

# 思维列控 Thinker Automatic Equipment (603508 CH)

## 首次覆盖：列车控制领域龙头，产品进入更新周期

### Leader in Automatic Train Control, Products Entering Renewal Cycle: Initiation

观点聚焦 Investment Focus

#### 首次覆盖优于大市 Initiate with OUTPERFORM

评级	优于大市 OUTPERFORM
现价	Rmb17.30
目标价	Rmb23.63
市值	Rmb6.60bn / US\$0.96bn
日交易额(3个月均值)	US\$8.02mn
发行股票数目	381.27mn
自由流通股(%)	46%
1年股价最高最低值	Rmb17.44-Rmb11.30

注：现价 Rmb17.30 为 2023 年 1 月 5 日收盘价



资料来源: Factset

	1mth	3mth	12mth
绝对值	17.1%	49.9%	7.6%
绝对值(美元)	19.9%	54.7%	-0.3%
相对 MSCI China	7.1%	30.5%	25.6%

(Rmb mn)	Dec-21A	Dec-22E	Dec-23E	Dec-24E
营业收入	1,064	1,110	1,392	1,672
(+/-)	26%	4%	25%	20%
净利润	385	347	450	549
(+/-)	167%	-10%	30%	22%
全面摊薄 EPS (Rmb)	1.01	0.91	1.18	1.44
毛利率	61.0%	60.4%	60.9%	61.3%
净资产收益率	9.2%	8.0%	9.4%	10.3%
市盈率	17	19	15	12

资料来源: 公司信息, HTI

(Please see APPENDIX 1 for English summary)

**列车控制领域龙头企业。**思维列控创立于 1992 年，是专业从事铁路运输安全保障技术研究、应用软件开发的铁路装备定点企业。公司主营业务涉及普速铁路和高速铁路两大领域，主要包括列车运行控制、铁路安全防护、高速铁路运行监测与信息管理等三大业务。目前，公司形成了多功能、多种类的产品体系 and 专业化、综合化的行车安全保障产品提供能力，是国内少有的能够同时满足客户对列车运行安全控制、机车状态监测、行车安全管理及信息化需求的整体解决方案提供商。

**高铁相关业务收入受出行减少影响有所下降，核心列控业务收入稳健增长，铁路安防业务收入快速增长。**2022 年上半年，我国铁路发送旅客 7.59 亿人，同比下降 42.7%。受此影响，上半年客户对动车组及配套车载设备需求下降，导致公司高铁相关业务收入出现明显下滑。分产品方面，2022 年上半年，公司核心列控业务持续取得市场突破，公司 LKJ 市场占有率突破 50%，LKJ 系统订单实现了平稳增长，公司 LKJ 系统实现营收 2.52 亿元，同比增长 39.44%，占公司总营收比例达到 61.19%。

**形成了以列控为核心的行车安全产品体系，并在高铁安全监测领域具备先发优势和核心地位。**公司形成了以列控为核心的行车安全产品体系。经过近三十年发展，公司 LKJ 系统已成为我国车载列车运行安全控制的核心装备。同时，公司多次参与国铁集团车载信息化项目的研发，先后研制了 6A 车载音视频显示终端、CMD 系统车载子系统、机车车联网系统、调车防护系统 (LSP) 等产品。

**存量产品更新周期启动，疫情影响消退，带来增长机遇。**我们认为，伴随存量产品陆续达到更新年限、进入更新周期，产品升级换代需求为公司带来增长机遇。另一方面，疫情防控措施优化调整后，民众出行有望不断恢复，进而使得轨道交通设备采购、更新需求持续增长，公司业绩或迅速恢复。

**盈利预测与投资建议。**我们认为，公司作为中电科数字化转型中坚，紧抓信创与政务大数据发展机遇，目前在这些业务领域已经拥有了一定的领先优势，未来随着自主可控领域的持续发展，公司也有望维持较高的增长速度。整体来看，我们预计公司 2022/2023/2024 归母净利润分别为 3.47/4.50/5.49 亿元，EPS 分别为 0.91/1.18/1.44 元，参考可比公司，给予 2023 年动态 PE20 倍，对应目标价格为 23.63 元，首次覆盖给予“优于大市”评级。

