

## Corporate News

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### **centrotherm photovoltaics' centaurus technology for high efficiency solar cells successfully transferred into industrial-scale production**

- **More than 100.000 centaurus high efficiency solar cells already processed**
- **Cell efficiencies exceed 19.5 % in industrial production**
- **centaurus takes center stage at this year's SNEC PV**

*Blaubeuren, May 15, 2012* - At this year's 6th International Solar Industry and Photovoltaic Exhibition & Conference in Shanghai (SNEC), centrotherm photovoltaics AG focuses on the successful ramp-up of centaurus high efficiency cell production at customers in China and Europe. As a highlight, centrotherm offers live measurements of centaurus cells to the fair audience and thus demonstrates constant cell efficiency in mass production.

"Almost on a weekly basis, lab results of efficiency world records are reported. Yet, the crucial figures are those in mass production," commented Dr. Peter Fath, CTO of centrotherm photovoltaics AG. "By now, around 100.000 cells have been processed with centaurus technology - the majority at our Chinese pilot customer, who has already reached efficiencies of more than 19.5% in industrial-scale production on a daily average, and even up to 19.8% at its peak. These figures once more substantiate our technology leadership."

centaurus technology combines the one-step selective emitter technology with a local Al-BSF and dielectric passivated rear side. Compared to present standard industrial solar cells with extensive screen printed Al-BSF, centaurus cells show considerably reduced rear surface recombination velocity with increased  $V_{oc}$  of more than 10 mV and an improvement of internal light reflection for long wavelengths leading to a gain in  $J_{sc}$  of about 1.5 mA/cm<sup>2</sup>. Both effects are claimed to lead to an overall efficiency improvement of about one percentage point, allowing average production efficiencies of more than 19.5 %. Along with fine line printing, reducing paste consumption of the front side silver paste by more than 20 %, we already achieved conversion efficiencies reaching the 20 % level on 156x156mm<sup>2</sup> monocrystalline (cz) wafers.

Currently, more than 50MW of centaurus technology are in ramp-up into mass production. Further existing customers have already expressed great interest in implementing this technology. Its advantage is the availability for mass production at the same cost level as the standard process. Compared to other passivated rear side concepts, it is based on well proven processes and materials, allowing a fast and easy implementation into running production lines.

“We are pursuing the goal that our customers strengthen their position as premium cost leaders. Thanks to our regular upgrade packages they have the ability to apply state-of-the-art technology in the long run”, commented Dr. Peter Fath.

**Booth information centrotherm photovoltaics:**

SNEC PV Power Expo 2012: New International Expo Center, Hall E3, Booth 510

**About centrotherm photovoltaics AG**

centrotherm photovoltaics AG, which is based at Blaubeuren, Germany, is a globally leading technology and equipment provider for the photovoltaics sector. The company equips well-known solar companies and new sector entrants with turnkey production lines and single equipment to manufacture silicon, crystalline solar cells and thin film modules. As a consequence, the Group possesses a broad and well-founded technological basis, as well as key equipment at practically all steps of the photovoltaics value chain. centrotherm photovoltaics guarantees its customers important performance parameters such as production capacity, efficiencies, and completion deadlines. The Group employed around 1,900 staff as of the December 31, 2011 reporting date, and operates globally in Europe, Asia and the USA. centrotherm photovoltaics achieved revenue in the 2011 financial year of around EUR 700 million. The company is listed in the TecDAX index on the Frankfurt Stock Exchange.

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