



Cold facade

## SUPSI

Swiss BiPV Competence Centre



# Casa Solara

Laax, Kanton Graubünden (CH)

## Building Details

### CONTACTS

	Name	Website (or e-mail)
<b>Owner</b>	Ecobauhaus AG	<a href="http://www.ecobauhaus.ch">www.ecobauhaus.ch</a>
<b>Architect</b>	Giovanni Cerfeda	<a href="mailto:cerfeda@ecobauhaus.com">cerfeda@ecobauhaus.com</a>
<b>Energy Consultant</b>	MGT-esys GmbH	<a href="http://www.mgt-esys.at">www.mgt-esys.at</a>
<b>PV Installer</b>	MGT-esys GmbH	<a href="http://www.mgt-esys.at">www.mgt-esys.at</a>

### BUILDING

<b>Completion year</b>	2012 Building	2012 Plant		
<b>Category</b>	New	Renovation	Enlargement	Other
<b>Typology</b>	Residential	Administration	Industrial	Sport
	Agricultural	Urban	Historical	Other

**Building Energy Performance** kWh/m<sup>2</sup>y

### Description

The residential building, built with Minergie standard, is located at an altitude of 1050 m above sea level in the ski center of Laax (Graubunden Canton in Switzerland). The south facade is made by customized PV modules with high efficiency monocrystalline cells. The cold facade system, installed onto a wooden substructure, allows an appropriate ventilation of the panels and is equipped with a mechanical anchoring system that is invisible from the outside. The architectural language is characterized by the grey appearance of the solar cladding obtained by the all-black modules. This creates a uniform striped effect similar to the wooden cladding of the other facades. The PV plant, grid connected, produce enough energy to supply the apartments.

### Acknowledgments

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## BiPV Details

### LOCATION OF PLANT

<b>Roof</b>	Flat roof	Sloped	Curved	
<b>Façade</b>	Cladding	Balcony	Greenhouse	Curved
<b>Glass</b>	Façade	Roof	Solar shading	Canopy
<b>Orientation</b>	South	West	East	North
<b>BiPV System</b>	In-roof Solar Tiles (PV modules)			

### ARCHITECTURAL EVALUATION

<b>Color</b>	Black
<b>Transparency</b>	opaque
<b>Frame</b>	Framless (glass-glass)

### COSTUMIZATION LANGUAGE AT COMPONENT SCALE

PV CELL	MODULE LAYERING	MODULE FEATURES	DUMMIES
<b>DESCRIPTION</b>	Stratified glass modules customized with gray lines made of film on the back. Invisible fixing system. Joint between the modules: 10 mm. Spacing between the cells: 2-3 mm. 7 special format modules		

### SPECIFICATION

<b>Photovoltaic</b>	Monocrystalline	Multicrystalline	Thin Film
<b>PV Module</b>	<b>Cells</b>		
	<b>Module</b>	MGT-esys Undercut System	
<b>Power</b>	<b>kWp</b>	34.4 kWp	
<b>Size</b>	<b>m<sup>2</sup></b>	346	
<b>Energy production</b>	<b>kWh/year</b>	25000	
<b>Cost</b>	<b>€/m<sup>2</sup></b>	600 (BiPv system excluding back façade)	