研究报告 Research Report

18 Feb 2024

维信诺 Visionox (002387 CH)

首次覆盖：OLED 上行周期量价齐升；ViP 技术助力降本增效

OLED Upcylcle; ViP tech to bring performance and cost advantage: 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	Rmb7.20
目标价	Rmb11.00
市值	Rmb10.00bn / US$1.39bn
日交易额 (3 个月均值)	US$27.68mn
发行股票数目	1,389mn
自由流通股 (%)	59%
1 年股价最高最低值	Rmb12.50-Rmb6.46

注：现价 Rmb7.20 为 2024 年 2 月 15 日收盘价

资料来源：Factset

	1mth	3mth	12mth
绝对值	-26.8%	-40.7%	9.8%
绝对值（美元）	-27.1%	-40.1%	3.4%
相对 MSCI China	14.2%	1.5%	59.3%

(Rmb mn)	Dec-22A	Dec-23E	Dec-24E	Dec-25E
营业收入	7,477	5,868	8,121	9,323
(+/-)	65%	-22%	38%	15%
净利润	-2,070	-3,582	-2,841	-2,027
(+/-)	n.m.	n.m.	n.m.	n.m.
全面摊薄 EPS (Rmb)	0.46	-2.59	-2.04	-1.46
毛利率	-4.7%	-35.1%	-12.1%	-0.6%
净资产收益率	-12.6%	-27.4%	-27.4%	-23.5%
市盈率	n.m.	n.m.	n.m.	n.m.

资料来源：公司信息, HTI

(Please see APPENDIX 1 for English summary)

绑定优质客户；OLED 量价齐升：公司与国内头部手机厂保持紧密合作，将充分受益于核心客户市占率提升。同时大客户折叠屏规划激进，折叠机的上量将显著增加产能消耗并提升价值量。而 Vivo 及 OPPO 也逐步从 SDC 切换至国内供应商，将为公司带来额外机会。伴随 H 公司回归，四季度 OLED 面板已经出现结构性缺口，成为手机供应量核心瓶颈之一。根据我们的调研，4Q23 OLED 面板价格已经有所上行，我们预期 1Q24/2Q24 价格将继续提升约 10%，2024 年下半年高景气度将延续。另一方面，公司启动重大资产重组工作，交易完成后，合肥维信诺将成为上市公司控股子公司。合肥维信诺第 6 代全柔 AMOLED 生产线总产能规划为 3 万片/月，将显著增厚上市公司收入体量。

ViP 技术助力降本增效：ViP 技术是维信诺全球首发的无金属掩模版 RGB 自对位像素化技术，无需 FMM 蒸镀工艺，能够显著提高产品性能，提升 ASP 且降低成本。另一方面伴随国产材料持续突破，公司现金成本有望持续下行。虽然目前国内供应商仍面临许多技术难题，但国内厂商加速布局，已取得一定进展。

储备 Micro LED 技术，静待应用爆发：我们认为 AI+AR 是智能终端新场景，有望逐步替代手机作为日常移动终端，Micro LED 的高亮度、高可靠性、及超低功耗有望使之成为 AR 终局显示解决方案。公司通过参股辰显光电储备 Micro LED 技术，未来空间广阔。

估值与建议：我们认为 OLED 行业重新进入上行周期，公司在价格回升以及产能利用率上行的带动下，运营利润将逐步转正。我们预期 2025 年全年上市公司主体/合肥维信诺/合并运营利润率分别 4%/12%/9%，逐步接近可比公司运营利润率。相应我们认为公司估值水平应该逐步向友商历史均值（约 1.5 倍远期 PB）靠拢。目标价 11 元对应 2x 上市公司主体 2025 PB，对应仅 0.94x 并表后（上市公司+合肥维信诺）2025 PB，首次覆盖给予"优于大市"评级。

风险：1）新产品推广不及预期；2）竞争加剧；3）产能释放不及预期。

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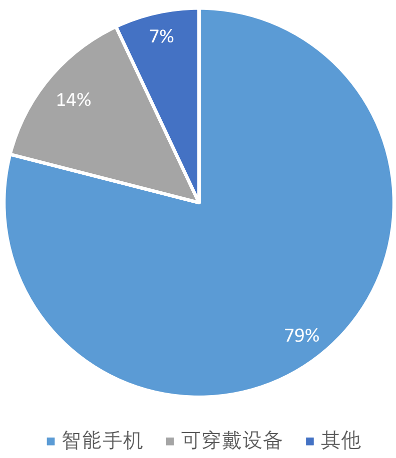
目录

需求：手机持续渗透；2024 PC/平板渗透加速

OLED 屏具备自发光的特性，不需背光源、而且具备对比度高、厚度薄、视角广、反应速度快、可用于曲性面板、使用温度范围广、构造及制程较简单等优异特性，因此被认为是下一代的平面显示器新兴应用技术。根据 DSCC 数据，目前手机仍是 OLED 出货最重要的终端，2022 年出货量占 OLED 总出货量的 79%。OLED 渗透率在不同市场有所分化，智能手机等小尺寸市场渗透率最高，中大尺寸市场渗透率较低。**展望后市，手机方面 OLED 持续向下渗透且折叠机以及高端机 LTPO 上量进一步增加产能需求，PC/平板将于 2024 开始加速，车载 OLED 屏逐步起量，我们对未来 OLED 需求保持乐观。**

图1 OLED 终端出货占比

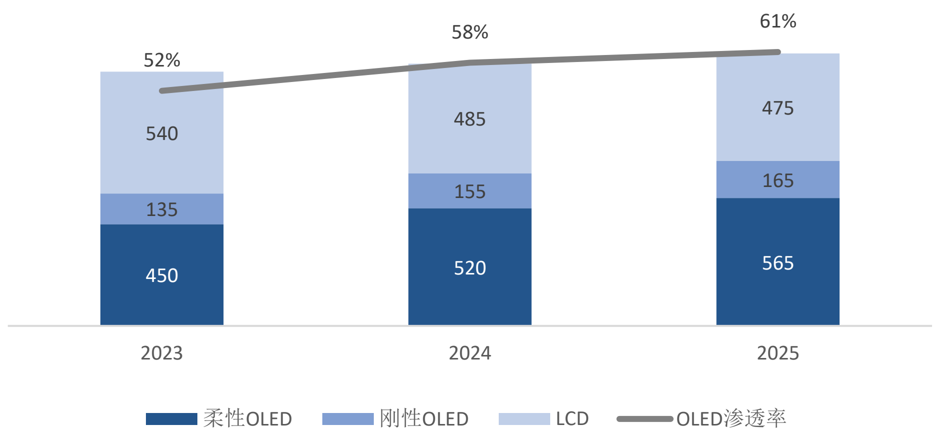


资料来源：DSCC，HTI

手机 OLED 渗透率持续提升；折叠屏增速迅猛

伴随海外通胀得到控制，消费信心逐步回暖，以及华为手机回归带动的市场扩容，**我们预期 2024 年全球手机出货将成长 3%**。同时 OLED 持续向低端机型渗透，目前已经下沉至主流安卓千元机型。如荣耀 X50，红米 K70 等均搭载 OLED 显示屏。我们的供应链调研显示，2024 年三星低阶手机也将有 3,000 万支弃 LCD 改采 OLED，为三星首次在低阶手机搭载 OLED。1H24 上市的低端智能手机 A15 上或为三星首款低阶 OLED 手机。另一方面，由于面板厂过去 LCD 手机产线持续亏损，面板厂逐步将 LCD 产能转向盈利能力更佳的车载领域，逼迫手机厂持续转向 OLED。我们预期，2023/2024/2025 年 OLED 手机出货量分别为 5.85 /6.75/7.3 亿部，**OLED 渗透率于 2025 年达到 61%**，其中柔性 OLED 占 OLED 出货比例约 77%。

