Ohio Supercomputer Center

osc.edu

High-powered computing resources for academic and industry research, education and innovation.

The Ohio Supercomputer Center accelerates discovery for Ohio's academic and commercial researchers with processing power exceeding 1,000 desktop computers available any time, any place. OSC turns days of computation into minutes, creating a competitive advantage for Ohio at a fraction of the cost of alternatives, all with expert consultation and secure storage.

Ohio Department of Higher Education

Ohio Technology Consortium

CLIENTS

7,918
INDIVIDUALS

1,332
ORGANIZATIONS

OHIO ORGS

56
ACADEMIC

22
INDUSTRY

25
NONPROFIT/GOV

OHIO HIGHER ED

6,134
ENROLLEES

294
COURSES

CORE SERVICE

99.7%
SERVICE AVAILABILITY

Data from Jan 2024–Dec 2024

CATALYZING DISCOVERY

Supercomputing services

The Ohio Supercomputer Center provides strategic capabilities in high performance computing (HPC), research data storage and scientific software expertise, enabling groundbreaking academic research and industrial innovation in Ohio.

Training and support

Utilizing OSC is simple for users of all skill levels through one-on-one consultations, web-based training classes, online how-to guides and support from client services.

Easy access

The Center's easy-to-use Open OnDemand web portal enables supercomputing from anywhere on any device. This industry-leading, open-source scientific gateway is installed at hundreds of prominent HPC centers around the world.

Flexibility, scalability, affordability

The supercomputers at OSC are engineered with flexibility and scalability in mind, built to deliver cutting-edge capabilities tailored to individual needs. Academic researchers generally utilize OSC with little or no cost thanks to state funding, while industry and commercial clients pay competitive rates.

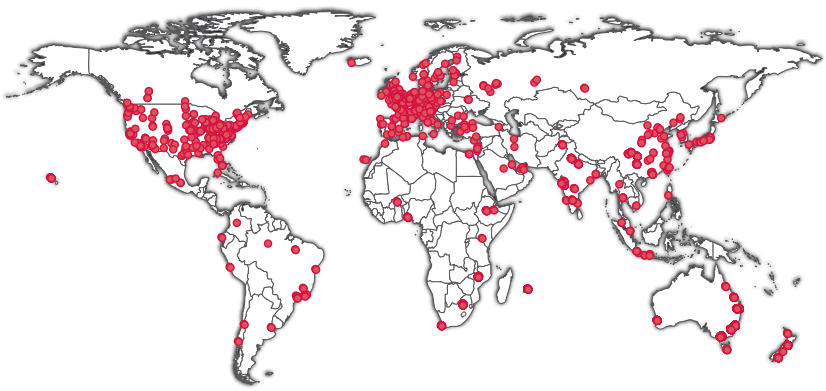
Education

OSC helps develop the next generation of innovators by providing virtual computer labs and free classroom usage to educators at all levels in Ohio, from grade school to grad school.

Any discipline, anywhere

A growing range of disciplines and client types rely on OSC, including researchers in analytics, machine learning and artificial intelligence.

SERVING OHIO & BEYOND



OSC provides state-of-the-art resources and services to academic researchers and industry innovators, both within the state of Ohio and beyond its borders. Clients develop new knowledge, products and technologies that benefit society.

SPOTLIGHTS

OSC's newest HPC cluster, Cardinal, features artwork created by an Ohio University faculty member and students. The team used artificial intelligence to develop an image collage.

Ohio University students use AI for creative design

Ohio University students collaborated with OSC to design the endcap for the newest HPC cluster, Cardinal, using the system's own AI tools. Blending technology and creativity, the students generated imagery symbolic of Ohio, from natural landscapes to familiar campus sights. Their work, composed into a design by faculty member Basil Masri Zada, has made a lasting visual mark on OSC's data center infrastructure.

Read more: **osc.edu/cardinalart**

University of Toledo transforms wastewater

Anju R. Gupta's University of Toledo laboratory is pioneering sustainable water treatment solutions by developing advanced mixed matrix membranes for desalination. Using OSC resources, Gupta and her team applied machine learning and statistical forecasting to predict membrane lifespans, significantly improving water quality and yield. Their work, funded by the National Science Foundation (NSF), includes prototypes that not only enhance desalination but also recover valuable materials from wastewater.

Read more: **osc.edu/watertreatment**

The Ohio State University advances AI for agriculture

The NSF-funded ICICLE project, led by The Ohio State University, is making AI more accessible for agriculture. By analyzing drone imagery with AI, researchers create infrared maps to help farmers detect crop stress, optimize irrigation and reduce waste. OSC's computing power enables the processing of massive datasets, providing timely insights that traditional methods cannot. Beyond agriculture, ICICLE is developing adaptable AI workflows for various industries.

