

Building & Industry

NOVENCO 

SCHAKO Group

NOVENCO® ZerAx® fans power efficient cooling in a Scandinavian data centre

About the project

A data center in Northern Scandinavia, close to the Arctic Circle, leverages the region's cold climate for natural cooling. The facility spans the size of 13 football fields and has an estimated power demand of 120 MW, equal to the consumption of about 16,000 households.

Thanks to its location and design, the center achieves significantly lower energy use and reduced installation and operational costs compared to other modern facilities. It ranks among the world's most energy-efficient data centers.



Inside one of the world's most energy-efficient data centers



ZerAx fans in action

The solution

The ZerAx fans play a central role in reducing energy consumption and cutting emissions. In comparison to other modern, but more conventional, data centres, the CO₂ reduction is 365 tons/year. The low noise level of 84 dB also makes this one of the quietest data centres in the world.

NOVENCO Building & Industry supplies a complete automated solution with supervision and installation. The control solution is based on NOVENCO's proven system for control of car park jet fans and features fully automatic stand-alone control for each ZerAx fan wall. All units connect to a shared network that enables central monitoring and coordinated operation. The system reroutes control in case of faults in an individual unit.

A modern PLC platform with colour touch screen and a duplicated frequency converter setup ensures secure and reliable backup.

Air intake

- A total of 52 fan walls are supplied with automatic start-up.
- Each fan wall includes a specially designed frame with nine ZerAx AZN 710 fans, totalling 468 fans.
- The ZerAx AZN 710 fans offer 89% efficiency and are equipped with high-efficiency motors.
- The air volume is 1200 m³/s or 4.32 Mm³/h during normal operation and up to 1300 m³/s or 4.68 Mm³/h at peak load.

Exhaust

- The exhaust system uses ZerAx AZN 1250 fans with mounting feet, acoustic diffusers and frequency converters.
- A total of 56 exhaust fans are installed.
- The ZerAx AZN 1250 fans offer 88% efficiency and are equipped with high-efficiency motors.
- The total air volume is 1300 m³/s or 4.68 Mm³/h.

Facts:

- Efficiency up to 90%
- Noise levels at only 84 dB
- CO₂-savings 365 tons/year



NOVENCO ZerAx fan wall