The rail that decides, prices and proves an outbound transfer.

TECHNOLOGY, FINANCE & IMPACT · 17 PAGES · TECHNOLOGY · FINANCE · IMPACT

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A seventeen-page dossier on the CorpVidesh AI prototype: mechanism matrix, technology selection, the 52-hub tape, Section 195, regulator quorum, financial impact and the competitive position.

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52
FINANCIAL HUBS LIVE

6
REGULATORS ON ONE LEDGER

< 9 min
AUTOMATIC ROUTE CLEARANCE

1,000
LISTED ENTITIES MODELLED

IN PLAIN WORDS

CorpVidesh AI is a working prototype at corpvideshai.com. A treasury picks an entity, a hub and a purpose; the rail prices the transfer on a live foreign exchange tape, tests it against FEMA and Section 195, and writes every step to an append-only record that six Indian regulators read while the transaction is still forming — not months after it settled.

CORPVIDESHAI.COM · DATA RESIDENT IN INDIA · NO CUSTODY OF CLIENT FUNDS · APPEND-ONLY EVIDENCE LEDGER

THE PROBLEM

Indian outbound capital is legal work before it is a payment.

A listed Indian company that wants to place money in one of the world's financial hubs does not have a payments problem. It has a determination problem. Someone must decide the route under the Overseas Investment Rules, test the financial-commitment ceiling against audited net worth, classify the payment for withholding under Section 195, assemble a document set a bank will accept, and then wait while an authorised dealer and several regulators look at the same file one after another.

3–11 wks	70–120 hrs	~30%	1 in 3
TYPICAL ELAPSED TIME	TREASURY AND FINANCE HOURS	FILES THAT DRAW A QUERY	FILES REWORKED

WHERE THE TIME ACTUALLY GOES

- Sequential review: the AD bank, the tax adviser and each regulator see the file in turn, so waiting dominates working.
- Evidence assembled late: the Tax Residency Certificate, Form 10F and no-PE declaration are chased after the decision, not before it.
- Rates that drift: the number in the opinion is not the number at settlement, so the file is re-priced and re-approved.
- Reporting instead of supervision: the regulator learns what happened from a filing, weeks after the money left.

IN PLAIN WORDS

The delay is not caused by the banking system. It is caused by the order in which people look at the file. CorpVidesh AI changes the order.

THE RAIL

One determination, priced and evidenced, with the regulators already on it.

CorpVidesh AI is a compliance rail, not a reporting tool. The treasury enters an entity, a hub and a purpose. The rail resolves audited net worth, tests headroom, classifies the payment, prices the corridor on a live tape, assembles the evidence set, derives the filings and writes each step to an append-only ledger. Six Indian regulators read that ledger in parallel while the transaction is still forming.

01 **Intake**

Entity picked from the top 1,000 NSE/BSE universe; audited net worth, hub, overseas bank and AD Category-I bank resolve automatically.

02 **Classification**

Purpose is matched to the ODI or OPI catalogue; the rail decides route, and whether Section 195 chargeability as royalty or FTS arises.

03 **Headroom**

Rule 7 / 400% financial-commitment ceiling and the OPI 50% cap are tested against audited net worth in the same second.

04 **Pricing**

The corridor is priced on the live tape with an RBI reference gap, charges and withholding, and the rate is stamped into evidence.

> IN PLAIN WORDS
>
> Nothing here is a summary produced after the fact. Each of these steps writes a hashed entry with its statutory basis, its timing and the identity of whoever cleared it.

MECHANISM MATRIX

Layer by layer, from intake to settlement.

01 Intake
Entity picked from the top 1,000 NSE/BSE universe; audited net worth, hub, overseas bank and AD Category-I bank resolve automatically.

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04 Pricing
The corridor is priced on the live tape with an RBI reference gap, charges and withholding, and the rate is stamped into evidence.

05 Evidence
TRC, Form 10F, no-PE declaration, board resolution and valuation are tracked to completeness before the packet moves.

06 Filing
Form 15CA part and 15CB requirement are derived under Rule 37BB; FEMA forms and the AD bank instruction are assembled.

07 Quorum
Six regulators pick the packet off one append-only ledger and clear seventeen checks in parallel lanes, not in sequence.

08 Settlement
The AD Category-I bank executes; the ledger closes with hashes, timings and the identity of whoever cleared each step.

> IN PLAIN WORDS
> Steps 01 to 06 belong to the treasury and run in seconds. Step 07 is where the design earns its clearance time: the six regulators are lanes on one record, so their work overlaps instead of queueing.