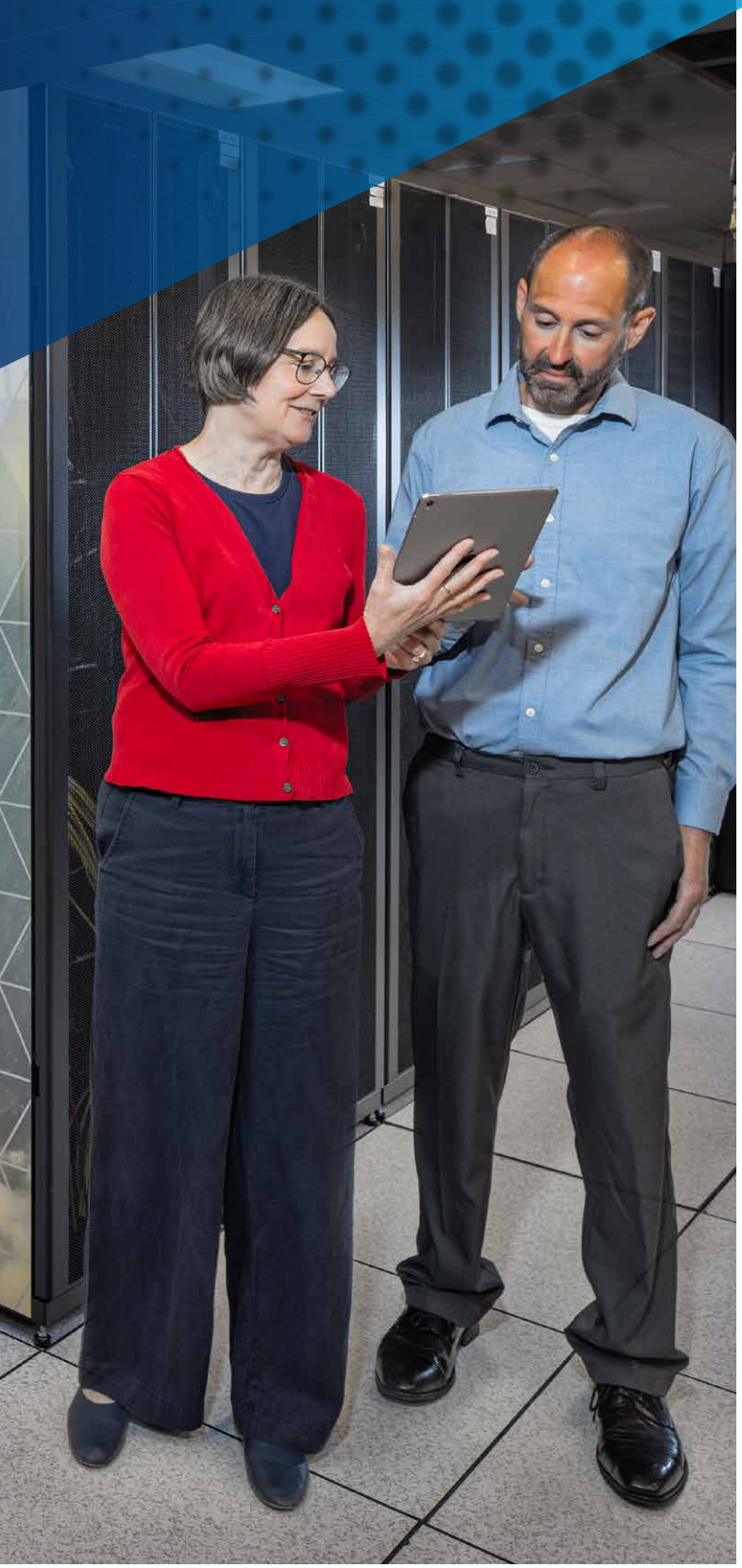
Read more: **osc.edu/icicle**

SAVINGS

Data from Jan 2024–Dec 2024

$8.5 M+

CLIENT ANNUAL SAVINGS



CONTINUED GROWTH

By equipping innovators in academia and enterprise with cutting-edge technology, Ohio ensures its leadership role in the creation and dissemination of knowledge and the development of a workforce prepared for tomorrow's high-tech economy. As the pace of change accelerates, we are building an innovative path to a better and stronger Ohio.

LOOKING AHEAD

- OSC has launched new and expanded HPC clusters that are providing advanced resources for AI, machine learning, data analytics and medical research and education for years to come.
- A new service center will offer thousands of OSC clients quick and easy access to resources and support.
- Advanced storage options will allow researchers to seamlessly manage and protect data.
- A new governance structure for Open OnDemand, supported by the NSF, will allow OSC to manage and enhance the global web portal used by thousands of HPC centers and institutions.
- OSC will continue to support the training and development of cyberinfrastructure staff at HPC centers, especially in AI and machine learning technologies.

Ohio Supercomputer Center
1224 Kinnear Road | Columbus, OH 43212 | 614-292-9248 | osc.edu

Department of Higher Education
Ohio Technology Consortium

05/2025