

# 地平线机器人 - W HORIZON ROBOTICS (9660 HK)

## 首次覆盖：国产智驾芯片领导者，开启征程 6 系列产品强势周期

Leading player of AD/ADAS chip; Journey 6 ramp-up unveils a strong product cycle: Initiation

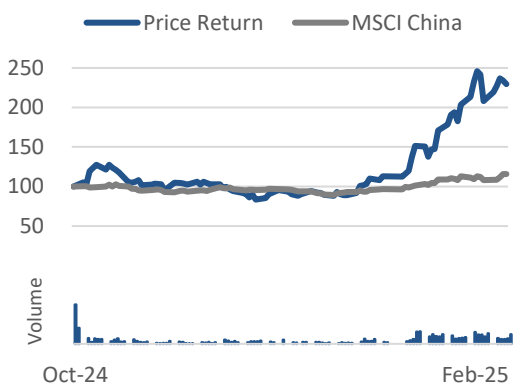
观点聚焦 Investment Focus

### 首次覆盖优于大市 Initiate with OUTPERFORM

评级	优于大市 OUTPERFORM
现价	HK\$9.16
目标价	HK\$12.30
HTI ESG	4.0-4.0-4.0
E-S-G: 0-5; (Please refer to the Appendix for ESG comments)	

市值	HK\$120.91bn / US\$15.56bn
日交易额 (3 个月均值)	US\$42.45mn
发行股票数目	11,076mn
自由流通股 (%)	64%
1 年股价最高最低值	HK\$9.81-HK\$3.33

注：现价 HK\$9.16 为 2025 年 03 月 07 日收盘价



资料来源: Factset

	1mth	3mth	12mth
绝对值	67.5%	122.9%	
绝对值 (美元)	67.8%	123.1%	
相对 MSCI China	53.2%	102.4%	

Rmb mn	Dec-23A	Dec-24E	Dec-25E	Dec-26E
Revenue	1,552	2,198	3,430	5,815
Revenue (+/-)	71%	42%	56%	70%
Net profit	-6,739	-6,067	-2,061	-946
Net profit (+/-)	n.m.	n.m.	n.m.	n.m.
Diluted EPS (Rmb)	-2.50	-0.46	-0.16	-0.07
GPM	70.5%	70.9%	62.5%	60.6%
ROE	n.m.	-44.7%	-17.7%	-9.2%
P/E	n.m.	n.m.	n.m.	n.m.

资料来源: 公司信息, HTI

(Please see APPENDIX 1 for English summary)

- **目标价 12.3 港元/股，首次覆盖给予“优于大市”评级。**我们看好公司的业务前景，因其受益 1) 汽车智驾平权大趋势下的行业快速扩容，2) 国产智驾芯片份额提升，2) SuperDrive 推出进军高端市场，产品组合优化。我们预测公司 2024-2026 年收入分别为 21.98、34.30、58.15 亿元，同比增长分别为 42%、56%、70%，期间 CAGR 超过 50%，且 25/26 年因受益大客户上量和海外拓展，增长斜率将高于 24 年。Bottom-line 层面，我们预计公司有望于 2027 年扭亏实现盈利。参考同行业估值水平，我们给予公司 26.0X 2026 PS，对应目标价 12.3 港元/股，首次覆盖给予“优于大市”评级。
- **智能汽车转型及商业化的关键推动者，芯片出货量行业领先。**地平线 (Horizon Robotics) 成立于 2015 年，由前百度深度学习研究院副院长余凯博士创立。基于强大的软硬件整合能力、高度灵活和可扩展的业务模式，公司为客户提供从算法到软件和开发工具，再到处理硬件的全栈产品和解决方案，满足从主流辅助驾驶 (ADAS) 到高阶智能驾驶 (AD) 的全场景智能驾驶需求，已与比亚迪、理想汽车、大众、博世等众多车企和 Tier1 达成合作。截至 2024 年，征程系列芯片累计出货量已超 700 万片；据高工智能汽车研究院的数据，24H1 公司在中国市场的高阶辅助驾驶解决方案装机量中，市场份额达 35.9%，排名第一。
- **比亚迪开启“智驾平权”，中高阶 NOA 功能加速渗透。**随着高速 NOA 技术成熟和成本下探，以 BYD 为代表的传统车企正大规模部署中阶智驾方案，车型价格下探至 10 万元级别，为中阶智能市场带来大量的新增需求；同时，受益特斯拉 FSD 进入中国，更高阶的端到端城区 NOA 方案的采纳率亦在逐步提升，智驾行业持续扩容。据灼识咨询数据，到 2030 年，搭载智能驾驶解决方案的车型即 ADAS+AD 将占到整体全球、中国汽车出货量的 96.7%、99.7%，其中 AD 占比分别为 65%、80%。以比亚迪为例，25 年其智能驾驶车型出货将达到 300+万辆，其中超 200 万为天神之眼 C 系列。据我们产业链调研，地平线作为唯一入选国产芯片供应商，其 J6M 芯片将供应一部分天神之眼 C 系列，增量较为显著。
- **SuperDrive 将于 25Q3 量产上车，带动产品组合高端化。**SuperDrive 基于最新的旗舰版征程 J6P 芯片，单片算力达到 560 TOPS，处于国内顶尖水平，目前已与多家顶级 Tier1 供应商和主机厂达成合作，我们预计将在 25Q3 实现首款量产车型的交付。我们认为，SuperDrive 的推出将进一步巩固公司在智能驾驶芯片和解决方案市场的领先地位，为行业树立了新的技术标杆，且随着 SuperDrive 的方案上量，公司的汽车产品毛利率有望达到~50%。
- **风险提示：**1) 汽车智能化进展不及预期；2) 高阶智驾芯片上量不及预期；3) 研发进展不及预期。