图2 OLED 手机出货量（百万台）及渗透率预测



资料来源：HTI 预测

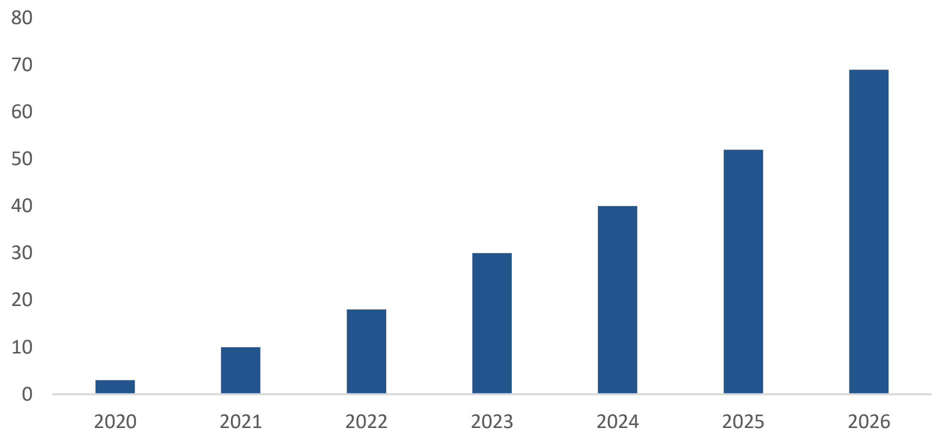
图3 OLED 持续向下渗透

手机品牌	发布时间	价格（元）	屏幕
华为 NOVA 12	2023/12/1	2999	6.76 英寸，柔性直面 OLED，120Hz
红米 K70	2023/12/1	1999	6.67 英寸，柔性直面 OLED，120Hz
荣耀 X50	2023/7/1	1399	6.78 英寸，柔性曲面 OLED，120Hz
IQOO NEO9	2023/12/1	2299	6.78 英寸，柔性 OLED，144Hz

资料来源：公司官网，HTI 预测

随着折叠手机市场规模爆发式增长，未来进一步带动 OLED 需求。Omdia 预测全球折叠手机 OLED 面板出货量有望于 2025 年超 5,200 万片。根据媒体报道，华为 2024 年折叠机出货目标积极，由 2023 的 260 万支增长至 2024 年 700 万至 1,000 万支。折叠机屏幕尺寸更大，三星 Z Fold 5，荣耀 Magic Vs2 以及华为 X5 等机型屏幕尺寸均大于 7.6 英寸，较目前普遍 6.7 英寸显示屏面积接近翻倍，同样 6 代线基板单片切割折叠屏片数不足普通机型一半，且良率更低。另一方面，折叠机普遍搭载 LTPO，产能损耗以及价值量均较同尺寸 LTPS OLED 更高。**我们认为折叠机的上量将显著消耗 OLED 产能并提升价值量。**

图4 全球折叠手机 OLED 面板出货量（百万片）

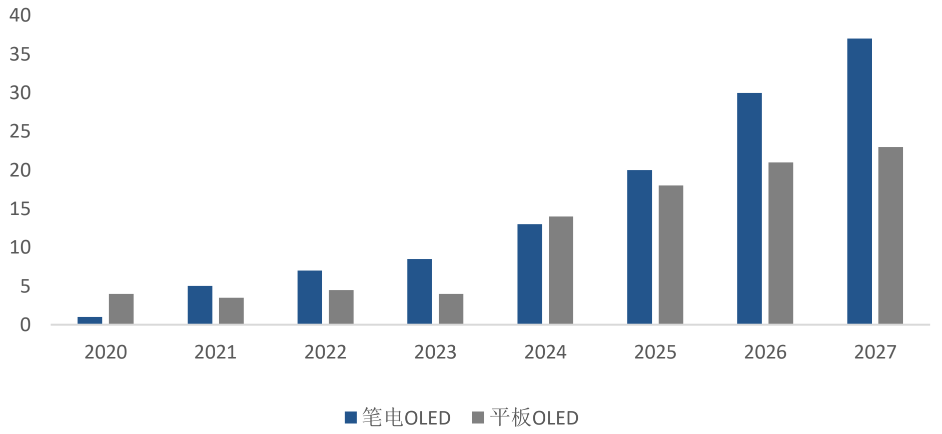


资料来源：Omdia，HTI 预测

PC/平板渗透于 2024 年加速，苹果/AI 为重要推手

目前 OLED 于 PC/平板渗透率仅约 2%，在该市场存在巨大机会，我们预期 OLED PC/平板渗透将于 2024 年加速。除华为 MatePad 搭载 OLED 屏之外，根据我们的供应链调研显示，苹果 1Q24 发布的新款 iPad pro 将使用 OLED（且采用双层串联 OLED）替代 Mini LED，2024 年出货预期为 1,000 万台。在 PC 领域，苹果或于 2026 年推出 OLED 屏 MacBook Pro。同时，我们认为 AI PC 有望助力 OLED 屏渗透。由于 AI PC 搭载 NPU 核心，定位为高端笔记本（且端侧大模型功耗高），OLED 屏可能成为 PC OEM 的"组合拳"，搭配 AI 功能提升产品组合。根据 UBI 市场研究预测，平板电脑、个人电脑、笔记本电脑的 OLED 出货量将于 2024 年达到 1880 万台，2027 年将达到 3130 万台。

