





“It’s amazing to realize that 12 million Ohioans rely on OARnet, Ohio’s public fiber-optic network, every day for education, research, and industry needs. We are proud to be a national leader among our peers.”

Mike Duffey, Chancellor,
Ohio Department of Higher Education



Leadership. Solutions. Innovation. OARnet strives to ensure Ohio’s role as a technology leader by implementing next-generation technologies in our network to meet the needs of government, education, and health care communities. By teaming with our communities to develop technology solutions designed to address the demands of an ever-changing environment for the delivery of services, OARnet facilitates innovation as a competitive edge in Ohio’s economic development and prominence as a leader in research and development.

Governed by the Chancellor of the Ohio Department of Higher Education (ODHE), the Ohio Technology Consortium (OH-TECH) serves as the technology and information division of ODHE. The consortium comprises a suite of widely respected member organizations collectively unsurpassed in any other state: OSC, OARnet, and OhioLINK. The consortium drives efficiencies through common services provided to member organizations through the Shared Infrastructure and Consortia Services divisions.

TABLE OF CONTENTS

From the Director	1
Connecting Communities	2
Built to Deliver, Designed to Evolve	4
Ohio’s Resources, Connected On-Net ..	5
Financial Impact	6
Friction-Free Business Model.....	7
OARnet Services	8
Value of OARnet.....	10
Leading Quantum Innovations	14
Looking Forward	15
Advancing Government Efficiency.....	16
Workforce Development	19

EXECUTIVE TEAM

Pankaj Shah

Executive Director

Mark Fullmer

Chief Technology Officer

Dave Ginn

Chief Relationship Officer

Kristen Weimar

Senior Administrative Manager

OH-TECH LEADERSHIP

Charles See

Deputy Chief of Staff, Vice Chancellor
for Strategic Partnerships and
Education Technology, Ohio
Department of Higher Education

Justin Costa

Senior Manager Fiscal Operations,
OH-TECH

John Strawn

Communications Manager,
OH-TECH

Drew White

Senior Manager Consortia Operations,
OH-TECH

oar.net

From the Director

As technology needs rapidly advance in Ohio, it remains critically important for the state to support affordable infrastructure for its broad range of communities. For nearly 40 years, OARnet has worked to meet these needs, and over the last year has continued to make meaningful progress in expanding capacity, strengthening reliability, and delivering greater value across the state.

The community anchor institutions we support—including government, higher education, K-12, research, libraries, health care, emergency communications, and public broadcasting—rely on an increasingly sophisticated suite of technologies to support digital work, learning, and service environments. This includes artificial intelligence tools institutions are swiftly adopting to analyze large amounts of data and deliver solutions for a wide variety of challenges.

OARnet has long designed its statewide fiber-optic backbone to stay ahead of rising demand, continually building capacity to support Ohio's evolving technology needs. As we complete a strategic upgrade from 100 to 400 Gigabits per second (Gbps) connectivity, we are already planning the next step: a Terabit Network running at 1,000 Gbps.

As clients face rising technology costs, we have introduced a modern, friction-free business model for our higher education members, designed to deliver greater value and predictability. Informed by peer and industry benchmarking, the model aligns costs more closely with services and delivers more bandwidth at lower costs, collectively saving members \$525,000 in FY27. The model also reinforces our commitment to Total Cost of Ownership across all constituent groups, which allows everyone to benefit from networking as a shared service. This change is an important first step to similar refinements for additional client communities over time.

In addition, we have advanced several projects in priority areas for our state and community anchor institutions. OARnet is conducting a pilot project



OARnet Executive Director Pankaj Shah listens to a presentation about quantum networking advancements in higher education at the OARnet Member Meeting.

“We are continually looking forward, building the network of 2030 and beyond.”

Pankaj Shah, Executive Director, OARnet

for a new threat intelligence security service, is making advancements in building a new Ohio emergency communications network, is working with The Ohio State University researchers to implement quantum networking solutions to strengthen state cybersecurity, and is building new backend systems and data structures to ensure exemplary customer service.

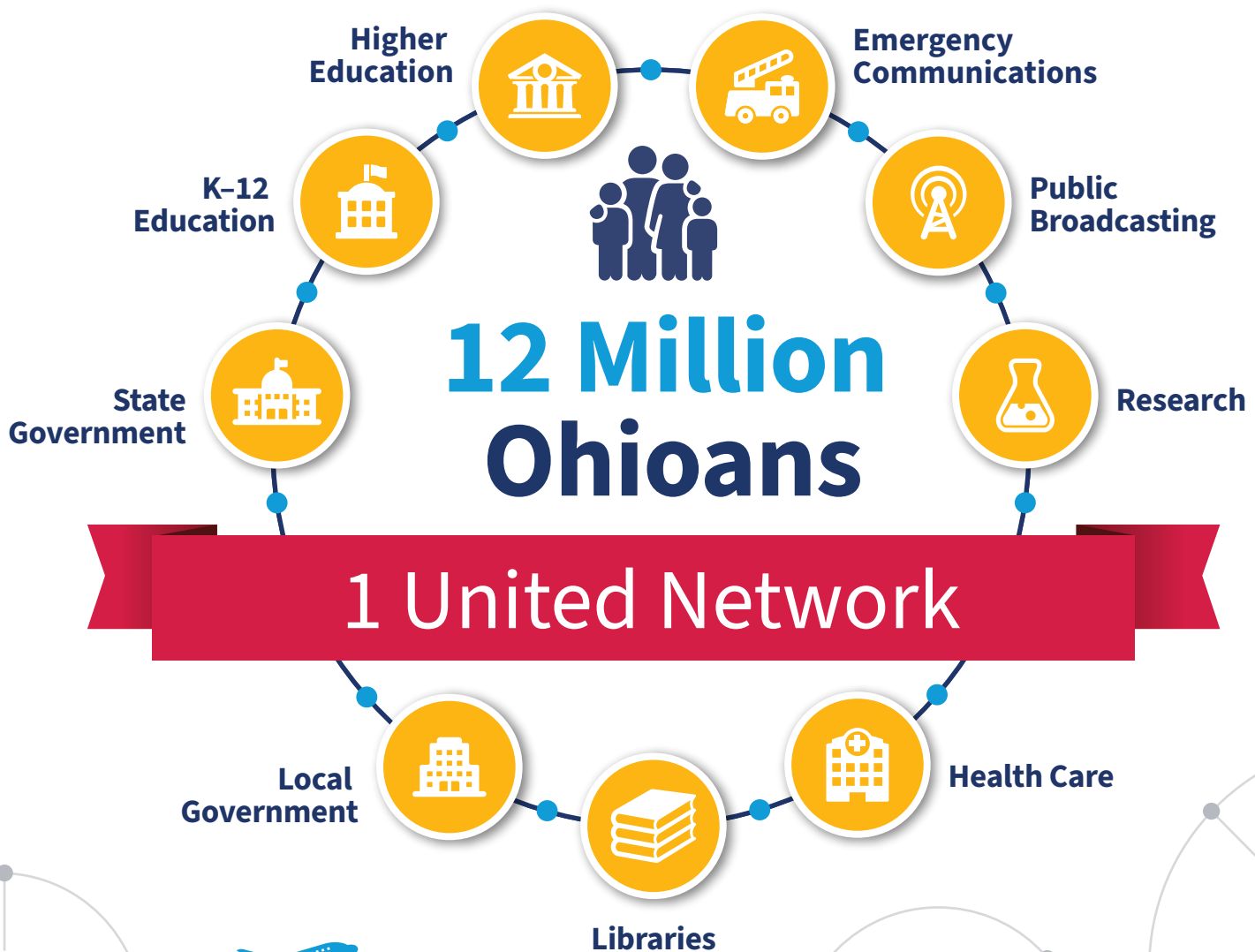
As OARnet approaches its 40th anniversary, I am proud of the ways our organization has progressed to meet the evolving needs of our communities. We are continually looking forward, building the network of 2030 and beyond that will keep Ohio competitive through powerful public-private partnerships that support education, research, government, health care, and workforce development.

