# Case Study
## SOLVATEC AG
## Rooftop integrated installation Basel

Basel, Switzerland

The house-owner is not only delighted by the aesthetics but also by the high output generated by the Solar Frontier installation modules. (Image: Solvatec AG)

| Site Overview | |
|---|---|
| **Location** | Basel, Switzerland |
| **Coordinates** | 47° 31' 58'' N/S, 7° 35' 42'' E |
| **Average global irradiance** | 1,000 kWh/m²/yr |
| **Average temperature** | 9.6°C, 49.3 °F |
| **Average precipitation** | 777 mm/yr, 30.6 in/yr |

| Technical Overview | |
|---|---|
| **Date onstream** | October 2013 |
| **System capacity** | 4.8 kWp |
| **Panel type** | SF 160-S (160 W) |
| **Number of installed panels** | 30 |
| **Tilt angle, orientation** | 45°, 0° (S) |
| **Expected Output** | 4,700 kWh |
| **Total $CO_2$ reduction** | 3,120 kg/yr, 6,878 lbs/yr |
| **Inverter** | Kostal Piko 5.5 |

**Financing Bank**

Private Investment

*"The customer's roof had been fitted with solar tiles for over 20 years. Although they lent the building a uniform appearance, the tiles no longer worked. The challenge therefore was to create a standardized appearance with the PV system as well, to comply with the customer's aesthetic requirements. The customer was soon won over by the idea of equipping a new solar roof with Solar Frontier modules. He is now delighted with the result, and not just the way it looks!"*
*Stefan Bucher, Marketing & Sales, Management Board Member*

Solvatec AG was founded in 1998 and is based in Basel, Switzerland. It is a leading company in the Swiss solar power market for consulting, planning, marketing and implementing photovoltaic systems. The company's team of experienced PV specialists place particular emphasis on integrating solar systems aesthetically and functionally with the building structure.

This 4.8 kWp system on the roof of a private residence in Basel was installed as a replacement solution for an existing system. The interesting thing about this installation was that the customer's roof had been covered with solar tiles for 20 years – a solution for which he had even received an award in the past. But the owner asserts that over the years the tiles never achieved the yield that was promised when he bought them. After just one year of operation, the system output fell to just a half of the expected levels, and by the end of the third year it was generating only 10 to 20 % of what had been promised. Despite his negative experience with PV, the customer was very impressed by the way the solution with Solar Frontier CIS thin film modules looked.

If he was most taken by its attractive black look in the beginning, having put the system into operation the customer is even more satisfied with the high yields it generates. The properties of the Solar Frontier Modules enable the achievement of higher yields than other technologies even in difficult conditions such as shading, low light or unfavorable roof orientation to deliver a perfect combination of outstanding aesthetics and unsurpassed performance.

### About Solar Frontier

Solar Frontier is committed to creating the world's most ecological, economical solar energy solutions. Our proprietary CIS technology (denoting key ingredients copper, indium, and selenium) has the best overall potential to set the world's most enduring standard for solar energy. For more information visit www.solar-frontier.com and www.solar-frontier.eu