. And it is exactly the hazard §6 creates: loading to our own soundings puts 12.5% less in each barge, raising the water cost per tonne and making the road legs a LARGER share of the door-to-door total — THE MORE HONESTLY WE LOAD, THE MORE OF OUR ECONOMICS SITS IN A PRICE SET BY THE PERSON WHO WANTS US TO FAIL**	**OWN THE ROAD LEGS AND ACCEPT THAT THEY EARN BADLY. A road fleet sized to our own jetty pattern runs at lower utilisation than a dedicated haulier's — ₹0.48cr a year of that — and earns 22%, the worst margin in the book, on 14.6% of revenue. IT IS NOT A BUSINESS LINE; IT IS AN INPUT WE REFUSE TO BUY FROM A RIVAL. Where our own capacity cannot cover a movement we contract only from hauliers who do not compete on the line haul, and 26 consignments worth ₹1.24cr were declined because neither was available. The road fleet is commissioned BEFORE the loading rule bites, because loading light and buying road legs from a competitor at the same time is the worst of both**
Water levels and season	**Under rule (f) low water, fog and night-navigation limits remove roughly a quarter of the crew's paid year; a bad monsoon is ₹1.32cr and ₹0.95cr of PAT**	Jetty handling at 38%, ferries at 34% and the road fleet all earn when the river will not take a loaded barge; four barges chartered so capacity can be handed back; cargo contracts written with stated draught assumptions
Grounding despite the discipline	Three a year remain; one bad one is ₹0.94cr and ₹1.23cr of PAT	Fortnightly soundings and dated passage plans are also the defence file; hull and P&I cover under rule (d); masters empowered to refuse a loading plan without a written override

Diesel and road rates	Fuel is ₹5.20cr and 34.4% of running cost; a 30% rise is ₹0.78cr, and road rates up 33% is ₹0.55cr	Water is already the fuel-efficient mode per tonne-kilometre; bunkering against the voyage plan; the owned road fleet caps the road exposure at the share we still buy in
Cargo concentration	Bulk is 43.9% of revenue and a handful of shippers move most of it	Five streams with different drivers; containerised and project cargo at 26.8%; ferries and third-party jetty handling are unrelated to cargo cycles
Passenger safety on the ferries	A passenger vessel is a stricter regime and a different order of consequence	Passenger certificate, manning scale and life-saving appliances maintained above the minimum; capacity enforced by ticketing rather than by judgement at the ramp

15. SWOT Analysis

Strengths	Weaknesses
The only operator sounding its own fairway and loading to it; groundings down from 18 a year to 3; passage plans published with the controlling depth and its date; own road legs, own jetty; 34% cheaper than pure road door to door	6.8% net margin; commitments cost ₹2.06cr against ₹1.94cr of PAT; 12.5% less in every barge than a competitor with the same hull; a road fleet earning 22%; a quarter of the crew year lost to water and weather
Opportunities	**Threats**
Shippers who have had a season's tonnage delivered late by a grounding; waterway and terminal investment lengthening viable legs; project and over-dimensional cargo that road cannot take; ferry crossings replacing long detours	A haulier pricing the road legs to kill the mode; a bad water year; diesel; and the structural fact that our loading discipline is invisible until somebody else's barge touches

> **The honest summary is that this operator carries two hundred tonnes less in every barge than the boat moored beside it, on the strength of a survey the shipper did not ask for and cannot check. It is paid for by a jetty and ferries that earn when the river will not take cargo, and by shippers who have already watched a season's tonnage arrive late. THE BET IS THAT A CEMENT PLANT WHICH HAS ONCE LOST FOUR DAYS TO A BARGE SITTING ON A BAR WILL START ASKING WHO MEASURED THE DEPTH — AND THAT ON THIS RIVER, ONLY ONE OPERATOR WILL BE ABLE TO ANSWER WITH A DATE.**

16. Recommended AiSevak Tools for This Business

- **Business plan and project report generator** — for barge and road-fleet finance with half the fleet deliberately chartered.
- **Compliance calendar** — inland vessel registration and certificate of fitness, crew certification, jetty licence, passenger certificate and pollution consent, remembering rule (b) that fitness runs on a calendar.
- **Cost and pricing calculator** — cost per tonne-kilometre by water and road, the multimodal break-even against pure road, and loaded tonnage from a sounded depth.
- **GST and invoicing helper** — transport of goods by inland waterway, road haulage and jetty handling at differing treatment, and multimodal documentation.
- **Labour and payroll toolkit** — crew headcount derived from vessel-days and manning scale, EPF, ESI and Minimum Wages.

- **Contract and terms drafting helper** — the loading-rule and draught-assumption clause, passage-plan disclosure, road haulage terms with non-competing contractors, and carrier liability for cargo.
- **Loan and subsidy application helper** — inland waterway and multimodal infrastructure schemes and vessel-building incentives.

> 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 maritime set.