图5 全球 PC/平板 OLED 面板出货量（百万片）



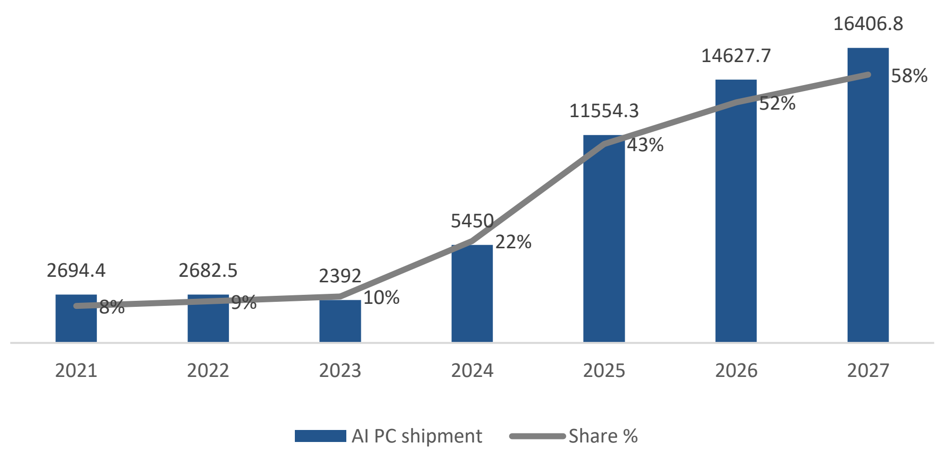
资料来源：Omdia，HTI

图6 OLED 平板/PC 项目

类型	品牌	产品	备注
笔电	苹果	14/16-inch Macbook Pro	预计 2026 发布
	华硕	Asus ZenBook 14	14" OLED, 16:10, 触控或非触控, 2.8K 2880 x 1800 分辨率, 90Hz 刷新率
	惠普	HP Elite Dragonfly	13.5" OLED, 16:10, 触控, 3K 2880 x 1800 分辨率, 60Hz 刷新率
	联想	Lenovo ThinkPad X1 Yoga	14" OLED, 16:10, 触控, 4K 3840 x 2400 分辨率, 60Hz 刷新率, 500-nits
		Lenovo ThinkPad X1 Fold	16.3" OLED, 5:4, 触控, 2.5K 2560 x 2024 分辨率, 60Hz 刷新率
	华为	HUAWEI MateBook E	12.6" OLED, 16:10, 触控, 2560 × 1600 分辨率
	三星	Samsung Galaxy Book3 Pro	14" OLED, 16:10, 触控, 2.8K 2880 x 1800 分辨率, 90Hz 刷新率
	宏碁	Acer Swift X 14	14" OLED, 16:10, 触控, 2.8K 2880 x 1800 分辨率, 120Hz 刷新率
	LG	LG Gram Style 14	14" OLED, 16:10, 触控, 2.8K 2880 x 1800 分辨率, 90Hz 刷新率
平板	苹果	11/13-inch ipad pro	预计 2024 发布
	联想	Lenovo Tab P11 Pro	11.5" OLED, 16:10, 触控, 2.5K 2560 x 1600 分辨率, 60Hz 刷新率, 350-nits
		Lenovo Chromebook Duet	13.3" OLED, 16:9 format, 触控, FHD 1920 x 1080 分辨率, 60Hz 刷新率
	华为	Huawei MatePad Pro 13.2"	13.2" 144Hz 刷新率 2880 x 1920 分辨率，柔性 AMOLED
	三星	Samsung Galaxy Tab S9 Ultra	14.6" 120Hz 刷新率 1848x2960 分辨率， AMOLED

资料来源：公司官网，HTI

图7 AI PC 出货量（万台）及渗透率

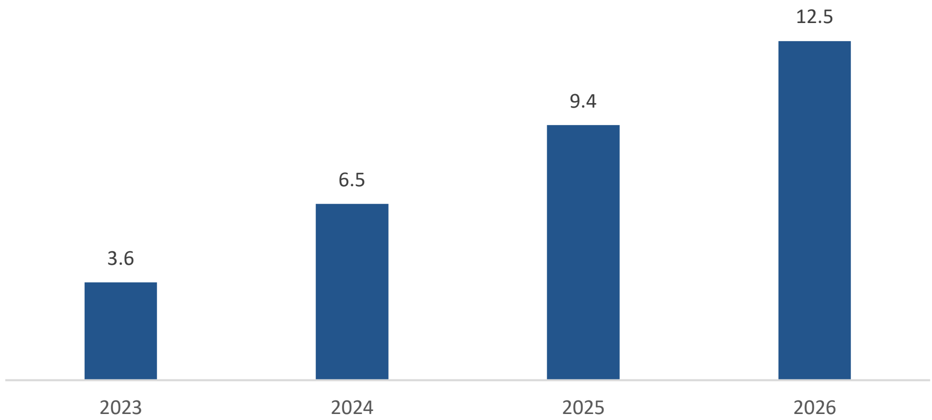


资料来源： Gartner，HTI

车载 OLED 后续增速可观

伴随汽车智能化升级，越来越多的新车型搭载 OLED 屏。如奥迪 Q6 E-TRON SUV，将配备 11.9 英寸 OLED 仪表盘和 14.5 英寸 OLED 信息娱乐触摸屏；比亚迪子品牌 U8 尊享版电动 SUV，仪表板配备 12.8 英寸 OLED 中央屏幕；现代 Genesis GV80 SUV 则配备 27 英寸 OLED 的集成仪表板和中央显示屏。根据 Omdia 预估，2023 年车载 OLED 市场空间约 3.6 亿美元，而 2026 年将达到 12.5 亿美元。同时 TrendForce 预测 OLED 汽车面板到 2026 年将占据约 10%的汽车显示市场。

图8 车载 OLED 市场空间（亿美元）



资料来源：Omdia，HTI 预测

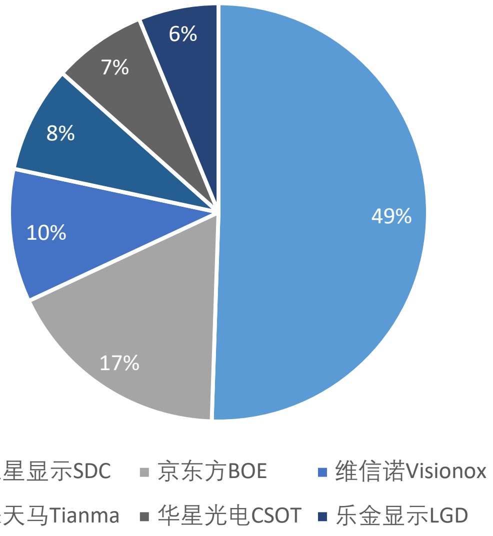
海通國際 HAITONG

供给：国产替代初步完成，中期产能增量有限

中国 OLED 供应商相较 SDC 以及 LGD 起步相对较晚，但工艺技术以及产能均有良好进展，已经在中小尺寸 OLED 领域实现了初步的国产替代。根据 CINNO Research 统计数据显示，2023 年第三季度全球 AMOLED 智能手机面板出货韩国地区份额缩窄至 55.0%；国内厂商出货份额占比 45.0%。其中 SDC 份额下滑至 49%，而 BOE 份额提升至 17%，位居全球第二，维信诺份额达 10%，位全球第三。根据我们的供应链调研显示，**目前韩系 OLED 厂商在大陆供应影响力已经明显减弱，除 Oppo、Vivo 仍较多采用 SDC 外，其余手机品牌厂已经基本切换至国内供应商。**

OLED 投资强度高，产能扩张周期长，中期产能增量有限。6 代 OLED 产线，1KPM 产能大致对应 10 亿人民币投资，建设周期约 3 年左右，而在现有厂房扩产也需要 1.5 年时间。目前六代线新增产能主要为 BOE B12，天马 T18 厦门线以及 TCL T4。8.6 代线（主要针对 IT 应用）目前 SDC 以及 BOE 已经确认投资计划，其中 SDC 将投资约人民币 214 亿元，设计产能 15KPM，将于 1H26 投产。BOE 也于近期宣布，将投入人民币 630 亿元建设 8.6 代生产线，预计月产能为 3.2 万片，计划分两个阶段完成，总建设周期预计为 2 年 10 个月。

