# ! EMBARGOED until February 19, 7 am (Central European Time) !

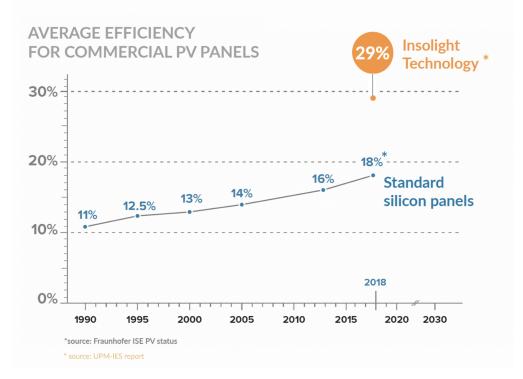
## **PRESS KIT**

## **INSOLIGHT PHOTOVOLTAIC TECHNOLOGY: IN BRIEF**

To bring the most efficient rooftop solar panels to the market, Insolight combines its own patented planar intelligent optical system and space grade photovoltaic cells - typically used in satellites. This combination allows for **efficiency approaching 30%** compared with an average of 17-19% for current standard silicon products.

Cost-effectiveness is key for the rooftop market. Thanks to the optical system, only 0.5% of the total surface has to be covered with cells to reach optimal efficiency. Since only a scattered array of cells is needed, **Insolight can make space grade photovoltaic affordable**.

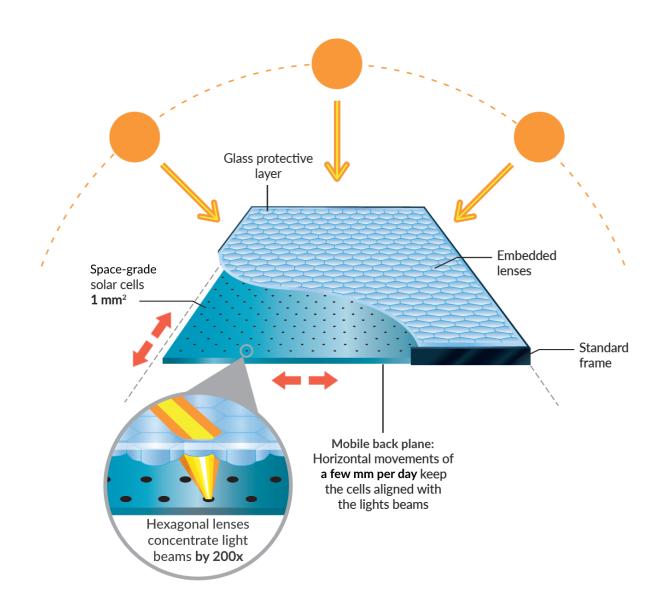
After decades of progress, the efficiency of consumer-grade solar modules has been stagnating. Insolight unique approach can **bring this growing market to the next level**. Its technology is designed from the ground up with cost-effectiveness, reliability, and versatility in mind.



## A RADICALLY NEW DESIGN

Insolight photovoltaic technology relies on **its patented planar optical micro-tracking system.** Embedded under the cover glass, an optical layer funnels concentrated light beams onto an array of high efficiency space-grade solar cells. Encased under the top layer, a mobile layer keep the cells under the light beams, following the Sun's trajectory with slight horizontal movements in the millimetric range.

The resulting 45 mm thick panel combines very high efficiency with ease of mounting on any standard rooftop or ground-mounted racks.



MAKING SOLAR ENERGY AFFORDABLE

### **KEY ADVANTAGES**

Insolight unique and patented design allows for an efficient, cost-effective, sturdy and versatile product for the rooftop market.

#### **1. EFFICIENCY**

Insolight's technology allows unprecedented results for a flat solar panel, with **a peak efficiency reaching over 29%** at module level - while commercial modules currently stand at an average of 17-19%. These results were validated on a fully functional pre-series module by the Solar Energy Institute of the Universidad Politécnica de Madrid (IES-UPM) at Concentrator Standard Test Condition in November 2018, a decisive step before hitting the market.

