



Solar-Factory 1 Kassel

The SolarWerk 1 factory is currently the world's largest solar inverter factory with CO₂-neutral production. It contributes to the improvement of the spatial and logistical conditions of the production processes in the manufacture of inverters for obtaining solar electricity.

The building, with a clear height of 8.50 m, runs parallel to existing buildings. The horizontal shed is intended as an analogy of an industrial extruded profile. The longitudinal façades of the building are slightly curved and "perforated" by vertical window elements. In contrast to this, the two end walls are completely glazed. A recessed pedestal level gives the "profile" the appearance of hovering above the ground.

In addition to the manufacture and assembly of prefabricated electronic components to form electronic components in the central area of SolarWerk 1, the peripheral areas of the upper storey house ancillary rooms, social spaces and the production department's offices. Access to the building for the 450 employees and visitors is at the two end elevations of the building.

The roof support structure was erected as a prefabricated steel frame construction on prefabricated reinforced concrete loadbearing supports. The longitudinal elevations of the building were clad with curtain façades of aluminium.

Client
SMA Solar Technology AG

Architecture
HHS Planer + Architekten AG

Structural engineering
EHS, Lohfelden

HVAC
Imtech Deutschland GmbH & Co. KG

energy concept and CO₂-neutrality consulting
deNET e.V., Kassel

Energy concept
IB Hausladen, Kirchheim/EGS, Stuttgart

Landscape architecture
PWF, Kassel

Planning and building dates 08/2007 - 01/2010

GFA / GV 25.445 m² / 182.169 m³

Service phases 1 - 4

Cost 28,5 Mio. Euro
4,5 Mio. Euro PV





Solar-Factory 1 Kassel

The building is fitted with several kinds of photovoltaic systems – roof-mounted, integrated into the roof lights of the building, in the canopies above the logistics yard and around an outside terrace. The overall output of the systems installed is 1.2 MWp.

The heat required is generated by a biogas-fuelled CHP and biogas condensing boilers. Absorption air conditioning units provide cooling where necessary. The energy consumption of substantial areas was optimised by means of a thermal simulation of the building.

The offices near the façades have natural light and ventilation from the windows. Cooling ceilings ensure pleasant working conditions even in the summer months.

