Tech Markets 2.0

A new generation drives demand and diversification

Introduction

The growth of technology companies has produced strong demand for highly educated workers, and the real estate markets where they can be found have been among the nation's best performers throughout the current cycle. Home to large numbers of experts in the fields of science, technology, engineering, and mathematics ("STEM"), assets in markets like Boston and San Francisco have consistently produced industry beating total returns. These strong returns have been driven by surging real estate demand as rising employment and outsize wage gains have boosted consumer spending and increased the need for housing and office space. The core tech markets, however, have not been the only beneficiaries of strong demand for STEM workers. A number of other tech hubs have emerged, often specializing in fields such as defense, media, or robotics. As these new entrants reshape the landscape of American industry the phrase "tech markets" itself may soon become outmoded, replaced by references to individual industries. Markets where STEM workers remain a small portion of the employment base have also benefited from the spread of tech jobs to industries where technology previously played a minor role. The net benefit to investors is a new generation of markets with positive long term growth factors that offer the ability to diversify beyond the traditional tech markets and develop focused investment strategies for specific STEM-driven industries.

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The NextTech Markets

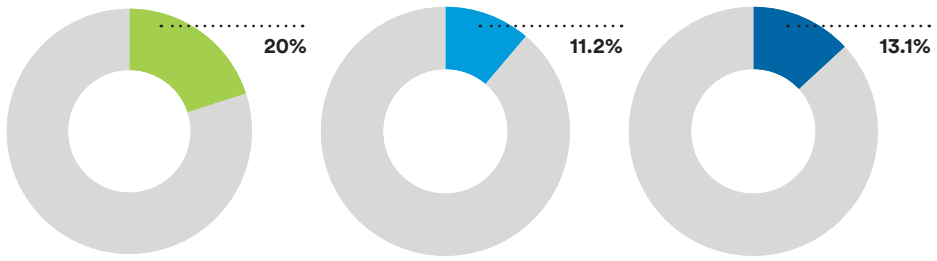
Prior to the last few years, discussions about growth in the tech sector focused on only a handful of markets. These "Core" tech markets, Austin, Boston, Raleigh, San Francisco, San Jose, and Seattle, play host to the headquarters of some of the tech industry's biggest names including Apple, Google, and Microsoft. Over the last two decades these industry giants, and the ecosystems they have nurtured, have provided their highly educated workforces with valuable experience. Many of these workers, with the assistance of active venture capital communities, have branched off on their own, founding new household names and creating a virtuous cycle of innovation and job creation that has fueled strong demand for commercial real estate. Growth in the tech sector, however, has not been localized strictly to this small group of markets. Highly compensated and in high demand, STEM workers are among the most mobile members of the labor force, and many have taken advantage of that mobility to seek out opportunities across the nation.

The core tech markets remain a major engine of STEM job growth, but they are no longer alone in this role, a topic discussed in the October 2015 edition of our *Real Estate Investment Strategy Quarterly*. During the three year period from 2014 – 2016 the nation produced more than 490,000 new STEM jobs, but less than one third, or 145,000, were produced in the core tech markets.[1] The remaining 345,000 were produced broadly across the United States, particularly in a group of emerging tech hubs we have designated the "NextTech" markets. Situated along both coasts and in numerous locales in between, these markets mimic those of the core during an earlier stage of life. Often supported by strong university systems, enjoying substantially lower costs of living, and benefiting from the skill and experience of transplants from the core, the NextTech markets have witnessed a rapid increase in STEM employment over the last three years. These increases are gradually reshaping their local economies as STEM employment makes up an ever greater share of the total.

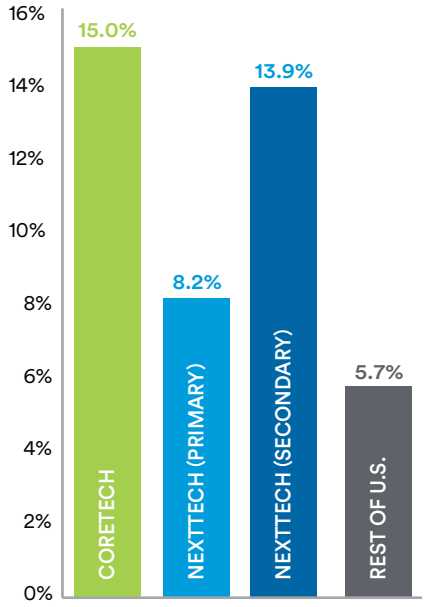
Exhibit 1 | Tech Markets by Generation and Tier

CORETECH	NEXTTECH (PRIMARY)	NEXTTECH (SECONDARY)
Austin	Chicago	Charleston
Boston	D.C. Metro	Indianapolis
Raleigh-Durham	LA Submarkets	Pittsburgh
San Francisco	Oakland	Salt Lake City
San Jose	San Diego	
Seattle		

STEM Employment Growth as a Share of Total (2014 - 2016)[2]



STEM Employment Growth (2014 - 2016)[2]



Sources: MetLife Investment Management, Moody's Analytics, Bureau of Labor Statistics.