Commercial module efficiency has reached a plateau, with only 3% progress over the last 15 years. If we want photovoltaic to become a truly competitive source of energy, in a variety of settings and regions, new approaches are needed to break the ceiling.

#### 2. COST-EFFECTIVENESS

Since the solar light input is optically boosted, Insolight's panels can reach an optimum efficiency with only 0.5% of their surface covered by solar cells. This allows to radically bring down the cost of space grade photovoltaic technology and make it available to consumers.

Moreover, higher efficiency is key for a better return-on-investment. In developed countries, on residential or commercial rooftops, the price of labor, the modest economy of scales or the installation soft costs prevent solar energy from competing without heavy subsidies. Solar modules account for only 25% of residential installation costs in Europe [source IRENA 2017]: even solar panels given for free may not balance the system costs!

Higher efficiency allows a better payback of the full installation. By boosting the energy yield well beyond the capabilities of mainstream PV modules, **Insolight targets a 30% reduction of solar electricity overall costs** on rooftops.

#### **3. VERSATILITY**

Ease of mounting is key for the commercial success of photovoltaic technologies. The patented planar micro-tracking system is a radically new design, conceived from the ground up with simplicity in mind. The Sun tracking is achieved thanks to subtle horizontal sliding movements of an encased layer.

Unlike conventional concentrators, Insolight's modules stay at a fixed tilt. This avoids the use of complex rotational mounts as in conventional concentrated photovoltaic devices, where

the panels' weight needs to be accurately moved, resulting in cost overheads and reliability issues such as wind load.



To sum it up, Insolight's panels' **mounting requirements do not differ from standard mainstream PV panels**. They can be easily set up in the same variety of environments, including rooftops, where the need for high efficiency is the strongest.

#### 4. RELIABILITY AND DURABILITY

The integrated micro-tracking enables high reliability, as the micro-actuation is encased inside the panel and therefore protected from the environment. The cumulated stroke over the product lifetime is very modest compared to conventional trackers, limiting any risk of wear.

The optical polymer used is highly resilient to UV light and temperature variations and is an industry standard, well known for its durability. When required, it can be easily cleaned. The other key components - the space-grade photovoltaic cells - equip multi-million dollars satellite and must keep operational during many years in extreme conditions of radiation and temperature. While constantly improving, space grade photovoltaic technologies have been used for decades, showing exceptional durability.





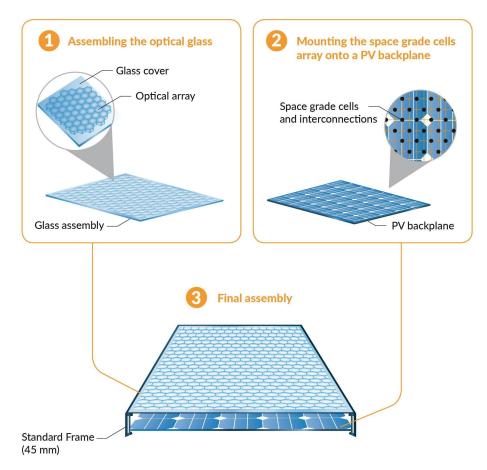
**Insolight's module reliability was confirmed by several pilot installations** in Europe, with modules installed outdoor for more than a year, enduring winter conditions, heat waves, and storms without exhibiting degradation.



MAKING SOLAR ENERGY AFFORDABLE

#### 5. COMPLEMENTARITY WITH CURRENT TECHNOLOGIES

**Insolight's system can be assembled as an overlay on top of a standard PV panel.** Since only 0.5% of the module's surface is covered with solar cells, a standard PV layer could use the remaining 99.5% space. This hybrid approach is especially interesting in cloudy conditions, where concentration efficiency decreases, to maintain energy harvesting under diffuse sunlight.



It involves a few extra assembly steps, which can be added at the end of existing module production lines, taking leverage of production capacities already in place. No complex cleanroom processes are required since Insolight's technology relies on pre-existing spacegrade solar cells. This will limit the investment and risk associated with manufacturing while speeding up the commercialization.

