



WHITE PAPER • JULY 2018

# AI Invades Real Estate Impacting Companies, Talent Recruiting

MARTY NASS, MANAGING PARTNER, GLOBAL REAL ESTATE PRACTICE



Artificial intelligence is in the news. It's mostly associated by the general public with the intriguing notion of self-driving cars and sentient robots in television and films. What artificial intelligence, or AI, actually is, though, is simply the theory and development of computer systems that can perform tasks that normally require human intelligence.

In short, AI "thinks."

Those tasks and functions include some obvious even to the layperson, such as visual perception, speech recognition, decision-making and translation between languages. But AI is developing at an almost blinding speed, and its increasingly complex predictive capabilities are being nurtured and utilized by a wide variety of businesses and industries with an eye on its potential for profit.

In fact, Tractica, a market intelligence firm that focuses on human interaction with technology, predicts that annual worldwide revenue from AI will be \$38.8 billion by 2025, up from \$643.7 million in 2016. Not only that, a 2017 Forrester report predicts that over the next 10 years AI will create 15 million new jobs in the US alone.

AI is everywhere and having an impact in disparate industries, including:

**Pharmaceuticals** – Eli Lilly and Merck have launched initiatives with IT startups to sift through millions of compounds to determine which are most likely to succeed, increase the rate of development and decrease the time to market, all at a lower cost than in the past.

**Retail** – A grocery store chain in the UK is using AI from a German company to set pricing daily for every product in every store and refill inventory based on advertising, holidays and even the weather.

**Law** – Many law firms are using AI to streamline processes, discovery and documentation. They are making active use of software to access algorithms and databases for research, and to speed the resolution of complex legal problems. Once massive law libraries are being reduced, if not eliminated altogether, along with the clerks who staffed them.

**Call centers** – The automation of call centers is an example of relatively early AI adoption. It has progressed to the point that companies such as Progressive Insurance, Wells Fargo and Hilton Hotels are using systems capable of analyzing a caller's tone of voice, the rate at which they speak, keywords they use and even their grammar to route calls to the appropriate agent, reducing call times by almost 25%.

## AI in real estate

**Travel** – The travel industry is one whose disruption by technology was early and very nearly complete, with travelers now routinely accessing travel sites that compile and monitor data on pricing. According to the Bureau of Labor Statistics, the number of full-time travel agents in the US fell from 124,000 in 2000 to approximately 74,000 in 2014. Planning, organizing and purchasing travel by oneself is now the norm.

**HR** – AI is being used to streamline search, interviewing and onboarding talent. Online simulations are being used to predict a potential employee's performance and cultural fit based on more intangible human qualities, such as empathy and attention to detail.

And finally, the larger point of this paper, real estate, where AI is a strong focus within companies large and small.

Real estate is playing a game of catch-up. Organizations are actively looking to advance their technological capabilities to find, improve, build and manage buildings better and more profitably. The need for talent permeates every sector of the real estate industry, and that talent is in such short supply as to be critical.

What's happening with AI in the real estate industry right now is revolutionary and finding talent will become only more crucial in bringing it into the 21st century and beyond.

"Anything that can be automated and disrupted will be," says Mike Hart, Senior Vice President and National Director – Data Management & Technology Operations for JLL.

"Residential, commercial and industrial real estate is in the midst of an AI revolution that will transform the industry," he says. "Purchasing a home, managing properties, finding office space and building, designing and utilizing industrial facilities are processes that are being impacted by AI, and its use throughout the real estate landscape will only grow."

Rob Golterman, President of DCM Group, a commercial real estate firm in St. Louis, Missouri, notes that on a hands-on level, "AI has affected everything from improving workplace efficiency and strategy to how employees are working within an office setting. It's enabled companies to monitor and adapt on a factual basis rather than a perceived one."

### **Residential**

Technology exists that allows a realtor to not only identify the people who click on an ad, but instantly assembles data based on their shopping habits, recent purchases and their history of home ownership. More than 100,000 data points can be gathered, monitored and analyzed in real time to determine the commonalities that exist amongst all those people, then seek out others who fit that profile. This suddenly larger pool of potential buyers is then specifically targeted with digital ads customized to their demonstrated tastes, preferences, etc.

"We can tell everybody [who] lives within five miles of your home who has the basic means and motivation to want to buy your home," says Jack Ryan, cofounder and CEO of REX Real Estate Exchange, based in Woodland Hills, California.

The system also determines which features about a home or neighborhood may increase its value, and the probability of selling it faster. Additionally, this AI-driven system allows Ryan's company to charge a commission rate that's lower than what real estate agents typically charge.

Technological innovation in residential real estate is not limited to home purchases. Management of large multi-family rental properties has been made easier, and more profitable, through more efficient maintenance and less turnover.

Zenplace, for instance, is a dashboard that regularly updates building owners on issues that need attention, such as a water heater that may start leaking in three to six months, based on usage and lifecycle. It also presents options for dealing with the matter at hand and includes online options for tenants to pay their rent, renew their leases and report issues.

Zach Aarons, cofounder and partner at MetaProp, a real estate technology company based in New York City, says, "We are still dealing with physical assets, so 100% of [management and maintenance] won't be able to be automated. The work that property managers do at their desks, however, can eventually become fully automated."

