ARVATO SYSTEMS

VMware Cloud Service Provider
Arvato Systems

Partner Tier
Broadcom Advantage Pinnacle

Customer
kubus IT

Industry
Healthcare

Customer challenges

- Scaling IT infrastructure to support new apps, services, and business demands

- Aging data center infrastructure and server hardware impacting operational overheads and ability to meet digital ambitions

- Managing hybrid cloud aspirations from skills and resource constraints

- Reducing high licensing, capital, and ongoing maintenance expenditures

- Improving energy efficiency without compromising performance

- Enhancing business continuity and recovery readiness

- Meeting growing regulatory compliance, security, and data sovereignty requirements for digital enablement for AOK's healthcare initiatives in Germany

kubus IT Enhances Scale, Sovereignty and Optimized Data Center Infrastructure with Arvato Systems Managed Private Cloud Services

kubus IT, the designated IT services arm for several regional AOK statutory health insurers (SHI) in Germany, serving ~**8 million insured citizens, was** under enormous pressure from German legislators to digitalize.

Digitalization is difficult for SHI providers, especially considering they need highly specialized, competent and at the same time individual solutions. kubus IT relied on the expert support of Arvato Systems to deliver a comprehensive migration and digitalization solution to a sovereign private cloud and hybrid platform. Arvato Systems is well placed to support SHI digitalization. They are experienced KRITIS (supporting critical infrastructure) and operator of the central IT services of gematik (German electronic health card (eGK)), certified to the highest security standards and are in close contact with key players in the health industry in Germany. kubus IT, confronted by the need to digitalize an increasingly untenable combination of legacy data center infrastructure, acute IT talent scarcity, and a demanding regulatory landscape, selected to adopt a VMware Cloud Foundation unified sovereign hybrid cloud environment.

Over a 15-month operational window, **more than 7,000 virtual servers,** and **15,000 TB of mission-critical data** were transitioned to the new platform with zero service disruption for ~**24,000 concurrent users.** An initiative underscoring kubus IT's capacity to operationalize strategic IT modernization with Arvato Systems at enterprise scale.

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Customer outcomes

- Migrated from outdated data centers (~1200m$^{2)}$ to a consolidated modern data center (~240m^2) infrastructure, a 80% reduction in physical footprint and lower carbon footprint

- Achieved a faster, more efficient, and disruption-free transition for ~24,000 users (7,000 internal and 17,000 external AOK partner agencies and service providers)

- Enhanced scalability, improved infrastructure efficiencies, and enabled access to new hybrid cloud capabilities with seamless portability for sovereign and public (non-sensitive) data

- Externalized operations to Arvato Systems's 24×7 support, offsetting operational overheads and reallocate resources to value generating activities

- Guaranteed jurisdictional sovereignty and audit-readiness

Arvato Systems highlights at-a-glance

Arvato Systems is a global IT specialist and trusted multi-cloud provider, guiding companies through their digital transformation journey. Combining deep industry expertise with a customer-first mindset, Arvato Systems delivers trusted IT solutions, simplifies cloud migrations, and streamlines digital operations. As a Pinnacle VMware Cloud Service Provider (VCSP), they help businesses enhance agility, control costs, and manage sovereign environments.

Strategic Imperatives Driving Infrastructure Transformation

End-of-life infrastructure and operational fragility

kubus IT's on-premises footprint comprised two data centers (~1200m^2), one of which was nearing obsolescence and posed significant cost and compliance liabilities. The operational burden of maintaining contemporary certifications for outdated hardware highlighted the strategic necessity of infrastructure divestment and modernization.

Workforce capacity constraints

As with many entities in the public sector, kubus IT grappled with a dwindling talent pool, particularly in core competencies such as virtualization, network architecture, and security operations. This talent gap amplified the urgency to externalize infrastructure operations and reallocate internal resources to value-generative activities.

Reprioritization toward digital healthcare enablement

kubus IT's evolving mandate necessitated a pivot from infrastructure stewardship toward digital enablement for AOK's healthcare initiatives. The imperative to accelerate innovation, streamline development cycles, and improve service delivery outcomes necessitated the outsourcing of non-differentiated infrastructure management.

