



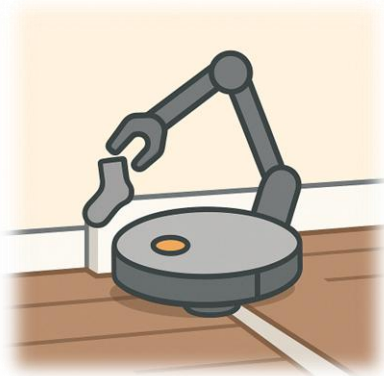
2025年

全球扫地机器人市场月度追踪

2025年7月

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2025年上半年扫地机器人行业发展关键词



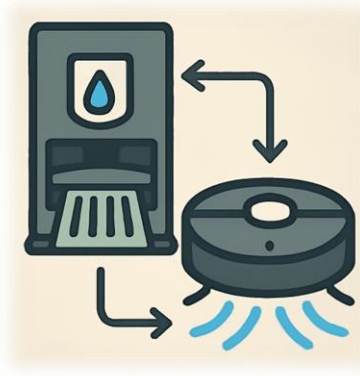
空间升维

扫地机器人正从传统的二维路径清扫，向具备基础三维操作能力的方向发展。以仿生机械臂、自升降结构等为代表的功能模块，打破了“绕开障碍”的限制，迈向“理解并主动干预环境”，推动产品角色从执行者转向协作者。



热水洗拖主流化、高端化

多款新品将洗拖温度提升至40°C以上（如追觅X50系列），并结合拖布材质与高压喷洗升级，使顽渍与油污清洁效率显著提升，热水洗拖不再是高端象征，而是高端标配。



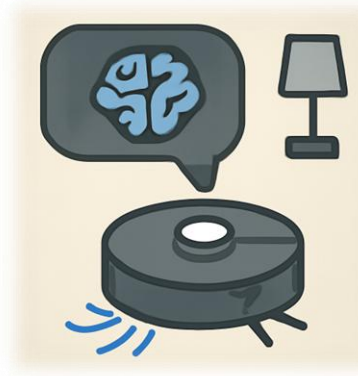
全链路自动化

从“扫-拖”向“洗-烘-上下水-抬布”构成的全流程自动化系统已成为高端产品标配。清洁任务不再局限于地面作业本身，而是逐步延伸至拖布管理、水源排布、污水处理等系统闭环，为“用户零参与”铺平道路。



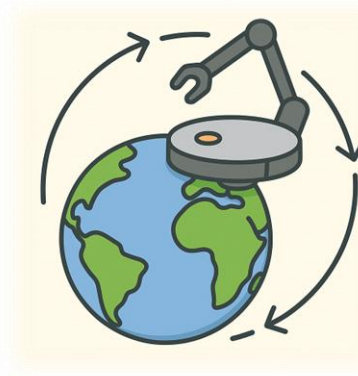
用户行为驱动调度逻辑

清洁节奏由用户作息与空间使用状态主导，系统通过时序推演、静音识别与场景预测完成智能调度，体现从“人适应设备”到“设备主动适应家庭”的转变。



AI避障3.0时代

多品牌引入RGB+结构光双模感知与AI识别模型，支持动态建图、低光避障与家具识别，避障能力从识别物体转向理解场景与用户行为，实现更智能的人机协同。



企业全球化进程加快

国内头部品牌正加速推进全球化落地，不同市场虽偏好各异，但在产品设计上逐步偏向为“低干扰感+高自动化+家居融合”三大方向，体现出高端用户在全球范围内的共识性期待。

2025年上半年重点新品与技术发布盘点

2025年上半年头部品牌新品发布

品牌	新品机型	技术亮点归纳
追觅 	X50/X50 Pro增强版 X50s Ultra X50 Pro履带版 S50/S50 Pro/S50 Ultra	<ul style="list-style-type: none">- 推出8cm越障设计，增强对复杂地面和障碍物的适应性- 拖布支持热风烘干与主动拆装，提升用户维护体验- 主机设计厚度压缩至88mm，适应低矮家具环境- X50 Pro履带版搭载履带活水洗地技术，提升清洁力和适应性- S50/S50 Pro/S50 Ultra系列支持100度高温灭菌洗拖功能，增强深层清洁效果
石头 	G30 Space G30 P20 Pro G20s / Ultra	<ul style="list-style-type: none">- 引入五轴联动机械臂结构，实现多角度贴边与缝隙清洁，拓展清洁覆盖范围- 拖布支持自高温热水洗、热风烘干，简化日常维护流程- 主机具备高度可变设计，适配不同空间高度需求- G20s系列定位中高端，整合洗拖与集成基站功能，突出系统完整性
科沃斯 	T80 T50 Pro / T30	<ul style="list-style-type: none">- 推出恒压水流滚筒洗拖系统，增强对顽固污渍的持续清洁能力- 拖布支持热风烘干与手动DIY拆装，提升用户维护体验- 主机厚度压缩至8.1cm，增强在低矮家具环境下的通行性- T30与T50 Pro聚焦中端市场，兼顾功能性与价格接受度
云鲸 	J5 Max 逍遥002	<ul style="list-style-type: none">- 配置滚筒式履带清洗系统，拖布自动升降+深度自清洁，提升清洁连续性- 基站集成上下水与拖布管理，减少用户操作频次- 逍遥002聚焦紧凑空间场景，兼顾轻量化与基本自动化能力

2025年扫地机技术趋势

1. 结构可动化趋势初步确立，向“仿生化”演进。

追觅率先提出“仿生外扩”架构，2023年X20实现拖布外扩，X40引入边刷外扩与升降模组，X50 Cyber进一步拓展至机械手结构，构建多场景下的主动响应体系。相比传统固定结构，此类模块具备主动贴边、智能升降和空间自适应等能力，在桌角、墙边、狭缝等复杂区域的清洁表现显著增强，标志扫地机器人进入以“主动清洁”为导向的结构升级阶段。

2. 拖布系统由功能模块向智能子系统演进。

拖布系统正从单一功能模块向智能子系统演进，各子模块逐步升级为关键作业单元。追觅S和X系列自2023年起全系标配热水洗模块，推动中高端扫地机器人普遍配备该技术，提升清洁效果。2024年科沃斯推出滚筒洗地方案，追觅则在2025年发布X50 Pro履带版，采用履带活水洗地技术，相比传统方案，具备更强的清洁力和适应性，进一步提升了拖布系统的整体性能。

3. 集成基站成为高端产品标配，系统闭环程度持续强化。

全能基站逐步替代人工干预，功能涵盖集尘、洗拖布、上下水管控及热风烘干。追觅自X30起推进自清洁基站，X40升级至2.0版，X50迭代为3.0版，持续提升自维护与协同作业能力。石头自P20系列，科沃斯自T50起也相继跟进，基站逐渐由“功能附件”转变为“任务中枢”，提升整体系统协同控制能力。

4. 形态向轻薄化发展，拓展适用场景与人群。

追觅2024年采用LDS升降技术，机身高度仅88mm，340mm宽基站适配更多用户需求，提升对低矮家具和小户型的适配能力。石头P20 Pro、科沃斯T50 Pro与云鲸逍遥002等机型通过压缩机身厚度、减小基站面积，进一步增强了这一适配能力，为刚需用户提供更高吸引力，也为全场景产品布局提供了新方向。

机械手成为清洁边界突破口

突破清洁盲区，机械手技术实现高效清扫与物品整理

尽管扫地机器人的吸力、避障、路径算法已高度进化，但在许多狭小和复杂的清洁区域，传统扫地机器人仍面临挑战，尤其是家具间的狭缝和角落，这些区域即使是最薄的扫地机器人也很难清洁到。为了解决这一问题，追觅为机械手设计了独立的配件仓，内含吸尘器、海绵刷等工具，能够根据清洁需求自动选择并精准清扫狭小区域。同时，机械手通过具身智能大模型系统，具备物品分类和整理能力，能够根据场景自动整理物品（如将拖鞋放到玄关、玩具放到玩具房等）。这一创新不仅有效解决了清洁盲区问题，还提升了物品整理能力，带来更高效、更精准的清洁与整理体验。

2025年首批具备机械臂的产品发布

品牌	机型	主动结构方案	主要功能目标
追觅	X50 Cyber	仿生多关节机械手技术	自动识别环境，选择合适工具精准清扫狭窄区域，并通过具身智能大模型系统进行物品分类、整理，处理密集堆积物品
石头	G30 Space	五轴折叠机械臂	拓展空间清理与整理功能，自动识别并移除可提起的障碍物，以及智能分类收纳散落物品



