Kernex Microsystems (India) Ltd — FY 2023 Annual Report Analysis

Annual Report Analysis (Consolidated)

Investor Snapshot

#	Analytical point	Sentiment
1	**Kernex Microsystems operates as a niche technology player with a significant moat as an RDSO-approved vendor for the SIL-4 certified "Kavach" railway safety system.**	—
2	***Revenue experienced a severe 39% YoY contraction to 4.00 Cr, driven primarily by a catastrophic 82% collapse in domestic sales to just 0.93 Cr.***	—
3	***The cost structure is fundamentally unviable at current scales, with operating expenses now 5x the size of total revenue, leading to deep operational inefficiency.***	—
4	***Net Loss widened to 20.00 Cr, resulting in a negative ROCE of -23% and technical insolvency without continuous external capital infusions.***	—
5	**Total debt was reduced to □11.00 Cr, though this was achieved through equity-funded repayments and loan-to-equity conversions rather than operational cash flow.**	—
6	***Cash Flow from Operations (CFO) reached a staggering negative 36.00 Cr, fueled by a 1,953% surge in vendor advances which now stand at 338% of annual sales.***	—
7	***Capital allocation is highly value-destructive, with 53.32 Cr in equity dilution used as a lifeline to fund operating losses and massive cash leakages to vendors.***	—
8	***Earnings quality is exceptionally poor, characterized by unbilled revenue at 45% of sales and 83% of trade receivables being aged over three years.***	—
9	***Governance concerns are acute, marked by RPTs exceeding total revenue, a doubling of managerial pay during deep losses, and failure to dematerialize promoter holdings.***	—
10	***Systemic risk is high with contingent liabilities of 36.53 Cr (9x annual revenue) and 20.65 Cr in receivables currently trapped in arbitration.***	—
11	The outlook remains a binary bet on the "Mission Raftar" 34,000 km Kavach rollout, contingent on the company's ability to pivot from a "cash trap" to execution.	—
12	***Investment View: Avoid; key monitorables include the reduction of vendor advances to < 2 Cr and the transition to positive CFO.***	—

1. Business overview (In Bullet Points)

- **Primary Product:** Kernex Microsystems is a specialized player in the railway safety signaling sector, primarily focused on the **Train Collision Avoidance System (TCAS)**, now branded as "Kavach" (SIL-4 certified indigenous safety system).
- **Revenue Model:** The business is project-based, relying on government tenders with a high concentration of revenue from Indian Railways.
- **Industry Position:** As one of the few RDSO-approved vendors for Kavach technology, the company holds a strategic entry barrier but is currently transitioning from an R&D-heavy firm to a large-scale execution partner.
- **Geographical Presence:** While primarily domestic, the company has a presence in international markets including Egypt, Sri Lanka, and South Africa to de-risk from single-customer dependency.

- **Expansion & Capacity:** Management is pivoting toward "scaling up" to meet the Indian government's goal of 2,000 route-km of Kavach rollout.
- **Segment Performance:** Domestic revenue collapsed from ₹5.27 Cr to ₹0.93 Cr, forcing a pivot to exports, which now constitute 76.24% of total turnover.
- **Cost Drivers:** Key drivers include high R&D intensity for "Mission Raftar" (160 kmph) requirements, an 88% increase in headcount (from 87 to 164) for project management, and significant working capital drags due to government payment delays.
- **Acquisitions & Capital:** The company is heavily reliant on preferential allotments and warrants (proposing to raise ₹52.39 Cr) to sustain operations and repay Inter-Corporate Deposits (ICDs).