Pankaj Shah
Executive Director

A handwritten signature in blue ink that reads "Pankaj Shah".

Connecting Communities

OARnet serves the specialized needs of a broad range of community anchor institutions including Ohio's education, research, health care, libraries, public broadcasting, emergency communications, and government communities by connecting them to the digital world through its more than 5,500-mile statewide, ultra-high-speed fiber-optic network. Through strategic partnerships, OARnet helps the state of Ohio stay technologically competitive while enabling research, economic development, and the creation of a next-generation workforce.





Higher Education

- 743,000 students
- 140,000 faculty, staff, & researchers
- 14 public universities
- 24 regional campuses
- 22 community colleges
- 43 independent colleges & universities

520 sites



K-12 Education

SUPPORTED NETWORK:
Management Council Ohio
Education Computer Network

- 1.7 million students
- 321,000 teachers & staff

977 entities



State Government

SUPPORTED NETWORK:
Ohio One Network

- 29 state agencies
- 175,000 public servants
- Ohio Statehouse
- Ohio Supreme Court

3,354 sites



Local Government

- 21 municipalities
- 24 county agencies
- 11 regional, judicial, library, & cultural organizations

228 sites



Libraries

SUPPORTED NETWORKS:
OhioLINK (Higher Ed),
OPLIN (Public), INFOhio (K-12)

- 87 colleges & universities
- 611 K-12 districts
- 251 local public libraries
- State Library of Ohio

729 sites



Health Care

- 11,300+ medical students & residents
- 13 health systems
- 8 medical schools
- 13 teaching hospitals

109 facilities



Research

- Billions of dollars of research supported
- Ohio's Internet2 connector
- Locations include Wright-Patterson Air Force Base, Battelle, Transportation Research Center, and more

27 sites



Public Broadcasting

SUPPORTED NETWORK:
Broadcast Educational
Media Commission

- 8 public television stations
- 15 public radio stations
- 6 radio reading services
- The Ohio Channel
- Statehouse News Bureau

26 sites



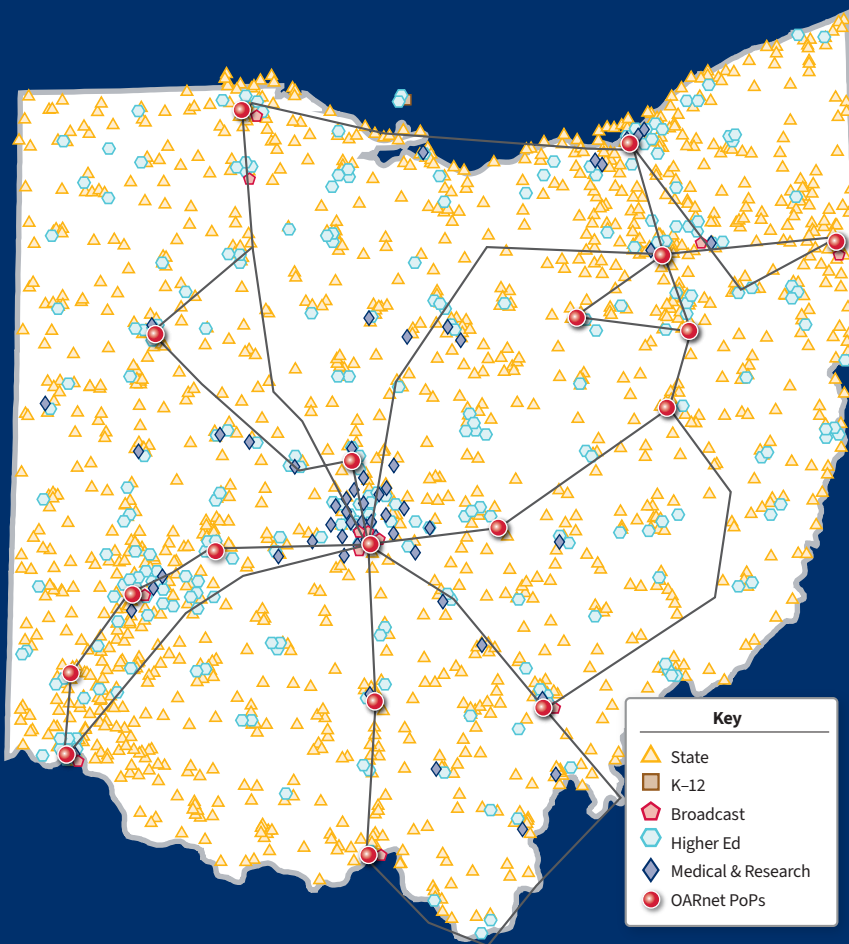
Emergency Communications

SUPPORTED NETWORKS:
State of Ohio NG911
& Multi-Agency Radio
Communications System

- 3,000 agencies
- 140,000 radios & voice units

Built to Deliver, Designed to Evolve

From urban centers to rural communities, OARnet's extensive fiber network connects organizations across Ohio with the speed, reliability, and statewide coverage they depend on every day.