追觅 X50 Cyber



石头 G30 Space

机械手技术推动清洁智能化，从路径控制到自主执行

传统扫地机器人依赖路径算法（SLAM）和避障系统完成空间的“认知”和“规划”，但清洁执行仍受限于固定结构，导致狭小和复杂区域常常“识别到，但执行不到”。随着结构创新的引入，机器人不仅依赖“动脑”（路径判断），而且是通过“动手”（机械手结构动作）执行清洁任务。追觅在 X20 中首创拖布外扩设计，并在 X40 中实现边刷外扩，开启了结构创新的新篇章；X50 Pro 采用升降机械腿结构，具备“跨障”和“动态贴靠”能力，能够应对不平整的高低区域，确保清洁工具紧贴表面进行清洁。追觅 X50 Cyber 进一步加强了机械手的能力，使机器人能够根据清洁需求自动选择并安装合适的工具，灵活应对不同清洁任务。此外，机械手还具备物品分类与整理功能，能够自动识别物品并按需求进行整理。通过这些创新，追觅 X50 Cyber 不仅解决了传统扫地机器人无法触及的盲区，还推动了清洁与整理任务的智能化升级，提升了多任务协调和环境互动能力。

趋势展望：机械手技术推动清洁智能化，开启空间升维

随着机械手技术的不断演进，扫地机器人将在未来实现空间升维，这一转变将推动机器人进入更高层次的智能清洁时代。传统的扫地机器人主要依赖路径规划和避障系统来执行任务，但其执行范围受限于固定结构和设计。在未来，随着机械手技术的发展，扫地机器人将能够通过机械手进行更加灵活、精准的操作，自动选择并使用适当的清洁工具。机械手技术将使扫地机器人能够应对更复杂的清洁需求，涵盖从边角清洁到物品整理的多种任务。机器人将不再局限于单一功能，而是能够根据清洁环境的变化自动调整执行方式，并灵活应对不同场景。随着技术的进步，扫地机器人将进入空间升维的阶段，突破传统机器人仅能清扫地面和狭小空间的局限，全面提升清洁效率和质量。空间升维的实现将推动机器人具备更多功能，未来的扫地机器人将能够实现多任务并行，如边角清洁、物品整理、甚至根据环境变化调整清洁力度和频率，进一步提升家居智能化水平。机械手技术的创新将是这一进程中的核心，推动机器人进入全面智能化和多功能化的时代。

全链路自动化配置成为高端产品标配方向

从“扫-拖”到“扫-拖-洗-烘-上下水”：系统闭环趋势加速形成

早期扫地机器人主要聚焦“吸力增强”和“路径优化”，但实际使用中，“拖布脏了洗不干净、烘不干且异味重”等已成为高频用户的痛点。随着用户对免维护诉求增强，品牌开始由“强功能”转向“强闭环”，将“拖布自动清洁系统”作为系统优化的关键切入点。2025年上半年发布的多款旗舰新品显示出明确趋势：不再仅聚焦清洁力，而是构建完整的使用闭环。包括自动上下拖布、热水洗、恒压清洗、热风烘干和上下水连接等，均已成为旗舰模块。用户不再需要频繁手洗拖布、手动更换，显著降低清洁维护成本。

品牌	机型	拖布上下	热水洗	拖布烘干	拖布主动拆装	上下水连接	系统闭环完整度
追觅	X50 Pro增强版	✓	✓	✓	✓	✓	完整闭环
石头	G30 Space	✓	✓	✓	—	✓	高度闭环
云鲸	J5 Max	✓	✓	✓	—	✓	高度闭环
科沃斯	T80	✓	✓	✓	—	✓	高度闭环

全链路自动化的核心价值：

全链路自动化的本质是将清洁从“高性能”提升为“高频率+低干预”。传统产品因为拖布需频繁手洗、晾干，从而使消费者的使用体验大打折扣。随着热水洗、自动上下拖布、烘干和上下水模块的集成，用户仅需定期倾倒集尘袋或补水，其他流程可完全自动完成。

当前头部品牌的旗舰机型通过实现以下几项核心功能，构建了“近零干预”的拖布管理体系：

- 高温热水洗+恒压滚筒冲洗：有效去除油渍、灰尘、毛发等顽固污垢；
- 热风烘干：防止拖布潮湿发霉、异味积聚，改善长期卫生状况；
- 上下水连接：实现水源自动补给与排污，无需人工介入；

系统闭环能力使得扫地机器人可以“高频运行”成为可能，从“每周一次清洁工具”转向“每日持续维护助手”，使产品真正进入家庭清洁的日常节奏。



系统闭环能力已成为高端配置的基础门槛，并向次高端市场快速下沉

2025年起，全链路配置已成为高端产品标配，未来将快速向中高端市场下沉。

- 旗舰全面集成，次旗舰功能拆分下沉
石头 G30、追觅 X50 Pro增强版等机型展示了全套系统集成能力。预计未来品牌将以模块化形式拆分高端配置，并应用于次旗舰段位，实现“价格带分化+功能差异化”策略。
- 中端产品线标准化配置核心模块
热水洗、烘干等关键模块将逐步在4000–6000元价格段成为标配配置，推动中端产品线完成新一轮换代。
- 结构模块标准化带动供应链分化与协同发展
拖布支架、水路接口、清洁液添加系统等结构趋于标准化，有望推动零部件和智能配件形成新一轮供应链重构，甚至出现专精型模块供应商。
- 用户对“托管式清洁体验”接受度提升，驱动高端产品换新节奏加快
随着用户对“彻底干净、无需操作”的理解和认可增强，品牌具备更大的定价空间与产品分层逻辑，高端化、智能化将成为新一轮品牌竞争主轴。

AI避障与场景理解技术升级

AI避障进入“感知-理解-决策”全链路升级阶段

早期避障系统以“红外+碰撞感应”为主，核心目标是“绕开障碍”。近年来，随着3D结构光、RGBD摄像头、AI视觉模型的普及，避障能力正在从单纯识别物体，逐步升级为对物体类型、位置、动态状态的“语义理解”能力：

阶段	技术能力	对应表现
感知	可识别障碍物	能避开物体，如鞋子、线缆
理解	可识别物体属性与类别	知道这是宠物碗 / 电线 / 玩具
决策	形成路径动态优化方案	判断绕行/贴边/清扫或避开不拖区域

代表品牌能力对比

品牌	避障传感器配置	语义识别能力	清扫策略联动示例
石头	单摄+三线激光	可识别拖鞋、电线、宠物粪便等	自动绕行+生成“禁扫区域”
追觅	双RGB-D摄像头+主动式投射器	可识别多类静态/动态障碍	场景划分（如厨房/客厅）+自动调整吸力/水量
云鲸	结构光	基础识别	基础避障，未深度联动
科沃斯	单摄+双线激光	可识别基础物体	自定义避障区+扫拖路径联动

AI避障价值不止于“绕”，更在于“配合”与“执行”

避障系统的智能化升级不仅提升安全性，更是清洁策略执行的基础保障。通过“看懂空间”，机器人能够：

- 避免湿拖拖到宠物碗、电线等敏感物品；
- 在识别地毯后自动抬升拖布、关闭湿拖功能；
- 联动机械臂实现墙边精准贴边、桌脚绕行后清扫；
- 将识别结果同步至地图系统，实现自动分区与禁扫管理；

AI避障能力逐渐成为清洁系统中枢，贯穿“路径规划-动作判断-执行协同”，是智能化水平的重要体现。



趋势展望：避障系统将成为场景感知与清扫决策的核心枢纽

未来避障系统将不再是单点功能，而成为机器人认知系统的一部分。几大趋势值得关注：

- **模型轻量化与片上AI普及**：从本地模型到芯片级语义推理，边缘AI能力快速提升；
- **避障系统与路径系统深度融合**：地图规划、清扫节奏、结构动作将联动执行；
- **多模态感知融合加速落地**：激光+视觉+IMU+结构反馈共同支撑智能判断；
- **语义地图成为核心资产**：机器人将具备“知道清扫哪里、怎么扫”的自主空间理解力；

AI避障的演进不再是“看得见”，而是“看得懂+扫得准”，是扫地机器人迈向真正具身智能的基础构件。

用户需求变化与品牌产品策略的场景化演进

随着扫地机器人从早期的功能探索期迈入全球家庭的常态化应用阶段，用户的关注点正从“能扫干净”逐步演变为“扫得彻底、用得省心、放得下空间”。相较传统对吸力、路径等性能参数的关注，当前用户更聚焦日常使用过程中的操作负担、清洁完整性与家居适配能力。这些新诉求正在重构产品设计逻辑——从强调单项性能突破，转向解决具体生活场景中的清洁难题。主流品牌正围绕“更智能、更自动、更适配”的方向，通过结构创新、系统闭环和感知升级，实现功能配置与用户需求之间的深度对齐。