This aspect of real estate technology has drawn the attention of investors and access to their capital. New York-based VTS, a company that centralizes data and workflows to help property owners retain tenants, recently merged with Hightower to create one of the largest real estate technology companies in the industry, valued at about \$300 million.

### **Commercial**

The process of finding and leasing office space has always been slow, but AI is empowering companies to change that. Andrew Beermudez, Digsy AI CEO and cofounder, says, "Software can create efficiencies, but AI can find where the efficiencies can be created."

Digsy AI is an AI-powered prospecting automation platform for commercial real estate. It provides brokers with best sales practices for converting prospects. It works in conjunction with any CRM to create a simple and easy-to-use digital assistant that reduces the amount of time agents traditionally expend, especially during prospecting.

The system automatically collects data about every broker's daily processes, making it easier for them to prospect without having to comb through other systems, such as Outlook. One example of the efficiencies that Digsy made available was through the discovery, through data analysis, that when a recipient opens an email three times or more there is a markedly higher chance of conversion. Agents are alerted when that third open happens and directed to make a call immediately.

Not only is AI reshaping business processes, it is being utilized to make those newly automated processes pay. AI-driven IoT is being used to create "smart buildings," both in new construction and in retrofitting or updating existing properties. Intelligence-based automation leverages sensors and intelligent technology to create efficiencies that save heating and cooling costs for tenants.

“Smart buildings include things like predictive maintenance that keeps buildings running more efficiently, which leads to better capital asset planning decisions,” says Brian Axford, Global Director of Digital Workplace Strategy for Cushman & Wakefield. “How money is spent on a building is based on that predictability. Sensor IoT technology can also tell us where people gather in a building, identify chokepoints and overused and underused areas and then create a better building based on that information. That helps us to not only manage the building better, but also build even better ones for our clients.”

Axford says that AI has enabled commercial real estate firms to be proactive in the whole lifestyle of their buildings. “Making those processes even smarter and more intelligent helps clients utilize space better and do it in such a way that it helps grow their businesses, too.”

### **Industrial**

E-commerce has sparked an evolution in warehousing and distribution centers. Not only has much human capital been replaced by robotics, real estate and construction in this space is being developed with AI technology in mind.

Prologis is an international logistics company operating approximately 700,000,000 square feet of industrial space around the world, working with manufacturing and distribution companies on the timely delivery of the products. They recently replaced their chief information officer with a chief technology officer.

The role changed, Diana Scott, Chief Human Resources Officer, says. “We have a global footprint that gives us scale. We have buildings in multiple markets in 20 countries and there is a treasure trove of information that exists. Because of that we must think about our business differently. We needed someone who has used data and understands how to manipulate it. Someone to use the power of technology and computing to gain insights from the data we gather about what flows through our buildings.”

Over \$1 trillion worth of goods pass through Prologis’ properties, and the international aspect of their business, and the complex data it generates, calls for technology talent that must do more than locate buildings for the maximum convenience of their customers and their customers’ customers. “It also has to help us get smarter about managing our business because it can give us better insights,” Scott says. “If we learn how to monetize that data in a way that makes us smarter because of how we are using AI, then that potentially creates a whole new revenue stream for us.”

Hart agrees, saying, “AI simplifies tasks, such as review of complex leases, and streamlines the abstraction and integration of error-free data. The availability of clean data within systems makes forecasting and reporting significantly easier and helps make smarter business decisions.”

## Is experience in real estate necessary?

For the most part those charged with developing or utilizing AI to gather, process and analyze data to improve internal processes do not necessarily require a real estate background.

“How many years someone has worked within any given field doesn’t necessarily have a direct correlation to that person’s ability or willingness to adapt to using AI in the workforce,” Goltermann says. What’s possibly more relevant is “some sort of technology background, either through specific degree programs in college or a familiarity that has been picked up over time through prior positions that gave them the opportunity to work with AI and be forward-thinking in its application.”

JLL’s Hart believes that as AI technology continues to become a bigger part of the everyday work of real estate professionals, they will need to become more tech-savvy and willing to adapt newer technology as it becomes available. “In an industry that is notoriously slow toward adopting technology, this will be a challenge for some,” he says. “It will no longer be enough to be the most knowledgeable about the value of square footage and cap rates. There will be an increased need for understanding AI technology and how it can be used to help business.”

Axford makes an even more salient point when he says, “Data without visualization is not very helpful, and neither is data that’s not visualized in a way that helps our clients.”

Developing efficiencies as a commercial real estate firm will primarily mean using insights gathered from data and using it to help clients make better real estate decisions. “That’s how we add value to our company,” he says. “We are able to take data and use it to explain to a client why we recommend that they move in a certain direction, including whether it’s important to buy or lease a particular building or space, or move to another area or region.”

Goltermann adds, “If you are trying to sell, obtain and retain business you have to use things that set you apart, and I have found that AI is one of those things because it gives you factual data points and the ability to adapt quicker, in everything from workplace culture to efficiency to design.”

