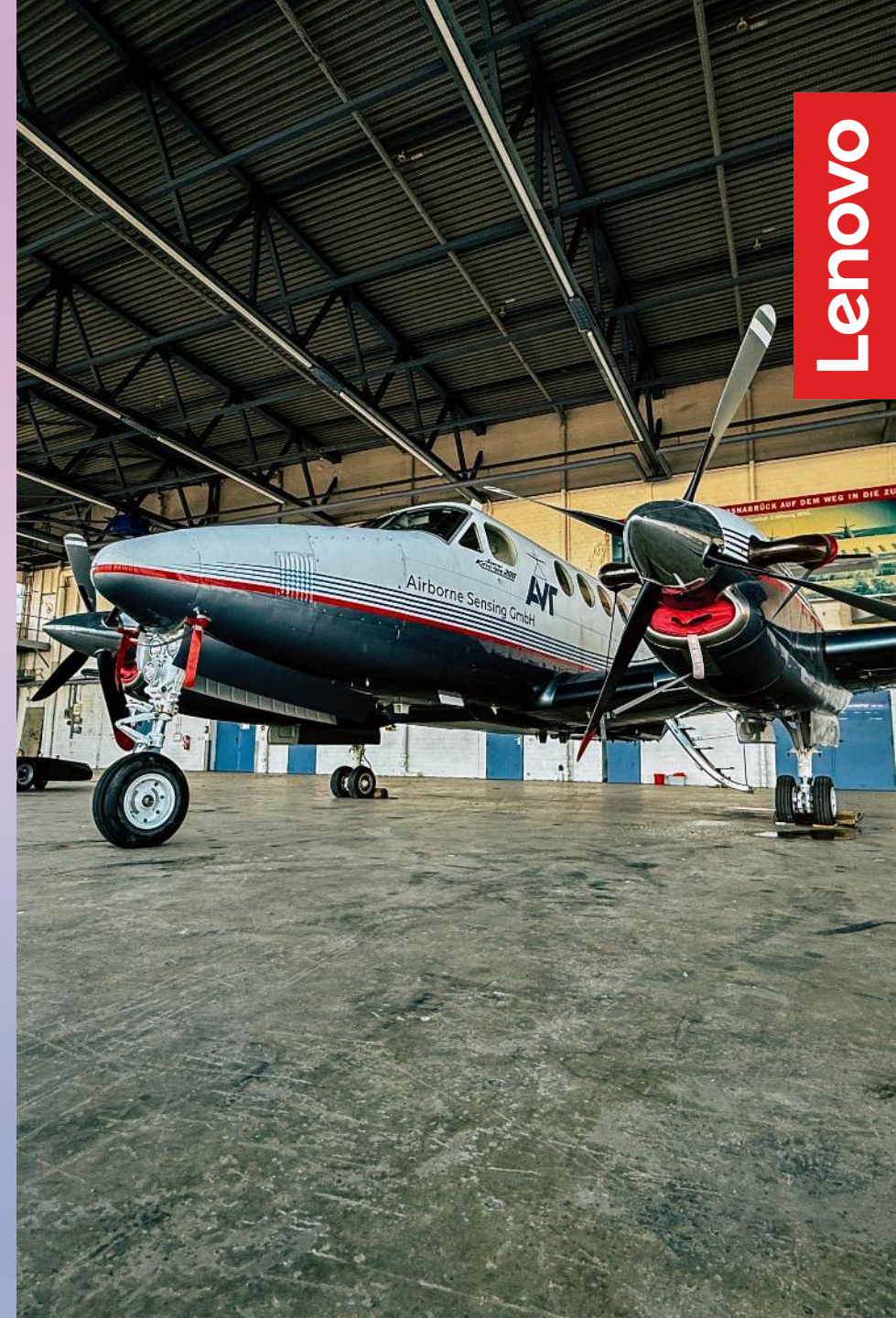


Technology | Austria

Accelerating large-scale image transfers and processing

AVT Airborne Sensing GmbH

Aerial imaging company AVT Airborne Sensing upgraded its central IT infrastructure with high-performance Lenovo ThinkSystem DE Series Hybrid Flash storage to take on new, larger, and more complex projects.