核心用户诉求	背后期望	对应产品策略	代表产品
无需干预	减少手动操作，避免频繁洗拖布、加水等繁琐步骤	<ul style="list-style-type: none">拖布自动上下热水洗 + 烘干拖布自动拆装上下水对接基站集成	追觅 X50 Pro / 石头 G30
清洁完整	墙边、边角不漏扫，路径智能高效	<ul style="list-style-type: none">AI避障与语义识别拖布路径自适应机械臂/机械腿结构增强贴边覆盖	追觅 X50 Pro / 石头 G30 Space
空间友好	主机和基站尺寸更小，适应低矮家具、小户型	<ul style="list-style-type: none">超薄机身 (<8.5cm)紧凑基站设计支持局部任务调度	追觅 X40 Pro Ultra / 石头 P20 Pro
感知精准	正确识别复杂或动态障碍，避免误扫、误撞	<ul style="list-style-type: none">RGB-D视觉 + AI模型识别拖布自动抬升升降摄像头 / 结构光 + 路径协同控制	追觅 X50 Pro 履带版

用户对扫地机器人的期望正在从单纯的“功能具备”转向“体验闭环”。在“无需操作”、“清洁彻底”和“节省空间”等基本需求背后，体现的是一种清晰的价值诉求：产品是否真正解决了日常生活中的清洁难题，而非仅停留在参数性能的堆砌上。围绕这一目标，行业正在经历一场从“单点技术突破”到“系统能力重构”的深刻转变：

结构创新，如机械臂、机械足，使机器人具备主动触达能力，解决边角清洁、桌脚绕行等物理盲区；

系统闭环，如热水洗、烘干与上下水集成，让用户从清洁的“执行者”变为“设置者”，显著降低维护成本；

感知升级，如升降摄像头、RGBD视觉模组与AI路径协同，让机器人从“识别物体”走向“理解场景”，实现真正意义上的智能决策执行。

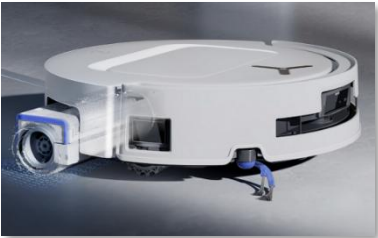
更为关键的是，产品的服务焦点已不再仅仅是“功能升级”，而是回归到“为谁设计、在何种环境下使用、使用时长”等更加可持续的价值命题。未来的竞争将不再集中于“谁的旗舰配置更强”，而是“谁能更深入理解不同用户群体的需求，是否能够以匹配的技术、合适的设计和合理的价格，提供稳定且高效的日常使用体验”。

在这一进化过程中，扫地机器人正从“高性能硬件”转向“以人为中心的智能清洁系统”，真正步入“新家电时代”的序幕。

全球家居一体化趋势下的设计语言统一

2025年上半年，全球扫地机器人新品在设计语言上呈现出明显的“审美统一化”趋势。各主流品牌在产品形态、色彩搭配与基站结构方面不断向“家居风格融合”靠拢，逐步抛弃过去突出的机械感、工业感，转向极简、低调、隐身的视觉逻辑。这一变化背后反映了机器人产品在全球高端市场中“从电器到家具”的角色转变。

方向	2025上半年表现关键词	说明
颜色趋势	白色哑光、灰白中性色、浅木纹贴面	弱化“金属感/黑色光面”设计，强调与墙面、地板、柜体自然过渡
形态趋势	扁平、圆角、低矮主机	减少“科技装备感”，更容易融入家庭空间，避免视觉突兀
基站风格	极简直线结构、内嵌式开盖、收纳感基站	更像家具柜体而非“机器”，部分品牌追求与地板/墙面颜色一致的材质配色
光源/交互元素	隐藏式LED、哑光指示灯、取消语音按钮等	视觉更纯净，减少对老年人、儿童等人群的干扰，同时降低感官负担



全球生活审美融合推动产品角色演化

从“家电感”走向“家具感”：2025年上半年，多家品牌在新品设计中主动削弱“设备存在感”，将扫地机器人重新定义为“家庭空间的组成元素”。例如石头、科沃斯等产品在基站结构上采用内嵌收纳、贴墙布置、开盖无干扰的极简方案，使产品自然融入客厅、厨房、玄关等空间。这种“家具化”理念正在全球化推进：在欧美市场主要强调设计简洁与一致性；在日韩市场，则更重视空间节制与视觉秩序；在中国市场，则体现为去除复杂视觉符号、增强家居协调性。

视觉消融即信任建立：高端用户在全球范围内愈加倾向于“不被打扰的智能”。相较于早期以“能说话”“科技外观”为卖点的设计语言，2025年上半年的新品普遍转向“弱显性交互”：不再追求炫目的屏幕和语音按钮，而以哑光光源、被动静默反馈、自动场景识别来代替显性提示。这种“越安静越可靠”的设计倾向，强化了机器人在用户心中的信赖感与安全感。技术的真正高级感，在于“它始终在，但无需你操心”。

趋势判断：设计语言转变，反映全球用户对“静默技术”的共识期待

2025年上半年，扫地机器人的设计语言正从“功能外显”向“审美内敛”加速演变。这一变化不仅关乎外观极简、配色柔和，更源自全球中高端用户对“技术不应打扰生活”的共识增强。产品不再被视为家电工具，而是家庭环境中自然的一部分。

在多个国家和居住场景中，用户都倾向于“让它在，但别让我注意到它”。这一认知正推动品牌在结构、交互和材质上全方位做“减法”，以实现“隐身式服务”。

设计语言的全球收敛，实质上是产品角色的系统性重构：

- 从“电器”到“家居单元”，
- 从“功能”到“体验”，
- 从“让人看到”到“无需存在感”。

未来竞争将聚焦于“谁能把复杂藏起来”，真正高级的产品，不再强调能做什么，而是做到无需用户感知也能一切妥帖。

控制逻辑全球协同：从自由设定走向“默认最优”

控制体验的革新，正从“用户定义”走向“系统判断”。2025年上半年，多款扫地机器人新品在控制逻辑上呈现出清晰的“低干预化”趋势。相较以往强调自定义设定，如手动分区、频次管理、清洁强度调整等，如今的产品更注重主动判断与默认推荐，试图在无须用户参与的前提下完成最优决策。这种变化并非仅限于个别高端产品，而是正在全球主要市场中同步演化。无论是大户型偏多的欧美市场，还是中日韩等小空间场景密集的城市住宅，用户对“无需学习”“无需决策”的需求表现出高度一致性。控制逻辑的统一，不再以功能多寡为评判标准，而以“用户能否用得省心”为核心价值。

维度	传统控制逻辑	2025年上半年演化特征
用户交互	手动设定清扫区、路径、拖布洗涤频次等	系统根据房型、使用频率自动决策，减少主动交互
功能入口	功能分散，需用户主动探索	首页即推荐最优清洁方案，场景联动自动唤起相关模式
控制焦点	强调“功能全面、自由设定”	强调“默认即最优”“系统协同更强”
OTA 优化	以修复bug、微调为主	以功能重组、清洁策略升级为主，更像“远程AI能力增强”

统一系统调度下的多场景智能适配

- 跨市场适配性增强：2025年上半年，各品牌加快推进全球“自适应调度算法”部署，致力于在统一逻辑框架下实现因地制宜的清洁体验优化。系统会针对典型住宅结构进行本地化策略微调：如欧美市场以大户型为主，强调地毯与硬质地板间的智能识别与清洁模式切换；中国市场多为复合式中户型空间，关注家具密集环境下的路径压缩与边角覆盖；日本则以极端紧凑住宅为主，重点优化狭窄通道中的高频转向与调度能力。虽然用户在App中获得了统一的操作体验，但背后系统已实现深度的本地化调度响应。
- 主动控制权让渡：控制逻辑的演进，使得用户的角色从“清洁任务的制定者”逐渐过渡为“系统判断的确认者”。原本需用户手动设定清洁区域、清扫顺序、拖布频换等操作，如今逐步由系统接管，并根据实时情况自动调整。这种“轻决策”的体验提升，不仅降低了使用门槛，也减少了干预频次，让机器人真正成为日常生活中“无须多言、无需操心”的隐性助手。
- 多模组融合挑战突破：新一代产品越来越多地集成了多模组系统——如吸拖分离、升降拖布、电控水箱、拖布烘干、上下水模块等。这对控制系统的逻辑协调能力提出了极高要求。2025年上半年，多款旗舰产品已实现跨模组的自动判断与决策协调，例如系统可根据地面材质判断是否触发升降拖布，同时结合拖布湿度与清洁强度需求实时决定是否回洗。这一能力的实现，标志着控制逻辑从“任务控制”进化为“系统统筹”，是软件架构平台化成熟的关键体现。

