

# PERSPECTIVES ON CONSTRUCTION & REAL ESTATE TECH

MARKET UPDATE | Q1 2020



# Houlihan Lokey's Team Focused on **Construction & Real Estate Tech**



#### **Construction & Real Estate Tech**

**Data & Analytics** 



**Vik Pandit** Director TMT New York



**Dan Dresner** Vice President TMT New York



**Prashant Kalantri** Associate TMT New York



**Andy Kim** Financial Analyst TMT San Francisco



Craig Muir Managing Director Data & Analytics New York

TMT Senior Team

**Financial Sponsors Coverage** 

**Engineering & Construction** 



**Rob Louv** Managing Director and Co-Head. TMT San Francisco



**Andy Morrow** Managing Director **Financial Sponsors** Los Angeles



Scott Kolbrenner Managing Director Engineering & Construction Los Angeles



**Elena Stratigakes** Associate **Business Services** Los Angeles

## **Extensive Transaction Experience With Deep Sector Knowledge**



Construction



Construction



Construction/ **Transportation** 



**Engineering** 



**Mobile Workforce** Management



Construction



Construction



Construction



Construction



**Real Estate Tech** 



**Real Estate Tech** 

HOULIHAN LOKEY



Houlihan Lokey is the trusted advisor to more top decision-makers than any other independent global investment bank

- **1,300+** Employees
- 23 Offices Globally
- ~\$1 Billion+ in Revenue
- ~\$3 Billion+ Market Cap

## **Corporate Finance**

2019 M&A Advisory Rankings All U.S. Transactions				
	Advisor	Deals		
1	Houlihan Lokey	184		
2	Goldman Sachs & Co	167		
3	JP Morgan	141		
4	Morgan Stanley	122		
5	Evercore Partners	112		
Source: Refinitiv (formerly known as Thomson Reuters)				

No. 1 U.S. M&A Advisor

Top 10 Global M&A Advisor

Leading Capital Markets Advisor

# **Financial Restructuring**

2019 Global Distressed Debt & Bankruptcy Restructuring Rankings			
	Advisor	Deals	
1	Houlihan Lokey	76	
2	PJT Partners Inc	43	
3	Moelis & Co	36	
4	Lazard	29	
5	AlixPartners	19	
Source: Refinitiv (formerly known as Thomson Reuters)			

**No. 1** Global Restructuring Advisor **1,000+** Transactions Completed Valued at More Than \$2.5 Trillion Collectively

## Technology, Media & Telecom

2014 to 2019 M&A Advisory Rankings
U.S. Technology, Media, Entertainment & Telecom Transactions Under \$1 Billion

Advisor Deals

1 Houlihan Lokey 198
2 Goldman Sachs & Co 162
3 Raymond James Financial Inc 155
4 Morgan Stanley 154
5 Evercore Partners 144
Source: Refinitiv (formerly known as Thomson Reuters)

**No. 1** M&A Advisor for U.S. TMET Transactions Under \$1 Billion Over the Past Six Years

**27** Completed Transactions in 2019

## **Financial and Valuation Advisory**

2000 to 2019 Global M&A Fairness Advisory Rankings			
	Advisor	Deals	
1	Houlihan Lokey	1,057	
2	JP Morgan	929	
3	Duff & Phelps	734	
4	Morgan Stanley	621	
5	Bank of America Merrill Lynch	612	
Refinitiv (formerly known as Thomson Reuters). Announced or completed transactions.			

No. 1 Global M&A Fairness Opinion Advisor Over the Past 20 Years 1,000+ Annual Valuation Engagements

The Construction & Real Estate Tech team maintains a positive industry outlook for 2020.

The team looks forward to having in-depth discussions with interested parties.

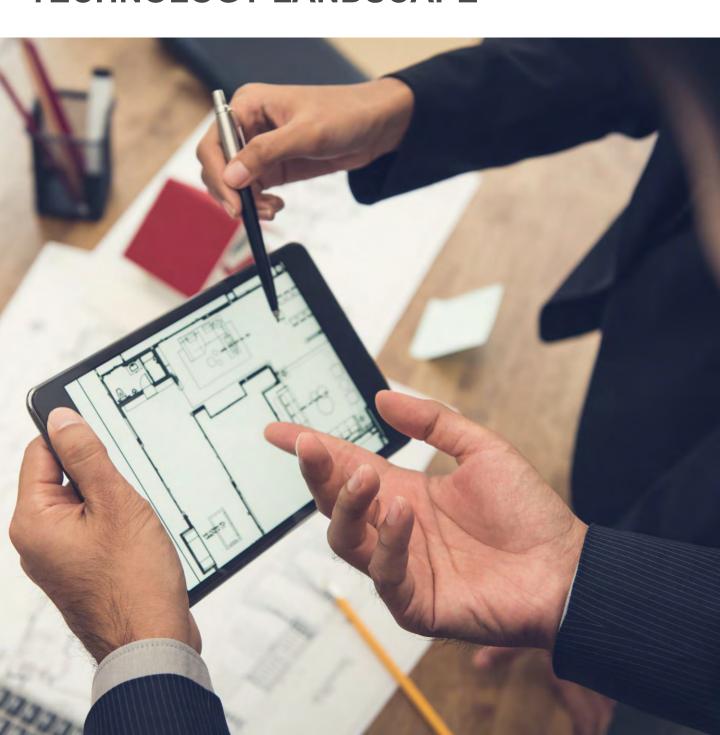
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# CONSTRUCTION TECHNOLOGY LANDSCAPE



