2Q18 – ATLANTA
DATA CENTER MARKET TRENDS

DATA CENTER HUB OF THE SOUTHEASTERN U.S.

The City of Atlanta represents the ninth-largest metropolitan area in the United States, and functions as a data center hub in the southeastern portion of the country. QTS Realty Trust is the largest operator in the Atlanta area, with a combined 662,600 square feet of raised floor space and 108 MW. However, CyrusOne and Switch have announced intentions to enter the market with large ground-up campus projects.

Demand for data center space in this southeastern node is driven by cloud users, as well as gaming, IoT, technology, healthcare, media and content.

CyrusOne announced a $206 million project to enter Atlanta with a 44-acre campus in the Riverside West Industrial Park in Douglasville, near Google's 2-million-square-foot data center. Currently, the project comprises three planned data centers reported to total 440,000 square feet with 50 MW of critical IT power. Phase I may deliver as early as summer 2018, though it is more likely going to debut in late 2018 or early 2019.

Facebook is investing $750 million over the next five years on two buildings totaling 970,000 square feet, which are expected to be operational in 2020 and create at least 100 new full-time jobs. Over the next 20 years, Facebook may spend up to $42 billion on the 416-acre data center campus, over the course of four phases, in Newton County, east of Atlanta.

Switch has announced a $2.5 billion project in Douglas County totaling up to 1 million square feet. Referred to as "The Keep," this project includes a seven-building campus on 70 acres at the intersection of Thornton and Douglas Hills road in Lithia Springs. The systems will operate on 100% renewable energy.

T5@Atlanta recently closed a 40-acre site in Douglas County near Google's campus for a second regional campus, T5@Atlanta II. T5 plans to invest $100 million for two 10 MW data centers, with Phase I delivering in 2019.

ATLANTA MARKET SNAPSHOT

Operational space	± 2.1 million sq. ft. of colocation
Power	± 220 MW of IT capacity
Retail Providers	± 35
Wholesale Providers	6
Power Rates	$0.04 - $0.05/kWh
Under Development	220,000 sq. ft. (raised) ±40 MW

ATL Prevailing Rates ($/kWh/mo.+E)
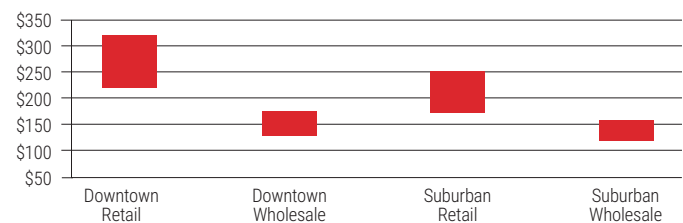
Power

Utility power rates throughout the Atlanta area average $0.05 per-kilowatt-hour, and can be as low as $0.04/kWh with pre-purchase agreements. Power throughout Atlanta is provided by Georgia Power, with GreyStone Power and Georgia EMCs available in some areas. Georgia Power is part of the Southern Company, which generates approximately 43,000 MW of capacity. The state has an Integrated Transmission System (ITS) for all electricity providers in Georgia to utilize the same transmission grid.

Connectivity

Atlanta is among the top 5 United States markets for total bandwidth and fiber access. The City of Atlanta is investing in initiatives to become an efficient and sustainable "smart city," with plans that include a Smart City Command Center at Georgia Tech's High Performance Computing Center and a partnership with Google Fiber for advanced traffic control and monitoring.

- Fiber-to-the-Tower (FTT) initiated connections to +500 towers in 2015
- Google is installing 3,000 miles of fiber throughout the metro
- DC BLOX is installing fiber connecting its facilities in Atlanta with Chattanooga for customer flexibility and disaster recovery (2018)
- AT&T announced Atlanta would be among first cities to get advanced 5G wireless service in 2018

Incentives

Since 2005, the State of Georgia has offered 100% sales tax exemptions on software, hardware and construction for data centers with minimum investments of $15 million per year. In addition, corporate income tax is based on sales within the state, and does not consider capital investments and payroll attributed to data center operations.