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## 公司基本资料

### 业务介绍

地平线机器人（Horizon Robotics）是一家全球领先的智能驾驶解决方案提供商，专注于高级辅助驾驶（ADAS）和高阶自动驾驶（AD）。公司成立于 2015 年 7 月，总部位于中国北京，并在上海、南京、深圳等地设有研发中心和技术支持中心。公司致力于通过其专有的软硬件技术，为汽车制造商提供全面的、涵盖从主流辅助驾驶（L2 级）到高阶自动驾驶的全场景智能驾驶解决方案。凭借其软硬协同的开发理念、灵活的业务模式、丰富的行业经验与客户资源，以及持续的研发投入与产品创新（2021-2023 年，研发费用从 11.44 亿元增至 23.66 亿元，CAGR 为 43.84%），公司已成长为国内头部的智驾解决方案商，成为国内智能汽车转型及商业化的关键推动者。

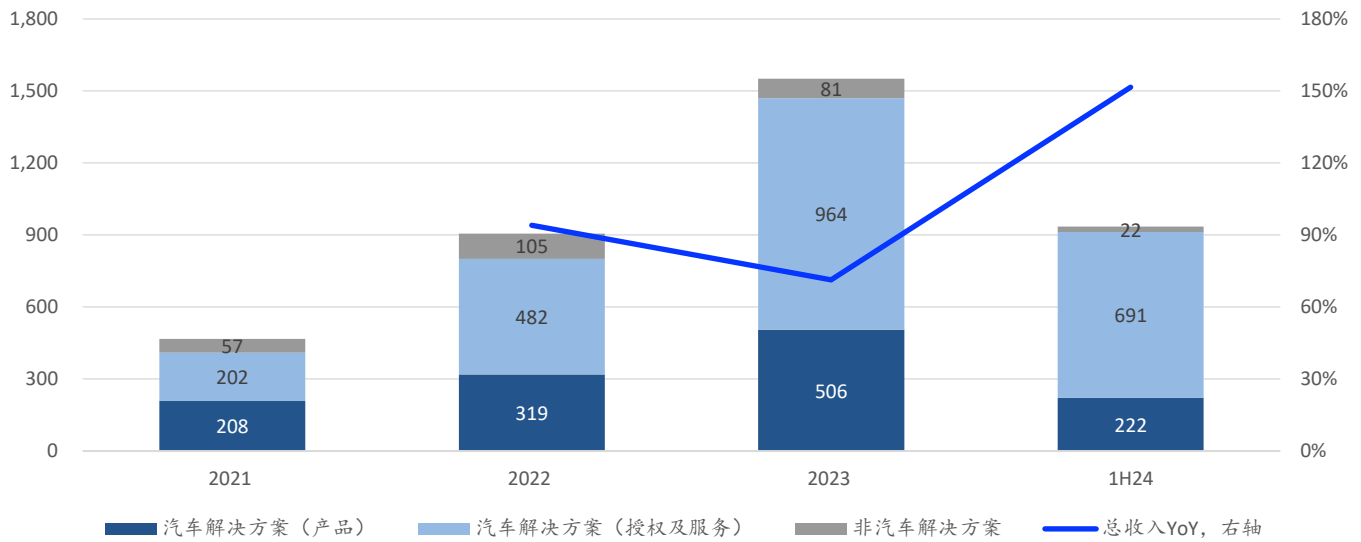
图1 公司汽车产品方案介绍

解决方案	可采用的芯片配置 (单芯片算力 TOPS)	功能简述
<b>Horizon Mono</b> (L2 级主动安全功能, 如自动紧急刹车)	J2 (4 TOPS) J3 (5 TOPS) J6B (10 TOPS)	<ul style="list-style-type: none"> <li>主动安全高级辅助驾驶解决方案，具备自动紧急制动（AEB）、智能大灯（IHB）、自适应巡航控制（ACC）等功能。</li> <li>作为率先实现前装量产的本土 ADAS 方案，Mono 凭借卓越性能与安全保障，现已成为国内乘用车市场的标配之选。2024H1 中国自主品牌乘用车前视一体机市场占比第一。</li> </ul>
<b>Horizon Pilot</b> (高速 NOA)	J3 (5 TOPS) J5 (128 TOPS) J6E (80 TOPS) J6M (128 TOPS)	<ul style="list-style-type: none"> <li>高速公路领航辅助驾驶（NOA）解决方案，支持自动上下匝道、交通拥堵辅助、自动变道等功能。</li> <li>2022 年，完成荣威 RX5 搭载 J3 的 Horizon Pilot 的量产首发；完成理想 L8 Pro 搭载 J5 的 Horizon Pilot 的量产首发。截至 24H1，7 家获得城市路况 3 级高阶自动驾驶测试牌照的 OEM 中，5 家是公司 Horizon Pilot 的客户。</li> </ul>
<b>Horizon SuperDrive</b> (全场景高阶智驾)	J6P (560 TOPS)	<ul style="list-style-type: none"> <li>高阶自动驾驶解决方案，旨在实现城市、高速公路和停车场的全场景自动驾驶。基于地平线最高性能版本的 J6P，整合端到端先进智驾算法技术。</li> <li>HSD 已实现国内 12 城泛化，计划于 24Q4 实现全国泛化，推出标准版量产方案；25Q3 实现首款量产合作车型交付。</li> </ul>

