

The background of the page is a wireframe architectural rendering of a modern building with large glass windows and a curved facade. A large, semi-transparent blue circle is overlaid on the bottom right portion of the image, containing the main text.

AUTOMATED DESIGN SERVICES (ADS): EXTENDING FACILITY VALUE WITH DIGITAL TWIN TECHNOLOGY

MODEL PRECISION.
DESIGN FASTER.
BUILD BETTER.

2026



Executive Summary

Facilities are living, evolving environments. Systems age, layouts shift, regulations change, and operations expand, yet most organizations are left managing with static as-built drawings that quickly lose accuracy. This creates inefficiencies, blind spots, and risk. ADS delivers digital twin technology that transforms traditional design into a living, data-rich asset. A digital twin mirrors the real-world facility in 3D and evolves alongside it, providing owners and operators with an accurate, continuously updated model that informs operations, maintenance, and compliance. From construction through long-term lifecycle management, ADS digital twins enable smarter decisions, lower costs, and improved performance.

The Digital Twin Challenge

- **Static Documentation** – Paper as-builts and PDFs rarely reflect actual facility conditions after occupancy.
- **Siloed Information** – Data is scattered across departments, making collaboration inefficient.
- **Lifecycle Blind Spots** – Without accurate records, upgrades and expansions risk rework and downtime.
- **Compliance Gaps** – Regulators require precise documentation, which is difficult to maintain manually.
- **Operational Risk** – Outdated information increases the chance of costly errors and interruptions.

The ADS Solution

ADS extends the value of Building Information Modeling (BIM) by delivering a digital twin, a living, dynamic model that integrates architectural, mechanical, electrical, plumbing, security, and IT systems into a single source of truth. This high-fidelity model captures not only the geometry of a facility but also the data behind it, from equipment specifications to maintenance logs. By linking design to real-world conditions, the ADS digital twin enables proactive facility management, streamlined compliance, and informed decision-making across the lifecycle.



Core Capabilities

- **Living Facility Model** – A continuously updated digital twin that mirrors actual facility conditions.
- **Multi-System Integration** – Incorporates security, HVAC, plumbing, electrical, IT, and architectural systems.
- **Data-Rich Assets** – Embeds manufacturer specifications, maintenance history, and compliance notes.
- **Scenario Simulation** – Test “what-if” conditions for renovations, emergency response, or capacity planning.
- **Audit & Compliance Support** – Creates verifiable records to meet regulatory and internal requirements.

Why Leaders Choose ADS

- **Operational Continuity** – Ensures teams across security, facilities, and IT work from the same source of truth.
- **Cost Savings** – Reduces downtime and avoids expensive surprises during upgrades or retrofits.
- **Future-Proofing** – Simplifies planning for expansions, renovations, and modernization efforts.
- **Regulatory Confidence** – Provides transparency and documentation that support compliance with evolving codes.
- **Portfolio Visibility** – Delivers consistency and standardization across enterprise-scale facility portfolios.
- **Cost Savings** – Lowers design costs while reducing ongoing operational expenses.

Use Cases in Digital Twin

- **Utilities & Energy** – Manage substations, pipelines, and power plants with continuously updated twins for compliance and asset monitoring.
- **Healthcare** – Model pharmacies, ERs, and surgical suites with compliance-aligned digital assets.
- **Data Centers** – Optimize rack layouts, cooling systems, and security deployments to maximize uptime.



- **Education** – Oversee multi-building campuses with unified models for upgrades, egress planning, and safety initiatives.
- **Commercial & Corporate** – Support tenant improvements, renovations, and ongoing operations with real-time facility data.

Expanding Partner Ecosystem

We are actively building partnerships with leading Architectural & Engineering affiliates and technology providers—including Hanwha, Axis, Commend, Motorola, Genetec, Milestone and many others—to ensure seamless integration, compliance, and scalability across verticals.



Conclusion

Static drawings are no longer sufficient for managing today's dynamic, high-value facilities. ADS digital twin technology transforms design outputs into persistent, living assets that evolve alongside the physical environment. By integrating all systems into one accurate model, organizations gain operational visibility, reduce downtime, and improve compliance across the lifecycle. A digital twin doesn't just document your facility, it empowers you to manage it smarter, faster, and with greater confidence.

Let's Connect

Discover how ADS can transform your design workflows and strengthen your delivery strategy.



Zachary Gaynor
Security PMO & ADS
Program Manager

Schedule a Demo



> ads@4liberty.com

> www.4liberty.com