图9 OLED 智能手机出货份额



资料来源：CINNO Research，HTI

图10 OLED 产能

公司	产线	世代	产能（KPM)			
			2022	2023	2024	2025
柔性 OLED						
三星	A3	6	114	106	105	105
三星	A4	6	30	30	30	30
三星	A5	6	15	15	15	15
LG 显示	E5	6	15	15	15	15
LG 显示	E6	6	30	30	30	30
京东方	B7	6	48	48	48	48
京东方	B11	6	44	48	48	48
京东方	B12	6	10	37	48	48
TCL	T4	6	15	23	41	45
深天马	TM17	6	29	30	30	30
深天马	TM18	6	8	15	15	15
维信诺	V1	5.5	4	4	4	4
维信诺	V2	6	15	15	15	15
维信诺	V3	6	20	30	30	30
刚性 OLED						
维信诺	V1	5.5	11	11	11	11
三星	A1	4.5	56	56	56	56
三星	A2	5.5	204	204	204	204
三星	A6	8.7	0	0	0	8
LG 显示	E1	4.5	0	0	0	0
LG 显示	E2	4.5	0	0	0	0
LG 显示	E8	8.7	0	0	0	5

资料来源：公司官网，HTI

行业供需反转，价格重回上行轨道

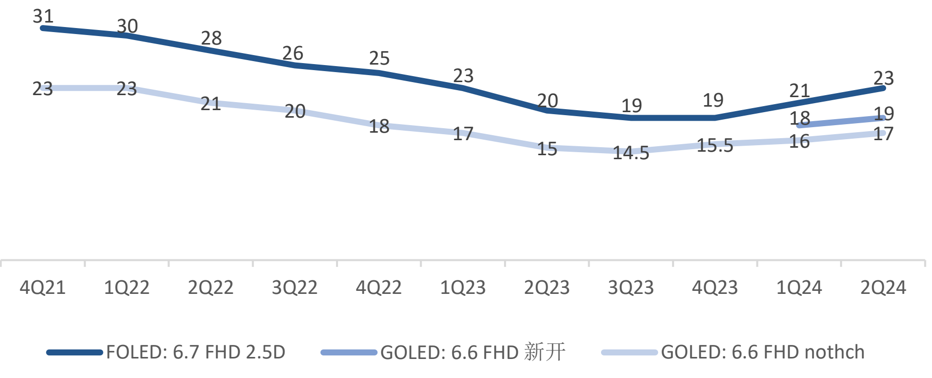
伴随华为手机回归，OLED 需求显著增长。华为 Mate60/Nova12 均搭载柔性 OLED，且采用国内供应商。另一方面，手机 OLED 面板定制化程度高，手机品牌需要提前锁定面板产能，品牌手机面板都不兼容。**四季度 OLED 面板已经出现结构性缺口，成为手机供应量核心瓶颈之一。**根据 CINNO Research，12 月柔性 OLED 价格持续上涨，1Q24 将继续维持高位，24 年全年高景气度延续。根据我们的调研，4Q23 以 BOE 为代表的国内面板厂商价格已经起涨，这也是 OLED 时隔 5 年以后的第一次涨价。**我们预期 1Q24/2Q24 价格将继续分别上行约 10%，并接近 2022 年末价格水平。**

图11 手机 OLED 面板供需测算（千片）

厂商	工厂	产能（截至年底）		对应手机出货		
		2023	2024	2023	2024	2025
BOE	7	45	45	120	140	160
	12	30	45			
	17	45	45			
天马		45	75	40	70	90
维信诺	V1	15	15	55	65	70
	V2+V3	45	45			
TCL	T4	30	45	35	45	55
Total		255	315	250	320	375
				供给增量	70	55
				需求增量	90	55

资料来源：公司官网，HTI 测算

图12 小尺寸 OLED 面板价格趋势（美元）



资料来源：DISCIEN，HTI

Micro LED：商业化逐步落地，未来可期

与 LCD 和 OLED 相比，Micro LED 显示拥有响应速度快、视角大、色彩表现力好、亮度高、寿命长等优点，被认为是消费电子领域下一个世代的显示技术。一般来说，行业将尺寸小于 50μm 的 LED 芯片称为 Micro-LED。未来，随着量产化技术的成熟和生产成本的降低，Micro LED display 的发展领域将有两种趋势。第一种是如索尼、三星等显示面板公司的主攻方向-小间距大尺寸显示屏或大尺寸电视。第二种是中小尺寸显示和微显示，如智能手表、VR 眼镜等，这类设备的显示着重高分辨率、便携性强、功耗低、亮度高的特点，也正是 Micro LED 的优势所在。

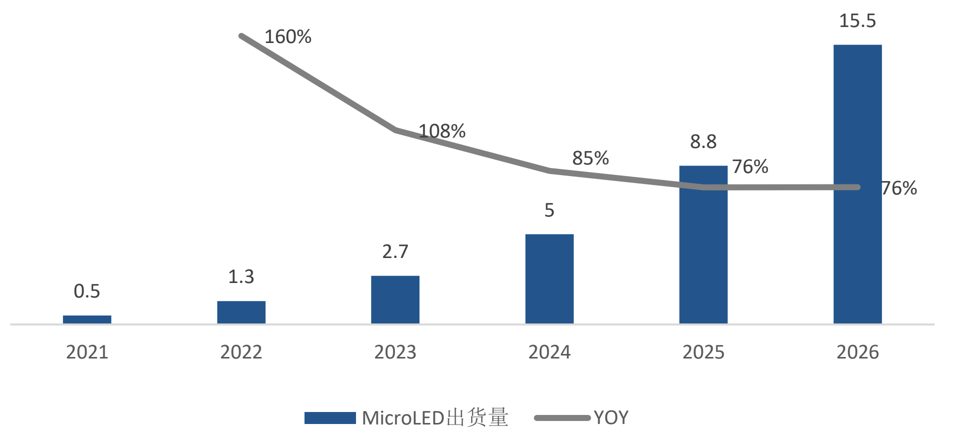
根据 Yole 的研究和预测，**未来 3-5 年将成为 Micro LED 走向消费级应用的关键时期**。VR/AR 方面，Micro LED 2022 年从单色眼镜开始发展，将在 2025 年进入消费级应用；智能手表方面，Micro LED 也将于 2024 年开始进入快速应用发展阶段；大屏显示方面，Micro LED 预计将于 2025 年进入高端消费级电视市场，而手机和车载显示应用的时间则相对更为靠后。据 Trend Force 统计，2021 年全球 Micro LED 市场规模预计仅为 0.23 亿美元，2025 年市场规模将达到 38 亿美元，年复合增长率 258%。IHS 预估 2026 年 Micro LED 面板出货量有望增长至 1550 万片。

图13 Micro LED 性能优势

指标	LCD	OLED	MicroLED
功耗	高	低（LCD 的 20%）	很低 （LCD 10%， OLED 50%）
EQE	低	中	高
对比度	中等，5K:1	中等，10K:1	很高，1M:1
亮度	低，<1K nits	中等，1K-3K nits	相当 1M nits
响应时间	慢（ms）	快（μs）	很快(ns）
色域	75% NTSC	123% NTSC	140% NTSC
分辨率	<800 ppi	<1000 ppi	>2000 ppi
黑点	中等	很好	很好
寿命	中等	短	长
柔性基底	否	是	是
透明基底	差	中等	好