**风险提示。**政策推进不及预期，行业竞争加剧的风险。

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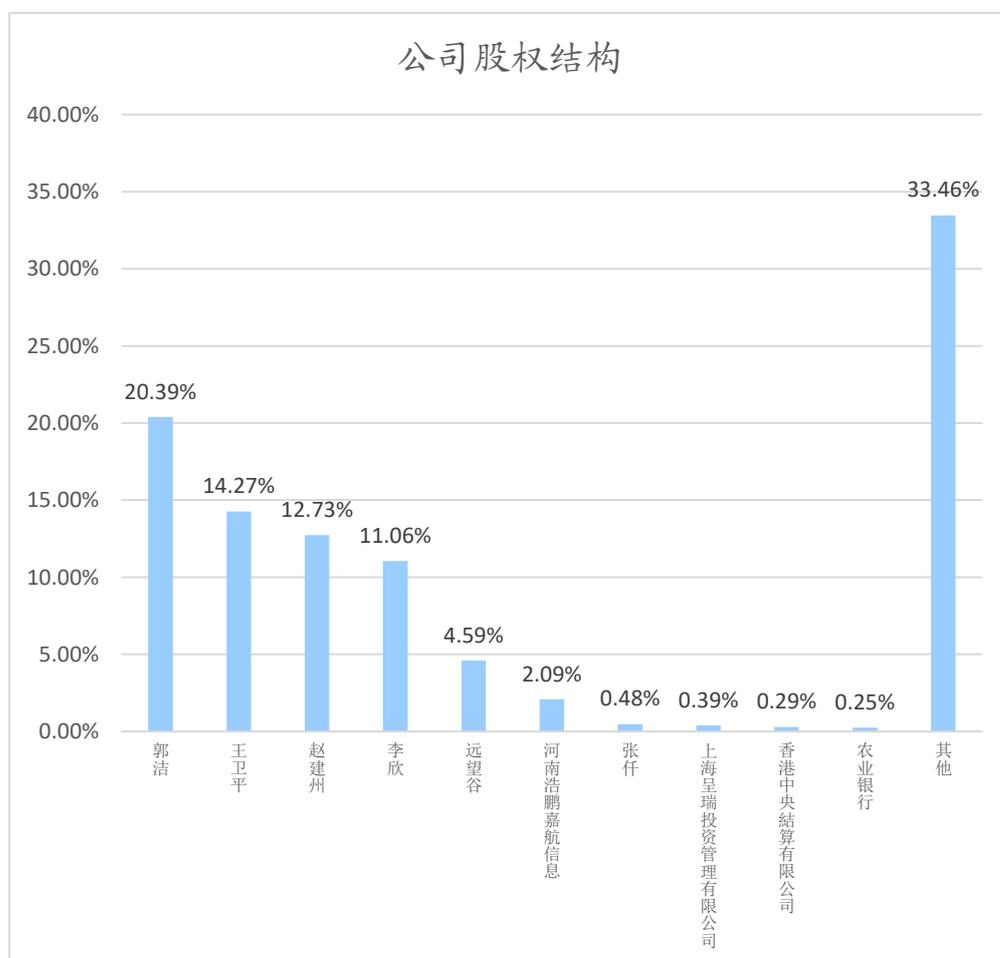
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## 列车控制领域龙头企业