# U.S. Construction Investment: Macro Trends

# A Dynamic and Growing Sector That Accounts for 13% of Global GDP

### Global GDP (\$ trillions) Construction Industry Spending (\$ trillions) \$64.5 \$9.5 \$74.0 87 2% 2017 2018 2019 2020 2021 2022

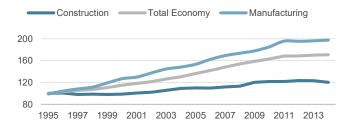
## Commentary

- The construction industry is a growing and dynamic sector
- ~\$10 trillion per year spent on the buildings, infrastructure, and industrial installations that are the backbone of the global economy

## **Productivity Lags Other Sectors...**

#### Global Productivity Growth Trends(1)

Real gross value added per hour worked by persons engaged (2005 \$; Index 100=1995)



Compound Annual Growth Rate (1995-2014; %)



## Commentary

- Sector's annual productivity growth has increased only 1% over the past 20 years
- Primary reasons for the lower productivity:
  - Increasing project and site complexities
  - Extensive regulation, land fragmentation, and the cyclical nature of public investment
  - Opaque and highly fragmented
  - Industry underinvests in digitization and innovation
  - Poor project management and execution

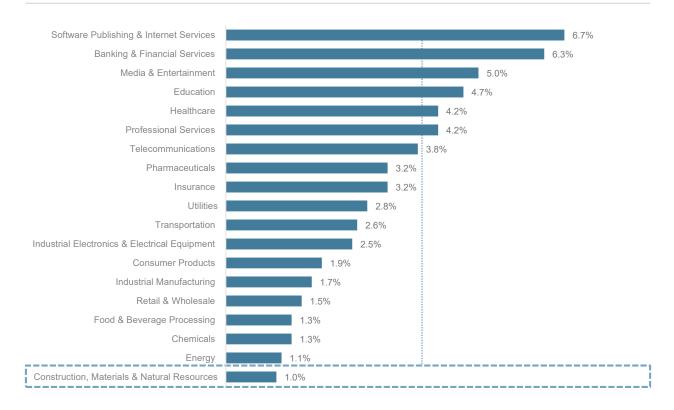
# ... Primarily From Specialized Construction Trades

Construction Productivity by Subsector (value added per employee, indexed total sector = 100, 2013)



# **Construction Is One of the Least Digitized Sectors**

# IT Spend by Industry<sup>(1)</sup>



#### >50% OF CONSTRUCTION FIRMS SPEND <1% OF REVENUE ON IT

### Reasons for Low IT Spend

MASSIVE AND COMPLEX ECOSYSTEM

COMPLEX PROJECTS; UNIQUE SERVICES-BASED REQUIREMENTS

UNIQUE TECHNOLOGY REQUIREMENTS

DIFFICULTY LEVERAGING TECHNOLOGY
ACROSS ASSETS

CASH FLOW PRESSURE / ROI FOCUSED

OLDER GENERATION OF DECISION-MAKERS

## Mitigating Factors

Collaboration, integration/interoperability, IoT, mobile capabilities, virtuous effect

Collaboration features, integration, and interoperability technology can be used across jobs and applications on a modular basis

Significant upgrades over the past 20 years—mobile and collaboration features proliferating the market; tech delivering tangible ROI

IoT, cloud technology, sensors, big data, mobile capabilities

Low upfront cost of cloud computing, low maintenance and implementation requirements, minimal incremental investment

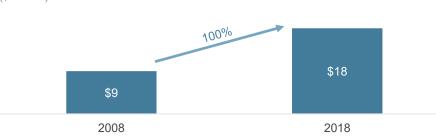
Younger, tech-savvy generation beginning to influence—50% of workers below the age of 44

# **Investment Themes in Construction Tech**

#### Investment

Investment in construction tech has doubled in the past decade<sup>(1)</sup>

(\$ billions)

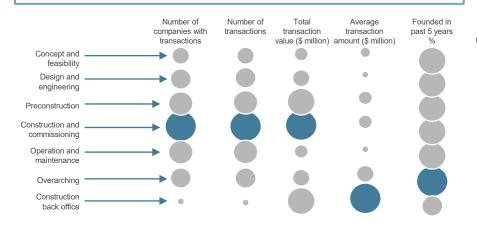


#### Commentary

- Backed by early-stage VCs, early technologies are delivering on their promise
- Trend is expected to continue as newer technologies are launched that address multiple use cases and further drive digitization in the sector