The core tech markets still top the table in terms of the rate of STEM growth and its role in their local economies, but many of the NextTech markets are not far behind. During the last three years STEM jobs accounted for 20% of total job growth in their metros, compared to 11% in the primary NextTech markets, 13% in the secondary NextTech markets, and just 4% elsewhere in the United States (Exhibit 1).[3] When examining individual markets, shifts in the local economies of the NextTech markets become even more apparent. During the same three year period STEM jobs accounted for 14.6% of total growth in Washington, DC, 18.7% in Salt Lake's sister city of Provo, and a whopping 44.1% in Pittsburgh.[4] Charleston and Indianapolis have witnessed significant changes as well, both generating more than 8% of their job growth from 2014 – 2016 from STEM fields.[5]

The Specialization of STEM

Markets like Chicago, Washington, D.C., Los Angeles, and San Diego each conjure up distinct images in our minds, none of which seems to suggest rapid growth in STEM employment, at least not initially. When we remember that San Diego and the D.C. metro are home to large concentrations of the nation's military infrastructure, the weapons and aerospace manufacturers who supply them, and the cybersecurity experts who protect their secrets, the need for scientists, mathematicians, and physicists becomes clear. Similarly, if we recognize that the entertainment industry now spans far beyond music and broadcast television to streaming channels, video games, and independent content creators, the many web developers and programmers in Los Angeles submarkets like Playa Vista and Santa Monica come as little surprise. Chicago too is rarely first thought of as a hub of tech industry growth, but given its strong universities and the presence of major tech names it clearly deserves a place in the conversation. STEM employment has grown rapidly not only in the nation's largest cities, however, with many secondary markets undergoing even more substantial transformations.

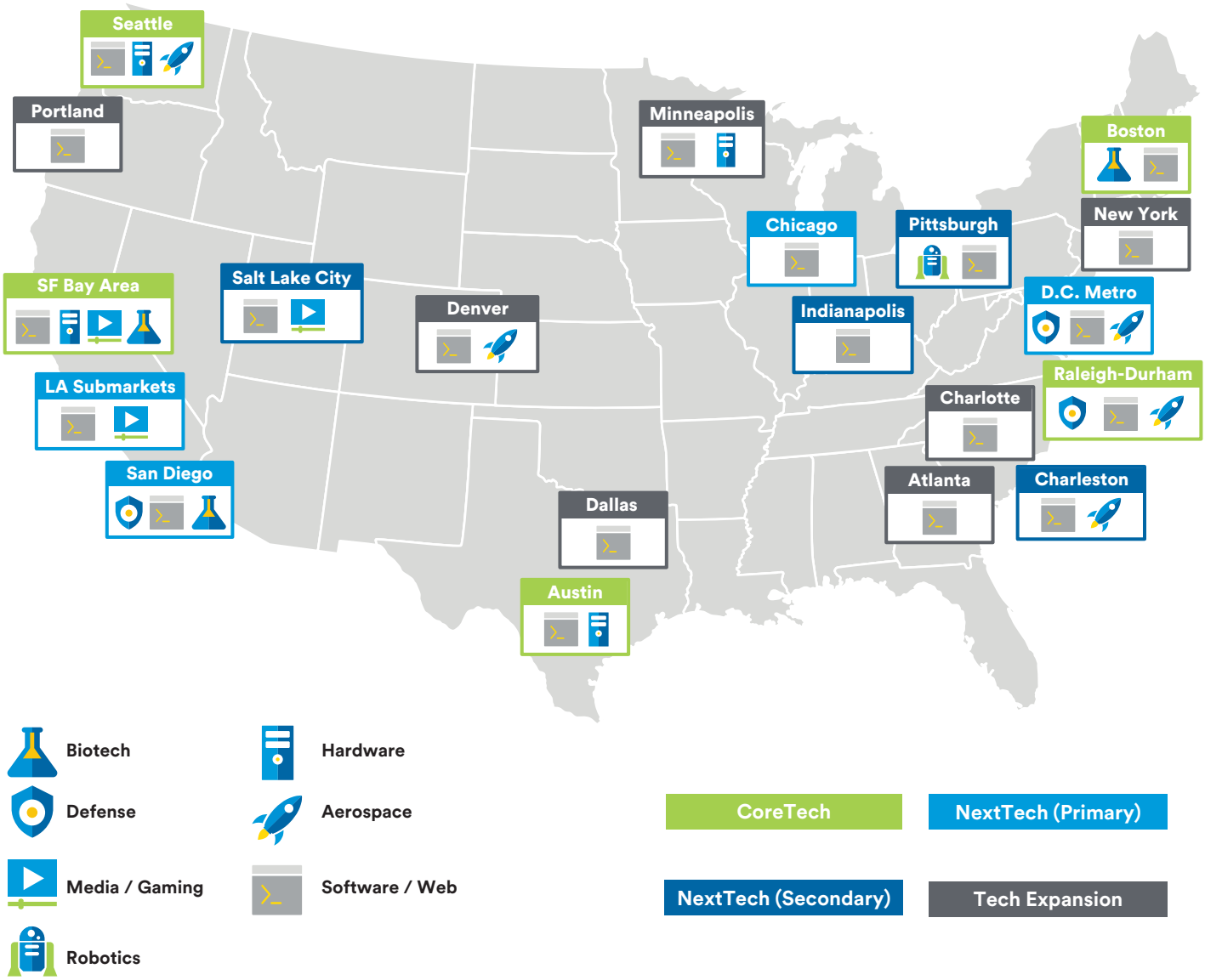
While Salt Lake City ("SLC") has long held a reputation for entrepreneurship, the burgeoning retirement haven of Charleston, Midwestern stalwart Indianapolis, and historically steel-centric Pittsburgh have rarely been equally regarded, but we believe those sentiments are changing. The "Silicon Slopes" of SLC offer a skiers' Shangri-La in addition to employment opportunities at Adobe, the purveyors of industry standard photo and video software, and internet retail giants eBay and Overstock.com. The tech scene in Indianapolis, underpinned by the presence of Interactive Intelligence and a growing contingent from Salesforce, is buffeted by the metro's low cost of living. Pittsburgh, home to Carnegie Mellon University and the nation's foremost robotics researchers, is at the forefront of what is likely to be the next great technological innovation. Google, the virtual reality division of Facebook, the animatronics unit of Disney, and the self-driving car division of Uber have all set up shop in the metro. Charleston, a favored destination for retirees, is also home to an active start-up scene and boasts a 7,500 strong contingent from Boeing that has led to the development of a growing aerospace sector.[6]

