

## **Tango Systems Inc. Achieves Conformal Deposition for 15:1 Aspect Ratio TSVs**

*PVD Tool optimization results in the industry's highest TSV step coverage for interposers and 3D ICs*

SAN JOSE, Calif., Nov. 4, 2014 – Tango Systems Inc., a leading innovator in high-performance, cost-effective physical vapor deposition (PVD) systems, today announced it has published results for conformal step seed layer coverage for through silicon vias (TSVs) with a 15:1 aspect ratio. This significant achievement represents the industry's highest TSV step coverage for interposers and 3D ICs. The results were achieved using Tango's flagship Axcela™ PVD platform.

"2.5D interposers and 3D ICs are now in low-volume production for high-end server applications. To enable high volume manufacturing for consumer applications, via diameters must be aggressively reduced. High aspect ratio (HAR) TSVs are one way to do this," says Ravi Mullapudi, CEO, Tango Systems. "At Tango, we've been fine-tuning hardware and process conditions in our Axcela platform to exceed step coverage requirements for HAR TSVs, and are pleased to announce our success in conformal coverage of 15:1 aspect ratio TSVs."

In TSV seed layer deposition processes for silicon interposers and device wafers, the Axcela PVD process window accommodates TSVs with via diameters ranging from sub-micron to 100µm, and aspect ratios as high as 15:1. The multi-wafer cluster architecture, coupled with the patented D-Source magnetron technology and ICP clean configuration, makes the Axcela PVD platform the most flexible, reliable, and cost-effective system in its class, capable of depositing metal layers from 10Å to 10µm layer thicknesses.

Tango's step coverage capabilities also address industry requirements for under bump metallization, redistribution layer, TSV, CMOS image sensor, electro-magnetic interference shielding, and molded substrates. With the smallest footprint in the industry, Axcela's technology and extendibility accommodate wafer sizes from 150mm - 300mm in the same system, and requires only a quick and easy hardware change.

### **About Tango Systems Inc.**

Tango Systems, a leading innovator in high-performance, cost-effective PVD systems, has been supplying equipment and PVD process solutions in the Advanced Packaging, hard disk drive, ultra-thin films, interposers and TSV markets for 10 years. Customers benefit from Tango Systems' TSV processing through ease of maintenance, high throughput, the lowest cost-of-ownership, high tool availability, active wafer cooling and low-temperature PVD processing. For more information on Tango Systems, visit our website, [www.tangosystems.com](http://www.tangosystems.com).

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