1

Customer background

Who is AVT Airborne Sensing?

AVT Airborne Sensing GmbH is a leading aerial photography, photogrammetry, laser scanning, and surveying company headquartered in Imst, Austria. The business operates five aircraft and drones of different sizes and uses advanced sensors including cameras, thermal cameras for infrared imaging, laser scanners, and other remote sensing systems to deliver high-quality photos, 3D models, and maps to improve urban planning, efficiency, and sustainability. The company is part of AVT Group which employs around 200 people across 11 locations in Austria, Germany, and Italy.



2 The challenge

With every survey and imaging flight, AVT Airborne Sensing collects up to 16 TB of new data. Its aircraft are often equipped with multiple high-tech sensors, such as complex sensor systems with six cameras. Typically flying for several hours, the company captures accurate, high-resolution imagery with up to 340 megapixels for individual shots across large geographic areas cost-efficiently.

But collecting the data is only one side of the business. As AVT Airborne Sensing is seeing a trend to more detailed Digital Twin solutions, it needs to ensure that it can move, store, and process these huge data volumes rapidly to accelerate time-to-value for customers and streamline internal workflows to maximize utilization of its costly cutting-edge equipment. Complex post-processing of raw images such as merging up to 15,000 shots together to create a single, large image for use in various applications requires fast access to all relevant data.

“

“Fast customer service is **critical for our business success**. As we constantly upgrade our imaging sensors to be able to collect more high-resolution data more quickly for our customers, we also need to **invest in our processing and storage infrastructure** to keep up with these improvements and the massive growth in data volumes. To work efficiently and win new customers for large-scale survey, 3D modeling, and mapping projects, we wanted to **modernize and expand** our data storage solution.”

Markus Bökhaus

Head of Office Flight Management Operations, AVT Airborne Sensing GmbH

Tackling data growth with high- performance storage

AVT Airborne Sensing worked with Lenovo business partner IDC EDV GmbH to upgrade its servers and storage solution.

IDC EDV is a regional IT service provider offering general-purpose IT infrastructure for small and medium businesses as well as deep industry expertise and software solutions for the surveying sector.

Hardware

Lenovo ThinkSystem DE6600H Hybrid Flash Array
Lenovo ThinkSystem DE4000F All-Flash Array
Lenovo ThinkSystem DE2000H Hybrid Flash Array
Lenovo ThinkSystem SR650 V2 servers
Lenovo ThinkPad X1 Extreme laptops
Lenovo ThinkPad P14s mobile workstations
Lenovo ThinkStation P620 Tower Workstation
Lenovo ThinkStation P520 Workstation

Software

Microsoft Hyper-V
IDC Geosi DESK
Bricsys BricsCAD, part of Hexagon

Services

IDC EDV GmbH

3

The
solution

Together with Lenovo and IDC EDV, AVT Airborne Sensing deployed three new Lenovo ThinkSystem SR650 V2 servers and a high-performance Lenovo ThinkSystem DE6600H Hybrid Flash Array storage solution to enable future business growth and facilitate fast, low-latency access to large amounts of imaging data.

3 The solution

Increasing flexibility and availability

IDC EDV helped AVT Airborne Sensing to expand its mission-critical IT infrastructure and move the systems from an office location into a purpose-built data center to increase redundancy and availability. Using Lenovo ThinkSystem SR650 V2 servers in combination with a Lenovo ThinkSystem DE4000F All-Flash Array storage system, AVT Airborne Sensing now runs 15 virtual machines with Microsoft Hyper-V virtualization technology across two cluster nodes. Another Lenovo ThinkSystem SR650 V2 server with a ThinkSystem DE2000H Hybrid Flash Array storage system is used for backups.

3

The
solution

Additionally, AVT Airborne Sensing relies on more than 12 Lenovo ThinkStation P620 Tower Workstation and Lenovo ThinkStation P520 systems, powered by AMD Ryzen Threadripper PRO and Intel Xeon W Series processors as well as NVIDIA GeForce RTX 40 Series GPUs, to handle image workflows and run CAD solutions such as Geosi DESK by IDC EDV and BricsCAD by Bricsys, a Hexagon company.