“OARnet provides superb service to us. It’s unlike anything I’ve seen in my 30 years in the industry.”

Craig Stevenson, Chief of Engineering and Broadcast Operations, Broadcast Educational Media Commission

ENGINEERING & CLIENT SERVICES



562

**CIRCUIT AND
CPE UPGRADES
PERFORMED**



463

**FIELD WORK ORDERS
COMPLETED**



19

**INDUSTRY-CERTIFIED
NOC PERSONNEL**



8,002

**CLIENT SUPPORT
TICKETS RESOLVED**

PUBLIC-PRIVATE PARTNERSHIPS



100%

**CAPITAL BUDGET
INVESTED IN
PRIVATE SECTOR**



32

**CONNECTIVITY AND
INFRASTRUCTURE
PARTNERS**



46

**TOTAL PRIVATE-
SECTOR VENDOR
PARTNERS**



5,500+

MILES OF FIBER

Totals reflect Fiscal Year 2026 (7/1/25–6/30/26)

“Very few other states have an organization like OARnet. We feel connected and we’re able to power industry through learning and enabling the next generation of leaders.”

Micah Cooper, Associate Vice President for Technology and CIO, Cedarville University



400

**GIGABITS PER SECOND
CORE NETWORK SPEED**



530+

**PETABYTES DELIVERED FROM
EXTERNAL NETWORKS (CY25)**

On-Net Connectivity



Direct on-network access to Ohio’s digital resources

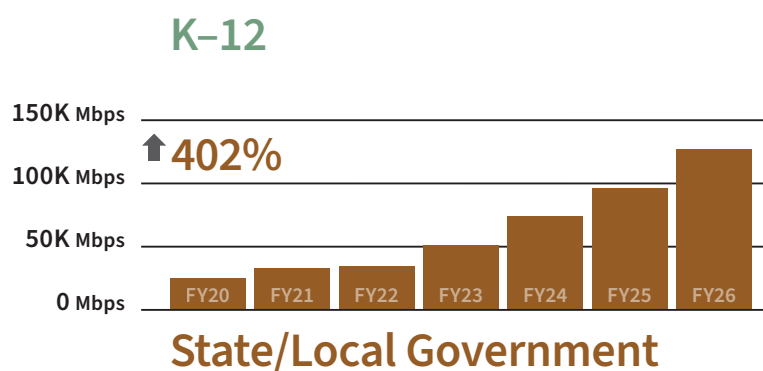
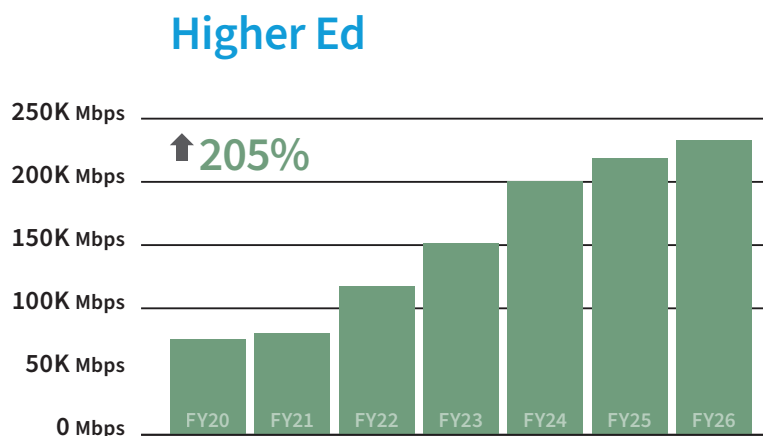
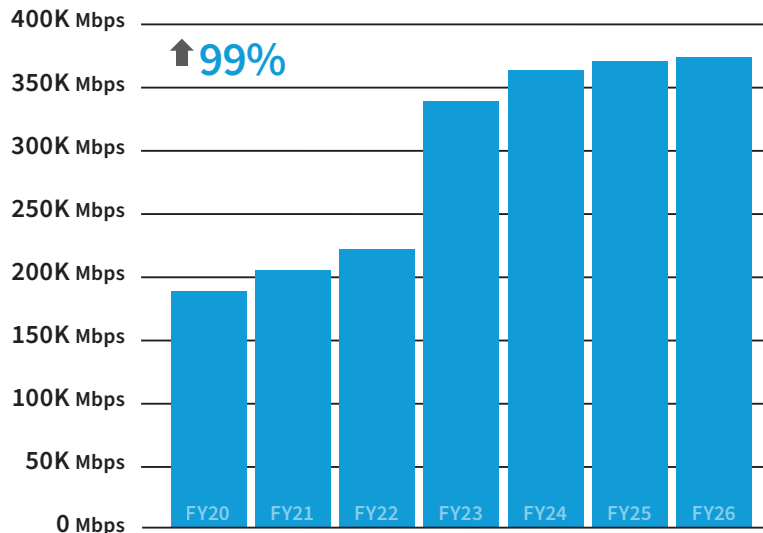
OARnet’s **On-Net** environment serves as Ohio’s shared digital ecosystem, connecting institutions directly to OhioLINK’s academic library content, the Ohio Supercomputer Center’s high performance computing, commercial cloud platforms, co-location facilities, and other connected destinations while keeping traffic off the wider internet. The result is faster, more efficient, more secure, and less expensive access to the digital resources that support research, teaching, learning, innovation, and emerging AI applications.

“The Ohio Technology Consortium is one of the nation’s leading collaborative technology models, combining vision, policy support, and shared resources.”