House Bill 696 was voted through Georgia's House and Senate in March 2018, and is pending Governor's approval to be implemented in January 2019. This package, in the current language, will allow sales and use tax exemptions on equipment and software for high-technology data centers. Qualifying requirements include the creation of 20 new quality jobs and aggregate expenditures of $100, $150, or $250 million (depending on county population), over a 7-year period, to qualify for a 10-year tax abatement

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ATLANTA METRO HIGHLIGHTS

- Reliable and low-cost power ($0.04 - 0.05/kWh)

- Low risk of natural disasters (highest elevated city east of Mississippi)

- Dense fiber network (top 5 U.S. market for bandwidth access)

- Business friendly climate

- Central business hub for Southeastern U.S.

- Key U.S. transportation hub (World's busiest airport)

- Fastest-growing metro population

- 15 Fortune 500 companies headquartered in Atlanta area (third-argest concentration)

- Mercedes spent $90 million on its new U.S. headquarters in Atlanta, relocating from New Jersey

- $371 billion GDP (10th-largest in U.S.)

- "Transaction Alley" processes 70% of electronic payments

- 13,000+ tech companies

- Fifth-largest IT employment cluster

Risk Assessment
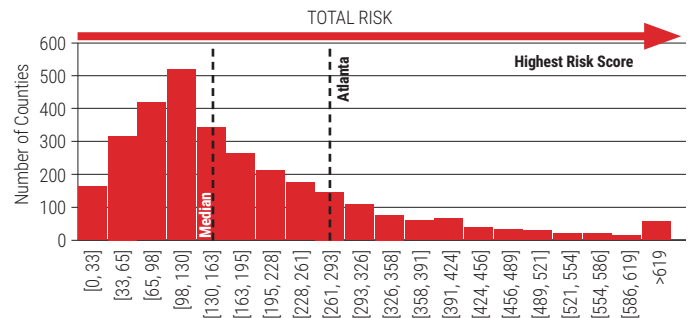
The scores indicate the natural hazard risk in more than 3,000 counties in the U.S. for earthquakes, hurricanes and tornadoes. The counties in metro Atlanta score higher than the median score for the reported categories of risk. The counties in Atlanta are at moderate/medium risk of damage from natural hazards compared to rest of the counties in U.S.

Metro Tech

Atlanta-based ATADATA was originally founded in 2012 by a former IBM technologist and provides discovery, upgrades, replication and synchronization with single-click workload migration for enterprise workloads; the company intends to grow fivefold through 2018.

MacStadium, a data center technology startup dedicated to Apple Mac hosting and cloud computing services for software development businesses, received a $60 million growth equity investment and recently leased 4,500 square feet at Piedmont Center.

FORTUNE 500 COMPANIES HEADQUARTERED IN ATL					
	Rank	Industry	Revenues ($M)	Profits ($M)	Employees
Home Depot	23	Retailing	$94,595	$7,957	406,000
UPS	46	Mail, Freight Delivery	$60,906	$3,431	335,520
Coca-Cola	64	Beverages	$41,863	$6,527	100,300
Delta Air Lines	71	Airlines	$39,639	$4,373	83,756
Southern	145	Utilities	$19,896	$2,448	32,015
Genuine Parts	180	Wholesalers	$15,340	$687	40,000
First Data	242	Financial Data	$11,584	$420	24,000
SunTrust Banks	303	Commercial Banks	$9,161	$1,878	24,375
Veritiv	331	Wholesalers	$8,327	$21	8,700
PulteGroup	353	Homebuilders	$7,669	$603	4,623
HD Supply Holdings	364	Wholesalers	$7,524	$196	14,000
AGCO	370	Construction	$7,411	$160	19,795
NCR	409	Office Technology	$6,543	$270	33,500
Asbury Automotive Group	410	Automotive Retailing	$6,528	$167	7,900
Intercontinental Exchange	437	Securities	$5,958	$1,422	5,631

Source: fortune.com/fortune500/list, Time Inc. 2018

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RECENT LEASING

Atlanta is generally regarded as an under-served data center market, and leasing has typically hovered around 5-6 MW for the last several years. Estimates indicated increased leasing in 2016 at about 6.5 MW and an estimated 12 MW in 2017.

