

Tuesday, June 19, 2018

## OPVIUS presents first self-tending vertical garden

*The winners of the 2017 DGNB (Deutsche Gesellschaft für Nachhaltiges Bauen) Sustainability Challenge – BOXOM GmbH and OPVIUS GmbH – teamed up after the competition to establish an innovative joint project in vertical gardening. The final product? A zero-maintenance façade garden capable of looking after itself using solar power.*

**Kitzingen, Germany** – Vertical gardens on exterior walls and façades are an urban solution to increase the sustainability of our city landscapes. Having met during the 2017 DGNB Sustainability Challenge, the experts at BOXOM GmbH and OPVIUS GmbH teamed up to carry out a joint project to attractively combine a façade garden and printed organic photovoltaics (OPV). The two companies developed a lightweight façade garden capable of tending itself based on sophisticated watering and system technology. OPVIUS' semi-transparent OPV modules power the BOXOM façade system, which then supplies the integrated plants with the right amount of water and nutrients needed for growth.

BOXOM's mission is not just to create vertical gardens, but also to develop façade use for sustainable concepts. The light weight and semi-transparency of the organic photovoltaics (OPV) technology makes it an ideal combination option for vertical gardens. Not only do the OPV modules generate a power supply, they also provide shade for the plants, and protect them from drying out. Plants on the south-facing sides in particular are at risk of getting too much sun, and this is where the OPV modules can help.

The pre-tensioned structure, consisting of steel ropes made by Carl Stahl GmbH, serves as the basis for integrating the OPV modules and plants. The elevated plant cords and the OPV modules are both affixed to these vertically tensioned steel ropes. This system is available as a finished product, and can transform unused vertical façades into attractive, sustainable gardens. The combination of OPV and vertical garden unlocks completely new façade solutions – for both restored and new buildings.

The first OPV vertical garden is currently being presented at a technically innovative "Tiny House" created by Merck KGaA. In addition to the OPV, other highly developed Merck materials and products are also integrated into the Tiny House's many different functions, such as voice control, electrochromic windows, and flat OLED TVs.

Niklas Weisel, Managing Director of BOXOM GmbH, had this to say: "Botanic Horizon vertical gardens, using OPVIUS OPV modules, are a safe, easy way of creating gardens anywhere and fulfilling your passion for gardening even in a small space." Hermann Issa, Senior Director Business Development & Sales at OPVIUS GmbH, adds that "particularly in view of discussions surrounding fine dust and nitric oxide, the self-tending plant system can play an important part in helping with air purity and the wellbeing of local residents in densely built-up inner cities. BOXOM GmbH, with its Botanic Horizon products, and OPVIUS GmbH, with its printed OPV technology, are making an energy-neutral contribution to improving urban climate here."

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## PRESS RELEASE

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*OPV vertical garden on the technically innovative "Tiny House"*



*Plant cords and OPV modules affixed to vertically tensioned steel ropes.*



*Self-tending garden on a Tiny House façade.*



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## **About BOXOM**

*BOXOM was founded in Saxony's Ore Mountains in 2015, and develops and sells complete vertical-garden solutions for façades, interiors (such as offices, canteens, kitchens and living areas), and greenhouses under the Botanic Horizon brand (see and plant cords, a product from the "Plant technology based on textile cords" series"). The systems developed may be installed in walls and ceilings of new buildings or as a retrofit on existing buildings.*

*The completely unique, patented vertical plant technology based on textile cords enables a wide range of applications which, through the use of supplementary vertical technologies like photovoltaics, solar heat, heat pumps and much more, make life more convenient and comfortable.*

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## **About OPVIUS**

*OPVIUS GmbH, founded in 2012 and located in Nuremberg and Kitzingen (INNOPARK Kitzingen), is among the world leaders in the field of organic photovoltaics. OPVIUS produces organic solar cells with a focus on client-specific solutions. In addition, the company is also active in the field of research and development, in order to continue to provide its clients with creative and innovative solutions. In this regard, OPVIUS uses a unique production process, combining printing, lamination, and laser techniques. This advanced technology is easily scalable and allows the production of the utmost individual, customer-specific designs. OPVIUS also helps clients with system solutions in order to integrate OPVs into already existing or new products.*

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