

News

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MVS completes various contracts related to Thin Film Silicon technology

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

1. MVS has delivered and installed at **The University of Waterloo, Canada** two systems, (a) a reel to reel cluster tool system to be used for flexible display development using amorphous silicon thin film transistors (TFT) and (b) a high temperature (~1000C) PECVD system for silicon nano-wire development. Over the last 3 years MVS has supplied to the same group several cluster tool systems for TFT development.
2. MVS has successfully passed the acceptance test for a cluster tool system for **National Renewable Energy Laboratory, Golden**. The cluster tool consists of numerous PECVD, Hot Wire CVD and sputtering chambers. It will be installed shortly at NREL facilities.
3. MVS has successfully completed phase 3 R and D project partially funded by **XSunX Inc.** This entailed the development of amorphous silicon semi-transparent solar cells and laser scribed modules on inexpensive plastic and glass substrates.
4. **Sirica Corporation of Israel** has awarded a contract to MVS to build a PECVD system for their proprietary technology based on amorphous silicon.
5. Under two contracts from **The University of Hawaii**, MVS has successfully completed the development of, (a) phase 2 of solar energy to hydrogen conversion using photo-electrochemical approach and (b) a four terminal solar cell device using a-Si and CIS devices.
6. MVS is also conducting R & D in memory devices, thermal imaging systems etc., using amorphous silicon, for various entities.
7. Under a multi-million dollar R & D contract, from **XsunX Inc.**, MVS is developing four terminal (amorphous silicon and nano-crystalline silicon) solar cells and is building a base line solar cell production line using MVS's patented reel to reel cassette cluster tool.

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. Each process chamber contains appropriate drives and mechanisms to locate the cassette over a deposition zone (e.g. PECVD or sputtering). Within the process chamber, the cassette is engaged for movement of the flexible material from one reel to another during the deposition process. At the end of deposition, the flexible material is returned to its original reel and locked into position and disengaged from the chamber for transport; the entire cassette is then transported to the next chamber in a similar fashion to that for a rigid substrate (i.e. using a robotic arm). Hence cross contamination is eliminated for fabrication of advanced devices (solar cells or thin film transistors) on flexible substrates. The system also allows the use of cassettes and 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.

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