



**Alpine energy generation in harmony with nature.**

## Rethinking photovoltaics in the mountains

In the high mountains, a pioneering development is taking place that promises technical innovation in harmony with nature.

A team of experts in geology, natural hazards, wind & snow mechanics, construction, photovoltaics and electrical engineering set out on an innovative journey that is already revolutionising the future of renewable energy generation in the mountains.

Cooperation partner Turn2Sun / Planair: Switzerland, France, USA, Canada, Japan  
Sales partner protec-s: worldwide

### HELIOPLANT®'S BACKGROUND

## DEVELOPMENT - REFERENCES

HELIOPLANT® is the result of over 15 years of development of PV systems in the mountains

### PV systems in the mountains:

- Wildkogel 2009: 2,100m altitude / approx. 1MWp / 1.3GWh
- Pitztal Glacier 2012 (SolarSnowPower): drift fence
- Pitztal Glacier 2015: 2,900m altitude / approx. 1MWp / 1.5GWh

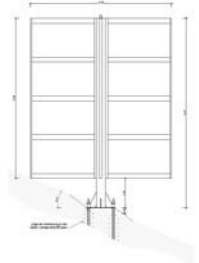
### HELIOPLANT®

- Hochzeiger test field 2022: 2,300m altitude / 3 prototypes / 1,380kWh/kWp
- East Tirol test field 2023: 1,400m altitude / 1 prototype / 1,270kWh/kWp
- Sölden test field 2023: 2,850m altitude / 12 elements / 1,480kWh/kWp (winter: 587kWh/kWp)
- Gondo test field 2023: 2,150m altitude / 12 elements / 1,350kWh/kWp (winter: 542kWh/kWp)



Planning team: ehoch2 - i.n.n.

**HELIOPLANT® DM/234443:**  
Height: approx. 6m / Width: approx. 4.5m





## Advantages

- + Mostly **snow-free** due to cratering
  - + **Better integration** into the **landscape** thanks to vertical structures
  - + **Low glare** due to small vertical structures with different module surface orientations
  - + Easy way to **keep special locations clear** without negative effects on snow deposition
  - + Can also be used in steep areas: **avalanche protection** – starting zone protection
  - + Simple, flexible **foundation without concrete base** via 4 micro-piles
  - + Foundation in loose rock underground conditions easily possible - leads in any case locally to **stability increase** in the subsoil (piling)
- 
- + **Easy assembly** of the prefabricated structure on site thanks to a high degree of pre-assembly
  - + Yield: **high proportion of winter electricity** and good distribution throughout the day due to different orientations of the **bifacial module surfaces**
  - + **Dimensions of the current conductors reduced** due to optimised DC/AC ratio
  - + Application **not exclusively in south-facing** areas due to vertical orientation
- 
- + **Low costs** (substructure/foundation) with optimum utilisation of the perimeter
  - + **Low impact on soil sealing** and thus on surface run-off formation
  - + **Low impact on vegetation** as no permanent shading of the surface
  - + **Low impact on animal ecology**
  - + **Grazing still possible**
  - + **Accessibility** between the individual structures **without opening up paths**

A close-up photograph of the Helioplant solar panels, which are dark and rectangular, mounted on a snowy mountain slope. A small HELIOPLANT logo is in the top right corner.

**HELIOPLANT®**  
The innovative  
photovoltaic system for  
the mountains

[www.helioplant.energy](http://www.helioplant.energy)  
[helioplant.linkedin](https://www.linkedin.com/company/helioplant)