资料来源：电子工程专辑，HTI

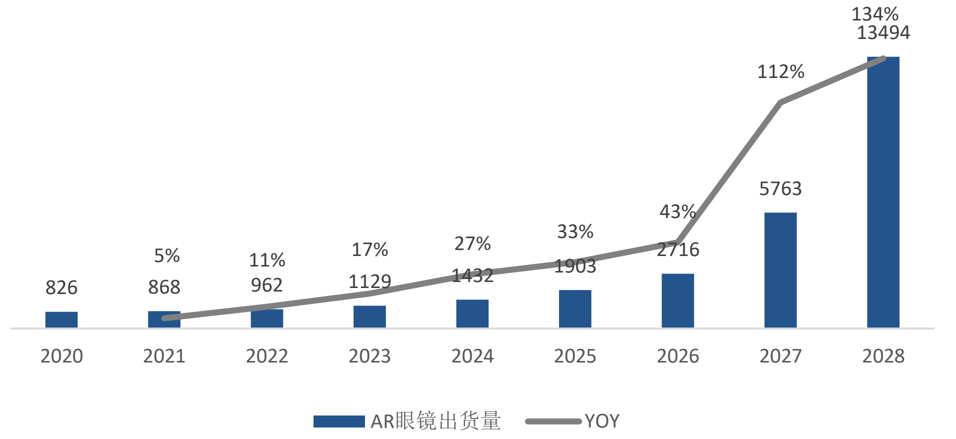
图14 Micro LED 显示器出货量（百万台）



资料来源：IHS，HTI

AI 助力 AR 发展，Micro LED 或为 AR 最终显示解决方案。我们认为 AI+AR 是智能终端新场景，并有望逐步替代手机作为日常移动终端。AR 的底层技术是 AI，AR 是硬件载体，AI 是内容核心。扎克伯格在 Meta Ray-Ban 发布中表示，“智能眼镜，是你让人工智能助手看到你所看到和听到的理想外形”，AR 视觉输出能够助力 AI 发挥强大能力。根据 Omdia 预测，AR 出货量将于 27/28 年进入高速增长阶段。而苹果增强现实（AR）眼镜 Apple Glasses 最早将于 2026 年或 2027 年推出。另一方面，由于 Micro LED 的高亮度、高可靠性、以及超低功耗、超紧凑外形，有望成为 AR 终局显示解决方案。

图15 AR 出货预期（千台）



资料来源：Omdia，HTI

维信诺：OLED 上行周期量价齐升；ViP 技术确立性能成本优势

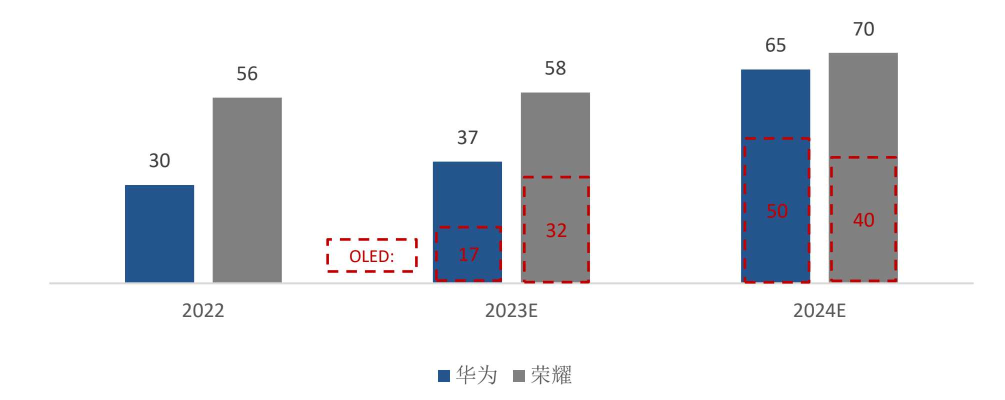
绑定优质客户；OLED 量价齐升

核心客户需求爆发。公司与荣耀、小米、OPPO、Vivo 等国际领先的智能手机客户保持良好密切的合作关系。我们预期 2024 年华为/荣耀出货量分别为 6500 万/7000 万只，较 2023 年 3700 万/5800 万显著提升。华为中高阶机型（Nova，Mate，P 系列）均搭载 OLED 屏幕，其中 Mate、P 系列则采用 LTPO。另外值得一提的是，媒体报道华为 2024 年折叠机出货目标相当积极，由 2023 的 260 万支增长至 2024 年 700 万至 1,000 万支。折叠机的大幅增长将进一步增加 OLED 屏需求。公司作为国内核心 OLED 供应商，有望充分受益。另一方面 vivo 以及 OPPO 也在逐步从 SDC 切换至国内供应商，将为公司带来额外机会。

OLED 价格重回向上轨道。四季度 OLED 面板已经出现结构性缺口，成为手机供应量核心瓶颈之一。根据我们的调研，4Q23 以 BOE 为代表的国内面板厂商价格已经开始上涨，这也是 OLED 时隔 5 年以后的第一次涨价。我们预期 1Q24/2Q24 价格将继续分别上行约 10%，2024 下半年高景气度延续。另一方面公司产品组合持续优化，向高端旗舰机型持续突破，综合 ASP 将持续提升。

定增资产注入，供给能力加强。目前公司共有一条 5.5 代线以及一条 6 代 AMOLED 产线，产能均为 1.5 万片/月。2022 年底，公司启动重大资产重组工作，拟向合屏公司、芯屏基金、兴融公司发行股份及支付现金购买其所持有的合肥维信诺 40.91%股权，交易完成后，维信诺将持有合肥维信诺 59.09%股权，合肥维信诺将成为上市公司控股子公司。合肥维信诺第 6 代全柔 AMOLED 生产线总产能规划为 3 万片/月，具备折叠、卷曲、屏下摄像、高刷新率、Hybrid-TFT 方案等高端产品技术，将显著增加公司供给能力，满足品牌客户的需求。

图16 华为/荣耀出货及 OLED 需求预测（百万台）



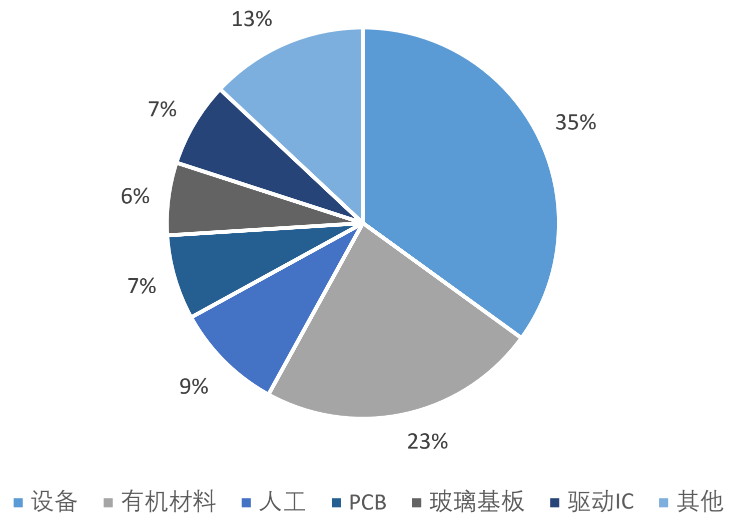
资料来源：IDC，HTI 预测

ViP 技术确立产品性能、成本优势

ViP 技术助力降本增效。ViP（Visionox intelligent Pixelization）技术是维信诺全球首发的无金属掩模版 RGB 自对位像素化技术，该技术可以**显著提高 AMOLED 产品性能，提升 ASP 且降低成本**。ViP 技术可以增加 AMOLED 有效发光面积，提升像素密度，且配合维信诺 Tandem 叠层器件技术，可实现 6 倍的器件寿命或 4 倍的亮度。另一方面 ViP 技术无需 FMM 蒸镀工艺，能够降低制备成本。该技术在 TFT 控制背板部分可以沿用 AMOLED 现有技术和工艺，在阳极制备完成后，从像素定义层(PDL)开始逐步差异化，形成 ViP AMOLED 特有的隔离柱结构，随后进入整面蒸镀及光刻图形化步骤进行像素制备。

