

Luminar 发布 23Q3 财报，规模稳步扩大，Q4 有望实现正毛利

Weimin Yu
wm.yu@htisec.com

投资要点：

- **事件：Luminar 披露 23Q3 财报。**23 年前三季度公司营收 4767 万美元，同比+61.18%，其中产品收入 2804 万美元，服务收入 1962 万美元；非 GAAP 净利润为-2.54 亿美元，摊薄后每股损失 0.66 美元；非 GAAP 毛利润-3713 万美元。23Q3 公司营收 1696 万美元，同比+32.65%，略低于 1800 万美元-2100 万美元的指引范围，主要系：两份预计 Q3 签订的合同延期至 Q4，Iris+激光雷达开发时间、成本增加，延缓了相关合同的收入确认。其中产品收入 1075 万美元，服务收入 620 万美元；非 GAAP 净利润为-8407 万美元，摊薄后每股损失 0.21 美元，符合 0.18 美元-0.22 美元的指引目标；非 GAAP 毛利润-909 万美元。
- **研发投入持续增加，下一代激光雷达原型已开发。**23Q3 研发费用 6294 万美元，同比+35.91%；研发费用率 56.82%，同比+10.15pcts；销售费用率 11.19%，同比+1.00pcts；管理费用率 31.99%，同比-11.15pcts。Q3 末，公司持有现金、现金等价物和有价证券 3.21 亿美元。公司在 23Q3 成功开发出下一代激光雷达原型，并向主要 OEM 客户现场演示了其点云效果。
- **积极推进企业合作，搭载车型推出在即。**公司在墨西哥的大批量自动化工厂投入使用并达到沃尔沃汽车投产要求（SOP），通过了运行率测试，这是推出配备公司激光雷达的 Volvo EX90 车型的前奏。同时，沃尔沃汽车也在其位于美国的工厂完成了在 EX90 上首次安装 Iris 激光雷达；公司与 Gatik 公司签订协议，成为下一代 Gatik 车辆的激光雷达独家供应商；公司成功将其软件与沃尔沃和 Zenseact 的在研系统进行了集成，同时还与梅赛德斯的数据采集车进行了集成；公司现已与 TPK 合作，为 Iris+激光雷达批量生产模具。Iris+激光雷达将继续通过其优化验证测试周期。
- **规模稳步扩大，年底毛利有望转正。**公司指引 2023 全年营收 7500 万美元，同比增长约 85%。公司预计在 Q4 实现正毛利，非 GAAP 每股损失 0.17-0.21 美元。业务方面，公司目标年底进入 Iris+C 阶段，完成沃尔沃和梅赛德斯项目的软件要求，订单量至少增加 10 亿美元。
- **投资建议。**我们认为行业正逐步出清，资源向头部倾斜，供需双轮驱动产品迭代速度加快，技术路径正在从收发技术开始收敛，国产厂商竞争力逐步凸显。我们坚定看好国内激光雷达产业链，并重点看好规模提升和高附加值两大方向。建议关注激光雷达产业链上游核心标的光库科技、长光华芯、源杰科技、天孚通信、腾景科技、中际旭创、光迅科技，关注仕佳光子等。
- **风险提示。**技术产品研发风险；宏观经济波动；自动驾驶渗透不及预期；市场竞争加剧。

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表 1 Luminar 部分相关合作车企梳理

信息公开时间	车型所属领域	合作伙伴	搭载车型	搭载主雷达个数
2023.11.9	乘用车	Polestar 极星	Polestar4	1
2023.2.2		Polestar 极星	Polestar5	-
2022.6.7		Polestar 极星	Polestar3	1
2022.4.25		Nissan	所有 Nissan 车型	-
2021.3.18		上汽集团	飞凡 R7	1
2023.2.22		奔驰	多款车	-
2022.1.20		奔驰	-	-
2021.6.24		沃尔沃	沃尔沃 XC90, EX90	1
2018.12.13		奥迪	-	-
2021.5.10	RoboTaxi	Mobileye->蔚来	蔚来 SUV ES8 (mobileye 的第一款量产 robotaxi)	3
		小马智行	-	4
2023.11.9	卡车	Gatik	-	-
2021.11.3		embark	卡车车队	-
2021.9.29		kodiak	第四代卡车	1
2020.10.30		戴姆勒卡车	-	-

