

Telecom towers as an investment opportunity



A view through the lens of the Global Listed Infrastructure Organisation



By Fraser Hughes, CEO, GLIO

The Global Listed Infrastructure Organisation (GLIO) is a representative industry body for the listed infrastructure sector, valued at US\$2-5 trillion (depending on the definition used). Founder Fraser Hughes created the GLIO to attract investors into the asset class by helping them understand what is core and what is opportunistic in an infrastructure allocation, and Fraser has consulted with friends at SBA Communications, American Tower and Crown Castle to author this guest editorial, which appears in TowerXchange and IPE Magazine.

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Read this article to learn:

- Why telecom towers are fundamental to any infrastructure allocation
- Why towers are being transferred from MNO to independent tower company balance sheets
- How mobile data consumption growth correlates growing demand for tenancies and towers
- Tracking the excellent performance of listed towercos compared with global infrastructure and global equities

Telecom towers are an increasingly important investment opportunity as they are absolutely essential to everyday communications throughout the world. Operators need to develop larger, denser and more efficient networks to better handle the rising demand for mobile services as their customers continue to gain access to advanced handsets and high bandwidth applications. This has led to a growing number of independent companies owning telecom tower infrastructure, as they can offer shared networks that can cut costs for the large mobile operators. The owners of the towers are paid rents by the operators, under long-term, typically non-cancellable contracts with annual escalators. Owning masts has become an increasingly attractive investment for private and public investors keen to put capital to work in infrastructure based assets with consistently compounding cash flows.

So, what are some of the key advantages of independently owned tower companies?

■ **Shared Infrastructure** – Owning towers is not strategic for the carriers as they are non-performing, cost-centre assets with a carrier that can be readily monetised and turned into significant cash generating assets in the hands of an independent tower company with no change in functionality for the carrier selling the towers. In addition, the present value economics of owning versus leasing favours leasing. Plus, zoning laws make it impractical for carriers to each have separate towers for every one of their sites. Shared infrastructure remains as the clear cut most efficient way to deploy today's networks, from both

a cost and technological perspective.

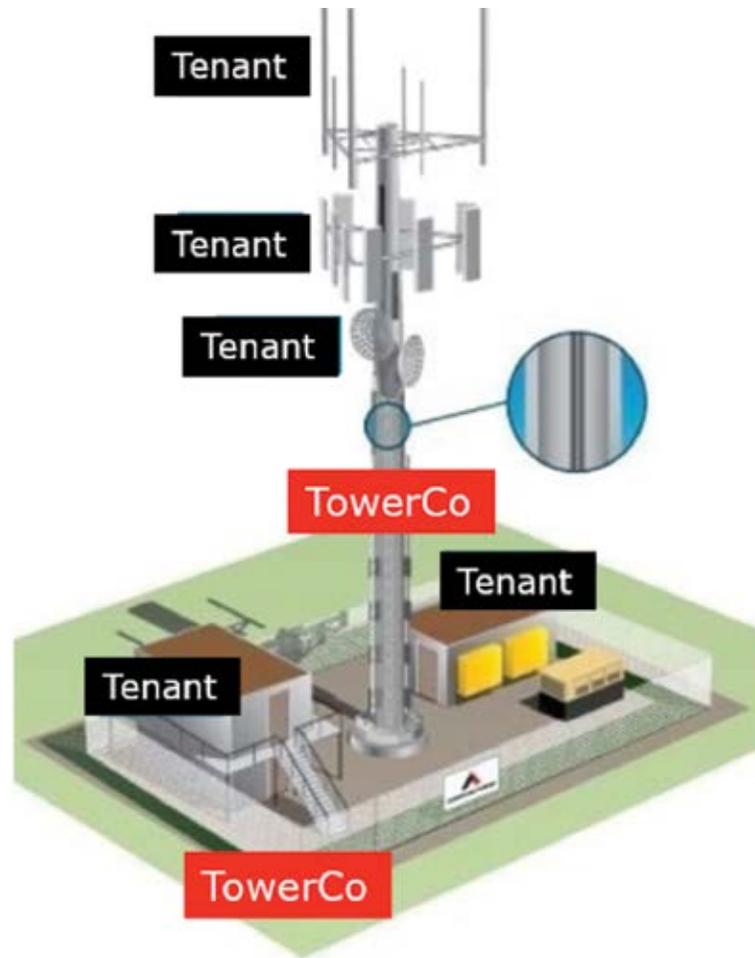
■ Importance of scale:

