



FOR IMMEDIATE RELEASE:
Die attach equipment:
Yole’s analysts announce a consolidation of the market

Extracted from : Die Attach Equipment Market report, Yole Développement, 2019

LYON, France – October 27, 2019: “The die attach equipment market is showing a 6% CAGR between 2018 and 2024”, announces **Santosh Kumar, Principal Analyst & Director Packaging, Assembly & Substrates, Yole Korea.** “This industry will reach US\$1.3 billion by 2024, fueled by assembly and packaging opportunities created by semiconductor megatrends”.

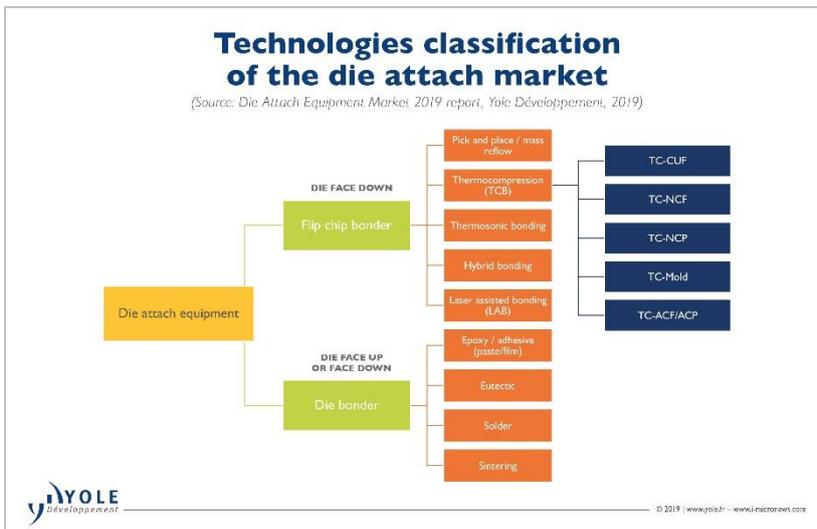
The latest semiconductor manufacturing report from [Yole Développement \(Yole\), Die Attach Equipment Market](#), is a report dedicated to back-end packaging equipment with detailed technical roadmaps and a benchmarking of the related equipment. Die attach is a key process step for all semiconductor packaging companies. Today it becomes more and more strategic, with lot of issues as it regards all devices across various applications.

In this context, the market research and strategy consulting company proposes a comprehensive overview of this industry with technical insights and business trends. In this new report, Yole’s analysts segment and investigate the die attach equipment business by various parameters including bonding technologies and applications at the device level. This report reveals the competitive landscape with more than 70 companies identified and a detailed analysis of the supply chain. It is also a good opportunity to discover an in-depth analysis of the die

bonder and flip-chip bonder markets.

Yole propose you today to discover the status of the die attach equipment market.

Today’s semiconductor megatrends include mobile devices, big data, AI¹, 5G wireless networking, HPC², IoT³ including industrial IoT, smart automotive, industry 4.0, and data centres. These applications create demand for

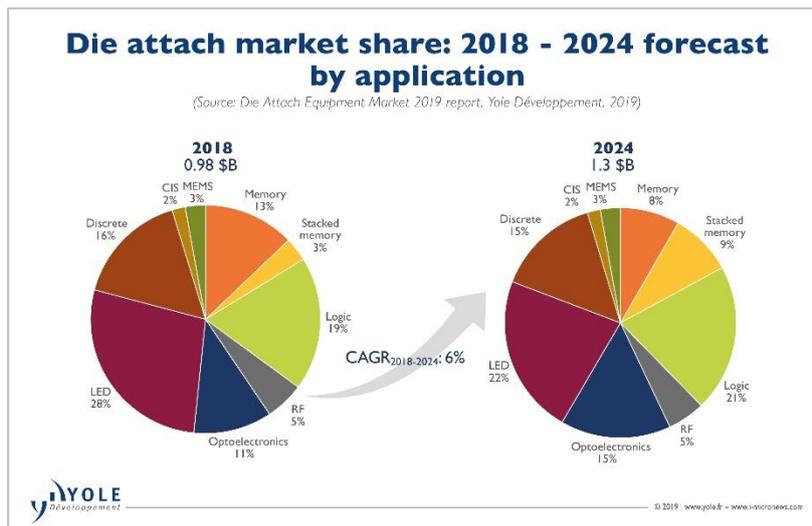


¹ AI : Artificial Intelligence
² HPC : High Performance Computing
³ IoT : Internet of Things

electronics hardware, which requires high computing power, high speed, more bandwidth, low latency, low power, more functionality, more memory, system level integration and a variety of sensors. Such trends create business opportunities across various electronic device packaging platforms. However advanced packaging has one of the best opportunities, as it can fulfil various performance and complex heterogeneous integration requirements.

Die attach is a key process step in semiconductor packaging. It covers all devices across various applications and is a key contributor to assembly cost.

“The die attach equipment business will benefit from assembly and packaging opportunities created by the above-mentioned trends,” explains Santosh Kumar from Yole.



Die attach equipment can be classified into two categories: die bonders and FC⁴ bonders. The total market was worth US\$979 million in 2018 and is expected to grow at 6% CAGR from 2018-2024 to reach US\$1.3 billion. The FC bonder market will grow with a 12% CAGR to reach US\$290 million in 2024 whereas the die bonder market will grow with a 5% CAGR to reach US\$1.09 billion in 2024. By application,

the highest growth is in stacked memory bonder market, with a 24% CAGR, followed by optoelectronics, with a 12% CAGR, and logic, with an 8% CAGR.