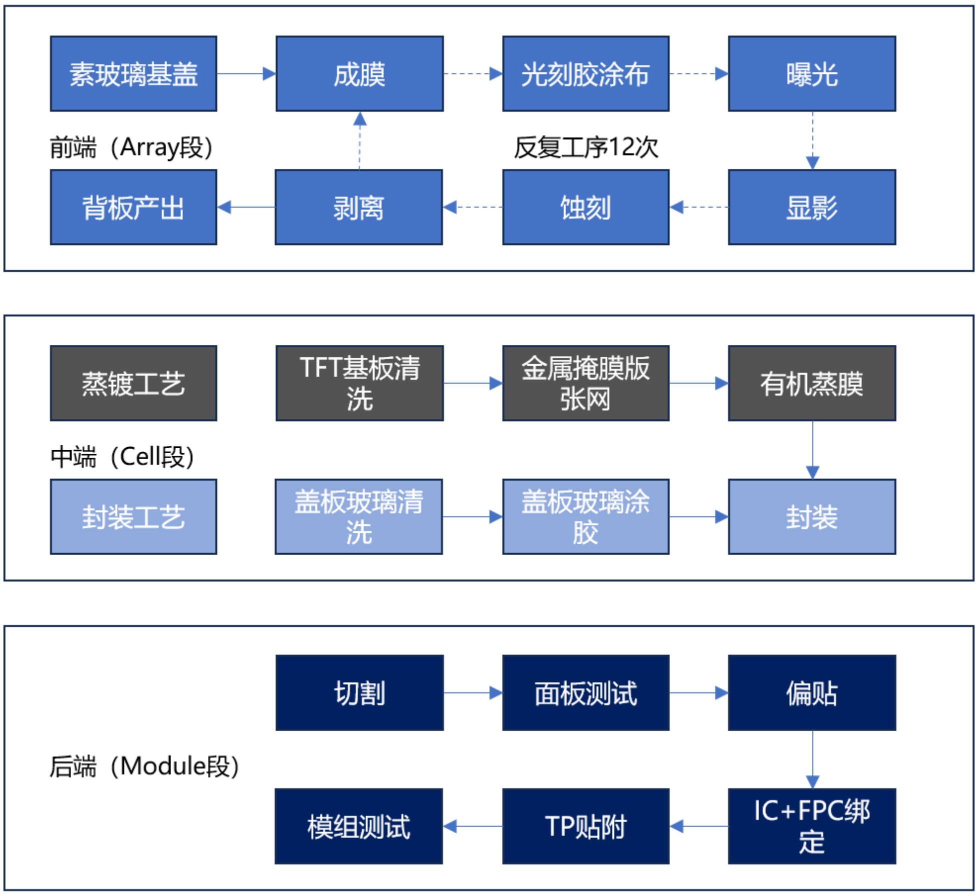
材料国产替代，成本持续降低。根据三方研究机构数据，驱动 IC/有机材料分别占 OLED 总成本的 7%/23%。虽然目前国内供应商仍面临许多技术难题，但国内厂商加速布局，已取得一定进展。目前有机材料供应商包括奥莱德、莱特光电、蓝思科技、鼎龙股份等；驱动 IC 厂商包括云英谷、韦尔股份、集创北方等。伴随后续国产材料持续突破，公司材料成本有望持续下行。

图17 OLED 成本构成



资料来源：华经产业研究院，HTI

图18 OLED 制备流程



资料来源：HTI

图19 ViP 产品特点

资料来源：公司网站，HTI

储备 Micro LED 技术，静待应用爆发

AI 助力 AR 成长，Micro LED 未来可期。我们认为 AI+AR 是智能终端新场景，并有望逐步替代手机作为日常移动终端。未来 3-5 年是 Micro LED 走向消费级应用的关键时期，Micro LED 2022 年从单色眼镜开始发展，有望在 2025 年大规模进入消费级应用。由于 Micro LED 的高亮度、高可靠性、以及超低功耗、超紧凑外形，未来有望成为 AR 终局显示解决方案。

参股公司储备 Micro LED 技术。公司参股公司辰显光电是国内头部 Micro LED 企业。2021 年，辰显光电就已建成中国大陆首条从 LTPS 驱动背板、巨量转移、修复到模组全覆盖的 Micro-LED 中试生产线，该条产线创造了全球业界产线建设的最快速度。目前，辰显光电已达到可量产水平，并攻克诸多 Micro-LED 领域卡点，巨量转移良率提升至 99.995%。同时 2023 年 9 月，辰显光电举行其全球首条 TFT 基 Micro-LED 生产线奠基仪式，项目总投 30 亿元，将率先布局大尺寸商显领域，预计 2024 年底实现产品出货。

图20 辰显光电股权结构

股东（发起人）	比例	认缴出资额
成都高新投资集团有限公司	31%	33000 万元
四川省集成电路和信息安全产业投资基金有限公司	26%	27000 万元
维信诺科技股份有限公司	19%	20000 万元
成都产投先进制造产业股权投资基金合伙企业（有限合伙）	19%	20000 万元
宁波新显企业管理合伙企业（有限合伙）	5%	5263 万元

资料来源：天眼查，HTI

公司介绍

维信诺是全球领先的新型显示整体解决方案创新型供应商。公司成立于 2001 年，前身是 1996 年成立的清华大学 OLED 项目组。公司以“拓展视界，提升人类视觉享受”为愿景，“以科技创新引领中国 OLED 产业”为使命，专注 OLED 事业 20 余年，已发展成为集研发、生产、销售于一体的全球 OLED 产业领军企业。截至目前，申请 14000 余件与 OLED 相关的关键专利，荣获了由国务院颁发的“国家技术发明奖一等奖”，及联合国世界知识产权组织（WIPO）和我国国家知识产权局共同颁发的“中国专利金奖”等重要奖项。2002 年，开始主导制定 OLED 国际标准和国家标准，至今共负责制定或修订了 5 项 OLED 国际标准，主导制定了 7 项 OLED 国家标准和 9 项 OLED 行业标准。维信诺目前已向国内外多家一线品牌客户批量供货，产品被广泛应用于消费类电子、工控仪表、金融、医疗、车载、通信等领域。

图21 公司发展历程

资料来源：公司官网，HTI

图22 十大股东明细

股东	持股比例
西藏知合科技发展有限公司	19%
合肥建曙投资有限公司	12%
昆山经济技术开发区集体资产经营有限公司	10%
建信华润信托兴晟 6 号资产管理计划	5%
光大保德信资产-耀财富富增 9 号专项资产管理计划	5%
华宝信托-投资(6)号集合资金信托	5%
中信 1 号单一资金信托	4%
香港中央结算有限公司	2%
信澳新能源产业股票型证券投资基金	1%
华宝生态中国混合型证券投资基金	1%
合计	63%