2. Management commentary & outlook

- Management is positioning Kernex as a "National Champion" in rail safety, riding the tailwinds of the Vande Bharat and Kavach initiatives.
- The strategy is shifting toward "industrialization" and scaling up to meet the government's "Mission Raftar" (34,000 km target).
- Management signals a "healthy order book" and expects a "substantial increase in production," though no specific revenue or margin guidance was provided.
- Execution bottlenecks are admitted, specifically "delays in government procedures to finalize orders," which is cited as the primary reason for inadequate profits.
- The company is exploring diversification into Defense (embedded systems), EMS (Electronic Manufacturing Services), and Yard Management.
- Significant churn occurred in the C-suite with the resignations of both the CEO (K. Satyanarayana Raju) and CFO (V. Ramayya) during the year.
- Despite a Net Loss of ₹19.86 Cr (Standalone), the board approved increases in managerial remuneration and a 1% profit-sharing clause for FY24.
- Management Tone: Aggressively Optimistic on Macro / Defensive on Governance. Management is highly bullish on the industry outlook, bordering on promotional, yet there are significant red flags regarding liquidity and the "Trade-to-Trade" (T2T) status of the stock due to the promoters' failure to dematerialize holdings. The final verdict is that Kernex is a "binary bet" on execution where technological moats are offset by internal friction and continuous equity dilution.

3. Financial analysis

3.1 Financial statements

P&L statement (□Cr)

Line item	Mar 2023	Mar 2022
Sales	4	7
Sales Growth %	-39	-64
Expenses	21	16
Material Cost %	70	55
Raw material cost	4	3
Change in inventory	-1	1
Manufacturing Cost %	137	63
Employee Cost %	209	100
Other Cost %	100	24
Operating Profit	-17	-9
OPM %	-416	-142
Other Income	1	-3
Exceptional items	0	-3.67
Other income normal	0.78	0.98
Interest	1	3
Depreciation	2	1
Profit before tax	-20	-17
Tax %	2	2
Net Profit	-20	-17
Minority share	0	0
Exceptional items AT	0	-4
Profit excl Excep	-20	-14
Profit for PE	-20	-14
Profit for EPS	-20	-17
Profit Growth %	-46	-827
EPS (□)	-12.82	-13.76
Dividend Payout %	0	0

Balance sheet (□Cr)

Line item	Mar 2023	Mar 2022
Equity Capital	15	12
Reserves	67	36
Borrowings	11	18
Long term Borrowings	0	0
Short term Borrowings	10	18
Other Borrowings	0	0
Other Liabilities	11	14
Non controlling int	0	0
Trade Payables	0	2
Advance from Customers	1	0
Other liability items	10	12
Total Liabilities	104	80
Fixed Assets	24	25
Land	4.51	4.51
Building	38.75	38.75
Plant Machinery	14.17	13.99
Equipments	1	1
Furniture n fittings	1.24	1.24
Vehicles	1.58	1.13
Intangible Assets	0	0
Other fixed assets	1.51	1.51
Gross Block	62.76	62.13
Accumulated Depreciation	39.02	36.64
CWIP	3	0
Investments	0	0
Other Assets	78	55
Inventories	17	10
Trade receivables	0	11
Receivables over 6m	0	24.75
Receivables under 6m	0	6.66
Prov for Doubtful	0	-20.56
Cash Equivalents	33	19
Loans n Advances	10	1
Other asset items	18	14
Total Assets	104	80

Cash flow statement (□Cr)

Line item	Mar 2023	Mar 2022
Cash from Operating Activity	-36	-5
Profit from operations	-14.43	-9.62
Receivables	1.64	1.13
Inventory	-5.07	1.20
Payables	-1.42	-0.63
Loans Advances	0	0
Other WC items	-16.71	3.31
Working capital changes	-21.56	5.01
Cash from Investing Activity	-1	-7
Fixed assets purchased	-0.63	-0.16
Fixed assets sold	0	5.54
Capital WIP	0	0
Interest received	0	0.91
Other investing items	0	-12.84
Cash from Financing Activity	45	0
Proceeds from shares	53.32	0
Proceeds from borrowings	4.98	0
Repayment of borrowings	-12.33	-2.19
Proceeds from deposits	0	0
Interest paid fin	-0.82	-3.29
Application money refund	0	5.52
Other financing items	0	0
Net Cash Flow	9	-11
Free Cash Flow	-37	1
CFO/OP	214	49

Key ratios

Line item	Mar 2023	Mar 2022
Debtor Days	0	596
Inventory Days	2,141	967
Days Payable	43	177
Cash Conversion Cycle	2,098	1,385
Working Capital Days	1,219	226
ROCE %	-23	-13

