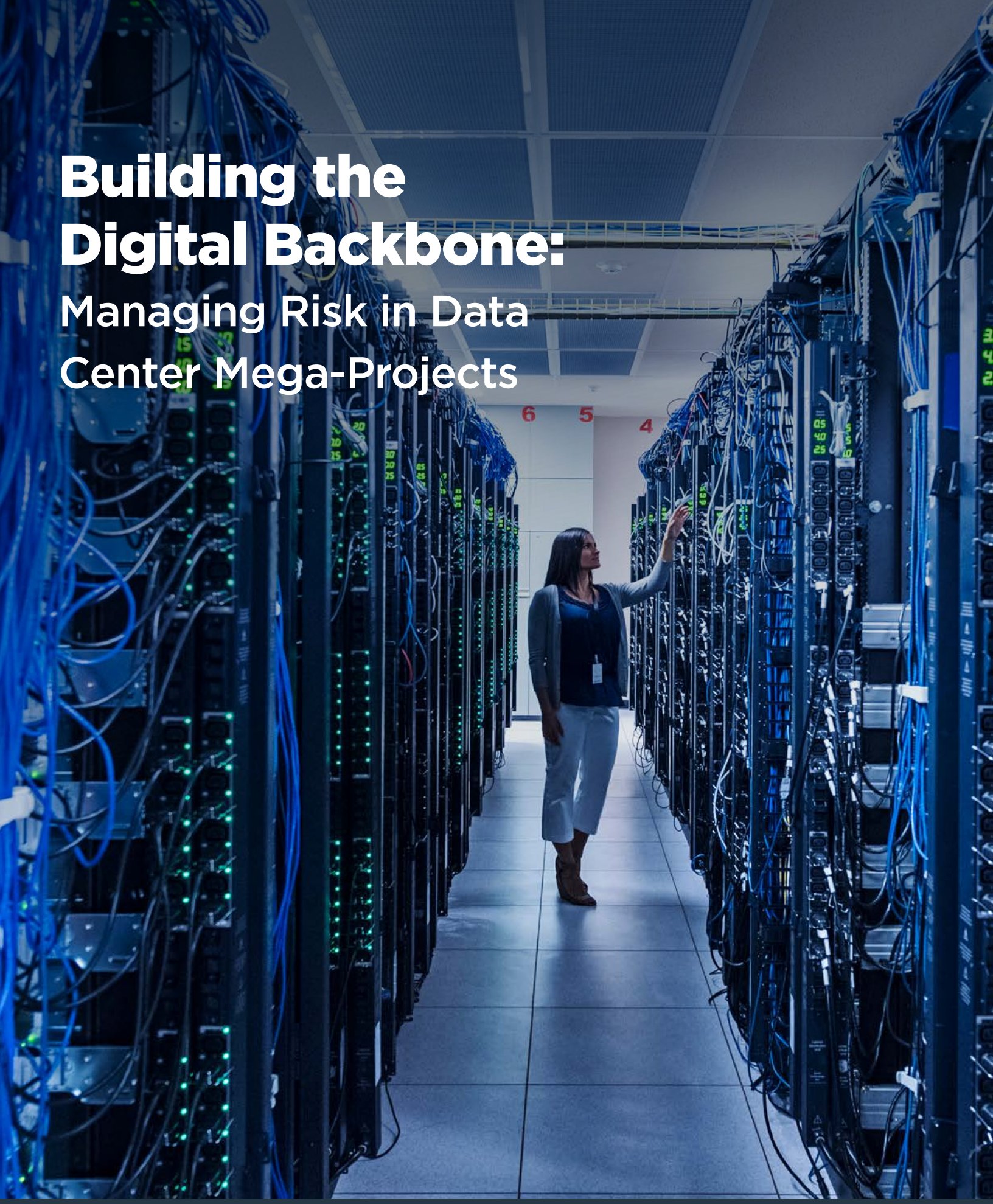

Building the Digital Backbone:

Managing Risk in Data Center Mega-Projects

The data center construction industry is experiencing unprecedented growth driven by artificial intelligence, cloud computing and digital transformation.

U.S. data center construction spending reached an all-time high of $40 billion in 2025, while showing no signs of slowing down in the near future.[1] While typical projects now average $494 million,[2] mega-campuses have exploded, with companies like Microsoft, Amazon and Meta investing more than $100 billion combined in AI-optimized infrastructure.[3]

This explosive growth is unlikely to slow, as global data center power demand is expected to more than double by 2030.[4]

The expansion of data center projects has created enormous opportunities for construction firms, as well as unprecedented risks. From catastrophic property losses to professional liability gaps leaving millions in exposure uninsured, data center projects demand specialized expertise and strategic insurance placement.

Firms that understand these unique exposures and position themselves to protect their bottom line can gain a lasting competitive advantage.

[1] Reuters, "US data center build hits record as AI demand surges, Bank of America Institute says," September 10, 2025.

