



TCM OPTOELECTRONICS

About Us

Revolutionizing Agricultural Processing with Cutting-Edge Technology and Sustainable Solutions

TCM OPTOELECTRONICS is a pioneering manufacturer specializing in advanced sorting and grading technologies for the agricultural industry. With a focus on cashew processing, our AI-driven machines offer precise, efficient, and customizable solutions for various grains and nuts. Our vision is to revolutionize food processing with intelligent, sustainable, and locally-manufactured innovations, driving global growth while supporting the "Make in India" initiative. We are committed to delivering high-quality products that empower the agricultural sector.

Empowering Agriculture with Precision, Innovation, and Sustainability.

Our Core Values

At TCM OPTOELECTRONICS, we value innovation, precision, sustainability, and customer-centricity, delivering advanced, AI-driven solutions that enhance the agricultural industry while promoting local manufacturing excellence.

Agri-Tech Market Boom

USD 52.69 billion **Global Food Processing Equipment Market Size**
Expected to grow at a **CAGR of 4.0%** from 2024 to 2030

Manual Sorting Methods in Agriculture
Manual sorting is one of the oldest and most common methods used in agriculture, involving human labor to inspect and sort produce based on established criteria .

AI Adoption in Agriculture

Global adoption of AI technologies in agriculture reached 10.2% in 2023, up from 7.3% in 2020, indicating a growing trend of AI integration in farming practices

Source: [Grandviewresearch](#), [Agriculture.Institute](#), [Xis.ai](#), [Seosandwitch](#), [Theinsightpartners](#)

Booming Market

\$700B

Global market

Industrial machinery and food processing equipment is growing rapidly, driven by automation and technology adoption, especially in India.

AI-Powered Sorting Systems in Agriculture

AI-powered smart sorting is transforming agriculture with efficient, accurate, and cost-effective solutions for product grading and sorting.

B2B Agri-Tech Market Trends

The agri-tech sector is rapidly growing, with investments driving higher yield, efficiency, cost savings, and profitability in agriculture.

Key Challenges in Processing

Labor-Intensive Processing

Traditional methods are manual, unsafe, and inconsistent in quality.

Inconsistent Sorting

Manual grading leads to variable product quality and market disputes.

Fragmented Supply Chains

Disjointed smallholder farming causes coordination challenges and quality inconsistencies

Environmental Impact

Cashew cultivation faces sustainability issues, including deforestation and biodiversity loss.

Traditional methods cause **inefficiency, inconsistent quality, and environmental sustainability** challenges.

The result?

Increased **waste, lower quality, inefficiency, and environmental harm.**

Introducing
TCM OPTOELECTRONICS

Introducing advanced solutions to overcome key challenges in agricultural processing.

Our Solutions

**AI-Powered
Sorting**

Ensures consistent quality and precise grading, eliminating manual errors

**Optimized
Processing**

Reduces labor, enhancing safety and speed.

**Streamlined
Supply Chain**

Improves coordination and ensures consistent product quality.

**Eco-Friendly
Technology**

Minimizes waste and energy use, promoting sustainability.

**Automation for
Consistency**

Provides automated solutions, reducing inefficiencies and human errors.

Transforming Challenges into Opportunities

Business Model

Product Sales

Selling AI-powered sorting and grading machines to agricultural processors.

Service Contracts

Offering maintenance, upgrades, and support services for equipment.

Custom Solutions

Providing tailored sorting solutions for various agricultural products.

Subscription Model

Offering cloud-based software services for real-time monitoring and analytics.

Partnerships

Collaborating with local distributors and global agricultural businesses.

Export Sales

Expanding into international markets with high demand for automation.

Our business model combines direct sales, services, and global partnerships to drive growth and innovation in agricultural processing

