

中国汽车 China Autos

小米首发五大核心科技，小米 SU7 预发布定价将成最大悬念

Xiaomi Unveils Five Core Technologies, and Pricing of the Pre-Launch Xiaomi SU7 Becomes the Biggest Suspense

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热点速评 Flash Analysis

(Please see APPENDIX 1 for English summary)

事件

2023 年 12 月 28 日，小米在北京召开小米汽车技术发布会，小米 CEO 雷军于现场预发布小米 SU7，分享小米汽车技术领域百项“第一、唯一、最”的储备和突破。小米 SU7 定价并未公布，将成为 1H24 正式发布会的核心看点。

点评

首发五大核心科技，志在从底层重塑汽车工业技术栈。小米汽车五大核心技术包括电驱、电池、大压铸、智能驾驶以及智能座舱：**1) 电驱：**小米首发联合研发的超级电机 V6 系列，引入 AI 仿真技术，超 20 万次拓扑寻优和电机内结构的应力分布优化，实现转速达惊人的 21000rpm 的同级领先水平。小米 SU7 首发搭载的 V6 和 V6s 电机分别基于 400/800V 平台，最大功率 220/275kW，最大扭矩 299/374ps。小米首发全球最快的小米超级电机 V8s，重新设计转子结构和散热系统，实现 27200rpm 的全球最高转速，最大马力 578ps，峰值功率 425kW，最大峰值扭矩 635N·m，公司预计 25 年实现量产。**2) 电池：**小米 SU7 搭载 800V 碳化硅高压平台和 101 kWh 宁德时代麒麟电池（双方深度合作研发），采用 CTB 一体化电池技术，77.8%体积效率全球最高，可实现 1200+km 的平台最高 CLTC 续航。电池热失效安全标准远超行业平均，14 层硬核物理防护通过最严格的 IP6K9K 密封测试；采用 17 层高压绝缘防护，定制主动冷却技术，双大面冷却面积高达 7.8 m²，是行业水平的 4 倍；电芯侧面填充 165 片气凝胶，最高可抵抗 1000°C 的高温。**3) 大压铸：**小米全栈自研 Xiaomi HyerCasting 大压铸，全链路自主设计大压铸设备集群系统，全套含 60 个设备，精密控制 433 个工艺参数。单台压铸机重达 718t，锁模力高达 9100t，实现小米汽车的一体化压铸后地板；与国家级实验室联合研发，多元材料 AI 仿真系统计算超 1016 万种配方经 1550 次打样，最终筛选出高强度、高韧性、优良流动性和低碳环保特性的合金材料。**4) 智能驾驶：**AI 赋能全栈自研 Xiaomi Pilot 智能驾驶技术，可实现高速和城市 NOA；软硬件深度协同，配备两颗英伟达 DRIVE Orin 芯片+禾赛 128 线激光雷达，综合算力达 508 TOPS；自适应变焦 BEV 技术动态调整感知范围，“超分辨率”占用网络技术可精准识别异形障碍物，精度<0.1 米，雨雪天自研自动降噪，有效降低雨雪干扰；道路大模型实时生成道路拓扑，实现全国通用的城市领航。**5) 智能座舱：**小米基于澎湃 OS 打造以人为中心的“人车家全生态”操作系统，16.1 英寸 3K 分辨率的中控屏联动仪表盘、HUD 抬头显示，带来沉浸式驾驶体验；超强生态拓展能力，深度适配行业主流车载应用，将逐步共享小米平板 5000+款应用生态，实现应用生态融合；专属 CarIoT 生态可实现最多五屏联动的先进交互，并全面向三方开放，携手全球开发者开创“人车家全生态”美好愿景。

小米 SU7 融合先进设计与技术，提供卓越性能和舒适体验。小米 SU7 定位 C 级高性能生态科技轿车，车身尺寸为长 4997mm、宽 1963mm、高 1455mm/1440mm（Max 版），轴距 3000mm，提供了海湾蓝、雅灰、橄榄绿等多种配色，风阻系数 Cd 0.195 全球领先。外观设计亮点包括水滴形大灯和光环尾灯，以及优化空气动力学效率的半隐藏式汽车门把手。内饰方面，SU7 提供银河灰、暮光红、曜石黑等内饰配色，具有环绕式座舱设计、5.35 m²的整车玻璃面积、双层镀银隔热材料天幕和三层镀银的前挡风玻璃，以及杜比音响系统。性能方面，SU7 的零百加速时间快至 2.78 秒，采用前双叉臂+后多连杆的底盘设计，配备 CDC 电磁悬挂和空气悬挂，提供 Boost 键取得 20 秒超额扭矩输出和弹射起步模式。续航方面，SU7 最高 CLTC 续航 800 公里，借助 800V 高压平台仅需 5 分钟可补能 220 公里，15 分钟补能 510 公里的优秀表现。我们预计小米 SU7 有望吸引小米的忠实粉丝、热爱小米生态的消费者、科技和汽车智能化爱好者的注意力，并通过小米汽车的技术和性价比优势逐步拓展更多潜在用户群体。

