

2022 When performance matters







THE HEATENED







The L.I.G.H.T wing

The Lithuanian Incubator of Green and High Technologies (L.I.G.H.T.) hosts SoliTek R&D, manufacturing & head office in Vilnius, Lithuania.

Constructed by Global BOD Group in 2011.

In 2013 recognized by German Chamber of Commerce as the "Greenest Industrial Building in Europe".

Production is powered and cooled by renewable energy mix - both solar (150 kW on the roof) and geothermal.





It's all about innovation

Manufacturing innovation is SoliTek DNA. In 12 years we have matured to offer the European market an exceptional new products, that will please even the most refined and demanding customer.

At the core of innovative product lie 3 major elements:

- Bifacial monocrystalline solar cells
- Premium tempered glass to glass lamination
- Flawless industrial design





Partners in research

Universities:

- ISC Konstanz (DE)
- CEA-INES (FR)
- SINTEF (NOR)
- Fraunhofer ISE (DE)
- Fraunhofer CSP (DE)
- DTU (DK)
- KTU (LT)
- VU (LT)
- Protech (LT)





SILVER



Memberships







Sertificates



European Commission

> Horizon 2020 **European Union funding** for Research & Innovation



2018.05 - 2022.10 - coordinator



2018.06 - 2022.11 - partner



2019.10 - 2022.09 - partner



2015.10 - 2018.10 - partner



CABRISS

2015.06 - 2018.06 - partner



PRODUCED USING 100% RENEWABLE ENERGY





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Cradle to Cradle[™] certified

Cradle to Cradle Certified [®] Product Scorecard				
MATERIAL HEALTH	Silver			
MATERIAL REUTILIZATION	Gold			
RENEWABLE ENERGY & CARBON MANAGEMENT	Gold			
WATER STEWARDSHIP	Platinum			
SOCIAL FAIRNESS	Gold			







Production 07

Facts & Figures









SoliTek production, 2021

120MW

Total produced capacity

SoliTek production forecast, 2022





Our customers

60%

Of our solar panels is exported to Sweden, Finland and Benelux.

85%

Of our solar panels are exported to EU markets.

The majority are the PV installers, distributors, and project developers in the EU.



Solitek projects 09

Ground mounted solar plants

1100 homes

2 MW Ukraine



Electricity delivered to



Bifacial solar plant with horizontal single-axis sun tracking system





10 — Future

Energy storage solution

R&D Battery Equipment

2022 Vilnius Lithuania











Premium products

Product Portfolio

BLACKSTAR (Solid framed) 365W





SOLID Agro 240W



Certifications



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Product warranty

Power Guarantee After 30 years



Efficiency guarantee

30 Years



355W



SOLID Wall 355W



Glass - Foil Standard, Half-cut cell 365W/375W





Glass - Glass advantages







Frameless - able to handle high snow loads



Extreme load resistance **Certified**







Efficiency is important



Market standard of 12 year product warranty and 25 year efficiency warranty sounds good only on paper. This means that if the panel fails completely after 13 years it is not covered by any warranty.

- 30 years product warranty
- 30 years of 87% efficiency warranty
- 50 years predicted lifetime

Best choice for your wallet. 30 year savings

A house with a Solar PV system increases by ~3% in value and sells 20% faster! It makes sense to invest in a PV system that lasts!

23% more savings!

Years



* Levelized cost of electricity (LCOE) calculated for a 30 year period.





POE is the key



- Glass leaching caused drop in Short Circuit ()Current; no film or panel degradation.
- Following 1000 h Damp Heat, both panels underwent 50 Thermal Cycles and 10 Humidity Freeze Cycles. Both panels were then placed back into Damp Heat.

Most manufacturers are using EVA encapsulants. We use POE.

	No Acetic acids	100% Waterproof	No browning	Eliminates PID	Maximum Lifetime	Maximum Lifet
POE	+	+	+	+	+	50 years
EVA	_	_	_	_	_	25 years



Anatomy of Solid PRO



Highest grade materials

etime

Each component plays an important role in the lifetime and performance of our panels. By using only the highest grade materials we are able to offer industry-leading product warranties.

No foil - no weak spot

Backsheet is a 0.4 mm plastic sheet used in most of the panels on the market today. By eliminating this we are able to dramatically reduce the rate of the panel failure.



Main countries SoliTek is operating in:

- Sweden and Finland
- Germany
- Netherlands and Belgium
- Narrowing down our existing network –
 Smaller customers start to buy from
 bigger local partners.
- All the leads from the existing markets are forwarded to a performing distributors on a fair principles (sales volumes)



Markets we plan to open in 2022: USA Italy France







Better to be safe than sorry!

7444444



How we manage on-time deliveries during 2022?

- ✓ Focus on major partners in the area
- Production planning period
 from 2–3 weeks in 2020/2021
 to 3–6 months in 2022 (based on forecast)
- ✓ Increased production capacity 120MWp now, 180MWp from Q2'22
- ✓ Increased automation. 20% less people in production. (More security connected to COVID-19 situation)
- ✓ Ramp up production with 3 and 4 shifts (24/7) to avoid bottlenecks.





