

# 锂电行业点评：低空经济和半固态电池有望促进高能量密度电池发展

## 事件描述

1) 3月27日,工业和信息化部、科学技术部、财政部、中国民用航空局印发《通用航空装备创新应用实施方案(2024-2030年)》,其中规划:2027年以无人化、电动化、智能化为技术特征的新型通用航空装备在城市空运、物流配送、应急救援等领域实现商业应用。方案中规划:加快推动400Wh/kg级航空锂电池产品投入量产,实现500Wh/kg级航空锂电池产品应用验证。

2) 4月初,上汽集团旗下高端纯电品牌智己汽车推出准900V超快充固态电池—第一代光年固态电池,并首搭智己全新轿车智己L6。第一代光年固态电池采用纳米尺度固态电解质包裹超高镍正极和新一代高比能硅碳负极。

## 事件点评

**低空经济商业化落地加速,其中货运无人机和载人eVTOL有望率先兑现。**2023年12月,中央经济工作会议将“低空经济”列为战略性新兴产业,2024年政府工作报告提出积极打造低空经济等新增长引擎。低空经济有高效便捷的优点,随着政策的支持及电池技术进步和降本,未来有望逐步商业化。亿航智能近期获得EH216-S无人驾驶载人航空器系统生产许可证,为全球eVTOL行业首张生产许可证;同时,珠海、深圳间首条无人机低空快递物流航路近日启动试运行,目前计划用于医院紧急药械、应急救援投递领域。

**低空经济电池具备高能量密度、高功率、高安全性等特征,电池企业不断布局。**电池往高能量密度等方向的迭代帮助低空经济逐步实现商业化。电池厂在积极布局相关产品,包括宁德时代在2023年4月发布凝聚态电池,最高单体能量密度500Wh/kg;正力新能推出了面向eVTOL市场的能量密度320Wh/kg的动力电池等。

**半固态电池的产业化有望促进三元电池体系迭代升级。**智己L6搭载的电池除了固态电解质还有少量润湿剂,我们认为这实质上是“半固态电池”。半固态电池有望是当前液态电池体系的补充,其主要变化在于添加了固态电解质,可以帮助提升安全性,匹配高能量密度体系的高镍电池。我们认为随着技术的进步,半固态乃至未来的固态电池有一定的市场空间。

**风险提示:** 1) 电池技术进展低于预期; 2) 碳酸锂价格上涨,推动电池成本上升; 3) 固态电解质成本下降低于预期。

电气设备

评级: 看好

日期: 2024.04.19

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行业表现

2024/4/19



资料来源: Wind, 聚源

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- 《新能源产业趋势跟踪(24年3月下): 新能源车单月渗透率新高, 小米首车上市破圈》(2024/4/8)
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图表 1：宁德时代凝聚态电池单体能量密度最高 500Wh/kg



资料来源：宁德时代，五矿证券研究所

图表 2：低空飞行器电池具备“三高一快”的特征



资料来源：正力新能，五矿证券研究所

图表 3：珠海、深圳间无人机低空快递物流航路“丰舟 90 型”无人机



资料来源：光明网，五矿证券研究所

图表 4：智己 L6 汽车



资料来源：上观新闻，五矿证券研究所

## 风险提示

1) 电池技术进展低于预期；2) 碳酸锂价格上涨，推动电池成本上升；3) 固态电解质成本下降低于预期。

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