Joel Cutcher-Gershenfeld, Florence G. Heller Chair and Professor in the Heller School for Social Policy and Management, Brandeis University

Financial Impact

7-Year Internet Bandwidth Increases



Average annual price decrease ↓ 42%

SAVINGS

In Fiscal Year 2026



\$40+ million

total network savings for all clients



\$60+ million

VMware savings



\$2+ million

other aggregate savings

Tenable, Esri ArcGIS, Omnisia
Virtual Desktop and Apps

“They find ways to reduce our costs, even as we increase the demand on the network. They are an incredible partner to us.”

Jim Raber, VP for IT and CIO,
Kent State University



Friction-Free Business Model for Higher Ed

This year, OARnet modernized its higher education business model, bringing colleges and universities into the same friction-free framework already used across other OARnet client communities. The updated approach replaces a model centered primarily on bandwidth charges with simplified membership tiers that provide greater flexibility, transparency, and predictability.

The new model gives institutions room to grow without incremental cost increases as bandwidth demands increase. By aligning costs more closely with the services institutions receive, it creates a fairer and more sustainable approach for members while reducing the average effective per-megabit rate by 37 percent.

The impact extends beyond cost savings. A stronger business model helps ensure OARnet can continue delivering advanced connectivity and services while creating additional flexibility for institutions to commit resources to their core missions.

“We view the savings from OARnet’s new business model as something we can reinvest in the institution,” said Dave Smith, director of IT for security at the University of Mount Union. “And with a small IT staff, having OARnet as a resource gives us access to expertise and support that amplifies the impact of our hardworking and talented team.”

PROJECTED SAVINGS

For Fiscal Year 2027



\$525,000

projected higher ed member savings in FY27



↓37%

average reduction in effective per-megabit costs

Friction-free tiered pricing

More bandwidth,
predictable costs

“We can rely on OARnet to support us, give us guidance, and help us save money.”

Miroslav Humer, VP for University Technology and CIO, Case Western Reserve University

OARnet Services

OARnet has delivered innovative, technology-based solutions to reduce costs, increase productivity, and improve customer service since 1987. OARnet's state-of-the-art network provides the foundation for current and future services that support Ohio's community anchor institutions. OARnet's centralized network architecture enables communities across Ohio to aggregate demand and share services statewide, reducing overall costs while expanding our service portfolio.

Integrated network services

OARnet's core networking services offer the flexibility and scalability that clients require for current and future technology needs.

- Co-location
- Commodity Internet Access
- Domain Name Service (DNS)
- IPV4 & IPV6
- Last Mile Access Coordination
- MPLS L3VPN & L2 Circuits
- On-Net Connected Resources
- Optical Transport
- Managed Dark Fiber
- Managed Last Mile
- Network-to-Network Interfaces (NNI)

Support services

Engineers, technical specialists, and business relationship managers offer consulting services, onsite support, troubleshooting, and personalized solutions to client technology issues.

- 24x7 Support Center (NOC)
- Field Dispatch
- Network Design and Engineering Consulting
- Personalized Client Engagement Services
- Quality of Service (QoS)

Network peering and Internet2

OARnet is Ohio's Internet2 connector, with 500 Gbps connections in Cleveland and Cincinnati to advance research collaboration and enable research funding.

- Research Network Peering
- Internet2

Application and aggregation services

Statewide aggregate purchasing allows OARnet to offer critical applications and services at an affordable cost.

- Emergency Web Hosting
- Esri ArcGIS
- Omnissa Virtual Desktop and Applications
- VMware by Broadcom
- Voice Over IP (VoIP)

Cybersecurity services

OARnet offers in-demand services and participates in the REN-ISAC program that tracks emerging threats.

- DDoS Mitigation
- Tenable Vulnerability Management

Dedicated content service

OARnet provides transport to leading commercial cloud providers including Amazon, Microsoft, Google, and Oracle. Dedicated cloud access offers private connectivity and enables campus and cloud network service integrations.

“OARnet’s very proactive in their approach, reaching out to us, telling us about new things, and collaborating with us. It’s the difference between a vendor and partner.”

Jim Yukech, AVP CIO, Youngstown State University

SUPPORTED NETWORKS

OARnet's statewide fiber-optic backbone supports several networks that serve specialized needs and audiences.

- Ohio One Network (State of Ohio)
- Ohio Education Computer Network (Information Technology Centers and large urban aggregation for K-12)
- OhioLINK (higher ed libraries), OPLIN (public), INFOhio (K-12)
- Broadcast Educational Media Commission (public broadcasting stations)
- Emergency Communications Network (State of Ohio NG911 and MARCS)



MARCS (Multi-Agency Radio Communication System) field engineers work on a tower that supports wireless digital communications for first responders and public safety officials.





“Ohio was so forward thinking in 1987 when it created OARnet, a huge differentiator that enables Ohio to educate the workforce of the future and bring jobs to the state.”

Bharath Prabhakaran, VP & Chief Digital Officer, University of Cincinnati

The Value of OARnet

OARnet's 5,500-mile fiber-optic network connects Ohio, from government offices in downtown Columbus and high schools in southeastern Ohio to research labs in Cincinnati, agricultural operations in northwest Ohio, and health care facilities in the greater Cleveland area.

Through longstanding public-private partnerships, OARnet has served thousands of clients in the education, government, research, and public service spaces with next-generation broadband infrastructure, technology services, and engineering expertise since 1987. With its expansive reach and diversity, OARnet's aggregation and service consolidation model is an envy of many states around the country and has been designed to anticipate and deliver solutions for Ohio's evolving technology needs.

OARnet's fiber-optic network reaches every corner of Ohio, providing advanced high-speed networking and technologies such as virtualization servers, public and private cloud services, and cybersecurity offerings. The infrastructure includes a high level of strategic redundancy and low latency required by modern real-time applications. Working with private sector providers and the state broadband office, OARnet continually extends its network reach to unserved or underserved areas of Ohio.

OARnet represents a shared service model that provides a strong return on investment for the State of Ohio and affordable technology solutions to clients, achieved through aggregate purchasing programs. In FY2026 alone, OARnet saved \$40 million in total cost savings for all clients.

OARnet is always building for tomorrow, anticipating future technology needs. This strategy paid off for the state during the pandemic in 2020, when OARnet was able to easily accommodate the unforeseen rapid demand for online education and workforce capabilities. This year, OARnet is completing an upgrade to 400 Gigabits per second (Gbps) across Ohio, the first step in achieving a full Terabit Network.

