

Inauguration of an innovative foldable solar roof in Chur, Switzerland

Challenge

The customer "IBC Energie Wasser Chur" was searching a space saving and convenient solar power system to supply their sewage treatment plant with renewable and inexpensive (free) energy.

Solution

The start-up dhp technology developed an innovative foldable solar roof monitored by a Lufft all-in-one weather sensor. It folds automatically due to weather conditions to protect the panels and maximize outcome.

Benefits

"HORIZON" is a movable, light system which can be folded and is based on ropeway technology. The modules can be retracted automatically and thus are best protected against storm, snow and hail.

After a long time between planning and making it a reality, the inauguration on September 7, 2017 was a very special moment for us.

Andreas Hügli, Managing Partner of dhp technology AG.

Technologies used



LUFFT WS800



Compact Weather Sensor

Measuring radiation, temperature, wind speed/direction, precipitation type/intensity, humidity & lightning.

Case Study

Since September 7, 2017, an innovative solar roof of the public utility "IBC Energie Wasser Chur" has supplied the municipal sewage treatment plant with renewable energy. HORIZON is a movable light weight construction system which can be folded and is based on ropeway technology.



Facade of the solar roof. Image: dhp technology

LUFFT WS800 Multi-Parameter Weather Sensor

First and only compact all-in-one weather sensor detecting lightning strikes. This is especially interesting for the insurance of solar systems like the one in Chur.



LUFFT WS800 mounted to the solar roof in Chur, Switzerland. Image: dhp technology

The foldable solar roof is worth 1,6 Mio. € and has a power of 640 kWp.

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The foldable solar roof is worth 1.6 Millions Euros and will have a power of 640 kWp after its completion. It will cover about 20 % of the total energy demand of the treatment plant.

The meteorological algorithms included in the controller evaluate the measured data collected by a Lufft WS800 All-in-One Wettersensor permanently. The weather sensor measures all relevant environmental data simultaneously. These include especially global radiation,

temperature, wind speed, wind direction, precipitation types and intensities as well as relative humidity but also lightning. This information outlines an important component for the safe and optimum operation of the foldable solar roof "HORIZON".

A basic unit of the solar roof is 55 meters long and 17 meters wide. Both the breadth and length can be extended almost arbitrarily to reach an optimum area exploitation. By means of different materials, forms and colors, architects are able to design the support structure and facade individually and thus achieve an optimum integration even in populated areas. Thereby, HORIZON shapes the term infrastructure-integrated photovoltaics.



Bird perspective of the HORIZON solar roof. Image: dhp technology



20 %

of the treatment plant's power demand can be supplied by the solar roof.

About dhp technology

Developer and producer of the worldwide unique folding solar roof HORIZON.

dhp technology is a successful start-up in the energy sector which received the Swiss sustainability prize Prix Eco 2016 and the Watt d'Or Prize 2019 for their innovation Horizon - the foldable solar roof. Their vision is to provide a sustainable energy supply that meets the requirements of the environment, society and the economy alike. They were founded in 2016.



www.dhp-technology.ch