- in negotiating with customers, who are large, sophisticated multinationals who have a history of putting pressure on their vendors. Scale enables tower operators to offer nationwide portfolios to facilitate the density requirements of modern wireless networks;
- because it is a relatively capital-intensive business initially, having significant financial assets is important as portfolios are constructed and acquired;
- basic selling, general and administrative is not insignificant, but scalable with revenue growth given minimal incremental SG&A requirements associated with adding towers to an existing operation.
- In a broader sense, telecom tower companies are mission critical as a high percentage of mobile traffic goes through their masts. Network quality is a major factor driving customer churn for wireless carriers and consequently, it remains a key factor in carrier marketing, and will continue to be extremely important in an environment where delivering bandwidth-intensive content is a necessity to attract and retain customers.
- And finally, ESG & sustainability – Simply put, fewer towers, equals less visual pollution. Tower sharing is inherently green, more efficient and reduces the environmental impact of having redundant infrastructure.

The global market

TowerXchange tracks 264 tower infrastructure companies, who collectively are estimated to

Understanding the tower ownership structure



Owned by towerco:

- Structure, typically with capacity for 4 or 5 tenants
- Land parcel owned, or long-term lease by TowerCo
- Generators are sometimes owned by TowerCo

Owned by tenants:

- Antenna equipment
- Tenants shelters, base station equipment and HVAC
- Coaxial cable

Source: American Tower

own just under 70% of the world's 4.1 million investible towers and rooftops. Table one shows the top 15 independent companies who account for approximately 2.4 million towers themselves. State-run China Tower is the largest owner with 1.9 million towers in China. Reuters reported in May that the company has invited banks to pitch for a role in a potential IPO later in the year, which

could value the company at up to US\$50 billion. The Government would still retain a majority shareholding according to the report. Listed companies are heavily represented in the table, with US listed American Tower, Crown Castle and SBA Communications holding ranks 2, 5 and 9 respectively. Other listed companies come from Europe, India and Central America.

Table one: Top independent telecom tower companies

Rank	Comapny	Towers	Countries	Listed/Private
1	China Tower Co	1,900,000	China	IPO 2017/18
2	American Tower	150,222	Argentina, Brazil, Chile, Colombia, Costa Rica, France, Germany, Ghana, India, Mexico, Nigeria, Peru, South Africa, Uganda, USA	Listed
3	Indus Towers	122,730	India	Private
4	Towercom	45,000	India	Private
5	Crown Castle	40,085	USA	Listed
6	Bharti Infratel	39,099	India	Listed
7	Deutsche Funkturm	31,636	Germany	Private
8	GTL Infrastructure	28,000	India	Listed
9	SBA Communications	26,640	Argentina, Brazil, Canada, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Nicaragua, Panama, Peru, USA	Listed
10	IHS Towers	23,382	Cameroon, Ivory Coast, Nigeria, Rwanda, Zambia	Private
11	Cellnex	21,039	France, Italy, Netherlands, Spain, Switzerland, UK	Listed
12	edotco	18,461	Bangladesh, Cambodia, Malaysia, Myanmar, Pakistan, Sri Lanka	Private
13	RTRS	16,000	Russia	Private
14	Telxius	15,907	Brazil, Chile, Germany, Peru, Spain	Private
15	Telesites	15,142	Costa Rica, Mexico	Listed

Source: TowerXchange, as of Q2 2017

Independent telecom tower representation and developments

The Tower business is very much a global affair, and there are a number of different regions with active independent tower companies.

For example, American Tower, Crown Castle and SBA Communications have been around for 20 years or more in the U.S. These three tower specialists qualify under US REIT legislation, SBA the latest to convert this year. The US market is very well established, with independent tower companies owning close to 85% of collocate-able towers in the country according to EY.

Meanwhile, the UK market has three main independent players, Arqiva, Wireless Infrastructure Group and Cellnex, who own approximately 13,400 towers between them. According to EY only 30% of UK towers are independently owned, which could lead to potential growth in the future. For this to happen, however, industry structure and the regulatory environment would likely need to improve.

