Rockfort Robotics

Intelligent, Low-Cost Robots for In-Aisle Warehouse SKU Picking & Restocking

Watch Prototype Demo

Visit Website

Warehouses Face Critical Challenges

High Labor Costs

Manual picking is labor-intensive with rising wages across multiple shifts.

Space Inefficiency

Limited vertical reach by human pickers restricts storage density, forcing larger, costlier warehouses.

Scaling Difficulties

Hard to scale due to workforce hiring, training, and management challenges.

Market Gap in India

Zero robots for individual SKU picking. Existing solutions too expensive for local market.

Our solution: Cut labor costs by 50%, double storage density, enable effortless scaling.

Introducing Tallboy: India's first robot capable of In-Aisle SKU picking

Watch Our Prototype Demo

- First mobile manipulator robot designed and made in India
- Reduce operating cost by 50% and 2x the storage density
- 1 robot replaces ~3 warehouse workers (across 3 shifts)

Perfect Technology & Market Timing

AI Breakthroughs
Foundation models (SAM, GR00T, RT-2) enable plug-and-play robot intelligence

Open Source Tools
LeRobot, ROS 2 accelerate development & cut costs dramatically

Advanced Simulation
Isaac Sim enables 100x faster training with advanced physics using GPUs

Q-Commerce Boom
Micro-warehouses & dark stores create ideal beach head market

Robotics Wave
Impending Global "ChatGPT moment" for robots driving mass adoption

India Policy Support
Government backing deep-tech innovation & manufacturing

A Significant Global Opportunity

India

$1.6B/year

1.5M pickers | ₹8K/picker/month

USA

$10B/year

1M pickers | $10K/picker/year

Europe

$10B/year

1M pickers | $10K/picker/year

Total Addressable Market (TAM): ~$21.6B / year

Serviceable Addressable Market (SAM): **~$2.48B / year**

Serviceable Obtainable Market (SOM): **~$100M / year (Next 5 Years)**

Multi-Layered Defensibility

Proprietary Hardware Tech

- Custom-designed (except motors/sensors), cost-effective chassis.
- Modular design for easy plug-and-play maintenance.
- Proprietary drivetrain: 1/8th cost of traditional AGV drivetrains.
- Proprietary independent suspension caster wheels for uneven floors.
- Proprietary vertical linear motion: 5x lighter, cost-effective.
- Lightweight SCARA arm: handles up to 3 kg.

Advanced Software & AI

- Proprietary controls, odometry, path-following (SLAM, Kalman, PID).
- Custom warehouse mapping, path planning & orchestration (TSP, MAPF/CBS).
- Robust safety and collision avoidance systems.
- Advanced IK & collision-free path planning for SCARA arm.
- Vision AI: Custom segmentation, Fast SAM for pick-points, 3D to pick-points.
- Seamless WMS integration layer with easy-to-use APIs.

Patent (In Process)

"In-Aisle Robotic picking of Individual Items using a mobile robot, a SCARA robotic arm and a two tote system, mounted on a gantry."

This innovative design enables efficient in-aisle picking with minimal infrastructure changes.

Detailed IP Document: Product IP and Moat - Rockfort Robotics

What Makes Rockfort Robotics Unique?

Low Hardware Costs

Designed and manufactured in India for local economic viability. Proprietary components significantly reduce costs.

Reduced Upfront R&D Spending

Leveraging breakthroughs in AI (e.g., Meta's SAM) for our vision pipeline, accelerating development.

Minimal Infrastructure

Operates with standardized crates/shelves, no need for costly warehouse retrofitting.

Versatile & Scalable

Designed for warehouses of all sizes, including smaller ones (2,500–5,000 sq. ft.).

End-to-End Automation

Advanced AI vision-based SKU picking with a robotic hand, minimizing human intervention.

Navigating the Market

Key Insights (64 Companies Analyzed)

9 / 64 work on AI-based robotic SKU picking.

15 / 64 work with minimal infrastructure.

4 / 64 have low hardware costs (India-centric).

0 / 64 match all attributes required for our target market.

Detailed Report: Competitor Analysis Report

Primary Competitor: Brightpick

Brightpick offers a similar in-aisle picking product.

However:

- Focused on US & Western markets.
- No plans to enter India.
- Cost structure prohibitive for Indian market.
- They claim they cannot keep up with demand, validating the need.

Other potential competitors (e.g., Hand Plus Robotics, RightHand Robotics) exist but don't fully align with our specific USPs for the Indian context.

Our analysis shows a clear opportunity for a cost-effective, advanced solution tailored for India and similar markets.

