The AIT Austrian Institute of Technology meets the needs of more than a thousand researchers with streamlined, centralised IT partnership.

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Business needs
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Solutions at a glance
- Client Solutions
- Data Center Virtualization
- Enterprise and Client Support
- High Performance Computing
- SAP HANA

Business results
- 15 IT staff can look after diverse needs of more than 1,000 researchers
- Centralised procurement process saves institute money
- Proactive, flexible support means downtime is kept to a minimum

80% virtualization of data centre eases management
98% of use cases met with client devices
Economies in the developed world can rarely compete with emerging countries when it comes to the cost of manufacturing goods. They have therefore long relied on the power of knowledge, innovation and skills to provide their industries with the resources to stay ahead. Governments and businesses alike have an interest in ensuring that research and development (R&D) remain strong.

The AIT Austrian Institute of Technology is the largest non-university research and technology organisation in the country. Financed by both public funds and industry, it works to bridge the gap between research and commercial applications in areas such as energy, mobility, health, the environment, innovation systems, and digital security. Through its R&D, it is making significant contributions to intelligent energy systems, security in data networks, and mobility concepts of the future. Of its 1,260 staff, more than 1,100 are researchers working across eight sites, with the remainder working in support roles and specialised departments such as IT.

Chief information officer at AIT Wolfgang Mitzner says: “One of our goals is to increase the proportion of research commissions from industry customers. As a research institute, we need exceptional computing facilities and want to be at the leading edge when it comes to our technology.” While individual research projects have autonomy as to how they spend their IT budgets, Mitzner’s team is responsible for centralised IT services. His 15 colleagues are supported by an IT coordinator in each research department, who ensures that the needs of researchers are incorporated into the decision-making process.

Small IT team looks after thousands of users

Flashback to 2008. AIT had decentralised IT resources that had grown organically according to the needs of individual departments. This lack of central structure led to inefficiencies in procurement, and a corresponding spiralling of costs. Mitzner wanted to standardise its resources. “Our aim was to streamline operations, and cut costs and administration tasks,” he says. “Because we have such a small IT team for an organisation of our size, it’s essential that we have efficient and cost-effective IT operations that can be managed easily.”

Simplifying IT with an end-to-end partner

Mitzner was looking for one partner to provide a set of solutions across the institute’s server and client estates. He says: “We wanted reliable and stable systems, and a simple ordering process. We also value scalability, whether that’s adding memory, hard drives or graphics cards for specific use cases. Finally, we needed an efficient warranty and support process for such a large user base.” AIT put these requirements in a public request for tender, which Dell EMC subsequently won.

Streamlined offering means happy customers

Standardising on Dell laptops and desktops, as well as Dell EMC servers, is giving researchers a better experience. “We can meet 98 per cent of our researchers’ requirements with our Dell estate, which means much more efficient IT processes,” says Mitzner. Around two-thirds of staff have Dell Latitude E-Series laptops and 5 per cent use Dell OptiPlex 9020 MT desktops. The remainder of employees need high-powered devices, so they use Dell Precision Tower 5810 workstations. “Thanks to their modular construction and high scalability in regard to performance and storage, the Dell Precision workstations enable our researchers to cover the broad spectrum of requirements in their research environments,” Mitzner notes. “The resulting standard increases the portability of the hardware and measurement components, which in turn reduces expenditure.” Some researchers use multiple machines, many serving as pure compute nodes attached to scientific instruments, meaning that there are around 2,000 clients serving approximately 1,000 researchers. Mitzner says: “The laptops even meet the demands of our scientific power users, who really appreciate the high performance and scalability. For them, the laptops are essentially a mobile, handheld compute node. Plus, the processor, hard disk and RAM can be scaled up easily on demand.”
Virtualized data centre for reduced costs, easier admin

On the server side, virtualization has played an important part in making AIT more efficient. “We virtualize everything that can be virtualized,” says Mitzner. Around 80 per cent of central workloads are virtualized with VMware, including AIT’s web server, mail servers and central procurement application. It has around 35 physical Dell EMC PowerEdge servers running 120 virtual machines. Backup is handled by a Dell EMC PowerVault ML series tape library. “Virtualization has played a huge part in our cost optimisation and the reduction of our administrative burden,” says Mitzner. “Over the last eight years, we’ve experienced constant growth in the scope and depth of the services we provide, but we’ve been able to keep the team at the same size. More importantly, by virtualizing we can make changes to our environment faster, something the scientific community often demands. Without requiring any additional hardware purchases, we can make resources available very quickly, even for temporary tasks, which perfectly suits our purposes.”

Mitzner gives one example of how the flexible environment is winning over his colleagues: “Because our virtualized server environment is so efficient, one of our departments recently asked us to run a virtualized cluster for them centrally. As we’ve standardised on Dell EMC and VMware, we were able to take that on using our existing servers with very little additional expenditure.”

Long-term partnership pays off

Mitzner is confident that having Dell EMC as a partner is bringing benefits to AIT. He says: “Dell EMC understands that you don’t do business with companies – you do business with people. We deal with people at Dell EMC who not only do their best to answer our questions and solve any support issues quickly, but are also proactive in providing us with solutions well in advance, so we can

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Wolfgang Mitzner, chief information officer, AIT Austrian Institute of Technology
test them before potentially adding them to our portfolio. Being proactive and interested in helping us might seem like obvious ways for a company to operate, but I’ve seen plenty of vendors that don’t act that way. I’m glad we have Dell EMC on our side.” To further streamline procurement, AIT uses an automated internal ordering process with standardised hardware configurations for users to choose from.

An extra pair of hands

Mitzner explains that another significant benefit of working with Dell EMC across the board is the first-class support that AIT gets. “Great maintenance was one of the main deciding factors in choosing a partner, because system availability is critical for us. We have a small team, so we can’t afford any technology issues or failures. Dell EMC solutions are very reliable, so we know that we have one less thing to worry about,” he says. For such a large organisation, some issues are inevitable, however, which is why AIT protects its investment with Dell ProSupport Flex Next Business Day with 4-hour Mission Critical. This support package provides the institute with a dedicated technical account manager who knows the environment and acts as a first line of response for any issues, redirecting calls to experts if required. Mitzner says: “Dell ProSupport offers lots of great additional features such as Keep Your Hard Drive, whereby we don’t have to return failed drives for replacement, so we can keep our sensitive data in-house. Things like that add such value to our partnership. Given how reliable Dell EMC solutions are in general, those add-ons are the icing on the cake.”

A future-ready team

Based on its experience with Dell EMC so far, AIT believes that it has the right partner for future projects. “Together, we’re a well-coordinated team,” says Mitzner. “We’ve worked fantastically with Dell EMC over the years, and I’m confident that this relationship will continue into the future.” The institute is now looking into potential consolidation of its high-performance computing clusters, to offer the same efficiencies as with its client and back-office estates. Mitzner says: “We wouldn’t even consider this if we didn’t have such a reliable and flexible partner like Dell EMC in the background.” The organisation is also planning to deploy the SAP HANA in-memory database platform on a Dell EMC platform. Mitzner notes: “They say ‘never change a winning team,’ and Dell EMC is a vital member of our winning team.”