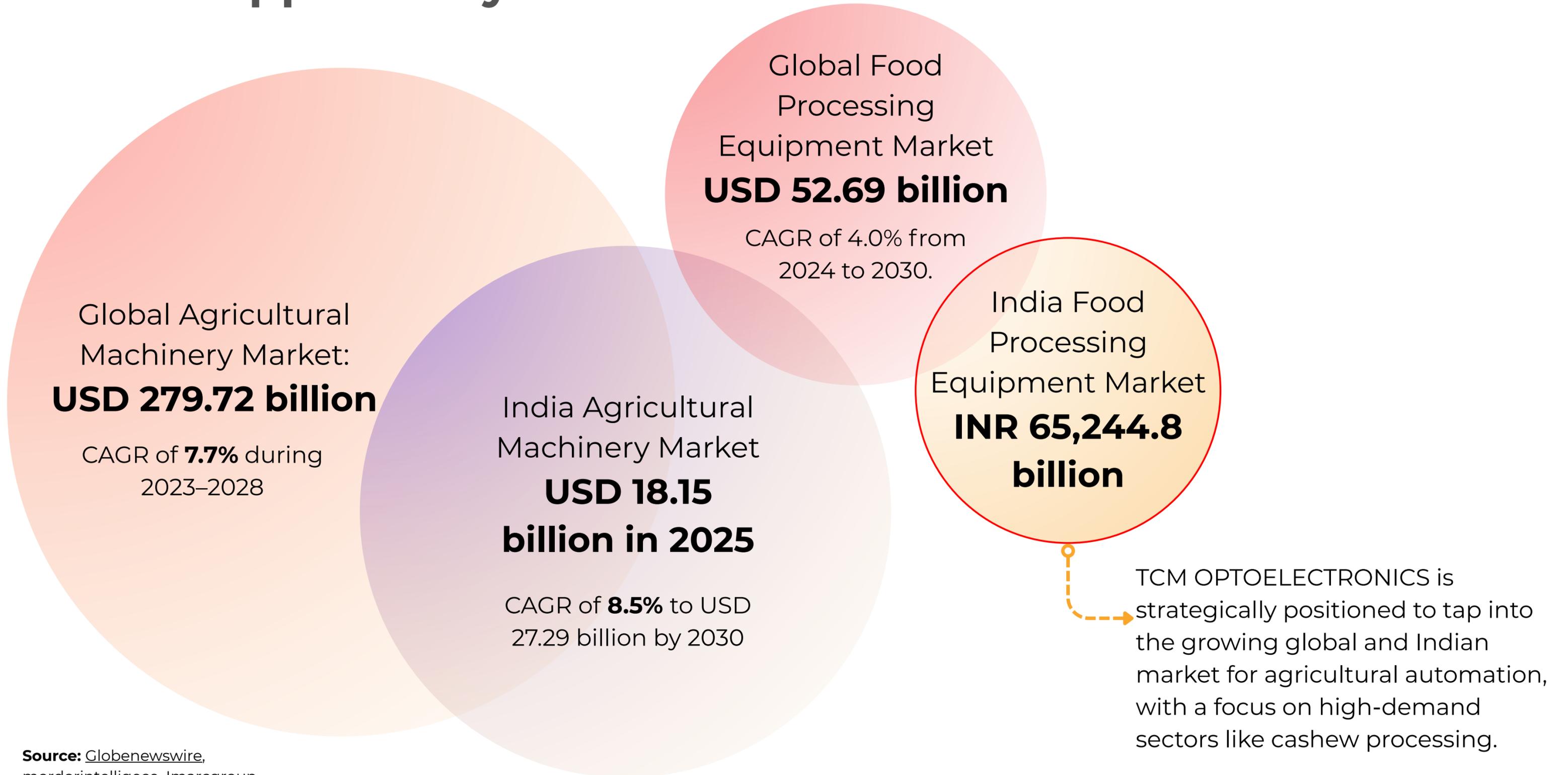
Go-To-Market Strategy

→ Year - 1 → Year - 2 → Year - 3 and so on →

Strategies	Tactical →		
Targeted Industry Rollout	Phase 1: Launch in the cashew industry (India)	Phase 2: Expand to rice, dal, peanuts, and other grains	Phase 3: Global market expansion (agriculture & food)
AI-Powered Sorting Solutions	Automated Sorting to improve efficiency	Real-time Pricing & Insights for sorting optimization	Predictive Analytics for demand forecasting
Omnichannel Growth	SEO & Content Marketing to drive traffic	Paid Ads & Retargeting for increased conversions	CXO Outreach via LinkedIn & WhatsApp
Buyer & Supplier Activation	Field Onboarding for suppliers and buyers	Instant GST/KYC Verification for quick onboarding	Loyalty & Repeat Orders incentives
Financing & Insurance	Embedded Equipment Loans for easy financing	Instant Insurance Tie-ups for security	Flexible Payment Models for large buyers
Data-Driven Expansion	Localized Penetration in key Indian regions	Cross-Border Expansion to global markets	Sustainability Metrics Tracking for eco-friendly growth

This strategy focuses on a phased approach, beginning with targeted regional expansion and eventually moving towards global market penetration. It integrates AI-powered solutions with omnichannel marketing, customer activation, and data-driven growth for effective scaling.

Market Opportunity



Competitive Positioning

Existing Solutions:

- Existing solutions, like **GI Agro Technologies, Parivartan Cashew Machinery, Delta Cashew Machines, and Nova Sorters**, offer grading and sorting machinery for cashews with varying degrees of automation, efficiency, and precision.