思维列控创立于1992年，是专业从事铁路运输安全保障技术研究、应用软件开发、铁路装备定点企业。公司自主研发的以防超速、防冒进著称的LKJ系列列车运行控制系统，服务于铁路列车安全控制、列车运行安全管理、列车运行安全信息化建设等方面，为历次全国铁路大提速、保障铁路运输事业的飞速发展做出了突出贡献。公司是国家高技术产业化示范工程企业、国家规划布局内重点软件企业、国家火炬计划软件产业基地骨干企业、河南省列车控制工程技术研究中心。截至2021年末，公司已取得专利420项、计算机软件著作权777项、参与制定行业标准6项、铁路技术规章8项，核心产品LKJ列控系统已在全国铁路2.2万余台机车和数千列动车组上普及应用，并成为我国高铁综合监测领域的核心供应商。公司主营业务涉及普速铁路和高速铁路两大领域，主要包括列车运行控制、铁路安全防护、高速铁路运行监测与信息管理等三大业务。目前，公司形成了多功能、多种类的产品体系 and 专业化、综合化的行车安全保障产品提供能力，是国内少有的能够同时满足客户对列车运行安全控制、机车状态监测、行车安全管理及信息化需求的整体解决方案提供商。

图 1. 公司股权结构



资料来源: Wind, HTI

郭洁、王卫平、李欣签署了一致行动协议，系一致行动人以及公司实际控制人。

## 高铁相关业务收入受出行减少影响有所下降，核心列控业务收入稳健增长，铁路安防业务收入快速增长

2022 年上半年，我国铁路发送旅客 7.59 亿人，同比下降 42.7%。受此影响，上半年客户对动车组及配套车载设备需求下降，导致公司高铁相关业务收入出现明显下滑。2022 年公司前三季度实现营收 6.17 亿元，同比下降 11.64%；实现归母净利润 1.94 亿元，同比下降 25.90%，一方面由于营收同比下降，另一方面是公司加大研发投入所致；实现扣非归母净利润 1.90 亿元，同比下降 24.32%。2021 年全年实现营收 10.64 亿元，同比增长 26.19%；归母净利润 3.85 亿元，同比增长 167.12%；扣非归母净利润 3.68 亿元；同比增长 161.81%。**分产品方面**，2022 年上半年，公司核心列控业务持续取得市场突破，公司 LKJ 市场占有率突破 50%，公司积极参与铁路客户招标，着力推动存量 LKJ 系统到期更换工作，LKJ 系统订单实现了平稳增长，公司 LKJ 系统实现营收 2.52 亿元，同比增长 39.44%，占公司总营收比例达到 61.19%；运行列车安全监测系统实现营收 0.77 亿元，同比下降 72.13%；铁路安防业务收入快速增长，机务安防系统实现营收 0.70 亿元，同比增长 149.11%。2022 年前三季度公司毛利率 58.09%，下降 2.04pct，前三季度销售费用率 6.26%，管理费用率 9.40%，研发费用率 16.06%，三费率分别上升 1.77pct、1.41pct 和 4.05pct。2022 年上半年，公司投入研发费用 6510.59 万元，占公司当期营业收入的 15.83%，着力新产品推广。

## 形成了以列控为核心的行车安全产品体系，并在高铁安全监测领域具备先发优势和核心地位

公司形成了以列控为核心的行车安全产品体系。经过近三十年发展，公司 LKJ 系统已成为我国车载列车运行安全控制的核心装备。同时，公司多次参与国铁集团车载信息化项目的研发，先后研制了 6A 车载音视频显示终端、CMD 系统车载子系统、机车车联网系统、调车防护系统（LSP）等产品。以 LKJ 系统为基础，公司主要产品之间形成了紧密的协同效应。在高铁安全监测领域，公司具有先发优势和核心地位优势。子公司蓝信科技（公司持股 100%）是我国动车组列控设备动态监测系统（DMS 系统）、动车组司机操控信息分析系统（EOAS 系统）等产品的核心供应商。凭借产品的先发优势和技术积累，蓝信科技 DMS 系统、EOAS 系统已基本覆盖我国动车组，并形成覆盖全部动车组的车载设备及覆盖国铁集团地面数据中心、18 个铁路局地面数据中心的车地数据传输架构体系。

