



周一晚8点 | 【人形机器人板块（下）】财务数据背后，谁在掌握利润分配权？

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摘要

本周报告旨在帮助您清晰、快速地掌握行业资讯。

一、产业全景

人形机器人市场正经历爆发式增长：全球市场2025-2029年CAGR达57%，中国市场CAGR达93.6%。886069.TI板块涵盖374家企业，总市值8.07万亿元。但在这个万亿赛道中，**定价权正向核心零部件集中**——行星滚柱丝杠、无框力矩电机、减速器等关键部件占比超45%，而高精度RV减速器、空心杯电机、柔性触觉传感器、高增益AI芯片等"卡脖子"环节仍待突破。114家专精特新"小巨人"企业平均毛利率26.99%，高于板块整体2.67个百分点。量产方面，2025年千台至万台级量产启动，成本曲线快速下行，宇树京东售价已低于10万元。

二、主流产品参数速览

财务悖论：毛利率高不等于盈利能力强

- **优必选悖论：** 毛利率34.6%却亏损4.14亿元，研发费用率超30%、市场教育成本高、规模效应未形成
- **特斯拉效率：** 毛利率仅16.81%却盈利15.81亿美元，汽车业务规模效应与现金流反哺是关键
- **小巨人稳健：** 超捷股份毛利率21.12%，净利率5.6%，细分领域深耕、轻资产运营、订单能见度高
- **跨界难题：** 小鹏毛利率16.51%却亏损11.42亿元，主业未盈利、资源分散、协同效应待验证

公司	股票代码	企业类型	营业收入	归母净利润	毛利率
特斯拉	TSLA.O		418.31亿美元	15.81亿美元	16.81%
优必选	9880.HK	制造业单项冠军	6.18亿元	-4.14亿元	34.60%
宇树科技	未上市	国家级专精特新"小巨人"企业	4亿元（2024年）	0.7亿元（2024年）	未披露
超捷股份	301005.SZ	国家级专精特新"小巨人"企业	3.91亿元	0.22亿元	21.12%
小鹏汽车	9868.HK		340.85亿元	-11.42亿元	16.51%

三、四类玩家：商业模式决定财务表现

1. **生态赋能型（特斯拉）：** 依托母公司现金流战略投入，不计短期亏损，抢占生态入口
2. **突围求生型（优必选）：** 营收快速增长但亏损，毛利率改善趋势与现金消耗速率是关键指标
3. **稳健现金牛（超捷）：** 零部件企业财务稳健，是观察产业链真实需求的前瞻指标
4. **技术溢出型（小鹏）：** 将汽车技术迁移至机器人，协同效应兑现与否决定成败

玩家类型	代表企业	核心财务战略	盈利模式	关键财务指标	主要风险
全球科技巨头	特斯拉、Figure AI	生态赋能,不计短期亏损	远期服务收费、平台价值	营收增速、研发投入占比	战略摇摆、投入不及预期
国内整机领军	优必选、宇树科技	快速突围,抢占市场先机	整机销售、解决方案	毛利率、现金净流、融资能力	现金流断裂、商业化进程慢
核心零部件"小巨人"	超捷股份	深耕细分,受益于产业链放量	零部件销售、技术授权	净利润率、营收增速、订单能见度	技术迭代、竞争加剧导致降价
跨界颠覆者	小鹏	技术协同,降本增效	硬件销售、生态延伸	研发效率、协同效应带来的成本优势	主业波动、资源投入分散

