

SOLARIS coating system improves production of crystalline solar cells

Oerlikon Systems and Meyer Burger enter strategic cooperation

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Oerlikon Systems and Meyer Burger signed a strategic distribution and cooperation agreement for the SOLARIS thin-film coating equipment. As part of the agreement, Meyer Burger's sales & service organization will represent the SOLARIS for crystalline Silicon PV application in most regions, such as China , Taiwan , Europe, Middle East , India & the Americas . Furthermore, the two high tech companies will work together to further develop anti-reflective coatings and other innovative process steps within the manufacturing process of crystalline solar cells

“Meyer Burger’s focus, strength and experience in the crystalline silicon PV market will enable us to reach out to cell manufacturers faster & more efficiently. Furthermore, we see significant synergies by leveraging Meyer Burger’s capabilities in automation, wafer & cell measurement tools and – last but not least – with Meyer Burger’s expertise in wafer surface design.” says Andreas Dill, Head of Oerlikon Systems.

“We are very happy to have Oerlikon Systems – a true leader in thin film technology - as our partner. This agreement is in line with our growth strategy to expand our successful model of providing core technologies in photovoltaics – to the benefit of our customers by further reducing cost of ownership while increasing conversion efficiencies and plant output” adds Peter Pauli, CEO of Meyer Burger.

The SOLARIS system is a high speed single wafer sputter system, similar in design to other high performance manufacturing systems from Oerlikon for optical discs and Semiconductors. The system is very flexible in its possible configurations, such as for anti-reflective coatings and back-side passivation & metallization for crystalline solar cells. It excels in its productivity, process quality & stability, lowest energy consumption and space requirements. The recent live demo of the system at the EU PVSEC in Hamburg generated a lot of interest & excitement.

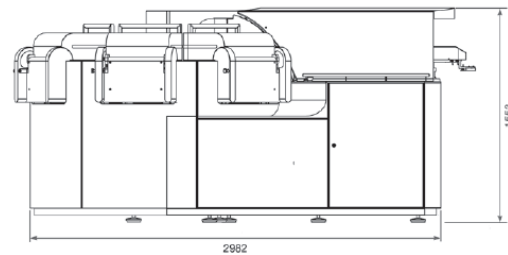
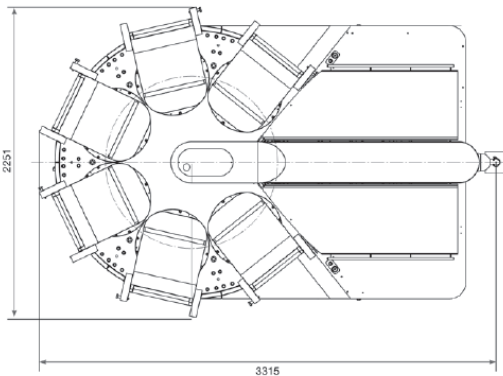
The SOLARIS system is based on advanced nanotechnology. In solar cell or photovoltaic production with SOLARIS, very thin layers of silicon nitride are applied on the front of the cells. However, the flexibility of SOLARIS also allows coating of the backside with various materials. Each wafer is handled and coated separately. With six coating chambers, a special carrier transport mechanism and a wide range of potential layer material, SOLARIS is not only highly flexible but at the same time enjoys unmatched productivity. The machine is able to treat standard wafer formats from 125mm² to 156mm², with an average amounting up to 1,200 wafers per hour. Changing substrate formats, layer materials or processes requires minimum time. A new system at a customer site can be installed and ramped up in less than one week.

“With SOLARIS, we for the first time apply advanced nanotechnology in the production of crystalline solar cells”, explains Andreas Dill, Head of Oerlikon Systems – “with enormous advantages for solar cell manufacturing. Firstly, with a size of 2.0 x 3.3 meters, SOLARIS requires 80 % less floor space than competitive solutions. Secondly, the fully automated solution requires minimal maintenance. Thirdly, SOLARIS needs significantly less power (minus 50 percent). Last, but not least, lower maintenance requirements result in a significantly higher uptime.

The benefits of SOLARIS are quite obvious. It’s a revolutionary concept for solar cell manufacturing – the first of many ‘clean technologies’ possible with this new system”, says Dill.

The Oerlikon development teams have further, specific applications in mind:

- **Touch panels:** These devices are being integrated in a wide range of applications from smart phones to PCs and refrigerators. SOLARIS applies a key conductive layer and anti-reflective coatings on the touch screen panels.
- **Thermoelectrics:** These “green energy” devices generate electricity when heated. The thin film layers applied by SOLARIS are efficient at conducting electricity, but not heat, which keeps the device running.
- **Energy storage:** Actually a family of applications that includes highly efficient (smaller and lighter) thin film batteries and advanced super capacitors for energy storage; SOLARIS provides thin film processes for all of these.



For further information see www.oerlikon.com/systems/solaris

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About Oerlikon – Enabling High Technology

Oerlikon (SIX: OERL) is one of the world's leading international high-tech industrial groups specializing in machine and plant engineering. The company is a leader in the field of industrial solutions and innovative technologies for textile manufacture, thin-film solar and thin-film coating, drive, precision and vacuum systems. With roots in Switzerland and a long tradition stretching back 100 years, Oerlikon is a global player with a workforce of more than 16000 at 158 locations in 37 different countries. The company's sales amounted to CHF 4.8 billion in 2008 and it ranks either first or second in the respective global markets.

About Meyer Burger Technology Ltd

www.meyerburger.ch

Meyer Burger Technology Ltd is a leading and globally active technology group for innovative systems and processes for cutting and handling crystalline and other high-grade materials.

The machines, competences and technologies of the different companies in the group are used in the solar industry (photovoltaics), semi-conductor and optical industry. The thinnest wafers made from silicon, sapphire or other crystals are required in these three markets to manufacture solar modules, switching circuits or high-performance LEDs. The group's core competences are made up of a whole range of production processes, machines and systems that are used within the value chain in the manufacture of high quality wafers. The comprehensive range of products is complemented by a worldwide service network with

wear and tear parts, consumables, re-grooving service, process know-how, servicing, after-sales service, training and other services. As a globally active company, the group is represented in Europe, Asia and North America in the respective key markets.

Meyer Burger has its headquarters and the production facility of Meyer Burger Ltd in Switzerland. The group companies, Meyer Burger Automation GmbH, Hennecke Systems GmbH and AMB Apparate + Maschinenbau GmbH, have their headquarters and production facilities in Germany. The recently acquired Group Member Diamond Technologies Inc., has its headquarters in Colorado Springs, CO, USA. The group also has subsidiaries and own service centres in Germany, Norway, China and Japan, which all are represented by its own staff on-site. In Taiwan and the USA, Meyer Burger works with independent sales and service partners that are part of Meyer Burger's global service network. In other important countries the company relies on selected independent agents. Meyer Burger achieved net sales of CHF 213.4 million in the first half of 2009 and employed 635 staff worldwide as of 30 June 2009.