趋势判断：体验一致性成为全球技术升级的底层目标

2025年上半年，扫地机器人的控制逻辑正在悄然重构技术竞争的重心。品牌之间的比拼不再是谁的功能更多，而是谁能提前预知用户想要什么，并让系统自动完成整个决策过程。这背后的变化，既是对全球家庭使用习惯的深度理解，也是对产品架构与系统软件能力的考验。统一控制逻辑不仅降低了用户理解门槛，还显著提升了产品在多市场下的适配效率与规模化复制能力。对品牌而言，控制逻辑从“工具界面”转变为“隐形管家”之后，将成为构建高粘性用户体验的核心支点。真正先进的扫地机器人，最终不是让人操作得更复杂，而是让人“几乎不用操作”。

家庭行为节奏主导技术演进：从“机器适应人”到“隐形服务者”

2025年上半年，扫地机器人新品不再以“清洁能力”作为唯一卖点，而更强调对用户生活节奏的自适应能力。技术进步的终点，正在从“做得多”转向“打扰少”——不是清扫得多彻底，而是在对的时间、以对的方式悄然完成任务。

这一变化背后的本质，是用户对“机器应围绕生活展开，而非生活配合机器”的共识正在全球范围内形成。



用户行为节奏变化	技术/设计响应策略	代表产品设计特征
清晨时间段需安静、准备出门	智能错峰排程、拖布静音回洗	智能分时段策略（如追觅X40、石头G20）
中午家中老人午休，不宜噪音清扫	地图智能避让“午休区域”，优先厨房/玄关清洁	噪音智能分区调度（如科沃斯T30 PRO）
晚间家人集中娱乐或用餐，不宜打扰	自动推迟清扫、静默等待系统	智能避让+静默风道设计（如云鲸J4系列）

清洁节奏感，决定智能存在方式

家庭主导节奏成为清洁判断核心：在全球不同市场，用户越来越倾向于以自身的作息节奏和空间使用规律为前提来“接受”清洁行为，而非配合机器的预设安排。例如，中国的高频居住家庭希望避开早晚高峰，欧美家庭则重视工作区与休闲区的分区清扫，日韩市场对静区“打扰门槛”极高。各地用户虽空间结构不同，但都展现出一个共同信号——“清洁行为必须围绕生活展开”。

对打扰的忍耐阈值持续收紧：用户的容忍度正在快速下降，尤其体现在声音、路径、突发行为等方面。“突然启动”“无预警靠近”“强烈视觉反馈”等设计已被逐步淘汰。无论是白天家有老幼，还是夜晚进入静息状态，品牌都必须通过静音风道、路径预判、灯光控制、错峰调度等多手段组合，构建更克制、更默契的“无感运行机制”。

从房型适配跃升为生活状态适配：传统的空间地图构建已经不再足够。2025年起，头部产品正逐步建立对“生活状态”的感知机制：例如识别“用户是否离家”、“是否刚起床”、“是否在用餐”等，以判断清扫是否应推迟、加速、暂停或降低动静。这标志着产品从“硬环境理解”进入“软行为理解”阶段，技术壁垒也从单一路径规划转向跨模组系统联动与场景动态判断。

趋势判断：技术“主动退出”成为服务型机器人的新阶段

扫地机器人正在完成从“功能执行工具”向“生活节奏协同者”的身份转变。它不再是需要操作、时常被提醒其存在的电器，而成为一种隐于日常、服务于当下的智能空间节点。在这个转变过程中，真正构成产品差异化竞争力的，不再是“功能堆叠”或“性能极限”，而是能否在用户不察觉中完成恰到好处的清洁任务。

“技术的高级形态”意味着不是随时都在工作，而是知道何时该静默、何时该退出、何时该等待。谁能识别家庭生活中的“节奏空档”“沉默片段”“使用盲区”，谁就拥有了真正的用户粘性。

未来的服务型机器人不应成为生活的“强存在”，而是以“无声的秩序感”渗透其中。不打扰，却始终有效；不显眼，却深度融合。

品牌全球化演进：从产品全球化到体系建设尝试

2025年上半年，扫地机器人行业头部品牌的全球化进程明显提速。不同于以往以代工或出口为主的“产品出海”模式，越来越多中国品牌正在向“自有品牌全球运营”演进，强调从销售、服务到用户体验的全链条自控。企业不再满足于海外销售额的增长，而是通过统一的品牌系统、本地化运营组织、同步产品节奏和标准化体验，逐步构建起面向全球用户的长期信任关系。

品牌全球化表现

1 市场拓展从销售铺设走向体系能力输出

- 渠道层面，石头、追觅、科沃斯、云鲸等已完成对北美、欧洲、日韩、中东等主要市场的覆盖，并入驻亚马逊、Best Buy、Yodobashi等核心零售平台
- 组织层面，部分品牌已建立海外事业部、本地服务团队，支持售后、物流、渠道管理与营销落地



2 产品发布节奏同步，逐步形成全球协同机制

- 2025 年上半年，多品牌核心新品（如追觅 X50 Pro增强版、X50 Pro履带版、石头 G30、科沃斯 T30 系列）均实现全球同步首发或极小时间差发布
- 海外不再只推中低端，高端旗舰产品同步进驻欧美、日韩市场，功能配置与国内保持一致
- OTA 更新机制、交互界面、地图管理等系统层功能逐步统一，但同时保留本地推荐、语言和单位等定制化参数



3 品牌表达从技术导向走向价值共鸣

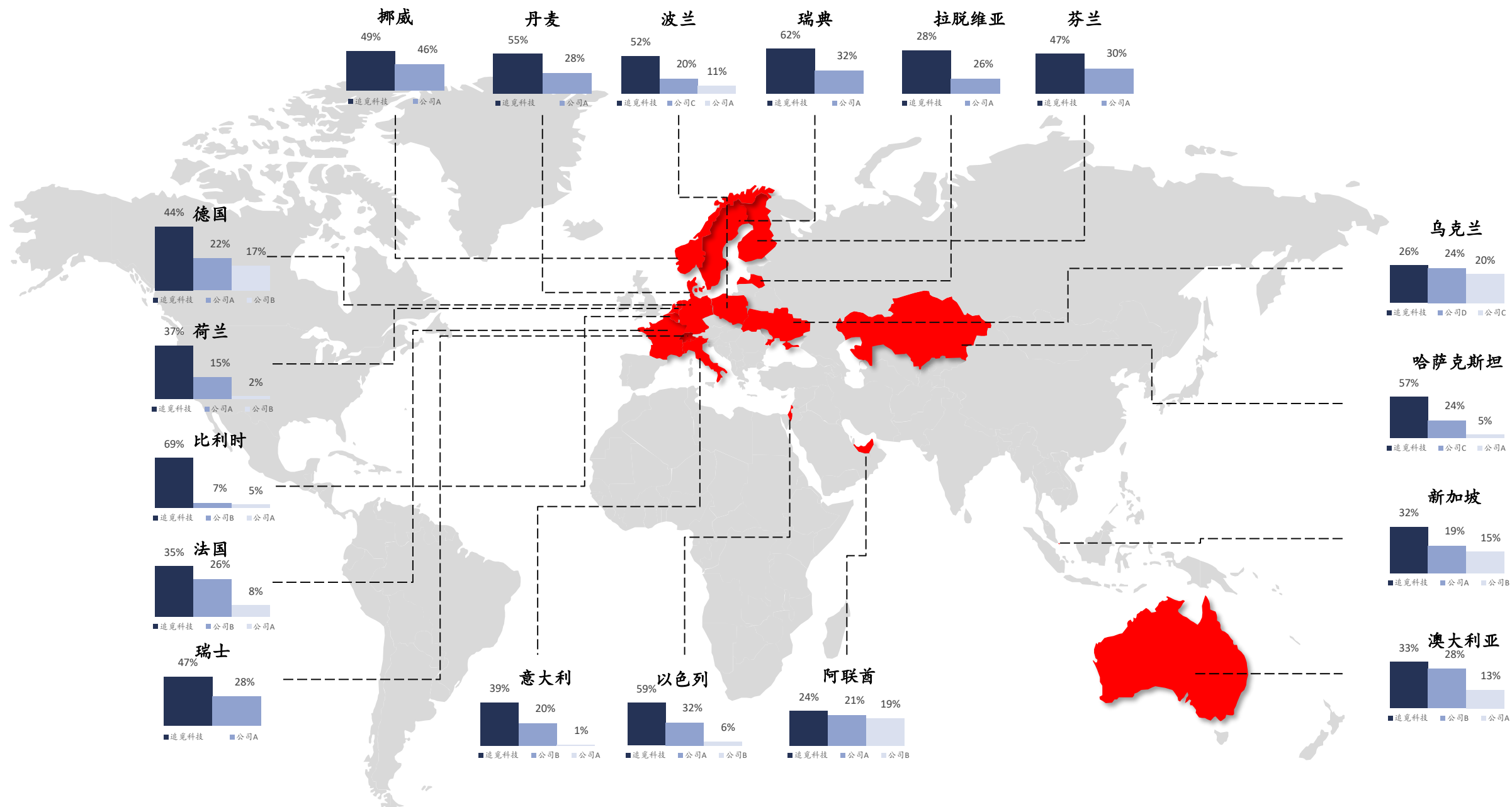
- 品牌视觉、文案语调、服务流程趋向标准化，强化在全球多市场的品牌一致性识别
- 内容表达开始因地制宜调整策略：欧美偏重自动清洁带来的时间自由、日韩强调空间适配与洁净效率、中国强化全链路自动化与用户懒感价值



