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## The Power of Towers: Connecting the Mobile World! | November 2013

In another month where D.C. stole the attention away from fundamentals, the MSCI US REIT Index (RMS) was able to bounce back from an ugly August and September to post a +4.5% total return, which compares to the S&P 500 at +4.6%. Year to date, the total returns for the RMS and S&P 500 are +7.8% and +25.3%, respectively.

### Wireless Tower Infrastructure

Wireless communication towers and the ubiquitous fiber optic cable wires circling the globe via data centers are the most critical pieces of the internet infrastructure that connect people, devices, and networks. In this outlook, we will focus on the tower companies, specifically American Tower (NYSE: AMT), the second largest REIT, and Crown Castle International (NYSE: CCI), which recently announced that it will be converting to REIT status in 2014. It will be the fourth largest REIT by market capitalization upon conversion.

We are overweight the data center/tech sector due to the explosive growth of data usage particularly by the penetration of smart phones. The growth profiles of the tower companies lead all equity REITs due to strong demand fundamentals in both the US and international markets, though international mobile network deployment is still in an early stage compared to the US. In particular, tower companies are an attractive way to play the growth in demand for data due to their investment-grade tenants, stable cash flows, access to capital, and high barriers to entry.

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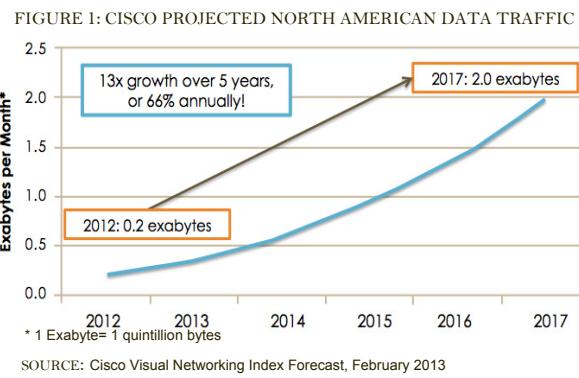
### Towering Demand

Towers are principally vertical structures made of galvanized steel upon which the wireless carriers, governmental agencies, broadband data providers, and other mobile technology companies lease space to install the antennas that form the critical backbone for cellular, wireless, radio, television, microwave, and other radio networks. The rapid growth of smart phones and tablets has generated an enormous increase in wireless data consumption placing increasing demands on the carriers to enhance network capacity, quality, and coverage.

The number of wireless subscriber connections in the US now exceeds the total US population. Though the market for connections may seem saturated domestically, a research report by Information Age Economic estimates that investment in mobile broadband will contribute between \$260 billion and \$355 billion to US GDP in 2017, enough for a 1.6-2.2% increase, while generating 1.2 million net new jobs. Facebook (NASDAQ: FB) is often viewed as a proxy for today's world of internet usage inasmuch as the company processes 350 million photographs, 4.5 billion ‘likes’, and 10 billion messages per day!

One apparent contradiction that applies in the world of data usage is that ‘supply creates demand’. We have heard this term used in other aspects of commercial real estate, and given it little credence. However, faster speeds of data delivery encourage users to download or upload a song, movie, or picture from their mobile device instead of a computer. 4G technology is 20-50 times faster and more efficient than the outgoing 3G networks, and 5G promises to be a multiple of 4G when the next refresh of phones and cellular antennas are ready to be deployed. The ability to have social media applications open and actively engaged while being away from

a wired internet connection creates demand that was not previously there, so we actually do believe the somewhat dubious claim. As such, Cisco projects data usage on wireless networks to grow by more than 66% annually from 2012 to 2017, as shown in Figure 1.



### The Tenants

The continuous push of technology to meet demand, and the resulting portfolio upgrades by the telecom companies are a large driver of revenue for the tower companies. Similar to other industries with upgrade cycles, the periodic upgrade in technology provides for new demand in the most critical areas as the less critical are receiving the predecessor technology. AT&T (NYSE: T) and Verizon (NYSE: VZ) are the leaders in technology, and the densely populated areas are deemed most critical. Sprint (NYSE: S) and T-Mobile (NYSE: TMUS) complete the 'big 4' of US telecom.

AT&T and VZ are nearly done with their deployment of 4G-LTE, the latest technology, and Sprint and TMUS will be done soon after. However, each of the big four has announced plans to upgrade to LTE-Advanced after completing their LTE networks, which will require another round of capital expenditures.

