

RF power semiconductor market growing at 9.8% CAGR to \$2.5bn in 2022

Gallium nitride is taking over LDMOS' market share as 5G reshapes the RF technology landscape, says **Yole Développement**.

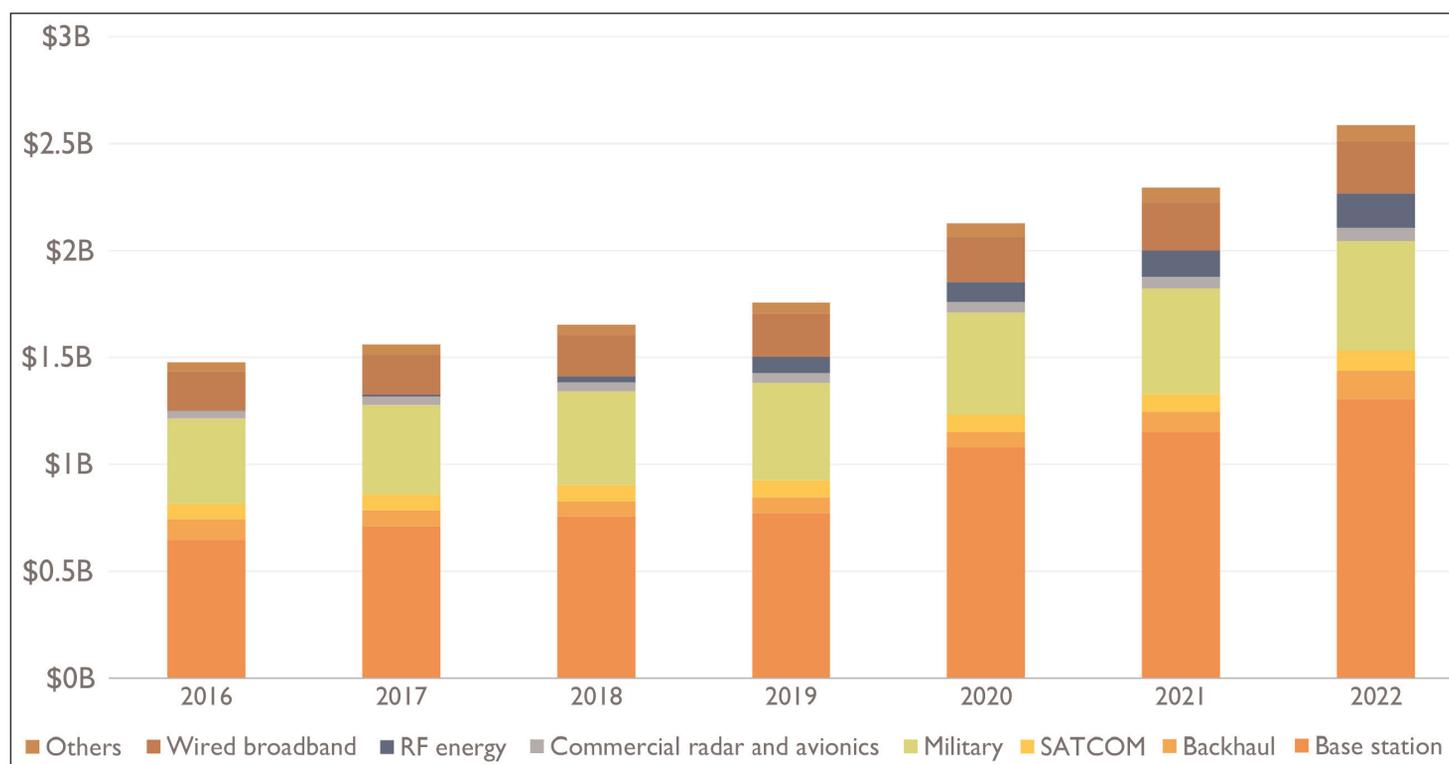
Yole Développement's 'RF Power Market and Technologies 2017: GaN, GaAs and LDMOS Report' forecasts that, after shrinking in 2015 and 2016 as telecom operators invested less, the total RF power semiconductor market (for applications above 3W) is now rising again at a compound annual growth rate (CAGR) of 9.8% over 2016–2022, growing by 75% from \$1.5bn in 2016 to more than \$2.5bn in 2022. Growth is being driven by increasing demand for telecom base-station upgrades and small-cell implementations.