## 存量产品更新周期启动，疫情影响消退，带来增长机遇

**列控业务方面**，随着 LKJ 技术水平提升、功能完善，公司第四代 LKJ 列控系统——LKJ-15S 系统已开始小批量推广。LKJ-15S 系统将实现对既有 LKJ2000 型列控系统的升级换代，并持续适应我国列控技术的发展。目前，相关车载设备的使用寿命为 8 至 10 年。随着 LKJ2000 使用年限增长，各铁路局用户投入运用的 LKJ2000 产品已进入更新周期，近两年 LKJ2000 及配套产品的更新数量呈上升趋势。**铁路安防业务方面**，2007 年以来，我国大功率和谐号机车开始批量替代淘汰老旧机车。随着相关车载设备使用年限增长，机车上运用的 6A 车载音视频显示终端、CDM 系统等铁路安防系统产品开始进入更新周期。2022 年上半年，公司 6A、CDM 系统等铁路安防系统产品更新、维护订单保持增长态势。其中，公司控股子公司思维信息（公司持股 75.24%）上半年实现营业收入 0.79 亿元，同比增长 328.56%，实现净利润 0.17 亿元，同比增长 298.06%。**高铁列车运行监测与信息管理的业务方面**，根据《CTCS-2/3 级列控车载设备维护管理办法》《动车组司机操控信息分析系统（EOAS）运用维护管理规则》等规定，DMS 系统、EOAS 系统等监测系统的更新换代周期通常为 10 年。2008 年以来，我国动车组保有量快速增长，近十年来平均每年新增动车组超 300 标准组，动车组保有量从 2008 年末的 176 列增加至 2021 年末的 4153 标准组。

目前，我国动车组 DMS 系统已逐步达到更新年限，产品更新或升级换型需求有待释放。我们认为，伴随存量产品陆续达到更新年限、进入更新周期，产品升级换型需求为公司带来增长机遇。另一方面，11 月 11 日，卫健委发布《关于进一步优化新冠肺炎疫情防控措施 科学精准做好防控工作的通知》；12 月 7 日，国务院联防联控机制公布《关于进一步优化落实新冠肺炎疫情防控措施的通知》。根据中国旅游报官微，优化调整后的疫情防控措施有望进一步释放民众旅游需求，促进旅游业恢复发展。我们认为，疫情防控措施优化调整后，民众出行有望不断恢复，进而使得轨道交通设备采购、更新需求持续增长，公司业绩或迅速恢复。

## 盈利预测与投资建议

我们认为，公司作为中电科数字化转型中坚，紧抓信创与政务大数据发展机遇，目前在这些业务领域已经拥有了一定的领先优势，未来随着自主可控领域的持续发展，公司也有望维持较高的增长速度。我们假设：1) 列车运行控制系统业务方面，受益于系统更新换代需求和疫情管控放松背景下的铁路客运量回暖，公司作为业内的领军企业有望实现该业务的持续稳定增长，我们预计 2022-2024 年公司列车运行控制系统业务同比增速分别为 30%、15%和 10%。2) 铁路安全防护系统业务方面，同样有望受益于系统更新换代需求和铁路客运量回暖，我们预计公司铁路安全防护系统业务 2022-2024 年同比增速分别为 120%、40%和 30%。3) 高速铁路列车运行监测系统业务方面，受 2022H1 铁路客运量下降 42.7%影响，客户采购高铁列车及配套设备减缓，造成该业务收入下降明显，我们预计该业务 2022 年营收同比下降 60%，但是随着疫情管控逐渐放开，铁路客运量有望持续增长，该业务有望快速恢复，我们预计高速铁路列车运行监测系统业务 2023-2024 年同比增速分别为 35%和 30%。整体来看，我们预计公司 2022/2023/2024 归母净利润分别为 3.47/4.50/5.49 亿元，EPS 分别为 0.91/1.18/1.44 元，参考可比公司估值，给予 2023 年动态 PE20 倍，对应目标价格为 23.63 元，首次覆盖给予“优于大市”评级。

