

**DEPARTMENT OF VETERINARY AFFAIRS** NORTH-RHINE WESTPHALIA (NRW)*PV system Department of Veterinary Affairs NRW,  
Krefeld, Germany*

The owner requested PV modules that could be used as flexible overhead shade elements for office and lab rooms. During the renovation of the building, the façade was completely remodeled. Since we were involved early in the construction process, we were in the position to develop a struc-

Following the removal of the old façade, the mounting structure had to be flexibly adjusted to the building, since the façade revealed irregularity levels of up to 20 cm.

Two rows, totaling nearly 120 PV modules, were integrated into the façade and were



ture which provides not only a shading system during the summer months, but also optimizes the entire PV system's energy generation potential.

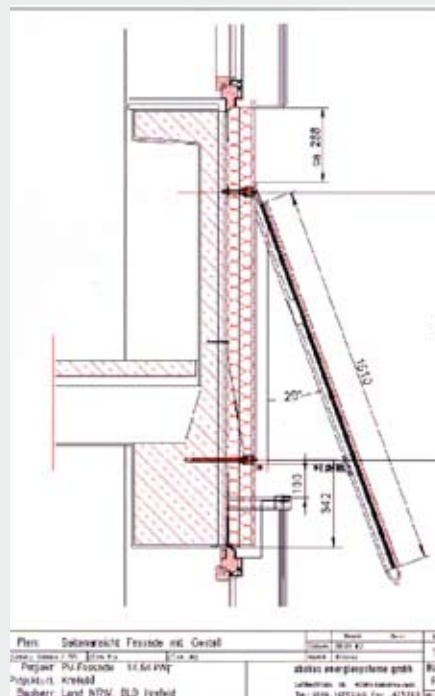
installed in blocks of three above each window. Thus, we were able to upgrade the façade visually in accordance with the client's specifications.

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When dimensioning and choosing the PV modules, their size had to be adjusted to the existing windows. Since the building is surrounded by a walkable area, the overhead shades had to meet government standards.

According to German construction law, individual exceptions are possible. A special study documented the modules' load bearing capacity in the event of both glass panels breaking.

*abakus* was the main contractor for the whole system (substructure, modules, electrical concept). We coordinated the requirements of the different specializations and implemented them in cooperation with various partners.



<b>Grid connected PV system, roof integrated</b>		
System size:	14.64 kWp	
Number of modules:	120 double glass modules	
Type:	Saint Gobain Glass Solar	
Element size:	1.51 x 0.79 m	
Module area:	about 145 m <sup>2</sup>	
Number of inverters:	4	
Type:	Type SMA SWR 2500	