

Kernex Microsystems (India) Limited

November 04, 2025

Facilities/Instruments	Amount (₹ crore)	Rating ¹	Rating Action
Long-term bank facilities	175.00	CARE BBB-; Stable	Assigned
Long-term / Short-term bank facilities	100.00	CARE BBB-; Stable / CARE A3	Assigned

Details of instruments/facilities in Annexure-1.

Rationale and key rating drivers

Ratings assigned to bank facilities of Kernex Microsystems (India) Limited (KMIL) derive strength from its strong order book position reflecting substantial revenue growth in coming years, significant turnaround in operational performance FY25, comfortable financial risk profile and qualified management team. Being one of the only three industry players having patented technology for KAVACH puts KMIL in a strong market position. The recent Research Designs and Standards Organisation (RDSO) approval (October 2025) for Kavach Version 4.0 will result in an accelerated revenue growth in near future.

However, rating strengths are partially offset by working capital intensive operations necessitating higher reliance on bank borrowings, exposure to execution and technology risk and tender-based nature of business.

Rating sensitivities: Factors likely to lead to rating actions

Positive factors

- Total operating income (TOI) increasing to over ₹500 crore while maintaining existing profit before interest, lease rentals, depreciation, and taxation (PBILDT) margin on a sustained basis.
- Significant improvement in working capital cycle.

Negative factors

- Elongation in working capital cycle beyond 150 days.
- Significant decline in revenue or profitability by over 30% from existing levels.

Analytical approach: Consolidated

CARE Ratings Limited (CareEdge Ratings) has considered consolidated financials of KMIL and its subsidiary, as the entities are linked through a parent-subsidiary relationship and have operational synergies. Subsidiaries consolidated are presented in Annexure-6.

Outlook: Stable

CareEdge Ratings believes the entity will continue to benefit from the patented technology for KAVACH in bagging more orders, ensuring revenue growth.

Detailed description of key rating drivers:

Key strengths

Experienced directors and qualified team

The company has appointed qualified professionals with over two decades of experience in project planning, execution, and management. The Board of Directors comprises experienced individuals with diverse professional backgrounds who oversee the company's overall functioning. The Executive Directors, Sitarama Raju Manthena and Manthena Badari Narayana Raju, possess over two and a half decades of experience and are actively involved in the company's strategic planning and overall operational management.

Patented technology with only three players in the segment

Train Collision Avoidance System (TCAS), popularly known as Kavach, has been developed by the RDSO in collaboration with KMIL, Medha Servo Drives Private Limited, and HBL Engineering Limited, and is jointly patented by all three original equipment manufacturers (OEMs). The system is aligned with the European Train Control System (ETCS) and adheres to Safety Integrity Level (SIL) 4 standards, representing the highest level of safety integrity for such systems. The company has received approval

¹Complete definition of ratings assigned are available at www.careratings.com and other CARE Ratings Limited's publications.

for the latest version, KAVACH 4.0, by RDSO in October 2025, which will ensure swifter execution of projects and growth in revenue. Being one of the only three OEMs authorised to design, develop, manufacture, and deploy both hardware and software for KAVACH, KMIL enjoys a strategic market position. The entry barriers in this segment are high due to the complex technical requirements, stringent safety standards, and long product validation cycles. Moreover, since the company caters to the Indian Railways - one of the world's largest railway networks, it benefits from large-scale, recurring demand for such safety systems.

Strong order book, long-term revenue visibility

The company has an outstanding order book of ₹2,563 crore as on September 30, 2025, translating to an order book-to-TOI ratio of 13.5x, indicating healthy revenue visibility over the medium-to-long term. However, the order book is concentrated, with one major order worth ₹1,730 crore towards supply and installation of 2,500 Loco TCAS (Version 4.0) units to Chittaranjan Locomotive Works (CLW).

KMIL is in the process of bidding for new projects for which tenders have been rolled out by the Indian Railways.

Weak operational performance in the past despite improved performance in FY25

The company was earlier engaged in manufacturing and supplying anti-collision devices (ACD), which was discontinued in 2017 following Indian Railways' transition to the TCAS. Since then, KMIL has been working in close collaboration with RDSO on the design and development of TCAS. However, due to the stringent technical and quality requirements prescribed by RDSO, the product approval process was prolonged, leading to muted revenue and losses considering high fixed overheads until FY22. The company began receiving TCAS orders from FY23 onwards, but initial execution was constrained by limited working capital availability. Subsequently, the company infused an equity of ~₹100 crore in FY23 and FY24 to fund operational losses and for working capital. Consequently, in FY25, the company successfully executed TCAS supply and installation projects, resulting in a significant turnaround in performance with revenue increasing to ₹189.88 crore along with operational profits and profit margin of 21.55%.

Comfortable financial risk profile

The company's financial risk profile stood comfortable marked by an overall gearing of 0.26x as on March 31, 2025. The debt coverage indicators also remained healthy, reflected in a total debt/PBILDT of 0.99x and an interest coverage ratio of 5.91x in FY25. Going forward, the company is expected to increase its reliance on working capital bank borrowing. However, the leverage and coverage indicators are likely to remain comfortable backed by healthy net worth base and improvement in cash accruals.

Key weaknesses

Working capital intensive operations

The company operates in a highly working capital-intensive business indicated by an operating cycle of 171 days for FY25. Operations demand long turnaround time for assembly, installation, and quality checks. A significant lead time is involved in procuring material from RDSO-approved vendors where limited credit period is available widening the working capital gap. Though collections from Indian Railways are timely, bills can be raised only post-installation. Given the large order book and higher lead time, the company is required to maintain elevated inventory levels. Hence, reliance on bank borrowings is expected to increase going forward and prudent working capital management remains a key monitorable.

