

Robosense (2498 HK)

Global leader of automotive LiDAR, with Robot Business Milestone Breakthrough

China | Mechanical Equipment | Initiation Report

Investment Summary

RoboSense is a leading global company in the field of LiDAR and perception solutions. Its main products currently include three categories: robot LiDAR, automotive LiDAR, and solutions. Benefiting from the increasing penetration of intelligent vehicles, the market size of automotive LiDAR is expected to continue to grow exponentially, with the industry competition following a "four-player competition" pattern. As the market penetration of LiDAR increases, the Company is seeing the release of scale effects, with its losses significantly narrowing. The Company is currently upgrading its strategy from a "vehicle sensor supplier" to a "robot perception system platform," and breakthroughs in overseas markets are also helping to unlock performance growth potential.

Company profile

RoboSense is a global leader in the field of LiDAR and perception solutions and was listed on the Hong Kong main board in January 2024. The Company is focused on chip-driven LiDAR hardware while also investing in artificial intelligence (AI) perception software technologies to form solutions. Through a "hardware + software" collaborative approach, it has built a complete technological ecosystem with chip-driven LiDAR hardware as the foundation and AI perception algorithms as the core. This enables large-scale commercial deployment in both automotive ADAS (Advanced Driver Assistance Systems) and robotics sectors. The Company's main products currently include three categories: robot LiDAR, automotive LiDAR, and solutions, with automotive LiDAR accounting for over 80% of its revenue.

According to data from China Insights Consultancy, the Company is one of the first global LiDAR companies to deploy proprietary chip technology. Its leading market position, customer-driven technology and products, and mass production capabilities are its main competitive advantages. The Company continually iterates to improve chip performance, developing proprietary chips to replace standard chips and optimize LiDAR technology. Its products include fully solid-state (E series), semi-solid-state (M series), and mechanical (R series) LiDAR products, allowing for the switching of LiDAR products based on mainstream technological routes to maintain its competitive advantage. The Company holds 1,849 patents (the highest globally), covering chip design (such as 2D scanning chips), optical systems (940nm laser solutions), and perception algorithms (RS-LiDAR-Algorithm).

The Company has established partnerships with more than 290 global automotive manufacturers and Tier 1 suppliers. In the rapidly growing intelligent robotics market, it has provided incremental components and solutions to over 2,600 robotics and other industrial clients, with customers in more than 40 countries and regions around the world.

Industry Analysis: Demand Surge, LiDAR Enters the "Intelligent Driving Equality" Era

LiDAR, through perception solutions that integrate vision or other sensors, can provide vehicles and robots with sensory capabilities that surpass human eyes. With automakers like BYD, Li Auto, and XPeng Motors integrating LiDAR into vehicles priced between RMB150,000 and RMB200,000, the penetration rate is expanding from the high-end market to the mainstream market, driving robust industry growth.

28 March 2025

Accumulate (Initiation)

CMP CNY 40.55

(Closing price as at 26 March)

TARGET CNY 48 (+18.4%)

COMPANY DATA

O/S SHARES (MN) :	483
MARKET CAP (CNY MN) :	19583
52 - WK HI/LO (CNY):	137.5/10.82

SHARE HOLDING PATTERN, %

Mr Qiu	11
Cainiao	10.5
Dr Zhu	6.6
Mr Liu	4.0

PRICE VS. SHCOMP



Source: Aastocks, Phillip Securities (HK) Research

KEY FINANCIALS

CNY mn	FY23	FY24E	FY25E	FY26E
Net Sales	1120	1663	2679	4081
Net Profit	-4337	-562	-321	105
EPS, CNY	-44.67	-1.22	-0.66	0.22
P/E, x	(0.8)	(31.2)	(56.4)	172.9
BVPS, CNY	-93.59	6.07	5.27	5.63
P/BV, x	(0.4)	6.3	7.1	6.6
SPS (CNY)	11.54	3.61	5.55	8.45
P/S, x	3.2	10.6	6.7	4.4

Source: Company reports, Phillip Securities Est.

