

Reducing the gap Between Research and Industry

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Graphene, a single atomic layer of graphite, attracts enormous interest from academia and industry. Because of unique properties such as high mobility of charge carriers, ultra-high young's modulus and thermal conductivity, graphene is studied as candidate material for future applications in various fields such as electronics, optoelectronics, composite materials, and thermal management.

Since its discovery in 2004, outstanding progress is made in the graphene manufacturing process as well as graphene applications. Diverse manufacturing techniques are available for producing graphene and each technique yields a different graphene type [1].

As large area CVD graphene films are available, many opto-electronic applications are presented [2]-[5]. But industrialization of CVD graphene is hampered by the large discrepancies between the research and the industry.

To reduce the gap, a joint venture between CAMM (Center for Advanced Meta-Materials) and an industry is established. The aim is to review the graphene development in last decade and to facilitate graphene research toward industrialization. Some recent development on the process and the applications will be presented.

References

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Figures

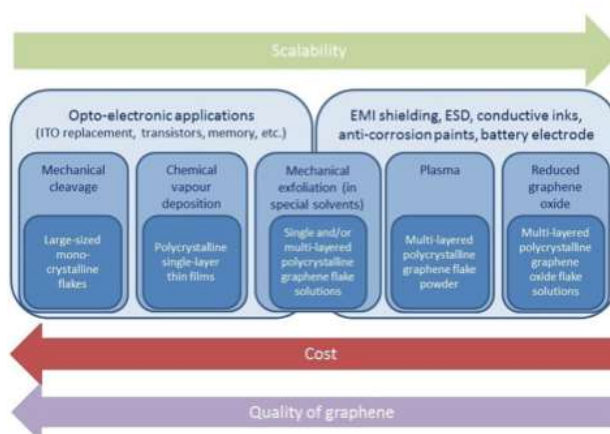


Figure 1: Graphene quality, cost, scalability and accessible market depending manufacturing techniques