"OARnet delivers exceptional value to the state and has become a national leader in advanced networking and value-added services," said Pankaj Shah, executive director of OARnet.

"With our shared services model, public-private partnerships, aggregate purchasing, and scale of our network footprint, Ohio is home to a world-class broadband network that serves the technology needs of our state today and prepares us for tomorrow."

Impact of OARnet service offerings

1. The University of Mount Union has used Esri's ArcGIS software, acquired through OARnet's statewide purchasing program, to locate and digitally map all campus utilities and surface structures, which has helped manage construction and maintenance projects and will aid in planning future property uses.
2. Through its On-Net service, OARnet connects researchers, students, and industry partners to the high performance computing resources at the Ohio Supercomputer Center required for data analysis, simulations, and artificial intelligence work, as well as to the digital research collections maintained by OhioLINK, the statewide academic library consortium.
3. OARnet partners with Wright State University in delivering co-location services to higher education, K-12, and government affiliates. The co-location service provides a scalable, cost-effective method to building redundancy, diversity, and compute capacity into a client's network without a major capital investment in developing or upgrading on-premise data centers.
4. The Broadcast Educational Media Commission (BEMC) drew on OARnet's network design and engineering consulting service to develop and construct a new data center to support its live services and equipment upgrades at all of the public media affiliates across the state.

“OhioLINK relies on OARnet’s network to ensure our member institutions have secure, dependable connectivity for our 875,000+ student and faculty users.”

Amy Pawlowski, Executive Director, OhioLINK



“Simply having OARnet connectivity has been crucial in connecting the Ohio Supercomputer Center to campuses across the state.”

Dave Hudak, Executive Director, Ohio Supercomputer Center

Ohio Technology Consortium leadership attended the Ohio Higher Education Computing Council (OHECC) 2026 annual conference to discuss how artificial intelligence is reshaping higher education and driving new demands across networking, advanced computing, library systems, data access, and security. From left: John Strawn, Communications Manager, OH-TECH; Pankaj Shah, Executive Director, OARnet; Amy Pawlowski, Executive Director, OhioLINK; Dave Hudak, Executive Director, Ohio Supercomputer Center.

Amplifying impact

Creating synergies at the Ohio Technology Consortium, OARnet enables research that depends on high-speed, low-latency connectivity, often in collaboration with resources like the Ohio Supercomputer Center and OhioLINK. Along with OARnet, these organizations form the Ohio Technology Consortium, which aligns computing, networking, library systems, and academic services to support education and research.

“As Ohio’s statewide academic library consortium, OhioLINK relies on OARnet’s network to ensure our member institutions have secure, dependable connectivity for our 875,000+ student and faculty users,” said Amy Pawlowski, executive director of OhioLINK. “OARnet provides the essential infrastructure for libraries’ mission-critical technologies and cloud-based platforms that serve Ohio’s higher education community.”

“OARnet provides a unique value for the Ohio Supercomputer Center (OSC) because it enables the creation and transport of data sets that we wouldn’t be able to accomplish with any other provider,” said Dave Hudak, executive director of OSC. “Simply having OARnet connectivity has been crucial in connecting OSC to higher education institutions across the state. The continued growth and maturation of OARnet is critical for OSC and Ohio to continue to evolve technologically, to innovate, and to develop the next generation of workforce and technology.”



OARnet’s new *How Do Networks Work?* activity book makes networking concepts fun and accessible through games, illustrations, and hands-on activities. Designed for outreach events such as the Ohio State Fair and COSI’s Big Science Celebration, copies are available on the OARnet website at oar.net/activitybook.



“By leveraging OARnet’s statewide network and capabilities, the emerging Emergency Communications Network is advancing public safety communications throughout Ohio.”

Angela Canepa, Deputy Director of First Responder Communications Initiatives, Ohio Department of Administrative Services

CLIENT CONNECTIONS

In 2026, OARnet launched a series of events to connect clients with new resources in their regions of Ohio. At the first Central Ohio Cohort meeting in June, education and government leaders, including Ohio Department of Administrative Services Deputy Director Angela Canepa, pictured above, explored how shared services and infrastructure can help address evolving technology needs. As the event attracted strong attendance and made new connections among clients, OARnet plans to host additional meetings across Ohio in 2027 and beyond.

Leading Quantum Innovation

OARnet is advancing quantum networking technologies that could deliver next-generation cybersecurity for research and education networks nationwide.

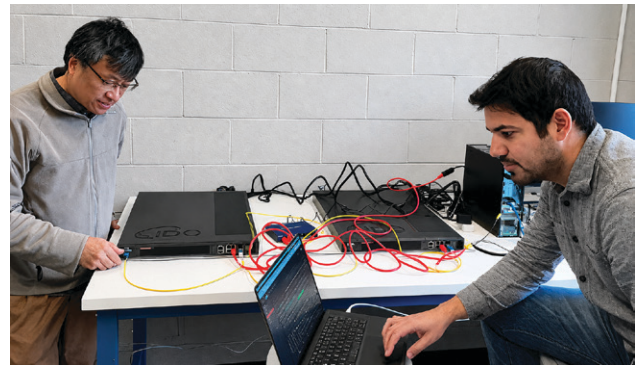
In Ohio, OARnet is partnering with The Ohio State University researchers Ronald Reano and Ezekiel Johnston-Halperin, co-directors of the Center for Quantum Information Science and Engineering, to build a quantum networking test bed. Supported by \$1.75 million in state and federal funding, the team has demonstrated quantum key distribution between two Columbus locations and plans to expand single-photon transmission to Dayton, Cleveland, and Chicago. Researchers also are exploring applications in sectors such as finance and medicine, where sensitive information requires long-term protection.

Nationally, OARnet leaders are collaborating with quantum networking experts to explore emerging technologies, education, and infrastructure needs.

At the Quantum Partnership Workshop at the Sanford Underground Research Facility in South Dakota, OARnet's Pankaj Shah and Mark Fullmer met with Midwest leaders to explore developments in quantum networking.