资料来源：Wind，HTI

投资建议

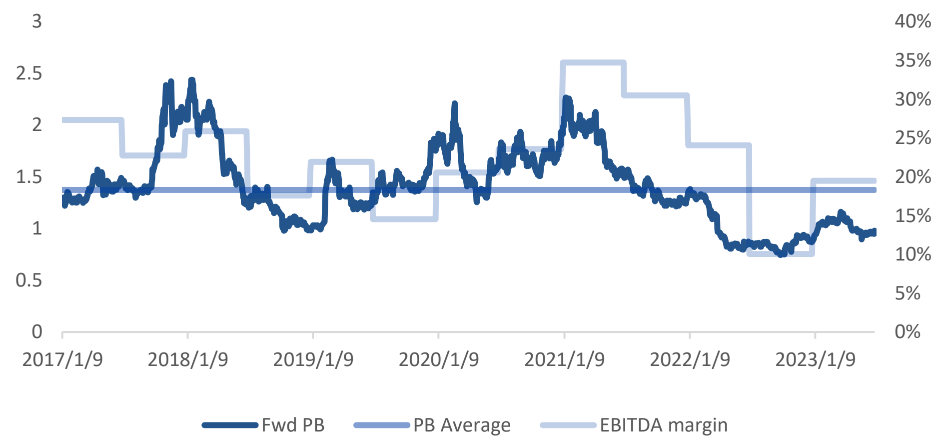
财务预测

公司预计 2023 年度营业收入为 57-60 亿元，归母净利润为亏损 35.8-39.8 亿元，扣非净利润为亏损 36.5-40.5 亿元，中值对应四季度营收约 17.3 亿，净亏损 12.4 亿。2023 年四季度公司产品销售收入实现环比大幅增长，产品销售毛利稳定提升，但全年受限于行业整体压力和价格波动，营业收入受到一定影响。我们预期，公司在价格回升以及产能利用率上行的带动下，2024/2025 营收为 81/93 亿元。

投资建议

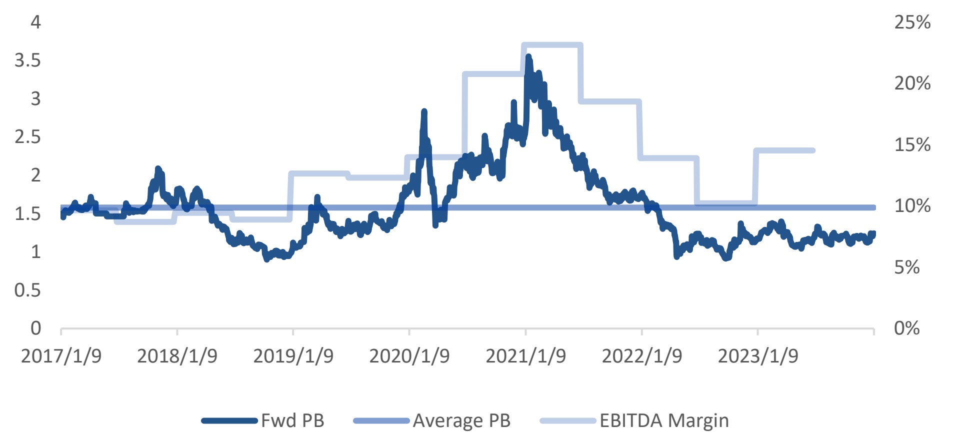
参考过去友商估值变化，我们发现面板厂商估值与运营利润率高度相关（图 23、24）。公司可比厂商 BOE 以及 TCL 平均远期 PB 均为约 1.5x，而运营利润率均值也在 10%以上。公司历史估值显著低于友商，主要因运营利润显著亏损。我们认为 OLED 行业重新进入上行周期，公司在价格回升以及产能利用率上行的带动下，运营利润将逐步转正。我们预期 2025 年全年上市公司主体/合肥维信诺/合并运营利润率分别 4%/12%/9%。相应我们认为公司估值水平应该逐步向友商历史均值靠拢。目标价 11 元对应 2x 上市公司主体 2025 PB，对应 0.94x 并表后（上市公司+合肥维信诺）2025 PB。公司首次覆盖给予“优于大市”评级。

图23 BOE 运营利润率与 PB 估值



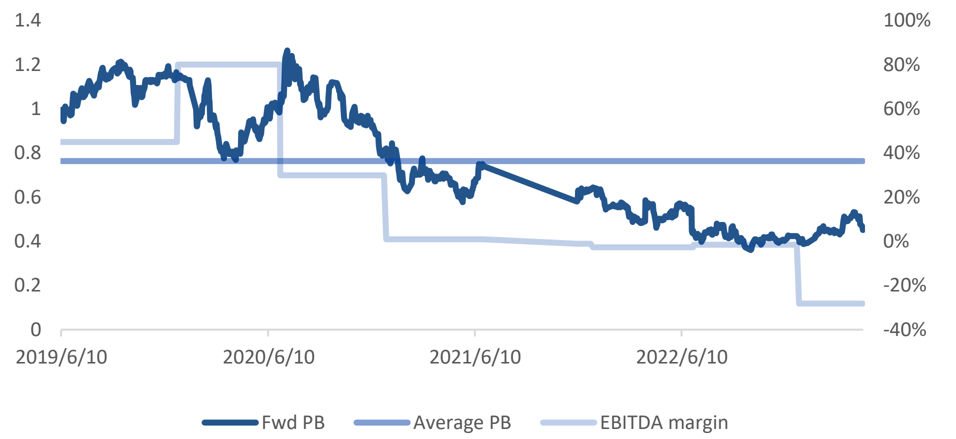
资料来源：Wind，HTI

图24 TCL 运营利润率与 PB 估值



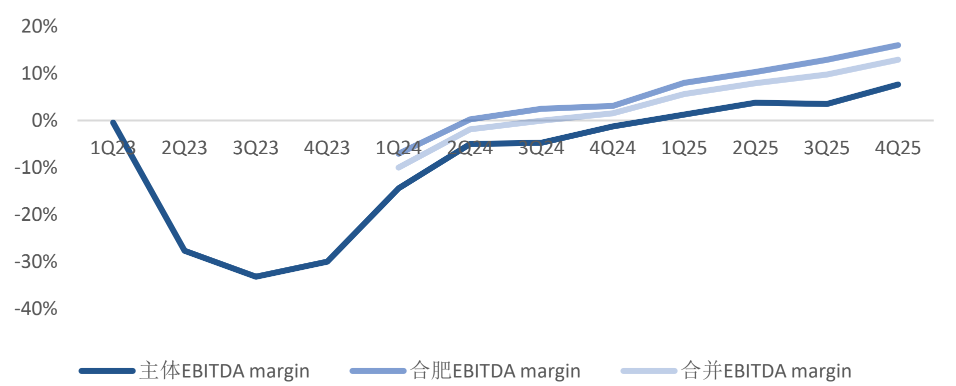
资料来源：Wind，HTI

图25 维信诺运营利润率与 PB 估值



资料来源：Wind，HTI

图26 维信诺运营利润率及预测



资料来源：Wind，HTI

财务指标	Dec-22A	Dec-23E	Dec-24E	Dec-25E
成长性				
营业收入增长率	65%	-22%	38%	15%
营业利润增长率	18%	93%	-26%	-30%
净利润增长率	26%	73%	-21%	-29%
利润率				
毛利率	-5%	-35%	-12%	-1%
EBITDA利润率	4%	-25%	-6%	4%
营业利润率	-27%	-65%	-35%	-21%
净利润率	-28%	-61%	-35%	-22%
投资回报率				
ROE	-13%	-27%	-27%	-23%
ROA	-5%	-9%	-8%	-6%