## 风险提示

政策推进不及预期，行业竞争加剧的风险。

表 1 可比公司估值表

证券简称	证券代码	股价 (元)	市值(亿 元)	EPS (元)			PE (倍)		
				2021	2022E	2023E	2021	2022E	2023E
金溢科技	002869.SZ	25.0	44.82	-1.08	0.07	1.00	-23.1	373.7	24.9
交控科技	688015.SH	26.2	49.15	1.75	1.37	1.59	14.9	19.0	16.4
<b>平均</b>				<b>-1.08</b>	<b>0.07</b>	<b>1.00</b>	<b>-4.1</b>	<b>196.3</b>	<b>20.7</b>

资料来源: Wind, HTI

注: 公司采用 Wind 一致预期, 股价为 2022 年 1 月 5 日收盘价

表 2 公司业务分拆 (百万元)

		2021	2022E	2023E	2024E
列车运行控制系统	营收	432.21	561.87	646.15	710.77
	同比 (%)	-1.63	30.00	15.00	10.00
	毛利率 (%)	61.53	62.00	62.00	62.00
速铁路列车运行监测系统	营收	447.34	178.94	241.56	314.03
	同比 (%)	61.51	-60.00	35.00	30.00
	毛利率 (%)	64.75	65.00	65.50	66.00
铁路安全防护系统	营收	152.07	334.55	468.38	608.89
	同比 (%)	49.85	120.00	40.00	30.00
	毛利率 (%)	57.21	60.00	60.50	61.00
其他业务	营收	32.88	34.52	36.25	38.06
	同比 (%)	27.73	5.00	5.00	5.00
	毛利率 (%)	19.83	15.00	15.00	15.00
总营收	营收	1064.50	1109.89	1392.34	1671.75
	同比 (%)	26.19	4.26	25.45	20.07
	毛利率 (%)	60.98	60.42	60.88	61.32