一、行业定义与与全景概览

1.1 概念厘清：具身智能与人形机器人的交集

人形机器人不是单一概念，而是"具身智能"（Embodied Intelligence）最重要的载体。为准确理解行业边界,需要厘清三个核心概念：

来源：人形机器人标准化白皮书（2024版）

具身智能（Embodied Intelligence）

智能系统通过与物理世界交互来发展和体现其智能的能力。

来源：中国信息通信研究院和北京人形机器人创新中心有限公司《具身智能发展报告（2024）》（2024年8月）

人形机器人（Humanoid Robot）

外形模仿人类设计的机器人，通常具有头部、四肢和类似人类的外观，是具身智能最重要的载体。

来源：《人形机器人标准化白皮书（2024版）》

双足机器人（Bipedal Robot）

用两条腿移动的腿式机器人，具备自主性，但不一定具备智能性。

来源：国际标准ISO 8373:2021《Robotics Vocabulary》

1.2 市场规模与板块格局

全球与中国市场的高速增长

人形机器人市场正进入快速增长期。根据嘉世咨询的数据，全球市场和中国市场均呈现出显著的增长潜力：从全球视角来看，人形机器人市场将从2025年的34亿美元快速扩张至2029年的206亿美元，五年间复合年均增长率高达57%。中国市场的增长势头更为强劲：预计2025年市场规模为53亿元人民币，到2029年将攀升至750亿元人民币，CAGR达到93.6%，成为全球人形机器人产业增长的核心驱动力。

数据来源：嘉世咨询

全产业链的万亿集群

截至2025年11月26日，886069.TI（人形机器人）板块已形成覆盖硬件制造、软件开发及零部件供应的全产业链集群。板块归类基于同花顺对A股公司业务相关性与技术协同性的动态评估。

板块整体规模：

上市公司数量：**374家**

总市值：**8.07万亿元**

财务规模（2025 Q1-Q3）：累计营收 **2.95万亿元**，净利润 **1514亿元**

国家级专精特新"小巨人"企业的质量优势：

在板块整体平均销售毛利率为24.32%的背景下，国家级专精特新"小巨人"企业集群展现出显著的质量优势：

核心发现：

- 体量占比：板块内共包含 **114家** "小巨人"企业，占板块总公司数量的 **30.48%**
- 质量优势：平均销售毛利率达到 **26.99%**，明显高于板块整体的24.32%
- 战略地位：聚焦于高精度传动、传感器、运动控制等高附加值零部件，是保障人形机器人未来大规模量产和成本下降的关键力量

板块类型	公司数量	平均销售毛利率 (%)	总市值 (亿元)	营业收入 (亿元)	净利润 (亿元)
人形机器人	374	24.32	80,745	29,481	1,514
人形机器人领域国家级专精特新"小巨人"企业	114 (30.48%)	26.99	9,527 (11.80%)	1,506 (5.11%)	71 (4.69%)

数据来源：iFind，财务数据均截至2025.09.30

1.3 价值链、成本结构与商业化前景

价值分布：核心零部件构成定价权基础

在人形机器人的成本结构中，高精度传动系统构成核心技术壁垒，传感器系统是实现敏捷感知与精准控制的关键。根据华西证券研究所预测，到2030年零部件价值占比将呈现明显的集中趋势：行星滚柱丝杠占19%，无框力矩电机占16%，减速器占13%，力传感器与IMU合计占13%。从整机成本拆解来看，下肢系统承载了行走与平衡的核心功能，其中大腿占13.2%，小腿占12.8%，腰部骨盆占8.5%，其他部件合计占19.1%。

数据来源：华西证券研究所（2025年2月）

技术突破与瓶颈：国产化的机遇与挑战

当前国产技术正在一体化智能关节模组、轻量化材料、多模态触觉系统和专用操作系统等方向发力突破。但产业链仍面临关键技术瓶颈：高精度RV减速器、空心杯电机、大扭矩柔性触觉传感器和高增益AI芯片仍是亟待攻克의"卡脖子"技术，这些核心零部件的国产化进程直接决定了产业链的利润分配格局与定价权归属。

量产计划与成本博弈

从量产节奏来看，2025年国内外头部公司将启动数千台至万台级量产计划，2026年预期规模将跃升至数万台或10万台级。成本曲线正在快速下行：特斯拉Optimus Gen-2当前物料成本（BOM）约为5万至6万美元（不含软件），摩根士丹利估算当成本降至1万至3万美元区间时将催生规模化应用，而5万至7万元人民币的价格区间将推动大规模普及。远期市场空间方面，随着智能化程度提升，预计市场规模将超过汽车与智能手机，达到数万亿级规模。特斯拉对人形机器人远期定价目标是2万美元，宇树机器人多个型号在京东售价已低于10万元人民币。