Fullmer and Reano also are forging collaborations with researchers at State University of New York, Stony Brook University, and Brookhaven National Laboratory to advance quantum networking test beds. Fullmer gave a talk on fiber infrastructure during Stony Brook's SCY-QNet Quantum Networks Town Hall, where research and education network leaders examined how existing fiber can support future quantum communication, sensing, and computing applications.

With Mickey Slimp of the Great Plains Network, Shah is now part of a Quilt initiative that will explore the creation of long-distance quantum networks, a topic they presented at The Quilt's 2026 Winter Member Meeting.



“Through its leadership in quantum networking research, OARnet is helping build the foundation for next-generation connectivity.”

Jen Leasure, President, The Quilt



Top: Professor Ronald Reano (left) and Postdoctoral Researcher Wendson de Sa Barbosa characterize the quantum key distribution link in the laboratory.

Bottom: OARnet Chief Technology Officer Mark Fullmer (left) and Executive Director Pankaj Shah (middle) tour the Sanford Underground Research Facility in South Dakota during the Quantum Partnership Workshop.

Looking Forward

Over the next year, OARnet will make significant strides in enhancing its network development and services for communities across Ohio.

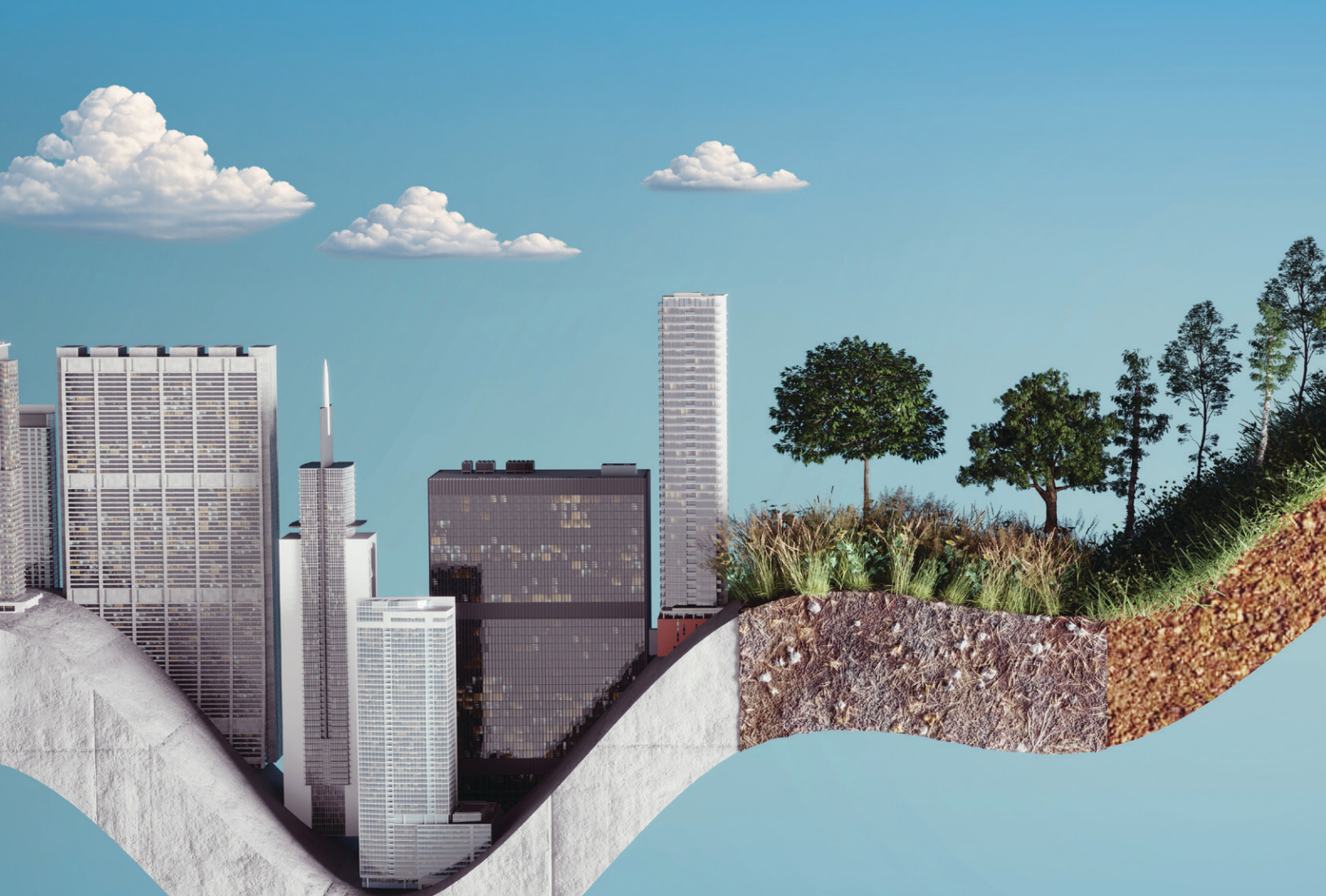
- Embarking on the final phase of upgrading the statewide fiber-optic backbone to 400 Gbps, laying the groundwork for the Next Generation OARnet Terabit Network.
- Continuing to explore quantum networking technologies, in collaboration with researchers and practitioners across the country, that will yield stronger cybersecurity solutions.
- Advancing our cybersecurity posture with a new threat intelligence pilot project in coordination with five test clients that encompass the higher education, K-12 education, and state government sectors.
- Developing a faster, more resilient emergency communication network in collaboration with public and private partners—including the State of Ohio, NG911, and MARCS—to improve emergency response capabilities statewide.
- Creating new avenues of support for our clients by establishing a series of regional meetings that connect clients to OARnet and partner resources.
- Supporting BroadbandOhio and InnovateOhio initiatives to help close the digital divide for underserved and unserved regions of the state.
- Cultivating the next generation of technology leaders and engineers through strategic workforce development initiatives.
- Evaluating artificial intelligence (AI) tools and vendor roadmaps to enhance network operations, analytics, and service delivery, while supporting responsible AI adoption.
- Building backend systems and data structures that support business contracts and assets to provide exemplary service to our thousands of clients.
- Supporting greater connectivity to hundreds of community anchor institutions along U.S. Route 30, as part of a major new state-funded initiative to extend the state backbone.