17. Key Assumptions & Notes

- **All financials are illustrative model assumptions, not forecasts, projections or guarantees.** Revenue, tonnage, rates, depths, loaded tonnage and grounding counts are editable inputs; outcomes depend on water levels, dredging, diesel, road rates and cargo cycles. Figures are in Indian rupees. **This plan is the ninth in vertical 58 and inherits the ten maritime anchor rules (a)–(j) from §17 of the ship-repair yard plan — in particular (b) the certificate of fitness and survey cycle run on a calendar; (d) the barge is asset, workplace and confined space at once; (f) capacity is a berth and a depth, which removes about a quarter of the crew's paid year; and (h) engines and marine equipment are import-priced and long-lead.**
- **The central finding is that the depth is declared by the party who pays nothing if it is wrong.** A waterway authority surveys a stretch, publishes the controlling depth and disclaims liability — properly, because no body could warrant a live riverbed. **So the operator relies on a measurement he did not take, cannot check and is not entitled to rely on, and he is the only party in the arrangement with money at risk.**
- **And the river does not wait for the survey cycle.** On our own post-monsoon sounding of 42 chainages, **11 were shallower than notified — 26.2%, the worst by four hundred millimetres, which on a loaded barge is the whole margin.** The notification was not false; it was true when taken, and nobody undertook to keep it true. **When a barge touches, the lightering, tug, delay, claim, survey and off-hire are all the operator's, and the enquiry asks whether the master exercised proper judgement — he is answerable for having believed a number the publisher expressly declined to stand behind. GENERAL RULE: WHERE YOU LOAD TO A NUMBER SOMEBODY ELSE PUBLISHES AND YOU ALONE PAY IF IT IS WRONG, SURVEY IT YOURSELF AND LOAD TO YOUR OWN.**
- **The remedy is our own soundings and our own loading rule.** 340 kilometres swept twenty-four times a year at ₹0.54 crore — ₹662 a kilometre — with no barge loaded to a depth not sounded within the preceding fortnight, and a passage plan stating the controlling depth and its survey date issued before loading on all 800 voyages. **It costs 12.5% of every barge-load — 1,400 tonnes instead of 1,600, a hundred extra trips and ₹0.62 crore — and took groundings from eighteen a year to three, ₹0.96 crore avoided.**
- **The second thread is that the first and last mile are road, so the competitor is also the supplier, and it is the control on the hazard the first remedy creates.** Every consignment is trucked to a jetty and away from one by the same firms that would otherwise have carried it door to door. **At ₹4.80 a tonne-kilometre the multimodal break-even is a 94-kilometre water leg; at ₹6.40 it is 162 — a competitor can move our viability threshold by 68 kilometres without touching a single one of our costs.**
- **And loading light makes it worse, which is why the order matters.** Carrying 12.5% less raises the water cost per tonne and makes the road legs a larger share of the door-to-door total — **so the more honestly we load, the more of our economics sits in a price set by the person who wants us to fail.** Control: **own the road legs and accept 22%, the worst margin in the book, on 14.6% of revenue — ₹0.48 crore a year of low utilisation — contract only from hauliers who do not compete on the line haul, and decline the rest: 26 consignments worth ₹1.24 crore.**

- **Volumes and headcount.** 900,000t of bulk at ₹140, 220,000t containerised at ₹350, 600,000t on our own road fleet at ₹70, 1,120,000t through the jetty at ₹25 and 700,000 ferry passengers at ₹20 — ₹28.70 crore, with 1,120,000 tonnes moved by water across 800 voyages at 1,400 tonnes a barge. **Crew headcount is derived, not chosen: 8 barges × 320 operating days × 8 crew plus 2 ferries × 300 days × 6 = 24,080 crew-days ÷ 207 working days per crew-year = 116.3, staffed at 117**, where 207 is 273 available days × 76% deployable. **That 24% is the finding restated as a staffing number: nearly a quarter of a crew's paid year is spent not moving, mostly because of water depth — precisely the variable this plan refuses to take on trust.** 220 staff at ₹3.32 lakh average CTC; payroll 25.4% of revenue and fuel 34.4% of running cost.
- **Compliance and professional advice.** Inland vessel registration, survey and certificate of fitness under the Inland Vessels Act; crew certification for inland navigation; waterway operating permissions, notified depths and navigation notices; jetty licence, foreshore and storage permissions and pollution consent; passenger vessel survey, manning scale, life-saving appliances and passenger certificate for the ferries; multimodal transport documentation and carrier liability for cargo; hull and P&I cover under rule (d); GST on inland waterway transport, road haulage and handling at differing treatment; Companies Act, EPF, ESI, Minimum Wages and TDS. **Note the structural point: neither problem here is a regulatory failure — the first is a disclaimer that is entirely proper, since a riverbed cannot be warranted and somebody must carry that risk; the second is that a haulier pricing his own service as he likes is doing nothing wrong at all.** Professional advice should be taken on draught-assumption and loading clauses, passage-plan disclosure, road haulage contracting, and carrier liability under a multimodal document.