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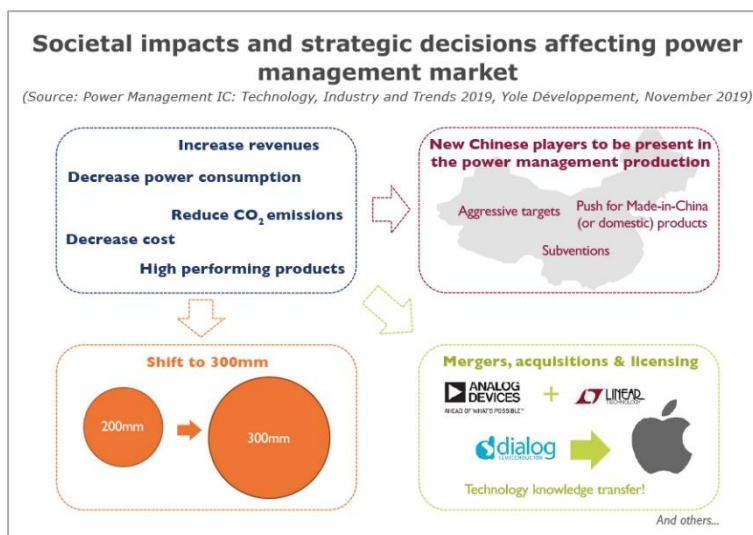
电源管理 IC：很多事情就要变了

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摘自：

《电源管理 IC：技术、产业与趋势》报告– Yole Développement – 2019 年 11 月

法国里昂讯—2019 年 12 月 17 日：“乍看起来，我们会觉得电源管理产业已经相当成熟了，它在 2018 年的市场价值为 190 亿美元，有着众所周知的技术，厂商的地位也已经确立”，[Yole Développement \(Yole\)](#) 公司功率电子与化合物半导体业务的技术与市场分析师 **Ana Villamor** 说道：“然而如果我们深入观察其现状，就会发现很多事情即将发生改变。Yole 相信如今的电源管理市场发展的驱动力来自社会影响和战略决策。”



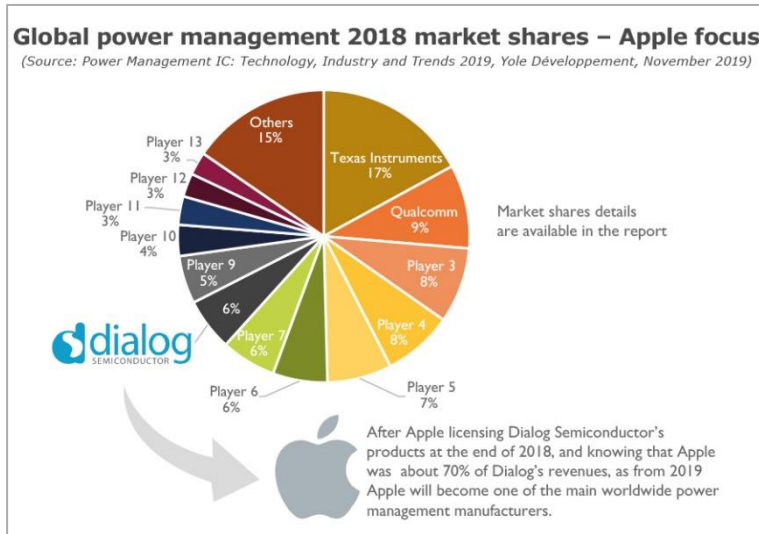
在这样充满变数的情况下，这家市场调研与策略公司发布了一份新的功率电子专门报告：[《电源管理 IC：技术、产业与趋势》](#)。Yole 的分析师们通过这种方式以一系列专门报告对功率电子产业进行了全面的前景展望，这些报告包括：[《功率电子产业现状》](#)和[《可充电锂离子电池产业现状》](#)。他们凭借自己的专业技能对电源管理供应链与生态系统做了全面而细致的分析，概括了对电源管理器件主要应用，或是对关键技术趋势提出了深入见解。

电源管理 IC 产业的现状如何？这一市场将会如何发展演变？它有哪些变数？Yole 分析师们明确了哪些社会影响和战略决策？短期内我们可以期待的变化有哪些？……Yole 的功率电子团队诚邀您一同来对电源管理 IC 产业一探究竟。

说到社会影响，中国是一个很好的例子。该国的环境意识一段时间以来已经发生了改变。二氧化碳排放量和功耗的降低已经成为政府的主要关切，并带来了节能产业的大力补助。不仅如此，该国还特别关注增加国产（中国制造）产品的市场份额。

“在寻找降低功耗解决方案的道路上，电源管理已经成为拼图中至关重要的一块”，Yole 的功率与无线部主管 **Claire Troadec** 说道：“这一动向对越来越多的中国公司会起到强大的激励，让他们实现自己的 PMIC^{Erreur ! Signet non défini.}。”

在代工层面这种情况已经发生了，许多中国晶圆厂都把此前用于 CMOS^{Erreur ! Signet non défini.} 工艺的 8 英寸设备重复利用于 BCD 工艺。



另一方面，说到战略决策，Yole 的分析师们提到大公司采取行动来进一步推动自己的市场份额和收益。比如说，技术的所有权归重大终端用户所有，这就是以可承受的成本制造高性能产品的关键。

近期 [Dialog Semiconductor 公司的产品向苹果公司授权](#)就是这种情况。事实上，苹果决定不再将其 PMIC 制造外包给 Dialog，而是投资 6 亿美元从 Dialog 获得了 PMIC 的技术授权，并最终获得了技术设计的知识。这项战略性举措让业界的佼佼者苹果公司在自己的电源管理产品方面不再