Execution and technology risk from RDSO-linked approvals

Execution timelines are exposed to delays arising from technological complexities and dependency on RDSO approvals. Any upgradation in system specifications—such as migration from TCAS version 3.2 to version 4.0—requires fresh testing and certification by RDSO, which can temporarily stall project execution and billing. Such procedural delays in obtaining technical clearances may impact the company's ability to achieve planned revenue milestones.

Exposure to tender-based operations and dependence on Indian Railways

KMIL secures contracts by participating in tenders floated by Indian Railways for the installation of the KAVACH (TCAS), where awards are made to the lowest bidder (L1). This tender-based procurement mechanism limits the company's pricing flexibility and exposes it to competitive undercutting, often resulting in modest operating margins. However, the risk is partly mitigated due to presence of only three OEMs, including KMIL. However, since KMIL's entire revenue is derived from Indian Railways, the company remains exposed to high customer concentration and dependence on a single end-user segment.

Liquidity: Adequate

The company's liquidity position remains adequate, marked by healthy gross cash accruals of ₹35.33 crore in FY25. In absence of term debt, the profits generated by the company are sufficient to meet its interest obligations. Reliance on working capital borrowings remained moderate with an utilisation of ~80% in the past 12 months period ended August 2025. Liquidity is further supported by free cash and cash equivalents of ₹15.02 crore and current ratio of 2.16x as on March 31, 2025.

Assumptions/Covenants - Not applicable

Environment, social, and governance (ESG) risks - Not applicable

Applicable criteria

[Consolidation](#)

[Definition of Default](#)

[Liquidity Analysis of Non-financial sector entities](#)

[Rating Outlook and Rating Watch](#)

[Manufacturing Companies](#)

[Financial Ratios – Non financial Sector](#)

[Short Term Instruments](#)

About the company and industry

Industry classification

Macroeconomic indicator	Sector	Industry	Basic industry
Industrials	Capital goods	Electrical equipment	Other electrical equipment

KMIL offers end-to-end electronic manufacturing services encompassing design, development, assembly, testing, and system integration related to railway safety systems. Its service portfolio includes design and engineering, embedded software and hardware development, wire and cable assemblies, and full turnkey solutions including mechanical assembly and packaging. In addition to manufacturing, the company also undertakes engineering, procurement, and construction (EPC) works involving installation of towers, relay rooms, and related infrastructure for railway safety projects. Under the Kavach programme, KMIL manufactures Loco TCAS, Station TCAS, Level Crossing TCAS, and RFID tags, and responsibilities for installation, commissioning, and warranty support.

KMIL - Consolidated

Brief Financials (₹ crore)	March 31, 2024 (A)	March 31, 2025 (A)	Q1-FY26 (UA)
Total operating income	19.60	189.88	55.93
PBILDT	-20.24	40.92	12.58
PAT	-26.71	50.05	7.41
Overall gearing (times)	0.26	0.26	NA
Interest coverage (times)	-7.01	5.91	4.93

A: Audited, UA: Unaudited, NA: Not available. Note: these are latest available financial results

Status of non-cooperation with previous CRA: Not applicable

Any other information: Not applicable

Rating history for last three years: Annexure-2

Detailed explanation of covenants of rated instrument / facility: Annexure-3

Complexity level of instruments rated: Annexure-4

Lender details: Annexure-5

Annexure-1: Details of instruments/facilities

Name of the Instrument	ISIN	Date of Issuance (DD-MM-YYYY)	Coupon Rate (%)	Maturity Date (DD-MM-YYYY)	Size of the Issue (₹ crore)	Rating Assigned and Rating Outlook
Fund-based - LT-Cash Credit		-	-	-	175.00	CARE BBB-; Stable
Non-fund-based - LT/ ST-BG/LC		-	-	-	100.00	CARE BBB-; Stable / CARE A3

Annexure-2: Rating history for last three years

Sr. No.	Name of the Instrument/Bank Facilities	Current Ratings			Rating History			
		Type	Amount Outstanding (₹ crore)	Rating	Date(s) and Rating(s) assigned in 2025-2026	Date(s) and Rating(s) assigned in 2024-2025	Date(s) and Rating(s) assigned in 2023-2024	Date(s) and Rating(s) assigned in 2022-2023
1	Fund-based - LT-Cash Credit	LT	175.00	CARE BBB-; Stable				
2	Non-fund-based - LT/ ST-BG/LC	LT/ST	100.00	CARE BBB-; Stable / CARE A3				

LT: Long term; LT/ST: Long term/Short term

Annexure-3: Detailed explanation of covenants of rated instruments/facilities - Not applicable**Annexure-4: Complexity level of instruments rated**

Sr. No.	Name of the Instrument	Complexity Level
1	Fund-based - LT-Cash Credit	Simple
2	Non-fund-based - LT/ ST-BG/LC	Simple

Annexure-5: Lender details

To view lender-wise details of bank facilities please [click here](#)

Annexure-6: List of entities consolidated

Sr No	Name of the entity	Extent of consolidation	Rationale for consolidation
1	Avant-Garde Info Systems Inc, USA	Full	Wholly owned subsidiary

Note on complexity levels of rated instruments: CareEdge Ratings has classified instruments rated by it based on complexity. Investors/market intermediaries/regulators or others are welcome to write to care@careedge.in for clarifications.

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