Training course on Data Center Real Estate: Development and Investment

Professional Development Training Course Outline

Category	Real Estate Institute	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The Data Center Real Estate sector stands at the forefront of the global digital economy, serving as the physical backbone for cloud computing, Artificial Intelligence (AI), the Internet of Things (IoT), and an ever-increasing volume of digital data. Training Course on Data Center Real Estate: Development and Investment is meticulously designed to equip with the specialized knowledge and strategic frameworks. This is necessary to identify, analyze, finance, develop, acquire, and manage these highly complex and mission-critical assets. Beyond traditional commercial real estate, this specialized discipline demands a deep understanding of power infrastructure, cooling technologies, connectivity requirements, regulatory compliance, and the relentless pace of technological advancement, blending in-depth knowledge of site selection, design principles for high-density compute, intricate lease structures, and comprehensive risk management, and the leveraging of strategic partnerships and advanced sustainability practices to deliver robust, high-performing, and future-proof digital infrastructure. This comprehensive 8-day program delves into nuanced methodologies for understanding the exponential growth drivers of data center demand (especially AI and hyperscale cloud expansion), mastering advanced techniques for conducting power-first site selection, developing efficient cooling solutions, and navigating complex permitting and zoning challenges, and exploring cutting-edge approaches to securing massive capital investment, optimizing operational efficiency (including PUE and WUE), and ensuring long-term asset value in a rapidly evolving technological landscape. A significant focus will be placed on understanding the interplay of colocation versus hyperscale models, the rise of edge computing, the importance of reliable and sustainable power procurement, and the critical role of connectivity. By integrating global industry case studies, analyzing real-world development challenges and investment successes in leading data center markets (and acknowledging emerging markets like Kenya, with its significant upcoming capacity), and engaging in intensive hands-on financial modeling exercises, power capacity planning simulations, lease agreement reviews, and expert-led discussions, attendees will develop the strategic acumen to confidently pursue and deliver high-quality, profitable, and technologically advanced data center projects, fostering unparalleled digital resilience, economic growth, and securing their position as indispensable leaders in shaping the future of global digital infrastructure.

Programme Curriculum

Training Course on Data Center Real Estate: Development and Investment

Introduction:

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This comprehensive 8-day program delves into **nuanced methodologies** for **understanding the exponential growth drivers of data center demand (especially AI and hyperscale cloud expansion),** mastering **advanced techniques for conducting power-first site selection, developing efficient cooling solutions, and navigating complex permitting and zoning challenges**, and exploring **cutting-edge approaches** to **securing massive capital investment, optimizing operational efficiency (including PUE and WUE), and ensuring long-term asset value in a rapidly evolving technological landscape.** A significant focus will be placed on understanding the interplay of **colocation versus hyperscale models, the rise of edge computing, the importance of reliable and sustainable power procurement, and the critical role of connectivity.** By integrating **global industry case studies,** analyzing **real-world development challenges and investment successes in leading data center markets (and acknowledging emerging markets like Kenya, with its significant upcoming capacity),** and engaging in intensive hands-on **financial modeling exercises, power capacity planning simulations, lease agreement reviews, and expert-led discussions**, attendees will develop the **strategic acumen** to confidently pursue and deliver high-quality, profitable, and technologically advanced data center projects, fostering unparalleled **digital resilience, economic growth**, and securing their position as indispensable leaders in **shaping the future of global digital infrastructure.**

Course Objectives:

Upon completion of this course, participants will be able to:

1. **Analyze core principles and strategic responsibilities** of **data center real estate development and investment**.
2. **Master sophisticated techniques** for **understanding key demand drivers** including **hyperscale cloud, AI, and IoT**, impacting data center growth.
3. **Develop nuanced strategies** for **conducting power-first site selection** and assessing critical infrastructure requirements.
4. **Implement effective design and construction practices** for **high-performance, sustainable data center facilities**.
5. **Manage complex financial modeling and valuation methodologies** specific to data center assets.
6. **Apply robust strategies** for **structuring various data center lease and colocation agreements**.

7. **Understand the deep integration of power, cooling, and connectivity** in data center operations.
8. **Leverage knowledge of edge computing trends** and their impact on data center location strategies.
9. **Optimize strategies for achieving operational efficiency (PUE, WUE)** and sustainability in data centers.
10. **Formulate specialized investment strategies** for **diverse data center asset types** (e.g., wholesale, retail colocation, enterprise).
11. **Conduct advanced risk assessment and mitigation** for complex data center development and investment.
12. **Navigate challenging situations** such as **power constraints, supply chain disruptions, and evolving regulatory landscapes**.
13. **Develop a holistic, technologically informed, and strategically adaptive approach** to **data center real estate development and investment globally**.

Target Audience:

This course is designed for professionals involved in Data Center Real Estate:

1. **Real Estate Developers:** Seeking to enter or expand into data center development.
2. **Institutional Investors & Fund Managers:** Evaluating data center assets for portfolio diversification.
3. **Private Equity Firms:** Focused on infrastructure and digital assets.
4. **Hyperscale Cloud Providers:** Involved in expanding their data center footprint.
5. **Colocation Data Center Operators:** Looking to optimize development and investment strategies.
6. **Lenders and Financial Analysts:** Financing or assessing the value of data center projects.
7. **IT Infrastructure Executives:** Understanding the real estate aspects of their digital footprint.
8. **Consultants and Advisors:** Specializing in data center strategy, design, or transactions.