再是一家无晶圆厂商。

“在过去，苹果对其用于收集、平板电脑和笔记本电脑中的其他产品也采取过相同的做法”，Yole 的 Ana Villamor 提到：“这家公司就这样一点点地获得了技术的所有权，并控制了他们的整个供应链。”

不仅如此，Yole 的分析师们经过调查，认为区分电源管理产品的是标准 PMIC（Vreg、Vsw 等等）和特殊 PMIC（包括单个 IC 中的各种不同功能）。第一个市场对成本非常重视，因此竞争非常激烈，而第二个市场则特别注重性能和节能。

Ana Villamor 表示：“在我们之前所讨论的战略决策范围中，为了在无需收购一家公司的情况下增加利润和利益，对于任何一家能负担得起的大型制造商来说，转移到 300mm 工艺是另一种显而易见的选择。”

德州仪器和英飞凌在几年前为其 BCD 技术转向 300mm 就是这样的情况。比如说，[英飞凌在奥地利 Villach 新建了一座 300mm 晶圆厂](#)。意法半导体也追随相同的趋势，建立了一座新的 300mm 晶圆厂，还有安森美半导体也与格芯（Global Foundries）的 300mm 晶圆厂签订了一项新合约。各代工厂也在将 300mm 工艺用于 PMIC，台积电、TowerJazz 和联华电子就是如此，联华电子在去年买下了富士通的 300mm 产线。

所有这些超大规模的投资不仅聚焦 PMIC，也关注完整的成套电源产品。通过这种方式，“大鱼”会变得更大，而小公司将不得不采取其他行动来保有市场上的一席之地……

这份新的功率电子报告将以全局眼光详细阐述该产业的态势和供应链，包括合并与收购。

Yole 企业集团全年发布大量报告，包括功率电子系列报告，如 [《2019 年功率电子产业现状》](#) 和 [《2019 年可充电锂离子电池产业现状》](#)。

Yole 的功率电子团队将参加 APEC 大会并带来颇具价值的演讲。敬请现在就预留日期，届时欢迎光临我们的展位！

如需更多信息，请联系 Léonor Martin, leonor.martin@yole.fr。敬请期待！

ABOUT THE REPORT



Power Management IC: Technology, Industry and Trends 2019

China, 300mm, societal impacts, and important strategic decisions are shuffling the cards in the power IC industry

Companies cited

Alpha and Omega Semiconductor, Analog Devices, Apple, Dialog Semiconductor, Diodes, Fuji Electric, Infineon Technologies, Linear Technology, Lite-ON, MagnaChip, Maxim Integrated, MediaTek, Microchip, Microsemi, Monolithic Power Systems, NXP, ON Semiconductor, Panasonic Corporation, Power Integrations, Qualcomm, Renesas Electronics Corporation, Ricoh, ROHM Semiconductor, Samsung, Sanken Electric Company, Semtech, Shindengen, STMicroelectronics, Texas Instruments, Toshiba, Vishay Intertechnology and more...

Authors

Ana Villamor, PhD. serves as a Technology & Market Analyst, Power Electronics & Compound Semiconductors within the Power & Wireless division at Yole Développement (Yole). She is involved in many custom studies and reports focused on emerging power electronics technologies at Yole Développement, including device technology and reliability analysis (MOSFET, IGBT, HEMT, etc). In addition, Ana is leading the quarterly power management market updates released in 2017. Previously Ana was involved in a high-added value collaboration related to SJ Power MOSFETs, within the CNM research center for the leading power electronic company ON Semiconductor. During this partnership and after two years as Silicon Development Engineer, she acquired a relevant technical expertise and a deep knowledge of the power electronic industry. Ana is author and co-author of several papers as well as a patent. She holds an Electronics Engineering degree completed by a Master and PhD. in micro and nano electronics from Universitat Autònoma de Barcelona (SP).

Claire Troadec, Director of the Power & Wireless Division at Yole Développement (Yole), part of Yole Group of Companies. These activities are covering power electronics, batteries & energy management, compound semiconductors and emerging materials and RF electronics. Based on her valuable experience in the semiconductor industry, Claire is managing the expansion of the technical and market expertise of Power & Wireless team. Daily interactions with leading companies allow these analysts to collect a large amount of data and cross their vision of market segments' evolution and technology breakthroughs. In addition, Claire's mission is focused on the management of business relationships with leading companies of this sector and the development of market research and strategy consulting activities inside the Yole group. Claire Troadec holds a Master's degree in Applied Physics specializing in Microelectronics from INSA (Rennes, France). She then joined NXP Semiconductors, and worked for 7 years as a complementary metal-on-silicon oxide semiconductor (CMOS) process integration engineer at the IMEC R&D facility. During this time, she oversaw the isolation and performance boosting of CMOS technology node devices from 90 nm down to 45 nm. She has authored or co-authored seven US patents and nine international publications in the semiconductor field and managed her own distribution company before joining Yole Développement in 2013.

As well as:

Status of the Power Electronics Industry 2019

Long term growth of the power electronics market is driving 300mm wafer-based production.

Status of Rechargeable Li-ion Battery Industry 2019

E-mobility continues strongly driving the Li-ion battery demand.

ABOUT YOLE DÉVELOPPEMENT

Founded in 1998, **Yole Développement** (Yole) 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 & Sensors - Imaging - Medical Technologies - Compound Semiconductors - RF Electronics - Solid State Lighting - Displays - Photonics - Power Electronics - Batteries & Energy Management - Advanced Packaging - Semiconductor Manufacturing - Software & Computing - Memory and more... 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 Développement, System Plus Consulting, Knowmade, PISEO and Blumorpho are part of Yole Group of Companies. Yole Group of Companies - Press Relations & Corporate Communication: Sandrine Leroy (leroy@yole.fr).

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