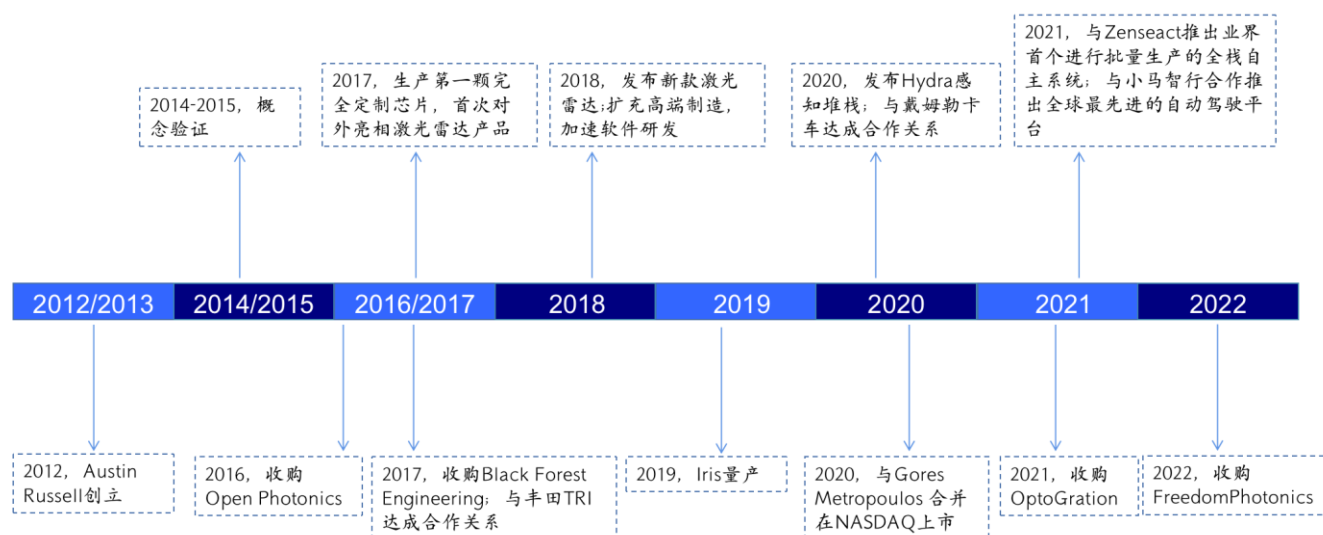
资料来源: Luminar 官网, Polestar 官网, cnet 官网, nissan 官网, 飞凡汽车官网, 汽车之家 Autobot 公众号, 蔚来官网, Kodiak 官网, prnewswire 官网, theverge 官网, HTI