趋势判断：全球品牌竞争的下一阶段：从市场渗透走向体系建构

2025年上半年，扫地机器人品牌的全球化战略正在经历实质性转向：从以往的市场扩张与渠道拓展，升级为围绕“统一体系建设”的深度运营——这不仅意味着同步的产品节奏与视觉体系，更指向后台技术逻辑、服务体验、组织响应等多个维度的同步标准化。真正的全球品牌，不是简单地将产品卖到海外，而是要让不同国家的用户，在不同文化、生活方式、使用习惯下，都能获得稳定、可预测、可信任的体验。这种体验的“统一性”正在成为品牌跨越文化壁垒、建立长期信任的关键。未来的全球竞争将不再仅限于“谁能进入更多市场”，而是“谁能在每个市场都输出同一品牌印象与服务感知”。品牌所承载的，将不仅是产品功能的承诺，更是一个全球用户共识的长期信任模型。

2025年4月，按销售额计，追觅科技的扫地机产品在全球18个国家问鼎市场占有率第一



资料来源：公开资料整理、沙利文分析

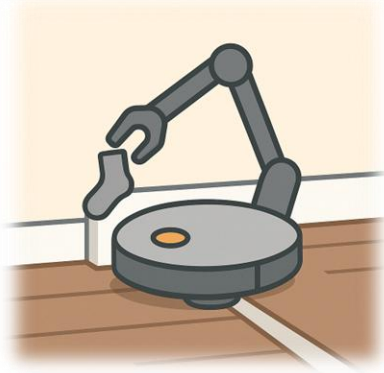
An abstract geometric pattern consisting of numerous circles of varying sizes connected by thin, light gray lines, creating a network-like structure across the entire page.

2025 Global Robot Vacuum Market Monthly Tracking

July 2025

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Key Trends in the Robot Vacuum Industry in H1 2025



Spatial Capability Upgrade

Robot vacuums are evolving from traditional 2D path-based cleaning to basic 3D spatial operations. Functional modules such as robotic arms and auto-lifting mechanisms are breaking the limitations of merely avoiding obstacles, enabling robot vacuums to “understand and interact with embedded environments,” and shifting their roles from mere executors to collaborators.



Hot-Water Mopping Goes Mainstream and High-End

Many new models have raised mopping water temperatures to over 40°C (e.g., Dreame X50 Series) and integrated mop materials and high-pressure rinsing. This delivers a tangible boost in stubborn and oil stain cleaning performance, positioning hot-water mopping is no longer a premium option but a standard feature in high-end models.

Source: Public Information Compilation, Frost & Sullivan Analysis



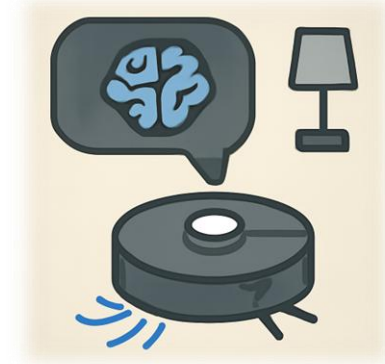
End-to-End Automation

The end-to-end automation system—from vacuuming, hot-water mopping, auto-drying, water refilling and draining, to mop lifting—has become a standard feature of premium products. Cleaning now goes beyond floor surfaces to include mop pad management, water inlet/outlet layout, and waste water management, forming a closed-loop system that reduces manual intervention.



User Behavior–Driven Scheduling Logic

Cleaning schedules are increasingly shaped by user routines and space usage patterns. Systems now rely on temporal inference, silent environment detection, and predictive scheduling to execute intelligent coordination—marking a shift from “users adapting to devices” to “devices adapting to home environments.”



AI Obstacle Avoidance 3.0

Multiple brands have introduced dual-modality perception combining RGB and 3D structured light with AI recognition models, enabling dynamic mapping, low-light obstacle avoidance, and furniture recognition. The focus of obstacle avoidance has shifted from object detection to scene understanding and user behavior interpretation—advancing toward smarter human-machine collaboration.



Accelerated Globalization of Leading Brands

China's leading brands are accelerating their globalization strategies. Diverse market demands are driving product design toward three core directions: “low intrusiveness,” “high automation,” and “adaptability to multi-room scenarios.” These trends reflect a growing convergence in high-end user expectations across global markets.

Key Product Launches and Technology Highlights in H1 2025

H1 2025 Flagship Product Launches by Leading Brands

Brand	New Product	Technical Highlight Summary
<div>Dreame</div> <div>DREAME</div> <div>追觅</div>	X50 & X50s Series Aqua10 Ultra Track S50/S50 Pro/S50 Ultra	<ul style="list-style-type: none">- Introduced an 8cm obstacle-crossing design for complex surfaces and obstacles.- The mop supports hot air drying and auto removal, improving user maintenance experience.- Robot vacuums' height has been reduced to 88mm for low furniture environments.- Aqua10 Ultra Track features fresh water cleaning with track mops, enhancing cleaning power and adaptability.- The S50 series support a 100°C high-temperature sterilization and mopping function, enhancing deep cleaning effectiveness.
<div>Roborock</div> <div></div> <div></div>	Saros 10R P20 Pro G20s/Ultra	<ul style="list-style-type: none">- Integrated 5-axis robotic arm for multi-angle edge/gap cleaning, expanding coverage.- Mops supports high-temp hot-water wash and hot-air drying for simplified maintenance.- Robot vacuums features height-adjustable design for various space conditions.- The G20s series targets mid-to-high-end market, integrating mop-washing and dust auto-empty for complete functionality.
<div>ECOVACS</div> <div></div> <div></div>	T80 Omni T50 Omni/T30 Pro	<ul style="list-style-type: none">- Introduced a constant pressure roller fresh water cleaning system to enhance the sustained cleaning capability for stubborn stains.- The mop features hot air drying and manual removal options.- The robot vacuums' height has been reduced to 8.1cm for higher maneuverability in low furniture environments.- T30 Pro and T50 Omni target the mid-range market, balancing functionality and price accessibility.
<div>Narwal</div> <div></div> <div></div>	J5 Max Flow 002	<ul style="list-style-type: none">- Equipped with track mop based pressurized cleaning system, with features including auto-lifting and deep self-cleaning.- Base station integrates water hookup kit and mop management, reducing manual intervention.- Flow 002 targets compact space scenarios, balancing portability and essential automation features.

Robot Vacuum Cleaner Technology Trends in 2025

1. Acceleration of Bionic Mobile Structures

Dreame has pioneered the “bionic” extending modules, with X20 implementing an extended mop design in 2023. X40 introduces an extended side brush and a liftable module, while the Cyber series further evolves into a robotic arm structure, creating an active response system for diverse scenarios. Compared to traditional fixed structures, these modules feature capabilities such as corner and edge cleaning and low-space cleaning. This marks a shift in robot vacuum design towards a "proactive cleaning" structural upgrade phase.

2. Evolution of Mop Systems into Intelligent Subsystems

Mop systems are advancing from basic modules to intelligent subsystems. Starting in 2023, Dreame S and X series have included hot water mop washing as standard, enhancing cleaning effectiveness in mid- to high-end models. Ecovacs introduced a roller cleaning solution in 2024, while Dreame's X50 Pro track version, launching in 2025, will offer superior cleaning power and adaptability.

3. Integration of Base Stations in High-End Products

Comprehensive base stations are replacing manual interventions, with functions like dust collection, mop washing, and water management. Dreame has progressed its self-cleaning base stations from version 1.0 with X30 to 3.0 with X50, enhancing self-maintenance capabilities. Competitors, such as Roborock and Ecovacs, are adopting similar strategies, evolving base stations into collaborative task hubs.