资料来源：公司招股书，HTI

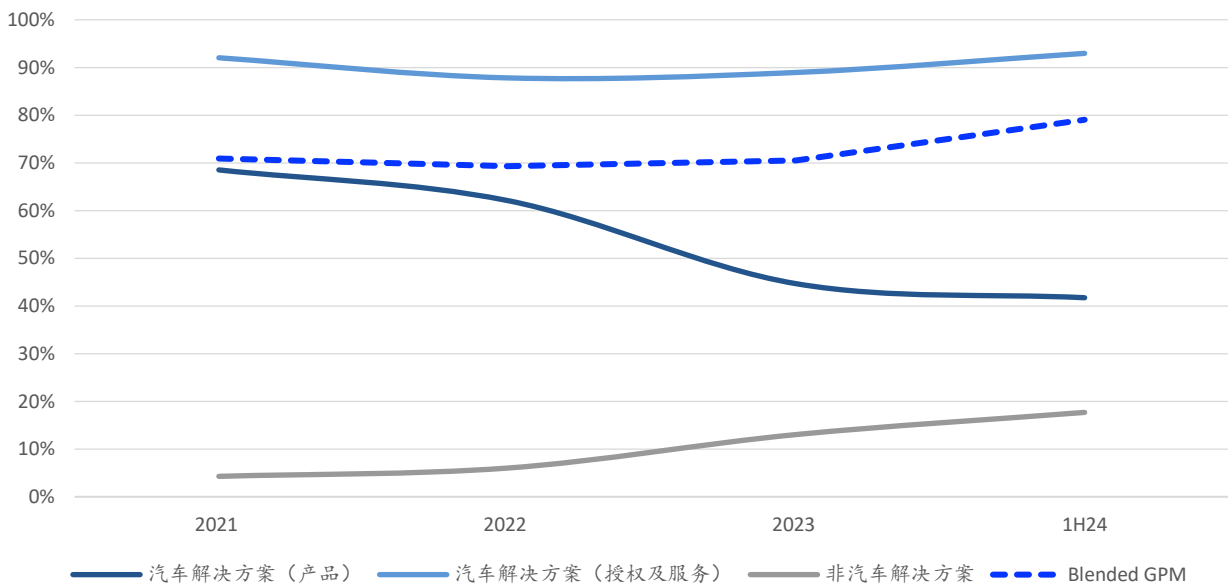
## 财务数据

图2 2021-24H1 公司分业务营收 (单位: 百万元) 和同比增速 (%)



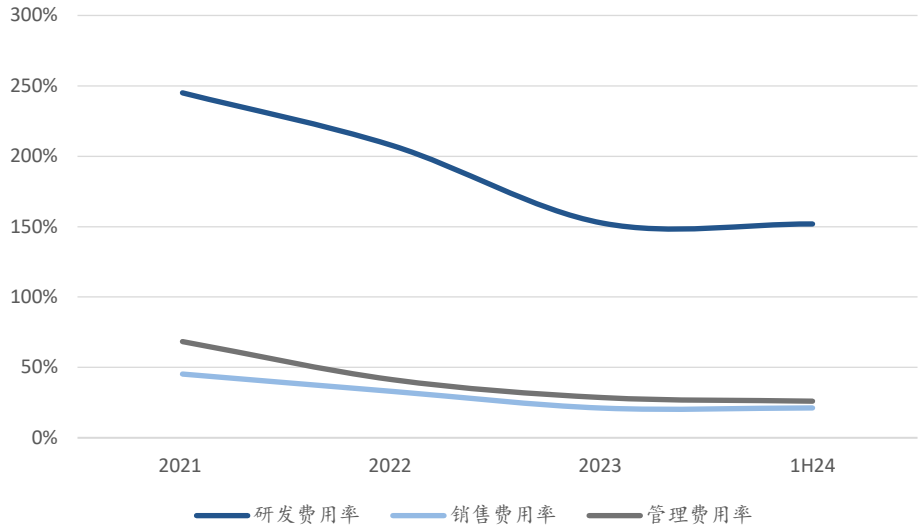
资料来源: Company data, Wind, HTI

图3 2021-24H1 公司分业务毛利率情况



资料来源: Company data, Wind, HTI

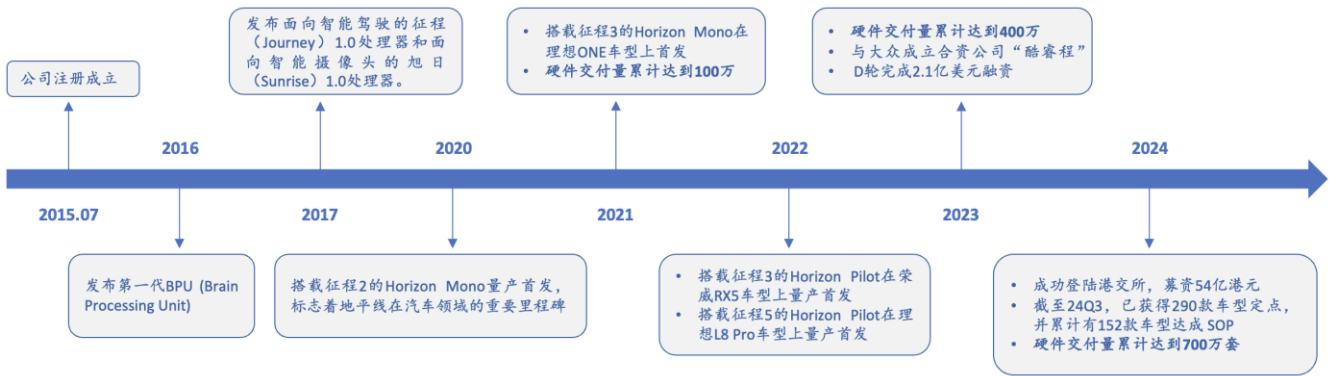
图4 2021-24H1 公司费用率统计



资料来源: Company data, Wind, HTI

历史沿革

图5 公司发展大事记



资料来源: 公司官网, IPO招股书, HTI

## 股权结构

公司的股权结构清晰，管理层经验丰富，为公司的技术创新和市场拓展提供了坚实的基础。公司最大股东为大众集团旗下软件公司 CARIAD，持股约 18%。作为公司的核心管理层，余凯博士（董事长、执行董事兼首席执行官）和黄畅博士（联合创始人、执行董事兼首席技术官）持股超 16%，因同股不同权拥有超 60%的投票权，保持对公司经营的控制权。此外，上汽集团通过 SAIC QIJUN I Holdings Limited 持股 7.87%，是前三大机构投资者。