### **Asset Lifecycle**

#### Within the asset lifecycle, the construction phase garners the greatest investment

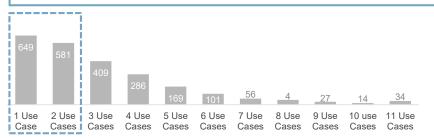


#### Commentary

- Three key phases in asset lifecycle: preconstruction, construction, and operations/maintenance
- Investment arises for each phase:
  - Preconstruction: labor and equipment marketplaces; a fragmented solution space with regionally focused players
  - Construction back office: mature solution space; M&A with strategic or private equity

## Count of Companies by Use Cases<sup>(2)</sup>

#### Increasing consolidation under the backdrop of a fragmented ecosystem



## Commentary

- Most construction tech companies are still addressing only one or two use cases
- The need for integration to deliver multiple uses cases is a significant "friction cost" for construction tech adopters

<sup>(1)</sup> Source: McKinsey & Co., "Seizing opportunity in today's construction technology ecosystem"

# **Huge Growth Opportunity for Construction Tech**

## **Construction Software Market Sizing**

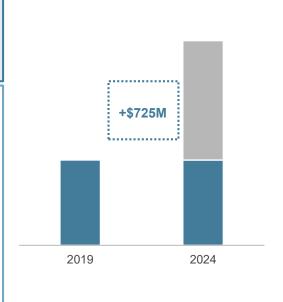


# 2020 Key Growth Drivers and Trends<sup>(4)</sup>

#### U.S. **Digital** Increasing cost pressures are technologies are infrastructure driving E&C changing the way opportunities many E&C companies to could require new companies better plan and partnership operate execute projects models, project structures Disruptive Technology and 2020 will likely real-time data technologies such see the launch of as cloud, mobile, enable overdue US schedulers to and big data have infrastructure upgrade the potential to make better provide the initiatives informed efficiency, decisions around Repairing/ productivity, and scheduling labor, upgrading the materials safety current U.S. breakthroughs the infrastructure is industry has expected to cost sought for ~\$4 trillion by decades

2025

## Growth in Construction Tech Market<sup>(5)</sup>



#### Sources:

- (1) Federal Reserve Bank of St. Louis (2020)
- (2) Deloitte (2018)

Automation will help relieve current talent shortage

- (3) Spiceworks
- (4) Deloitte
- (5) TechNavio

# **Insurance Technology Market Update**



Preconstruction



## **Estimating**

Automate and improve the accuracy of bid estimates



## Construction Relationship Management

Provide a dashboard for the business development pipeline



#### **Market Intelligence**

Gather and analyze information from past projects and competitor performance



#### Marketplace

Create a platform for stakeholders to prequalify, evaluate, and select partners

#### Construction



#### Design Management

Visualize drawings

and 3D models on

Update blueprints in

site, mobile

the field with

annotations

platforms

markups,



#### Scheduling



- Track progress online
- Immediately deliver work plan and schedule



#### Materials Management





T | Field

**Productivity** 

- Manage project staffing across skilled trades
- Track on-site productivity at the trade and worker levels



#### Equipment Management

Track and manage construction equipment fleet



#### Quality Control



Update and track live punch lists across projects to expedite project closure



#### Contract Management



- Update records for all client and contractor communication regarding contract terms
- Track vendor prequalification and liens



- Monitor project progress and performance
- Provide automated dashboards from field data
- Generate manpower updates and view past reports



#### **Document** Management

- Upload and distribute documents
- Search all projects across phases
- Share information across sites



#### Safety

- Track and report safety incidents across the job site
- Alert workers on safety procedures and provide tips live

#### **ERP Systems**

**Operations and Management** 



Work-order management



Remote monitoring of building systems



Predictive analytics for system management



Mid to small project management

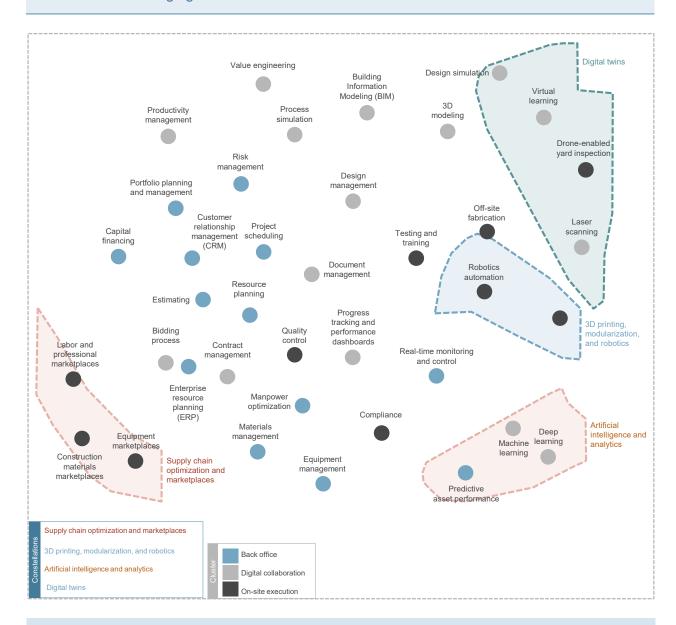


Asset management with an ongoing record of facility performance and maintenance backlog

# **Construction Tech Is a Highly Fragmented Sector**



Established use cases are grouped into three clusters: on-site execution, digital collaboration, and back-office and adjacencies. Emerging constellations of "connected" solutions are emerging around established use cases.