Elliot Hogan and Dave Ginn of OARnet's client services team attend a career fair to promote broadband networking job opportunities to Ohioans.

“The future of innovation depends on trusted partnerships and advanced cyberinfrastructure services. OARnet exemplifies how a statewide network can bring institutions together and create lasting value.”

Tripti Sinha, President and CEO, Internet2



Advancing Government Efficiency to Benefit Ohio

When OARnet implemented a massive upgrade of its fiber-optic backbone from 10 to 100 Gigabits per second (Gbps) connectivity in 2012, more community anchor institutions—including numerous state and local government entities—joined the network to take advantage of this unprecedented technology asset.

Soon after the upgrade to 100 Gbps, OARnet became the backbone for the Ohio One Network that connects state agencies. It also teamed with private sector companies VMware and Carahsoft to establish a distribution program that provides significant discounts for software virtualization licenses, which accelerated the use of virtualization technology in Ohio's public sector institutions.

“Ohio's One Network, a long-time partnership with OARnet, has provided tremendous economies of scale for state agencies,” said Katrina Flory, State of Ohio CIO and assistant director of the Ohio Department of Administrative Services. “OARnet's



“Our partnership with OARnet has provided tremendous economies of scale for state agencies.”

Katrina Flory, State CIO/Assistant Director, Ohio Department of Administrative Services

strong understanding of the broadband needs of both the state and the research and education communities, as well as assistance with the aggregate purchases of bandwidth and other important services, has helped advance many initiatives beneficial to Ohio.”

Boosting growth and productivity

Today OARnet is an integral resource for 3,354 state and 228 local government sites that rely on its connectivity and technology services that boost efficiency and productivity while ensuring the security and dependability of their operations. These government entities also benefit from OARnet’s many public-private partnerships and aggregate purchasing agreements.

Government entities choose to join OARnet’s network, which provides access to private sector last-mile providers that build new connections to the state backbone. Once connected, the entities



Top: OARnet’s Elliot Hogan, Mary Ann Zbydnowski, and Aaron Wise (left to right) with a Black Fly electric vertical take-off and landing vehicle (eVTOL) at the Springfield-Beckley Municipal Airport.



Bottom: Rich Fox, director of the Ohio UAS Center (middle right), and Eric Adams, founder and lead engineer of AAMTEX (middle left), tour the facility with OARnet’s Kristen Weimar (left) and Pankaj Shah (right).

easily access the internet and statewide resources, such as cybersecurity tools, virtual private networks, and a 24x7 Network Operations Center for customer support.

The impact of OARnet’s resources on its government clients is far-reaching:

- OARnet extended its fiber-optic backbone to Springfield, Ohio, creating capacity for drone testing and data collection at the Ohio Department of Transportation (ODOT)’s Uncrewed Aircraft Systems (UAS) Center at the Springfield-Beckley Municipal Airport. The project

has helped pave the way for developments in uncrewed flight and transportation technology innovations, through state initiatives such as FlyOhio and DriveOhio. A second backbone connection helped public and private partners launch the new [National Advanced Air Mobility Center of Excellence](#) (NAAMCE).

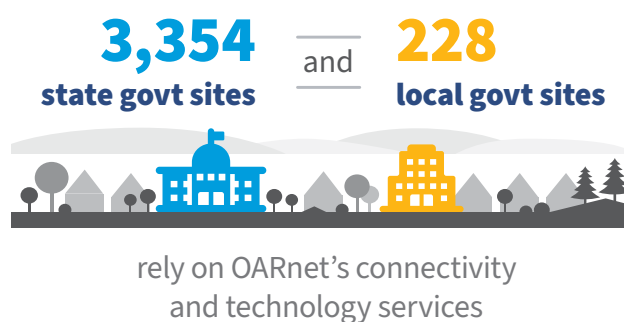
- The Ohio Bureau of Motor Vehicles (BMV) used connectivity to OARnet to [launch self-service kiosks](#) at a deputy registrar and retail locations around the state. The kiosks allow Ohio drivers to renew their vehicle registration and print out their new registration cards and validation stickers while minimizing wait times at the BMV.
- The State of Ohio [established two new Ohio Narcotics Intelligence Center \(ONIC\) offices](#) in Toledo and Cincinnati to expand the use of computer forensics to combat drug trafficking. OARnet worked with the sites to support the bandwidth needed for law enforcement to process and analyze the large volume of digital data uncovered in criminal investigations.
- To support tourism and economic development, OARnet collaborated with public and private partners to [enhance connectivity at more than 100 lodges and campgrounds](#) across Ohio. The expanded connectivity was designed to support cashless transactions, expand service offerings, and enhance customer experiences.

Ensuring security and access

OARnet has collaborated with the state on several major initiatives that advance technology access, safety, and security across Ohio.

Over the last decade, OARnet has played a larger role in assisting emergency communications and services. In partnership with the Ohio Department of Public Safety and Ohio Department of Administrative Services, OARnet is enabling the deployment of a dedicated NG911 emergency communication network with Multi-Agency Radio Communications System (MARCS) towers.

OARnet also has collaborated with state entities such as CyberOhio, the Ohio Department of Public Safety, and the Ohio Secretary of State Office to strengthen the state infrastructure against attacks on critical systems and expand services to local government entities.



Since 2020, OARnet has partnered with the state's BroadbandOhio and InnovateOhio initiatives to fill gaps in broadband access for underserved and unserved communities in Ohio. OARnet regularly contributes to a BroadbandOhio working group and strategy sessions for grant funding that state and federal government entities are offering for new broadband projects.

One example of the partnership is OARnet's participation in a broadband expansion project in the City of East Cleveland designed to connect 2,000 households to reliable, low-cost high-speed internet. In addition, OARnet will serve as the technical lead for the U.S. Route 30 broadband extension, a new \$20 million public-private partnership with seed funding from the State of Ohio that will develop middle-mile infrastructure from Lima to Mansfield to Akron across north-central Ohio. The project will provide greater connectivity options to many community anchor institutions—including higher education institutions, K–12 districts, libraries, health care facilities, and local government entities—located along U.S. Route 30.

“OARnet plays an integral role in the design and planning for the U.S. Route 30 project, drawing on their deep expertise with advancing public-private initiatives in Ohio,” said Peter Voderberg, chief of BroadbandOhio.

