



# German Pavillon EXPO Shanghai 2010

Shanghai (China)

## Building Details

### CONTACTS

#### Owner

BMWI Ministererium Für  
Wirtschaft & Energie

[www.bmwi.de](http://www.bmwi.de)

#### Architect

Schmidhuber + Partner /  
Milla & Partner

[www.schmidhuber.de](http://www.schmidhuber.de)

#### Energy Consultant

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#### PV Installer

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### BUILDING

#### Completion year

Building

Plant

#### Category

New

Renovation

Enlargement

Other

#### Typology

Residential

Administration

Industrial

Sport

Agricultural

Urban

Historical

Other

#### Building Energy Performance

kWh/m<sup>2</sup>y

### Description

The project of the German Pavillon for 2010 EXPO in Shanghai is called "Balancity", combining the words "balance" and "city". The concept design is an irregular, dynamic and instable composition of the four different volumes of the building, which are connected in a balanced manner, creating a play of indoor and outdoor spaces. The entire pavillon is covered by a translucent textile skin with silver reflexes, offering shade and reflecting up to 80 % of solar radiation with a considerable energy savings.

The south elevation is characterized by an external screen of wooden blades vertically installed over a L-shaped arrangement and irregular cuts integrating a solar system in facade. The thin-film PV panels allow natural light to filter through, ensuring also the protection from overheating of the internal spaces.

#### Acknowledgments

Best Pavillon EXPO 2010; ADC; ADAM Award; DDC Award; EVA Award; German Design Award; Golden Award of Montreux





SOURCE: ertex solar



## 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> | Transparent façade |         |               |        |

### ARCHITECTURAL EVALUATION

|                     |                 |
|---------------------|-----------------|
| <b>Color</b>        | Black           |
| <b>Transparency</b> | Semitransparent |
| <b>Frame</b>        | Frameless       |

### COSTUMIZATION LANGUAGE AT COMPONENT SCALE

| PV CELL     | MODULE LAYERING        | MODULE FEATURES | DUMMIES |
|-------------|------------------------|-----------------|---------|
| DESCRIPTION | Special cut of modules |                 |         |

### SPECIFICATION

|                          |                        |                              |           |
|--------------------------|------------------------|------------------------------|-----------|
| <b>Photovoltaic</b>      | Monocrystalline        | Multicrystalline             | Thin Film |
| <b>PV Module</b>         | <b>Cells</b>           | amorphous silicon            |           |
|                          | <b>Module</b>          | n° 155 vsg 8/6 2000*1200 mm  |           |
| <b>Power</b>             | <b>kWp</b>             | 16 kWp (source: Ertex Solar) |           |
| <b>Size</b>              | <b>m<sup>2</sup></b>   | -                            |           |
| <b>Energy production</b> | <b>kWh/year</b>        | -                            |           |
| <b>Cost</b>              | <b>€/m<sup>2</sup></b> | -                            |           |