More than half of the 2,400+ companies in the construction technology sector are addressing a particular niche in the market, creating an environment ripe for consolidation.

# **Construction Software Landscape: Representative Companies**

















Construction









# **Construction Software Landscape:** Representative Companies (cont.)



























# **Construction Software Landscape:** Representative Companies (cont.)

Project Scheduling \_ Software











# File Storage and Collaboration Software



























# M&A and Partnerships in Construction Tech

Fragmentation of Technology Offerings

- Most companies are engaging solutions that address a very specific, narrow application rather than more integrated solutions
- This fragmentation is a challenge for construction companies that want to engage with technology solutions
- Companies are exploring the potential to consolidate solutions that address multiple use cases

Examples

Accounting and Job Costina Software

Bid Management Software

Construction **CRM** 

Project Management

Field Management Quality and Safety Software

2

**Larger Software Players Focusing** on an Integrated Software Portfolio. Seeking to Be a "One-Stop Shop" for Core Needs in **Construction Tech** 

Existing software companies are acquiring more targeted startups in order to offer an integrated software solution, usually across multiple asset classes



**Some Companies** Seeking to Build Asset-Class-**Specific Solutions** (e.g., Industrial Construction-**Specific** Solutions)

Some vertically integrated contractors are incorporating (by developing, acquiring, or partnering with) the full set of hardware and software solutions for a given asset class





# REAL ESTATE TECHNOLOGY LANDSCAPE



# **Real Estate Market: Overview and Trends**



Composed of three large segments—commercial, multifamily residential, and single-family residential—all currently experiencing favorable secular trends

		Resid	lential	
	Commercial	Multifamily Residential	Single-Family Residential	
Property Types	Office space, retail, manufacturing parks, warehouses, medical, hospitality, etc.	Apartment buildings, town houses, managed communities, military, student, senior	Owner-occupied, rental properties	
Market Sizing <sup>(1)</sup> (Assets)	~\$15 trillion	~\$25 trillion, including single- family	~\$25 trillion, including multifamily	
Representati ve Vendors	Boston Properties  CBRE  CUSHMAN & WAKEFIELD WAKEFIELD FEALOGY	AvalonBay ESSEX PROPERTY TRUST, INC.  Equity Residential HFF.	ColonyStarwood whomes invitationhomes    ColonyStarwood	
	<ul><li>Automation of complex lease</li></ul>	<ul><li>Apartment listing services</li></ul>	■ Brokerage management	
	calculations	■ CRM functionality	Listing services	
Software Needs	<ul><li>Common area maintenance (CAM) expenses</li></ul>	<ul><li>Online resident application process</li></ul>	<ul><li>Mortgage/financing management</li></ul>	
Neeus	■ Building operations management	<ul><li>Compliance solutions</li></ul>	<ul><li>Short-term rental solutions</li></ul>	
	<ul><li>Increased cybersecurity</li></ul>			

U.S. real estate represents \$40 trillion in cumulative assets.

# Real Estate Market: Overview and Trends (cont.)

# **Real Estate Market Players**

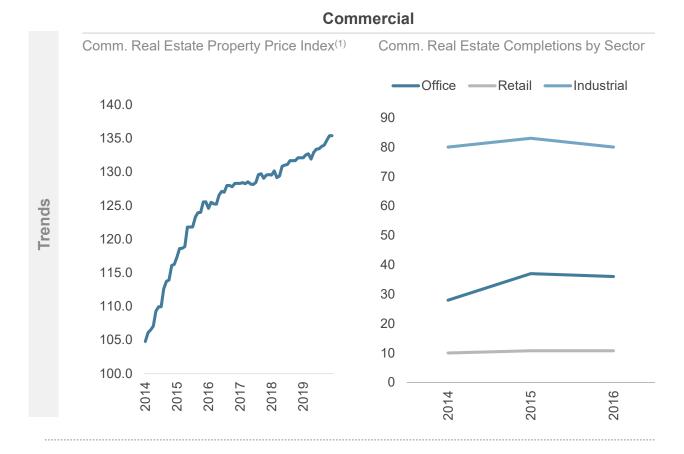
## Commercial

Commercial Investor	Investors that specialize in the acquisition, repositioning, development, and management of commercial property, sometimes through joint-venture investments
Commercial Agent	Represents tenants or lessees by finding, selecting, and negotiating new space for client businesses
Property Manager	Manages and oversees operations of individual properties, including marketing, leasing, tenant management, maintenance, rent collection, and bill payment