图6 公司前十名普通股股东统计（截至 2024 年 10 月）

	股东名称	持股占比 (%)
1	CARIAD Estonia AS	17.93
2	Everest Robotics Limited	13.30
3	SAIC QIJUN I Holdings Limited	7.87
4	Pirates Silver Holding Limited	5.72
5	Pirates Gold Holding Limited	4.19
6	Morningside China TMT Fund IV, L.P.	3.16
7	String Theory Robotics Limited	3.00
8	Pirates Bronze Holding Limited	1.18
9	Evolution Special Opportunity Fund I, L.P.	1.01
10	Morningside China TMT Fund IV Co-Investment, L.P.	0.32
	合计:	57.68

资料来源: Wind, HTI

## 财务预测与估值

### 财务预测

我们预测公司 2024-2026 年收入分别为 21.98、34.30、58.15 亿元，同比增长分别为 42%、56%、70%，期间 CAGR 超过 50%，且 25/26 年因受益大客户上量和海外拓展，增长斜率将高于 24 年。Bottom-line 层面，随着营收规模逐步扩大以及费用率增长放缓，我们预计公司有望于 2027 年扭亏实现盈利。

图7 公司分业务收入拆分表

	2022	2023	2024E	2025E	2026E	2027E
<b>汽车产品解决方案</b>						
收入 (百万元)	319	506	742	1,957	3,922	6,438
YoY (%)	53%	59%	47%	164%	100%	64%
毛利率	62.1%	44.7%	43.0%	45.0%	48.0%	50.0%
<b>授权及服务业务</b>						
收入 (百万元)	482	964	1,372	1,381	1,791	2,258
YoY (%)	138%	100%	42%	1%	30%	26%
毛利率	87.8%	89.0%	89.3%	90.4%	90.6%	90.9%
<b>非汽车业务</b>						
收入 (百万元)	105	81	84	92	101	111
毛利 (亿元)	85%	-22%	3%	10%	10%	10%
毛利率	6.0%	13.0%	17.0%	17.0%	17.0%	17.0%

资料来源: Wind, HTI 预测

图8 公司盈利预测表 (百万元)

	1H23	2H23	1H24	2H24E	2024E	2025E	2026E
营业收入	371	1,180	935	1,263	2,198	3,430	5,815
营业成本	145	312	196	443	(639)	(1,286)	(2,292)
毛利润	227	868	739	820	1,559	2,144	3,522
营业费用	1,407	1,730	1,861	1,826	3,687	4,039	4,174
营业利润	(1,180)	(862)	(1,122)	(1,005)	(2,128)	(1,895)	(652)
利润总额	(1,885)	(4,859)	(5,089)	(978)	(6,067)	(2,061)	(946)
所得税	(3)	9	(9)	9	0	0	0
净利润	(1,888)	(4,851)	(5,098)	(969)	(6,067)	(2,061)	(946)
少数股东损益	(0)	(0)	(0)	(0)	(0)	(0)	(0)
归母净利润	(1,888)	(4,851)	(5,098)	(969)	(6,067)	(2,061)	(946)

资料来源: Wind, HTI 预测

## 估值

**目标价 12.3 港元/股，首次覆盖给予“优于大市”评级。**我们看好公司的业务前景，因其受益 1) 汽车智驾平权大趋势下的行业快速扩容，2) 国产智驾芯片份额提升，2) SuperDrive 推出进军高端市场，产品组合优化。我们预测公司 2024-2026 年收入分别为 21.98、34.30、58.15 亿元，同比增长分别为 42%、56%、70%，期间 CAGR 超过 50%，且 25/26 年因受益大客户上量和海外拓展，增长斜率将高于 24 年。Bottom-line 层面，我们预计公司有望于 2027 年扭亏实现盈利。参考同行业估值水平，综合考虑公司的增长前景和行业地位，我们给予公司 26.0X 2026 PS，对应目标价 12.3 港元/股，首次覆盖给予“优于大市”评级。

