

Royal Mosa reduces carbon footprint and enhances performance with centralized, cloud-native management through Azure Arc-enabled Azure Stack HCI



Rooted on the banks of the River Meuse from which it derives its name, Royal Mosa has been steadily and sustainably connecting people, places, and natural resources in the production of beautifully made ceramic tiles for the past 140 years. Operating in the same location in Maastricht, Netherlands, in the heart of Europe, Mosa strives to work harmoniously with local resources and businesses to create a truly unique ceramic tile manufacturing facility.

Mosa's emphasis on tradition and openness have helped it become the first ceramic tile manufacturer to achieve Cradle to Cradle Certified® Gold certification. With this commitment to sustainability, the company's manufacturing is guided by quality and enduring design, and its tiles can be found in and outside of buildings in more than 50 countries across four continents. To support its production ethos, Mosa wanted to strengthen the resilience and reliability of its digital infrastructure and better position itself for the future of sustainable manufacturing. With [Microsoft Azure Stack HCI](#), the company was able to bring cloud scale and flexibility to its on-premises environment and provide itself with a durable and lasting Azure Arc-enabled infrastructure solution.

Overview of virtual desktop infrastructure (VDI) Building the cloud to the banks of the Meuse

Historically, Mosa's infrastructure consisted of a Cisco Blade system for compute and NetApp MetroCluster for storage, which it ran in self-managed, on-premises datacenters. However, the company's environment was aging. It was based on older hardware that couldn't be cloud integrated or centrally managed, and its various support contracts were ending. At the same time, Mosa couldn't fully move to the cloud either. The manufacturer needed to retain workloads on-premises because it ran applications that required low latency and on-premises support, it had Internet of Things (IoT) applications that needed local connections, and it had compliance and regulatory considerations. The company needed a reliable, consistent solution to ensure that business-critical applications were always performing while simultaneously leaning into the flexibility, scale, and management capabilities of the cloud.

"We hoped to gain a future-proof, reliable hybrid and cloud-capable solution in Azure Stack HCI," recalls Lenny Omloo, IT Specialist at Royal Mosa. "We decided we needed to keep running on-premises for the next five years, but with Azure, we could get a hybrid, cloud-integrated solution that would let us continue to work with and scale our Microsoft investment."

Working with technology partner [XCES](#), Mosa determined that Azure Stack HCI offers the right path. Through XCES, the company gained a single point of contact to work with both Microsoft and [DataON](#) for its Azure Stack HCI software and hardware respectively. With XCES, Mosa designed and deployed its Azure Stack HCI environment and migrated its virtual machines (VMs) quickly and smoothly. Impressively, Mosa and XCES were able to install and configure the hardware in three days and completed the migration of 35 VMs in only 30 minutes per machine.

"Azure Stack HCI was the right tool for us to build an environment that was easy to manage, cloud-based, but also let us remain on-premises," says Omloo. "It was like taking a step toward the cloud but not

A future-leaning architecture

Mosa's Azure Stack HCI implementation is Azure Arc-enabled infrastructure deployed across two locations that serve roughly 500 users. The company operates a four-node stretched cluster, consisting of two nodes per site, with two-way mirroring. Mosa runs approximately 35 Hyper-V VMs and is currently managing its VMs in [Windows Admin Center](#) with plans to shift management to the [Azure portal](#) early next year. In terms of hardware, Mosa is running DataON AZS-6224 integrated systems with [Intel](#) Xeon processors, and the company is using [Veeam](#) Backup & Replication to handle backups for its on-premises and virtual environments, including its [Microsoft 365](#) environment. The solution enables robust Business Continuity and Disaster Recovery (BCDR) by backing up data to [Azure Blob Storage](#).

“We’ve been able to bring greater reliability and resilience to our environment with Azure Stack HCI,” says Hans Cobben, Infrastructure and Security Manager at Royal Mosa. With its stretched cluster architecture, the company is continuously syncing, so if a failure occurs on one side, no data will be lost, and operations can continue. Omloo adds, “Being able to maintain operational integrity is crucial for a factory that needs to run continuously to produce our tiles.”

Mosa has brought the cloud to its production facilities with its Azure Stack HCI instantiation. The company runs its most vital, business-critical workload on Azure Stack HCI—its IoT4 production environment—ensuring reliability while having cloud flexibility. With this cloud enablement, the company is looking into more [Azure](#) solutions, like expanding [Azure Arc](#) management capabilities for its hybrid environment through a single pane of glass, and onboarding [Azure Virtual Desktop](#) to replace some of its legacy on-premises applications. Mosa already has partial implementations of [Azure Policy](#) and [Microsoft Defender for Cloud](#), both of which will be expanded in the coming year, and the company is also planning to implement [Microsoft Sentinel](#) for proactive threat hunting.

Better positioned for enhanced performance and security

The company is pleased to be realizing greater scale, flexibility, and reliability with less effort and outlay, and the centralized management it’s gained with Azure Stack HCI has given rise to greater efficiency and productivity. “One of the top benefits of Azure Stack HCI is the centralized management we’ve received along with the standardization of backups,” states Cobben. Having a single Azure Arc-enabled management tool helps Mosa ensure higher performance across its environment and utilize less resources, while managing and standardizing backups through Veeam. The company’s IT department has cut in half time the time it used to spend on datacenter asset management, and it can now use that time to focus on strategic initiatives. “Azure Stack HCI is helping our employees be more efficient because they spend less time on repetitive work,” says Omloo.

With the centralized management and interoperability of [Microsoft Security solutions](#) and the added security features inherent in Azure Arc-enabled infrastructure, Mosa can better meet security and compliance requirements. Through its implementation of tools like [Microsoft 365 Defender](#) and [Microsoft Defender for Endpoint](#), the company has made security and compliance measures far easier to oversee, and thus, has elevated its security posture. “With the centrally managed and highly interoperable solution we built with Azure Stack HCI, security and compliance are far easier to implement, monitor, and regulate,” says Cobben.

Mosa’s new infrastructure is also helping the company deliver on its sustainability goals. By using less hardware and power, the company is reducing its internal carbon footprint. “By combining storage and compute in a single solution with Azure Stack HCI, we’ve reduced our footprint from two full 19-inch racks to just one-half rack per datacenter,” says Cobben. Running Azure Stack HCI on-premises is also more cost-effective than running its environment completely in the cloud.

But best of all is the company's ability to ready itself for whatever challenges come drifting down the river next. By future-proofing its environment, Mosa has added greater stability and continuity to its infrastructure, helping ensure that employees have more productive work experiences and customers are better served. The company has improved its time to market by enhancing the performance and scalability of its environment, and it's now better able to meet business demands. "We've built a future-proof hybrid infrastructure," says Omloo. "With Azure Arc-enabled Azure Stack HCI, we get centralized management and better, faster performance and redundancy, and our customers benefit from continuous availability." Adds Cobben, "We have a highway to the cloud. We can work on-premises but have the flexibility to go to the cloud whenever we want."

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Hans Cobben
Infrastructure & Security Manager
Royal Mosa

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www.dataonstorage.com | 1-888-725-8588 | sales@dataonstorage.com

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