3.2 Financial analysis summary

- **Revenue** plummeted by 39% to ₹4.00 Cr, driven by a collapse in domestic sales from ₹5.27 Cr to ₹0.93 Cr, while the business pivoted to exports which now constitute 76.24% of total turnover; quality is poor as ₹1.83 Cr is recognized as unbilled revenue (45% of total) and ₹20.65 Cr of Trade Receivables remains trapped in long-standing arbitration.
- The company reported a massive **Net Profit** loss of ₹20.00 Cr, as Other Expenses of ₹10.36 Cr and Employee Cost of ₹7.98 Cr collectively represent over 4.5x the total Revenue, indicating a structurally unviable cost model.
- **Working Capital** has become a severe cash trap, with Inventory rising to ₹17.00 Cr and Inventory Days ballooning to 2,141 days, largely due to ₹7.05 Cr in Work-in-Progress for unbilled projects.
- A 1,953% surge in **Advance to Vendors** to ₹13.76 Cr (representing 338% of annual Revenue) directly contributed to the negative CFO of -₹36.00 Cr, suggesting either massive pre-buying or potential cash siphoning.
- **Cash Flow from Operations (CFO)** of -₹36.00 Cr significantly diverged from the Net Profit loss of ₹20.00 Cr, primarily due to ₹21.56 Cr consumed by Working Capital changes, resulting in a Free Cash Flow (FCF) of -₹37.00 Cr.
- **Financing Activity** provided a lifeline through Proceeds from shares totaling ₹53.32 Cr, which was used to fund the operating cash burn and increase Cash Equivalents to 33.00 Cr.
- **Total Debt** of ₹11.00 Cr includes high-cost unsecured loans from directors at 18% interest and Inter Corporate Deposits at 15%, leading to a negative Interest Coverage of -18.22.
- **Asset Turnover** has deteriorated to a negligible 0.04x as Total Assets expanded to ₹104.00 Cr while Revenue shrank, signaling extreme underutilization of the Gross Block of ₹62.76 Cr; ROCE worsened to -23.00%.
- **Other Expenses** of ₹10.36 Cr are 2.5x the total Revenue, with professional and consultancy fees doubling to ₹0.66 Cr due to ongoing legal disputes, and a sharp, poorly explained spike in "Rates and Taxes" from ₹0.15 Cr to ₹0.80 Cr.
- **Other Assets** are dominated by the ₹13.68 Cr vendor advances and ₹4.10 Cr in statutory balances, while Other Liabilities include ₹3.69 Cr in expenses payable, reflecting a strained liquidity position.
- The dominant financial theme of the year is one of severe financial distress where a collapsing domestic revenue base and a cost structure 5x the size of income have left the company entirely reliant on massive equity dilution to fund a widening liquidity hole in vendor advances and stagnant inventory.

3.3 Contingent liabilities & commitments

- **Bank Guarantees Outstanding:** ₹27.97 Cr (Significant increase from ₹16.99 Cr in FY22).
- **Income Tax Demands:** ₹4.85 Cr.
- **Claims not acknowledged as debt:** ₹8.56 Cr.
- **GST Demands:** ₹0.27 Cr.
- **Legal Disputes:** A specific order from Cairo Economic Court directs the company to pay USD 3.42 Lakhs and Egyptian Pounds 4.98 Lakhs plus 5% interest to a local agent (contested).
- **Litigation:** Significant litigation with former MD (Col LV Raju) involving remuneration arrears and a Section 138 cheque bouncing case.
- **Total Contingencies:** Approximately ₹36.53 Cr, which is nearly 9x the annual revenue.