It’s at the management level where experience in the real estate industry and a functional understanding of technology, even if it is from a high-level perspective, combine to create something of a new position for someone who straddles business process and tech data roles.

## Where will the talent come from?

Grant Stevens, Managing Director, Global Construction and Development Services for Prologis, says, “I think that the biggest challenge is going to be the availability of talent. It’s relatively new, and the number of people enrolled in IT, engineering and computer science in the education system is growing, but not enough to keep up with demand.”

According to the latest 10-year Bureau of Labor Statistics projections, two of the top three growth industries are management, scientific and technical consulting services, and computer systems design and related services. Much AI talent is currently in big tech companies and these potential candidates are naturally drawn to the Googles and Facebooks of the world. All industries are placing huge bets on AI, though, and current data scientists in the workforce are just as likely to prefer striking out on their own to building the AI capabilities in traditional industries, including real estate.

Stevens believes that the very nature of technology attracts people who are drawn to disruption and innovation, so companies will need to nurture such a corporate culture themselves to attract, hire and retain those people, especially in this “interim period.”

“It’s an attitude that has to be embedded throughout the whole organization,” he says. “We look at innovation as everybody’s job and we are rewarding people for being innovative and open to new ideas and change.”

Until new talent is available, companies must search for candidates in other businesses and industries who have been part of this aspect of technology’s evolution. Stevens advises that, “if a company’s DNA is one that values innovation, then good talent and expertise in data and artificial intelligence and analytics would want to work there. I think those positions are going to be very tough roles to fill over the next few years, but if a company values and rewards innovation, and values data as an opportunity that can be monetized, then I think that finding, hiring, recruiting and retaining talent is going to be easier.”

“We could potentially become the Bloomberg of real estate if we learn how to monetize that data in a way that makes us smarter,” Scott says. “Because of how we are using blockchain machine learning, AI gives us insights that we can use to create whole new revenue streams for us.” She also believes that recruiting from other industries, such as retail, banking and financial services, in which people have gained experience in utilizing and monetizing vast amounts of data, are logical areas to find candidates for positions in commercial and industrial real estate, from hands-on, data scientist kinds of roles to senior level management of those workforces.

Goltermann even goes so far as to say that sales professionals, for instance, who have proven adept at incorporating technology into their field could bring that experience and proficiency to real estate.

Millennials with technology degrees will be entering the workforce in even greater number, and that demographic's preference for nontraditional work environments and corporate cultures is well known. That means that successful recruitment of these candidates will drive culture change in the real estate industry. It may not be a sea change, but it will require a new mindset in an industry that has been, as Hart describes it, "a relationship business with opaque data. But as more data is available around activity in the markets and transactions, people with the right skill sets and mindsets will gravitate towards our industry because there is so much opportunity for change in this space."

## Conclusion

Artificial intelligence has become a tool for real estate companies to develop and utilize advanced technologies to monetize very nearly every aspect of their business. It has also created a yawning internal need for new people with these new skill sets.

The current challenge in data and data science is finding candidates with skill sets that enable them to take raw data, process it through a tool and produce something of value to those charged with making business decisions. "That's a unique skill set," says Axford. "It's business process and data manipulation and data science and visualization. That's a unique combination and finding people who possess that is going to be hard."

Golterman asks, "Are you willing to hire those who are willing to adapt and willing to learn, with experiences in implementing or using systems in fields that have been more forward-thinking when it comes to technology than real estate?" Working professionals who have had an opportunity to work in AI, even for short periods of time, should be able to demonstrate their ability to use that experience to increase productivity, efficiency and the implementation of it, driving positive results throughout their work history.

The demand for people with the vision, intelligence and knowledge needed to develop and implement the deployment of artificial intelligence is high, but those people are few and far between for now. HR consulting firms are being asked to search for candidates from a very small pool, and so many firms are developing practice areas specifically designed to meet their clients' needs in this area.

In whatever role and for whomever these new hires work, there are some overarching givens: for the time being AI talent is relatively scarce, the need for it will only grow, and businesses and industries need them now. Whether tasked with developing technology or adapting existing systems to the needs of a specific industry, the talent required to develop AI, and manage those who do, must be fast-thinking and nimble.

So must the real estate firms that require this talent. Meeting that need will only be possible through partnership with a search firm that demonstrates a deep understanding of the crucial nature of the real estate industry's evolving IT needs, and the imagination and resources to find talent globally, and in perhaps unexpected places.



More than ever, the real estate industry must operate within a much larger framework of possibility when it comes to adoption of technology and talent. The need for guidance in the search for, and recruitment and hiring of, those who will help companies make this leap is just as crucial. Only by doing so is success in the new world of data-driven outcomes possible.



Established in 1989, DHR International is one of the largest retained executive search firms in the world, with more than 50 offices around the globe. We conduct search assignments at the board of director, C-level, and functional vice president levels. DHR's renowned consultants specialize in all industries and functions in order to provide unparalleled senior-level executive search, management assessment and succession planning services tailored to the unique qualities and specifications of our select client base.

**DHR International**

Worldwide Headquarters

71 South Wacker Drive

Suite 2700

Chicago, IL 60606

P 312.782.1581 • F 312.782.2096