[2] ConstructConnect.com, "December Data Center Report: Starts Spending Gains, But Costs Do, Too," December 2, 2025.

[3] Business Insider, "We broke down the eye-popping AI spending for 4 Big Tech firms — and their plans to go even harder next year," October 31, 2025.

[4] Goldman Sachs, "Generational Growth: AI, data centers and the coming US power demand surge," April 29, 2024.

What Makes Data Center Construction Different

Data center mega-projects aren't simply scaled-up versions of traditional construction — they are fundamentally different. Projects can be 20 to 30 times larger than typical construction, with massive value concentrated in tight geographic areas. For example, a single campus with tens of billions in value can experience huge losses from one catastrophic event while under construction.

Unlike traditional construction where delays are costly but usually manageable, data center projects operate under extreme time constraints. Project owners cannot afford delays as hyperscaler tenants are waiting for facilities to become operational, with millions in potential revenue at stake each month. This creates enormous pressure on contractors and owners, making schedule risk equivalent to business risk. The question isn't just whether you can build it, but if you can build it on time.

Construction values per megawatt are also increasing rapidly year-over-year, driven by supply chain constraints, specialized materials and new liquid cooling requirements for AI workloads. Projects can see dramatic value increases during construction as designs evolve and fit-out costs escalate.

Data center project types

There are various data center project types. Understanding which type of data center you're insuring helps define the underlying risk profile:

1. **Hyperscalers** — Single-tenant facilities for companies like AWS, Microsoft, Google, Meta, Apple (massive scale, highest schedule pressure).
2. **Co-location** — This is the primary growth segment for data centers where infrastructure providers build facilities for tenants who supply their own servers.
3. **Managed services** — Full-service providers supply both infrastructure and servers while tenants rent digital space.
4. **Enterprise** — Wholly owned or leased by corporations for proprietary use.
5. **Neo clouds** — Infrastructure operators focused on purpose-built AI Factories that offer specialized GPU-as-a-Service (GPUaaS) solutions through high-density specialized hardware (e.g., NVIDIA's latest GPUs).

Power as the defining factor

Data centers are measured and rated by megawatt (MW) capacity, not square footage. Typical facilities range from 24 to 72MW with larger facilities rated at more than 200MW.

Each facility requires:

- Substations and microgrids
- More than 30 generators for a 150MW facility
- Multiple 50,000-gallon fuel tanks for backup power
- Transformers with one- to two-year manufacturing lead times

As data centers continue to scale up, many larger campuses are now being built with their own dedicated powerplant and all related power generation equipment.

The power infrastructure alone represents a significant fire and explosion hazard, with diesel fuel systems distributed throughout the facility creating both operational risk and insurance complexity.

Where Risk Concentrates

Risk in data center construction doesn't distribute evenly — there are specific points in the project lifecycle where traditional insurance approaches fall dangerously short. Understanding where risk concentrates across the project lifecycle is essential for proper insurance structuring and loss prevention.

Pre-construction phase

- **Geotechnical risk** — Poor soil conditions or sinkholes beneath million-square-foot buildings can result in settlement issues requiring complete rebuilds that could lead to costly claims. The typical professional liability policy of $5 million to $10 million can easily be exhausted by a single relatively minor loss event.

- **CAT zone exposure** — Data centers are being built in locations that never previously held high-value property. For example, a campus in a Tier 1 severe convective storm zone could lead to billions in a single-event loss. Historical catastrophe models are inadequate because there was no previous high-value property in these areas to generate loss data.

Construction phase

- **Mechanical, Electrical and Plumbing (MEP) systems** — MEP trades represent the single largest concentration of operational risk on data center projects. If these MEP systems don't function correctly, the entire facility goes offline, causing an operational disruption with potentially massive financial consequences. The MEP scope alone often runs hundreds of millions to billions of dollars, straining contractors' surety and insurance capacity.

- **Fit-out values** — The values associated with the tenant fit-out phase often run 30% to 70% of the values associated with the core and shell phase of the project. This is when the facility transforms from an expensive warehouse into a mission-critical technology operation with corresponding increases in both property value and liability exposure.

Testing and transition

- The commissioning phase, when all systems must integrate and function together, creates unique risks. The transition from builders risk to operational property coverage is particularly complex with phased delivery models where data halls are completed and turned over to tenants before full building turnover.

Workforce and safety challenges

- **Contractor capacity crisis** — A chronic shortage of qualified electrical and mechanical contractors to meet current demand is an ongoing challenge. Carriers intensely scrutinize contractor experience, and questions are emerging about whether contractors are scaling too quickly to maintain quality control.

- **Quality under pressure** — Aggressive schedule pressure creates tension with quality control requirements. Hot works (welding, cutting, soldering) near high-value installed equipment requires rigorous management and safety oversight. Coordinating massive subcontractor workforces across large sites while maintaining independent quality inspections becomes critical to loss prevention.