4. Shift Toward Lightweight Designs for Broader Usability

In 2024, Dreame introduced retractable LDS technology, achieving a device height of 88mm and a 340mm wide base station suited for low furniture and small spaces. Models like Roborock P20 Pro and Ecovacs T50 Omni Pro feature reduced sizes to improve adaptability, appealing to essential users and paving the way for all-scenario product development.

Grabbing Robotic Arms Break Through Cleaning Boundaries

Overcoming Cleaning Blind Spots: Grabbing Robotic Arms Deliver Efficient Cleaning and Item Organization

While robot vacuums have advanced in suction power, obstacle avoidance, and path algorithms, they still struggle in tight and complex cleaning areas, especially narrow gaps and corners between furniture. To address this, Dreame has developed an independent accessory compartment for its robotic arm, containing tools like a vacuum and sponge brush that can automatically select and perform precise cleaning based on needs. Additionally, the robotic arm features an intelligent system to classify and organize items, sorting them according to the scene, such as placing slippers at the entrance or toys in the playroom. This innovation effectively addresses cleaning blind spots and enhances item organization.

2025 First Launch of Grabbing Robotic Arms

Brand	Model	Active Structural Solution	Primary Functional Objectives
Dreame	Cyber	CyberDex Hyper-Flex Arm with multiple joints	Automatically identifies the environment, selects the right tools for precise cleaning of narrow areas, and uses an intelligent model system for item classification and organization, effectively managing densely grouped objects.
Roborock	Saros Z70	Five-axis foldable mechanic arm	Enhances cleaning and organization by identifying and removing liftable obstacles, and intelligently categorizing scattered items.



Dreame Cyber



Roborock Saros 10R

Structural Mechanics Elevate Cleaning Intelligence from “Path Planning” to “Autonomous Execution”

Traditional robot vacuums use SLAM algorithms for navigation but often leave areas uncleaned due to fixed designs. Innovations from Dreame, such as the extendable mop on X20 and extendable side brushes on X40, enhance cleaning effectiveness. The X50 Series features a robotic leg for obstacle crossing and dynamic edge-following, allowing better contact with uneven surfaces. Dreame’s Cyber series improves this with an advanced grabbing robotic arm that automatically selects and attaches tools based on cleaning needs and can recognize and sort items. These advancements help Dreame Cyber clean blind spots and improve coordination in cleaning and organizing tasks.

Future Outlook: Grabbing Robotic Arms Drive Cleaning Automation, Elevating Space Functionality

As robotic arm technology continues to evolve, robot vacuums will soon achieve spatial advancement, ushering in a new era of smart cleaning. Traditional robot vacuums rely primarily on path planning and obstacle avoidance systems, but their capabilities are constrained by fixed structures and designs. In the future, advancements in robotic arms will enable vacuums to perform more flexible and precise operations, automatically selecting and using the appropriate cleaning tools. This technology will allow robot vacuums to tackle complex cleaning tasks, from corner cleaning to item organization.

Robots will move beyond single-function roles and adapt their cleaning approaches in response to changing environments, flexibly managing different scenarios. As technology progresses, robot vacuums will break free from the limitations of just cleaning floors and narrow spaces, significantly enhancing cleaning efficiency and quality. This spatial advancement will empower robot vacuums with more functions, enabling future vacuums to perform multiple tasks simultaneously, such as corner cleaning and item organization, and even adjust cleaning intensity and frequency based on environmental changes, further elevating home automation. The innovation of grabbing robotic arm technology will be central to this evolution, driving robot vacuums into a fully intelligent and multifunctional era.

End-to-End Automation Is Becoming the Standard for Premium Products

From "Vacuum + Mop" to "Vacuum + Mop + Self-Wash + Air-Dry + Water Refilling & Drainage": An Emerging Tread for End-to-End Automation

In early days, robot vacuum development focused on “enhancing suction” and “path optimization.” However, in actual use, issues such as “mops not properly cleaned or dried, lingering odors, etc.” became frequent user complaints. As demand for maintenance-free use increases, brands are shifting from weak functional add-ons to robust closed-loop systems, with integrated mop management becoming the critical entry point for premium product systematization.

Multiple flagship products launched in H1 2025 demonstrate a clear shift—from focusing solely on cleaning performance to delivering a complete usage loop. Features like auto mop lifting, hot-water washing, constant-pressure rinsing, hot-air drying, and water inlet/outlet connection have become standard modules. Users no longer need to frequently hand-wash or manually replace mop pads, only occasionally refilling water tanks or emptying dust bags—significantly reducing maintenance effort and cost.

Core Value of End-to-End Automation

The essence of end-to-end automation is to transform cleaning from a “functional task” into a “high-frequency, low-intervention” experience. Although traditional vacuums may have strong suction, users are burdened by frequent manual mop washing and drying. With the integration of auto mop-washing with hot water, auto mop lifting, drying, and water hookup kit, users only need to empty dust bags or refill water from time to time—leaving the rest of the mopping process fully automated. Today’s leading flagship models are building nearly-no-intervention mop management systems through the following five key features:

- **Auto Mop Cleaning with Hot Water + Constant-Pressure Roller Rinsing**—Effectively removes grease, dust, and hair.
- **Hot-Air Drying**—Prevents mold and odor caused by damp mops, improving hygiene over time.
- **Water Hookup Kit for Water Refilling and Drainage**—Automates water refilling and drainage without manual intervention.

The system loop enables robot vacuums to operate at high frequency, transitioning from “once-a-week” deep cleaning to “daily floor maintenance” as the default household routine. This improves user experience and stickiness while creating long-term monetization potential for consumables such as detergents, filters, and drying accessories.

Brand	Model	Auto Mop Lifting	Mop Cleaning with Hot Water	Mop Drying	Mop Removal	Water Hookup Kit	Automated
Dreame	X50 Ultra	✓	✓	✓	✓	✓	Fully
Roborock	Saros Z70	✓	✓	✓	/	✓	Highly
Narwal	J5 Max	✓	✓	✓	/	✓	Highly
ECOVACS	T80 Omni	✓	✓	✓	/	✓	Highly

System Automation Becomes Are Now an Entry Standard for High-End Markets and Quickly Expanding Into the Upper Mid-Tier Markets.

Starting in 2025, full-link automation has become standard in premium models and is quickly expanding to upper mid-tier segments:

- **Flagship Models Provide Full Integration of Key Functions That Cascade Down to Lower-Tier Models**
Models like Dreame X50 series showcase full-suite capabilities. In the future, brands are expected to modularize premium features for application in sub-flagship lines, enabling price-tier differentiation with function segmentation.
- **Mid-Tier Models Follow with Modular Standardization**
Key modules such as auto mop cleaning with hot water and drying are expected to become standard features in the ¥4,000–¥6,000 price segment, driving the next round of upgrades in mid-range product lines.
- **Standardization of Structural Modules Drives Supply Chain Differentiation and Collaborative Development**
Structures such as mop stores, water circuit interfaces, and cleaning solution refilling systems are becoming increasingly standardized, which are expected to drive a new round of supply chain restructuring for components and intelligent accessories, and may even give rise to specialized module suppliers.
- **User Acceptance of "Managed Cleaning Experiences" Increases, Accelerating Upgrade Cycle for High-End Products**
As users increasingly recognize and embrace the concept of being thoroughly clean without manual intervention, brands gain more pricing flexibility and clearer product tiering strategies. High-end and intelligent features are becoming the new core of brand competition.



AI Obstacle Avoidance and Scene Understanding Technology Upgrades

AI Obstacle Avoidance Has Entered a Full-Chain Upgrade: Perception, Understanding, Decision

Early obstacle avoidance systems mainly relied on infrared and bump sensors, with the primary goal of avoiding obstacles. In recent years, with the adoption of 3D structured light, RGBD cameras, and AI vision modules, obstacle avoidance capabilities have evolved from simple object recognition to “semantic” understanding of object types, positioning, and motion status.

Stage	Technical Capability	Performance
Perception	Identifying Obstacles	Avoid objects such as shoes and cables.
Understanding	Identifying Object Attributes/Types	Determine whether an object is a pet bowl, cable, or a toy.
Decision-Making	Forming Dynamic Path Optimization	Choose whether to detour, clean the edges, or avoid.

Obstacle Avoidance Capability Comparison Among Brands

Brand	Sensor Setup	“Semantic” Recognition	Cleaning Strategy Coordination Example
Roborock	One Camera + Triple-Laser 3D Structured Light	Slippers, Cables, Pet Waste	Detour + Generate No-Go Zones
Dreame	Two RGBD Cameras + Active Projector	Various Types of Static and Dynamic Obstacles	Segment Scenes (Kitchen/Bathroom) + Auto-Adjust Suction/Water
Narwal	3D Structured Light	Basic	No Deep-Level Coordination
ECOVACS	One Camera + Dual-Laser 3D Structured Light	Basic Objects	Custom Areas + Mopping Paths

The value of AI obstacle avoidance extends beyond mere avoidance. It’s more about coordinated, scene-based execution.

