News **16th June 2008**

MVS receives several cluster tool system orders for Thin Film Silicon technology

Golden, Colorado, USA: MVSystems, Inc. is pleased to announce the recent completion and receipt of following contracts.

1. MVS has received a second order, in a period of two years, for a cluster tool system from **the National Renewable Energy Laboratory, Golden.** The cluster tool is designed to allow the connection to glove boxes for integration of in-vacuum and atmospheric process and will be used by Dr. D. Ginley's group for advanced solar cell development.

2. MVS has received an order from **The University of Toledo, Ohio** for a cluster tool system capable of handling rigid and flexible substrates using reel to reel cassette approach**.** The order includes the installation of a complete facility including gas supply and effluent handling systems**.** The system/facility will be used by Dr. R. Collins's group for advanced thin film silicon solar cell development.

3. MVS has received an order from **California Institute of Technology** to enhance the existing cluster tool system previously provided by MVS. The system is used by Dr. H. Atwater's group for advanced thin film silicon solar cell development.

4. MVS has delivered and installed at **London Nanotechnology Center, University College London, England,** a muliti-chamber PECVD system for silicon thin film Silicon development for display applications, under the direction of Professor Arokia Nathan.

5. MVS has successfully installed a cluster tool system for **National Renewable Energy Laboratory, Golden.** The cluster tool consists of numerous PECVD, Hot Wire CVD and sputtering chambers. This is used by Dr. Qi Wang's group to conduct research into thin film Si solar cells.

6. MVS has successfully installed a PECVD system in Haifa, Israel for **Sirica Corporation**. This is used for their proprietary imaging technology based on amorphous silicon.

7. MVS is also conducting R & D in memory devices, solar cells and solar to hydrogen conversion using amorphous silicon, for various entities, including projects sponsored by the National Science Foundation, Department of Energy and industry.

MVS manufactures advanced **Cluster Tool** systems which allow integration of different process modules such as **PECVD, sputtering, Hot Wire CVD, rapid anneal etc.** The process modules are stationed around a central evacuated isolation and transfer zone (ITZ): a computerized robotic arm, situated within the ITZ, inserts and extracts the substrates from the process chambers. This versatile configuration permits the deposition of multi-layers in any sequence, thus allowing the fabrication of advanced electronic device structures, such as solar cells, thin film transistors, sensor arrays, etc.

MVS's patented (US patent number:6,258,408 B1) **Reel to Reel Cluster Tool** involves the use of a cassette, which houses a flexible material and the design enables elimination of cross contamination in the fabrication of advanced devices (solar cells or thin film transistors) on flexible substrates. The system also allows the use of cassettes and planar substrates.

MVSystems, Inc., a US based company, was founded by the leading authorities in the thin film semiconductor area. They have pioneered the expanding and versatile Amorphous Silicon technology from 1970 onwards. The principals involved have a long history of PECVD equipment development for research and production. MVS has delivered in excess of 70 systems and are located in 19 countries.

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