

Global Trade Disputes: a zero-sum game for all — is there a way out?



E. Demircan
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Biography

Emir Demircan, Director of Advocacy and Public Policy, SEMI Europe. He is a professional in public policy and government affairs in engineering technologies. At SEMI, he is responsible for leading pan-European advocacy actions on technology, talent, regulatory and government incentives. He previously worked in the 3D printing, chemical and digital sectors. He studied international political economy at King's College London.

Strategic Engagement through SEMI Technology Communities



R. Dossi
Director Technologies and Programs
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Abstract

The semiconductor manufacturing industry is facing tremendous and very fast changing in technology environment.

Requirements in the autonomous driving, industry 4.0 and beyond, AI and quantum computers are raising the bar for semiconductor requirements.

SEMI is providing support and engagement guidelines through several Technology communities helping companies to find a common approach and optimizing future requirements and landscape

Biography

Roberto Dossi, Director of Technology and Programs, SEMI Europe. He is semiconductor expert with more than 30 years experience worldwide mainly in Technology Development and Operation .

At SEMI, he is responsible to drive technology communities like smart driving, smart manufacturing and FOA. In parallel he's responsible for all programs running in SEMI Europe.

He previously worked for ST Microelectronics, Infineon , SMIC and OSRAM OS.

He has a master degree in Physics from Milan University and an MBA from Jiao Tong University Shanghai.

Harrington Claire



C. Harrington
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Biography

As Vice President of Global HR at SPTS Technologies Claire is responsible for all aspects of SPTS's global HR organisation and also oversees the Health and Safety team at the Newport headquarters. Claire joined SPTS in September 2012 as HR Director and promoted to her current role in February 2018. Prior to joining SPTS, Claire worked for a number of years in the food, steel manufacturing, and semiconductor industries. Claire has a wealth of experience in Human Resources and Training, and holds a degree in Psychology and an MSc in Human Resource Management.

Holistic Approach to Improve the Reliability of Advanced Heterogeneous Packaging by Chemistry



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Abstract

Heterogeneous integration involves the assembly of separately manufactured components and requires the combination of a broad variety of different materials with different characteristics. Redistribution layers (RDLs) consisting of Cu conductor lines and organic dielectric are key components of a variety of technologies to connect the various functional components. In particular, fan out wafer level packaging (FOWLP) with decreasing lines and spaces (L/S) was developed as an enhancement to standard WLP to allow for higher performance, decreased form factor, and significant cost reduction. Next generation FOWLP require decreasing the RDL pitch down to 1 μm or even below, which involves challenges in terms of reliability of the Cu conductor lines.

With decreasing L/S, mechanical properties of RDL Cu lines become increasingly important. This is especially true with regard to the variety of materials, which are in direct contact upon heterogeneous integration of different components. In order to improve the reliability of such assembly, the mechanical properties of the individual materials need to be optimized. However, this improvement is limited by issues upon scaling down the Cu conductor lines. Thus, a different approach is required to provide sufficient reliability. In addition to optimization of the individual materials, a holistic approach would include the surrounding materials within the package. Recent findings emphasize the importance of the formation of a proper composite with the adjacent dielectric to improve the reliability of the Cu conductor lines. Utilization of the surrounding materials by composite formation constitutes a promising strategy to fulfill reliability criteria of upcoming FOWLP applications. Composites may benefit from synergistic effects and overcome limitations of the individual components. Different chemistry solutions will be discussed with respect to their impact on composite formation and suitability for potential 5G applications.

Biography

For the past 8 years Ralf Schmidt has held various roles related to R&D at Atotech, wherein he focused, amongst others, on the development of innovative copper plating processes. He is currently R&D Manager Semiconductor and responsible for all R&D projects, which are related to Semiconductor and Advanced Packaging topics.

Ralf is author of numerous publications and patents in this field and committee member of the Advanced Packaging as well as Strategic Materials Conferences of Semicon Europa.