The intelligent upgrade of obstacle avoidance systems not only improves safety but also serves as a foundation for implementing cleaning strategies. By “understanding the environment,” robot vacuums can:

- Avoid mopping over sensitive items such as cables and pet bowls.
- Automatically lift the mops and disable mopping upon detecting carpets.
- Coordinate with robotic arms to edge-clean walls and clean around table legs.
- Synchronize recognition results with the map system to enable automatic zoning and no-go zone management.

AI obstacle avoidance is becoming a key part of cleaning systems. It includes path planning, action judgment, and execution coordination, and it is an important measure of system intelligence.



Future Outlook: Obstacle Avoidance Systems Will Become Central to Scene Perception and Cleaning Decision-Making

Obstacle avoidance will integrate into the **robot vacuums’ overall cognitive system**. Several key trends are emerging:

1. **Mainstream Use of Lightweight Models and On-Chip AI:** Edge AI capabilities will rapidly improve, moving from local models to chip-level semantic reasoning.
 2. **Deep Integration of Obstacle Avoidance and Path Systems:** Map planning, cleaning patterns, and structural actions will work together seamlessly.
 3. **Accelerated Fusion of Multimodal Perception:** Systems using LiDAR, vision, IMU, and structural feedback will enhance intelligent decision-making.
 4. **Semantic Mapping as a Core Asset:** Robot vacuums will gain autonomous spatial understanding, enabling them to identify where and how to clean.
- The value of AI obstacle avoidance will evolve beyond just “seeing” to include “understanding and precise execution,” representing a significant improvement in robotic intelligence.

Evolution of User Needs and Scenario-Based Product Strategies

As robot vacuums transition from the early stage of functionality exploration to becoming a standard application in global households, user focus is shifting from simply “cleaning effectively” to “thorough cleaning, ease of use, and space efficiency.” Unlike the traditional emphasis on performance parameters like suction power and path planning, current users are more concerned with operational hassles, cleaning completeness, and compatibility with home environments. These new demands are reshaping product design logic—shifting from a focus on individual performance breakthroughs to addressing specific cleaning challenges in everyday life. Leading brands are innovating around the themes of "greater intelligence, increased automation, and better adaptability," achieving deeper alignment between functional capabilities and user needs through structural innovation, closed-loop systems, and enhanced perception.

Core Demands	Expectations	Product Strategies	Products
Little Manual Intervention	Reduce manual steps, avoid frequent mop washing, refilling, etc.	Automatic mop lifting Hot water washing + drying Automatic mop removal/installation Integrated water refilling and drainage module	Dreame X50 Ultra/Roborock Saros 10R
Full Coverage Cleaning	Clean along walls and corners, efficient path planning	AI semantic recognition and obstacle avoidance Adaptive mop pathing Enhanced edge coverage with robotic arm/legs	Dreame X50 Ultra/Roborock Saros Z70
Space-Friendliness	Smaller device size, suitable for low furniture and compact homes	Ultra-thin body (< 8.5cm) Compact base station design Support for partial task dispatching	Roborock X40 Ultra/Roborock Qrevo Curve Series
Accurate Sensing	Correctly detect complex/dynamic obstacles, avoid false triggers or collisions	RGBD vision + AI model recognition Automatic mop lifting Upgraded cameras/structures and coordinated path control	Dreame Aqua10 Ultra Track

User expectations for robot vacuums are shifting from mere “functional capabilities” to a focus on a “complete user experience.” Behind the core needs listed above lies a clear value proposition: whether the product truly addresses daily cleaning challenges rather than just upgrading performance metrics. To achieve this goal, the industry is undergoing a profound transformation from “single-point technological breakthroughs” to “system capability reconstruction”:

- **Structural innovations**, such as robotic arms and legs, give robot vacuums the ability to reach difficult areas, tackling challenges like corner cleaning and navigating around furniture legs.
- **Automated systems**, integrating hot water washing, drying, and water management, allow users to shift from “performing cleaning tasks” to “setting up the system operator,” reducing maintenance costs.
- **Perception upgrades**, including lift cameras, RGBD vision modules, and AI path coordination, enable robot vacuums to move from simply “recognizing objects” to “understanding scenes,” allowing for genuinely intelligent decision-making and execution.

Importantly, the focus of product services is no longer solely on “functional upgrades,” but rather on more sustainable value propositions, such as “who is it designed for, in which environments will it be used, and how long will it be used?” Future competition will center not on “who has the strongest flagship features,” but on “who can more deeply understand the needs of different user groups and provide a stable, efficient daily user experience with suitable technology, appropriate design, and reasonable pricing.”

In this evolution, robot vacuums are moving from “high-performance hardware” to “human-centered intelligent cleaning systems,” marking the true beginning of a “new era of home appliances.”

Unified Design Language Under the Trend of Global Integrated Living

In the first half of 2025, new robot vacuum designs worldwide are exhibiting a clear trend toward "aesthetic unification." Major brands are aligning product shapes, colors, and docking station designs with home decor, shifting from mechanical and industrial aesthetics to a minimalist and discreet look. This change reflects the evolution of robotic products in the high-end market from mere appliances to furniture.

Category	Key Phrases Observed in H1 2025	Description
Color Trend	Matte white, neutral gray-white, light wood veneer	Weakens the "metallic/black glossy" tone; emphasizes natural transition with walls, floors, and furniture
Robot Vacuum Style	Flat, rounded corners, low-profile	Reduces "tech equipment feel"; easier integration into home spaces, avoiding visual obtrusiveness
Base Station Style	Minimalist linear structure, embedded open-cover design, and storage-oriented	More like furniture cabinets rather than "machines"; some brands pursue material colors consistent with floors/walls
Lighting/Interactive Elements	Hidden LED lighting, matte indicator lights, removal of voice buttons, etc.	Cleaner visuals, reduces interference for elderly, children and other demographics, while lowering sensory burden



Global Aesthetic Convergence Drives Product Role Evolution

From "Appliance-Like" to "Furniture-Like": In the first half of 2025, multiple brands proactively weakened the "device presence" in new product designs, redefining robot vacuums as an "integrated element of home space." Brands like Dreame and Ecovacs introduced built-in docks, wall-aligned modules, and fabric finishes to blend the product into living rooms, kitchens, and entryways. This furniture-like design trend is accelerating globally—highlighting spatial harmony in Western markets, spatial segmentation and visual order in Japan and Korea, and alignment with home décor cues in China to enhance interior coherence.

Visual Minimization Builds Trust: Premium users worldwide are increasingly inclined toward "unobtrusive intelligence." Compared to earlier design approaches that emphasized "talking capabilities" and "tech aesthetics," products launched in the first half of 2025 have largely shifted to subtle interaction—eschewing flashy screens and voice buttons in favor of matte lighting, passive silent feedback, and automatic scene recognition. This design philosophy of "the quieter, the more trustworthy" strengthens users' perception of safety and dependability. True technological sophistication lies not in being visibly complex, but in "being consistently present without needing your attention."

Future Outlook: Design Language Shift Reflects Global Consensus Toward "Quiet Technology"

In the first half of 2025, the design language of robot vacuums is rapidly shifting from "overt functionality" to "aesthetic subtlety." This change concerns not only visual perception, color softness, and form, but also reflects a growing consensus among global premium users that "technology should not intrude upon daily life." Robots are no longer viewed as appliances, but as a natural part of the living environment.

Across countries and household scenarios, users consistently express: "Let it be there, but don't let me notice it." This mindset is pushing brands to suppress "visual noise" through structural, interactive, and material design, enabling "invisible service."

The full convergence of design language represents a systemic redefinition of product roles:

- From "appliance" to "home unit"
- From "functionality" to "experience"
- From "visible presence" to "invisible integration"

Future competition will revolve around "who is the best complexity hider." Truly advanced products no longer emphasize what they can do—but rather achieve it seamlessly without the user even noticing.

From Manual Settings to Autonomous Optimization

The transformation of control experience is shifting from “user-defined” to “system-judged.” In the first half of 2025, many new robot vacuum models demonstrated a clear trend toward “low-intervention” control logic. Compared to the past, where users had to manually set zones, cleaning frequency, or intensity, today’s products prioritize automatic judgment and default recommendations, aiming to achieve optimal outcomes without user input. This change is not limited to a few high-end products, but is emerging globally across mainstream markets. Whether in large-home regions like Europe and the U.S., or in high-density urban settings like China, Japan, and South Korea, users are increasingly seeking experiences that require “no learning” and “no decision-making.”