3.9 Earnings quality & forensic checks

#	Check	Impact	Status	Notes detail
1	PAT vs CFO trend	Profit ↓ — earnings overstate cash; □13.68 Cr vendor advance build absorbs CFO conversion.	—	Forensic: Negative cash flow divergence driven by "Other Current Assets" surge.
2	Receivables & channel-stuffing signal	Revenue ↑↓ — high recovery risk; net receivables of □9.15 Cr are 226% of revenue.	—	Note 8: 83% of gross receivables are >3 years old; many stuck in arbitration.
3	Revenue timing (unbilled / contract assets)	Revenue ↑ — aggressive recognition; unbilled revenue of □1.83 Cr is 45% of total sales.	—	Note 12: High reliance on estimates for revenue recognition before actual billing.
4	Revenue from related parties %	Revenue ↑↓ — concentration risk; related party receivables represent 45% of "good" trade debt.	—	Note 31: High concentration in one related party raises recoverability and circularity concerns.
5	Inventory vs revenue growth	Profit ↓ — obsolescence risk; inventory rose 70% while sales plummeted by 39% YoY.	—	Note 7: Includes □7.05 Cr Work-in-Progress for projects completed but not yet billed.
6	Inventory valuation method change	Neutral — consistent policy; weighted average method used with □2.49 Cr slow-moving provision.	—	Note 2.7: No change in valuation method; provision for slow-moving stock maintained.
7	Exceptional items in operating profit	Neutral — no current impact; prior year exceptional items were correctly excluded from operations.	—	P&L Statement: Exceptional items were □0 in FY23 vs □3.67 Cr in FY22.
8	Depreciation rate vs useful life policy	Profit ↓ — accelerated expense; depreciation doubled despite flat gross block using WDV method.	—	Note 2.3: WDV method results in higher charges in early years of asset life.
9	Provision reversals boosting PAT	Profit ↓ — no boost; ECL provisions increased slightly rather than being reversed to income.	—	Note 2.5: Application of ECL model to impaired Konkan Railway dues.
10	Tax rate consistency	Neutral — loss-making status; 2% tax rate consistent with deferred tax adjustments on losses.	—	P&L Statement: Minimal tax impact due to significant accounting losses of □20 Cr.
11	CWIP age and stalling projects	Profit ↓ — capitalization risk; new □3 Cr CWIP appears while core revenue is declining.	—	Balance Sheet: Fresh capitalization of projects despite a 39% drop in operational revenue.
12	Deferred tax asset recognition adequacy	Profit ↓ — conservative stance; lack of DTA recognition suggests management doubts future profitability.	—	Note 2: Subsidiary accounts on cash basis may further distort consolidated tax timing.
13	RPT quantum and trend	Profit ↓ — value leakage; managerial pay doubled to □0.94 Cr despite □20 Cr loss.	—	Note 31: Directors' loans carry high 18% interest rates, suggesting expensive promoter funding.
14	Dividend paid vs FCF adequacy	Neutral — no payout; negative FCF of □37 Cr precludes any sustainable dividend distribution.	—	Cash Flow: Proceeds from shares (□53.32 Cr) used to fund operations, not dividends.
15	Auditor Emphasis of Matter	Profit ↓ — asset impairment risk; uncertainty over recovery of □24.8 Cr in dues.	—	Auditor flagged significant uncertainty regarding realization of these long-standing balances.
16	Internal Control Weakness	Neutral — process integrity risk; qualified remarks on internal financial controls.	—	

#	Check	Impact	Status	Notes detail
				Auditor noted deficiencies in the operating effectiveness of internal controls over financial reporting.
17	Subsidiary Accounting Basis	Profit ↑↓ — timing distortion; subsidiaries use cash basis while parent uses accrual.	—	Departure from accrual basis for subsidiaries may distort consolidated financial timing and tax.

4. Management & governance

A. Auditor report & key audit matters

- **Audit Opinion:** Unqualified.
- **KAM - Revenue Recognition:** Auditor flagged risks regarding the timing of control transfer and management's assessment of performance obligations, especially for milestone-based railway projects.
- **Emphasis of Matter - Recoverability of Related Party Dues:** Auditor highlighted uncertainty regarding the recovery of □4.15 Cr from Comptek Computer Systems.
- **Emphasis of Matter - Arbitration Dues:** Significant uncertainty exists regarding the realization of □20.65 Cr stuck in arbitration with Konkan Railway.
- **Internal Controls:** The Auditor issued qualified remarks in the CARO report regarding the adequacy and operating effectiveness of internal financial controls over financial reporting.
- **Going Concern:** Not explicitly qualified, but the auditor noted a consolidated loss of □20.02 Cr and negative operating cash flows of □32.07 Cr.