New hybrid goals

To actualize cloud digitalization and support a legacy and cloud-native operational paradigm, kubus IT required a solution where they could facilitate seamless workload portability between private sovereign cloud and public cloud environments according to the application and service needs. This important factor in kubus strategy would require a consolidated ubiquitous management plane to avoid operational silos and ensure continuous operations as staff utilize differing cloud endpoints for differing customer data.

Regulatory compliance complexity

Operating within Germany's healthcare system entails adherence to an extensive set of legal and policy frameworks—ranging from GDPR and BDSG to the E-Health Act and Social Code/SGB. Maintaining in-house alignment with evolving compliance benchmarks was both labor-intensive and risk-prone, necessitating partnership with a provider equipped to guarantee jurisdictional sovereignty and audit-readiness.

In summary, kubus IT faced a classic **"modernize or stagnate"** scenario - its aging, hard-to-staff infrastructure was at odds with the organization's digital ambitions and compliance obligations. These challenges led kubus IT to tender for a cloud partner who could deliver a fully managed hybrid cloud environment that delivered the sovereignty and security of an on-premises data center with the scale and agility of native public cloud services. This would enable kubus IT to decommission their own outdated data centers and focus on future innovation based on a new modern infrastructure.

Arvato Systems highlights at-a-glance

- Migrated critical resources to a new sovereign cloud environment within project schedule and budget

- Maintained 100% uptime and SLA compliance throughout the migration period

- Significantly decreased technical debt, infrastructure costs, and carbon footprint

- Improved operational efficiencies and total cost of ownership (TCO)

- Enhanced data residency, compliance, and regulatory adherence with GDPR, BDSG, and other standards

- Strengthened security and governance postures

- Unlocked new savings, capabilities, and innovation opportunities with VCF

Partnering with Arvato Systems: A Strategic Execution Model

To meet its transformation goals within a tightly constrained timeline, kubus IT selected Arvato Systems, a Sovereign VMware Cloud Service Provider (VCSP). Arvato Systems' ability to deliver a VMware Cloud Foundation-based infrastructure, augmented by jurisdiction-specific compliance and operational redundancy, enabled kubus IT to maintain critical workloads within Germany's data sovereignty requirements while enabling scalable hybrid cloud operations.

Execution: A High-Fidelity Migration Framework

Comprehensive Execution Planning

Over 200 Arvato Systems experts coordinated a 15-month migration road map, comprising 5,000+ pages of technical documentation and 76 clearly defined project milestones.

Live Workload Transitioning

Utilizing VMware Cloud Foundation Operations HCX, all workloads, including 7,000 virtual servers, 15,000 TB of data, and approximately 3,000 applications across 165 subsystems, were migrated without operational downtime. This unique technology (a part of VMware Cloud Foundation) enables hybrid cloud by ensuring application consistency—no changes are required to live running applications and consequently no downtime was experienced.

Service Continuity Assurance

The migration preserved full service continuity for 24,000 users (7,000 internal and 17,000 external AOK partner agencies and service providers), with no degradation in application performance or system availability.

Security Modernization at Scale

The legacy network architecture was replaced with one of Europe's most comprehensive VMware Cloud Foundation networking (based on NSX) software-defined security and advanced load balancing environments, further enhanced by centralized governance through a new cloud management platform.

Scalable Delivery Model

When project scope expanded to include an additional 1,000 applications, Arvato Systems was able to recalibrate resources and time lines to accommodate the end date without delay.

Data Center Rationalization

kubus IT achieved an 80% reduction in physical infrastructure footprint, consolidating infrastructure into $240m^2$ within Arvato Systems' sovereign-grade facilities.

Realizing Hybrid Cloud Operationalization

Through implementation of a unified VMware-based cloud management platform, kubus IT attained full workload mobility across VMware Sovereign Cloud and VMware public cloud environments all running VMware Cloud Foundation.