"The revolutionary transition toward 5G implementation in the next five years is dramatically reshaping the RF technology landscape," says technology & market analyst Zhen Zong. This is not only for smartphones application but also for RF telecommunication infrastructure applications above 3W, and 5G is offering enormous business opportunities for compound semiconductors in this RF power market.

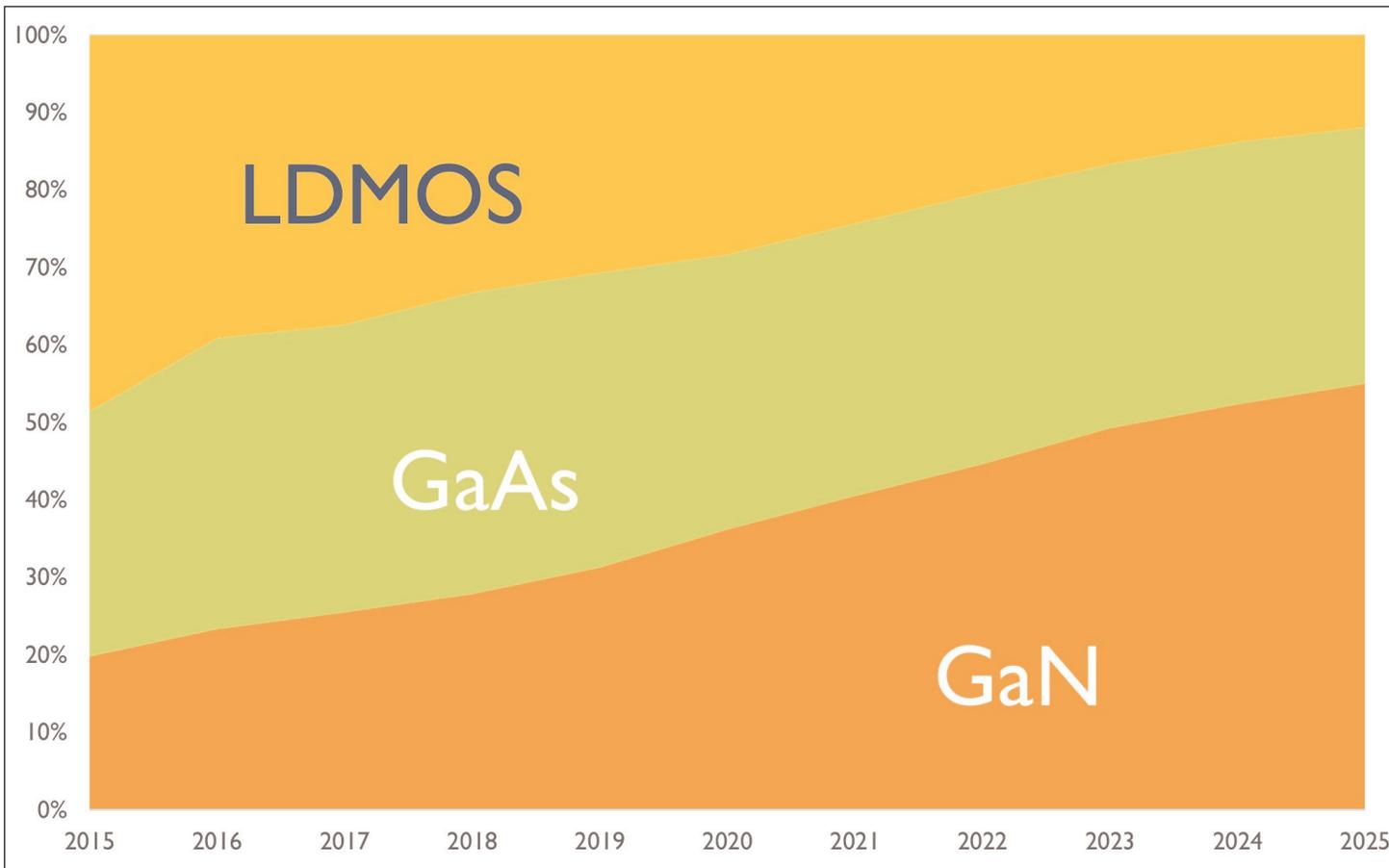
The market is currently standing at the threshold of completion of 4G networks and the beginning of the transition to 5G, but there is still a lot to be settled and established, says Yole. However, some things are sure: the new radio network will require more devices and higher frequencies. There is therefore a tremendous opportunity for chip suppliers, especially those of RF power semiconductors, reckons Yole.

