Dresden, 23. September 2022

PVD IS THE KEY: VON ARDENNE PRESENTS COATING SOLUTIONS FOR HETEROJUNCTION, TOPCON AND TANDEM CELLS AT WCPEC-8 IN MILAN

From **26 to 30 September, VON ARDENNE** will present its latest results in the development of **PVD coatings for high-efficiency solar cells** at their booth (**A8/Mico North**) and during presentations at the **WCPEC-8** in Milan.

The World Conference on Photovoltaic Energy Conversion (WCPEC) combines the world's most important PV conferences with the European PV Solar Energy Conference (EU PVSEC), the Photovoltaic Specialists Conference (IEEE PVSC) and the International PV Science and Engineering Conference (PVSEC). Thus, it provides the ideal platform for international exchange.

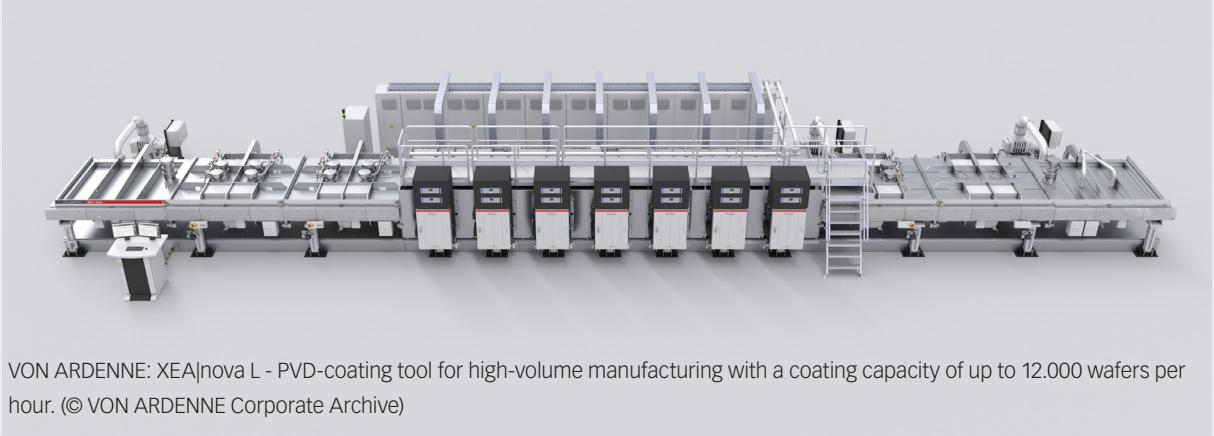
Highly efficient solar cells thanks to PVD coating

Soon, highly efficient solar cells will be essential to achieve the targeted climate goals and the shift away from fossil energy sources. **N-type cell technologies** such as **TOPCon** and **heterojunction** are the main concepts available for investing in production at gigawatt scale now. Solar cells with **more than 24 percent or over 25 percent efficiency** are already on the market. And the potential is not yet exhausted: the **next leap to 28 - 30 percent efficiency** is expected to be achieved in a few years **with tandem technologies**. This is a combination of two stacked solar cells for higher efficiencies in mass production.

The potential of the three technologies can only be leveraged with **PVD coatings**[1]. Thus, both **heterojunction** and **TOPCon technology** have already been able to challenge the previous standard (PERC cells) for **significant market shares**. A significant contribution to this has been made by the mechanical engineering company **VON ARDENNE**, which has already **placed** coating systems with an annual **production capacity of 14GW on the market**.

VON ARDENNE also has a pioneering role in tandem technologies: As one of the world's leading companies in vacuum coating technology and a specialist in scaling, the company is working with its partners on rapidly **transferring this technology** from the development and pilot stage **to high-volume production for gigawatt factories**.

Now, **VON ARDENNE is presenting the latest results of its development work on heterojunction, TOPCon and tandem solar cells at WCPEC-8** in Milan.



VON ARDENNE: XEA|nova L - PVD-coating tool for high-volume manufacturing with a coating capacity of up to 12.000 wafers per hour. (© VON ARDENNE Corporate Archive)

[1] PVD (physical vapor deposition) describes a variety of vacuum deposition methods, e.g. sputtering or evaporation.

