



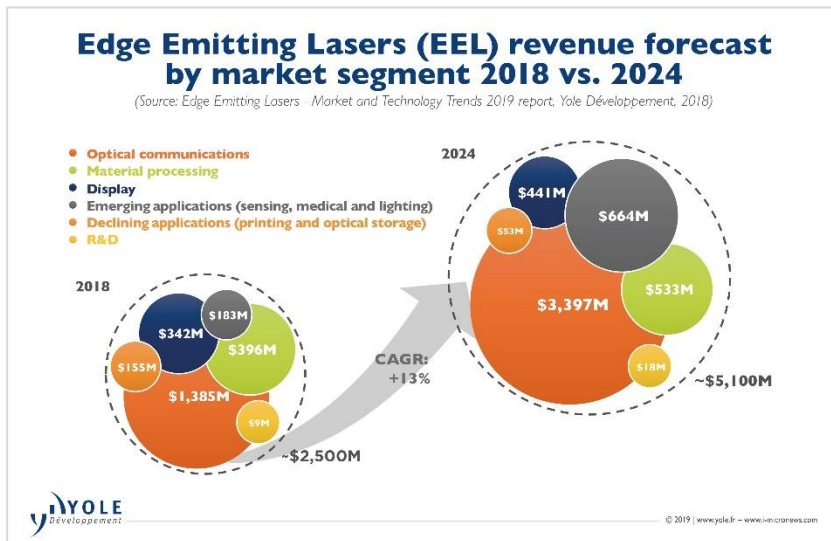
即时发布：

边发射激光器（EEL）：Yole 分析师 点出潜在杀手级应用的涌现

摘自：《边发射激光器市场与技术趋势》报告，Yole Développement，2019

法国里昂讯—2018 年 5 月 21 日：[Yole Développement \(Yole 公司\)](#) 在其上月发布的最新技术与市场分析报告《EEL 市场与技术趋势》中宣称，EEL 市场的价值高达 25 亿美元。

“从 2018 年到 2024 年，这一数字应该会以 13% 的 CAGR 增加，截止到 2024 年将增至 50 亿美元以上”，Yole 的技术与市场分析师 Martin Vallo 博士说道：“的确，这一增长背后的动力仍来自光通信市场，其中包含用于数据通信和电信的光学系统。这是目前最大的 EEL 细分市场，2018 年占到市场总收益的 56%。”然而与此同时，一些杀手级应用也在涌现……



市场调研与战略咨询公司 Yole 对 SSL 领域展开调研。分析师们结合了各自从材料到器件（包括设备）的专业知识技能，以深入了解这一产业及其技术现状。他们完成了颇具价值的光电技术与市场报告，以找出技术性突破和商业机遇。VCSEL、GaAs 和 EEL 都包含在 Yole 今日所发布的系列报告中。

毫无疑问，高速发展的新型应用正在推动 EEL 产业进步。Yole 的分析师们邀您一同探索全球 EEL 业界格局及其最新的市场与技术挑战。

自 1960 年代开发出激光器，它们就被越来越多地用于大量应用领域。1990 年代起，这一趋势已让激光器市场成为一项价值数万亿美元的大产业。如今，在各种传统和新兴应用领域，激光器已是技术无处不在。这些领域囊括了材料加工、光通信、汽车前灯、外科医疗和 3D 传感。激光器产业格局高度细分，激光器产品也是种类繁多，包括二极管激光器、光纤激光器、DPSSL、二氧化碳激光器和准分子激光器。传统应用包含了工业、科学和消费市场，但也有许多需要光谱分析的特殊应用领域，包括军用和生物医药市场。

“EEL 展现出各种不同的功能：它们可以用作‘直接’激光器，或是与光纤或晶体组合制成光纤激光器或DPSSL”，Yole 的 Martin Vallo 细述道：“于是，相应的应用领域数量也就十分可观。光通信、材料加工、医疗、传感、印刷、显示、光存储和照明……这份新的 EEL 报告对所有细分市场都进行了深入分析。”

除了规模庞大的光通信细分市场，材料加工和显示器应用也发展迅猛，2018 年其市场份额分别为 16% 和 14%。然而，接下来的五年中医疗和照明应用将崭露头角，而材料加工和显示器的市场份额也将随之缩水，正如 3D 传感器中的 LiDAR（激光雷达）和人脸/手势识别一样。这些新兴领域或许正代表着 EEL 在中长期内的潜在杀手级应用。

显而易见，EEL 产业前途一片光明，但对业界而言也是一个充满挑战的市场。“从应用、系统到器件规格都是种类繁多，在技术层面上，直接二极管激光器、光纤激光器、二氧化碳激光器、DPSSL 和准分子激光器之间也形成了激烈的竞争格局”，Yole 的相关事业部经理 Pars Mukish 评述道。

因此，EEL 产业也就高度细分和多元化。每种应用都针对某一特定的供应/价值链，而各产业必须为对接不同市场开发出不同的定位：

- 材料加工领域的领先企业从 EEL 器件到激光系统实现了垂直整合，比如制造激光割片机。因此，客户要求适合自己特定生产流程的一站式解决方案。
- 对传感或照明应用而言，总体趋势要求公司更加专业化，就像纯 EEL 器件生产商一样。造成这种策略的是性能提升、光束整形和成本降低对器件层面带来的无数挑战。
- 数据通信产业也是一个很好的例子。该产业供应链上的多元化定位是一大亮点……