In Continental Europe, the sector is slowly forming, with the recent IPOs of Cellnex, INWIT, and Raiway as mobile operators look to cut costs and raise cash. EI Towers has been around since 2004. However, independently owned towers still only account for less than 20% of the European total according to EY, including Cellnex’ recent expansion into Switzerland with its purchase of approximately 2,200 towers from Sunrise. Parin Shah, European Telecoms Research at BAML says, “The key question for European tower operators is whether they

can deliver levels of growth on a par with other territories, while still relying largely on CPI-linked contracts. Can the decommissioning model start to significantly augment growth in markets where the organic growth opportunity may not be as attractive as the U.S. and elsewhere? Can newly liberated operator towers and derived proceeds drive incremental growth for the market? And perhaps delivering this growth leads to international players fundamentally reassessing the attractiveness of European businesses.”

Finally, in Asia, China, India and Indonesia are all well represented in the league table, with multiple independent tower companies operating in the region.

Global growth and demand for mobile data

Understanding the strong secular backdrop of growth in global mobile data is the first step to understanding the sector and why it should be seriously considered by global institutional investors. This growth, as highlighted in table two, is huge across all regions in the world. In virtually every industry, mobility is an emerging, and potentially disruptive trend. The number of connected devices per capita, the average connection speed growth, growing video usage and mobile traffic per end user (per month) are all estimated to grow at startling rates. Just looking at global connection speed growth of 24% CAGR and mobile traffic per month from at 977MB to 5.7GB (42% CAGR) will offer vast potential for telecom tower companies going forward. Just scratching the surface on potential next generation mobile

Table two: Mobile users estimates 2021

Region	Per Capita connected device	Ave Mobile connect speed growth	Video Mobile Data Traffic	Mobile Traffic per end-user (pm)
North America	2.9	1.8x or 13% CAGR (25.2 Mbps)	64% to 77%	3.4GB to 12.7GB (30% CAGR)
LATAM	1.4	3.3x or 27% CAGR (12.4 Mbps)	60% to 79%	641MB to 3.7GB (42% CAGR)
West Europe	2.7	2.5x or 20% CAGR (28.5 Mbps)	61% to 80%	1.3GB to 6.6GB (38% CAGR)
CEE	1.8	2.9x or 24% (18.4 Mbps)	60% to 79%	1.5GB to 8.1GB (39% CAGR)
MEA	1.1	2.9x or 23% CAGR (10.8 Mbps)	52% to 76%	472MB to 4.6GB (57% CAGR)
Asia-Pacific	1.4	2.1x or 16% CAGR (20.4 Mbps)	60% to 78%	810MB to 5.2GB (45% CAGR)
Total	1.5 or 12 billion total people	3x 24% CAGR (6.8 to 20.4 Mbps)	60% to 78%	977MB to 5.7MB (42% CAGR)

Source: CISCO VNI Global Mobile Data Traffic Forecast, 2016 to 2021 (Published Feb 2017)

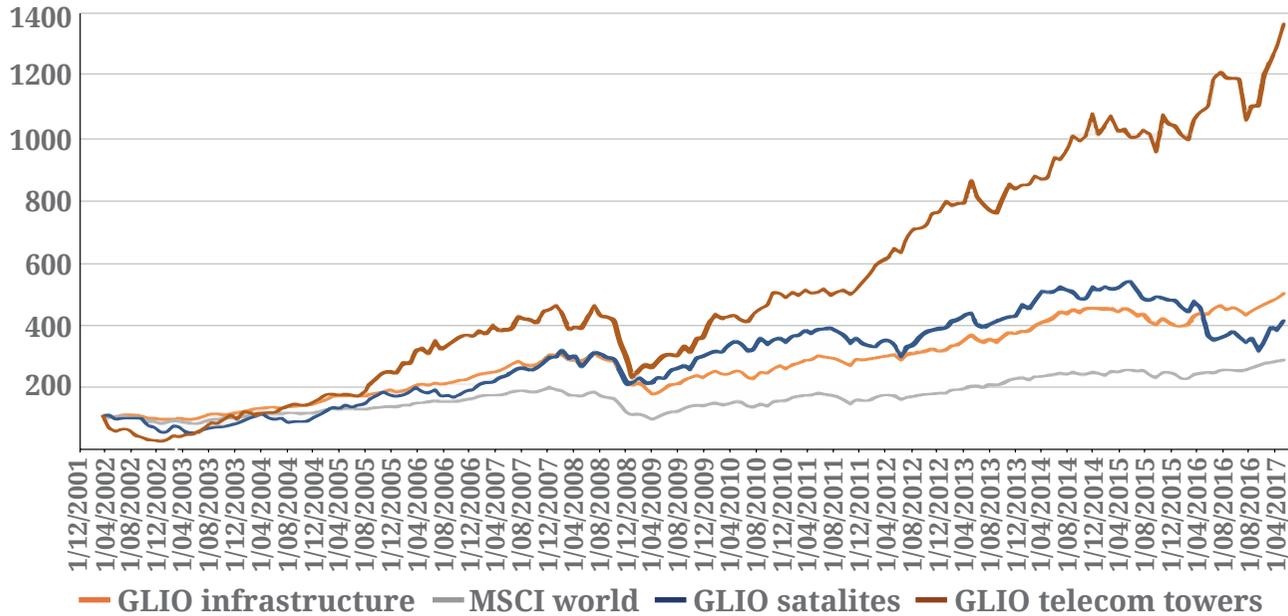
network applications: the internet of things, augmented reality, self-driving cars (you don't want buffering issues!), provides some idea of the potential demands on capacity.