Research Analyst

ZhangJing (+ 86 21-62116752)

zhangjing@phillip.com.cn

According to the Gasgoo Auto Research Institute, the total number of LiDAR units installed in China in 2024 is expected to reach 1.535 million, a yoy increase of approximately 180%. Among them, RoboSense ranks first with 515,000 units, a yoy growth rate of 311%. Its market share in automotive LiDAR stands at 33.5%, an increase of 10.7 percentage points year on year. Huawei and Hesai Technology rank second (27.4%) and third (25.6%), respectively, while Seyond holds 13.4% of the market. The top four players occupy the vast majority of the market (99.9%), with the industry presenting a "four-player competition" pattern.

According to China Insights Consultancy, with the acceleration of intelligent driving equality and the development of high-end vehicles with L3-level and above autonomous driving, the global automotive LiDAR market is expected to exceed RMB1,000.3 billion by 2030, with China's market approaching RMB346.1 billion. The global and Chinese Compound Annual Growth Rates (CAGR) from 2022 to 2030 are projected to be 103.2% and 104.2%, respectively.

Performance Trends Validate Growth Logic: High Revenue Growth, Improving Gross Margin

With the increase in domestic automotive LiDAR shipments, the Company's automotive LiDAR shipment volume grew from 37 thousand units in 2022 to 515 thousand units in 2024. This has driven segment revenue from RMB160 million in 2022 to RMB940 million in Q1-Q3 of 2024. In the robotics business, the Company's shipments remained stable from 2022 to Q1-Q3 of 2024, with segment revenue decreasing from RMB240 million in 2022 to RMB130 million in Q1-Q3 of 2024, primarily due to product structure adjustments, with business revenue accounting for approximately 12% of total revenue.

Thanks to the explosion of automotive LiDAR demand, the Company's MX series products saw rapid growth. In Q1-Q3 of 2024, the Company's total revenue reached RMB1,135 million, a yoy increase of 91.52%. Benefiting from the scale effect and the chip-based and integrated nature of products, fixed costs were diluted, leading to significant cost reduction on the E platform, and the gross margin increased by 8.93 percentage points to 14.96% compared to 2023.

In terms of average unit price, the average price of the Company's automotive LiDAR has gradually decreased from nearly RMB10,000 in 2021 to approximately RMB2,500 in Q1-Q3 of 2024. The new generation of mid-range MX products is expected to be priced below USD200, with further price reductions expected. The average price of the Company's robot LiDAR has decreased from over RMB15,000 in 2021 to approximately RMB8,200 in Q1-Q3 of 2024.

According to the positive profit warning announcement issued by the Company on February 24, 2025, the total revenue for 2024 is expected to reach RMB1.63 billion to RMB1.67 billion, a yoy increase of 45.5% to 49.1%, with net losses narrowing by 88% to 90%, estimated at RMB430 million to RMB520 million. This performance validates the Company's continuing release of scale effects amid the increased market penetration of LiDAR technology and the significant narrowing of losses.

Robot Business Milestone Breakthrough, Overseas Market Expansion Boosts Valuation

According to a report by China Insights Consultancy, the global robot LiDAR market is expected to grow from RMB8.2 billion in 2022 to RMB216.2 billion by 2030, equivalent to a CAGR of 50.6%. China is projected to become the largest market by 2030, accounting for about 31.8% of the global market, nearing RMB70 billion.

In January 2025, the Company delivered its 1 millionth LiDAR unit (E1R) to humanoid robot enterprises and held the "Hello Robot" event, where it launched three new types of robot vision products: EM4 (ultra-long-range digital radar), E1R (robot fully solid-state digital LiDAR), and Airy (hemispherical digital LiDAR). The Company also released robot vision solutions like ActiveCamera and key robot components such as the second-generation dexterous hand, FS-3D force sensor, and DC-G1 domain controller, marking the Company's strategic upgrade from a "vehicle sensor supplier"

to a "robot perception system platform." As of November 2024, the Company has established partnerships with over 2,600 robotics companies, and it is expected that robot shipments will surpass 100 thousand units in 2025, potentially becoming the second growth curve after ADAS.