数据来源：中信建投证券

行业正从"功能机"向"智能机"时代迈进，呈现"硬件+软件+服务"的全栈发展模式。这一转变将重构产业价值分配逻辑。

二、重点企业与对比指标

第一章揭示了人形机器人8万亿市值的产业全景，但一个更关键的问题是：**这8万亿如何在374家企业间分配？谁真正掌握了定价权？**

本章通过解剖头部企业的财务报表，回答三个核心问题：

- 1. 为什么有些企业毛利率高却持续亏损？
- 2. 产业链利润向哪个环节集中？
- 3. 投资者应该关注哪些前瞻性财务指标？

2.1 头部企业财务对比

公司	股票代码	企业类型	营业收入	归母净利润	毛利率
特斯拉	TSLA.O		418.31亿美元	15.81亿美元	16.81%
优必选	9880.HK	制造业单项冠军	6.18亿元	-4.14亿元	34.60%
宇树科技	未上市	国家级专精特新"小巨人"企业	4亿元（2024年）	0.7亿元（2024年）	未披露
超捷股份	301005.SZ	国家级专精特新"小巨人"企业	3.91亿元	0.22亿元	21.12%
小鹏汽车	9868.HK		340.85亿元	-11.42亿元	16.51%

数据来源：iFind，宇树科技数据来自2024年实际经营数据，其余企业财务数据均来自2025半年报

优必选：毛利率34.6%位居榜首，却亏损4.14亿元。研发费用率超30%、市场教育成本高、规模效应未形成是"高毛利、高亏损"悖论的三大原因。典型的"突围求生型"企业。

特斯拉：毛利率仅16.81%却盈利15.81亿美元。秘密在于汽车业务的规模效应和现金流反哺，以及严格的费用率控制。体现"生态赋能型"巨头的效率优势。

超捷股份：毛利率21.12%不突出，但净利率5.6%体现零部件企业的稳健盈利能力。细分领域深耕、多元化客户结构、轻资产运营是"小巨人"的典型特征。

小鹏汽车：毛利率16.51%与特斯拉接近，但亏损11.42亿元。主业尚未盈利、资源分散、协同效应待验证，是"技术溢出型"跨界者面临的成本难题。

这四家企业的财务表现差异，本质上反映了它们所处的产业链位置和发展阶段。为更好地理解这些差异背后的战略逻辑，我们将全行业参与者归纳为四类。

2.2 参与者画像：四类玩家的财务战略与博弈

上述财务悖论背后，是四种截然不同的商业模式在起作用：

全球科技巨头（特斯拉模式）："生态赋能型"。依托母公司庞大现金流进行战略性投入，财务目标是抢占入口而非短期盈利。机器人业务的亏损可被其他业务利润覆盖，抗风险能力极强。

国内整机领军（优必选模式）："突围求生型"。营收快速增长但净利润多为亏损，高度依赖股权融资。财务健康度取决于毛利率改善趋势和现金消耗速率。

核心零部件"小巨人"（超捷模式）："稳健现金牛"。在细分领域建立优势，机器人订单是增量而非全部。财务相对稳健，是观察产业链真实需求的前瞻指标。

跨界颠覆者（小鹏模式）："技术溢出型"。将汽车、消费电子技术迁移至机器人领域。财务独立性差，协同效应是否兑现将决定成败。

玩家类型	代表企业	核心财务战略	盈利模式	关键财务指标	主要风险
全球科技巨头	特斯拉、Figure AI	生态赋能,不计短期亏损	远期服务收费、平台价值	营收增速、研发投入占比	战略摇摆、投入不及预期
国内整机领军	优必选、宇树科技	快速突围,抢占市场先机	整机销售、解决方案	毛利率、现金流净值、融资能力	现金流断裂、商业化进程慢
核心零部件"小巨人"	超捷股份	深耕细分,受益于产业链放量	零部件销售、技术授权	净利率、营收增速、订单能见度	技术迭代、竞争加剧导致降价
跨界颠覆者	小鹏	技术协同,降本增效	硬件销售、生态延伸	研发效率、协同效应带来的成本优势	主业波动、资源投入分散


三、交易与投资观察窗

3.1 产业趋势

- **商业化元年：** 2025年将成为具身智能机器人商业化应用的元年，头部企业启动千台至万台级量产计划。
- **远期空间：** 预计市场规模将超过汽车和智能手机，达到数万亿级别。
- **模式转变：** 行业正从“功能机”向“智能机”时代迈进，呈现“硬件+软件+服务”的全栈发展模式。