Yole 的 SSL 团队正在开发一系列重要的光电科技与市场报告。欢迎访问 i-micronews.com 网站的 [SSL 报告专区](#)，获得每份报告的详细描述。

ABOUT THE REPORTS:**Edge Emitting Lasers Market & Technology Trends**

Fast growing new applications will drive the EEL market to reach US\$5.1B in 2024 - Produced by Yole Développement

Companies cited in the report:

3SPTechnologies, Access Pacific Ltd., Adtech Optics, Advanced Laser Diode Systems, Akela Laser Corp., Allwave Lasers, Alpes Lasers, Amonics, Applied Optoelectronics, Arima Lasers, Bright Solutions, Broadcom, Brolis Semiconductors, BWT, Canadian Photonics Fabrication Centre – Unit of National Research Council of Canada, Changchun New Industries (CNI) Optoelectronics Technology, Coherent – DILAS – Rofin-Sinar Technologies, Compound Photonics, CST Global Ltd, Denselight Semiconductors Pte., Diode Laser Concepts, Eagleyard Photonics, Eblana Photonics, Egismos Technology, Emcore and more ...

About the authors:

- **Pars Mukish** holds a master degree in Materials Science & Polymers (ITECH - France) and a master degree in Innovation & Technology Management (EM Lyon - France). Since 2015, Pars has taken on responsibility for developing SSL and Display activities activities as Business Unit Manager at Yole Développement (Yole). Pars is part of the Photonics, Sensing & Display division at Yole. Previously, he has worked as Marketing Analyst and Techno-Economic Analyst for several years at the CEA (French Research Center).
- **Martin Vallo**, PhD is serves as a Technology & Market Analyst specialized in solid-state lighting technologies, within the Photonics, Sensing & Display division at Yole Développement (Yole). With 9 years' experience within semiconductor technology, Martin is involved today in the development of technology & market reports as well as the production of custom consulting projects at Yole. Prior his mission at Yole, he worked at CEA (Grenoble, France), with a mission focused on the epitaxial growth of InGaN/GaN core-shell nanowire LEDs by MOCVD and their characterization for highly flexible photonic devices. Martin graduated from Academy of Sciences, Institute of Electrical Engineering (Slovakia) with an engineering degree in III-nitride semiconductors.

As well as:

- [VCSEL – Vertical Cavity Surface Emitting Laser 2018](#)

3D sensing in the Apple iPhone X paves the way for new VCSEL opportunities. How is the VCSEL-related patent landscape impacted by the rise of new applications? – Produced by Yole Développement

Companies cited in the report:

Icoh, Finisar, Seiko Epson, Broadcom, Canon, Fuji Xerox, Honeywell, Philips, Samsung, Agilent Technologies, Osram, Hewlett Packard, Furukawa Electric, Motorola, University of California, Sony, Nec, Kodak, AT&T, Pakon, Optical Communication Products, IBM, Creo Manufacturing America, Far East and more...

- [VCSEL in Smartphone – Comparison 2019](#)

Physical analysis and cost comparison of ten leading flagship smartphone VCSEL dies (dot projector, flood illuminator, and proximity sensor) from Apple, Huawei, Xiaomi, Oppo, Lenovo, and Intel. – Produced by System Plus Consulting

Companies listed in this comparison: Apple, Huawei, Xiaomi, Oppo, Lenovo, and Intel.

- [GaAs Wafer and Epiwafer Market: RF, Photonics, LED and PV Applications 2018](#)

Photonics applications are driving the GaAs wafer and epiwafer market into a new era – Produced by Yole Développement

Companies listed in this report:

AXT, Alight Technologies, Alta Devices, AMS, Apple, APT Electronics, Arima, Avago, AWSC, Broadcom, Bridgelux, Changelight, China Crystal Technologies, CMK, Dowla, Epistar, Epitex, Finisar, Flir, Freiburger Compound Materials, Fuji Xerix, GCS, HC Semitek, Hexawave and more...



ABOUT YOLE DEVELOPPEMENT

Founded in 1998, **Yole Développement** has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services, reverse engineering and reverse costing services and well as IP and patent analysis. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole group of companies has expanded to include more than 80 collaborators worldwide covering MEMS and image sensors, Compound Semiconductors, RF Electronics, Solid-state lighting, Displays, software, Optoelectronics, Microfluidics & Medical, Advanced Packaging, Manufacturing, Nanomaterials, Power Electronics and Batteries & Energy Management.

The “More than Moore” market research, technology and strategy consulting company Yole Développement, along with its partners System Plus Consulting, PISEO and KnowMade, support industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to grow their business. . For more information, visit www.yole.fr and follow Yole on [LinkedIn](#) and [Twitter](#).

- Consulting & Financial Services: Jean-Christophe Eloy (eloy@yole.fr)
- Reports: David Jourdan (jourdan@yole.fr)

Yole Group of Companies - Press Relations & Corporate Communication: Sandrine Leroy (leroy@yole.fr)

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