

The Solar Manufacturing Accelerator presents:

5GW+ Green Fab



Project: bifacial PERC and IBC solar cell and / module production factory



CO2 emissions reduction: 40% reduction compared to mainstream competitors in Asia



Production capacity
5 GW by 2023



Jobs created
3,000 direct, 150,000 indirect jobs



Total investment
€400 million



Efficiency of panels: bifacial PERC (20.8+%, BF: 0.7+); bifacial IBC (21.5+%, BF: 0.7+)



Energira, Fraunhofer ISE, IPVF, ISC Konstanz, Kalyon, Solitek, TNO, Valoe, VDMA

Locations:



The proposed 5GW+ Green Fab production capacities of 5 GW advanced PERC and IBC high-efficiency cells and modules aims to contribute to strengthening the solar industry in Europe in the most sustainable and cost-efficient way possible. Mono crystalline PERC (Passivated Emitter and Rear Contact) technology is the leading technology in terms of cost of ownership, while reaching high average efficiencies in production of 22.5%. In addition, it can be easily upgraded by adding additional equipment into the PERC production line. IBC solar cells, with average efficiencies of 23.5%, can be produced in the same line with only three extra pieces of equipment. With further development, both technologies will be able to reach 25+% efficiency at a low cost.

All technologies are based on bifacial cell and module geometry as bifaciality is gaining importance and lowering the LCOE by up to 20%. The competitive advantage of the project will be the quality of equipment and grade of automation, enabling higher efficiencies and increased yield.

The 5GW+ Green Fab for solar cell and module production will start in mid-2021 by ramping up bifacial PERC for utility scale, and IBC for industrial and commercial rooftop use, reaching the target 5 GW capacity by 2023. Finally, it will also be used as an open platform to establish a strong partnership between all EU producers of crystalline silicon, to strengthen cooperation for this key solar technology.