

Compound semi.: power GaN¹ market is booming, pushed by lot of success stories

Quarterly Market Monitor

MARKET DYNAMICS:

- The adoption of GaN by Oppo in Q4-2019 marks the first milestone for volume production of power GaN devices. Since then numerous smartphone OEMs, such as Samsung, Xiaomi, Realme, integrated power GaN devices in their accessory or in-box fast chargers.
- Compared to the Q4-19 edition, Yole Développement (Yole) projects a market forecast more optimistic than its nominal scenario.
- In the light of recent GaN adoption in consumer fast charger applications, the power GaN device market is estimated to show 16% Q/Q growth in Q4-2019.
- In parallel, power SiC market revenues continues its growth and is expected to reach beyond \$3B by 2025 by posting year-to-year growth rate higher than 13%.
- Power SiC market is mainly driven by EV/HEV applications, EV charging infrastructure and industrial power supply applications.

Y2019/2020: THE YEAR OF GAN?

Beginning of 2020 has been full of exciting news!

Indeed the GaN power industry has been pushed by an impressive demand coming from consumer fast charger market. Lot of announcements made by leading OEMs (Oppo, Xiaomi, REALme...) have caught the attention of Yole's analysts...

*"This is only the beginning of power GaN market's emergence," asserts **Ezgi Dogmus, Technology & Market Analyst at Yole.** "GaN has taken an important leap in its challenging course and is expected to also enter other major OEMs' such as Apple and Huawei fast chargers. In this context, 2020 and 2021 are important years to watch for further market acceptance and the speed of GaN based high power chargers' proliferation."...*

GAN AND SIC POWER BUSINESSES: WHAT'S NEXT?

The beginning of 2020 shows that this year will be the year of GaN. But SiC is certainly continuing its emergence. Driven mainly by the EV/HEV, EV charging infrastructure, and power

¹ GaN : Gallium Nitride

supply applications, Yole expects SiC power discrete and modules to play a key role in the upcoming years...



Yole's Compound Semiconductor Quarterly Market Monitor on SiC and GaN power applications will be published every beginning of March (Q1), June (Q2), September (Q3) and December (Q4). Aim of these services is to provide an in-depth coverage of rapidly changing market dynamics and main players' status and strategy.

This is why Yole's Quarterly Market Monitor will also evolve and incorporate step by step a new module on RF GaAs and RF GaN markets in the Q3 2020 edition, next to the existing Power GaN and Power SiC module. Stay tuned to i-Micronews to get further info. about our Compound Semiconductor & Power electronics activities!

Press contacts

Sandrine Leroy, Director, Public Relations, sandrine.leroy@yole.fr

Marion Barrier, Assistant, Public Relations, marion.barrier@yole.fr

Le Quartz, 75 Cours Emile Zola – 69100 Villeurbanne – Lyon –France – +33472830189

www.yole.fr - www.i-micronews.com – [LinkedIn](#) – [Twitter](#)

About the imaging team at Yole Développement

As a Technology & Market Analyst, Compound Semiconductors, **Ezgi Dogmus**, PhD is member of the Power & Wireless division at Yole Développement (Yole).

She is daily contributing to the development of these activities with a dedicated collection of market & technology reports as well as custom consulting projects.

Prior Yole, Ezgi was deeply involved in the development of GaN-based solutions at IEMN (Lille, France). Ezgi also participated in numerous international conferences and has authored or co-authored more than 12 papers.

Upon graduating from University of Augsburg (Germany) and Grenoble Institute of Technology (France), Ezgi received her PhD in Microelectronics at IEMN (France).

Ahmed Ben Slimane, PhD. is a Technology & Market Analyst, specialized in Compound Semiconductors at Yole Développement (Yole).

As part of the Power & Wireless team, Ahmed is contributing to the development of dedicated collection of compound semiconductors market & technology reports and monitor.

Previously, he worked as an epitaxy (MBE/MOCVD) & fabrication process engineer for GaAs-based photovoltaic applications at TOTAL and IPVF (Paris-Saclay, France). Ahmed also completed his PhD in Material Engineering from KAUST (Saudi Arabia), where his mission was focused on GaN-based microstructures for flexible solid state lighting.

During this career, Ahmed Ben Slimane proposed lot of presentations towards an international audience. He authored/co-authored more than 20 publications in the semiconductor field, and submitted a patent on the III-V hetero-structure for PV industry.

Ahmed obtained his Master degree in Electronics Engineering from INPG (Grenoble, France).

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... [More](#)

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