3.2 投资风险（“三高”特征）

人形机器人产业具有**高资本投入**（研发/建厂）、**长回报周期**（依赖融资性现金流）和**高不确定性**（技术/政策变动）的特征。

 人形机器人产业正处于关键转折点，呈现“机遇与风险并存”的特征：
机遇维度： 2025年标志着商业化元年，千台至万台级量产启动意味着成本曲线快速下行，产业从实验室走向市场。远期市场规模预期超越汽车和智能手机，达到数万亿级别，反映出巨大的增长潜力。行业从“功能机”向“智能机”演进，“硬件+软件+服务”全栈模式将重构价值链。
风险维度： 产业具有典型的“三高”特征——高资本投入（研发与建厂需大量前期资金）、长回报周期（依赖持续融资）、高不确定性（技术突破与政策变动难以预测）。这意味着投资者需要更长的耐心和更强的风险承受能力，短期内难以看到稳定回报。
启示： 关注具备持续融资能力的整机企业和盈利稳健的核心零部件“小巨人”，警惕现金流风险。

风险提示

本文仅供研究参考，不构成任何投资建议。

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浙江大学国际校区隐形冠军国际研究中心（IHC）

全国首家国际化隐形冠军研究机构，2021 年入选浙江省软科学研究基地。

- **国际化学术与智库平台**——汇聚全球顶尖专家，聚焦“隐形冠军”研究，推动跨国学术合作。
- **政产学研深度融合**——以科研成果服务政策制定与产业实践，助力“专精特新”企业高质量成长。
- **多元传播与社会影响力**——通过报告、出版物与特色专栏，打造中国“隐形冠军”研究的重要传播与影响平台。

报告聚焦： 聚焦隐形冠军、专精特新，结合企业案例，深入剖析技术创新与商业模式。

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English Version

Executive Summary

This weekly report aims to help you clearly and quickly grasp industry insights.

I. Industry Overview

The humanoid robot market is experiencing explosive growth: global market CAGR of 57% from 2025-2029, China market CAGR of 93.6%. The 886069.TI sector includes 374 companies with a total market value of 8.07 trillion yuan. However, in this trillion-yuan track, **pricing power is concentrating towards core components**—planetary roller screws, frameless torque motors, reducers and other key components account for over 45%, while "bottleneck" areas such as high-precision RV reducers, coreless motors, flexible tactile sensors, and high-gain AI chips still await breakthroughs. 114 Little Giant enterprises have an average gross margin of 26.99%, 2.67 percentage points higher than the sector average. In terms of mass production, 2025 marks the launch of thousand to ten-thousand unit scale production, with costs declining rapidly—Unitree's [JD.com](#) selling price is already below 100,000 yuan.

II. Key Product Parameter Overview

Financial Paradox: High Gross Margin ≠ Strong Profitability

- **UBTECH Paradox:** 34.6% gross margin yet 414 million yuan loss, R&D expense ratio exceeds 30%, high market education costs, scale effect not formed
- **Tesla Efficiency:** Only 16.81% gross margin yet 1.581 billion USD profit, automotive business scale effect and cash flow support are key
- **Little Giant Stability:** Chojie Corporation gross margin 21.12%, net margin 5.6%, deep cultivation in niche areas, asset-light operation, high order visibility
- **Cross-industry Challenge:** XPeng gross margin 16.51% yet 1.142 billion yuan loss, core business unprofitable, resource dispersion, synergy effects awaiting validation

Company	Stock Code	Enterprise Type	Revenue	Net Profit	Gross Margin
Tesla	TSLA.O		\$41.831B USD	\$1.581B USD	16.81%
UBTECH	9880.HK	Manufacturing Champion	618M RMB	-414M RMB	34.60%
Unitree	Unlisted	Little Giant	400M RMB (2024)	70M RMB (2024)	Undisclosed
Chojie	301005.SZ	Little Giant	391M RMB	22M RMB	21.12%
XPeng	9868.HK		34.085B RMB	-1.142B RMB	16.51%