图9 可比公司估值表

代码	简称	总市值 (USD mn)	营收 (USD mn)				PS (倍)			
			2023	2024E	2025E	2026E	2023	2024E	2025E	2026E
MBLY US	Mobileye	12,793	1,654	1,760	2,070	2,773	7.7	7.3	6.2	4.6
2533 HK	Black Sesame	1,686	44	69	129	213	38.8	24.4	13.1	7.9
HSAI US	Hesai	2,283	265	292	458	664	8.6	7.8	5.0	3.4
2498 HK	Robosense	2,528	158	231	365	514	16.0	10.9	6.9	4.9
均值							17.8	12.6	7.8	5.2

注：收盘价为 2025 年 03 月 03 日价格，PS 基于 Bloomberg 一致预期。

资料来源：Bloomberg, HTI

**风险提示：**1) 汽车智能化进展不及预期；2) 高阶智驾芯片上量不及预期；3) 研发进展不及预期。

## 财务报告分析和预测

Key Ratios	Dec-22A	23-Dec	Dec-24E	Dec-25E	Dec-26E	Balance sheet (Rmb mn)	Dec-22A	23-Dec	Dec-24E	Dec-25E	Dec-26E
<b>Valuation Measures</b>						Total cash and equivalents	7,813	12,069	10,146	7,379	4,869
<b>Growth*</b>						Inventories	364	791	989	1,372	2,035
Revenue growth	94%	71%	42%	56%	70%	Accounts receivable	421	541	769	1,200	2,035
Operating profit growth	n.m.	n.m.	n.m.	n.m.	n.m.	Other current assets	206	137	176	274	407
Net profit growth	n.m.	n.m.	n.m.	n.m.	n.m.	<b>Total current assets</b>	<b>8,804</b>	<b>13,538</b>	<b>12,080</b>	<b>10,226</b>	<b>9,346</b>
<b>Margins</b>						Net fixed assets	221	433	653	807	895
Gross margin	69%	71%	71%	63%	61%	Intangible assets	319	303	336	404	521
EBITDA margin	(185)%	(112)%	(81)%	(42)%	(0)%	Others	552	1,600	1,610	1,620	1,630
Operating margin	(235)%	(131)%	(95)%	(53)%	(10)%	<b>Total non-current assets</b>	<b>1,092</b>	<b>2,336</b>	<b>2,599</b>	<b>2,831</b>	<b>3,045</b>
Net profit margin	(963)%	(434)%	(276)%	(60)%	(16)%	<b>Total assets</b>	<b>9,895</b>	<b>15,874</b>	<b>14,678</b>	<b>13,057</b>	<b>12,391</b>
<b>Returns</b>						Short-term borrowings	0	0	0	0	0
ROE	n.m.	n.m.	(45)%	(18)%	(9)%	Accounts payable	4	11	12	23	41
ROA	(85)%	(52)%	(40)%	(15)%	(7)%	Other current liabilities	27,148	40,241	1,136	1,245	1,286
<b>Stability</b>						<b>Total current liabilities</b>	<b>27,151</b>	<b>40,252</b>	<b>1,148</b>	<b>1,268</b>	<b>1,328</b>
Gross debt/equity	-1.6x	-1.6x	0.1x	0.2x	0.2x	Long-term debt	13	113	300	600	800
Cash Flow Interest Coverage	206x	202x	684x	108x	50x	Other liabilities	170	174	180	200	220
Current Ratio	0.3x	0.3x	10.5x	8.1x	7.0x	<b>Total non-current liabilities</b>	<b>182</b>	<b>287</b>	<b>480</b>	<b>800</b>	<b>1,020</b>
