

Tuesday, 9th May 2017

Printed organic photovoltaics: OPV solar umbrellas provide energy on the outer shell of the Thüringen “Climate Pavilion”

To promote the energy efficiency of the “Climate Pavilion” at Thüringen’s State Horticultural Show, OPVIUS has attached solar umbrellas based on organic photovoltaics to the outer shell of the pavilion by order of the Thüringen Ministry for the Environment, Energy and Conservation and in line with the specifications of bluekon3 and reich.architekten bda.

Kitzingen, Germany – The Thüringen State Horticultural Show will be opening in Apolda at the end of April with the slogan “Blossoms and so much more in Apolda”. At the same time, the state of Thüringen will be inaugurating its “Climate Pavilion”¹ which will initially serve as an exhibition area for the State Horticultural Show and will later be used for other events in Thüringen.

OPVIUS GmbH, market leader in the field of printed organic photovoltaics, has supplied an architecturally integrated photovoltaic system based on organic photovoltaics (OPV). It takes the form of solar umbrellas mounted on the external supporting structure of the dome. The pavilion planned by Prof. Jürgen Ruth (Bauhaus-Universität Weimar, bluekon 3) and Andreas Reich (reich.architekten bda, Weimar) and commissioned by the Thüringen Energy and Green-Tech Agency (ThEGA) is a translucent half-sphere and is supplied with shade and electricity by the 20 solar umbrellas.

The solar umbrellas developed from an idea proposed by Prof. Ruth consist of several OPV modules laminated between two polycarbonate plates (PC). The resulting semi-transparent umbrellas are both light, highly durable and unbreakable. OPVIUS used blue, clear-transparent free-form OPV modules for the project, based on the Lisicon® brand developed by Merck KGaA² as an active material. When in use, the solar umbrellas not only generate energy but also produce interesting shadow effects on the translucent outer membrane of the Climate Pavilion. The solar umbrellas for this project were installed by BELECTRIC PV-Dachsysteme Thüringen GmbH³ from Sömmerda.

The Climate Pavilion concept includes plans for use after the State Horticultural Show and at different locations. This is why the Pavilion has been designed for easy dismantling and reconstruction. The light OPV solar umbrellas make a valuable contribution here as they are light in weight and easy to assemble.

“Thanks to our innovative manufacturing technology and partner network, we can tailor projects to specific requirements as the project in Apolda shows,” explains Hermann Issa, Senior Director Business Development and Sales from OPVIUS. “In every project, it is fascinating to see how our product appeals to the creativity of our customers and how we at OPVIUS, can work with our partners to translate this creativity into technical products - this time in the form of transparent umbrellas based on polycarbonate. This project is another excellent example of how architects and developers are supported by organic photovoltaics to unite aesthetics and sustainability.”

“We are always surprised how many new solutions are made possible by OPV technology,” says Dr David Müller, Head of Marketing PV, Merck KGaA. “The Climate Pavilion in Apolda is a great example of the successful combination of design and function and we are delighted that our materials have made such an important contribution to this project.”

View project documentation on [You Tube >](#)

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¹ www.klima-pavillon.de

² <http://www.merck-performance-materials.com>

³ <http://www.belectric.com>

PRESS RELEASE



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About OPVIUS: OPVIUS GmbH, a German company with offices in Nuremberg and Kitzingen, is the market leader in the area of organic photovoltaics. OPVIUS produces bespoke organic solar cells and systems, tailored to customers' specific requirements. Furthermore, OPVIUS is active in the area of research and development, in order to continuously provide their customers with creative and innovative solutions. Additionally, OPVIUS employs a unique manufacturing process, based on a combination of printing, lamination and laser structuring processes. These give a distinct advantage due to their high scalability and, moreover, allow the implementation of custom designs. OPVIUS supports its customers with the integration of OPV in existing as well as new products and delivers the accompanying system solutions.

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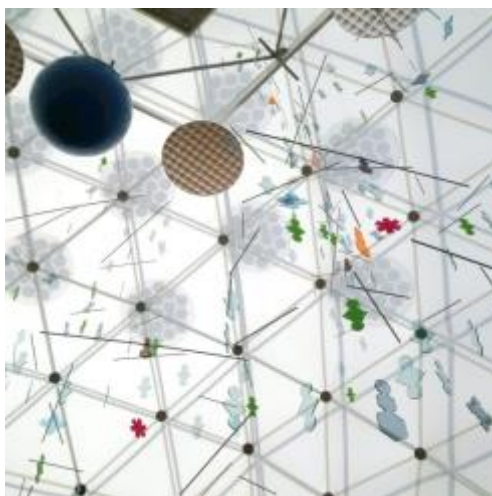
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Picture 1: Close-up of the OPV solar umbrellas on the bearing structure of the "Climate Pavilion"



Picture 2: Thüringer "Climate Pavilion" with OPV installation in the form of solar umbrellas



Picture 3: Inner view of the "Climate Pavilion"

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