III. Four Types of Players: Business Model Determines Financial Performance

1. **Ecosystem Enablers (Tesla):** Relying on parent company cash flow for strategic investment, disregarding short-term losses, seizing ecosystem entry points
2. **Breakthrough Survivors (UBTECH):** Rapid revenue growth but losses, gross margin improvement trend and cash burn rate are key indicators
3. **Stable Cash Cows (Chojie):** Component companies with sound finances, a leading indicator of real industrial chain demand
4. **Tech Spillover Types (XPeng):** Migrating automotive technology to robots, success depends on realization of synergy effects

Player Type	Representative	Core Financial Strategy	Profit Model	Key Financial Indicators	Main Risks
Global Tech Giants	Tesla, Figure AI	Ecosystem enablement, disregard short-term losses	Long-term service fees, platform value	Revenue growth, R&D investment ratio	Strategic wavering, investment below expectations
Domestic Leaders	UBTECH, Unitree	Rapid breakthrough, seize market first-mover advantage	Complete machine sales, solutions	Gross margin, net cash flow, financing capability	Cash flow breakdown, slow commercialization
Core Component Little Giants	Chojie	Deep cultivation in niches, benefit from chain scaling	Component sales, tech licensing	Net margin, revenue growth, order visibility	Tech iteration, intensified competition leading to price cuts
Cross-industry Disruptors	XPeng	Tech synergy, cost reduction and efficiency	Hardware sales, ecosystem extension	R&D efficiency, cost advantage from synergy	Core business volatility, dispersed resource investment

I. Industry Definition and Landscape Overview

1.1 Concept Clarification: Intersection of Embodied Intelligence and Humanoid Robots

Humanoid robots are not a single concept, but the most important carrier of "Embodied Intelligence". To accurately understand industry boundaries, three core concepts need clarification:

Embodied Intelligence

The ability of intelligent systems to develop and manifest their intelligence through interaction with the physical world.

Source: China Academy of Information and Communications Technology and Beijing Humanoid Robot Innovation Center "Embodied Intelligence Development Report (2024)" (August 2024)

Humanoid Robot

Robots designed to mimic human appearance, typically with head, limbs and human-like features, the most important carrier of embodied intelligence.

Source: "Humanoid Robot Standardization White Paper (2024 Edition)"

Bipedal Robot

Legged robots that move on two legs, possessing autonomy but not necessarily intelligence.

Source: International Standard ISO 8373:2021 "Robotics Vocabulary"

1.2 Market Scale and Sector Landscape

High-speed Growth in Global and Chinese Markets

The humanoid robot market is entering a rapid growth phase. According to Janus Consulting, both global and Chinese markets show significant growth potential: From a global perspective, the humanoid robot market will rapidly expand from \$3.4 billion in 2025 to \$20.6 billion in 2029, with a five-year CAGR of 57%. China's market shows even stronger growth momentum: expected to reach 5.3 billion RMB in 2025, climbing to 75 billion RMB by 2029, with a CAGR of 93.6%, becoming the core driver of global humanoid robot industry growth.

Trillion-yuan Full Industrial Chain Cluster

As of November 26, 2025, the 886069.TI (Humanoid Robot) sector has formed a full industrial chain cluster covering hardware manufacturing, software development and component supply. Sector classification is based on Flush's dynamic assessment of A-share companies' business relevance and technological synergy.

Overall Sector Scale:

Number of listed companies: **374**

Total market value: **8.07 trillion yuan**

Financial scale (2025 Q1-Q3): Cumulative revenue **2.95 trillion yuan**, net profit **151.4 billion yuan**

Quality Advantage of Little Giant Enterprises:

Against the backdrop of sector-wide average gross margin of 24.32%, Little Giant enterprise clusters demonstrate significant quality advantages:

Core Finding:

- Scale proportion: Sector includes **114** Little Giant enterprises, accounting for **30.48%** of total companies
- Quality advantage: Average gross margin reaches **26.99%**, significantly higher than the sector average of 24.32%
- Strategic position: Focused on high-precision transmission, sensors, motion control and other high value-added components, key forces ensuring future mass production and cost reduction of humanoid robots

Sector Type	Company Count	Avg. Gross Margin (%)	Total Market Cap (100M RMB)	Revenue (100M RMB)	Net Profit (100M RMB)
Humanoid Robot	374	24.32	80,745	29,481	1,514
Little Giants in Humanoid Robot	114 (30.48%)	26.99	9,527 (11.80%)	1,506 (5.11%)	71 (4.69%)