Robot as a Service (RaaS)

Upfront Cost

₹3 Lakhs

Per Robot

Monthly Recurring

₹20,000

Per Robot / Month

This model ensures affordability for customers, predictable revenue for Rockfort Robotics, and aligns incentives for ongoing service and upgrades.

Strong Profitability & Margins

(Calculations with 6% discount rate for time & inflation adjustment)

↓ Total Adjusted Costs

₹6.21 Lakhs

(Manufacturing: ₹3L, Other: ₹1L, Servicing: PV of ₹30K/year for 10 yrs)

↑ Total Adjusted Income

₹20.66 Lakhs

(Upfront: ₹3L, Recurring: PV of ₹2.4L/year for 10 yrs)

Key Financial Metrics

Profit Per Robot (Adjusted):

₹14.46 Lakhs

Gross Margin (Adjusted):

69.96%

Detailed Calculations: Rockfort Robotics - Unit Economics

Significant Cost Savings & ROI

Payback Period

< 11 Months

Rapid return on initial investment.

Annual Return Rate

114%

Annual savings exceed investment cost.

Net Savings

₹2.1 Crore

Over 7 years with 10 robots.

1 Robot replaces 3 workers (across 3 shifts).

~53% drop in labor spend from Day 1.

Break-even within the first year, then pure savings.

Detailed Analysis: Labor Cost Savings – Rockfort Robotics

Strong Initial Interest from Industry Leaders

We have demoed our prototype and are in discussions for pilots:

Delhivery	Flipkart	Inamo	Zepto	Plazza
(Pilot discussions)	(Pilot discussions)	(Dark store visit)	(Ops Head discussion)	(Founder interest)

- **Delhivery:** Discussed with VP of Automation, their team visited; open to dark store pilots.
- **Flipkart:** Director of Automation saw demo; open to pilot, Malur FC visited.
- **Inamo:** CEO discussions; visited their dark stores.
- **Zepto:** TN Head of Ops confirmed utility if ROI < 3 yrs & < 2 min processing. Visited 20+ dark stores, solution fits.
- **Plazza (Pharma Q-Commerce):** Founder amazed by cost-effectiveness compared to alternatives.

Experienced Founders with a Track Record

Arivind Krishnan

CEO & Co-Founder

Product and Business

Ex: ShopUP, WholesaleX, Voonik

Edu: EEE - Mepco

LinkedIn

Abhishek Ramnath

CTO & Co-Founder

AI, Software & Electronics

Ex: ShopUP, WholesaleX, Qualcomm

Edu: EEE - BITS Hyderabad

LinkedIn

Praveen Kumar

Head of Hardware & Co-Founder

Design & Electronics

Ex: Arrival Ltd UK, Phoenix Medical

Edu: M.Des @ NID, EEE - SASTRA

LinkedIn

Successful Exit

Arivind & Abhishek built and sold **WholesaleX** to ShopUP for **$500K USD**.

Deep Relationships

Arivind and Abhishek are brothers. Praveen & Abhishek are classmates.

Robotics Experience

Built robots together, bringing complementary expertise.

Shaping the Future of Robotics

Years 1-3: Ubiquitous Tallboy

Dominate individual SKU picking/restocking in India, US, Europe. Setting the standard for warehouse automation across markets.

Years 3-5: Intelligent Dexterous Robots

Expand to complex tasks (electronics assembly, merchandising) using advanced AI (Foundation Models, NVIDIA Omniverse/Isaac Lab, GR00T/OpenVLA).

Beyond 5 Years: General-Purpose Household Robots

Deliver real value in homes by tackling cost and messy environments with advanced simulation and robot foundation models.

₹2.5 Crore
for 15% Equity

💰 Current Financial Status

Cash in Bank
₹2.5 L

Monthly Burn
₹1 L

Runway Left
3 months

📈 Investment Context

Cap Table

Raised: ₹52.25 L for 10.45%

From: Friends & Family

Antler Program

Status: Accepted to Residency

Potential Investment Offer: ₹2 Cr for 9% equity

With a Follow-on: Up to ₹2 Cr

How We'll Execute & Deliver

🎯 Use of Funds

Build Engineering Team (10 people)

- 3 Low-level software engineers
- 2 High-level software & orchestration
- 2 AI vision & picking system
- 3 Hardware engineers

Timeline & Milestones

Month 6: Production-ready robot

Month 7: Deploy pilots

Goal: 2 customers × 2-phase pilots

Phase 1: 1 robot → Phase 2: 4 robots

Outcome: Convert to paid orders

Let's Make Robots Ubiquitous Together

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