Microsoft datacenters in Finland

As more people and businesses rely upon technology to stay connected, informed, and productive, digital needs in Finland and around the globe are growing. And that means the need for hyperscale datacenters is growing too.

Hyperscale brings hyper efficiency. Microsoft cloud services offer customers an energy efficient and carbon neutral alternative to running their own private datacenters. Research shows that Microsoft cloud services are up to 93 percent more energy efficient than traditional enterprise datacenters.

Microsoft strives to empower the communities where our employees live, work, and operate our datacenters. With that, it's important we share information to ensure you understand why datacenters are needed, Microsoft's approach for responsible operations, and the benefits of hosting a datacenter in your community.

The cloud powers our digital world

Cloud computing is the delivery of computing services over the internet. Common daily activities are made possible through cloud computing, such as:

| Email | Online banking | File storage | Streaming videos | Collaboration | Online shopping | Mobile apps |

Cloud computing can provide consumers and businesses with the benefits of enhanced security, privacy, compliance protection, lower costs, easier access, higher reliability, and a lower carbon footprint.

The Microsoft Cloud is for everyone

The Microsoft Cloud serves over 1 billion customers and 20 million companies worldwide.

Organizations in Finland relying on the Microsoft Cloud are made up of a variety of sectors, such as large enterprises, startups, governments, hospitals, banks, schools, or other organizations that contribute to a modern society.

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VERO SKATT

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When Microsoft joins a community, we bring our commitments for a better world

Support inclusive economic opportunity

Commit to a sustainable future

Earn trust

Microsoft datacenters are key to our sustainability goals

Carbon negative by 2030

For our datacenters in the Nordic region, Microsoft is procuring renewable energy via power purchase agreements with companies such as NTR.

Power usage effectiveness (PUE) measures cloud energy efficiency. The calculation is total power consumption divided by IT power consumption. A lower PUE score indicates more energy-efficient datacenters, with a PUE of 1.0 being the best score. Our Finland datacenters are under construction and not in operation. They will have a **design average PUE of 1.12**.

Globally, Microsoft datacenters use fossil fuel generators for backup power and account for **less than 1 percent of our overall emissions**. In specific regions, Microsoft is **piloting running backup generators with renewable blend, cleaner-burning fuels**, and is also **piloting the replacement of datacenter generators with long-duration batteries.**

Leadership in Energy and Environmental Design (LEED) is the world's largest green building certification program. LEED provides the framework for healthy, highly efficient, and cost-saving green buildings with lower carbon emissions. LEED certification is a globally recognized symbol of sustainability achievement and leadership. **New Microsoft datacenters being built are designed to earn LEED Gold certification**.

Microsoft operations in Finland **comply with applicable air quality requirements**.

Water positive by 2030

Water usage effectiveness (WUE) is another key metric relating to the efficient and sustainable operations of our datacenters and is a crucial aspect as we work towards our commitment to be water positive by 2030. WUE is calculated by dividing the number of liters of water used for humidification and cooling by the total annual amount of power (measured in kWh) needed to operate our datacenter IT equipment.

The Finland datacenters will be cooled using outside air and zero water all year. The datacenters will use water for winter humidification and will use rainwater harvest when available.

The new datacenter facilities in Finland are designed for an **average WUE of 0.01 L/kWh.**

Waste heat

The heat produced in the Finnish datacenters will be transferred to pertinent district heating systems serving Finland's second largest city Espoo and neighboring Kauniainen, and the municipality of Kirkkonummi.

Zero waste by 2030

Microsoft has a goal to achieve 90 percent diversion of datacenter operational waste by 2030. To reach this goal, we're working closely with our waste haulers to optimize waste diversion programs across our global datacenter portfolio. We have achieved Zero Waste certifications for our San Antonio, Texas; Quincy, Washington; Boydton, Virginia; and Dublin, Ireland datacenter locations.

In 2020, we opened our **first Microsoft Circular Center in our North Holland datacenters,** which is designed to extend the life cycle of servers through reuse and to support a circular economy for the Microsoft Cloud. Because it takes five to six years from when a datacenter is operational to generate reusable assets, we are planning to use the closest available Circular Center once the new datacenters are in use and servers are ready to be decommissioned. Microsoft Circular Centers are able to process 3,000 servers per month for reuse.

Globally, Microsoft datacenters reuse **78 percent of our end-of-life assets and components; the remaining 22 percent of materials are recycled.** Additionally, Microsoft is conducting research and development to improve waste diversion by determining new recycling solutions for used air filters and fiber optic cables.

Why datacenters >   Microsoft commitments >   Community benefits >

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Microsoft is investing in digital skill building in Finland

Over 100,000 people in Finland participating in free courses: More than 30 million people have strengthened their digital skills as part of a global digital skills and education project launched by Microsoft last June. In Finland, too, more than 100,000 people participated in the free courses offered in the project. Microsoft recently announced a new online service called the Career Connector. It offers 50,000 jobseekers the opportunity to access technology jobs.

Victory for the Minecraft Empathy Challenge in Kokkola: As part of the Empathy Kit initiative, Microsoft organized a Minecraft challenge for Finnish schools, seeking the best World of Empathy implementation in the Minecraft Education Edition environment. The starting point for the challenge was to eradicate cyberbullying by strengthening empathy skills. Schoolchildren were tasked with designing a game or information pack that guides them to work online with others in mind, thereby building empathy. The winner was the 8A class of Torkinmäki School in Kokkola.

Microsoft datacenters create family-wage operations and construction jobs as well as positive impacts to the local economy

Microsoft datacenters represent a capital-intensive investment and long-term commitment to the community. The total area of datacenters in Espoo will require approximately **8,000 man-years** for construction locally and the total area of the Kirkkonummi datacenters will require approximately **11,000 man-years**. Once the first datacenter is operational, we plan to hire **80** full-time employees. From there, additional teams will be hired as the remaining buildings are completed.

Construction jobs

- Electricians
- Plumbers and pipefitters
- Carpenters
- Structural iron and steel workers
- Concrete workers
- Earth movers

Datacenter operations

- Campus management
- People management
- Critical environment operations
- Learning and development
- IT operations
- Mechanical engineers
- Electrical engineers
- Security contractors
- Building maintenance