Data Source: iFind, financial data as of Sept 30, 2025

1.3 Value Chain, Cost Structure and Commercialization Prospects

Value Distribution: Core Components Form Foundation of Pricing Power

In the cost structure of humanoid robots, high-precision transmission systems constitute core technical barriers, and sensor systems are key to achieving agile perception and precise control. According to Huaxi Securities Research Institute forecasts, by 2030 component value share will

show clear concentration trends: planetary roller screws 19%, frameless torque motors 16%, reducers 13%, force sensors and IMU combined 13%. From complete machine cost breakdown, the lower limb system carries core walking and balance functions, with thigh 13.2%, calf 12.8%, waist/pelvis 8.5%, and other parts combined 19.1%.

Technological Breakthroughs and Bottlenecks: Opportunities and Challenges of Localization

Current domestic technology is making breakthroughs in integrated smart joint modules, lightweight materials, multimodal tactile systems and dedicated operating systems. However, the industrial chain still faces key technological bottlenecks: high-precision RV reducers, coreless motors, high-torque flexible tactile sensors and high-gain AI chips remain "bottleneck" technologies urgently needing to be overcome. The localization progress of these core components directly determines profit distribution patterns and pricing power ownership in the industrial chain.

Mass Production Plans and Cost Competition

From mass production rhythm, 2025 will see domestic and international leading companies launch thousand to ten-thousand unit scale production plans, with expected scale jumping to tens of thousands or 100,000 units in 2026. Cost curves are declining rapidly: Tesla Optimus Gen-2 current bill of materials (BOM) is approximately \$50,000-\$60,000 USD (excluding software), Morgan Stanley estimates that when costs drop to \$10,000-\$30,000 range it will catalyze scaled applications, while 50,000-70,000 RMB price range will drive large-scale adoption. For long-term market space, as intelligence levels improve, market scale is expected to exceed automobiles and smartphones, reaching trillions in scale. Tesla's long-term pricing target for humanoid robots is \$20,000 USD, while multiple Unitree robot models on [JD.com](https://www.jd.com) are already priced below 100,000 RMB.

Data Source: CITIC Construction Investment Securities

The industry is advancing from the "feature phone" to "smartphone" era, presenting a full-stack development model of "hardware + software + services". This transformation will reconstruct industrial value distribution logic.

II. Key Enterprises and Comparative Indicators

Chapter I revealed the 8 trillion yuan industrial landscape of humanoid robots, but a more critical question is: **How is this 8 trillion distributed among 374 companies? Who truly holds pricing power?**

This chapter dissects the financial statements of leading companies to answer three core questions:

1. **Why do some companies have high gross margins yet continue to lose money?**
2. **Which segment of the industrial chain concentrates profits?**
3. **What forward-looking financial indicators should investors focus on?**

2.1 Leading Enterprise Financial Comparison

Company	Stock Code	Enterprise Type	Revenue	Net Profit	Gross Margin
Tesla	TSLA.O		\$41.831B USD	\$1.581B USD	16.81%
UBTECH	<u>9880.HK</u>	Manufacturing Champion	618M RMB	-414M RMB	34.60%
Unitree	Unlisted	Little Giant	400M RMB (2024)	70M RMB (2024)	Undisclosed
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XPeng	<u>9868.HK</u>		34.085B RMB	-1.142B RMB	16.51%

Data Source: iFind, Unitree data from 2024 actual operations, other companies' financial data from 2025 semi-annual reports

UBTECH: Gross margin of 34.6% ranks first, yet loses 414 million yuan. R&D expense ratio exceeding 30%, high market education costs, and unformed scale effects are three major reasons for the "high gross margin, high loss" paradox. Typical "breakthrough survivor" type enterprise.

Tesla: Only 16.81% gross margin yet profits 1.581 billion USD. The secret lies in automotive business scale effects and cash flow support, plus strict expense ratio control. Reflects "ecosystem enabler" giant efficiency advantages.