Currently, AT&T and VZ are in the 'densification', or 'cell-splitting', portion of their upgrade cycle. The densification of 4G LTE (Long Term Evolution) requires carriers to place sites on new towers to 'infill' weak areas of the network. New leases result in higher revenue for the tower owners when compared to 'amendments', which occur on towers that already support a carrier's equipment. Such amendments can create varying amounts of revenue based on the lease contract, but they are, in general, beneficial to tower owners as the carriers must leave on the previous technology equipment until all devices using that technology are out

of circulation. In all, the carriers have guided to \$25 billion in capital expenditures for 2013, and we feel confident that the towers will continue to benefit from the carriers' technology-fueled upgrade cycle.

### Tower Alternatives

Areas that restrict building of new towers or have an especially dense population can prove difficult to serve with traditional towers alone. Perfecting connections and network quality in such places requires incremental capacity via rooftop antennas, DAS (both indoor and outdoor), Wi-Fi (facilitates wireless service in retail stores, offices and other venues), and other types of Small Cell networks (enhances speed in urban environments). DAS, or Distributed Antenna Systems, are networks of low range antenna sites that can be deployed in a wide variety of properties such as airports, shopping malls, and sporting arenas. As an example, 300 DAS installations were used at the London 2012 Olympics to support 359,000 mobile users at one time in a part of London that previously had little coverage. We view these solutions as positive for AMT and CCI as they help to fill capacity gaps and promote more mobile usage. Though it comprises a small portion of their portfolios, AMT and CCI are significant players in each of the above-mentioned markets.

### Tower-High Club Tough to Join

There are numerous barriers to entry for potential tower competition. In addition to the aforementioned regulations for building new towers, the cost to assemble a competitive portfolio of towers is extremely high. Large tower portfolio sales are few and far between, and the winning bidders have historically been the well-capitalized public companies. New development is not a threat to the tower companies due to the cooperation required between carrier sites. Furthermore, obtaining permits to build new towers can be difficult due to the aesthetics (or lack thereof) associated with a tower. For most communities, towers fall into the 'NIMBY' category, i.e., 'Not In My Back Yard!' Carriers will rarely, if ever, move equipment from one tower to another nearby based on rental rate. It is too costly to move the equipment and reconfigure the network, so the only non-renewal of leases, or 'churn', occurs when there is duplicative equipment on a tower after a carrier consolidation. However, the tenant must continue to pay rent on the duplicative equipment until the lease expires.

While the projections for growth in demand for data may seem limitless, the actual network infrastructure does have a maximum capacity, called ‘spectrum’, which provides barriers to entry for the carriers. There is currently 300 mHz in use by the carriers today, and another 200 mHz owned by companies that do not have the cash to deploy a network. In addition, the FCC is planning to auction off 300 mHz of spectrum in the coming years. As current tenants acquire more spectrum or new competitors emerge with enough spectrum to launch a network, the demand for towers will only increase further. Dish Network (NASDAQ: DISH) and LightSquared are large holders of spectrum that have yet to deploy a network or join with one of the ‘big four’. Another potential source of demand is FirstNet, a new company with a Congressional mandate to cover the remaining 30% of the sparsely populated US geographic areas without coverage due to insufficient demand. FirstNet has already received \$2 billion in funding, and an additional \$5 billion will become available after the FCC completes the aforementioned spectrum auctions.

### Best in Class Organic Growth

Tenants typically sign long term leases of five to ten years with multiple five-year renewal options and lease payments that typically increase based on a fixed escalation, usually in the 3.5% to 4% range in the United States. Another 4-5% of organic growth comes from new tenant leases and lease amendments as a result of equipment upgrades. In total, AMT and CCI generally produce same store revenue growth of about 8% (net of ‘churn’) annually.

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Termination rights are very limited and tenant churn typically subtracts 1% from same store revenue growth annually. We believe churn will stay relatively low given the above-mentioned difficulty to move sites and the lack of carrier consolidation potential as evidenced by the US Department of Justice’s decision to block AT&T’s purchase of T-Mobile USA in 2011. Due to the favorable supply and demand dynamics, tower companies enjoy same store growth double or triple the long-term average of other REIT sectors.