After purchasing Coca-Cola's data center in a partial sale-leaseback transaction in mid-2017, Lincoln Rackhouse recently leased 100% of the facility to INAP. The lease includes approximately 32,000 square feet of raised flooring supported by 4.8 MW. With this transaction, INAP plans to exit a current non-core data center in Downtown Atlanta, while retaining its current space at 250 Williams Street.

DataBank has partnered with Georgia Tech to build an 8.8 MW data center, with the university taking 2 MW as an anchor tenant, delivering in early 2019.

In 1Q 2018, QTS renewed two hyperscale tenant leases at its metro Atlanta data center (rumored to be Twitter and Google), representing 19 MW.

T5 @Atlanta is nearing an agreement to lease another 500 kW at its existing facility.

zColo recently leased 1.5 MW to a single tenant at one of its existing facilities.

RECENT SALES

In early 2017, Ascent & TowerBrook Capital Partners acquired 4905 North Point Parkway, a 185,000 square-foot data center, for $26.2 million in a partial sale-leaseback transaction from Blackberry. The 5.4 MW facility has future expansion space.
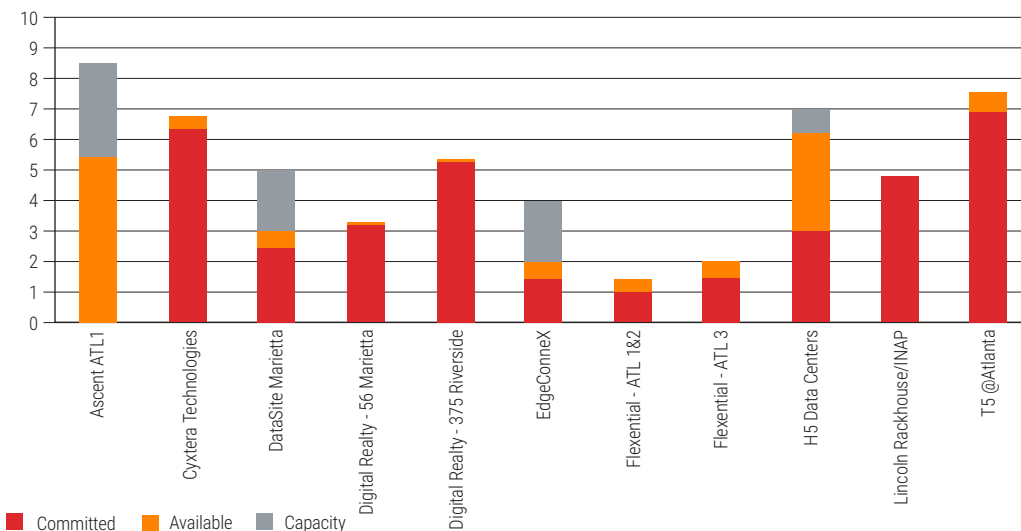
Lincoln Rackhouse acquired an 88,200-square-foot former Coca-Cola data center in a partial sale-leaseback transaction for 2.4 MW. The facility at 40 Perimeter East sold in May of 2017 for $19 million. The data center has been 100% leased to INAP since December 2017.

In mid-2017, Carter Validus Mission Critical REIT acquired 250 Williams, comprising nearly one million square feet and 22 MW, for $166 million. This transaction took place several months after Digital Realty agreed to lease approximately 50,000 square feet in the building.
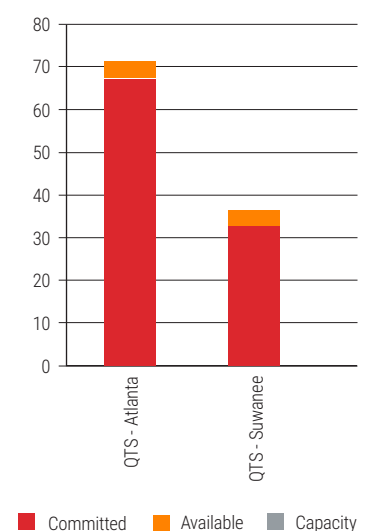
Server Farm recently acquired the John Hancock/ManuLife data center at 305 Satellite Boulevard in Suwanee, approximately 30 miles northeast of Atlanta, for $17.5 million. The facility contains 153,200 square feet and features 7.0 MW of critical IT load, with AMD as a tenant with 20,000 square feet of operational space.