SOLID Wall - smart and environment friendly solution for façade

- Modern outlook of the building;
- Sustainable and effective;
- Shows your point of view to environment and global warming issues;
- Increases the level of energy efficiency of the building;
- Decreases temperature inside the building on hot season;
- And generates electricity as well!



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Solid Wall applications

Solid Wall fits to various types of walls. The system can change even uneven walls to a flat, beautiful external glass wall. Frameless, self-cleaning, shining, Solid Wall façade will look the same for a decades.

It is very attractive façade solution for various types of buildings. Old or brand new one, small or big - Solid Wall will make it look different.







Apartment building





Public building



Commercial building

SOLID Wall - is it worth it? 44 kW Wall faced south in the middle of Europe



Baltic Disk integrated facade, 12 kW, Estonia

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First apartment building BIPV, 42 kW, Norway

86.000 EUR in 10 years

Generates approx. 40.000 kWh per year. In EU average prices it is 8.636 EUR





SOLID Wall solution, 665 kW, Switzerland



SOLID Solrif[®] – solar power plant as a roof

It became possible when we connected our fire class A Glass-Glass solar module SOLID Pro with Solrif® system from Ernst Schweizer AG. **We call this system SOLID Solrif®.**

SOLID Solrif[®] is valued for its ability to generate electricity, for its simplicity of mounting and design.

House owner saves money twice: at first on roof tiles, and later – on smaller bills for electricity at least for 30 years. All we need to provide the offer is building location and roof dimensions.





Solrif[®] frame – Ernst Schweizer AG +

- 2 decades of development and improvement
- 1920: Company founded
- 1999: Launch of Solrif[®] frame and mounting system





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Advantages of the Solrif[®] system

- Easy, fast installation (6 min per module)
- Replaces conventional roofing material
- Waterproof from 10 degrees
- Simplest design on the market
- Tried, tested and reliable
- Ventilated
- Superior aesthetics
- For roof pitches between 10 and 70 degrees
 (lower slopes require rain-proof or water-tight substructure)
- The system saves the end user considerable sums of money over a period of 20+ years



Installation time: 6 minutes per module



Solrif[®] system in distribution

- No need to do a system design before the offer you can deliver the budget right away
- System design done online. 5 minutes per project
- 13 basic SKUs to operate with hooks, screws, side profiles.
- Flashings and dummies available
- 8000Pa mechanical load can be used almost everywhere





27 Noise barriers with integrated PV solutions: saving the construction costs - producing energy - safeguarding the population

- An efficient way of noise prevention by application of PV modules was first demonstrated in Switzerland in 1989.
- Currently the efficiency of the PV and integration modes offers competitive and saving costs solutions.
- Applicable to roads and railways.
- The cooperation among the owner, constructor and PV supplier is the key for the successful development of the project partnership with the local stakeholders is the key.





Brenner solar sound barrier, on the Austrian - Italian border

Noise barriers with integrated PV solutions: key numbers

- From 2,5 to 7 meters high.
- 1 km from 600 to 2400 PV modules (1 to 4 modules in a row) - from 0,2 MW to 0,8 MW capacity.
- Yearly output from 200 MWh to 800 MWh.





Agro-solar power plants - more efficient than traditional agriculture

- A typical agro-solar power plant can produce up to 900 kWh of • electricity per year from installed 1 kW;
- Growing peppers, cherry tomatoes in drier and hot areas in the shade of solar modules can achieve much higher yields and significantly reduce the amount of water needed for irrigation;
- When the crops grows in the shade of solar modules, the yield of • vegetables and fruits can increase 2-3 times than in usual agriculture;
- The yields matures by 30% faster than under normal conditions; •
- The share provided by PV modules ensures cooler surface at • daytime and a warmer nigh time temperature;
- The system also has a smaller vapor pressure deficit. In some cases, water losses can be reduced by as much as even 80%.





Greenhouse 23 kW, Sweden

Agro-solar power plants - smart combination on environment and energy interests

- It allows the use of agricultural land for both crop production and clean solar electricity generation;
- Smartly installed agro- power plant protects the erosion, equalizes from soil fluctuations;
- It better retains moisture on the soil surface, thus saving water for watering;
- 3 types of agro-solar power plants: Sheds and greenhouses - Vertical - Dynamic.



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Perak sweet pepper plantation 1,5 MW, Malaysia

SOLID ePIT

- Wood construction
- With bifacial panels
- 1 car 5,12 Kw
- 2 cars 10,24 Kw





Virtual tour

If you are not able to visit our factory live, we have provided a virtual **360°** tour experience: <u>https://turas.solitek.lt/tour.html</u>

You can find it on our website www.solitek.eu

We have installed a new production line of solar panels in spring 2021 and we will upgrade it 2022 Q1.







2022

Thank you!

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