## Residential

Residential Agent	Represents single-family homes or units within a multifamily property
Residential Investor	Invests in ownership of homes or multifamily units; often the purchaser lives in one segment of the multiplex, creating a residence as well as an investment property
Purchaser	Owner who purchases for individual use, most often to provide housing for family use

# **Real Estate Market Opportunities**



# Commercial Real Estate Market Rebounding Since the Recession in 2008-2009

- Since the 2009 recession, the CRE sector has shown strong growth driven by strong lease demand and corresponding investment in new properties
- Property price indices (PPIs) indicate strong gains in commercial valuations
- Even though the market has largely regained momentum lost from the recession, challenges remain as organizations look to manage properties more efficiently—from a leasing, tenant management, and maintenance perspective—and increasingly look to leverage both proprietary and market data

Commentary

Sources: National Association of Realtors; REIS Research; Green Street Advisors; 2015 American Community Survey 1-Year Estimates; U.S. Census Bureau; CBRE; Harvard JCHS; S&P CoreLogic; Statista

# Real Estate Market Opportunities (cont.)

## **Multifamily Residential**



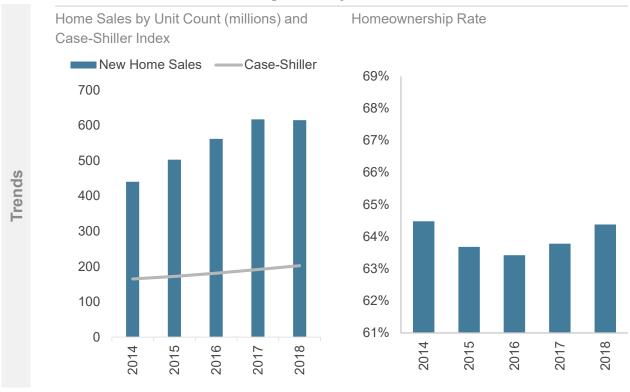
# Residential Real Estate Is Experiencing Higher Completion Rates With Increasing Occupancy Rates/Lower Vacancy Rates

- U.S. rental market is seeing strong demand and high occupancy rates driven by:
  - Demographic shifts driving decreasing homeownership
  - Stabilizing unemployment rates driving higher incomes and providing more individuals with means to rent
  - Population growth in the U.S.
- Rental demand and steady increases in average rental prices is incentivizing investment in multifamily units via net new construction

Commentary

# Real Estate Market Opportunities (cont.)

## Single-Family Residential



# New Single-Family Home Sales and Case-Shiller Index Up

- Increased demand for rental units
  - While home purchases are increasing, the homeownership rate decreased 12 consecutive years through 2016 and has only begun to tick back up in 2017 and 2018
  - Single-family rentals are growing at a faster pace than any other portion of the housing market

Commentary

# Real Estate Software Market Trends

Digitization of the Real **Estate Sector** 



■ The real estate sector has generally been slow to adopt technology—largely a paper and spreadsheet-based industry with a long tail of legacy solutions

II. Fragmented Market -Consolidation **Producing Suite** Solutions



- The market is now served by a large number of point solutions that address specific constituencies and pain points
- A number of vendors have been aggressively consolidating the sector in an effort to build out comprehensive solution suites

III. Proprietary and Siloed Data



- Vast quantities of data; however, data is largely siloed in a myriad of point solutions
- Lack of an industry-standard data format, which makes data exchange/integration difficult

IV. Adoption of Mobile **Solutions** 



Demand for mobile-enabled products is driving the adoption of more modern solutions

V. Individual/Owner **Empowerment** 



- Listing sites provide tools for discovery and research when buying, and short-term rental platforms have allowed individual property owners to rent directly to other individuals without having to go through an agency
- The emergence of investment/crowdfunding platforms for individuals provides opportunity to invest in properties once out of the realm of possibility

# Real Estate Software Market Overview and Trends

## **Underlying Industry Trends**

## **Resulting Effect**

**Improving** property **fundamentals** 

Shifting

Robust recovery of the real estate market occupancy rates are the highest since 1997, and new single-family home sales are up 99% since the low in 2011

preference Residential rental unit construction is at toward renting its highest since 2004 vs. owning

Strong fundamentals increasing the number of properties that need to be managed and encouraging investment

Heightened awareness of the value of property management software solutions in real estate

readily apparent ROI—SaaS solutions eliminate the large upfront investment cost for real estate operators

Increased demand for more sophisticated financial solutions

Need to reduce labor and administrative costs while increasing productivity as the market consolidates

