

## MVS receives export orders for cluster tool systems for the deposition of Amorphous Silicon on flexible and rigid substrates.

**Golden, Colorado, USA:** MVSsystems, Inc. is pleased to announce the receipt of following contracts.

1. MVS has received a cluster tool system order from **Arise Technologies, Canada** and will be installed at **The University of Toronto, Canada**. The system will be used by Dr. Nazir Kherani's group for advanced thin film silicon solar cell development.
2. MVS has received an order from **The University of Stuttgart, Germany** for a cluster tool system capable of handling rigid and flexible substrates (web width of 30cm) **using reel to reel cassette approach**. The system will be used by Dr. M. Schubert's group for advanced thin film silicon solar cell development and thin film Si electronics.



Amorphous silicon deposited on plastic in a reel to reel cassette cluster tool system- 30cm web width.

MVS is currently building a cluster tool (rigid and flexible substrates **using reel to reel cassette approach**) systems for **The University of Toledo, Ohio** and cluster tools using rigid substrates for **California Institute of Technology** and for **National Renewable Energy Laboratory, Golden, Colorado**.

MVS has recently installed sophisticated systems at the **London Nanotechnology Center, University College London (England)**, **National Renewable Energy Laboratory (Colorado)**, **Sirica Corporation, (Israel)**.

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 planar substrates.

MVSsystems, 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.