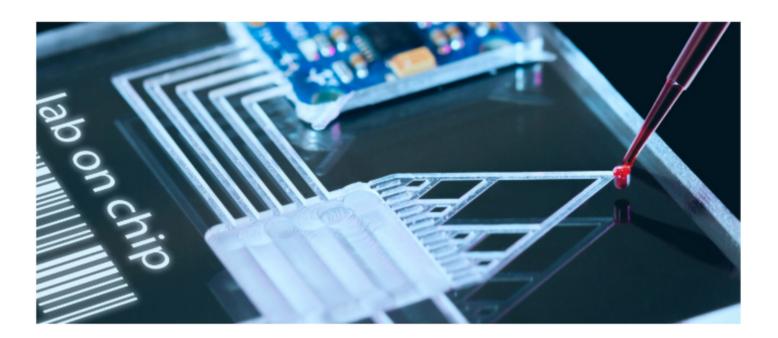


This Month at QP Technologies

Welcome to the September issue! This month, we're spotlighting MEMS and sensors – vital devices for detecting environmental changes or events and providing corresponding, actionable information. The upcoming <u>Sensors Converge</u> conference, covering the biggest design engineering trends in the sensor world, will be held in person (as well as virtually) September 21-23 at the San Jose Convention Center. QP Technologies will be onsite in booth 1228, and we look forward to visiting with our customers, partners and friends. If you're not yet registered, click the above link to sign up today, and be sure to come by our booth to learn how our solutions benefit MEMS and sensors manufacturing.



Sensor Examples Packaged by Us

- Biometric sensor chips
- Inertial sensor chips
- Light sensor chips
- Magnetic sensor chips
- Pressure sensor chips
- Temperature sensor chips
- Gas and liquid pressure
- Load cells (force sensors)
- Chemical (pH, oxygen, carbon dioxide)
- Mechanical (acceleration, position, pressure, knock, rotation)
- Optical (single-chip cameras, edge detectors, and image pattern recognizers)
- Medical (protein interactions)

Tech Feature of the Month: Sensor Market Overview

Sensors are a fast-growing industry, with applications in nearly every vertical market. According to Allied Market Research, the global sensor market was valued at \$166.69 billion in 2019 and is projected to reach \$345.77 billion by 2028 – a CAGR of 8.9% between 2021 and 2028. Smartphone sensors include accelerometers, gyroscopes, temperature detectors, and ambient light and proximity sensors, while medical applications include lab-on-a-chip MEMS, imaging and diagnostics sensors, to name a few. Automotive uses include gyroscopes, sensors to detect engine speed, mass air flow, fuel temperature, and a host of other functions. Biotech, industrial, agricultural, manufacturing and many other fields are increasingly making use of these important devices.

QP Technologies offers a full range of capabilities to accommodate sensor manufacturing requirements. We provide virtually any package necessary for prototype devices, including our Open-molded Plastic Packages (OmPP)®, Open-cavity Plastic Packages (OCPP)®, ceramic and plastic IC packages, as well as custom IC package configurations. Our advanced assembly services can accommodate chiplets, as well as flip-chip, stacked die, SiP, MCM, CoB and other structures. When off-the-shelf options don't fit project requirements, we collaborate with customers to create custom packaging solutions through our substrate design, fabrication and assembly service. Completing our offerings are wafer preparation – backgrinding and dicing – and die inspection capabilities, allowing us to provide a complete, turnkey solution that helps sensors manufacturers meet their time-to-market and cost goals. For more information, call 858-674-4676, or click here.

Employee Spotlight: Bill Lawrence

QP Technologies is growing fast. While we continue growing to keep on top of customer demand (stay tuned for more details), our longtime team members are the engine that keeps us humming along. Bill Lawrence, our East Coast and Europe sales manager, is one such expert. Bill has a proven track record of success over his decade-plus with QP Technologies, and his knowledge of our offerings is unparalleled. Bill will be sharing his expertise on September 22, in an online webinar hosted by CMC Microsystems. Titled "Packaging and Assembly for Prototyping," the session will provide an overview of our services and package types, as well as delve into specifics of our assembly services and package design flow. For more information, click here.



News Highlight

Packaging's importance continues to grow as chip types and materials expand the demands for packaging capabilities. Semiconductor Engineering's Mark LaPedus put together a round table panel of packaging experts, including Dick Otte, CEO of QP Technologies and our parent, Promex Industries, to talk about trends in packaging. Other panelists include ASE fellow William Chen, Michael Kelly of Amkor, Michael Liu from JCET, and Thomas Uhrmann with EV Group. Part 1 of the compelling discussion looks at what's on the horizon for advanced packaging, as well as why older technologies such as flip-chip and wirebonding are still in such high demand. Part 2 delves into the hot topic of chiplets and their associated challenges.

Look for Part 3 in October.



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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