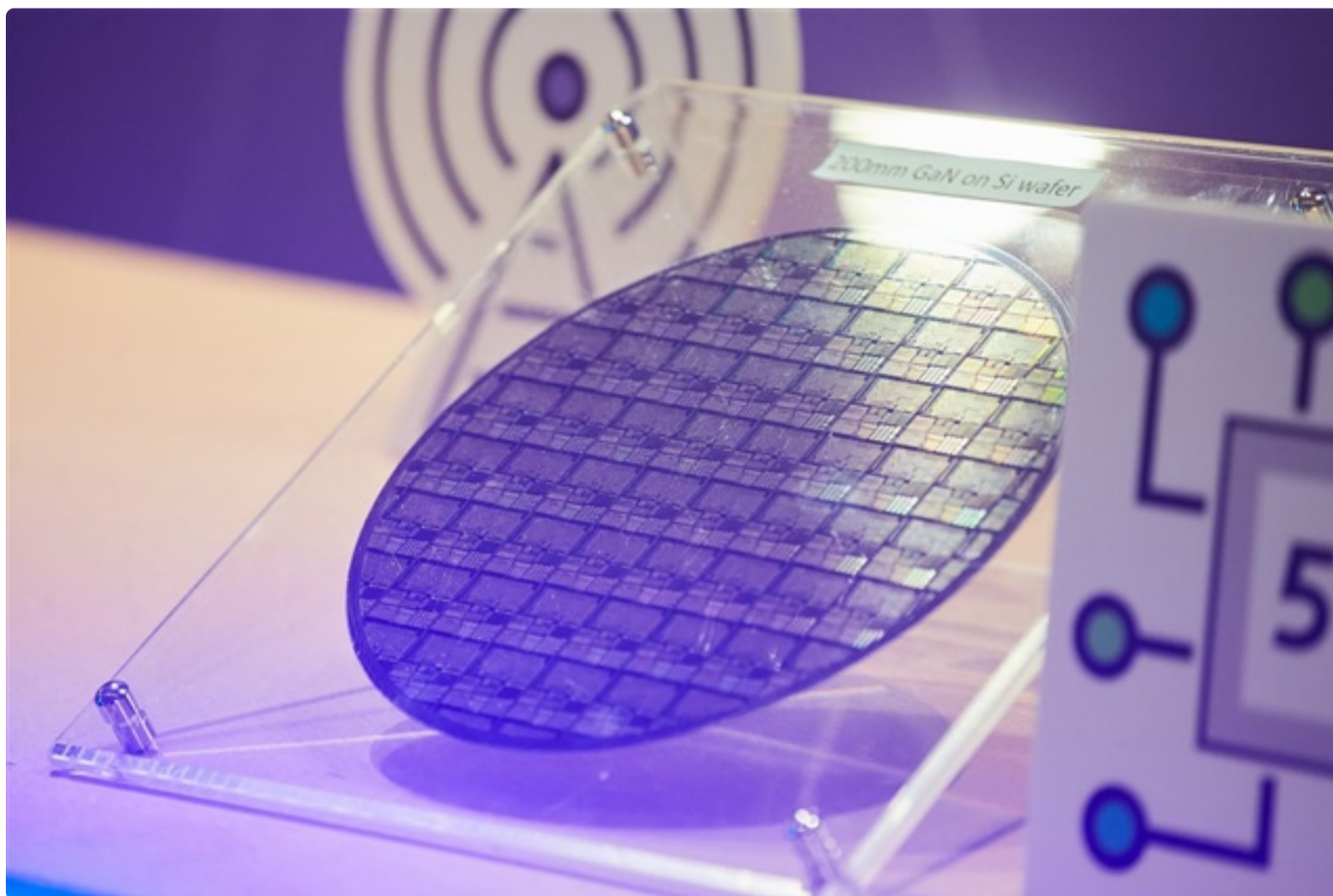


## EPC optimistic about GaN sector

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*Credit: DIGITIMES*

Efficient Power Conversion (EPC) is optimistic about GaN despite geopolitical challenges and the changing landscape in the compound semiconductor sector.

China's restrictions, announced in July, on exports of gallium and germanium have roiled the compound semiconductor sector. And Infineon's proposed acquisition of GaN Systems is also promising to reshape the supply chain.

But EPC co-founder and CEO Alex Lidow has pointed out that components that the company makes using its GaN-on-Si wafer technology consist of very limited amounts of gallium. EPC's GaN process is not based on gallium, but rather on TMGa as the source material for making GaN. TMGa is not on China's list of export restrictions.

But to minimize the risk, EPC is still working to secure supply of TMGa from more sources, in order to increase the stability of supply, the sources said.

There is also growing pressure from Infineon in the GaN sector. In March 2023, Infineon announced a US\$830 million deal to acquire GaN Systems. The proposed deal is still being reviewed by government regulators in various countries, but it shows Infineon's strong ambitions in the compound semiconductor power device sector.

Infineon will become a top-3 player in the GaN sector if the deal goes through, leapfrogging EPC, who was a top-5 player in 2021. Infineon will also be able to build up a product portfolio covering Si, GaN and SiC components.

Lidow noted that it is understandable that big companies with sufficient capital would want to acquire others that could complement their product lines.

For EPC, its short learning curves allow it to achieve technological maturity in the shortest time possible. And its patents have allowed it to establish industry standards and authority, particularly in component specifications, packaging and performances.



2028. For GaN, its share in 2028 will be only 3%.

Lidow said that GaN is finding itself in a situation similar to that Si MOSFET faced 40 years ago when people were skeptical of the possibility of it replacing bipolar transistors.

But MOSFET reached a turning point in 1988 when it started to gain dominance in the power electronics sector. Although bipolar transistors are still being used, its market share is now much smaller than that for Si MOSFET.

GaN development is similar. The turning point will come when advanced computing, automotive electronics, aerospace applications and consumer electronics embrace GaN more than Si MOSFET.

GaN's cost competitiveness is also comparable to Si MOSFET's, and GaN's potential is much bigger than Si MOSFET's. The crucial thing now is to reshape many market researchers' outdated belief that GaN is too expensive.

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