

Next Month's Focus  
**Production  
 and Packaging**

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ASM tallies successes over the past year of an expanded partnership; Essemtec and Tactotek team up to create in-mold structural electronics; Saki develops self-programming inspection software. Special Features begin on...

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**Specialized Coating Services  
 Inaugurates East Coast Facility**

By Michael Skinner, Editor

A rapidly growing niche market, providing conformal coating as a service is in high demand for mission-critical PCBs. These boards must withstand extremely harsh environments, as well as those that have proprietary components that must be concealed before being shipped.

Specialized Coating Services, a provider of PCB conformal coating,

encapsulation and ruggedization, officially opened its new East Coast facility last month.

The new facility is located in Billerica, Massachusetts, about 30 miles northwest of Boston. Kim Atkins, cofounder along with Rick Ramirez, says that the location is ideal for servicing many of the military and aerospace customers that the company has in the area.

Since 1996, the company has

been operating only from the West Coast, beginning in a garage and now located in a large facility in Fremont, California, with about 100 employees. Business has been booming. The Fremont site ships between 2,500 and 3,000 boards per month for customers all over the world.

**Slashing Freight Costs**

With a turnaround time of five days per project with shipping on the sixth, the new location can dramatically cut down the freight costs and shipping times for products for East Coast customers. For their first 15 years in business, Ramirez and Atkins developed relationships with customers purely by word-of-mouth. Customers would refer other customers their way, while the company developed a solid reputation for precision and quality.

Specialized Coating Services offers materials that include silicones and urethanes, as well as Parylene, and can clean boards or plasma treat them to promote surface adhesion.

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From left: Patrick Spencer, technician, Kim Atkins, cofounder, Rick Ramirez, cofounder, Sunny Kim, technician, and Jim Carr, manager of the new site, cut a ribbon to inaugurate the facility.

**Buffett Praises TTI Founder  
 at Stockholders Meeting**

Fort Worth, TX — Global electronics distributor, TTI, Inc., found itself in the limelight at the annual Berkshire Hathaway stockholders meeting in Omaha, Nebraska, where more than 40,000 guests gathered to hear sage investment advice from two of the world's greatest investors, Warren Buffett and Charlie Munger.

During the highly anticipated question and answer session, the duo

was asked to discuss the extraordinary growth that the TTI family of companies is experiencing as one of Berkshire Hathaway's fastest-growing, non-insurance businesses. TTI was purchased by Berkshire Hathaway in 2007 and remains the only electronics company in its portfolio.

Buffett first acknowledged TTI founder and CEO, Paul Andrews, for his vision and exceptional management style, which has made the worldwide operation a success. He spoke of the complexity of the business, which requires a very high number of transactions of low-cost components and shared this insightful premonition, "Something is going on out there, nobody is just buying these parts and storing them in their basement, these parts are getting used."

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**Semicon  
 Market  
 Posts Solid  
 Growth in Q1**

Philadelphia, PA — Global semiconductor revenue derived from chip usage in electronic equipment and devices amounted to \$111.4 billion at the end of Q1 2018, up a significant 17 percent from \$95.2 billion during the same quarter a year ago, according to data from a new IHS Markit report.

The figures come from the latest Application Market Forecast Tool (AMFT), an Excel database updated every quarter by IHS Markit for customers of the semiconductor AMFT research service. The AMFT contains chip-forecast data on close to 100 application-equipment markets, including 50 categories for semiconductor devices.

The Q1 results, which also weighed the recent volatility of the DRAM market, projected that chip revenue growth for all of 2018 would slow slightly to 7.2 percent, down from an initially anticipated rate of

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# DfR Solutions and Electrolube to Study Coating Defects

Beltsville, MD — DfR and Electrolube have planned to participate in a joint research study to examine the cracking defects of conformal coatings. A significant number of electronic designs, driven by the explosive growth of automotive electronics and the Internet of Things (IoT), are incorporating conformal coatings to mitigate the risk of corrosion and en-

vironmental test failure.

However, incompatibilities between the coating, the design and the environment can result in cracks or tears in the conformal coating, consequently reducing or completely eliminating the effectiveness of the coating. This is especially true when using UV-cured coatings and performing thermal shock qualification testing. The joint study will involve a thorough, detailed investigation of over 3,000 samples, including artifi-

cial aging and characterization, over the course of six to nine months.

DfR Solutions' Sherlock Automated Design Analysis™ software is designed for analyzing, grading, and certifying the expected reliability of products at the PCB assembly level. Based on the science of physics of failure (PoF) or reliability physics, it is used by the electronics industry across all markets, allowing users to manage increasingly complex analyses quickly and efficiently.

The collaboration between DfR Solutions and Electrolube is expected to produce results and data to give global electronics manufacturers the full, informed advantage of increasing the long-term reliability of their products.

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## High-Torque Retention Knob From JM Performance Products

Fairport, OH — A new high-torque retention knob from JM Performance Products can boost the productivity of machining operations. The retention knob is designed to reach deeper into the threaded bore of the toolholder. As a result, all thread engagement occurs in a region of the toolholder where there is a thicker cross-section of material, resisting deformation.



*Retention knob installed in toolholder.*

When tightened, poorly designed retention knobs can bulge the toolholder imperceptibly at the small end of the taper, preventing full contact and proper seating of the toolholder in the spindle. This slows cutting speeds, affects tolerances and precision, shortens tool life and even increases power consumption.

By combining the high-torque retention knob with the correct torque, spindle contact with the taper is improved to close to 100 percent every time. This can be verified by simple six-step "touch off" test, which is available at the company's website.

More sophisticated measurement of toolholder expansion (bulge) can also be taken using a taper shank test fixture.

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