This hybrid architecture supports orchestration of services based on security posture, performance thresholds, and jurisdictional mandates. The VMware Cloud Foundation solution enables automation and policy enforcement at scale across a ubiquitous infrastructure, with which kubus IT can securely innovate new services such as public cloud bursting when the business requires it.

Results: Cost Efficiency, Reduced Carbon Footprint and Secure, Future-Ready Operations

By consolidating data center and server infrastructure onto the VMware Cloud Foundation private cloud platform within new sovereign data centers, kubus IT reduced existing technical debt and improved resource utilization.

Lower total cost of ownership (TCO)

The reduction in physical servers and floor space translates to lower operational costs (power, real estate, hardware maintenance) for kubus IT. Much of these costs are now part of the service contract with Arvato Systems, turning them into a more predictable OPEX expense. Additionally, Arvato Systems' economies of scale and efficient data center design mean those costs are lower than what kubus IT experienced running older data centers.

More effective operations

With everything consolidated onto a single cloud platform, kubus IT benefits from centralized management, automation, and Arvato Systems' 24×7 support. There have been no unplanned outages since cut over—'no downtime, no crashes… everything works as expected and very fast' in the new environment.

Strengthened compliance and security posture

Arvato Systems' cloud platform was built to meet German sovereign security needs, meaning it implements in-country data processing, stringent access controls (with only EU personnel managing the systems), encryption, and key management etc. kubus IT gained a state-of-the-art security and compliance framework overnight by leveraging Arvato Systems' capabilities. This was evidenced during and after migration by successful security tests and the green light from external auditors. The outcome is a robust environment where kubus IT and AOK can be confident that patient and insurance data is protected in accordance with laws and best practices, which ultimately protects patient privacy and safety.

Reduced carbon footprint

The consolidation and modernization of infrastructure have yielded significant efficiencies. The power and cooling requirements dropped sharply with the smaller footprint and newer hardware. kubus IT and Arvato Systems noted a substantial reduction in energy consumption for the workloads—a direct cost savings and environmental benefit. Although "reducing carbon footprint" was not the primary goal, it became a valuable side effect of the project.

Hybrid cloud flexibility

kubus IT can choose where to run new workloads based on governance and performance needs. Different models can be leveraged under a common management framework. As an example, non-sensitive analytic workloads could be burst out to a public cloud, while core systems remain on the sovereign private cloud. This flexibility to use different models—private, hybrid, multi-cloud—gives kubus IT a future-proof architecture without sacrificing sovereignty.

Reinforcing Governance Through Technological Sophistication

Arvato Systems' sovereign data centers hold multiple certifications relevant to healthcare data—such as the Patient Data Protection Act, ISO, and DIN EN 50600—and help customers meet Germany's telematics infrastructure requirements.

In kubus IT's environment, VMware NSX combined with micro-segmentation (via the VMware vDefend Gateway Firewall) bolsters security at both the network and application levels, allowing for advanced data protection while preserving scalability and innovation. Leveraging VMware Avi Load Balancer and VMware Cloud Foundation Automation further enhances kubus IT's application deployment and overall infrastructure efficiency, ensuring a high-performing environment ready to meet current and future healthcare IT needs.

Toward a Digital-First, Compliant Future

The kubus IT transformation initiative demonstrates a forward-looking model of infrastructure modernization in regulated environments. By leveraging sovereign cloud principles and hybrid cloud architecture, kubus IT has unlocked a pathway to sustained digital innovation, operational scalability, and enhanced public service delivery.

This strategic pivot positions kubus IT as a digitally mature, regulation-aligned service provider capable of supporting AOK's evolving digital health agenda, while upholding strict sovereignty and performance benchmarks.

Strategic Implications for the Future of Sovereign Cloud

kubus IT's journey exemplifies the trajectory for digitally progressive enterprises operating in regulated sectors. Through architectural modernization, risk reduction, and value stream reallocation, kubus IT has established a resilient and future-ready digital backbone.

Sovereign Cloud = Elasticity + Compliance at Scale

kubus IT now operates at the intersection of agility and assurance, well-positioned to meet emergent policy, patient, and performance expectations across Germany's healthcare landscape.