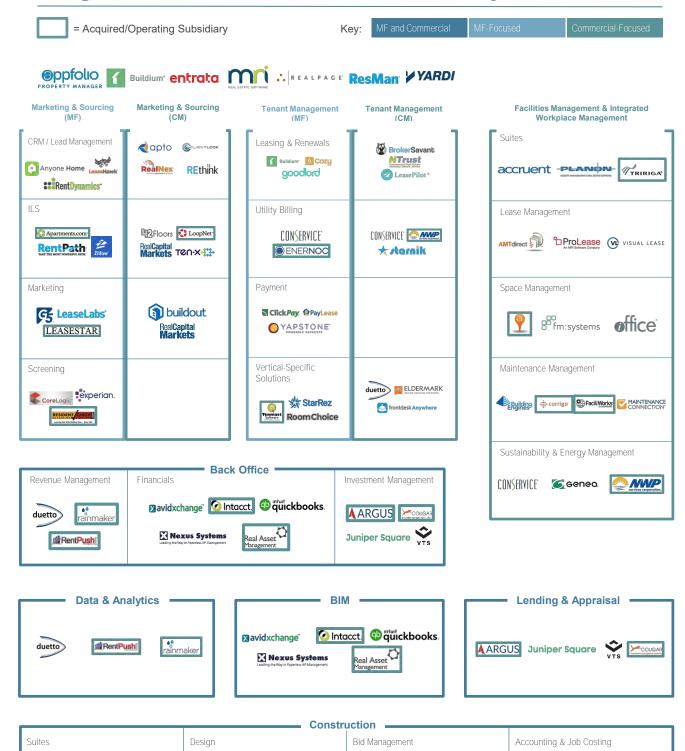
**Efficiency** demands driving increasing real estate software penetration

**Demand for** integrated suite solutions

span the full tenant, building, and

**Market leaders** actively consolidating to build out comprehensive suite solutions

# **Fragmented Commercial and Multifamily Market**



© BUILDINGCONNECTED CONSTRUCT

PANTERA GLOBAL TECHNOLOGY

aconex

PROCORE

G@RDIAN

**VIEWPOINT** 

AUTODESK. GRAPHISOFT.

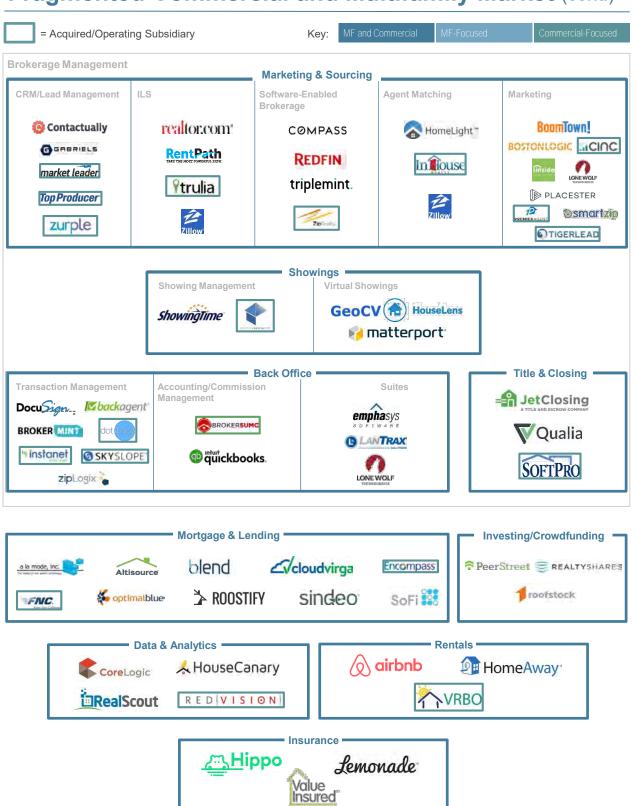
NEMETSCHEK GROUP

**Bentley** 

Deltek. DEXTER+CHANEY

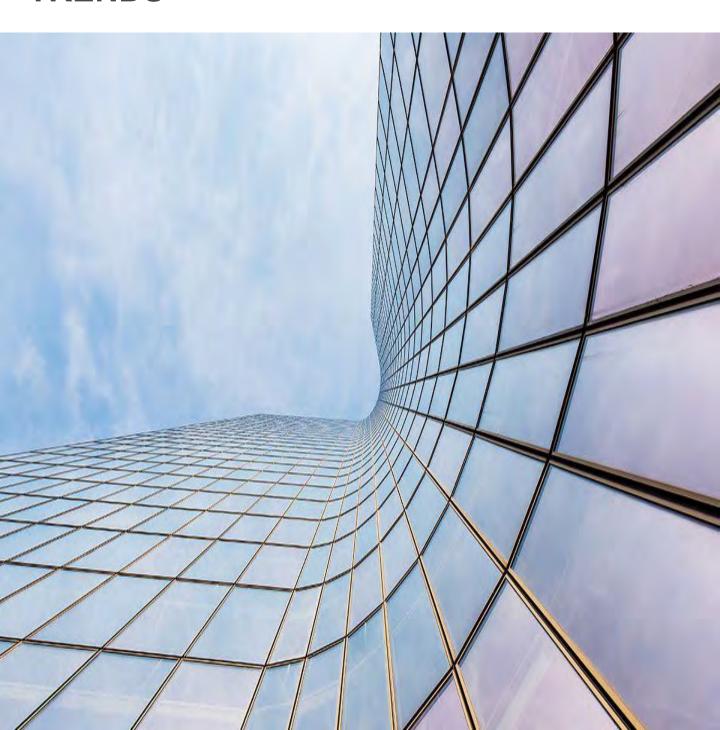
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# Fragmented Commercial and Multifamily Market (cont.)