To help address the massive network demand growth, wireless carriers and other customers within the mobile ecosystem are expected to utilize incremental space on telecom towers while also growing the number of sites they have within their respective networks. Part of this entails the deployment of new spectrum and the optimization

(re farming) of existing spectrum bands and the associated equipment required to deploy this spectrum. Empirical data shows carriers can most efficiently, both in terms of time and capital, achieve this by layering this on top of their existing locations (masts), leading to incremental revenue and cashflow for the tower companies. Existing sites are designed around these spectrum bands, serve the existing customer base, include fiber/microwave backhaul investments, and have requisite power and security in place. Further, as mobile data usage grows, networks must become denser, so carriers

Chart one: Telecom towers versus listed infrastructure and general equities

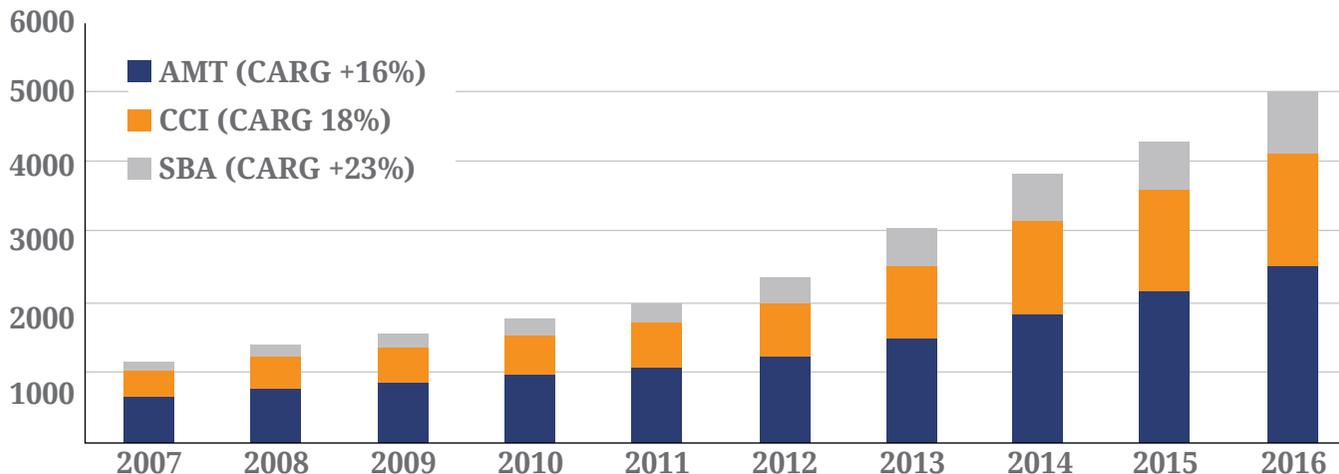
Global infrastructure, telecom towers, satellites v global equities 2002-2017 total returns



Source: GLIO and Reuters

Chart two: Consistent Y-O-Y AFFO growth

AMT, CCI & SBA AFFO growth - 10 years



Source: AMT, CCI and SBA

are also expected to place equipment on additional masts over time where they may not already have equipment installed.

