Published Jun 15, 2021 6 min read

Expanding cloud services: Microsoft launches its sustainable datacenter region in Arizona

By Noelle Walsh, Corporate Vice President, Cloud Operations + Innovation

Announcements more

Today we are launching our newest sustainable datacenter region in Arizona, known as "West US 3." Datacenters are today's engine for modern business, providing organizations of all sizes the cloud services and tools to innovate, collaborate, and operate securely and efficiently at scale. We build datacenters around the globe to address increased customer demand for Microsoft cloud services, and we do so with sustainability firmly in mind.

We chose Arizona as the location for our next US datacenter region for its abundant solar energy, highly skilled workforce, proximity to our customers, and availability of land. We are honored to be part of the community and take seriously our role as a community member in the regions we operate.

"Technology continues to be an area of growth for Goodyear, and Microsoft's datacenters represent a significant investment in our city. This project has created a boost in our local economy through hundreds of construction jobs as well as new high-paying positions to support datacenter operations. We are pleased that Arizona government and businesses, as well as global customers, can select this new Microsoft datacenter region to run their business-critical operations, with the security and sustainability benefits offered by Microsoft."—Mayor Georgia Lord, City of Goodyear

"Microsoft's datacenter investment creates new, local jobs to support operations and development and provides opportunities for businesses to innovate with Microsoft cloud services in our City, across Arizona, and throughout the world. We look forward to continuing to partner with Microsoft on local community initiatives, supporting cloud-powered business growth."—Mayor Alexis Hermosillo City of El Mirage

West US 3 region delivers highly resilient, secure cloud services

Starting today, customers can choose to build and run their Microsoft Azure applications from West US 3. Azure is an ever-expanding set of cloud services that offers computing, networking, databases, analytics, AI, and IoT services. Each year, Microsoft spends $1 billion on cybersecurity to address security at every layer of the cloud. In addition, Microsoft has more than 90 compliance certifications for customers to support data compliance requirements across industries and geographies. The new West US 3 datacenter region includes Azure Availability Zones, which offer customers additional resiliency options for their applications by designing the region with unique physical datacenter locations with independent power, network, and cooling for additional tolerance to datacenter failures. For customers looking to leverage the new region and Availability Zones, Azure offers region portability for multiple resources with Azure Resource Mover.

Microsoft customers, including Banner Health, State of Arizona, and Teradata are some of the early customers with plans to use the West US 3 region, which offers local businesses the ability to run applications closer to where compute is needed for lower-latency, along with the data security, privacy, and sustainability offered by Microsoft cloud services.

"Working with cloud providers like Microsoft enables us to be more agile as well as develop new strategic cloud services for our residents at scale, securely. With Azure, we've created a highly secure system to reduce trips to the DMV, enabling residents to update drivers' licenses and complete vehicle title transfers, for example, online. We also implemented a new child safety case management system using Azure and Dynamics 365, enabling caseworkers to capture critical, time-sensitive information at the moment through a tablet and the cloud. The new Microsoft datacenter region in Arizona enables us to continue this important work with computing resources right here in our state."—J.R. Sloan, State of Arizona Chief Information Officer

"Enabling customers to have deep analytics, while managing all their data on Azure attached to the Microsoft ecosystem is at the heart of our enterprise offering, Teradata Vantage. When coupled with the worldwide footprint of Microsoft Azure, we offer our joint customers a connected cloud data platform driving industry outcomes and the ability to attach Azure native services, such as AI, machine learning, and IoT. The new Microsoft datacenter region in Arizona gives us another option to deliver Vantage on Azure with lower latency and high availability in the public cloud."—Lisa Stewart, SVP of Cloud Alliances, Marketing and Programs, Teradata

Sustainable datacenter design, operations

Our new datacenter region is built with sustainable design and operations in mind. As part of our commitment to being carbon negative by 2030, we will have power purchase agreements for green energy contracted for 100 percent of carbon-emitting electricity consumed by all our data centers, buildings, and campuses.

To meet our renewable energy goals in Arizona, Microsoft collaborated with Longroad Energy on their 150-megawatt Sun Streams 2 photovoltaic (PV) solar power plant located in Maricopa County, Arizona. Renewable energy from Sun Streams 2, using First Solar technology, will offset the energy use of the new campus with Renewable Energy Certificates (RECs) from the project.