Quick Ratio	0.3x	0.3x	9.7x	7.0x	5.5x	<b>Total liabilities</b>	<b>27,334</b>	<b>40,539</b>	<b>1,628</b>	<b>2,068</b>	<b>2,348</b>
Net debt to equity	Net cash	Net cash	Net cash	Net cash	Net cash	Paid-in capital	146	146	146	146	146
Note*: "n.m." means related ratio is not meaningful for non-profitable years.						Retained earnings	(18,832)	(25,571)	(31,639)	(33,699)	(34,645)
<b>Profit &amp; Loss (Rmb mn)</b>						Capital adjustment	1,248	760	44,543	44,543	44,543
	Dec-22A	23-Dec	Dec-24E	Dec-25E	Dec-26E	<b>Shareholders' equity</b>	<b>(17,439)</b>	<b>(24,665)</b>	<b>13,050</b>	<b>10,989</b>	<b>10,044</b>
Total revenue	906	1,552	2,198	3,430	5,815	<b>Total liabilities &amp; shareholders' equity</b>	<b>9,895</b>	<b>15,874</b>	<b>14,678</b>	<b>13,057</b>	<b>12,391</b>
Cost of sales	(278)	(457)	(639)	(1,286)	(2,292)	<b>Cash Flow (Rmb mn)</b>					
<b>Gross profit</b>	<b>1,184</b>	<b>2,009</b>	<b>2,837</b>	<b>4,715</b>	<b>8,107</b>	Net profit	(8,720)	(6,739)	(6,067)	(2,061)	(946)
Total operating expenses	2,552	3,137	3,687	4,039	4,174	Depreciation & amortisation	249	305	352	463	640
<b>Operating profit</b>	<b>(2,132)</b>	<b>(2,031)</b>	<b>(2,078)</b>	<b>(1,823)</b>	<b>(578)</b>	Change in working capital	(442)	(170)	(340)	(803)	(1,581)
Net other Non-op. income (Loss)	(6,690)	(4,872)	(4,263)	(350)	(420)	Others	7,356	4,860	410	450	500
Net interest income (expense)	97	159	273	112	52	<b>Cash flow from operations</b>	<b>(1,557)</b>	<b>(1,745)</b>	<b>(5,645)</b>	<b>(1,950)</b>	<b>(1,387)</b>
<b>Pre-tax profit</b>	<b>(8,725)</b>	<b>(6,744)</b>	<b>(6,067)</b>	<b>(2,061)</b>	<b>(946)</b>	<b>Cash flow from investing activities</b>	<b>(215)</b>	<b>(667)</b>	<b>(664)</b>	<b>(774)</b>	<b>(858)</b>
Tax	4	5	0	0	0	<b>Cash flow from financing activities</b>	<b>330</b>	<b>7,163</b>	<b>4,326</b>	<b>(130)</b>	<b>(280)</b>
Minority interest	1	0	0	0	0	<b>Total cash generated</b>	<b>(1,441)</b>	<b>4,751</b>	<b>(1,983)</b>	<b>(2,854)</b>	<b>(2,525)</b>
<b>Net income to ord equity</b>	<b>(8,719)</b>	<b>(6,739)</b>	<b>(6,067)</b>	<b>(2,061)</b>	<b>(946)</b>	<b>Free cash flow</b>	<b>(2,107)</b>	<b>(2,198)</b>	<b>(6,250)</b>	<b>(2,636)</b>	<b>(2,230)</b>