Importantly, the physics of signal propagation underlies the demand case for towers, both today and in the future, given the need for a high point to propagate signal over various spectrum bands in the vast majority of topographies. Unless these properties of physics are fundamentally altered (currently, there are no indications of this), more equipment must be located on towers in the future to meet growing network usage, over and above the available incremental spectrum, and spectral efficiency improvements. The bottom line is that by 2021, industry projections suggest that there will be nearly 12 billion mobile connected devices globally, which is approximately 1.5 device per capita; an immense statistic.

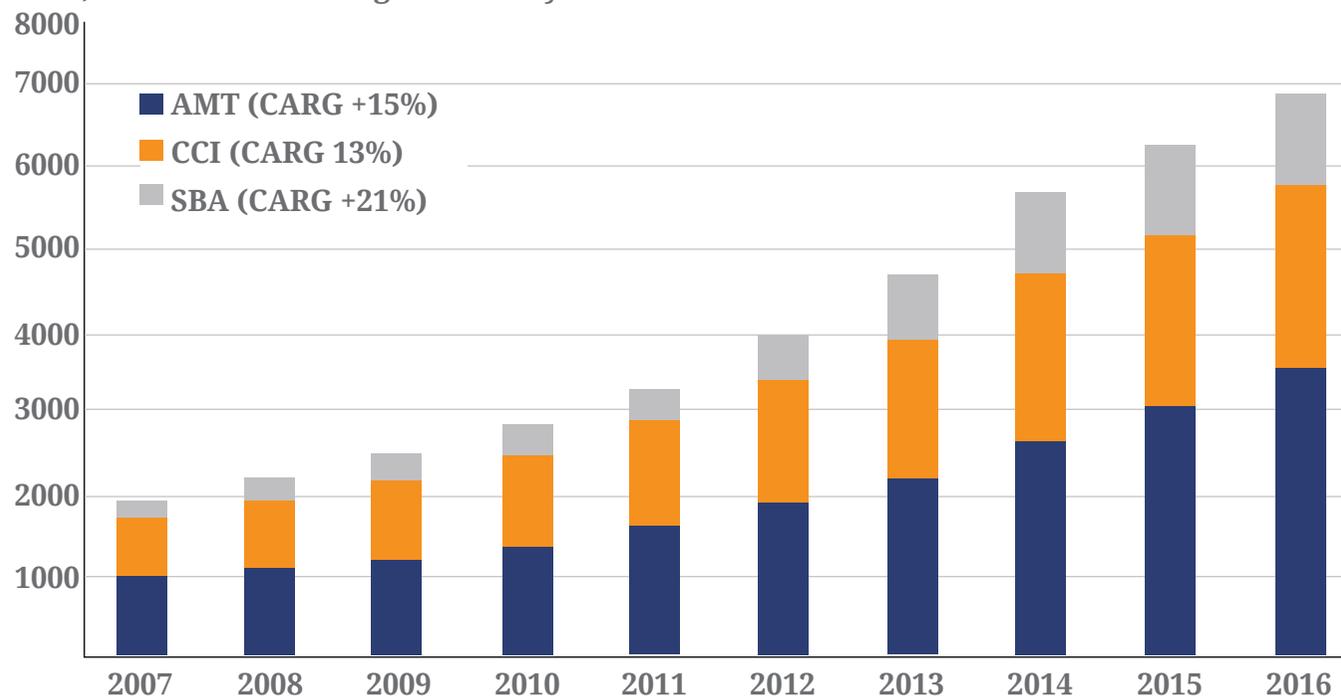
Listed telecom towers investment case

Telecom towers (which comprise the majority of the GLIO Telecom & Satellites sector) represent the fifth largest sector in the GLIO infrastructure coverage and are fundamental to any infrastructure allocation. Manoj Patel, Managing Director at Deutsche Asset Management indicates the importance of the sector in his infrastructure strategy; “we believe telecom towers play a primary role in a broader allocation to global infrastructure. Wireless communications have developed into an integral part of the essential framework of the global economy, and this will become even more vital going forward as future technologies emerge and the listed tower companies are ideally placed to take advantage of this.”