VON ARDENNE GmbH I Am Hahnweg 8, 01328 Dresden I Germany I Phone +49 351 2637 300 I Fax +49 351 2637 308 I office@vonardenne.biz I www.vonardenne.biz
Geschäftsführung: Pia von Ardenne

Dresden, 23. September 2022

Invitation to presentations and poster sessions

Are you looking for ways to increase the efficiency of your products in the gigawatt range?
Do you want to learn about the latest developments in solar cell and module manufacturing?
At the event, we will present advanced coating equipment for n-type and thin-film solar technologies and show how we can help you increase solar efficiency.
We look forward to seeing you at our booth: A8/MiCo North.
You are also cordially invited to attend our poster sessions, presentations, and contributions in discussion panels:

MONDAY, 26 September 2022

Visual Presentation, 2AV.1.39:

Sputtering of NiOx for HTL in Perovskite Tandem or Single Junction Applications

- 13:30 - 15:00 Perovskite Photovoltaics
- René Köhler (Senior Engineer Technology)
- Poster Area (Silver)

WEDNESDAY, 28 September 2022

Roundtable Discussion:

Global challenges for PV Manufacturing and Deployment at an annual Terawatt Level

- 13:30 - 15:00
- Dr. Sebastian Gatz (Vice President Crystalline Photovoltaics)
- Industry Forum (Exhibition Area)

Oral Presentation:

PVD systems on a GW scale, today & tomorrow

- 16:15
- Dr. Sebastian Gatz (Vice President Crystalline Photovoltaics)
- Industry Forum (Exhibition Area)

VON ARDENNE GmbH I Am Hahnweg 8, 01328 Dresden I Germany I Phone +49 351 2637 300 I Fax +49 351 2637 308 I office@vonardenne.biz I www.vonardenne.biz
Geschäftsführung: Pia von Ardenne

Dresden, 23. September 2022

THURSDAY, 29. September 2022

Oral Presentation 1DO.12.4:

Potential of Sputtered AZO Layers for the Industrial Manufacturing of Hetero Junction Solar Cells (in cooperation with HZB and Fraunhofer ISE)

- 11:15 Silicon Manufacturing and Material Issues
- Dr. Eric Schneiderlöchner (Director Crystalline Photovoltaics)
- Auditorium Blue 2

Visual Presentation 1DV.4.40:

Single Sided High Throughput Sputter Process Technology for In-Situ Doped n-Type Amorphous Silicon Layers for High Efficiency TOPCon Solar Cells (in cooperation with ISC Konstanz and Fraunhofer ISE)

- 15:15 - 16:45 Characterization & Simulation of solar cells
- Dr. Eric Schneiderlöchner (Director Crystalline Photovoltaics)
- Poster Area (Silver)

ÜBER VON ARDENNE

VON ARDENNE develops and manufactures industrial equipment for vacuum coatings on materials such as glass, wafers, metal strip and polymer films. These coatings give the surfaces new functional properties and can be between one nanometer and a few micrometers thin, depending on the application. Our customers use these materials to make high-quality products such as solar cells and solar modules, architectural and automotive glazing, lithium-ion batteries, fuel cells or components for sensors and optics. Systems and components provided by VON ARDENNE make a valuable contribution to protecting the environment. They are vital for the manufacturing of products that help decrease energy consumption or generate energy from renewable resources.

With more than 60 years of experience in electron beam technology and over 45 years of expertise in magnetron sputtering, VON ARDENNE is a pioneer and worldwide leading provider of PVD thin-film coating equipment and technology and vacuum processing technology. We supply our customers with technologically sophisticated vacuum coating systems, extensive expertise, and global service. The key components are developed and manufactured by VON ARDENNE itself.

VON ARDENNE AT THE WCPEC-8 IN MILAN

DATE: 26. - 30. September 2022
BOOTH: A8 / MiCo North
PRESS CONTACT: Ingo Bauer
Phone: +49 351 2637-9000
Mail: presse@vonardenne.biz

VON ARDENNE GmbH I Am Hahnweg 8, 01328 Dresden I Germany I Phone +49 351 2637 300 I Fax +49 351 2637 308 I office@vonardenne.biz I www.vonardenne.biz
Geschäftsführung: Pia von Ardenne