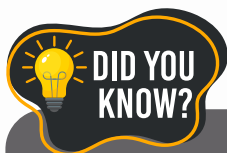


# CHALLENGES

It is well known that maintenance is vital for solar energy production, as over time the photovoltaic (PV) system tends to **accumulate light obstructions** on the PV panels (dirt, sand, moss, etc.) and reduce efficiency as **heat builds up** in the system. These naturally occurring issues can negatively impact the performance if the **costly maintenance** is not planned properly.



A study by Sulaiman et al. (2014) found that the accumulation of **dirt, dust, sand, water, and moss** on the surface of PV panels can reduce their efficiency by **up to 85%**.



# SOLUTION



**Reducing the dust, water, sand and moss** from accumulating on the surface of the PV panels, a coating is required. A **silica nano-particle** in a siloxane matrix coating provide a unique combination of water **repellency and durability** needed for **low/zero maintenance** solar PV panels.

For the energy inefficiencies that causes heat, specifically at the **PV junction box, DC/AC inverter** and **cables**, the infusion of our Patented Resonance Technology creates an **Electron Vibration Alignment (EVA) field** that is based on the principles of **Quantum Anomalous Hall Effect (QAHE)**, discovered by Edwin Hall in 1881), will **align the movement of electrons** in all matter so that their physical properties are fundamentally enhanced resulting in **energy efficiency**.

#### Reference List:

1.Sulaiman et al., (2014) Influence of Dirt Accumulation on Performance of PV Panels, Energia Procedia 50, p. 50 [Online] Available at: <https://doi.org/10.1016/j.egypro.2014.06.006>

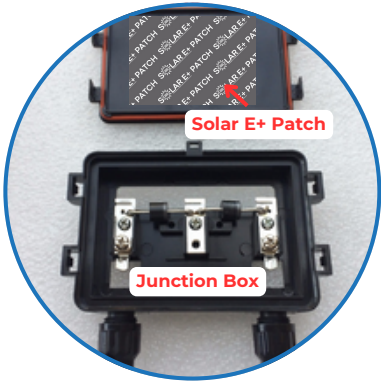


**Component:** Solar PV Panel

**Type P:** Hydrophobic Nanocoating

**Description:**

Silica nano-particles in siloxane matrix enhance solar PV panels efficiency and durability with transparency and aesthetics



**Component:** Junction Box

**Type J:** Solar E+ Patch (inside or outside the junction box cover)

**Description:**

With the use of Solar E+ patch, an EVA field is created generating a frequency field that will align the flow of electron (current) while suppressing the electromagnetic interference.



**Component:** DC/AC Inverter

**Type I:** Solar E+ Patch (inside or outside the inverter panel)

**Description:**

With the use of Solar E+ Patch, an EVA field is created, aligning the vibration and movement of electrons in all matter so that their physical properties are fundamentally enhanced.