Course Duration: 8 Days

Course Modules:

- **Module 1: Introduction to Data Center Real Estate & Market Drivers**
  - Defining **data center asset classes**: Hyperscale, Colocation (Wholesale/Retail), Enterprise, Edge.
  - **Key demand drivers**: Cloud computing, AI/Machine Learning, IoT, 5G, Big Data analytics.
  - Global market overview and **growth projections**: capacity, investment volumes, regional hubs.
  - The **convergence of digital infrastructure and real estate**.
  - **Case Study:** Analysis of a major global data center market (e.g., Northern Virginia, Frankfurt, Sydney) and its key characteristics.
- **Module 2: Power-First Site Selection & Critical Infrastructure**
  - The paramount importance of **power availability and cost** in data center site selection.
  - Assessing **power density requirements** (kW per rack) and future growth needs (e.g., for AI workloads).
  - **Proximity to substations and grid reliability**: evaluating utility infrastructure.
  - **Water availability and cost** for cooling systems.
  - **Case Study:** Evaluating two potential data center sites based on power capacity, cost, and reliability.
- **Module 3: Data Center Design & Construction Principles**
  - **Modular design vs. custom build**: advantages and disadvantages.
  - **Building shell considerations**: floor loading, ceiling heights, security perimeters.
  - **Power infrastructure design**: substations, generators, UPS systems, power distribution units (PDUs).

    - **Cooling system design**: CRAC/CRAH units, chilled water, direct-to-chip liquid cooling for high-density.
    - **Case Study:** Examining the design evolution of a hyperscale data center to accommodate increasing power density for AI.
- **Module 4: Connectivity & Network Infrastructure**
    - **Fiber optic connectivity**: dark fiber, diverse routes, latency considerations.
    - **Carrier hotels and interconnection points**: importance of network neutrality.
    - **Cross-connects and peering capabilities**.
    - The role of **software-defined networking (SDN)** in data center connectivity.
    - **Case Study:** Analyzing the network infrastructure and connectivity options for a colocation data center.
- **Module 5: Valuation & Financial Modeling of Data Centers**
    - **Key performance indicators (KPIs)**: Power Usage Effectiveness (PUE), Water Usage Effectiveness (WUE), utilization rates.
    - **Valuation methodologies**: income capitalization, discounted cash flow (DCF), replacement cost.
    - **Financial modeling**: projecting revenue (colocation fees, power pass-through), operating expenses, capital expenditures.
    - Analyzing **return metrics**: IRR, Equity Multiple, Cap Rates specific to data centers.
    - **Case Study:** Building a financial model for a proposed wholesale colocation data center development.
- **Module 6: Financing Data Center Real Estate Projects**
    - **Sources of capital**: traditional bank loans, private equity, REITs (Data Center REITs), infrastructure funds.
    - **Specialized financing structures**: Project finance, sale-leasebacks, joint ventures.
    - **Debt sizing and covenant considerations** for data center loans.
    - **Securing long-term power purchase agreements (PPAs)** as a financing enabler.
    - **Case Study:** Analyzing the financing structure of a major data center development, including equity and debt components.
- **Module 7: Lease Structures & Customer Agreements**
    - **Wholesale colocation leases**: powered shell, build-to-suit, turn-key solutions.
    - **Retail colocation agreements**: rack units, cages, suites.
    - **Service Level Agreements (SLAs)**: uptime guarantees, power availability, cooling performance.
    - **Negotiating key terms**: rent escalations, power pricing, renewal options, termination clauses.
    - **Case Study:** Reviewing and negotiating key terms of a wholesale data center lease agreement from an owner's perspective.
- **Module 8: Operational Efficiency & Sustainability (ESG)**
    - Strategies for **optimizing PUE and WUE**: advanced cooling techniques, power management.
    - Integrating **renewable energy sources**: on-site generation, green energy procurement.
    - **Waste management and circular economy principles** in data centers.
    - **ESG reporting and certifications** (e.g., LEED, BREEAM) for data centers.
    - **Case Study:** Analyzing a data center that has achieved industry-leading PUE and significantly integrated renewable energy.
- **Module 9: Edge Computing & Distributed Infrastructure**
    - Understanding the **drivers for edge computing**: low latency, localized processing, IoT expansion.
    - **Edge data center real estate characteristics**: smaller footprint, closer to population centers.
    - **Deployment models**: micro data centers, modular data centers, in-building edge.
    - Investment opportunities in **distributed data center networks**.

    - **Case Study:** Evaluating the real estate implications of a company's edge computing strategy for smart city applications.
- **Module 10: Risk Management & Cybersecurity in Data Centers**
    - **Physical security**: site access control, surveillance, perimeter security.
    - **Redundancy and resiliency**: N, N+1, 2N architectures for power and cooling.
    - **Disaster recovery and business continuity planning**.
    - **Cybersecurity considerations**: protecting digital assets within the data center, supply chain security.
    - **Case Study:** Developing a risk mitigation plan for a data center project, addressing both physical and operational risks.
- **Module 11: Regulatory & Legal Considerations**
    - **Zoning and permitting processes** for data center development.
    - **Environmental regulations**: emissions, water discharge, noise pollution.
    - **Data sovereignty and localization laws** (e.g., GDPR, Kenya Data Protection Act) and their impact on location.
    - **Cross-border data transfer regulations**.
    - **Case Study:** Navigating the regulatory hurdles for developing a data center in a jurisdiction with strict environmental or data localization laws.
- **Module 12: Emerging Trends & Future Outlook**
    - The **long-term impact of AI workloads** on data center design (e.g., liquid cooling, higher density).
    - **Quantum computing's potential influence**

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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