Because the costs of maintaining a tower are mostly fixed and installation of equipment is paid for by

FIGURE 2: ECONOMIES OF SCALE FOR TOWER COMPANIES

	One Tenant	Two Tenants	Three Tenants
Construction/Upgrade Costs (\$ in US)	\$225,000	-	-
Tenant Revenue	\$20,000	\$40,000	\$60,000
Operating Expenses (Incl. ground rent, prop taxes, etc.)	\$12,000	\$13,000	\$14,000
Gross Margin	\$8,000	\$27,000	\$46,000
Gross Margin (%)	40%	68%	77%
Gross Margin Conversion Rate	-	95%	95%
Return on Investment	4%	12%	20%

SOURCE:  
Sample US Tower Economics according to AMT. Does not reflect any AMT financial data.

the tenant, the addition of incremental tenants to a tower has extremely high profit margins, as shown in Figure 2. AMT and CCI have plenty of room on existing towers to substantially expand revenues considering their portfolios have only about 2.0 and 2.4 tenants per tower as of December 31, 2012, respectively, and capacity is in the range of 4 to 5 without needing structural reinforcement.

Expenses are relatively constant at the per tower level as ground lease expense accounts for two-thirds of direct site operating expenses, and the remainder includes property taxes, repairs and maintenance, and employee compensation. As such, the high margins and resulting REIT sector leading same store growth give us high confidence in the long term fundamentals of the tower companies.

### Capital Allocation Options

Each of the tower companies has abundant access to capital, and at an attractive cost. They have used the accretive spread between borrowing costs and acquisition yields to grow both domestically and internationally. There are approximately 115,000 towers in the US, and AMT and CCI combined own about 70,000 towers, or 60% of the total. AMT owns 32,000 towers in ten international markets and CCI owns 1,700 towers in Australia. The third publicly-traded tower company, SBA Communications (NASDAQ: SBAC), owns about 15,000 towers in the US and 2,500 in international markets. October was an especially active month for the tower companies on the external growth front. On October 1, AMT acquired 5,900 towers from Global Tower Partners for \$4.8 billion. On October 21, CCI announced the purchase of approximately 9,700 towers from AT&T, one of last remaining significant tower portfolios in the United States. Remaining concentrations

include 12,000 towers owned by Verizon and 5,000 towers owned by US Cellular.

Equity has come at an especially low cost for each of the tower companies as they generate substantial free cash flow which can be used for land acquisitions under existing towers, development of new towers, dividends, and stock repurchases. As of September 30, 2013, AMT owns the land (typically range of 2,000-10,000 sqft) under 29% of its US towers (12% total portfolio), while CCI generates about one-third of its gross margin from towers on owned land. Land acquisition is increasingly a high priority of both companies. For example, CCI has 100 employees devoted to nothing but negotiating with land owners. CCI estimates that one-third of land owners opt to sell when the lease expires and the other two-thirds extend the lease. The average remaining lease term is 28 years for CCI and the average purchase price for sites in the United States has been approximately \$100,000.

### **Overweight Towers**

We are frequently asked to explain how our approach to investing in REITs and real estate related securities differs from other REIT managers. Rarely do we find a competitor that has the depth of experience or has been associated with REITs for 40+ years in both REIT research and investment banking. We have always had a total return orientation with an opportunistic perspective geared to maximizing risk-adjusted returns. Our rigorous fundamental research, valuation analysis, meetings with management, and proprietary earnings models on the tower sector give us confidence to make it a significant position in client portfolios.

It is our opinion that the tower companies have a unique combination of low risk and high growth that warrants a premium multiple. The primary risks to this industry are tenant consolidation, inasmuch as the majority of revenues are derived from a handful of companies, and the lack of residual value in the event a cellular carrier opts to abandon a tower. New technologies could also surface that could reduce demand, but substitutes do not appear to be a major risk factor in the foreseeable future since we believe that towers strike the optimum balance of cost, signal strength, and bandwidth.

As the worldwide demand for data continues to grow exponentially, we believe the market will further appreciate the attractive risk-adjusted returns offered by the tower sector and award it a premium multiple.

*Indexes are unmanaged and have no fees or expenses. An investment cannot be made directly in an index. The funds consist of securities which vary significantly from those in the benchmark indexes listed above and performance calculation methods may not be entirely comparable. Accordingly, comparing results shown to those of such indexes may be of limited use.*

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**RMS:** 1380 (10.31.2013) vs. 1280 (12.31.2012) vs. 1087 (12.31.2011) vs. 1000 (12.31.2010) vs. 792 (12.29.2009) vs. 933 (9.30.2008) and 1330 (2.7.2007)

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