B. Related party transactions

Party	Relationship	Nature	Amount (□ Cr)	Concern
Comptek Computer Systems	Related Party	Outstanding Receivables	4.15 Cr	***45% of "good" receivables; recoverability flagged by auditor***
Directors	Promoters	Unsecured Loans (Balance)	2.00 Cr	***High-cost funding at 18% interest rate***
Directors	Promoters	Interest Paid	0.89 Cr	***Cash leakage via high interest despite heavy losses***
Promoters	Promoters	Loan Conversion	4.14 Cr	**Debt-to-equity improvement via conversion**
Ms. Sreelakshmi Manthena	Director	Remuneration from Subsidiary	0.48 Cr	Paid via US subsidiary (Avant-Garde)

- **RPT Risk Checks:** Total RPT of □5.04 Cr against Revenue of □4.04 Cr (124.75%) is a **major RED flag**.
- **Trend:** Managerial remuneration doubled from □0.43 Cr to □0.94 Cr despite deteriorating performance.
- **Economic Substance:** Questionable; the company pays 18% interest to directors while carrying □13.68 Cr in advances to vendors.

C. Shareholding

- **Pledged Shares:** Not disclosed in AR; assumed 0.00%.

- **Promoter Dematerialization:** A major red flag exists as promoters have failed to dematerialize their entire holding, leading to "Trade-to-Trade" (T2T) stock status.

D. Board composition + KMP compensation

- **Total Directors:** 9 | **Independent %:** 33.33% | **Women Directors:** 1 (Ms. Sreelakshmi Manthena).
- **Family Relations:** The Board is heavily concentrated with the **Manthena** family (Dr. Anji Raju, Ms. Sreelakshmi, Sri. Sitarama Raju, and Sri. Manthena Badari Narayana Raju).
- **Compensation vs Performance:** Total KMP compensation rose to □0.94 Cr (from □0.43 Cr) while **EBITDA (Operating Profit)** deteriorated by 88.89% to -□17.00 Cr.
- **Specific Hikes:** Manthena Badari Narayana Raju's remuneration grew by 43.48% despite a 39% revenue collapse.

F. Capital allocation & capex

Action	FY current (□Cr)	FY prior (□Cr)	Signal
Equity Issuance / Dilution	53.32 Cr	0.00 Cr	—
Working Capital Investment	21.56 Cr	-5.01 Cr	—
Interest Payments	0.82 Cr	3.29 Cr	—
Loans to Subsidiaries	4.80 Cr	Not disclosed	—
Net Debt Change	-7.00 Cr	0.00 Cr	—
Capex	0.63 Cr	0.16 Cr	—

- **CAPEX Analytical Notes:**
  - **CFO Coverage:** CFO/Capex ratio is -50.9x; funding gap is bridged entirely by equity dilution.
  - **Nature:** Primarily maintenance (□0.63 Cr) with □3.00 Cr in CWIP.
  - **Efficiency:** Revenue fell 39% despite increased gross block, indicating zero incremental return.
  - **Takeaway:** The primary drain on capital is the □**13.68 Cr trapped in vendor advances**, not productive capex.

H. Risks

- **Litigation Risk:** Arbitration with Konkan Railway for □20.65 Cr. **Impact:** Potential write-off of 20% of total assets if arbitration fails. (Severity: High)
- **Liquidity Risk:** Negative CFO of □32.07 Cr and 18% promoter debt. **Impact:** Risk of insolvency if equity fundraising cannot be sustained. (Severity: High)
- **Concentration Risk:** 100% reliance on Railway sector. **Impact:** Revenue volatility linked to government tender cycles. (Severity: Medium)
- **Asset Quality Risk:** 83% of gross receivables are >3 years old. **Impact:** Further impairments likely beyond the □20.63 Cr already provisioned. (Severity: High)
- **Contingent Liability:** Bank Guarantees of □27.97 Cr. **Impact:** Total contingencies (□36.53 Cr) are 9x annual revenue; potential for massive cash drain. (Severity: High)
- **Related Party Risk:** □4.15 Cr receivable from Comptek. **Impact:** Potential capital siphoning; auditor flagged recoverability. (Severity: Medium)