Issues with Existing Solutions:

- Existing solutions often suffer from inconsistent sorting accuracy, labor-intensive operations, limited customization options, and higher energy consumption, leading to inefficiencies, increased waste, and higher operational costs in cashew processing.

Our Edge

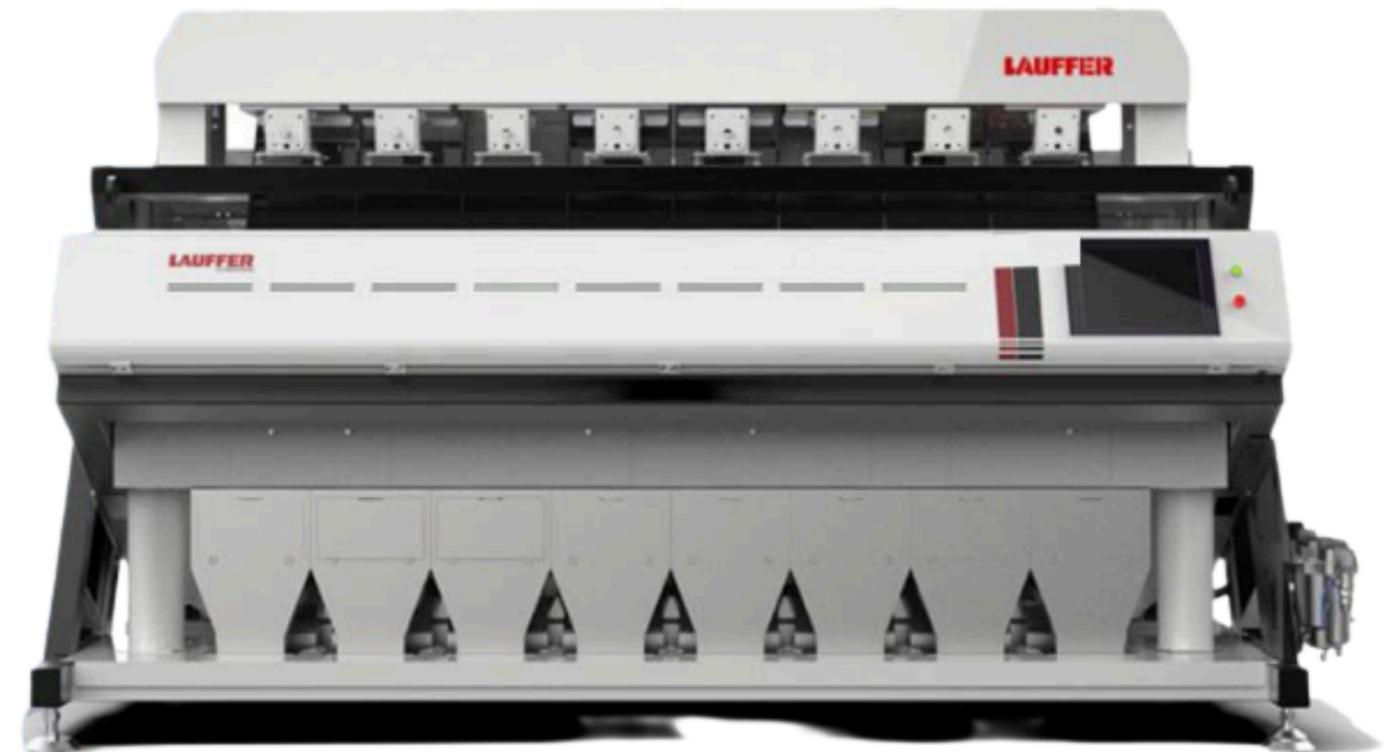
- **AI-Powered Sorting:** *Advanced AI algorithms ensure precise, consistent, and efficient sorting for cashews, minimizing waste and maximizing quality.*
- **Sustainability:** *Our machines use less energy and produce minimal waste, supporting eco-friendly processing methods.*
- **Customizable Solutions:** *We provide tailored sorting options for various agricultural products, allowing flexibility to meet specific customer needs in different sectors.*

Aim To Scale Up

Scaling up through **market expansion, technology refinement, strategic partnerships**, and a focus on *sustainability*.

Phase 1	Expand Market Reach	Refine Technology	Form Partnerships
Short-Term Perspective (1-3 Years)	Target key cashew manufacturers in India.	Improve AI sorting for enhanced accuracy.	Collaborate with distributors and industry leaders.
Phase 2	Global Expansion	Innovation Leadership	Sustainability Focus
Long-Term Perspective (5-10 Years)	Enter international markets and new sectors.	Stay ahead with cutting-edge AI and automation.	Drive eco-friendly solutions in agricultural processing.