Insurance Requirements and Market Dynamics

Data center construction requires a fundamentally different insurance approach than traditional projects — one that addresses exposures that traditional programs weren't designed to handle. The challenge goes beyond securing enough capacity for these multi-billion-dollar projects. Traditional coverage structures that historically rely on surety bonds, policy-based professional liability limits and single-carrier programs are all proving insufficient compared to the scale of data centers.

Understanding not just what coverage to buy, but why conventional approaches may no longer work, is essential for any insurance buyer entering this space.

There are several data center coverage considerations that contractors and project owners need to be aware of:

- **Contractor performance risk** — Traditional surety bonds are becoming ineffective as project values continue to grow much faster than the surety market's ability to bond them. Post-loss reconstruction faces the same contractor capacity constraints that currently strain the market, creating additional exposure. More flexible risk transfer options like subcontractor default insurance and more innovative risk management analytics tools will be essential.
- **Catastrophic property loss risk** — The data center insurance market is still evolving, and the sheer magnitude of exposed physical assets and business interruption values heightens the potential for significant losses. This makes securing proper coverage, with adequate limits and terms, more critical than ever.
- **Builders risk insurance** — Securing coverage for the full value of a project is not feasible. Instead, builders risk policy limits are more efficient and effective when structured using a loss limit based on multiple loss modeling approaches. Large builders risk programs are commonly structured using a ground-up quota share approach, which can require many carriers to achieve adequate capacity. For projects where excess CAT limits are required beyond the primary layer, a quota share structure is still applicable.
- **General liability** — Owner-landlord-tenant complexity at massive scale, business income liability, service level agreement (SLA) penalties and careful contract drafting for risk allocation are other potential risks that require specialized attention and expertise.

Enhanced coverage needs

- **Delayed startup/business interruption** is a critical consideration given the monthly rent costs at stake.
- **Testing and commissioning extensions** are needed during the commissioning and power integration phase.
- **Owners protective professional indemnity (OPPI)** coverage offers campus-level professional liability protection as well as important third-party liability protection.
- **Adequate builders risk sublimits, including soft costs limits**, that are sufficient to satisfy lender requirements and the project's financial proforma.

Critical coverage gaps

Professional liability is typically the most overlooked as traditional PL approaches are completely inadequate for data center scale. MEP design and geotechnical exposures can result in multi-billion-dollar claims if systems fail.

Ensuring Insurability: What Underwriters Scrutinize

Carriers focus intensely on several key areas when underwriting data center projects:

- **General contractor experience** — Underwriters want to see proven experience with data center construction at scale. Loss history on similar projects, financial capacity and evidence the contractor isn't scaling too rapidly are all critical underwriting considerations.
- **Risk management program quality** — Comprehensive site safety programs, hot works protocols, quality control procedures, open communication and close coordination around safety with all downstream subcontractors demonstrate operational maturity.
- **Emergency response planning** — Business continuity planning must be completed before construction starts, including hurricane, tornado and catastrophe event protocols; pre-incident planning with local fire departments; post-loss recovery and reconstruction contractor identification in advance; and emergency supply chain risk planning.

Starting the insurance process early is also critical, as it takes significant time to assemble multi-carrier panels and negotiate terms. Waiting until construction is imminent creates unnecessary pressure on limits, coverage and carrier options.

Partnering with the Right Broker

Placing insurance for data center mega-projects is a complex process that requires specialized expertise. The broker you choose will either be your strategic advantage or potential liability. Your partner should have experience in assembling multi-billion-dollar property programs across global markets and identifying exposure gaps.

Here are several important factors to consider when choosing a broker to work with for data center construction projects:

- **Data center expertise** — Your broker must understand the unique operations and risks of data center construction, have experience with mega-scale projects ($20 billion-plus), knowledge of market appetite, familiarity with phased delivery methods and access to novel risk transfer solutions.
- **Market access and management** — Look for a broker with access and experience working with many carriers across domestic, London and Bermuda markets. Their capabilities should include negotiations and claims coordination across multiple carriers throughout the project lifecycle.
- **Early engagement** — Brokers must engage before budget finalization, conduct probable maximum loss (PML) modeling before stakeholder negotiations and work effectively with owners, lenders and private equity investors. Getting started early is critical to ensuring adequate time for program structure and placement.

There are also several technical requirements a broker should have, including:

- Sophisticated CAT modeling and analysis capabilities
- Established relationships with engineering firms
- Professional liability gap analysis expertise
- Geotechnical and MEP design risk assessment
- Contractor and subcontractor prequalification and diligence

The HUB Advantage: Navigating Complexity with Proven Expertise

HUB Construction advisors bring specialized capabilities essential for navigating data center mega-project complexities. Our team coordinates phased coverage for sequential building delivery, aligns stakeholders across owners, lenders and private equity investors and manages multi-carrier claims coordination when incidents occur. With established relationships spanning domestic, London and Bermuda markets, HUB advisors provide strategic program design and technical expertise that enables contractors to take advantage of data center project opportunities.

To learn more about managing data center construction risk and positioning your firm for success, contact **HUB's construction industry specialists**.

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