风险

投产交付不及预期，市场竞争加剧，新车定价不及预期。

小米 SU7 预发布&小米汽车技术亮点

图 1 小米 SU7 外观



资料来源：小米汽车官网，海通国际

图 2 小米 SU7 内饰



资料来源：小米汽车官网，海通国际

图 3 小米 SU7 风阻系数低至 0.195Cd



资料来源：小米汽车官网，海通国际

图 4 小米 SU7 最高 CLTC 续航里程



资料来源：小米汽车官网，海通国际

图 5 小米超级电机 V6 & V6s 参数



资料来源：小米汽车官网，海通国际

图 6 小米超级电机 V8s 亮相



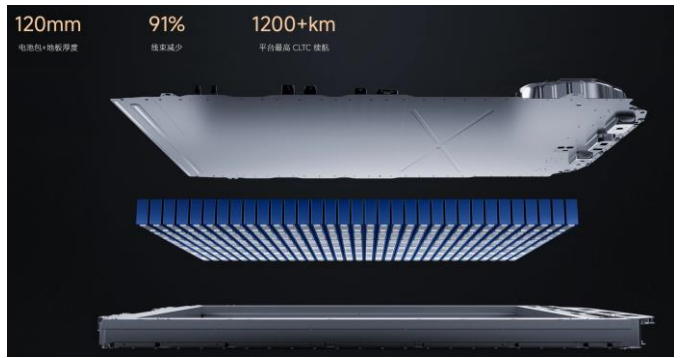
资料来源：小米汽车官网，海通国际

图 7 小米 800V 碳化硅高压平台



资料来源：小米汽车官网，海通国际

图 8 CTB 一体化电池技术参数



资料来源：小米汽车官网，海通国际

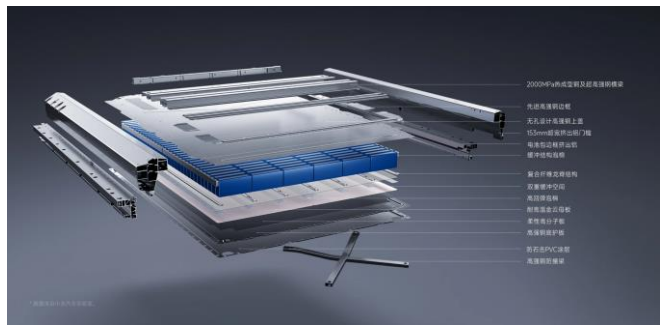
图 9 电池热失效安全水平行业领先

挑战行业最高的电池安全标准。
实现 55°C 高温，即使水冷系统不工作，也能确保无明火、无热蔓延发生。不遗余力，守护安全出行。

小米CTB一体化电池	55°C 高温	水冷系统不工作	无明火、无热蔓延
行业标准	25°C 高温	水冷系统正常工作	无明火
国家标准	25°C 高温	水冷系统正常工作	5分钟内无明火