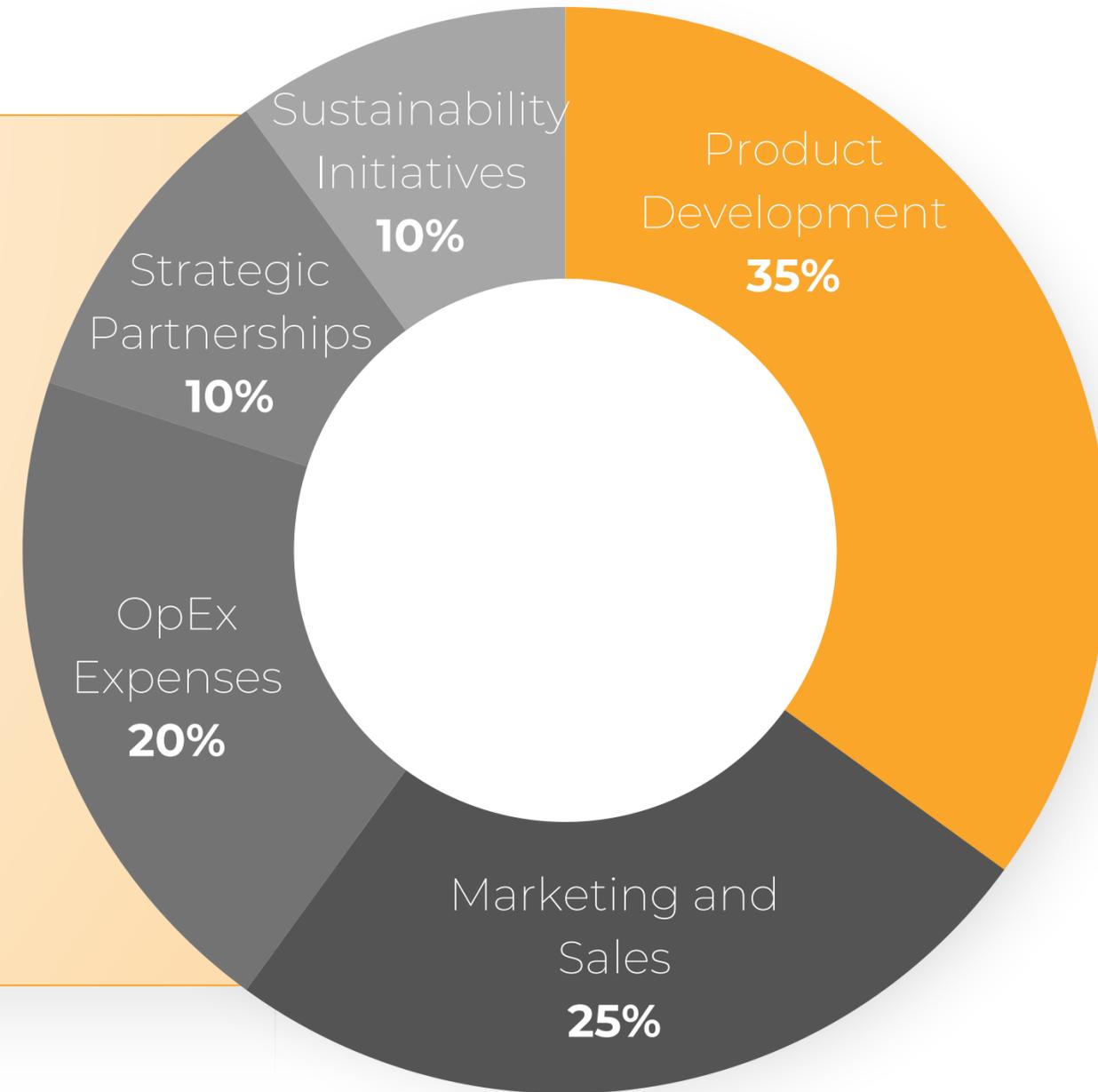
Proof Of Concept



Our AI-powered sorting technology delivers superior performance in efficiency and accuracy, setting new industry standards for cashew processing and agricultural sorting.

Fund Ask & Utilization

Funds will be strategically allocated to product development, marketing, operations, partnerships, and sustainability initiatives to drive growth and innovation.



Meet the **Visionary** Behind TCM OPTOELECTRONICS



Sargunan Ganesan

Proprietor

Sargunan Ganesan, with a degree in Electrical and Electronics Engineering and 11 years of experience, brings extensive expertise in project management, technical innovation, and leadership, driving TCM OPTOELECTRONICS toward growth and success in the agricultural technology sector.

Sargunan Ganesan's extensive experience in engineering and leadership drives innovation and strategic growth at TCM OPTOELECTRONICS.



Contact us to **transform your agricultural processing** with innovative solutions

**Thank
You.**

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