Technology and why this technology

COMPONENT	WHAT IT IS	WHY IT IS USED HERE — AND NOWHERE ELSE
TanStack Start + React 19	Server-rendered rail, typed routes, streaming loaders	Regulators open a link and see the same record the treasury sees, rendered on the server, indexable and shareable without an install.
LangGraph multi-agent graph	Coordinator, retriever, grader, corrective rewrite, drafter, QA, finalise	Statutory reasoning is a graph, not one prompt: a bad retrieval is graded and re-queried instead of hallucinated into an opinion.
Corrective RAG + embeddings	Vector retrieval over FEMA, OI Rules, Section 195, Rule 37BB, with lexical fallback	Every determination cites the provision it came from; when confidence drops the graph rewrites the query or escalates to external lookup.
LCEL streaming chains	Async, parallel node execution inside the graph	Six regulator lanes and the pricing engine run concurrently, which is what turns a multi-week file into a sub-nine-minute clearance.
LangSmith + local telemetry	Traces, latency, token and cost evaluation per run	An enterprise rail must be auditable in production, not only in a demo; cost and latency per determination are recorded.
Hash-chained evidence ledger	Append-only entries, per-step hashes, replayable at second resolution	Tampering is arithmetically visible. The regulator does not receive a report — it sits on the record.
Live FX fabric	Interbank feed with RBI reference rates, licensed terminal adapters, 24h streaming	Pricing, withholding and headroom are struck at a stamped rate, so the number in the evidence pack is the number of that second.
MCP-shaped secure tools	Role-authorised tool calls, approval gates, append-only tool ledger	Agents cannot touch a filing or a bank instruction without an authorisation and a recorded approval.
Three.js deterministic theatres	Money flow, regulator quorum, federated mesh, breach response	Supervisors and investors watch the mechanism rather than read about it — the simulation is driven by the same state as the rail.

ARCHITECTURE

Eight layers of a proof of concept, not a demo.

01 **Context and prompt engineering**
Statutory context is compiled per determination: entity facts, hub, purpose, treaty, live rate — no free-form prompting.

02 **Vector retrieval with a corrective loop**
Embeddings over the rule corpus; a grader scores relevance and forces a rewrite or an external lookup before drafting.

03 **Multi-agent execution graph**
Specialised nodes — retriever, grader, drafter, QA — coordinated by LangGraph rather than one monolithic model call.

04 **Bounded agent memory**
Per-desk memory of prior determinations and corrections, capped and inspectable, so the rail improves without drifting.

05 **Secure tool connections**
MCP-shaped, role-authorised tools with approval gates and an append-only tool ledger for anything that writes.

06 **Evaluation harness**
A regression suite scores clearance, classification and filing outputs on every change, with cost and latency recorded.

07 **Observability and operations**
Tracing, per-node latency, token and cost telemetry, threshold alerts and exportable run history.

08 **Evidence and settlement layer**
Hash-chained ledger, second-resolution replay, CSV/JSON exports of every step's statutory basis and timings.

> IN PLAIN WORDS
>
> Retrieval, memory, evaluation and secure tool connections are the four things that separate a working prototype from a demonstration. All four are in the rail and all four are inspectable in the product.

What is running today at corpvideshai.com.

DESK	PATH	WHAT IT DOES
Prediction surface	/intelligence	One folded forecast surface: clearance time, cost, FX drift, rework risk, query risk and FEMA headroom, each opening with a forecast and a recommended action.
Currency radar	/	52 currencies streaming against the rupee 24×7, with p50/p90 twelve-month cases and OPI conviction for treasury heads.
OPI portfolio book	/portfolio	Radar calls booked as live positions with allocation, hedge ratio and rupee translation P&L, marked continuously and exportable.
Routes	/routes	Automatic and approval route intake with 3D execution of the money's path through the AD Category-I bank to the overseas bank.
Section 195 desk	/section195	52 hubs × 52 payment natures: royalty/FTS chargeability, treaty rate, TRC and Form 10F tracking, 15CA/15CB derivation.
Supervisor	/supervisor	Six regulator lanes reading one append-only ledger with a live clock and replay between 0.25× and 2×.
Case file	/casefile	Second-resolution audit replay of a real-scale remittance, with a custom dataset builder and shareable state.
Security theatre	/security	Four automated breach scenarios on a 3D federated mesh, with time-to-quorum, containment rates and telemetry export.
Proof desks	/proof	Side-by-side scenarios against Bloomberg, Reuters/LSEG, RBI FIRMS, ClearTax/Signzy and SWIFT gpi, with adjustable assumptions.
Architecture	/architecture	The eight-layer proof-of-concept architecture, live retrieval probe included.

52 HUBS

The corridor map, streaming against the rupee.

Fifty-two financial hubs are modelled with their real exchanges, indices and currencies. Each hub carries a live rate against the rupee, an RBI reference gap, five years of movement and the local market session, so a treasury can see both the price of the corridor and the state of the destination market at once.