资料来源：小米汽车官网，海通国际

图 10 14 层物理防护完成严苛的耐久和密封测试



资料来源：小米汽车官网，海通国际

图 11 小米全链路自主设计大压铸设备集群系统



资料来源：小米汽车官网，海通国际

图 12 小米联合研发泰坦合金



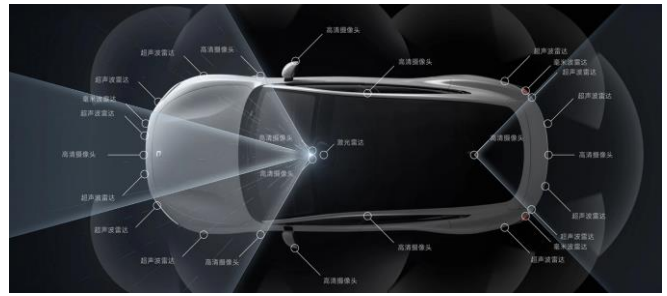
资料来源：小米汽车官网，海通国际

图 13 小米智驾软硬件协同，强化全场景功能



资料来源：小米汽车官网，海通国际

图 14 小米旗舰级感知硬件系统



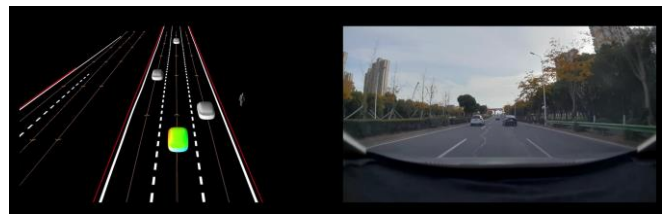
资料来源：小米汽车官网，海通国际

图 15 “超分辨率” 占用网络技术精确识别异形障碍物



资料来源：小米汽车官网，海通国际

图 16 小米道路大模型，实时生成道路拓扑



资料来源：小米汽车官网，海通国际

图 17 小米三屏协同实现“人车家”全生态闭环



资料来源：小米汽车官网，海通国际

图 18 专属 CarIoT 拓展实现五屏联动



资料来源：小米汽车官网，海通国际

表 1 小米 SU7 标准版可比车型核心参数对比

车型	小米 SU7 标准版	特斯拉 Model3 RWD	保时捷 Taycan 4 Cross-Tur.	智界 S7 标航版 Pro	极氪 007 后驱版 75kWh	小鹏 P7i 550 Pro	蔚来 ET5 75kWh	
基础参数	长/宽/高 (mm)	4997/1963/1455	4720/1848/1442	4974/2144/1409	4971/1963/1477	4865/1900/1450	4888/1896/1450	4790/1960/1499
	轴距 (mm)	3000	2875	2904	2950	2928	2998	2888
	整备质量 (kg)	1980	1760	2291	1975	2150	2005	2165
	售价 (万元)	暂无	26.14	96.80	24.98	20.99	21.39	29.80
电动力性能	CLTC 续航里程 (km)	668	606	513	550	688	550	560
	百公里加速 (秒)	5.28	6.1	5.1	5.4	5.6	6.4	4.0
	电动机 (马力)	299	264	476	292	422	276	490
	驱电动机数	单电机	单电机	双电机	单电机	单电机	单电机	双电机
	最大功率 (kW)	220 (299Ps)	194 (264Ps)	350 (476Ps)	215 (292Ps)	310 (422Ps)	203 (276Ps)	360 (490Ps)
	最大扭矩 (N·m)	400	340	500	n.a	440	440	700
补能表现	充电时间 (小时)	n.a	n.a	快充 1.55/慢充 5	快充 0.25	n.a	快充 0.48	快充 0.5
	快充电量 (%)	30-80	20-80	20-80	30-80	n.a	10-80	10-80
智能系统	电池类型	磷酸铁锂	磷酸铁锂	三元锂	磷酸铁锂	磷酸铁锂	磷酸铁锂	磷酸铁锂+三元锂
	电池容量 (kWh)	73.6	60	93.4	62	75.6	64.4	75
	自动驾驶级别	L2	L2	L2	L2	L2	L2	L2
	智驾芯片	英伟达 Orin	HW4.0	n.a	n.a	英伟达 Orin	英伟达 Orin-X	4*英伟达 Orin-X
	智驾系统	Xiaomi Pilot	AutoPilot	n.a	华为 ADS	Zeekr AD	小鹏 XNGP	蔚来 NAD
智能座舱	小米澎湃 OS	Linux	安卓	鸿蒙 4.0	极氪 OS4.0	安卓	安卓	
中控屏幕 (英寸)	16.1	15.4	10.9	15.6	15.05 (OLED)	14.96	12.8	

资料来源：懂车帝，车东西，各公司官网，海通国际整理

APPENDIX 1

Summary

Event

On December 28, 2023, Xiaomi held a technology conference for its automotive division in Beijing. CEO Lei Jun previewed the Xiaomi SU7 at the event, showcasing Xiaomi's automotive technology with a focus on achieving a hundred "firsts, uniques, and bests" in the field. The pricing of the Xiaomi SU7 was not disclosed and is expected to be a key highlight at its official launch in 1H24.

