

CASE STUDY

When One of America's Largest Universities Needs Zero Downtime

How FirstLight delivered redundant, high-capacity connectivity to power Penn State's research and innovation.

Customer: Penn State University | **Location:** Multiple across PA

Penn State consistently ranks among the nation's top universities, placing 26th among public universities and 59th overall in the 2026 U.S. News & World Report Best Colleges rankings. But rankings alone don't power a university of this scale. Across 25 campuses and more than 88,000 students, Penn State needs a network that keeps research, teaching, and collaboration running without interruption.



Quick Solution Snapshot



88,000+

Students

Supported by Penn State's digital infrastructure



25

Campuses

Across the university system



15

Connections Across 14 Sites

Dedicated FirstLight Ethernet connectivity across campus locations



100G

Ethernet Private Line

Ultra-high-capacity data center connection



The Challenge

With 25 campuses driving research and innovation forward, Penn State set out to strengthen its network and build in the redundancy to keep it running, no matter what.

Key requirements included:

- Connecting 14 campus locations with a redundant Ethernet Private Line (EPL)
- Establishing high-capacity connectivity between two university data centers
- Maintaining provider redundancy, a best practice that ensures uptime by contracting with two carriers and two circuits



The FirstLight Solution

FirstLight engineered a scalable connectivity architecture designed to support the university's high-performance networking needs. At the core of the deployment is a 100G EPL connection, enabling rapid, secure transfer of research data and applications between data centers.

Key elements of the solution include:

- Dedicated Ethernet connectivity across 14 sites, engineered for redundant, carrier-diverse paths
- A 100-Gigabit Ethernet Private Line (EPL) between two Penn State data centers
- Secure, high-capacity infrastructure built on FirstLight's owned fiber network
- Network architecture designed with room to scale as demand grows



Results

Penn State now has a network built to keep pace with its research ambitions—reliable, redundant, & ready to grow.



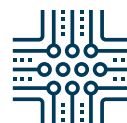
Faster Data Movement

thanks to a 100G Ethernet Private Line built for today's largest workloads



Enhanced Network Visibility

Greater visibility lets Penn State's IT team monitor performance and respond quickly to potential issues



Uninterrupted connectivity across 14 campuses

About two-thirds of Penn State's campuses are now connected through FirstLight



A Network ready for what's next

with architecture designed to scale as Penn State's needs grow



Looking Ahead

As research initiatives and digital learning continue to expand, Penn State is exploring additional network upgrades to support growing demand.

Future initiatives under consideration include:

- Expanded network capacity
- SD-WAN deployments
- Additional campus connectivity

With its scalable fiber infrastructure, FirstLight is well positioned to support these next phases of network evolution.

ABOUT FIRSTLIGHT

At FirstLight, we build and manage fiber networks for businesses, healthcare systems, universities, and communities across the Northeast and Mid-Atlantic. We make technology simpler by bringing connectivity, cloud, data center, security, and managed services together under one roof—so our customers get one partner instead of a patchwork of vendors, and one team that knows their infrastructure inside and out.