Singapore-based Mapletree Investments acquired 14 data centers from Carter Validus for $750 million in late 2017. The portfolio included several Atlanta data centers, including the carrier hotel at 180 Peachtree.

Atlanta Operator Capacity (MW)

Legend: Committed (red), Available (orange), Capacity (gray)

Categories: Ascent ATL1, Cyxtera Technologies, DataSite Marietta, Digital Realty - 56 Marietta, Digital Realty - 375 Riverside, EdgeConneX, Flexential - ATL 1&2, Flexential - ATL 3, H5 Data Centers, Lincoln Rackhouse/INAP, T5 @Atlanta

QTS Capacity (MW)

Legend: Committed (red), Available (orange), Capacity (gray)

Categories: QTS - Atlanta, QTS - Suwanee

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OPERATOR HIGHLIGHTS

DataBank, the colocation branch of Digital Bridge, announced a partnership with Georgia Tech to develop a 94,000-square-foot, 8.8 MW data center adjacent to its campus. Georgia Tech will be the anchor tenant with 2 MW to house its super computer and IT requirements. The remaining space and power can be leased at a premium, and is ideal for university partners, or users seeking connectivity to their super computer. The facility will be operational in early 2019 with N, N+1 and 2N power configurations.

Digital Realty is virtually at capacity at 56 Marietta and 375 Riverside Parkway. However, Digital Realty announced the expansion of its Telx business in the Atlanta metro, its third-largest colocation and interconnection market behind New York and Chicago. The availability of AWS Direct Connect at the downtown facilities was announced in mid-2017. Throughout the Atlanta metro, Digital Realty hosts more than 300 customers with in excess of 11,000 cross-connects. The REIT leased about 50,000 square feet at 250 Williams, and invested approximately $22.3 million to build out 18,000 square feet of raised floor space with an estimated 3 MW. This new space is expected to be at capacity in 2018.

EdgeConneX is currently building out the second 10,000-square-foot data hall with 2 MW to complete its first building in Atlanta. Nearby, EdgeConneX has a second building connected via dedicated conduit as a virtual campus. The second building is in powered-shell condition, and is also being built out to eventually total five 10,000-square-foot data halls and 10 MW.
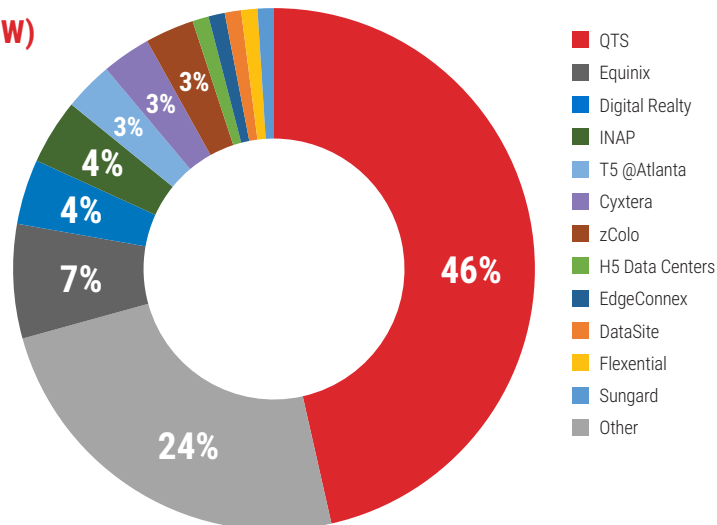
Equinix has five IBX data center locations in Atlanta, including former Verizon facilities, totaling about 165,000 square feet of colocation space. AT1 at 180 Peachtree was most recently expanded with Phase IV in 2016, with about 7,800 square feet for 365 cabinets and an additional 1.8 MW. AT2 and AT3 are stabilized at 56 Marietta. AT4 is an owned facility at 450 Interstate North, and it was acquired at the same time as AT5 in Norcross.

Green House Data acquired Atlanta-based Cirracore in April 2017, which includes operational space in two Equinix IBX facilities.