"The market size of telecom infrastructure including base stations and wireless backhaul accounts for about half of the total market," notes technology & market analyst Dr Hong Lin. "It will continue growing fast at an expected 12.5% CAGR for base stations and 5.3% CAGR for telecom backhaul over 2016–2022," she adds.

Meanwhile, defense applications are also providing good opportunities for RF power devices, as there is a trend for replacing old vacuum tube designs with solid-state technologies exploiting gallium arsenide (GaAs) and gallium nitride (GaN), notes Yole. In various applications,



RF power market from 2016 to 2022

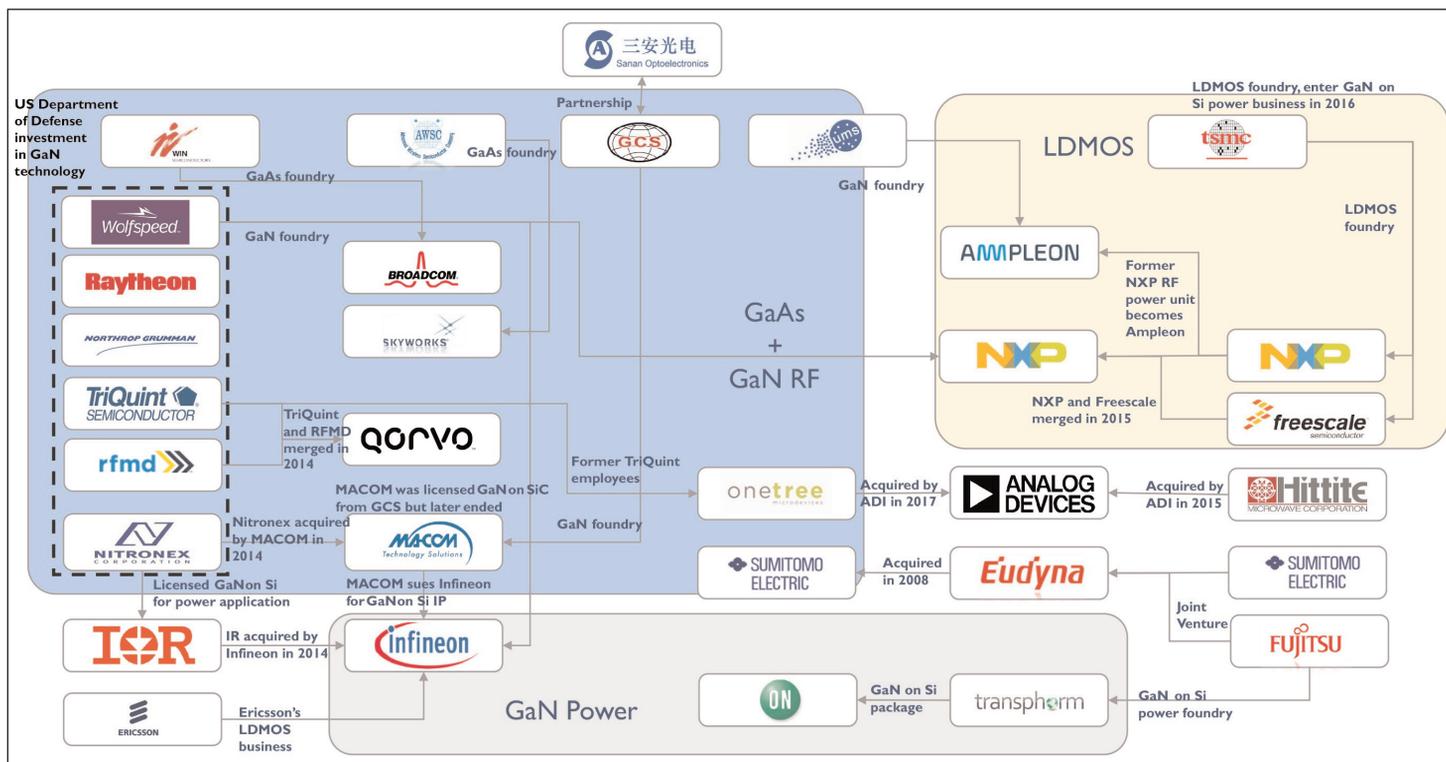


RF power device market, in value — breakdown by technology (only considering RF power semiconductors above 3W, excluding such applications as mobile power amplifiers).

these new technologies provide better performance, reduced size as well as robustness, so they are gradually taking more market share. This market seg-

ment is growing at a CAGR of 4.3% over 2016–2022 (up 20% by 2022).

www.yole.fr/PowerRF_Devices_Applications.aspx



Evolution of the RF power industry supply chain.