来源: Bloomberg, HTI 预测



## APPENDIX 1

## Summary

- **Initiate with "Outperform" rating with a TP of HKD12.3/share.** We are optimistic about the company's business prospects because it benefits from 1) the rapid expansion of the industry under the general trend of equal rights for intelligent driving, 2) the share gain of domestic intelligent driving chips, and 2) the launch of SuperDrive to enter the high-end market and optimize the product portfolio. We predict that the company's revenue in 2024-2026 will be Rmb2.198B, 3.430B, and 5.815B, respectively, with YoY growth of 42%, 56%, and 70%, respectively, and the CAGR during the period will exceed 50%. In 2025/2026, due to the increase in the volume of major customers and overseas expansion, the growth slope will be higher than that in 24. At the bottom-line level, we expect the company to turn losses into profits in 2027. Referring to the valuation level of the same industry, we give the company 26X 2026 PS, corresponding to a target price of HK\$12.3/share, and give an "outperform" rating for the initiation.
- **A key driver of the transformation and commercialization of smart cars, with industry-leading chip shipments.** Horizon Robotics was founded in 2015 by Dr. Yu Kai, former vice president of Baidu Deep Learning Institute. Based on strong software and hardware integration capabilities, a highly flexible and scalable business model, the company provides customers with a full stack of products and solutions from algorithms to software and development tools to processing hardware, meeting the full-scenario smart driving needs from mainstream assisted driving (ADAS) to advanced intelligent driving (AD). It has reached cooperation with many car companies and Tier 1s such as BYD, Li Auto, Volkswagen, and Bosch. As of 2024, the cumulative shipments of the Journey series chips have exceeded 7mn; according to public data, the company's market share in the installed capacity of advanced assisted driving solutions in the Chinese market reached 35.9%, ranking first in 24H1.
- **BYD launches "smart driving equalization", and the penetration of mid-to-high-end NOA functions is accelerating.** With the maturity of high-speed NOA technology and the decline in costs, traditional car companies represented by BYD are deploying mid-level smart driving solutions on a large scale, and the price of models has dropped to the 100,000 yuan level, bringing a large amount of new demand to the mid-level ADAS/AD market; at the same time, benefiting from the entry of Tesla FSD into China, the adoption rate of higher-level end-to-end urban NOA solutions is also gradually increasing, and the smart driving industry continues to expand. According to data from Zhushi Consulting, by 2030, models equipped with smart driving solutions, namely ADAS+AD, will account for 96.7% and 99.7% of the overall global and Chinese automobile shipments, of which AD accounts for 65% and 80% respectively. Taking BYD as an example, its smart driving model shipments will reach more than 3 million in 25 years, of which more than 2 million are the Eye of God C series. According to our industry chain research, Horizon, as the only selected domestic chip supplier, its J6M chip will supply part of the Eye of God C series, with a significant increase.
- **SuperDrive will be put into mass production in 25Q3, driving the high-end product portfolio.** SuperDrive is based on the latest flagship version of the J6P chip, with a single-chip computing power of 560 TOPS, which is at the top level in China. It has currently reached cooperation with many top Tier 1 suppliers and OEMs, and is expected to achieve the delivery of the first mass-produced model in 25Q3. We believe that the launch of SuperDrive will further consolidate the company's leading position in the smart driving chip and solution market, set a new technical benchmark for the industry, and as the SuperDrive solution is put into mass production, the company's automotive product gross profit margin is expected to reach ~50%.
- **Risks:** 1) The progress of automotive intelligence is not as expected; 2) The volume of high-end smart driving chips is not as expected; 3) The progress of research and development is not as expected

## **APPENDIX 2**

### **ESG Comments**

#### **Environmental:**

Energy-Efficient Products

#### **Social:**

Talent Attraction and Retention

#### **Governance:**

Commitment to Innovation and Excellence

## 附录 APPENDIX

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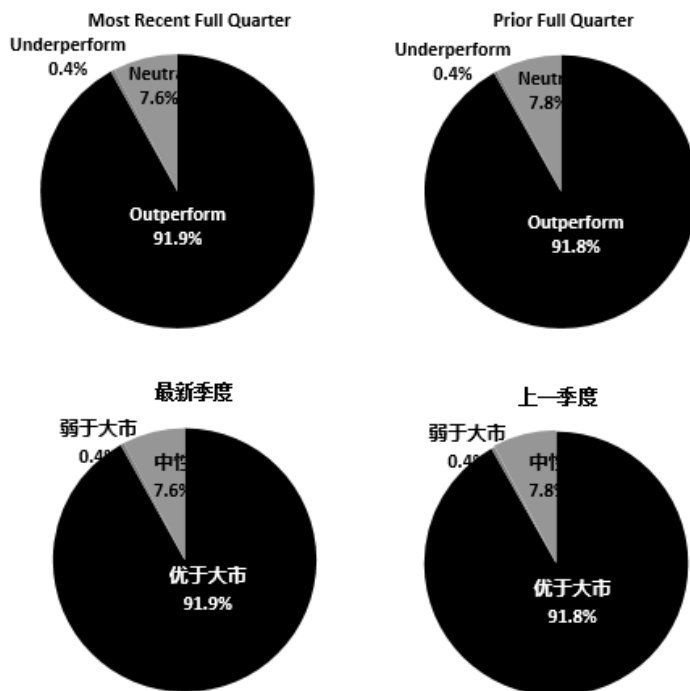
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## Ratings Distribution



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Outperform	Neutral (hold)	Underperform
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