Optimal pool climate

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How Siemens is helping swimming pools save energy

Turn the air conditioning off, turn the heating down, save energy – that's what we've got to do to cope with rising energy prices and combat accelerating climate change. Some people think at once of their own homes, while others tend to focus on industry. But who's ever thought about swimming pools being among the most energy-intensive facilities of all? In pools for babies and children, for example, water temperatures of 34 degrees Celsius ensure optimal paddling conditions. For the complete feel-good factor, the air temperature within the pool facility must also be cozy and warm. Regulating water and air temperatures requires a lot of energy. An average four-person household consumes about 15,000 kilowatt hours of gas per year, while a swimming pool uses about 80 times as much. Another disadvantage of high temperatures: a lot of water evaporates, and the air becomes damp, which easily causes structural damage to buildings. As a result, pool operators have to look at everything: low humidity and high indoor air temperature with the best possible energy efficiency. Difficult? Complicated? Not necessarily. The operators of the swimming pool in Saterland (Germany) have teamed up with the company HANSA Klimasysteme, the University of Applied Sciences in Emden (Germany) and Siemens to deliver a clever solution. First, sensors in the ventilation system and the pool facility collect data regarding, for example, temperature, humidity, energy consumption and even the number of visitors. This data is then fed into a computational model based on artificial intelligence (AI), where a special industrial PC from Siemens, a so-called industrial edge device, comes into play. Connected to the ventilation system, this device processes the large amount of data from the pool directly on site – a technique that's much faster than transferring the data

to a data center first. And the device also provides a platform on which AI can work. This platform then proactively regulates ventilation before the pool facility gets too warm or too humid. Operating conditions at the pool in Saterland are always set for optimal energy efficiency, thereby cutting energy consumption by 20 percent. Four more swimming pools in Germany, three in the Lower Saxony region and one in Berlin, now want to follow suit. And what works in pools can also work in greenhouses, cinemas and laboratories. Great for the climate – in swimming pools and beyond.

This Tech-Story is available at https://sie.ag/3QFtQYe

More information is available here.

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