AMAX AI Factory for Clinical and Research AI

Secure rack-scale AI infrastructure built for regulatory compliance and data privacy

Challenges in Deploying Regulated AI Workloads

Healthcare and life sciences organizations face unique infrastructure demands when deploying AI at scale. Workloads are data-intensive and iteration-driven, requiring predictable training and inference performance, fast access to imaging and omics/genomics datasets, and secure isolation for sensitive patient and research data. Regulatory compliance, data sovereignty, and audit controls are non-negotiable, while infrastructure must scale consistently across models, users, and sites without compromising security or operational integrity.

Technical Architecture Highlights

Validation & Performance Assurance

AMAX validates AI Factory configurations with testing representative of real-world workloads, confirming GPU utilization, fabric stability, and storage throughput under sustained load. Standard validation includes burn-in, GPU health checks, high-speed interconnect testing, storage performance profiling, and acceptance criteria verification prior to production handoff. Infrastructure is validated to perform, not just power on.

AMAX ENGINEERING

At AMAX, engineering is at the heart of every AI Factory we deliver. We architect and integrate GPU compute, accelerated networking, high-performance storage and enterprise AI software into complete solutions validated for production, ready for diverse AI workloads at any scale.

Deployment for Regulated Environments

AMAX AI Factory solutions address the privacy and compliance demands of healthcare environments through segmentation-ready networking, controlled access patterns, and operational visibility. Validated configurations and lifecycle management ensure regulatory compliance, operational consistency, and long-term maintainability at any scale.

Scale & Expansion Readiness

AMAX designs for predictable scaling using validated configurations and thoughtfully engineered network, power, and thermal capacity with built-in headroom for future expansion stages. Liquid-cooling architecture, CDU integration, and rack-level thermal validation are designed in from the outset, enabling density upgrades without infrastructure redesign as workload demands evolve.

Software Operations & Production Enablement

AMAX AI Factory delivers on-premises infrastructure with a cloud-native operational experience, leveraging Kubernetes, containerized microservices, and familiar deployment patterns. Healthcare and life sciences AI workloads such as medical imaging models, genomic sequencing pipelines, and RAG-based clinical assistants operate efficiently through consistent provisioning, observability, and lifecycle automation.

Talk to AMAX - From Site Survey to Scalable Deployment

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Healthcare Use Cases	Digital Pathology, Radiology, Omics/Genomics, Drug Discovery, RAG Assistants
AI Services Layer	LLM Inference, RAG Pipelines, Vision Models, Fine-Tuning Services
Platform & Operations	Kubernetes, GPU Enablement, Provisioning, Observability, Policy
Network Fabric	InfiniBand or Ethernet Switches, Predictable Latency, Scale-Out Topology
High Performance Storage	Imaging/Omics Datasets, Checkpointing, Retrieval Indexes, High-Throughput Pipelines
NVIDIA® Compute Solutions	NVIDIA DGX™, NVIDIA RTX PRO™ 6000, AMAX HGX™ B300, AMAX MGX™ Options
Cooling & Facility	Air or Liquid-Cooled Designs, CDU Planning, Rack-Level Thermal Validation

Security & Controls

Segmentation-Ready Networking, Controlled Access, Audit Support, Operational Visibility

AMAX Deployment Services

Site Readiness, Architecture, Rack Integration, Validation, Expansion Planning

At AMAX, engineering drives everything we do.

AMAX delivers validated infrastructure and deployment expertise for healthcare and life sciences, enabling teams to reach production faster, reduce integration risk, and scale capacity without redesign.

Security, data sovereignty, and compliance controls are architected throughout, ensuring infrastructure meets the stringent requirements that clinical and research environments demand.

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