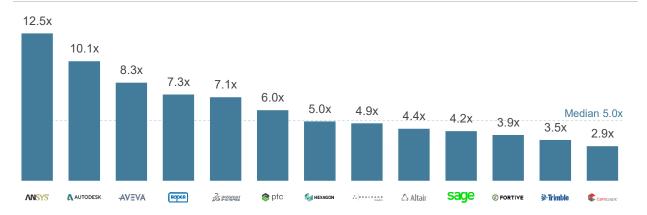


# M&A / VALUATION TRENDS

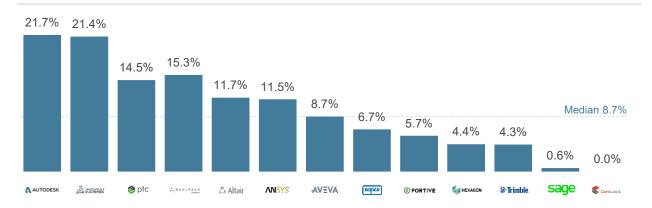


# **Public Construction and Real Estate Tech Companies Have Performed Well**

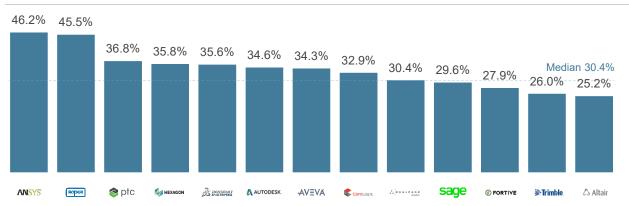
## **EV/2020E** Revenue Multiple



### 2019-2020E Revenue Growth

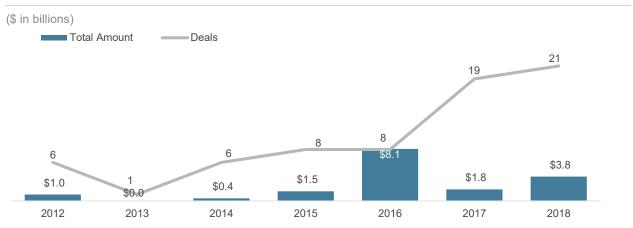


# 2020E EBITDA Margin



# M&A Is Primary Exit for Construction and Real Estate Technology Companies

## **M&A Summary** (2012-2018)



## **Key Takeaways**

- Over the past few years, new trends have emerged that have had an enormous influence on how organizations work, interact, communicate, collaborate, and protect themselves; these new trends are expected to continue moving forward
- Large- and mega-cap corporations are seeking to strengthen and expand their offerings as analytic needs continue to grow in complexity

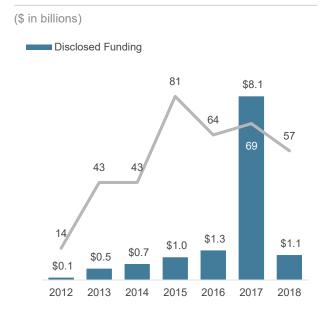
Date	Acquirer	Target	Subsector	EV \$M	EV/Rev
11/20/2019	office.	Maragar Plan	Real Estate Facilities Management	NA	NA
11/13/2019	moxiworks	<b>⊚</b> Imprev	Real Estate CRM	NA	NA
11/07/2019	• R E A L P A G E	Bulldium' Propriy Mangat.	Residential Property Management	NA	NA
10/16/2019	<b>◇</b> VTS	PROPERTYCAPSULE	Commercial Property Search	NA	NA
07/02/2019	<b>RIB</b> Group		Construction ERP	NA	NA
05/01/2019	ıce	simplifile.	Information Management	\$335	NA
04/17/2019	THOMASRAVO	EllieMag	Application Software	\$3,700	7.5x
02/20/2019	CAUSEWAY	enhanced bdm	Construction ERP	NA	NA
11/20/2018	AUTODESK.	PlanGrid	Construction Collaboration	\$875	NA
09/25/2018	PROCORE	EliManywhere	BIM and Architectural Design	NA	NA
07/31/2018	<b>Ø FORTIVE</b>	accruent	Facilities Management Software	\$2,000	7.4x
07/09/2018	AUTODESK.	△assemble	Construction Project Management	NA	NA
07/02/2018	<b>∅</b> FORTIVE	G@RDIAN	Construction Project Management	\$775	NA
05/11/2018	SILVERLAKE	△ZPG	Internet Commerce	\$3,136	9.6x
04/23/2018	<b>*Trimble</b>	VIEWPOINT CONSTRUCTION GOT YMAKE	Construction Inventory Management	\$1,200	NA
02/02/2018	<b>%:Trimble</b>	e-Builder	Construction Project Management	\$485	9.2x
12/17/2017	ORACLE"	aconex	Construction Data & Analytics	\$1,200	9.7x
07/12/2017	VIEWPOINT CONSTRUCTION SOFTMARS*	D E X T E S * V E M A N E Y	Construction Inventory Management	NA	NA
04/06/2017	eCompliance	FIELDID	Construction Project Management	NA	NA
02/10/2017	DIVERSIS	ServicePower	Construction Project Management	NA	NA