Comments

Launching with five core innovative technologies, Xiaomi aims to reshape the foundational technology stack of the automotive industry. The five core technologies of Xiaomi's cars include electric drive, battery, large-scale die casting, intelligent driving, and smart cockpit: **1) Electric Drive:** Xiaomi's first jointly developed super electric motor, the V6 series, integrates AI simulation technology, undergoing over 200,000 topology optimizations and stress distribution optimizations within the motor's internal structure. This results in an industry-leading rotation speed of 21,000 rpm. The V6 and V6s motors in the Xiaomi SU7, based on 400/800V platforms, offer a maximum power of 220/275 kW and a maximum torque of 299/374 ps, respectively. Xiaomi's first global launch of the super electric motor V8s reengineers the rotor structure and cooling system, achieving the highest global rotation speed of 27,200 rpm, a maximum horsepower of 578 ps, peak power of 425 kW, and maximum peak torque of 635 N·m, with mass production expected by 2025. **2) Battery:** The Xiaomi SU7 is equipped with an 800V silicon carbide high-voltage platform and a 101 kWh CATL Kirin battery (developed through deep collaboration), utilizing CTB integrated battery technology, achieving the highest global volume efficiency of 77.8%, and allowing for a platform maximum CLTC range of 1200+ km. The battery's thermal failure safety standard far exceeds the industry average, with 14 layers of hardcore physical protection passing the strictest IP6K9K sealing test; it features 17 layers of high-voltage insulation protection, custom active cooling technology, and a double-sided cooling area of up to 7.8 m², four times the industry level. The battery side is filled with 165 pieces of aerogel, withstanding temperatures of up to 1000°C. **3) Large Die Casting:** Xiaomi's full-stack self-developed Xiaomi HyperCasting large die casting involves designing an entire large die casting equipment cluster system, including 60 equipment and precisely controlling 433 process parameters. A single die casting machine weighs 718t with a clamping force of 9100t, realizing the integrated die casting floor of Xiaomi cars; developed in collaboration with national laboratories, the multi-material AI simulation system calculated over 10.16 million formulations through 1550 prototypes, ultimately selecting an alloy material with high strength, high toughness, excellent fluidity, and low-carbon environmental characteristics. **4) Intelligent Driving:** AI-empowered full-stack self-developed Xiaomi Pilot intelligent driving technology achieves high-speed and urban NOA; in-depth hardware and software collaboration, equipped with two NVIDIA DRIVE Orin chips and Hesai 128-line LiDAR, providing a comprehensive computing power of 508 TOPS; adaptive zoom BEV technology dynamically adjusts the perception range, "super-resolution" occupancy network technology accurately identifies irregular obstacles with precision <0.1m, self-developed auto noise reduction for rain and snow, effectively reducing interference; road big model real-time road topology generation, achieving universally applicable urban navigation across the country. **5) Smart Cockpit:** Xiaomi creates a people-centric "People-Car-Home Full Ecosystem" operating system based on HyperOS, featuring a 16.1-inch 3K resolution central control screen linked with the instrument panel and HUD, delivering an immersive driving experience; strong ecosystem expansion capability, deeply compatible with mainstream in-car applications, gradually sharing the ecology of over 5000 types of Xiaomi tablet applications, achieving application ecology integration; exclusive CarIoT ecosystem enables advanced interactions with up to five screens linked, fully open to third parties, joining hands with global developers to create a "People-Car-Home Full Ecosystem" vision.

Xiaomi SU7 combines advanced design and technology, offering exceptional performance and comfort. Positioned as a C-class high-performance ecological technology sedan, the Xiaomi SU7 features dimensions of 4997mm in length, 1963mm in width, and 1455mm/1440mm (Max version) in height, with a wheelbase of 3000mm. It offers multiple color options including Gulf Blue, Elegant Grey, and Olive Green, and boasts a leading global drag coefficient of Cd 0.195. Design highlights include teardrop-shaped headlights and halo taillights, as well as semi-hidden car door handles optimized for aerodynamic efficiency. The interior offers color options of Galaxy Grey, Twilight Red, and Obsidian Black, featuring an enveloping cockpit design, a total glass area of 5.35 m², double-layer silver-plated thermal insulation material for the sunroof and triple-layer silver-plated front windshield, as well as a Dolby sound system. In terms of performance, the Xiaomi SU7 accelerates from 0 to 100 km/h in just 2.78 seconds, built on a chassis with front double wishbone and rear multi-link design, equipped with CDC electromagnetic suspension and air suspension,

offering a Boost key for 20 seconds of excess torque output and a launch mode. In terms of endurance, the Xiaomi SU7 offers a maximum CLTC range of 800 km, with the 800V high-voltage platform allowing for an energy replenishment of 220 km in just 5 minutes and 510 km in 15 minutes. We expect the Xiaomi SU7 to attract the attention of Xiaomi's loyal fans, consumers passionate about the Xiaomi ecosystem, technology and automotive intelligence enthusiasts, and gradually expand its potential user base through Xiaomi Automotive's technological and cost-effective advantages.

