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Electronics Packaging Development A never ending challenge

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There is an increased awareness in the semiconductor industry that packaging technology is an essential and integral part of the semiconductor product, and has become a critical competitive factor in many market segments since it affects operating frequency, power, reliability and costs.
Costs pressure over System development investments has created a strong demand in the industry for infrastructures capable to deliver increasingly better cost-performance electronic packaging solutions.
As a result of the rapidly emerging technologies and applications, the definition of exact boundaries between semiconductor, packaging and system technologies is no longer possible and all must be considered concurrently in a system-level approach to optimise the substrate design.
Organic carrier technology for semiconductors devices started to be explored in the late eighties but only in the recent years these packaging development solutions started to be massively utilized as chip carriers. The majority of these technologies originated from Printed Circuit Board manufacturing processes.
Under many technical aspects, organic laminates represent a great cost-performance opportunity but their utilization still requires a continuous "Adapting work"-ranging from design to materials - to the ever increasing requests from the semiconductor industry. This paper analyses the strategies used into organic packages to satisfy these constant new challenges in higher speed, power and I/O density applications.

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