In terms of technology, epoxy bonding dominates die attach for wire-bond packaging, and related die bonders constituted around 85% of the total bonder market in 2018. However, epoxy bonding's share will reduce to 53% by 2024. Eutectic bonding growth is driven by MEMS⁵, high power LEDs⁶ and optoelectronics applications. C2W⁷ hybrid bonding is the emerging promising technology that can enable direct Cu- Cu bonding and has potential to replace TCB⁸ for the 3D stacked memory and high end logic application. However C2W hybrid bonding is still in its early stages level and is expected to hit the market in 2021 for stacked memory and in 2022/23 for logic devices with 2.5D

⁴ FC : Flip-Chip

⁵ MEMS : Micro Electro Mechanical Systems

⁶ LED : Light Emitting Diodes

⁷ C2W : Chip-to wafer

⁸ TCB : Thermocompression Bonding

structures... A full description of this report is now available on i-Micronews.com.

Yole's semiconductor manufacturing & advanced packaging team present key results all year long, during key trade shows and conferences. During the next weeks, the team has a huge agenda with key presentations all around the world. Discover below the program and make sure to be at the right place at the right time to meet Yole's experts:



- [“Market Trends and Technologies in Advanced Packaging for 5G and HPC”](#) on November 8 at 10:30 AM - Advanced Semiconductor Technology Conference 2019 (Singapore – Nov. 7&8, 2019).

Speaker: *Favier Shoo, Technology & Market Analyst, Package Assembly and Substrate at Yole Développement*



- [“Polymeric Materials for Advanced Packaging”](#) on November 12 at 1:10 PM during the Strategic Materials Conference at SEMICON Europa (Munich, Germany - Nov. 12-15, 2019)

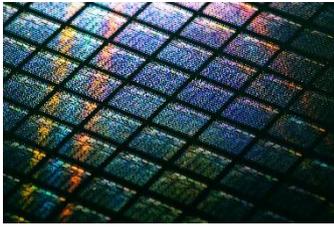
Speaker: *Amandine Pizzagalli, Technology & Market Analyst, Semiconductor Manufacturing at Yole Développement*

- [“5G enabler : Advanced Packaging”](#) on November 12 at 12:40 PM during the Advanced Packaging Conference at SEMICON Europa (Munich, Germany - Nov. 12-15, 2019)

Speaker: *Emilie Jolivet, Division Director, Semiconductor & Software at Yole Développement.*

Stay tuned on i-Micronews.com to download all Yole's presentations!

ABOUT THE REPORT



Die Attach Equipment Market

Growing business and new technical challenges are ensuring consolidation of the die attach equipment market. – Powered by Yole Développement

Companies cited in this report:

3S Silicon Tech Inc, Amkor, Amicra, Anza Technology, ASE, ASM, ATCO, Athlete FA Corporation, Autec, Be first technology CO., LTD, Beijing Chengliankaida Technology co, LTD, Besi, Boschman, Bright lux 佑光, Cammax Precima, Canon, Capcon, China Electronics Technology Group Corporation (CETC), Daitron, Dalian Jafeng Electronics (JAF), Fasford Technology, Ficontec, Finetech, Four Technos ... and more.

About the authors:

Santosh Kumar is Director & Principal Analyst at Yole Développement, the "More than Moore" market research and strategy consulting company. His main interest areas are advanced electronic packaging materials and technology including TSV and 3D packaging, modeling and simulation, reliability and material characterization, wire bonding and novel solder materials and processes, etc. He received his bachelor's and master's degrees in engineering from the Indian Institute of Technology (IIT), Roorkee and University of Seoul, respectively. Santosh has published more than 40 papers in peer reviewed journals and has obtained 2 patents. He also has presented and given talks at numerous conferences and technical symposiums related to advanced microelectronics packaging.

As a Technology & Market Analyst, advanced packaging, **Mario Ibrahim** is a member of the Semiconductor & Software division at Yole Développement (Yole). Mario is engaged in the development of technology & market reports as well as the production of custom consulting studies. He is also deeply involved in test activities and business development within the division.

Prior to Yole, Mario was engaged in test activity developments on LEDs at Aledia. He was also in charge of several R&D advanced packaging programs. During his five-year stay, he developed strong technical & managerial expertise in various semiconductor fields.

Mario holds an Electronics Engineering Degree from Polytech Grenoble (France). He apprenticed for three years in the Imaging division of STMicroelectronics Grenoble, where he contributed to the test benches park automation within the test & validation team.

ABOUT YOLE DEVELOPPEMENT



Founded in 1998, Yole Développement has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services, reverse engineering and reverse costing services and well as IP and patent analysis. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole group of companies has expanded to include more than 80 collaborators worldwide covering MEMS and image sensors, Compound Semiconductors, RF Electronics, Solid-state lighting, Displays, software, Optoelectronics, Microfluidics & Medical, Advanced Packaging, Manufacturing, Nanomaterials, Power Electronics, Batteries & Energy Management and Memory.

The "More than Moore" market research, technology and strategy consulting company Yole Développement, along with its partners System Plus Consulting, PISEO and KnowMade, support industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to grow their business. . For more information, visit www.yole.fr and follow Yole on [LinkedIn](#) and [Twitter](#).

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