Risks

Production and delivery fall short of expectations; intensifying market competition; pricing does not meet expectations.

附录 APPENDIX

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分析师股票评级

优于大市，未来 12-18 个月内预期相对基准指数涨幅在 10% 以上，基准定义如下

中性，未来 12-18 个月内预期相对基准指数变化不大，基准定义如下。根据 FINRA/NYSE 的评级分布规则，我们会将中性评级划入持有这一类别。

弱于大市，未来 12-18 个月内预期相对基准指数跌幅在 10% 以上，基准定义如下

各地股票基准指数：日本 - TOPIX，韩国 - KOSPI，台湾 - TAIEX，印度 - Nifty100，美国 - SP500；其他所有中国概念股 - MSCI China.

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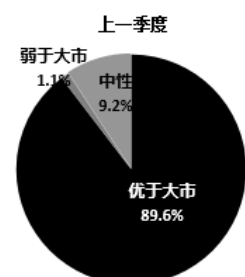
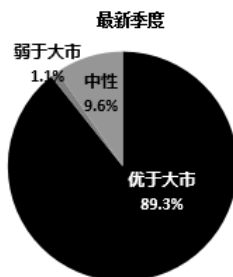
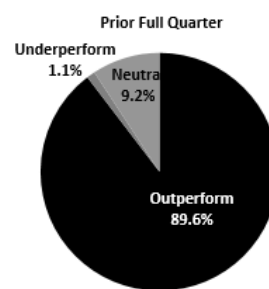
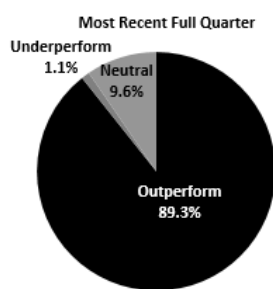
Analyst Stock Ratings

Outperform: The stock's total return over the next 12-18 months is expected to exceed the return of its relevant broad market benchmark, as indicated below.

Neutral: The stock's total return over the next 12-18 months is expected to be in line with the return of its relevant broad market benchmark, as indicated below. For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category.

Underperform: The stock's total return over the next 12-18 months is expected to be below the return of its relevant broad market benchmark, as indicated below.

Benchmarks for each stock's listed region are as follows: Japan – TOPIX, Korea – KOSPI, Taiwan – TAIEX, India – Nifty100, US – SP500; for all other China-concept stocks – MSCI China.



截至 2023 年 9 月 30 日海通国际股票研究评级分布

	优于大市	中性 (持有)	弱于大市
海通国际股票研究覆盖率	89.3%	1.1%	9.6%
投资银行客户*	3.9%	5.8%	10.0%

*在每个评级类别里投资银行客户所占的百分比。

上述分布中的买入，中性和卖出分别对应我们当前优于大市，中性和落后大市评级。

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买入，未来 12-18 个月内预期相对基准指数涨幅在 10%以上，基准定义如下

中性，未来 12-18 个月内预期相对基准指数变化不大，基准定义如下。根据 FINRA/NYSE 的评级分布规则，我们会将中性评级划入持有这一类别。

卖出，未来 12-18 个月内预期相对基准指数跌幅在 10%以上，基准定义如下

各地股票基准指数：日本 – TOPIX, 韩国 – KOSPI, 台湾 – TAIEX, 印度 – Nifty100; 其他所有中国概念股 – MSCI China.

Haitong International Equity Research Ratings Distribution, as of September 30, 2023

	Outperform	Neutral (hold)	Underperform
HTI Equity Research Coverage	89.3%	1.1%	9.6%
IB clients*	3.9%	5.8%	10.0%

*Percentage of investment banking clients in each rating category.

BUY, Neutral, and SELL in the above distribution correspond to our current ratings of Outperform, Neutral, and Underperform.

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Previous rating system definitions (until 30 Jun 2020):

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NEUTRAL: The stock's total return over the next 12-18 months is expected to be in line with the return of its relevant broad market benchmark, as indicated below. For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category.

SELL: The stock's total return over the next 12-18 months is expected to be below the return of its relevant broad market benchmark, as indicated below.

Benchmarks for each stock's listed region are as follows: Japan – TOPIX, Korea – KOSPI, Taiwan – TAIEX, India – Nifty100; for all other China-concept stocks – MSCI China.

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