



LAYER®

OPV (organic photovoltaic) modules for powering connected objects

Energy self-sufficiency in connected objects is a key issue for developing the Internet of Objects. This is why the team of FUN-PV – common to IM2NP (Carnot STAR Institute), CINAM and Dracula Technologies (DT) – is working to design and optimise organic photovoltaic cells and modules obtained by digital printing, and leveraging their respective expertise in organic electronics.

Carnot STAR Institute

Scientific / technological breakthrough

The common aim of FUN-PV and Dracula Technologies is to optimise the photovoltaic conversion efficiency of cells and modules exposed to artificial lighting.

The expertise of IM2NP (Carnot STAR Institute) and CINAM has helped accelerate the various different developments. This collaborative project has enabled Dracula Technologies to produce solar cells with a lab performance of up to 12% in standard lighting conditions (AM1.5).

Under specific indoor lighting conditions, a rate of over 20% has been achieved.

More importantly, these high performances are accompanied by long-term stability, even under extreme ageing conditions, giving an estimated lifespan of between 7 and 8 years. The prototype presented is an autonomous, communicating environmental sensor (temperature, pressure, humidity).



Competitive advantage for the economic stakeholders

The key feature of Dracula Technologies (DT) LAYER® technology is its good performance in poor light, its lightness, flexibility and small environmental footprint. Moreover, inkjet printing produces customised «designs» based around product constraints and electrical requirements.

Partnership

- DRACULA TECHNOLOGIES, a deeptech start-up based in Valence, southern France, uses organic photovoltaics to develop a technology that powers connected objects.