Chart three: Consistent Y-O-Y adjusted EBITDA growth

Source: AMT, CCI and SBA

AMT, CCI & SBA EBITDA growth - 10 years



The long-term track record of the large US based tower companies has been more than impressive, as seen in chart one and table three. Even ten year annualised total returns, which include the time periods around the global financial crisis, range between 12%-16% pa. The periods around the GFC are truly phenomenal, as tower companies tended to materially outperform most other sectors as seen in chart one. Underpinning the growth of share prices are the underlying performance metrics of Adjusted EBITDA and Adjusted Funds from Operations (AFFO). Charts two and three show a consistent, stable and steady growth across these two metrics for the three major US tower companies.

When building a sensible allocation to the sector, investors will also look for a proven track record in terms of shareholder return performance and management expertise. The access to the size, expertise, diversification and global network

Table three: Annualised total returns of global listed tower companies

Company	Country	No Idx	MC \$bn	FF MC \$bn	FF Wght	Yeild	Beta	1 Year	3 Yrs	5 Yrs	7.5 Yrs	10 Yrs	12.5 Yrs	15 Yrs
American Tower	USA	4	53,526	50,314	49.6%	2.0%	0.74	26.6%	15.7%	17.1%	18.3%	12.8%	18.0%	27.4%
Crown Castle Intl	USA	4	34,185	27,348	27.0%	4.0%	0.54	16.6%	14.0%	15.9%	16.3%	12.0%	16.5%	24.1%
SBACommunications	USA	4	15,335	14,108	13.9%	0.0%	0.81	39.0%	10.8%	21.6%	21.5%	15.7%	23.8%	35.4%
Uniti Group	USA	2	4,818	3,806	3.8%	8.7%	-	9.2%						
Cellnex Telecom	Spain	4	4,093	2,497	2.5%	0.5%	-	29.6%						
INWIT	Italy	4	3,319	1,328	1.3%	2.9%	-	24.7%						
RAI way	Italy	2	1,428	1,000	1.0%	3.2%	-	10.5%						
El Towers	Italy	3	1,631	979	1.0%	3.4%	0.77	14.2%	13.3%	28.7%	21.2%	-1.7%	9.4%	
Grand total & sector total returns (USD)			118,335	101,379	100.0%	2.5%	0.72	24.5%	13.5%	16.8%	17.7%	12.5%	18.1%	26.9%

Source: Reuters

exposure offered by the listed telecom companies is unparalleled. In simple terms, it would take decades and US\$100s billions to replicate the network that they currently offer investors. Transparency, liquidity, yield and cost efficiency bolster the case.

Summary

Telecom Infrastructure is a fundamental part of any global infrastructure allocation. It offers exposure to essential economic assets and services and leverages the exponential secular growth in global wireless usage as a key driver of demand. Looking forward, it seems likely that the percentage of independent tower companies will grow both in the listed and unlisted markets, along similar lines as we've seen in the USA over the past 15-20 years.

Looking at the listed telecom towers performance, telecom infrastructure has provided sustainable, long term growth fundamentals which have subsequently generated impressive total shareholder returns for an extended period. Tom Bartlett Executive Vice President, and Chief Financial Officer of American Tower sums up, "we are excited about the long-term growth prospects for our global tower assets and are focused on continuing to translate the secular growth in wireless communications into compelling, consistent total returns for shareholders. Whether in Delhi, Sao Paulo or Boston, our communications infrastructure is optimally positioned to serve as the backbone of today's advanced wireless networks" ■

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GLIO sector breakdown

Sector	FF MC \$bn	FF Wght	Yield	Beta
Electric Utilities	574,631	34.1%	3.8%	0.53
Ground Freight	237,816	14.1%	1.9%	1.10
Oil & Gas Distribution	233,685	13.9%	3.9%	0.95
Multiutilities	163,821	9.7%	4.5%	0.69
Telecom & Satellites	119,446	7.1%	2.9%	0.77
Ground Transportation Services	96,199	5.7%	1.3%	0.81
Gas Utilities	69,013	4.1%	2.7%	0.74
Highways & Railways	58,137	3.5%	3.9%	0.83
Airports	56,922	3.4%	2.7%	0.87
Water Utilities	49,478	2.9%	2.9%	0.73
Marine Ports	15,804	0.9%	3.9%	0.84
Construction & Engineering	4,612	0.3%	1.4%	0.73
Environmental Services & Equip	4,248	0.3%	4.0%	0.65
Grand Total	1,683,810	100.0%	3.3%	0.77

Source: Reuters