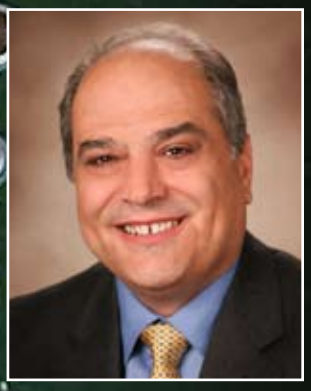
www.globalsmt.net

GLOBAL SMT & PACKAGING

The Global Assembly Journal for SMT and Advanced Packaging Professionals

Volume 9 Number 4 April 2009

ISSN 1474 - 0893



Krassy Petkov Interview Inside

HOT AIR SOLDER LEVELING IN THE LEAD-FREE ERA

VAPOR PHASE VS. CONVECTION REFLOW IN ROHS-COMPLIANT ASSEMBLY

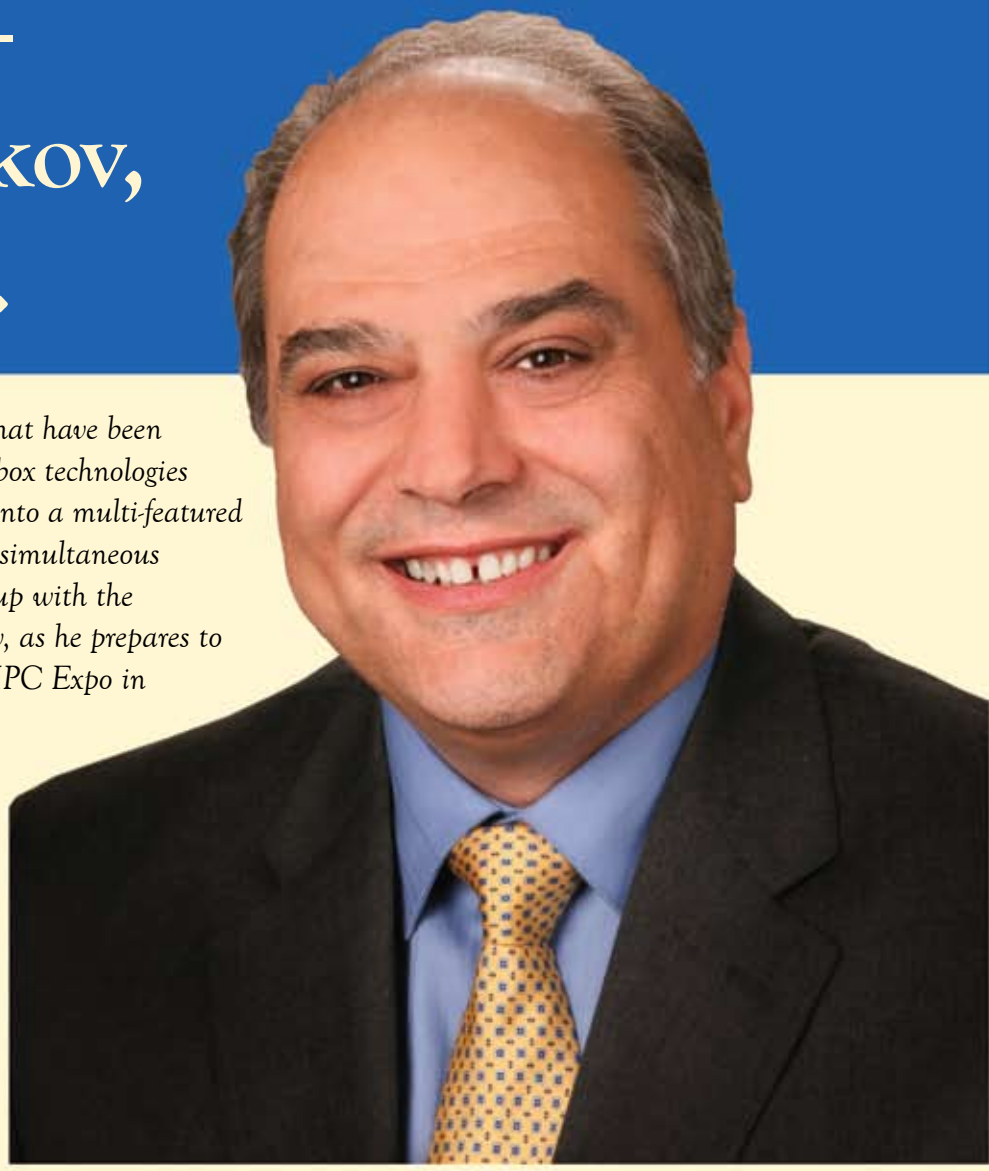
CONQUERING SMT STENCIL PRINTING CHALLENGES WITH TODAY'S MINIATURE COMPONENTS

NEW PRODUCTS

INDUSTRY NEWS

INTERNATIONAL DIARY

Interview— Krassy Petkov, Milara Inc.



Milara are one of these dark horses that have been fermenting with a range of out-of-the-box technologies that turn a mundane stencil printer into a multi-featured high-precision printing machine with simultaneous inspection. Trevor Galbraith caught up with the inventor and president, Krassy Petkov, as he prepares to unveil his latest machine at APEX/IPC Expo in Las Vegas.