52	**24×7**	**5 yrs**	**RBI**
HUBS AND CURRENCIES	STREAMING TAPE	HISTORY PER PAIR	REFERENCE GAP SHOWN

WHAT THE TAPE DRIVES

- Corridor pricing and charges on every route execution, stamped into evidence at the second of capture.
- Withholding computed on the rate actually used, not on a rate quoted in an opinion a week earlier.
- OPI conviction on the currency radar: p50 and p90 twelve-month cases, volatility and hedge ratio per currency.
- The live OPI book: allocation, hedge cover and rupee translation profit and loss, marked as the tape moves.

> **IN PLAIN WORDS**
> Because the rate is captured rather than typed, the number in the regulator's copy of the file and the number in the treasury's copy can never disagree.

SECTION 195

Chargeability, documentation and filings in one determination.

The hardest ordinary question in Indian outbound payments is whether a payment to a non-resident is royalty, fee for technical services, business profit or something outside charge. The rail answers it explainably across 52 hubs and 52 payment natures, with the treaty position, the documentation state and the filing consequence derived together.

ELEMENT	HOW THE RAIL HANDLES IT
Chargeability	Royalty / FTS / business profit classification with the limb of the definition relied on and the treaty article applied.
Treaty relief	Beneficial rate tested against the domestic rate, subject to TRC, Form 10F and beneficial-ownership state.
Documentation	TRC, Form 10F, no-PE declaration and agreement tracked to a completeness score before the packet can advance.
Form 15CA	Correct part derived under Rule 37BB from amount, chargeability and remittance nature.
Form 15CB	Requirement flagged and the accountant's certificate assembled from the same determined facts.
Exposure	Forecast of query risk, section 40(a)(i) disallowance exposure, interest and penalty, and annual withholding.

IN PLAIN WORDS

One set of facts produces the classification, the rate, the document list and the filing — so the four cannot contradict each other, which is where most notices actually come from.

Six lanes, one record, parallel clearance.

Six Indian regulators operating across GIFT City, Gujarat read the same append-only ledger the treasury writes to. Each has an automated work queue with its own statutory checks, its own approval console and an expected turnaround measured in seconds or minutes rather than weeks.

LANE	WHAT IT CLEARS
Authorised dealer supervision	Route eligibility, AD Category-I handling, remittance instruction integrity.
Exchange control	FEMA route, financial-commitment ceiling and purpose validity under the OI Rules.
Securities and disclosure	Listed-entity disclosure obligations and related-party consequences.
Tax and withholding	Section 195 chargeability, treaty relief and Rule 37BB filings.
Financial intelligence	Screening, sanctions and pattern review across the corridor.
IFSC supervision	GIFT City routing, unit eligibility and onshore-offshore treatment.

IN PLAIN WORDS

Seventeen statutory checks run as parallel lanes. Manual intervention is the exception, reserved for the cases the rail itself flags as unusual — which is why clearance lands under nine minutes.

EVIDENCE

The record is the product.

- Every step writes an entry: what was decided, the statutory basis, the timing, the rate captured and who cleared it.
- Entries are hash-chained, so a later alteration breaks the chain visibly rather than silently.
- The whole run replays at second resolution, with the parallel lanes and the gaps between them shown as they happened.
- Machine-readable exports — CSV and JSON — carry each step's statutory basis and timings for archival and audit.
- Shareable links preserve the exact dataset, baseline and step, so a reviewer opens precisely what was presented.

> **IN PLAIN WORDS**
> A regulator does not want a narrative. It wants the record, in the order it was created, with the arithmetic attached.

FINANCIAL IMPACT

What the compression is worth per transfer.

LINE	TODAY	ON THE RAIL	MOVEMENT
Legal and advisory per transfer	₹3.5 – 8 lakh	₹0.6 – 1.2 lakh	~82% lower
Treasury and finance hours	70 – 120 hours	6 – 9 hours	~92% lower
Elapsed time to clearance	3 – 11 weeks	under 9 minutes	orders of magnitude
Rework from incomplete filings	1 in 3 files	near zero	completeness gate
Cost of capital idled in transit	18 – 60 days	same day	released working capital
Regulatory query rate	roughly 30%	single digit	evidence pre-cleared

~82%
LOWER ADVISORY COST

~92%
FEWER TREASURY HOURS

< 9 min
CLEARANCE, NOT WEEKS

Same day
CAPITAL RELEASED

IN PLAIN WORDS

A single large outbound file carries between three and eight lakh rupees of advisory cost and up to three months of idle capital. Compress both and the saving is not a rounding item — it is the return on the transaction.

FINANCIAL ENGINEERING

How the saving is actually constructed.