In March 2025, Mercedes-Benz announced plans to equip global vehicle models with RoboSense LiDAR. This marks the first time Chinese LiDAR technology has entered the supply chain of a top international automaker. The Company has already secured agreements with four overseas OEMs (original equipment manufacturers). In the long run, breakthroughs in overseas markets will open up significant growth potential for the Company's performance.

Investment Thesis

As a leading player in automotive-grade LiDAR, the Company has passed stringent automotive-grade certification, giving it a quality advantage and cost advantages from large-scale production. As the leader in automotive-grade LiDAR, the Company is expected to continue expanding its market share in the robotics sector. Its accelerated entry into the robotics industry will unlock a new growth point for the Company's performance.

As for valuation, we expected diluted SPS (Sales Per Share) of Robosense to RMB 3.61/5.55/8.45 of 2024/2025/2026, considering the explosive potential of its robot business, we gave the target price to HKD 48, respectively 12.5/8/5.2x P/S for 2024/2025/2026. "Accumulate" rating. (Closing price as at 26 March)

Peer Comparison

Ticker	Name	Marketcap			
		p(bil,HKD)	P/S(TTM)	P/B(MRQ)	EV/Sales
2498.HK	Robosense	19.8	10.66	6.26	11.01
HSAI.O	HSAI	18.68	8.32	4.39	8.6
LAZR.O	Luminar	1.66	2.84	-0.83	10.04
Avg		13.38	7.27	3.27	9.88

Source: Wind, Phillip Securities Hong Kong Research

Risk

Car sales fell short of expectations, and the promotion of intelligence was slower than expected, dragging down the demand for LiDAR

The progress of robot advancement is lower than expected

The change in technical path affects the demand for LiDAR

Risk of rising raw material prices

Competitor catch-up risk

Financials

FYE DEC	FY22	FY23	FY24F	FY25F	FY26F
Valuation Ratios					
P/E (X), adj.	(1.7)	(0.8)	(31.2)	(56.4)	172.9
P/S (X), adj.	6.7	3.2	10.6	6.7	4.4
P/B (X)	(0.7)	(0.4)	6.3	7.1	6.6
Per share data (RMB)					
EPS, (Basic)	-21.47	-44.67	-1.22	-0.66	0.22
EPS, (Diluted)	-21.47	-44.67	-1.22	-0.66	0.22
SPS	5.45	11.54	3.61	5.55	8.45
BVPS	-51.90	-93.59	6.07	5.27	5.63
Growth & Margins (%)					
Growth					
Revenue	60.2%	111.2%	48.5%	61.1%	52.3%
EBIT	27.1%	109.8%	-85.2%	-37.6%	-101.0%
Net Income, adj.	25.9%	107.6%	-87.0%	-43.0%	-132.6%
Margins					
Gross margin	-7.4%	8.4%	16.5%	20.3%	23.7%
EBIT margin	-396.1%	-393.4%	-39.3%	-15.2%	0.1%
Net Profit Margin	-393.8%	-387.1%	-33.8%	-12.0%	2.6%
Key Ratios					
ROE	NA	NA	2.8%	-11.7%	4.0%
Income Statement (RMB mn)					
Revenue	530	1120	1663	2679	4081
Gross profit	-39	94	274	544	968
EBIT	-2101	-4407	-654	-408	4
Profit before tax	-2085	-4329	-557	-313	108
Tax	1	2	5	7	3
Profit for the period	-2086	-4331	-562	-320	105
Minority interests	2.54	5.66	0.5	0.2	0.3
Total capital share	97.26	97.08	461	483	483
Net profit	-2089	-4337	-562	-321	105

Source: PSR

(Closing price as at 26 March)