资料来源: Wind, HTI

## 财务报表分析和预测

主要财务指标	2021	2022E	2023E	2024E	利润表 (百万元)	2021	2022E	2023E	2024E
<b>每股指标 (元)</b>					<b>营业总收入</b>	<b>1064</b>	<b>1110</b>	<b>1392</b>	<b>1672</b>
每股收益	1.01	0.91	1.18	1.44	营业成本	415	439	545	647
每股净资产	15.46	11.34	12.53	13.97	毛利率%	61.0%	60.4%	60.9%	61.3%
每股经营现金流	0.24	1.92	-0.56	2.63	营业税金及附加	14	19	22	26
每股股利	0.85	0.00	0.00	0.00	营业税金率%	1.4%	1.7%	1.6%	1.5%
<b>价值评估 (倍)</b>					营业费用	54	72	84	92
P/E	17.11	19.02	14.64	12.02	营业费用率%	5.0%	6.5%	6.0%	5.5%
P/B	1.12	1.52	1.38	1.24	管理费用	91	133	160	167
P/S	4.43	5.94	4.74	3.95	管理费用率%	8.5%	12.0%	11.5%	10.0%
EV/EBITDA	10.62	12.79	10.71	6.98	EBIT	403	324	422	540
股息率%	<b>4.9%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	财务费用	-52	-44	-55	-46
<b>盈利能力指标 (%)</b>					财务费用率%	-4.9%	-3.9%	-3.9%	-2.7%
毛利率	61.0%	60.4%	60.9%	61.3%	资产减值损失	0	0	0	0
净利润率	36.2%	31.2%	32.4%	32.8%	投资收益	8	8	9	12
净资产收益率	9.2%	8.0%	9.4%	10.3%	<b>营业利润</b>	<b>463</b>	<b>376</b>	<b>486</b>	<b>597</b>
资产回报率	8.3%	7.2%	8.3%	9.2%	营业外收支	-1	-1	-1	-1
投资回报率	8.0%	6.9%	8.1%	9.3%	<b>利润总额</b>	<b>462</b>	<b>375</b>	<b>485</b>	<b>596</b>
<b>盈利增长 (%)</b>					EBITDA	452	373	474	594
营业收入增长率	26.2%	4.3%	25.4%	20.1%	所得税	67	26	34	42
EBIT 增长率	39.0%	-19.5%	30.1%	27.8%	有效所得税率%	14.6%	7.0%	7.0%	7.0%
净利润增长率	167.1%	-10.0%	29.9%	21.8%	少数股东损益	9	2	1	5
<b>偿债能力指标</b>					<b>归属母公司所有者净利润</b>	<b>385</b>	<b>347</b>	<b>450</b>	<b>549</b>
资产负债率	7.5%	9.0%	10.4%	9.7%					
流动比率	7.72	6.56	6.05	6.85	<b>资产负债表 (百万元)</b>	<b>2021</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>
速动比率	6.75	5.35	5.05	5.70	货币资金	1460	1823	1522	2451
现金比率	4.31	4.28	2.74	4.27	应收账款及应收票据	680	224	979	492
<b>经营效率指标</b>					存货	306	476	501	594
应收账款周转天数	163.45	141.70	150.68	151.94	其它流动资产	168	269	358	396
存货周转天数	270.66	320.62	322.88	304.72	流动资产合计	2613	2792	3360	3932
总资产周转率	0.24	0.23	0.27	0.29	长期股权投资	0	0	0	0
固定资产周转率	4.82	5.44	7.38	9.65	固定资产	212	196	181	166
					在建工程	69	116	150	171
					无形资产	86	76	66	56
					非流动资产合计	2016	2042	2056	2056
<b>现金流量表 (百万元)</b>	<b>2021</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>资产总计</b>	<b>4630</b>	<b>4834</b>	<b>5415</b>	<b>5988</b>
净利润	385	347	450	549	短期借款	0	0	0	0
少数股东损益	9	2	1	5	应付票据及应付账款	131	141	204	196
非现金支出	72	49	52	55	预收账款	0	0	0	0
非经营收益	-58	-7	-8	-11	其它流动负债	207	284	351	378
营运资金变动	-343	341	-708	405	流动负债合计	339	426	556	574
<b>经营活动现金流</b>	<b>65</b>	<b>732</b>	<b>-214</b>	<b>1003</b>	长期借款	0	0	0	0
资产	-41	-71	-61	-51	其它长期负债	8	8	8	8
投资	18	-75	-35	-35	非流动负债合计	8	8	8	8
其他	58	8	9	12	<b>负债总计</b>	<b>347</b>	<b>434</b>	<b>564</b>	<b>582</b>
<b>投资活动现金流</b>	<b>36</b>	<b>-138</b>	<b>-87</b>	<b>-74</b>	实收资本	272	381	381	381
债权募资	0	0	0	0	归属于母公司所有者权益	4210	4325	4776	5325
股权募资	0	0	0	0	少数股东权益	73	75	76	81
其他	-90	-231	0	0	<b>负债和所有者权益合计</b>	<b>4630</b>	<b>4834</b>	<b>5415</b>	<b>5988</b>
<b>融资活动现金流</b>	<b>-90</b>	<b>-231</b>	<b>0</b>	<b>0</b>					
<b>现金净流量</b>	<b>11</b>	<b>363</b>	<b>-301</b>	<b>928</b>					

