DDN SUCCESS STORY | HELMHOLTZ MUNICH

Modernizing Data Management to Discover the Future of Health

Helmholtz Munich Consolidates Research Data and Accelerates AI-Driven Discoveries with DDN EXAScaler to Deliver Concrete Benefits to Society and Human Health.

Life Sciences
Services Solutions

USE CASE

- Consolidated system delivering high performance and reliability
- Scalable solution for evolving AI applications and data-intensive research requirements
- GPU integrated for faster data throughput

HELMHOLTZ MUNICH

As part of the Helmholtz Association, Germany's largest research organization, Helmholtz Munich is one of 19 research centers that develops solutions and technologies for the world of tomorrow.

Helmholtz Munich is also part of Helmholtz Health. Together with five other Helmholtz Health Centers, they develop solutions for a healthier society in a network of cutting-edge biomedical research that is unique in Europe.

The research integrates Artificial Intelligence (AI) methodologies and spans multiple data-intensive computational applications. Some of these applications include decoding plant genomes, tissue sample testing or creature and epidemiology cohort studies.

The knowledge that the centers gain from this research forms the foundation of tomorrow's medicine and delivers concrete benefits to society and improvements to human health.

Head of DigIT Infrastructure & Scientific Computing

Dr Alf Wachsmann

HELMHOLTZ MUNICH

Foto © Architect: Telluride Architektur | Photo: HGEsch

THE CHALLENGE

Within Helmholtz Munich, there are multiple institutes that focus on different areas of research that require the need to move, store, and process large amounts of data.

Their scientists and researchers continuously pursue new ways to solve complex problems faster and needed a storage solution that could keep up with their computational requirements.

“When I first joined the lab, there were several compute clusters and many non-performing NFS-based storage solutions in place that were maintained by the research groups themselves and not by the IT department,” says Dr. Alf Wachsmann, head of DigIT Infrastructure & Scientific Computing, Helmholtz Munich. “It didn’t take long for me to recognize that the storage systems were outdated and couldn’t keep up with the growing data sets and demands that the researchers required.”

The current storage infrastructure was hindering compute performance as well as hardware reliability. While these systems may have been appropriate when initially deployed for modest workloads, they couldn’t scale to meet the needs of more modern and sophisticated approaches to analyzing research data. Seeing this, Wachsmann knew it was time to find a more efficient method of operation.

Foto © Architect: Telluride Architektur | Photo: HGEsch

THE SOLUTION

Helmholtz Munich called on DDN to provide the answer.

“I consolidated the previous storage systems into one centralized **DDN storage system** using a global EXAScaler file system which can deliver the needed performance and scalability,” says Wachsmann. “Having spent 20 years implementing DDN systems successfully, it was an easy decision for me to choose DDN for Helmholtz Munich’s infrastructure rehaul.”

As a starting point, Helmholtz Munich Implemented a **SFA® ES7990X** system attached to two disk enclosures. Today, the center has four fully populated systems that span a global namespace, thus enabling easy control and management of large data sets, streamlined workflows and the ultimate performance needed to reduce time to discovery.

Helmholtz Munich also recently purchased an **SFA NVMe ES400NVX** system with GPU integration that delivers faster data throughput with direct datapaths between storage and GPU specifically for its data-intensive AI applications.

THE BENEFITS

Life Science data is difficult to reproduce if that data is lost, concurrently, the data sets are so large that archiving all data can be costly.

Helmholtz Munich needed a storage system that the researchers could rely on, and DDN stepped up to the plate. The improved performance, speed, and reliability have significantly impacted the researchers' ability to accelerate their discovery process, while mitigating day-to-day risk associated with the ingest, distribution, and analysis of Big Data. These benefits were both immediate and continuous, helping Helmholtz Munich future-proof its infrastructure for the surge of AI applications in Life Science.

> Because we preemptively set up high-performance DDN systems, Helmholtz Munich was well-equipped to manage and quickly access the massive data sets generated by this new wave of AI applications. This would not have been possible with the NFS storage that we had before.
>
> **~ Dr. Alf Wachsmann**
> Head of DigIT Infrastructure & Scientific Computing | Helmholtz Munich

Additionally, the DDN architecture with its global namespace allows Helmholtz Munich to expand the system at any time without adding the complexity of managing individual system instances. This allows its growing data requirements to be met in the most cost-effective and resource-efficient way.

BUSINESS BENEFITS

- Improved performance, speed and reliability in one unified system
- Future-proofed architecture for new AI applications
- Efficiently expand storage capacity to meet research needs
- Eliminated research downtime and onboarding pains
- Accelerated productivity for data scientists and researchers
- A career-long partnership built on expertise and trust

Today, two-thirds of the Helmholtz Munich's compute applications are AI-related and because of the combination of compute power with performance delivered by DDN, research results have been tremendous.

Helmholtz Munich made many scientific breakthroughs including Inceptor, a new insulin inhibitory receptor innovation to fight against Type 2 Diabetes, a cure for sleeping sickness through a tailor-made active compound eliminating pathogens, the smallest ultrasonic detector in the world, how farm dust helps prevent asthma and the lasting effects in childhood, and more.

Several of Helmholtz Munich's research has also been published in high-ranking journals such as Cell, Nature, Nature Biotechnology, Nature Cell Biology, Nature Cardiovascular Research, Science, and more.

LOOKING AHEAD

DDN will continue to play a pivotal role in helping Helmholtz Munich meet its researchers' evolving AI and data-intensive workload demands.

"The work that Helmholtz Munich is doing is making strides in scientific discovery and is poised to help change the world for the better. This is what motivates me to provide the best compute solutions to my researchers," says Wachsmann.

> DDN's decades of experience, world-class customer support and high-performing and reliable architecture helped me help my researchers continue their work without disruption today, and well into the future.
>
> **~ Dr. Alf Wachsmann**
> Head of DigIT Infrastructure & Scientific Computing | Helmholtz Munich

DataDirect Networks (DDN) is the world's leading big data storage supplier to data-intensive, global organizations.

DDN has designed, developed, deployed, and optimized systems, software, and solutions that enable enterprises, service providers, research facilities, and government agencies to generate more value from their data and information, on premise and in the cloud.

REACH OUT!

+1.800.837.2298 sales@ddn.com ddn.com