Dimension	Traditional Control Logic	Evolution Features in H1 2025
User Interaction	Manual setting of cleaning zones, paths, mop washing/drying frequency	System makes automatic decisions based on floor plan and usage frequency, reducing user interaction
Function Access	Functions are scattered; users must actively explore	Homepage recommends optimal cleaning solution; scenarios trigger modes automatically
Control Focus	Emphasis on “complete functionality and free customization”	Emphasis on “default is optimal” and “stronger system coordination”
OTA Optimization	Mainly used to fix bugs and make minor tweaks	Focus on function restructuring and cleaning strategy upgrades; resembles “remote AI enhancement”

Multi-Scenario Adaptation Under Unified System Scheduling

- Cross-market adaptability is strengthening. In the first half of 2025, brands have begun deploying unified “adaptive scheduling algorithms” globally to intelligently perceive different home layouts, cleaning preferences, and usage frequencies, and optimize them locally. With improvements in computing power and logical consistency, systems now fine-tune strategies based on typical residential scenes across regions. For example, European and U.S. markets emphasize switching between carpets and hard floors, while Chinese and Japanese markets focus more on adapting to small, complex indoor layouts. Behind this, users worldwide interact through similar app interfaces and menu structures, while in reality, semantic execution paths have been highly localized—achieving “unified interface, optimized adaptation.”
- User relinquishment of control: As control logic evolves, users shift from being “task setters” to “delegators of system control.” Tasks previously requiring user input—like designating cleaning zones, sequencing tasks, or managing mop usage—are increasingly handled by the system, which adjusts in real time. This “lightweight experience” reduces user burden, lowers usage thresholds, and positions robot vacuums as invisible assistants in “effortless daily chores.”
- Breakthroughs in multi-module coordination: New-generation products increasingly integrate multi-module systems—such as separate vacuuming and mopping modules, mop lifting, electronic water tanks and water hookup kit—raising the bar for logical coordination in system design. In the first half of 2025, many flagship models can now achieve multi-dimensional coordination, such as using pre-mop dust levels to determine whether to raise the mops, or automatically calibrating mop wetness and cleaning power based on floorings. This advancement marks the evolution of control logic from “task execution” to “system orchestration,” a key milestone in the formation of platform-based software architecture.

Future Outlook: Consistent Experience as the Foundational Goal for Global Tech Upgrades

In the first half of 2025, control logic in robot vacuums has become the core battleground for emotional experience and tech competition. The race among brands is no longer about who offers more functions, but about who best anticipates user needs and lets the system complete the entire decision-making process autonomously. This shift reflects not only a deep understanding of global household behaviors but also an integration upgrade of product architecture and system software capabilities. Unified control logic lowers the cognitive threshold for users while dramatically improving multi-market adaptability and scalable deployment. For brands, once control logic shifts from being a “tool interface” to an “invisible butler,” it becomes the core lever for building sticky, high-retention user experiences. The most advanced robot vacuums are not those that do more—but those that require almost no user operation at all.

Behavioral Rhythms at Home Drive Technological Evolution: From “Adapting Robots” to “Invisible Household Servants”

In the first half of 2025, new robot vacuums are no longer solely marketed based on “cleaning power,” but rather their ability to **adapt to users’ daily rhythms**. The end goal of technological advancement is shifting from “doing more” to “disturbing less”—not cleaning more aggressively, but **completing tasks quietly, at the right time and in the right way**. This shift reflects a growing global consensus: users want machines to discreetly integrate into daily life, rather than having to adapt their lives around machines.



User Behavior	Technical/Design Strategy	Representative Product Features
Low noise required in early morning before going out	Intelligent scheduled cleaning; quiet mop washing	Time-based cleaning strategy (e.g., Dreame X40, Roborock G20)
Elderly resting at noon, noise not preferred	Smart map exclusion of "nap zones"; priority on kitchen/entry	Noise-aware area scheduling (e.g., Ecovacs T30 PRO)
Evening leisure or dinner time, avoid disruption	Automatic delay of cleaning tasks; quiet air duct design	Smart avoidance/delay system + quiet air duct design (e.g., Narwhal J4 Series)

Cleaning Rhythm Perception Determines Intelligent Presence

User daily rhythms are becoming the key determinant of cleaning behavior: Across global markets, users prefer to have cleaning aligned with their own schedules and usage patterns, rather than following preset routines of machines. For example, Chinese households typically clean in the morning, midday, and evening; European and American users prioritize separation between work and leisure zones. Regardless of layouts or lifestyles, a common principle has emerged: “cleaning should fit quietly into the household rhythm.”

User tolerance for disturbance continues to drop: Especially in terms of noise, movement, LiDAR flashes, and visual feedback. The demand for “minimal visibility” has been activated. Whether there are elderly, children, or pets at home, the robot vacuum must operate quietly. Bright laser flashes, unnecessary lights, or alerts are avoided to meet higher standards of “imperceptible operation.”

From spatial matching to life-state adaptation: Traditional mapping is no longer enough. Since 2025, leading models now detect life-state cues—whether the user is home, just woke up, or eating—and adjust cleaning timing: delay, pause, accelerate, or mute. This shift marks the evolution from “hard spatial interpretation” to “soft behavioral understanding,” with technical breakthroughs moving from route planning to dynamic scene-based coordination.

Future Outlook: “Proactive Withdrawal” Marks the New Phase for Service Robot Vacuums

Robot vacuums are undergoing a transformation from being mere functional tools to becoming coordinators of household rhythms. No longer appliances that require operation or constant reminders of their presence, they are evolving into intelligent spatial nodes that **quietly integrate into everyday life and serve real-time needs**. In this process, the true differentiator is no longer about “function stacking” or “performance extremes,” but whether the product can complete just the right cleaning task at the right time—without the user even noticing.

The advanced form of technology lies not in working constantly, but in **knowing when to stay quiet, when to withdraw, and when to wait**. Those who can recognize the “rhythmic gaps,” “silent intervals,” and “usage blind spots” in home life will achieve real user stickiness. Future service robot vacuums should not be a strong or intrusive presence in daily life, but rather embed themselves through a quiet sense of order—**unobtrusive yet always effective, invisible yet deeply integrated**.

Brand Globalization Evolution: From Product Export to Systematic Ecosystem Building

In the first half of 2025, leading robot vacuum brands have significantly accelerated their global expansion. Rather than continuing the traditional OEM or export-led “product export” model, more Chinese brands are evolving toward “independent global brand operations,” with full-chain control over sales, service, and user experience. Companies are no longer content with one-off sales gains overseas; instead, they are building a long-term relationship with global users through unified brand systems, localized operational teams, synchronized product timelines, and standardized user experiences.

Manifestations of Brand Globalization

1 Market Expansion Shifts from Channel Setup to System Capability Export

- Channel Layer:** Brands like Roborock, Dreame, ECOVACS, and Narwal have established presence in key markets such as North America, Europe, Japan, Korea, and the Middle East, and entered core retailers like Amazon, BestBuy, and Yodobashi.
- Organizational Layer:** Some brands have built overseas business divisions and localized service teams to handle after-sales, logistics, channel management, and marketing.



2 Product Release Timelines Are Now Synced, Enabling Global Coordination

- In H1 2025, core models from multiple brands (e.g., Dreame X50 Ultra, Aqua10 Ultra Track, Roborock G30, Dreame X40 Pro, ECOVACS T30 series) are **launched globally with either full synchrony or minimal time lag**.
- **Overseas markets no longer receive only low- or mid-end products;** instead, brands are introducing consistent product lines across U.S., Europe, and Asia with feature parity to domestic offerings.
- **OTA updates, user interfaces, and mapping systems are gradually being unified,** while localized recommendations, languages, and measurement units are preserved for local adaptation.



3 Brand Messaging Shifts from Tech Orientation to Value Resonance

- Brand values, tone of voice, and service workflows are being standardized to reinforce consistent global brand identity.
- Content narratives reflect regional sensibilities: Western messaging emphasizes time autonomy from automation, Japanese/Korean focus on spatial adaptability and aesthetics, while Chinese emphasizes end-to-end automation and convenience.



Trend Judgment: The Next Stage of Global Brand Competition—From Market Penetration to System Building

In early 2025, robot vacuum brands are undergoing a historic transformation in their globalization strategy: evolving from simple market expansion and channel building into deep, integrated operations centered on “unified system construction”—not just product release or branding, but standardized alignment across backend tech, service delivery, and organizational responsiveness. A true global brand is not one that merely sells overseas, but one that builds shared understanding and long-term trust across diverse users, cultures, and lifestyles. Future global competition will not just depend on “how many markets you can enter,” but on “how consistently your brand delivers the same level of impression and service standard in each one.”

As of April 2025, Dreame's Robot Vacuums Ranked No.1 by Sales Revenue in 18 Countries Worldwide