备注: (1) 表中计算估值指标的收盘价日期为 01 月 05 日; (2) 以上各表均为简表

资料来源: 公司年报 (2021), HTI

**APPENDIX 1****Summary**

- The leading enterprise in the field of train control. Founded in 1992, Civic Train Control is a designated railroad equipment enterprise specializing in railroad transportation safety and security technology research and application software development. The company's main business involves two major fields: general speed railroad and high-speed railroad, mainly including train operation control, railroad safety protection, high-speed railroad operation monitoring and information management. At present, the company has formed a multi-functional and multi-category product system and specialized and comprehensive ability to provide traffic safety protection products and is one of the few domestic total solution providers that can meet customers' needs for train operation safety control, locomotive condition monitoring, traffic safety management and informationization at the same time.
- High-speed rail-related business revenue declined due to reduced travel, core train control business revenue grew steadily, and railroad security business revenue grew rapidly. 2022 In the first half of the year, China's railroads sent 759 million passengers, down 42.7% YoY. As a result, customer demand for rolling stock and supporting on-board equipment declined in the first half of the year, resulting in a significant decline in revenue from the company's high-speed rail-related business. By product, in the first half of 2022, the company's core train control business continued to achieve market breakthroughs, the company's LKJ market share exceeded 50%, LKJ system orders achieved steady growth, the company's LKJ system achieved revenue of Rmb252mn, an increase of 39.44% YoY, accounting for 61.19% of the company's total revenue.
- The company has formed a train safety product system with train control as the core and has the first-mover advantage and core position in the field of high-speed railway safety monitoring. The company has formed a train safety product system with column control as the core. After nearly three decades of development, the company's LKJ system has become the core equipment of China's on-board train operation safety control. At the same time, the company has participated in the research and development of the on-board information project of the National Railway Group for many times and has developed 6A on-board audio and video display terminal, CMD system on-board sub-system, locomotive networking system, shunting protection system (LSP) and other products.
- The renewal cycle of stock products starts, and the impact of the epidemic subsides, bringing growth opportunities. In our opinion, as the stock of products reach the renewal age and enter the renewal cycle, the demand for product upgrade brings growth opportunities for the company. On the other hand, after the optimization and adjustment of the epidemic prevention and control measures, people's travel is expected to continue to recover, which in turn makes the procurement and renewal demand for rail transportation equipment continue to grow, and the company's performance may recover rapidly.
- Earnings forecast and investment advice. We believe that the company, as the backbone of CEC's digital transformation, grasps the development opportunities of Cintron and government big data, and now has a certain leading edge in these business areas, and is also expected to maintain a high growth rate in the future with the continued development of the independent controllable field. Overall, we estimate the company's 2022/2023/2024 NP to be Rmb347/450/549mn, EPS to be Rmb0.91/1.18/1.44, respectively. Compared with peers, we value the company with 20x 2023e PE, corresponding to a target price of Rmb23.63. We initiate with an "Outperform" rating.
- Risks: policy advancement is not as expected and industry competition intensifies.

## 附录 APPENDIX

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**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。

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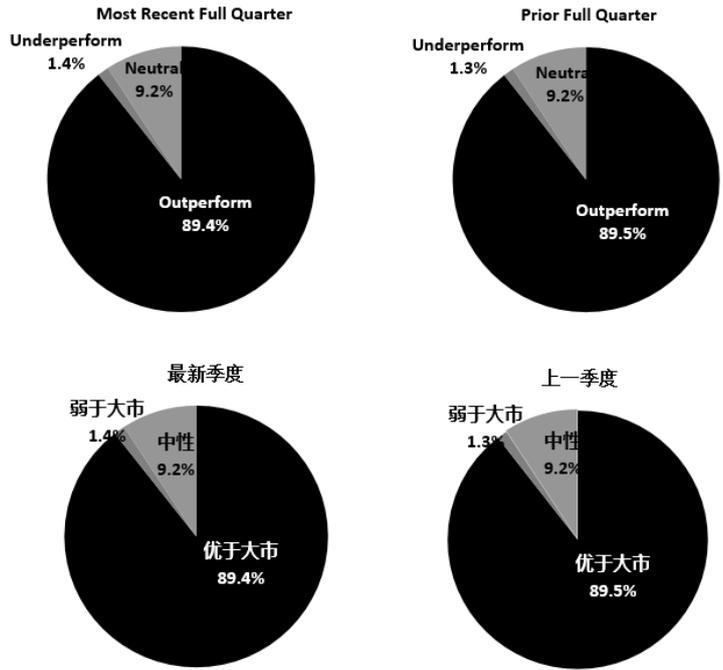
**Outperform:** The stock's total return over the next 12-18 months is expected to exceed the return of its relevant broad market benchmark, as indicated below.

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	优于大市	中性 (持有)	弱于大市
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投资银行客户*	5.5%	6.8%	4.5%

\*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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**此前的评级系统定义 (直至 2020 年 6 月 30 日):**

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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.

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	Outperform	Neutral (hold)	Underperform
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IB clients*	5.5%	6.8%	4.5%

\*Percentage of investment banking clients in each rating category.

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