Q1. I believe you are launching the Touchprint Digital TP2929 at APEX. Why digital?

Utilizing the latest in digital motion control network drive systems in conjunction with our progressive scan digital vision system, we thought this would be the perfect combination of technologies to launch out printer control platform. We now have control over all parametric functions of the vision system that allows us to eliminate optical components such as F-stops and analog lighting controls.

Q2. The original Touchprint had some revolutionary features, such as the vibrating squeegee and the ultrasonic under-screen cleaner. Are these still included in the new version?

Yes, our patented vibration squeegee and bottom-side ultrasonic cleaning systems are still viable components in this new platform.

Q3. I understand this new printer is fitted with SimuTech technology. What is it and how does it work?

SimuTech is a new 'buzz term' we want to introduce to the industry. It allows us to perform multiple concurrent operations or 'simultaneous functions,' a feature that all other printers lack. We will be able to print AND inspect, bottom side clean AND inspect, bottom side clean and load the next PCB, inspect AND inspect (because we have two linear servo overhead camera gantries), print AND dot dispense, inspect AND dot dispense, bottom side wipe AND dot dispense.

SimuTech simply allows processing of two PCBs simultaneously, which current designs and triple track systems simply do not.

Q4. One of the unique features in the original Touchprint was its dot dispensing capability. How has this improved?

We have partnered up with Asymtek who brings new Piezo electric dispensing head technology. We have successfully integrated their new SV-100 solder paste dot dispenser, which boasts many new advantages, such as greater speed than conventional auger type dispensers, dot and line deposition, compatibility with all flavors of solder paste and ability to dispense less than 300 µm dot diameters to name a few.

Q5. Have you been able to reduce cycle times in the new printer?

Concurrency is the key. Over the years in large volume applications, solder paste dispensing and the bottom-side cleaner were not taken into consideration for overall production throughput. Today that is a different story. With SimuTech, this will eliminate the tack-time addition of bottom-side wiping, and with our new 'dispense while you print' paste dispenser, we can replenish the paste bead while printing. The addition of our linear servo motion technology also gave us a significant speed boost when performing camera inspection routines. Also, having a quad-core processor certainly helps reduce cycle time when

performing all the arduous mathematical operations and image processing for our texture-based 2D post print inspection.

Q6. The Touchprint has a cast iron base. Why did you feel it was necessary to use such a heavy frame?

SimuTech requires multiple axes operation during the cycle. After a finite element analysis (FEA) of our original steel frame structure, we found it to be insufficient when we applied multiple axis movement at sub-ten second production rates, especially when factoring in the high performance linear servo movements in opposing directions.

Q7. Have you also upgraded the motors and drives?

As stated previously, on the major high-speed axes we have incorporated linear servo motion technology with linear feedback to give us real world positioning. We are controlling all motion with a digital servo network that is proprietary to our product.

Q8. At which markets and applications is the Touchprint targeted?

All SMT markets will be our main targets, along with solar and possible applications in the semiconductor wafer printing/ bumping fields as well.

Q9. You have a large robotics factory in Bulgaria. How much of this machine is built in Eastern Europe and how much in the USA?

We have recently completed our 107,000 square foot state-of-the-art facility in Plovdiv, Bulgaria. We are equipped to produce high precision robotic components in conjunction with general automation designs. In fact we will be rolling out four new wafer handling robots at SEMICON West this year. A major portion of this factory will be dedicated to producinge all high precision components and sub assemblies used for the TouchPrint, which includes the main frame and skins. Final assembly, validation and verification will be done at our facility in Massachusetts, USA.

Q10. Do you have many innovations in development to take the Touchprint to the next level?

This is one of those tricky 'fortuitous' questions in which I don't want to upset our engineering teams by giving out all of our ideas. All I can say at this point is that by staying with our original concept back in 2004 of 'combined system technology' we are also going to introduce jet dispensing in our TouchPrint platform. Like Mercedes, they make one of the finest automobiles in the world—do you think they don't have new ideas for the next generation?

Q11. Do you have plans to introduce a model for the solar cell market?

Solar, definitely. We want to jump into that market along with the rest. Large PCB for new blade server technology is another venue for us but I don't want to give out all our plans to our competition.

Q12. Manufacturers of printers are being severely hit by the current downturn. Why are you releasing this machine now, and what makes you think that Milara can beat the recession better than, say, DEK or Speedline?

You know, someone of importance once asked me that question a few years back. In fact, they actually told me not to "waste my money" and to go invest it elsewhere. This was very inspiring to me, for I turned it into a motivational inspiration that is keeping me in the game today.

I have hobbies, which I consider a sport. In this sport, I have been in two Olympics and heading to my third. This sport teaches me how to win. To do so, I need diversity within my company to bring a variety of new and innovative ideas which help generate new products.

We build the number one robot for the United States Army, saving numerous lives in Iraq and Afghanistan. We are financially strong and unaffected by this 'media generated' recession. We have no loans and do not rely on credit from any good or 'failed' banks. We are highly experienced in robotics for not only the military but commercial industries too. We design and build printers for the SMT and semiconductor industries, and the later has been the most painful. However, we will NEVER give up until we are number one.

Krassy Petkov—thank you very much for talking to us today..

Trevor Galbraith.