

# SCI AUTOMATION

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Dear Reader,

In this month's issue, we discuss plasma technology, and the benefits it offers in production. Frequently acknowledged as the fourth state of matter, plasma is an ionized gas which consists of positively charged ions and negatively charged electrons. Plasma cleaning systems generate this energy to remove impurities and contaminants, and modify the surface of a substrate. The result of which promotes adhesion between two surfaces by:

- Simple decontamination of their interfacing surfaces
- Generating a modified surface condition such as increasing the surface roughness
- Increasing the surface energy
- Rendering the surface hydrophilic
- Rendering the surface hydrophobic
- Removing metal oxides by physical and/or chemical interaction



When a surface is thoroughly activated, its bondability is fully optimized. As such, package yield is maximized, and the ROI on the product is greatly increased.

SCI Automation designs and manufactures very high quality plasma systems which have the flexibility to be configured with either Plasma Etching (PE) or Reactive Ion Etching (RIE) processes, both with very high uniformity in gas and RF distributions. Our QML family of plasma systems (below) were designed with these requirements in mind.



*QML Inline Plasma Cleaning System*

An inline plasma cleaning system, the **QML** is designed to handle "strip" form factor substrates. This features contained in this plasma system allow a reliable and repeatable cycling of the plasma process for 24/7 operation.

#### **APPLICATIONS:**

- Cleaning of copper leadframes prior to wire bonding
- Organic decontamination prior to wire bonding
- Adhesion promoter prior to molding
- Adhesion promoter of die attach materials on leadframes or PBGA strips
- Flux removal from semiconductor packages or hybrids
- General activation, cleaning and decontamination

Software includes a file system for recipes.

The **QML-CI** is a compact inline plasma system with the features of the **QML**, with the added capability of handling boats, Auer boats and ceramic substrates. It includes a conveyor belt and an indexer which receive the substrate from upstream, makes it available for the plasma chamber, and presents it downstream to the next step of production.



*QML-CI Inline Plasma Cleaning System*

**CONTACT US TODAY FOR YOUR PLASMA CLEANING NEEDS!**

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