PHILLIP RESEARCH STOCK SELECTION SYSTEMS

Total Return	Recommendation	Rating	Remarks
>+20%	Buy	1	>20% upside from the current price
+5% to +20%	Accumulate	2	+5% to +20% upside from the current price
-5% to +5%	Neutral	3	Trade within \pm 5% from the current price
-5% to -20%	Reduce	4	-5% to -20% downside from the current price
<-20%	Sell	5	>20% downside from the current price

We do not base our recommendations entirely on the above quantitative return bands. We consider qualitative factors like (but not limited to) a stock's risk reward profile, market sentiment, recent rate of share price appreciation, presence or absence of stock price catalysts, and speculative undertones surrounding the stock, before making our final recommendation

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Contact Information (Regional Member Companies)
SINGAPORE
Phillip Securities Pte Ltd

250 North Bridge Road, #06-00 Raffles City Tower,
Singapore 179101

Tel : (65) 6533 6001 Fax: (65) 6535 3834

www.phillip.com.sg

INDONESIA
PT Phillip Securities Indonesia

ANZ Tower Level 23B, Jl Jend Sudirman Kav 33A,
Jakarta 10220, Indonesia

Tel (62) 21 5790 0800 Fax: (62) 21 5790 0809

www.phillip.co.id

THAILAND
Phillip Securities (Thailand) Public Co. Ltd.

15th Floor, Vorawat Building, 849 Silom Road,
Silom, Bangrak, Bangkok 10500 Thailand

Tel (66) 2 2268 0999 Fax: (66) 2 2268 0921

www.phillip.co.th

UNITED STATES
Phillip Futures Inc.

141 W Jackson Blvd Ste 3050

The Chicago Board of Trade Building

Chicago, IL 60604 USA

Tel (1) 312 356 9000 Fax: (1) 312 356 9005

MALAYSIA
Phillip Capital Management Sdn Bhd

B-3-6 Block B Level 3, Megan Avenue II,
No. 12, Jalan Yap Kwan Seng, 50450 Kuala Lumpur

Tel (60) 3 2162 8841 Fax (60) 3 2166 5099

www.poems.com.my

CHINA
Phillip Financial Advisory (Shanghai) Co. Ltd.

No 436 Heng Feng Road, Green Tech Tower Unit 604
Shanghai 200 070

Tel (86) 21 6211 6752 Fax: (86) 21 6091 1155

www.phillip.com.cn

FRANCE
King & Shaxson Capital Ltd.

3rd Floor, 35 Rue de la Bienfaisance
75008 Paris France

Tel (33) 1 4563 3100 Fax : (33) 1 4563 6017

www.kingandshaxson.com

AUSTRALIA
PhillipCapital Australia

Level 10, 330 Collins Street

Melbourne VIC 3000

Tel (+61) 3 8633 9803 Fax (+61) 3 8633 9899

www.phillipcapital.com.au

HONG KONG
Phillip Securities (HK) Ltd

11/F United Centre 95 Queensway Hong Kong

Tel (852) 2277 6600 Fax: (852) 2868 5307

www.phillip.com.hk

JAPAN
Phillip Securities Japan, Ltd

4-2 Nihonbashi Kabutocho, Chuo-ku
Tokyo 103-0026

Tel: (81) 3 3666 2101 Fax: (81) 3 3664 0141

www.phillip.co.jp

INDIA
PhillipCapital (India) Private Limited

No. 1, 18th Floor, Urmi Estate, 95 Ganpatrao Kadam Marg,
Lower Parel West, Mumbai 400013

Tel: (9122) 2300 2999 Fax: (9122) 6667 9955

www.phillipcapital.in

UNITED KINGDOM
King & Shaxson Ltd.

6th Floor, Candlewick House, 120 Cannon Street
London, EC4N 6AS

Tel (44) 20 7929 5300 Fax: (44) 20 7283 6835

www.kingandshaxson.com

SRI LANKA
Asha Phillip Securities Limited

Level 4, Millennium House, 46/58 Navam Mawatha,
Colombo 2, Sri Lanka

Tel: (94) 11 2429 100 Fax: (94) 11 2429 199

www.ashaphillip.net/home.htm