Another primary area of energy use in the datacenter is keeping the servers cool to maintain performance and the lifetime use of the server. Microsoft's Arizona datacenters will use zero water for cooling for more than half the year, leveraging a method called adiabatic cooling, which uses outside air instead of water for cooling when temperatures are below 85 degrees Fahrenheit. When temperatures are above 85 degrees, an evaporative cooling system is used, which operates like "swamp coolers" in residential homes. This system is highly efficient, using less electricity and a fraction of water used by other water-based cooling systems, such as cooling towers. In addition, we're pursuing Leadership in Energy and Environmental Design (LEED) Gold certification, which will help conserve additional resources including energy and water, generate less waste, and support human health. Finally, we are committed to zero-waste certified operations for this new region, which means a minimum of 90 percent of waste will be diverted away from landfills through reduction, reuse, and recycling efforts.

Beyond the datacenter—community investments for water conservation, education, and skilling

Beyond our datacenters, we are deeply invested in Arizona's water conservation and replenishment efforts. These projects include:

- Working with the State of Arizona and the Colorado River Indian Tribes to sustain water levels in Lake Mead, with the goal of supporting the state to meet its Drought Contingency Plan Commitments. Microsoft's investment in this project has generated a one-to-one cash match from the Water Funder Initiative that will support the state's efforts and further expand project impact.

The project will benefit the Colorado River Indian Tribes, ultimately resulting in more water in Lake Mead and more efficient water infrastructure.

- Microsoft and Gila River Water Storage, LLC are recharging and replenishing groundwater levels in the Phoenix Active Management Area with long-term storage credits dedicated to the cities of Goodyear and El Mirage to balance a portion of Microsoft's future water use.
- The Yavapai-Apache Nation is a significant stakeholder in the Verde Watershed. They are one of the largest farmers in the Verde Valley and utilize Verde River water and groundwater for their irrigation. Their reservation and other landholdings support vibrant communities, ecosystems, and agricultural lands. The Nation is partnering with The Nature Conservancy, with support from Microsoft, to convert flood irrigation to a pivot system on tribally owned lands. The investment will allow the Nation to reduce the amount of water they draw for irrigation—leaving more water in the Verde River system—without decreasing crop production.
- Agriculture, irrigated by the Verde River, has been an important part of the economic and cultural identity of the Verde Valley for years. Here, a network of ditches irrigates crops, ensuring food supply and sustaining communities. While these earthen ditches serve their purpose, they leak, forcing users to draw more water to irrigate and leaving less water in the river. Established in 1895, the Eureka Ditch is one of the four major ditches in the area that draw water from the Verde River. To help restore streamflow, Microsoft provided funding to The Nature Conservancy to support the installation of pipes to enclose and eliminate losses from the leakiest section of the Eureka Ditch to convey water more efficiently to farms and reduce the amount of water diverted from the Verde River. By reducing diversions from the river, the project will help enhance flows, eliminate dry reaches, and support the wildlife and communities that depend on this river and its tributaries.

Over the past two years, we've been working closely with local leaders in the cities of Goodyear, El Mirage, and the greater Phoenix area to address local priorities surrounding education opportunities in STEAM, environmental sustainability, and workforce training programs. To date, we have invested more than $1.1 million in local projects across more than 70 community initiatives, including tree equity initiatives, Gila River cleanup, resources to support academic achievement through more than 2,000 hours of tutoring, mentoring, and STEAM activities. In addition, Microsoft is collaborating with two Maricopa community colleges, including Estrella Mountain Community College in Avondale and Glendale Community College in Glendale, to develop workforce training that prepares workers for jobs in the IT sector, including work in Microsoft datacenters.

Learn more

Thank you to the wide network of local leaders and community members who we have worked with to support our business in the state of Arizona. We are excited to serve local customers and community members through our newly launched datacenter region and cloud services alongside our ongoing work in the region. You can learn more about Microsoft Azure and opportunities in the West US 3 datacenter region at the Microsoft global infrastructure website.

Related Posts

Learn more about Azure

Connect with us on social