QPTECHNOLOGIES

February 2025

Latest News

QP Technologies Part of Award-Winning Project Team Developing U.S.-based SiC Packaging

A team led by NoMIS Power is one of eight Phase 1 winners of the American-Made Silicon Carbide (SiC) Packaging Prize awarded by the U.S. Department of Energy's Office of Electricity, announced January 10. Team participants NoMIS Power, QP Technologies, Lux Semiconductors, and the University of Arkansas collaborated on a project that integrates metal-core substrates with rugged SiC power MOSFETs. The project employs QP Technologies' gold stud bumping, thermal compression and flip-chip processes to interface the SiC die to the smart metal-core substrate, yielding a high-density power module. The resulting solution promises improved SiC package performance, scalability, and cost-effectiveness for critical high-power application areas, e.g., power-conversion systems for artificial intelligence and high-performance computing data centers and energy-storage systems, solar and wind farms. Phase 2 work is under way, with the team focused on refining and testing the prototype with an eye toward securing Phase 3 funding.

Technology Bites

Glass Substrates Emerging as Packaging Dielectric

Interest in the use of glass and glass-cores substrates semiconductor packaging is on the rise, with leading chipmakers investing in development programs centered on the use of glass for next-generation devices. However, glass possesses innate challenges that must be overcome for its use to become commonplace. A new blog post authored by our CEO Dick Otte, takes the engineer's view, comparing glass's physical properties to those of other substrate materials and describing available structures for the use of glass in advanced packages. He

cites some notable research around glass, and also posits that diamond may be the next big thing in substrate material.

Advancing Medical Devices through Heterogeneous Integration

Microelectronics packaging and assembly plays a key role in bringing a wide range of medical devices to market – from wearable sensors to endoscopic and implantable devices. Developers of these devices need solutions for assembling complex sensors and microelectromechanical systems (MEMS), which integrate mechanical components with electronic circuits on a single chip to create miniaturized sensors and actuators. Building these assemblies requires heterogeneous integration and the expertise to cope with functionality issues that arise when adding unique or unusual components. Promex has decades of experience with building heterogeneous assemblies, as detailed in this blog post, which describes some of these issues and includes a link to download a white paper describing examples of lab-on-a-chip devices that Promex developed using heterogeneous integration techniques and its Phase Gate process.

Employee Spotlight

Jeannine Serbanich, Vice President of Finance

Jeannine Serbanich was appointed VP of finance for QP Technologies and our parent company Promex Industries in October 2024. Reporting to Promex CEO Dick Otte, Jeannine brings to this new role more than 25 years of experience in financial leadership positions at startups and global companies.

Prior to joining our team, Jeannine held a succession of controllership and financial VP positions at companies including Lull Ventures, HERBL Distribution Solutions, and Curvature, Inc. While her role at Curvature had exposed her to tech, Jeannine was excited to join Promex for the opportunity to learn about the manufacturing realm. She had already gained some exposure to the business, having done some consulting work on the financials for QP Technologies, so coming onboard full time presented the opportunity to take a fresh look at the finance and accounting practices for both companies.

Jeannine enjoys marrying business to finance, helping the accounting and business functions operate more interdependently and encouraging partnership with department leaders throughout the company. Mentoring the internal accounting teams and looking at what's working and what can be improved enables the team to gradually implement changes that help to streamline processes and improve communication.

Living on the central coast of California, Jeannine is roughly equidistant from both QP Technologies' Escondido site and Promex's Santa Clara facility. She enjoys the climate and lifestyle in her community and spending time with her family when she's not working; a favorite activity is going to cosplay conventions around California.

We're excited to have Jeannine on the executive team to help guide both companies toward heightened financial success!

Recent Media Coverage

- QP Technologies and Promex experts both published executive pieces in leading industry publications' annual forecast features that provide high-level outlooks for the year ahead.
    - Matt Hansen, QP Technologies' VP of sales and marketing, authored a viewpoint in *Semiconductor Packaging News,* published January 22.
    - Dave Fromm, Promex's chief operations officer, penned The Future of Flex Is Here, which ran in the November/December print issue of *Semiconductor Digest.*

- *Chip Scale Review* published Benefits and Challenges of Sensors that Utilize Chips and MEMS by Dick Otte in the January/February issue.

- Dick was also quoted in *Semiconductor Engineering* over the past few months.
    - January:
        - Electrifying Everything: Power Moves Toward ICs – Dick cited the importance of ecosystem collaboration in addressing the challenges associated with on-chip power management.
        - Advanced Packaging Moving at Breakneck Pace – Part I of a roundtable series featuring Dick and three other packaging experts: Mike Kelly, VP of Chiplets and FCBGA Integration at Amkor; Bill Chen, fellow at ASE; and Sander Roosendaal, R&D director at Synopsys Photonics Solutions. The wide-ranging discussion kicked off with a look at current packaging challenges and approaches, then turned to chiplets and the electrical-optical interface.
    - February
        - What's Next in Advanced Packaging? – Part II of the roundtable discussion covered 3D-IC progress and issues, photonics, and tradeoffs with different interposers and bridge technologies.

Upcoming Events

- iMAPS Device Packaging Conference, Phoenix, AZ
    - March 3-6, 2025

    - Booth 307 (QP Technologies with Promex)
    - Promex participating in poster session, March 5, 5:30-7:30 p.m.
    - Co-located: Advanced Packaging for Medical Microelectronics Workshop (Mar. 5-7)
        - Promex presenting on March 7, 11:15 a.m.
- GOMACTech, Pasadena, CA
    - March 17-20, 2025
    - Booth 201
- iMAPS Florida Advanced Technical Workshop, Palm Bay, FL
    - April 3, 2025
- Components for Military & Space Electronics (CMSE), Los Angeles, CA
    - April 29-May 1, 2025
    - QP Technologies presenting on April 30, following keynote
- Electronic Components and Technology Conference (ECTC), Dallas, TX
    - May 27-31, 2025
    - Booth 408
- Sensors Converge, Santa Clara, CA
    - June 24-26, 2025
    - Booth 909

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.

858.674.4676
moreinfo@qptechnologies.com
www.qptechnologies.com