



**QP**TECHNOLOGIES  
MICROELECTRONIC PACKAGING & ASSEMBLY SOLUTIONS

*March 2022 Newsletter*

# Technology Spotlight:

## MCM and SiP Capabilities for Mil-Aero

Military and aerospace applications, from satellites and rockets to ships and planes, increasingly require electronic systems and subsystems with high functionality and performance in a small form factor, and they need rugged, long-lived, and affordable packaging for these devices. Multichip modules (MCMs) and systems-in-package (SiPs) fit the bill.

We offer a wide range of capabilities for MCM and SiP:

- Multiple interconnect types, including flip chip and wire bonding. Our manufacturing line includes wire and wedge bonders that can handle aluminum (Al), gold (Au), copper (Cu) and AlCu, as well as heavy wire in a range of wire diameters: 127 $\mu$ m (5 mil), 254 $\mu$ m (10 mil), 381 $\mu$ m (15 mil) and 508 $\mu$ m (20 mil).
- Several options for materials. Utilizing our advanced substrate design and fabrication service we can accommodate all types of substrates (FR-4, BT, Rogers, ABF, and tight geometries) to provide engineering design flexibility. We can also create interposer designs for flip-chip and large-cavity packaging, as well as adapt existing packages to redistribute flip-chip connections (RDL) to wire bonds or shorten bond wire lengths.
- Proven expertise in processing, handling, and packaging compound semiconductors, particularly silicon carbide (SiC) and gallium nitride (GaN) power devices, which offer benefits for mil-aero such as better switching speed, higher power density, and improved energy efficiency.
- Turnkey procurement of components or consign kits. You can tap us for as much or as little assistance as you need to ensure you can build your devices quickly and efficiently.



If you need U.S. packaging with mil-spec precision, look no further than QP Technologies. [Contact us](#) today to engage with us on your next project.



## U.S. Packaging with Mil-Spec Precision

A reliable and affordable alternative to ceramic packaging – Open-Cavity Plastic Packages (OCP).

Our latest white paper expands on the benefits of OCPP for the mil-aero market. Download the paper here to learn how QP Technologies' OCPP can save you time, space, and money.

[DOWNLOAD NOW](#)

## Employee Spotlight:

### Annette Aquino, Quality Assurance Manager

As QP Technologies continues to grow and to heighten our focus on key end markets, we are expanding our team to add skilled individuals that can help facilitate our efforts. This month, we are excited to highlight a recent addition, a quality who fills a newly created role within QP Technologies, bringing to her position key expertise in the military-aerospace arena.

Annette Aquino, who joined us in January as our new quality assurance manager, has a decade of experience in quality management, assurance, and compliance, primarily with companies in aerospace and defense. Prior to coming on board at QP Technologies, Annette held a succession of positions with companies that included Machinetek, ISO Panacea Solutions, Laird R&F Technologies, and Argen Corp. She is proficient in internal auditing for key certifications including AS9100D, ISO 9001, ISO 13485, MDSAP, ISO 14001 and ISO 45001.



A native of the Philippines, Annette holds a B.S. in computer science from AMA University in Quezon City. She enjoys the challenges of making improvements to processes and systems, particularly through the auditing process, helping companies elevate their quality and compliance. A strong believer in teamwork and continuous improvement, she is excited to help drive QP Technologies' quality programs – most notably, becoming AS9100 certified within the next year. We are thrilled to have her on the team, and excited to move forward with this vital certification!

# News Highlight: Recent Articles Address Mil-Aero and Stateside Requirements

As part of QP Technologies' heightened focus on the military-aerospace market, we have recently contributed articles to publications that spotlight our offerings to this effect. Here's a brief recap; in case you missed any of them, be sure to click on the links below.

- February 2022, [Aerospace & Defense Technology](#): QP Technologies and Device Engineering, Inc.'s joint article details their collaboration on a mil-aero ASIC solution using our open-cavity plastic packaging (OCP) technology.
- December 2021, [Semiconductor Digest](#): Our COO Ken Molitor discusses the growing trend in the U.S. of bringing more chip manufacturing stateside, creating significant opportunities for companies like U.S.-based, ISO-certified and ITAR-compliant QP Technologies.
- November 2021, [Semiconductor Engineering](#): Sam Sadri looks at the importance of failure prediction in optimizing packaging technology and helping drive TQM. Analyzing data gathered over time and applying various test techniques aids in predicting package reliability.

## GOMACTech 2022

GOMACTech kicked off in Florida this week at the Hyatt Regency Miami. We look forward to meeting with attendees in booth 710 to share our wafer prep, packaging, and assembly capabilities for the mil-aero market. We collaborate with our customers to scope out the best solution for their needs, including those cited in the lead article above.



As a reminder, if you're attending the show, don't miss the GOMACTech Poster Session on Thursday at 10:30 a.m. Our senior packaging engineer Sam Sadri will give a presentation titled "Open-Cavity Plastic Packages (OCP): A Robust IC Solution for High-Reliability Mil-Aero Applications." Sam will expand on the article he jointly authored for the February issue [Aerospace & Defense Technology](#) (see link above), providing further real-world examples of his own experiences with OCP and sharing sample pack that illustrates the process, from receiving blank packages to opening and removal of plastic, through encapsulation, flattening and marking of the final product. You'll come away with a first-hand understanding of our OCP process.

## About QP Technologies

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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