5. Scorecard & verdict

Part a: scorecard

Dimension	Rating (1–5)	Delta	Key evidence	One-line rationale
Business quality	2	—	100% Railway dependence; Revenue -39% YoY	Niche tech moat offset by extreme customer concentration and execution failure.
Financial health	1	—	CFO -□36 Cr; Interest Coverage -18.2x	Technically insolvent without constant equity infusions; cost structure is 5x revenue.
Earnings quality	1	—	Unbilled Rev 45%; Vendor Advances 338% of Sales	Aggressive recognition and massive cash outflows to vendors suggest poor earnings quality.
Management & governance	2	—	RPT > Revenue; Remuneration doubled during loss	Poor alignment with minority shareholders and significant family concentration on board.
Capital allocation & earnings visibility	1	—	ROCE -23%; FCF -□37 Cr	Value-destructive allocation; equity dilution used to fund operating losses and vendor advances.

Business positives (for this company this year) * **Technological Moat:** One of the few RDSO-approved vendors for the SIL-4 certified "Kavach" system. * **Export Traction:** Successfully pivoted to international markets, with export revenue reaching □**3.08 Cr** (76% of total). * **Debt Reduction:** Reduced total debt to □**11.00 Cr** through equity-funded repayments and loan-to-equity conversions. * **Market Opportunity:** High demand visibility via the Indian Railways "Mission Raftar" target of 34,000 km.

Business negatives / concerns (for this company this year) * **Revenue Collapse:** Domestic revenue plummeted by **82%** to just □0.93 Cr. * **Cash Drain:** Reported a staggering negative **CFO of -□36.00 Cr** against a revenue of only □4.00 Cr. * **Vendor Advance Surge:** Disproportionate **1,953% increase** in advances to vendors reaching □13.76 Cr. * **Asset Impairment: 83%** of trade receivables are older than 3 years, with □20.65 Cr stuck in arbitration. * **Governance Red Flag:** Promoters failed to dematerialize holdings, resulting in **Trade-to-Trade (T2T)** stock status. * **Remuneration Misalignment:** Managerial pay doubled to □**0.94 Cr** while the company lost □20.00 Cr. * **Contingent Risk:** Total contingent liabilities of □**36.53 Cr** are 9x the annual revenue.

Overall scorecard summary Kernex Microsystems is in a state of severe financial and operational distress, characterized by a collapsing domestic core and a cost structure that is fundamentally unviable at current scales. While the company holds a valuable technological certification (Kavach), its earnings quality is exceptionally poor, with massive cash leakages into vendor advances and unbilled revenues. Governance is a significant concern due to high-cost promoter debt, rising remuneration despite deep losses, and administrative failures regarding share dematerialization. The business is currently on a deteriorating trajectory, surviving solely through continuous equity dilution.

Part b: governance check matrix

#	Check	Status
1	Audit opinion clean?	—
2	Promoter pledge = 0?	—
3	KMP pay < 5% of PAT?	—
4	RPT quantum < 5% of revenue?	—
5	Board > 50% independent?	—
6	At least 1 woman director?	—
7	No statutory dues outstanding?	—
8	No fraud reported?	—
9	Audit trail enabled?	—
10	Frequent Auditor change	—

Final line: "Total: 6/10 — Governance Rating: 2"

Part c: investor verdict

Thesis: Kernex is a high-risk "binary bet" on the Indian Railway's Kavach rollout, currently marred by severe financial instability and poor governance. **Overall stance:** Avoid **Rationale:** The company's inability to generate cash, combined with massive vendor advances and high-cost promoter funding, suggests significant internal risks that outweigh the technological opportunity. **Re-evaluate when:** CFO becomes positive and vendor advances normalize to <10% of revenue. **BULL CASE:** Rapid execution of Kavach orders leading to revenue >₹100 Cr and PAT margin >10%. **BEAR CASE:** Failure of arbitration with Konkan Railway leading to a ₹20 Cr write-off and cessation of equity funding. **Key monitorable:** Advance to Vendors: ₹13.76 Cr → Watch for reduction to <₹2 Cr.