表 2 Luminar 公司概况梳理

公司简介	Luminar 公司于 2012 年由首席执行官奥斯汀·拉塞尔(Austin Russell)创立,主要为自动驾驶汽车开发激光雷达系统。2019 年 Luminar 发布 Iris 平台套件, 2020 年发布 Hydra 感知堆栈。2020 年 12 月 3 日, Luminar 在纳斯达克以 SPAC 方式上市, 为全球车企提供高性能激光雷达硬件、自动驾驶感知软件及一体化解决方案, 进而帮助下游客户实现 L3-L5 级别的自动驾驶能力。公司产品可用于乘用车、商用车和 Robotaxi 领域, 现有 50 多个行业合作伙伴, 其中包括全球前 10 大汽车 OEM 中的 8 家。	
主要技术	Luminar 主要有四大技术特点。1) 激光发射器采用 1550nm 代替 905nm 波长 。混合固态产品若采用 905nm 的波长, 较短的近可见红外波长(例如 905nm)比较长的波长对眼睛的危害更大, 因为即使它们不可见, 能量仍会聚焦在视网膜上。因此, 采用 1550nm 波长, 在较高的功率条件下, 在人眼安全的条件下可获取更远的探测距离。Luminar 有效探测距离可达 250m(5%反射率)。2) 扫描装置使用 120 度 x26 度视野两轴扫描镜 , 它在扫描时不必旋转整个激光雷达设备。3) 接收器使用砷镓(InGaAs)代替硅 , 通过自研光电探测器降本。2017 年收购 Black Forest Engineering 光电探测器设计公司, 通过自研将激光雷达价格从几万美元下降到 1000 美元以下。4) 信息处理方面: ASIC 芯片+软件一体化解决方案 。ASIC 芯片已经升级至第四代, 软件方面也包括仿真建模和感知识别决策算法等一整套软件解决方案。	
主要产品		Hydra 是 Luminar Technologies 的工具集, 用于测试和开发不同的批量生产能力。Hydra 可配置一个或多个激光雷达传感器, 以实现从高速公路到城市驾驶条件的自动驾驶。单个传感器更适用消费者应用; 三个传感器适用于卡车运输等, 并能够很好的提供 360 度视野; 四个传感器能提供 360 度的视野和冗余区域, 适用于自动或无人驾驶出租。 Hydra 提供高达 200 点每平方度的分辨率, 从而为软件提供更好的数据保真度和可靠性, 以查看和识别物体。此外, Luminar 还为 Hydra 系统提供更新, 以帮助用户根据需要开发新的应用程序。Hydra 模块经过压力环境测试, 包括冰冻环境和类似地震的环境, 以确保它能够在复杂的天气和环境条件下工作并继续提供自动驾驶的功能。
		Iris 是激光雷达模块, 于 2022 年开始用于汽车生产。该套件旨在以低成本批量生产 10000 至 100 万辆汽车。它采用纤薄设计, 安装在车辆前挡风玻璃上方, 集成到车辆的车顶线中, 并且能够进行定制并集成到车辆的其他部件中。该生产级模块为其激光雷达提供类似相机的分辨率, 每平方度超过 300 个点, 以实现更高的数据保真度, 以确定物体的位置。相机可以与系统软件配对, Luminar 致力于系统软件的更新, 以确保系统继续更好地感知环境中的物体。

资料来源: Luminar 官网, Nasdaq 官网, golden 官网, Businesswire 官网, HTI

图1 Luminar 发展史梳理



资料来源: Luminar 官网, Zenseact 官网, HTI

表3 相关标的财务及估值

代码	公司简称	股价 (元)	市值 (亿元)	EPS (元)			PE (倍)		
				2022	2023E	2024E	2022	2023E	2024E
688048.SH	长光华芯	70.39	124	0.68	0.44	0.91	104	162	77
300620.SZ	光库科技	46.07	113	0.48	0.39	0.61	96	117	75
688498.SH	源杰科技	172.30	146	1.18	0.86	1.44	146	200	120
300394.SZ	天孚通信	81.92	323	1.02	1.52	2.31	80	54	35
688195.SH	腾景科技	35.26	46	0.45	0.50	0.76	78	70	46
300308.SZ	中际旭创	105.59	848	1.52	2.32	4.55	69	46	23
002281.SZ	光迅科技	29.63	236	0.77	0.77	1.01	39	39	29
688313.SH	仕佳光子	14.67	67	0.14	0.11	0.22	105	129	67

资料来源: Wind, HTI

注: 收盘价日为 2023 年 11 月 17 日, 可比公司 EPS 采用 Wind 一致预期

APPENDIX 1

Summary

Investment Highlights:

Event: Luminar's FY23 Q3 results showed revenue of \$47.67 million, up +61.18% YoY, with \$28.04 million in product revenue and \$19.62 million in service revenue. Adjusted net loss was -\$254 million, or -\$0.66 per share, with a gross profit of -\$37.13 million. Q3 revenue was \$16.96 million, slightly below the \$18-21 million guidance due to contract delays and increased costs in Iris+ lidar development. Product revenue was \$10.75 million, service revenue was \$6.2 million, with a net loss of -\$84.07 million, or -\$0.21 per share, in line with the \$0.18-\$0.22 per share guidance, and a gross profit -\$9.09 million.