QTS Data Centers boasts an estimated 46% market share in Atlanta. The regional giant operates 457,000 square feet of leasable raised floor with 70 MW in Atlanta, and another 205,600 square feet of raised floor with 36 MW in Suwanee. There is about 6 MW of vacancy split evenly between these sites. In May 2017, QTS purchased 3.4 acres of land adjacent to its downtown facility for approximately $1 million. QTS is currently spending $45 million to add capacity in Atlanta through 2018, with 28,000 square feet of raised floor space currently under construction.

zColo purchased AtlantaNAP, a 72,000 square-foot data center at 1100 White Street, in July 2014 for $52.2 million. This facility acts as a hub for Zayo's 2,300 route miles of fiber throughout the metro, including interconnections to 56 Marietta. zColo is expanding at 1150 White Street, an adjacent building to include 72,100 square feet and 6 MW, for operation in 2018.

Atlanta Market Share Estimates (MW)

Legend:
- QTS — 46%
- Equinix — 24%
- Digital Realty — 7%
- INAP — 4%
- T5 @Atlanta — 4%
- Cyxtera — 3%
- zColo — 3%
- H5 Data Centers — 3%
- EdgeConnex
- DataSite
- Flexential
- Sungard
- Other

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PIPELINE					
	Space	Power	Cost	Delivering	Notes
Compass Data Centers		6 MW		Market Driven	Acquired 23.5 acres in 2015, pre-permitted for 5x 1.2 MW data centers
CyrusOne	440,000 sq. ft.	50 MW	$206	Phase I 2018-19	Acquired 44 acres in Douglasville
DataBank	94,000 sq. ft.	8.8 MW		1Q 2019	Georgia Tech is anchor tenant to take 25% (2.2 MW)
EdgeConneX	*10,000 sq. ft.	2 MW		2Q 2018	Remaining space in Building 1 with 2 MW
EdgeConneX	*10,000 sq. ft.	8 MW			2nd building currently powered-shell, will have 4x 10,000 sq. ft. data halls
H5 Data Centers	*8,000 sq. ft.	0.75 MW		2Q 2018	Phase I to be followed by Phase II & III of 0.75 MW each
QTS Realty	*28,000 sq. ft.		$45	2018	QTS to add capacity through 2018
Switch	1,000,000 sq. ft.		$2,500	4Q 2018	7 buildings on 70 acres in Lithia Springs
T5 @Atlanta	*55,000 sq. ft.	6 MW	$100	2019	Phase I of second Atlanta campus of two (2) 10 MW data centers
zColo	*72,000 sq. ft.	6 MW		2018	Announced in 3Q 2017, new location at 1150 White St. SW

*indicates raised square feet or dedicated operational space

DATA CENTER OUTAGES

Although Atlanta is the highest elevated large city east of the Mississippi, and there is low risk of natural disasters, there have been some reported outages within regional data centers.

Delta Air Lines experienced a five-hour outage at its Atlanta data center in 3Q 2016. The outage was attributed to an electrical equipment failure, and resulted in the grounding of approximately 2,000 flights over three days at an estimated cost of $150 million.

In 1Q 2017, Microsoft experienced an outage at a third-party peering site, when severe weather caused the cooling infrastructure to fail. Equipment was shut down to prevent failure, though it was reported that the automated fail-out to a secondary location did not work as expected.

FORECAST

There are three large campuses breaking ground in Atlanta by CyrusOne, Facebook and Switch. These new entrants to the market are joined by other newcomers including Ascent, DataBank, Green House Data, Lincoln Rackhouse, Mapletree and ServerFarm.

Atlanta's business-friendly climate and low power costs, along with the anticipated incentives associated with the passing of House Bill 696, are expected to propel development. Several market participants expect Atlanta to become the second-largest data center market on the East Coast, second only to Northern Virginia.

There are still opportunities for operators to enter this Southeastern node. The Douglas County Economic Development Authority has identified 859 acres for future data center development. The parcels are located near established data centers operated by T5, Digital Realty, Google, AT&T and both of the highly-anticipated CyrusOne and Switch campuses.

Oncoming supply is expected to put downward-pressure on asking rates throughout the metro area.

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