Drive technology TODAY

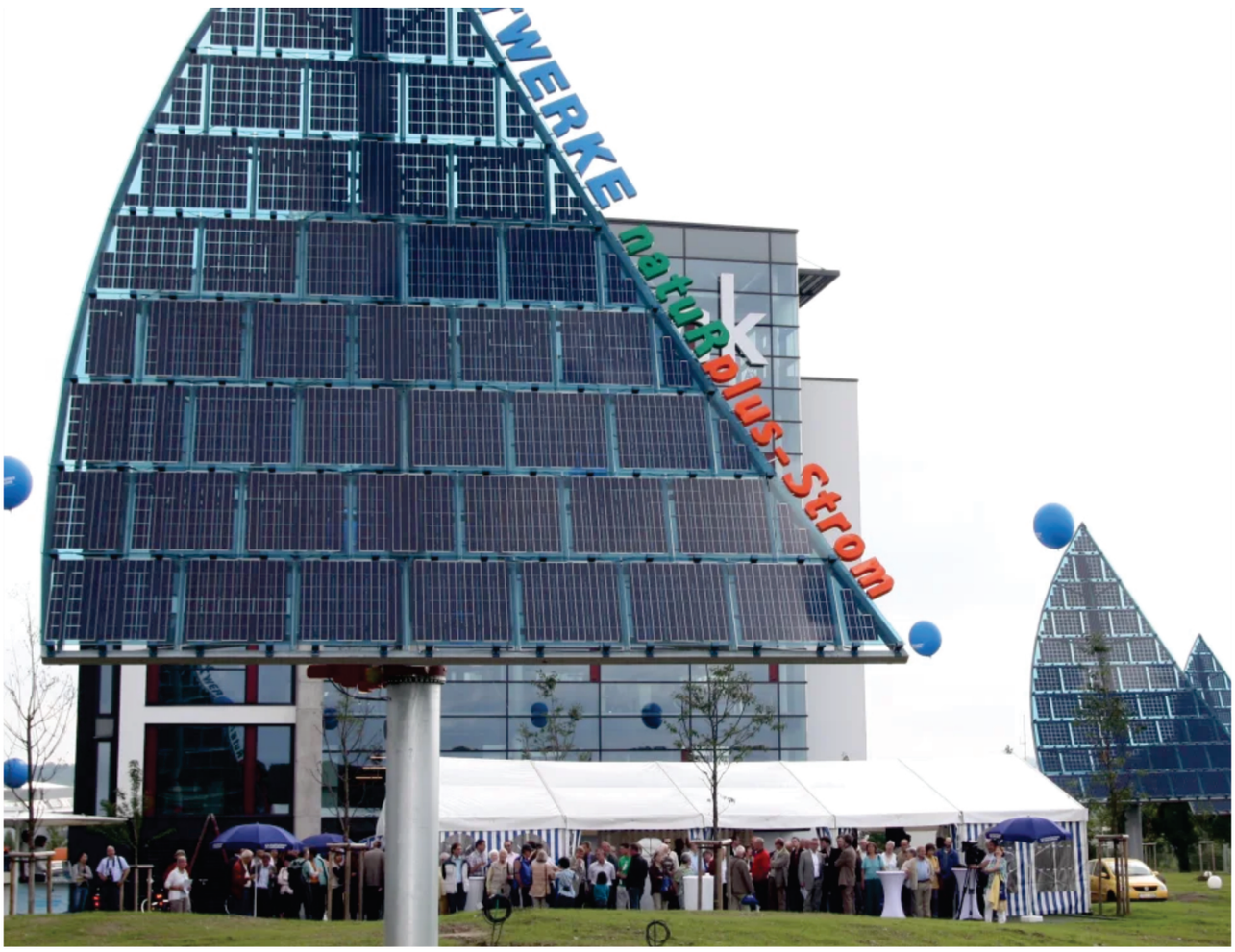
Positioning solar sails using standard gearmotors

Three high-tech installations beside of the administration building provide an attractive addition to its appearance. And that's not all – due to our drive technology these solar sails also generate sustainable energy.

Overview

Why not combine the pleasant with the useful? This was what Karlsruhe-based construction service provider Vollack thought when it decided to install a visually attractive photovoltaic system on its premises. It worked with Stadtwerke Karlsruhe and SEW-EURODRIVE to draw up a plan, the results of which are something to behold.

Some of the cost of the three solar sails were covered by a special initative: For more than 15 years, committed customers of Stadtwerke Karlsruhe have had the opportunity to make a personal contribution to supporting renewable energy generation. "They pay an additional fee, and this helps finance particularly innovative projects," explains the responsible Managing Director of Stadtwerke Karlsruhe.



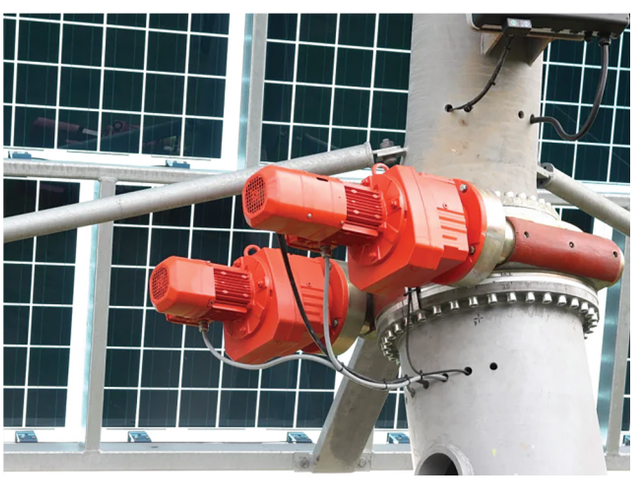
SEW EURODRIVE

Solution

To obtain the highest possible energy yield, our gearmotors enable the sails to follow the sun.When the wind reaches force seven, the gearmotors also ensure the sails turn out of the wind to expose as little area as possible.

A sensor was attached to the rear sail that measures the strength of the wind. There is also a wind direction sensor on the roof of the Vollack building. This data is transmitted continuously so that the sail can be moved if the wind direction changes.

- Two RF87 DRS80 gearmotors are fitted to each sail. These are multi-stage flange-mounted helical gear units with a size 80 standard AC motor. One motor is equipped with an absolute encoder to quickly determine the sail position.
- MOVI-PLC® DHE41B compact controller to calculate wind strength and direction.
- Each sail delivers peak power of just over 5 kW, is a good 13 m high, and weighs 4.4 metric tons. ◀



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