Looking forward, OARnet's completion of its backbone upgrade from 100 Gbps to 400 Gbps connectivity and its plans for the next-generation Terabit Network (1,000 Gbps) will help state and local entities integrate new technology, such as artificial intelligence and expanded automation, to streamline government service delivery. OARnet will position Ohio for further technology innovation and economic growth.



Helping State Education Institutions Support Research, Online Learning, Workforce Development

More than 2.4 million Ohio students from grade school to grad school depend on OARnet's statewide infrastructure for reliable, high-speed networking that enables nearly every aspect of modern teaching and learning, from hybrid instruction to data-intensive research and the systems that sustain it.

By expanding access to advanced technology and statewide collaboration, OARnet helps institutions strengthen academic programs, support workforce development, and prepare students for careers in Ohio's evolving innovation economy. OARnet's forward-looking approach helps institutions stay ready for what comes next.

Serving higher education

OARnet connects Ohio institutions to national and international research networks, including Internet2, a high-speed research and education network that enables collaboration among universities and research organizations worldwide. OARnet also partners with its constituents on regional

"OARnet has been key at Miami University."

John Virden, Assistant VP of
Security, Compliance, and Risk
Management, Miami University

infrastructure initiatives such as the Cincinnati Education and Research Fiber (CERF) ring, which strengthens research and education connectivity and strategic redundancy across the region.

"I think the infrastructure that OARnet provides allows our researchers to do work that we couldn't support on our own," said Bharath Prabhakaran, CIO at the University of Cincinnati, which utilizes the CERF ring.

Beyond research, the network enables broader access to education. Reliable connectivity allows

A History of Supporting Education in Ohio

1987	Ohio Board of Regents establishes OARnet
2004	Acquisition of dark fiber to create highly scalable, fiber-optic statewide infrastructure Ohio Department of Education/K-12 school districts join network
2012	100 Gigabits per second (Gbps) upgrade to statewide backbone completed
2014	State agencies join network
2019	OARnet is a founding member of the Schools, Health & Libraries Broadband (SHLB) Coalition
2020	Collaboration with new BroadbandOhio and InnovateOhio initiatives begins
2021	400 Gbps connections to Internet2 in Cincinnati and Cleveland established
2022	Ohio higher education institutions connected to OARnet at a minimum of 10 Gbps
2023	Information Technology Centers serving K-12 are upgraded to 100 Gbps
2025	Cross-campus quantum key distribution achieved by OARnet and Ohio State researchers
2026	New friction-free business model debuts for higher education

institutions to serve traditional students, working professionals, and learners seeking new skills in an evolving workforce while supporting hybrid and online learning across the state. For example, at Denison University, OARnet connectivity supports the Denison Edge workforce-ready initiative in downtown Columbus, connecting students with entrepreneurs, internships, and career development opportunities beyond campus.

And as institutions face growing cybersecurity and research demands, OARnet has expanded services to help strengthen defenses, support compliance requirements, and advance emerging technologies.

“OARnet has been key at Miami University, helping us with our vulnerability management program and a potential future network security operations center,” said John Virden, assistant vice president of security, compliance, and risk management at Miami University. “It’s that attention to the needs of the community and the world of cybersecurity that has been crucial—and will continue to be crucial—as we fight the constant and growing threat of malicious actors.”

Shared services and aggregated contracts also give institutions access to enterprise-level tools, technical expertise, and affordable solutions that might otherwise be difficult to maintain independently.

“It’s very much a partnership—not a vendor-client relationship,” said Miro Humer, CIO at Case Western Reserve University. “We can rely on OARnet for guidance, technical support, and cost-effective solutions.”

These services support institution-specific initiatives across Ohio. At the University of Mount Union, for example, an ArcGIS license provided through OARnet’s statewide purchasing program has helped improve campus planning, construction coordination, and classroom instruction.

At the core of its research and education mission, OARnet has also supported emerging research initiatives in partnership with The Ohio State University, including early work in quantum networking and projects at the Molly Caren Agricultural Center, where autonomous farming and precision agriculture applications rely on high-speed connectivity and secure data exchange.

Partnering with K–12 school districts

Through its relationship with the Management Council of Ohio Education Computer Network and Information Technology Centers (ITCs) across Ohio and major large urban districts, OARnet has supported Ohio’s K–12 school districts for more than 20 years, helping schools meet growing digital learning and connectivity demands.

As classrooms increasingly rely on connected devices, cloud-based learning platforms, streaming content, online assessments, and virtual instruction, reliable high-capacity connectivity has become essential to modern K–12 education. Across Ohio, districts depend on scalable network infrastructure to support evolving classroom technology and maintain equitable access for students and educators.

In partnership with the Management Council, OARnet completed major infrastructure upgrades for ITCs and large urban school districts, increasing connectivity from 10 Gbps to 100 Gbps with additional capacity available for future expansion. The project helped position districts across Ohio to better support future learning environments and continued growth in technology demands.

“Reliable, high-speed internet is essential for today’s students,” said Jimmy Battrell, CEO of the Management Council.

For school districts, those upgrades are also about ensuring day-to-day operations run effectively as classrooms become increasingly technology dependent.

“It’s all about taking care of our school districts and providing them with services they need to operate efficiently and effectively every day,” said Jim Sotlar, CEO of META Solutions.

OARnet continues to evolve its infrastructure, including a transition to 400 Gbps connectivity as part of a broader move toward 1 Terabit capacity.

Emerging technologies such as AI, advanced analytics, and quantum computing are driving increased demand for bandwidth, computing power, secure data exchange, and AI-enabled learning and research environments.

Sustained investment and collaboration will remain critical as institutions face increasing technological demands. A trusted statewide network ensures Ohio’s education community can continue to adapt, innovate, and serve learners across the state. In Ohio, that foundation is already in place.



“Reliable, high-speed internet is essential for today’s students.”

Jimmy Battrell, CEO, Management Council

OARnet

1224 Kinnear Road | Columbus, OH 43212 | 614-292-9191 | oar.net



**Department of
Higher Education**

Ohio Technology Consortium



info@oar.net



twitter.com/oarnet



facebook.com/oarnet



linkedin.com/company/oarnet



oar.net