QPTECHNOLOGIES

November 2024

Technology Bites

Custom Substrates Enable Quickturn Packaging and Assembly Solutions

As we've shared in recent months, we continue to grow our substrate design and development business – a vital component of which is our custom substrate expertise. Our recent blog post shares details around this capability, extrapolating details from our white paper on the subject, available for download here. Our comprehensive services for custom substrate development, from design to fabrication and assembly, combine quality, variety, and speed to meet customers' unique substrate requirements for a variety of markets and applications. If you have a project requiring a unique substrate, we can help.

Issues and Challenges with IC Packaging

As chips and components continue to shrink, packaging's role is expanding. The majority of semiconductor die still use traditional packages, of which QP Technologies offers a broad selection. Quad flat no-lead packages (QFNs), in particular, remain in wide use given the low cost of the equipment used to build, test and assemble them. In a Q&A interview with Mark LaPedus of *Semiecosystem* blog, our CEO Dick Otte discussed our broad catalog – from mature package types to emerging packages for chiplets. For further insights on packaging trends and how QP Technologies meets market demands, you can read the full Q&A article here.

White Paper

Sensors and MEMS Packaging Assembly Expertise

Sensors and microelectromechanical systems (MEMS) are unlocking new design possibilities for miniature devices used in healthcare, smart systems, consumer electronics, and more.

Designers need a partner experienced with heterogenous integration to assemble the unique components for these devices and address the complications of these integrations. QP Technologies parent company Promex Industries' newest white paper provides details on how our expertise in heterogenous integration enables innovative assembly solutions, especially for advanced medical devices. To read more about this topic, including examples of lab-on-a-chip devices that Promex developed using heterogeneous integration techniques, you can download the white paper here.

Employee Spotlight

Cassandra Filo, Customer Service Representative

Cassandra Filo is one of the newest additions to our QP Technologies team, having joined the company in October 2024 from a smaller mom-and-pop-sized packaging and assembly services provider, where she had spent two years. Reporting to Customer Service Manager Dustie Rivera (featured in our February 2022 newsletter), Cassandra recently completed her onboarding and will be interfacing with customers in support of Mike Strittmatter, our Regional Sales Manager (profiled in November 2021).

Cassandra is enthusiastic about the training she's received and excited to be part of our larger organization with its broad customer base and market reach. She was particularly excited to go onto the production floor to see our processes first-hand and understand how it all coordinates with the materials she'd been reading and sales orders she'd been inputting into our system. "I'm a hands-on person, and being able to see how everything works helps it all come full circle for me so it will make that much more sense," she says.

Joining our team is a key next-act step for Cassandra, who rejoined the workforce two years ago after having focused on raising her four children, now teenagers. When not working, the self-described homebody is attending her kids' sports and other activities, going to the gym, or walking her dogs. Cassandra is happy to be back in the workforce and to have this aspect of her life to share with her family, and we're excited to welcome her to her new work family here at QP Technologies.

Recent Media Coverage

Promex Industries was featured prominently in *Semiconductor Engineering* over the past few months – most notably CEO Dick Otte. Promex COO Dave Fromm and VP of Sales & Marketing Rosie Medina also were quoted in several articles.

- November:
    - Advanced Packaging Drives Test and Metrology Innovations – Dick Otte touched on the potential implications of shrinking package dimensions.

- October:
    - Advanced Packaging Driving New Collaboration Across Supply Chain – Dick discussed variations in advanced packages and pointers for helping optimize collaboration across distributed, diverse teams.
    - New Approaches to Power Decoupling – Dick discussed effective parameters for decoupling capacitors.

- September:
    - Emerging Technologies Driving Heterogeneous Integration – In Ed Sperling's video interview, Dick talked about opportunities and challenges associated with the emerging chiplet era.
    - Managing EMI in High-Density Integration – Dick talked about the importance of robust EMI shielding and involving the assembly early in the design process to ensure proper building of physically small subassemblies.
- August:
    - 3.5D: The Great Compromise – Dick and Dave were quoted in this article that looks at a middle-ground chiplet assembly option that combines elements of both 2.5D and 3D-IC.
    - Why Small Fab and Assembly Houses Are Thriving – Both Dave and Rosie were quoted in this in-depth article looking at why smaller fabs and OSATs are vital for the lower volumes and prototyping that megafabs don't address.

- July:
    - Precision Patterning Options Emerge for Advanced Packaging – Dick talked about characteristics of glass that make using glass substrates a viable option for advanced packaging solutions.

Upcoming Q1 2025 Events

- QP Technologies
    - iMAPS Device Packaging Conference – March 3-6, Phoenix, AZ – Joint exhibitor with Promex
    - GOMACTech – March 18-19, Pasadena, CA – Exhibitor

- Promex
    - Chiplet Summit – January 21-23, Santa Clara, CA – Exhibitor
    - MD&M West – February 4-6, Anaheim, CA – Exhibitor

About Us

QP Technologies is a leading provider of microelectronic packaging and assembly, wafer preparation, and substrate design and development services. We leverage proven technologies developed by our skilled staff, and we work closely with you to get your products to market quickly, with the highest quality prototype and production volumes.

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858.674.4676
moreinfo@qptechnologies.com
www.qptechnologies.com

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