利润表（百万元）	Dec-22A	Dec-23E	Dec-24E	Dec-25E
营业收入	7477	5868	8121	9323
营业成本	7830	7927	9106	9382
毛利	**-353**	**-2059**	**-985**	**-59**
营业费用	1640	1778	1856	1923
营业利润	**-1993**	**-3837**	**-2842**	**-1982**
其他营业收入	-461	-458	-458	-367
其他	142	95	154	140
利息收入	49	84	60	65
利息费用	-912	-945	-945	-945
利润总额	**-3175**	**-5061**	**-4029**	**-3088**
所得税及少数股东损益	-967	-1479	-1188	-1061
净利润	**-2070**	**-3582**	**-2841**	**-2027**

资产负债表（百万元）	Dec-22A	Dec-23E	Dec-24E	Dec-25E
货币资金	6,485	4,649	5,014	3,877
存货	834	573	1,157	1,192
应收账款	1,485	1,608	1,669	1,788
其他流动资产	1,388	1,388	1,388	1,388
流动资产	**10,191**	**8,217**	**9,227**	**8,244**
固定资产	22,173	21,659	20,822	19,856
其他非流动资产	7,659	7,428	7,186	6,931
非流动资产	**29,832**	**29,087**	**28,007**	**26,787**
资产总额	**40,023**	**37,304**	**37,235**	**35,031**
短期债务	5,924	5,924	5,924	5,924
应付账款	5,021	6,599	7,581	7,811
其他流动负债	6,618	6,618	6,618	6,618
流动负债	**17,562**	**19,141**	**20,123**	**20,353**
长期借款	2,379	2,379	2,379	2,379
其他非流动负债	4,882	4,882	4,882	4,882
非流动负债	**7,261**	**7,261**	**7,261**	**7,261**
负债总额	**24,824**	**26,402**	**27,384**	**27,614**
实收资本	15,315	15,315	17,673	17,673
留存收益	(3,550)	(7,848)	(11,258)	(13,690)
股东权益	**15,199**	**10,902**	**9,850**	**7,417**
负债及股东权益总额	**40,023**	**37,304**	**37,235**	**35,031**

现金流量表（百万元）	Dec-22A	Dec-23E	Dec-24E	Dec-25E
净利润	-2,070	-3,582	-2,841	-2,027
折旧及摊销	2,285	2,354	2,367	2,379
运营资本变化	1,032	1,717	337	75
其他	1,598	0	0	0
经营活动现金流	2,845	490	-137	427
投资活动现金流	-1,526	-1,609	-1,287	-1,159
融资活动现金流	-129	-716	1,790	-405
现金及等价物增加额	1,192	-1,836	365	-1,137
自由现金流	1,696	-1,120	-1,425	-732

APPENDIX 1

Summary

Binding high-quality customers, OLED volume and price rise: The company maintains close cooperation with leading domestic mobile phone manufacturers and will fully benefit from the increase in market share of core customers. At the same time, major customers have radical plans for folding screens, and the increase in folding machines will significantly increase production capacity consumption and increase value. Vivo and OPPO are also gradually switching from SDC to domestic suppliers, which will bring additional opportunities to the company. With the return of Company H, there has been a structural gap in OLED panels in the fourth quarter, becoming one of the core bottlenecks in mobile phone supply. According to our research, OLED panel prices have risen in 4Q23. We expect prices to continue to increase by about 10% in 1Q24/2Q24, and the high prosperity will continue in the second half of 2024. On the other hand, the company has launched a major asset restructuring. After the transaction is completed, Hefei Visionox will become a holding subsidiary of the listed company. The total production capacity of Hefei Visionox's 6th generation fully flexible AMOLED production line is planned to be 30,000 pieces/month, which will significantly increase the company's supply capacity and meet the needs of brand customers.

ViP technology reduces costs and increases efficiency: ViP technology is Visionox's world's first metal-mask-free RGB self-alignment pixelization technology. It can increase the effective light-emitting area and improve pixel density without the need for an FMM evaporation process, which can reduce preparation costs. On the other hand, as domestic materials continue to make breakthroughs, the company's cash costs are expected to continue to decline. Although domestic suppliers still face many technical difficulties, domestic manufacturers have accelerated their layout and have made certain progress.

Preparing Micro LED technology and waiting for the explosion of applications: We believe that AI+AR is a new scenario for smart terminals and is expected to gradually replace mobile phones as daily mobile terminals. Micro LED's high brightness, high reliability, and ultra-low power consumption are expected to make it an AR The endgame shows the solution. The company has invested in Chenxian Optoelectronics to reserve Micro LED technology, and has broad future prospects.

Valuation and recommendations: We believe that the OLED industry has re-entered an upward cycle, and the company's operating profits will gradually turn positive, driven by price recovery and increased capacity utilization. We expect the listed company's main body/Hefei Visionox/combined operating profit margin to be 8%/16%/13% respectively at the end of 2025. Accordingly, we believe that the company's valuation level should gradually move closer to the historical average of its competitors (approximately 1.5 times forward PB). The target price of 11 yuan corresponds to 2x listed company entity 2025 PB, corresponding to 0.94x consolidated (listed company + Hefei Visionox) 2025 PB. We initiate the coverage with an outperform tating.

Risks: 1) New product promotion falls short of expectations; 2) Competition intensifies; 3) Production capacity release falls short of expectations.

附录 APPENDIX

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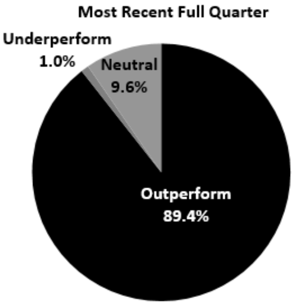

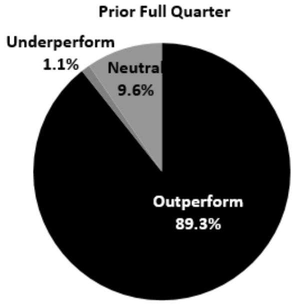

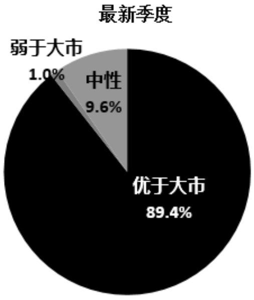

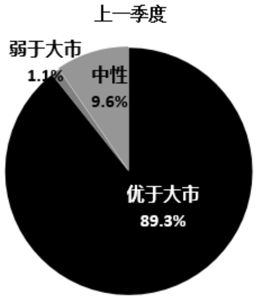

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	Outperform	Neutral (hold)	Underperform

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