To manage and monitor drone flights with live telemetry data when conducting survey tasks out in the field, the company uses robust and reliable Lenovo ThinkPad laptops including Lenovo ThinkPad X1 Extreme and Lenovo ThinkPad P14s.

“

“With the new Lenovo ThinkSystem solutions and guidance from our partner IDC EDV, we have **boosted the overall performance** of our mission-critical systems and applications, so we can now **work more efficiently**. Furthermore, we have achieved a **new level of reliability and availability** with a cluster configuration that helps us keep our operations running smoothly at any time, even during maintenance windows.”

Markus Bökhaus

Head of Office Flight Management Operations, AVT Airborne Sensing GmbH

4 The results

Thanks to the new Lenovo infrastructure, AVT Airborne Sensing can take on new, larger projects that require the processing of even bigger data volumes at speed, and can also process multiple large projects in parallel. The company can back up its business data within just a few minutes, more than ten times faster than before.

By moving its IT infrastructure into a local data center, the company has also substantially improved the working environment for the team in the office. This modernization also helps to provide standardized remote access to all staff across three countries more flexibly and reliably.



>10x faster backup speed



75% quicker results for customers thanks to faster processing and more advanced products



Increases flexibility and performance for all employees

4 The results

Accelerating tasks in the field and in the office

AVT Airborne Sensing relies on Lenovo solutions across the board. While the new Lenovo ThinkSystem servers and storage boost data center performance, robust Lenovo ThinkPad laptops and high-performance Lenovo ThinkStation workstations enable efficient processes in the field and for demanding image processing workflows, supporting new cutting-edge, low-latency solutions such as Mechdyne TGX Remote Desktop.

4 The results

Speed is critical for AVT Airborne Sensing as customers need surveys and reports to make important business decisions. By using drones in combination with robust Lenovo ThinkPad laptops for smaller assignments, the company can also offer cost-efficient mapping and 3D modeling at locations that were inaccessible before, opening up many new business opportunities. Other projects that would have taken two people at least four hours of manual survey work before can now be completed within five minutes, while providing higher accuracy.

With improved IT performance along the entire process chain, AVT Airborne Sensing can complete projects of all sizes up to 75% faster and deliver a better service to customers.

“

“Lenovo solutions are **a great help for our projects at any scale.** I sometimes fly drones for quarry surveys and similar jobs. With my Lenovo ThinkPad laptop, **I do not have to worry about battery capacity when out at remote locations** without any power sources. I can always rely on my Lenovo laptop to adjust flight plans and monitor live telemetry from my drones when completing field work. Back in the office, the Lenovo storage, servers, and workstations **accelerate all the crucial processing steps.**”

Dominic Schwärzler

Drone Operator, AVT Airborne Sensing GmbH

Why Lenovo?

AVT Airborne Sensing, and AVT Group as a whole, have been highly satisfied with Lenovo solutions for many years. The modern and powerful Lenovo infrastructure is the foundation for innovative new customer service options such as direct data integration that take full advantage of the super-fast storage solution. Local Lenovo engineers are highly competent to support implementations and upgrades. Additionally, Lenovo delivers outstanding training and certification for IDC EDV, helping them to provide high-quality services to all AVT Group businesses, as well as other external customers.

For AVT Airborne Sensing and partner IDC EDV, working with Lenovo feels personal and very easy while communication is always direct and efficient.

“

“Lenovo solutions offer great cost-efficiency for us and our customers. The infrastructure is very reliable, and the quality of support and services is outstanding. We are part of AVT Group, but we also manage around 50 Lenovo ThinkSystem server and storage systems for external customers. By working with Lenovo, we can standardize processes and solutions to provide a better service for AVT Airborne Sensing as well as all our other customers.”

Hannes Saurwein

Head of IT, IDC EDV GmbH



How can you complete large image processing tasks faster?

AVT Airborne Sensing and IDC EDV deployed Lenovo ThinkSystem storage to increase capacity and accelerate critical workflows.

Explore Lenovo ThinkSystem Storage