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CS Materials' 08

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Report Summary

With Compound Semiconductor materials activity soon totalling a billion dollars, both equipment manufacturers and material suppliers asked Yole experts to provide an overview of the CS market and highlight the respective dynamics for the different materials.

Indeed, for more than 20 years, silicon pure players have been looking at those 'strange' semiconductor materials made of a compound of 2 or more metals, wondering if it could be, one day, a threat for their existing business. Material makers are seeking new business opportunities outside of silicon and equipment suppliers are open to adapt their know-how and expand their product portfolio.

Silicon largely dominates the semiconductor business as the reference material. However, specific applications such as optoelectronics, RF or power electronics require material properties that cannot be offered by silicon. GaN, GaAs, InP, SiC and Sapphire substrates now account for only 0.6% of the 8,630 million square inches annually processed in semicon fabs. However, that small portion of processed area is compensated by a higher merchant price leading to a \$800M market size in 2007, reaching the billion dollar threshold by 2009- 2010.

GaAs has been the leading material in volume thanks to the wireless technology demand, but SiC and sapphire are now benefiting from the booming LED business.

Bulk GaN is becoming the winning choice for blue laser diode makers.

InP is still in the race expecting a strong rebound of the optical fibre demand. This new report offers a unique panorama of the compound semi material business in a single package. It highlights the main metrics and the key market trends that will help material and equipment vendors to position their R&D efforts and anticipate the changes and forecasted evolution of their business.

Please note: this is delivered as PowerPoint file of 170+ slides (electronic pdf file).

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