Chojie Corporation: Gross margin of 21.12% not outstanding, but net margin of 5.6% reflects stable profitability of component companies. Deep cultivation in niche areas, diversified customer structure, asset-light operation are typical "Little Giant" characteristics.

XPeng Motors: Gross margin of 16.51% similar to Tesla, but loses 1.142 billion yuan. Core business not yet profitable, dispersed resources, synergy effects awaiting validation—cost challenges facing "tech spillover" cross-industry players.

The financial performance differences among these four companies essentially reflect their positions in the industrial chain and development stages. To better understand the strategic logic behind these differences, we categorize all industry participants into four types.

2.2 Participant Profiles: Financial Strategies and Competition of Four Player Types

Behind the above financial paradoxes are four distinctly different business models at work:

Global Tech Giants (Tesla Model): "Ecosystem enablers". Rely on parent company's massive cash flow for strategic investment, financial goal is to seize entry points rather than short-term profits. Robot business losses can be covered by other business profits, with extremely strong risk resistance.

Domestic Complete Machine Leaders (UBTECH Model): "Breakthrough survivors". Rapid revenue growth but net profit mostly losses, highly dependent on equity financing. Financial health depends on gross margin improvement trends and cash burn rate.

Core Component Little Giants (Chojie Model): "Stable cash cows". Establish advantages in niche areas, robot orders are incremental not total. Relatively sound finances, a leading indicator for observing real industrial chain demand.

Cross-industry Disruptors (XPeng Model): "Tech spillover types". Migrate automotive and consumer electronics technology to robot field. Poor financial independence, realization of synergy effects will determine success or failure.

Player Type	Representative	Core Financial Strategy	Profit Model	Key Financial Indicators	Main Risks
Global Tech Giants	Tesla, Figure AI	Ecosystem enablement, disregard short-term losses	Long-term service fees, platform value	Revenue growth, R&D investment ratio	Strategic wavering, investment below expectations
Domestic Leaders	UBTECH, Unitree	Rapid breakthrough, seize market first-mover advantage	Complete machine sales, solutions	Gross margin, net cash flow, financing capability	Cash flow breakdown, slow commercialization
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III. Trading and Investment Observation Window

3.1 Industry Trends

- **Year of Commercialization:** 2025 will become the first year of commercial application for embodied intelligent robots, with leading companies launching thousand to ten-thousand unit scale production plans.
- **Long-term Potential:** Market scale expected to exceed automobiles and smartphones, reaching trillion-yuan levels.
- **Model Transformation:** Industry advancing from "feature phone" to "smartphone" era, presenting full-stack development model of "hardware + software + services".

3.2 Investment Risks ("Three Highs" Characteristics)

The humanoid robot industry has characteristics of **high capital investment** (R&D/factory construction), **long payback period** (dependent on financing cash flow) and **high uncertainty** (tech/policy changes).



The humanoid robot industry is at a critical turning point, presenting characteristics of "opportunities and risks coexisting":

Opportunity Dimension: 2025 marks the year of commercialization, with thousand to ten-thousand unit scale production launch signifying rapidly declining cost curves, as the industry moves from laboratory to market. Long-term market scale expected to exceed automobiles and smartphones, reaching trillion-yuan levels, reflecting enormous growth potential. Industry evolution from "feature phone" to "smartphone", with "hardware + software + services" full-stack model reconstructing value chains.

Risk Dimension: Industry has typical "three highs" characteristics—high capital investment (R&D and factory construction require substantial upfront capital), long payback period (dependent on continuous financing), high uncertainty (tech breakthroughs and policy changes difficult to predict). This means investors need greater patience and stronger risk tolerance, with stable returns difficult to see in the short term.

Insight: Focus on complete machine companies with sustained financing capability and profitably stable core component Little Giants, be alert to cash flow risks.

Risk Disclaimer

This article is for research reference only and does not constitute any investment advice.

About Us

International Research Center for Hidden Champions, Zhejiang University International Campus (IHC)

China's first international research institution for hidden champions, selected as Zhejiang Province Soft Science Research Base in 2021.

- **International Academic and Think Tank Platform**—Bringing together world-class experts, focusing on "hidden champion" research, promoting cross-border academic cooperation.
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Report Focus: Focusing on hidden champions and specialized enterprises, combining corporate cases, deeply analyzing technological innovation and business models.

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