The firm increased R&D spending at 35.91% YoY to \$62.94 million in Q3, with R&D representing 56.82% of revenue. Cash & equivalents stood at \$321 million. A new lidar prototype has been created and demonstrated to key customers.

Collaboration efforts are paying off. A large-scale automated factory in Mexico started operations to meet Volvo's vehicle production requirements. This sets the stage for the launch of Volvo EX90 cars with Luminar lidar. An agreement with Gatic was signed to be the sole lidar supplier for their next-generation vehicles. Luminar's software has been integrated with Volvo and Zenseact's system under development. Lidar production is underway.

Rapid growth is anticipated, aiming for positive gross margin by year-end. Total revenue of \$75 million is guided for FY23, a YoY increase of about 85%. Positive gross margin and a reduced EPS loss of \$0.17-\$0.21 are expected in Q4. On the operational front, the company plans to enter the Iris+C phase by year-end, fulfill software requirements for Volvo and Mercedes projects, and increase the order volume by \$1 billion.

Investment suggestion: We believe that industry consolidation and rapid technology convergence will propel the growth of lidar industry. Watchlist: WiTech, Trilumina, SOL3, MS TECH, and Protec.

Risk warning: R&D risks, macroeconomic fluctuations, disappointing autonomous driving penetration, stiff competition.

附录 APPENDIX

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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。

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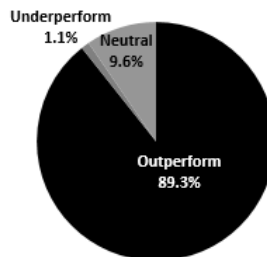
各地股票基准指数：日本 - TOPIX, 韩国 - KOSPI, 台湾 - TAIEX, 印度 - Nifty100, 美国 - SP500; 其他所有中国概念股 - MSCI China.

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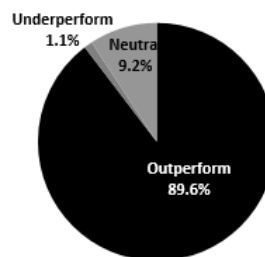
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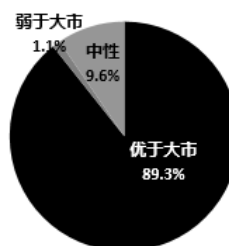
Most Recent Full Quarter



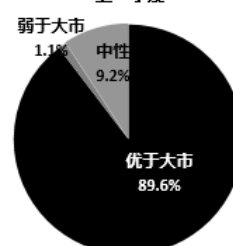
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最新季度



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individual circumstances (such as the investor's existing holdings) and other considerations.

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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.

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.

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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。

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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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研究机构名称: Haitong Securities India Private Limited

SEBI 研究分析师注册号: INH000002590

地址: 1203A, Floor 12A, Tower 2A, One World Center

841 Senapati Bapat Marg, Elphinstone Road, Mumbai 400 013, India

CIN U74140MH2011FTC224070

电话: +91 22 43156800 传真: +91 22 24216327

合规和申诉办公室联系人: Prasanna Chandwaskar; 电话: +91 22 43156803; 电子邮箱: prasanna.chandwaskar@htisec.com

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Name of the entity: Haitong Securities India Private Limited

SEBI Research Analyst Registration Number: INH000002590

Address : 1203A, Floor 12A, Tower 2A, One World Center

841 Senapati Bapat Marg, Elphinstone Road, Mumbai 400 013, India

CIN U74140MH2011FTC224070

Ph: +91 22 43156800 Fax: +91 22 24216327

Details of the Compliance Officer and Grievance Officer : Prasanna Chandwaskar : Ph: +91 22 43156803; Email id: prasanna.chandwaskar@htisec.com

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