MECHANISM	EFFECT
Parallel regulator lanes	Removes sequential waiting, which is the largest single component of elapsed time.
Completeness gate before submission	Removes the rework loop, which is the largest single component of advisory cost.
Stamped live rates	Removes re-pricing and re-approval when the rate moves between opinion and settlement.
Derived filings from determined facts	Removes the reconciliation between the tax view, the FEMA view and the bank's view.
Continuous headroom testing	Removes the failed submission caused by breaching the commitment ceiling mid-year.
Hedge-aware OPI book	Converts an unmanaged translation exposure into a measured one with a stated hedge ratio.

₹3.5–8L
ADVISORY COST TODAY

₹0.6–1.2L
ON THE RAIL

18–60 days
CAPITAL IDLED TODAY

Same day
ON THE RAIL

IN PLAIN WORDS

Each line above removes a specific loop, and each loop has a rupee cost and a calendar cost. The compression is arithmetic, not optimism.

IMPACT

Integrity for corporates, realisation for the exchequer.

WHO	WHAT CHANGES
Indian corporates	Outbound investment stops being a legal project and becomes a treasury action, priced and evidenced in one sitting.
AD Category-I banks	Packets arrive complete and pre-classified, so the bank's own compliance load falls instead of rising with volume.
Six Indian regulators	Supervision moves from post-facto reporting to sitting on the record while the transaction forms.
GIFT City, Gujarat	A credible domestic rail keeps structuring, evidence and supervision onshore instead of exporting them.
The exchequer	Correct withholding at source under Section 195, captured at the moment of remittance rather than reconstructed at assessment.

Integrity improves because the evidence is assembled before the decision rather than after the query. Realisation improves because withholding under Section 195 is determined at the moment of remittance, on a stamped rate, with the treaty position and the Rule 37BB filing derived from the same facts. What the Government recovers late today is captured correctly at source on the rail.

> **IN PLAIN WORDS**
> Faster is the visible benefit. Correct-at-source is the fiscal one.

COMPETITION

Why the incumbents are not in this class.

PLATFORM	WHAT IT DOES WELL	WHY IT DOES NOT COMPETE HERE
Bloomberg Entity Exchange	Counterparty onboarding and document exchange	No FEMA route test, no Rule 7 headroom, no 15CA/CB, no Indian regulator on the record.
Reuters / LSEG	Market data and screening	Prices the currency, not the transfer. No statutory determination, no evidence chain, no clearance.
RBI FIRMS	Statutory reporting of what already happened	Post-facto filing. It cannot price, cannot pre-clear, cannot run six regulators in parallel.
ClearTax / Signzy	Domestic tax filings and KYC automation	Strong in-country, but no cross-border route logic across 52 hubs and no regulator quorum.
SWIFT gpi	Payment tracking once money is moving	Tracks the wire after clearance. The hard part — deciding lawfully — sits before gpi begins.

Each incumbent owns one slice: data, onboarding, filing, tracking. None of them makes the statutory determination, prices it on a live tape, proves it with a hash-chained evidence set and puts six Indian regulators on the same record while the transfer is still forming. The category CorpVidesh AI occupies is the decision itself.

> IN PLAIN WORDS
>
> Bloomberg tells you the rate. FIRMS records what you did. CorpVidesh AI decides, prices, proves and clears — in that order, in one sitting.

OWNERSHIP MATRIX

Who designed what.

MEMBER	ROLE	OWNERSHIP
Raja Mukherjee	Team Lead	Rail architecture, mechanism matrix, regulator quorum design, evidence ledger model, investor narrative.
Priyanshu Dhar	Team Co-Lead	Route execution design (automatic and approval), hub and corridor modelling, financial impact analysis, prototype QA.
Abhispa Nath	Concept Support	Concept framing, process research across the 52 hubs, presentation system, evidence checklists.
Aditi Kukarni	Concept & Corporate Law Support	Corporate law and statutory mapping, FEMA and Section 195 rule sets, documentation and disclosure standards.

POSTURE

- Data resident in India.
- No custody of client funds — the rail decides and evidences; the AD Category-I bank moves the money.
- Append-only evidence ledger; entries are hashed and replayable at second resolution.
- Prototype — not legal advice.

> IN PLAIN WORDS
>
> Team Quantum Leap, Department of Law, Brainware University. Raja Mukherjee (BWU/BBL/25/002), Priyanshu Dhar (BWU/BBL/24/158), Abhispa Nath (BWU/BBL/25/121), Aditi Kukarni (BWU/BBL/25/081).

CLOSE

Compliance at the speed of settlement.

CorpVidesh AI turns the most document-heavy transaction an Indian corporate performs into a single, evidenced, priced determination that six regulators watch as it forms. It is a prototype, and it runs: corpvideshai.com.

52 HUBS LIVE	**6** REGULATORS ON ONE LEDGER	**< 9 min** CLEARANCE	**17 pp** THIS EDITION

TEAM QUANTUM LEAP

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IN PLAIN WORDS

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