Unlike some of the core tech markets, which are home to nearly all segments of the tech sector, the NextTech markets each exhibit specializations in one segment or another. As this degree of specialization intensifies, and the tech sectors of the NextTech markets claim an ever greater share of their economies, we believe that the "tech market" designation itself may become outmoded. In the near future it may be far more appropriate to refer to them as defense markets, biotech markets, or robotics markets (Exhibit 2). We believe the fortunes of these specific industries, not those of an ambiguous and amorphous "tech sector," will drive future STEM job growth and commercial real estate demand.

The emergence of the NextTech markets and their specializations offers investors the opportunity to tailor their risk and investment strategies in ways previously unavailable. By

gaining exposure to the NextTech markets they can maintain an overweight toward high-income STEM jobs while reducing the risk presented by concentrating their investments solely in the core tech markets. Similarly, by recognizing the specializations of the Core Tech and NextTech markets investors can expand their opportunity set by focusing on the future of individual industries and technologies. As many of these markets remain early in their transitions toward STEM, investors are likely to enjoy this opportunity for several years. As is often the case, however, early movers are likely to see the greatest benefit in both net operating income and value growth. Advancements in technology are also yielding benefits elsewhere in the United States as STEM jobs move beyond traditional tech companies to all areas of American industry.

Exhibit 2 | Core and NextTech Markets (Icons Depict Specializations)



Source: MetLife Investment Management

STEM Beyond the Tech Markets

As new tech hubs emerge, STEM employment continues to grow rapidly in many areas where it remains a small share of the overall economy. San Jose and San Francisco generated the largest number of STEM jobs from 2014 – 2016 at approximately 42,700 and 38,700, respectively, but the third place finisher was New York with 22,100. Not far behind was Dallas with 20,400 and Atlanta with 14,800. While STEM employment comprises a relatively low 5 – 6% of the total in these markets, the raw number of new STEM employees has helped to fuel strong office, apartment, and retail demand growth. Many of these jobs were created by established tech names and many others came from lively startup scenes, but more were generated by areas of the economy rarely associated with technology.

Previously working almost exclusively for software, hardware, pharmaceutical, and high tech manufacturing companies, STEM workers are becoming increasingly ubiquitous across industries. From entertainment to physical distribution, nutrition to consumer appliances, and a host of others, STEM workers continue to make their presence felt. They have collaborated in developing new products, the means to deliver them, and the advanced communication tools necessary to sell them to businesses and the public. As the spread of STEM jobs continues throughout the economy we believe that they will continue to support real estate demand in markets across the United States and eventually add new names to the growing list of NextTech markets.

Conclusion

The tech sector remains ever-evolving, as does the breadth of its impact on commercial real estate. The rapid growth of STEM jobs has produced strong real estate demand and impressive returns in the Core Tech markets throughout the cycle, but the desire for exposure to the trends driving those markets is tempered by the fear of concentration risk. We believe the emergence of the NextTech markets offers investors the opportunity to reduce that risk while benefiting from the same underlying trends. The shift towards specializations in these markets further offers investors the opportunity to place strong bets on the technologies of the future and the real estate demand their success will generate. So long as technological innovation remains the driving force behind economic growth so too will it drive real estate demand and the potential for enhanced returns for those who target it.

Endnotes

[1] MetLife Investment Management, Moody's Analytics.

[2] Excludes data for the Los Angeles Metropolitan Area.

[3] MetLife Investment Management, Moody's Analytics.

[4] Ibid.

[5] Ibid.

[6] ABC4 News, Boeing SC: 10 times the employees in just three years, February 17, 2015.

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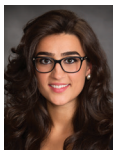

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