

JOIN THE SOLUTION

An eco initiative 

DIGITALISATION AND SUSTAINABILITY

STARTING POINT/CHALLENGE:

Streaming services, cloud applications & video conferencing – the energy demand created by advancing digitalisation is huge. Due to our intensified use of the Internet, global CO₂ emissions are continuously rising. Even though many data centres are already operated in an energy-efficient and sustainable manner, they still produce a lot of CO₂ emissions during operation. In the next few years, in order to significantly reduce our emissions, we will therefore face the significant challenge of supplying our data centres with renewable energy as far as possible.



„We want to make advancing digitalisation greener. With our windCORES project, we are clearly demonstrating the great energy efficiency potential that could result from technological innovations for operators of data centres and other digital infrastructures in the future.“

Johannes Lackmann, CEO WestfalenWIND

SOLUTION

GREEN POWER FROM THE WIND TURBINE

With the “windCORES” project, the wind farm operator WestfalenWIND expects to meet the increasing energy demand due to digitalisation with renewable energies in line with the energy transition. The wind energy alone, for example, which has to be “electronically capped” for a stable network in Germany, i.e. cannot be consumed, could power a third of all data centres in Germany. For this reason, WestfalenWIND is pursuing the idea of locating data centres right inside wind turbines and using the electricity directly on site.

ZATTOO- CLIMATE-NEUTRAL BROADCASTING OF THE FUTURE

The joint cooperation between Zattoo and WestfalenWIND shows just how climate-friendly streaming can be. The TV streaming provider Zattoo has already installed its data centre in a wind turbine of the Green IT project "wind-CORES", thereby creating a model of success that is unique in the world. Since January 2021, the first content of the TV streaming provider has been running via this innovative data centre, with more to follow. With their collaborative work, Zattoo and WestfalenWIND are taking on a real pioneering role on the path to climate neutrality.



„Zattoo is streaming in a climate-neutral manner. The idea of bringing computing capacity closer to energy generation, and at the same time tapping into both unused space and cooling, got us instantly enthused. It is as simple as it is ingenious. A real success model that we hope will set a precedent.“

Stefan Lietsch, CTO & Climate Officer at Zattoo

INFORMATION

Streaming technology allows audio and video files to be published in real time over the Internet.

HD-quality video streaming produces different levels of greenhouse gas emissions varies depending on the transmission technology. The proportion of CO₂ emissions generated by data processing in a data centre is relatively low, at 1.5 grams of CO₂ per hour. However, the technology used to transmit data from the data centre to the user determines the climate compatibility of cloud services like video streaming. Greenhouse gas emissions can be reduced considerably, depending on data transmission technology used: Fibre optic video transmission is nearly 50 times more efficient than UMTS.¹

The carbon footprint is significantly worse when videos are transmitted via the mobile phone network, because the data then has to be transported over long distances by transmitters. This is where the 5G standard can bring improvements: 4G and 5G networks have a higher number of base stations. This shortens the transmission to be bridged, which has a positive effect on CO₂ emissions.²

NUMBERS ON THE CASE

Case study video:

<https://www.youtube.com/watch?v=w53SCjv3hg0&t=7>

Zattoo has around
3 million active users
per month

350.000
daily users

Over **80 million**
hours are streamed
every month

More than
5 million
gigabytes
of data every day

Zattoo's current data
centres consume around
1 million kWh per year³

ECO MEMBERS



¹ German Environment Agency: Video Streaming

² <https://help.orf.at/stories/3208476/>

³ <https://zattoo.com/de/en/zattoo-and-windcores>