Source: Kognetics Research

# **Construction and Real Estate Technology Activity Drawing Growth Equity**

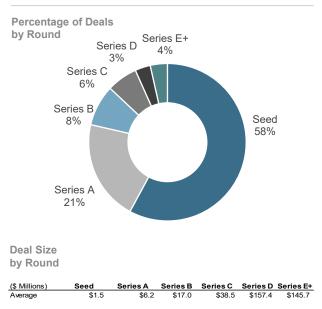
# **Security Growth Equity Summary**

(2012-2018)



## **Growth Equity Volume by Round**

(2012-2017)



Date	Acquirer	Target	Subsector	EV \$M
2019	I TopHat	Goldman Sachs	Modular Housing	\$34
2019	FIELDWIRE	Menlo	Construction Project Management	\$33
2019	<b>b</b> uilt	Goldman Sachs	Construction Project Management	\$31
2019	Join	SIGNALFIRE"	Construction Planning	\$4
2019	<b>ESUB</b> construction software	CATALYST INVESTORS	Construction Management	\$12
2018	PROCORE	TIGERGLOBAL	Construction Project Management	\$75
2018	view	SoftBank	Smart Building	\$1,100
2018	SafetyCulture	MORPHEUS.  ☐ index Ventures	Construction Data & Analytics	\$117
2018	KATERRA	■ SoftBank	Construction Marketplaces	\$865
2017	UPTAKE	CAPTAL GROUP	Construction Project Management	\$21
2017	UPTAKE	BAILLIE GIFFORD	Building Technology	\$130
2017	<b>b</b> uilt	nyca 📑 Endex Ventures	Construction Project Management	\$22
2017	KATERRA	khosia ventures DFJ GROWTH	Construction Marketplaces	\$50
2017	<b>BUILDING</b> CONNECTED	LIGHT SPEED VENTURE PARTNERS	Construction Marketplaces	\$26
2017	铁甲二手机 tiebaobei.com	CBC   實帶資本	Construction Project Management	\$13
2017	EquipmentShare	INSIGHT Y Combinator	BIM and Architectural Design	\$50
2017	HONEST BUILDINGS	RIVERPARK	Construction Project Management	\$20
2016	PROCORE	ICONÎQ	Construction Project Management	\$23
2016	FINALCAD	serena	BIM and Architectural Design	\$49
2016	SafetyCulture	index Ventures	Construction Project Management	\$18

# **Notable Acquisitions in Construction and Real Estate Tech**

Date	Target	Acquirer	Subsector	Target Description	Enterprise Value (\$M)
11/20/2019	MragorPlus'	office:	Real Estate Facilities Management	Develops software solutions for asset management, work-order management, maintenance planning, preventive maintenance, and inspection	NA
11/13/2019	<b>⊗</b> Imprev	moxiworks	Real Estate CRM	Offers technology maximizing marketing impact for real estate companies and agents	NA
11/07/2019	Buildium'  Proporty Managed.	· REALPAGE	Residential Property Management	Software company providing cloud-based property management software to landlords, property management companies, self-managed condos, and HOAs	\$580
10/06/2019	PROPERTYCAPSULE	<b>⋄</b> v⊤s	Commercial Property Search	Cloud-based technology platform helping users manage their property portfolios	NA
08/26/2019	JOIST	Evercommerce	Construction Project Management	New tool allowing contractors to estimate, invoice, record payments, and manage projects from iPhone/iPad and the web	NA
08/19/2019	<b>⊚smartzi</b> p	CONSTELLATION WEB SOLUTIONS	Residential Real Estate Data	National leader in predictive marketing solutions for the real estate industry	NA
08/15/2019	Computer Case Software for Contraction	Deltek.	Construction Field Management Software	Provides construction accounting and project management software for contractors	NA
06/20/2019	OLS PART 11 DE DOUBLE CONT 1 DE DOUBLE	REAL ESTATE SOFTWARE	Residential Lead Management System	Provides software to manage all aspects of leads in the real estate multi-housing industry	NA
06/04/2019	bouw7	=EXact	Construction Project Management	Cloud-based construction management solution	NA
05/06/2019	RDM REAL DATA MANAGEMENT	Building	Commercial Property Management Software	Provides managed services and software solutions for real estate companies	NA
12/20/2018	<b>BUILDING</b> CONNECTED	AUTODESK.	Construction Project Management	Provides builders with cloud-based bid procurement services	\$275
11/30/2018	<b>PEC</b>	THOMA BRAVO	Construction Project Management	Provides contractor management software and safety learning content	\$225
11/20/2018	PlanGrid	AUTODESK.	Construction Project Management	Cloud-based construction document collaboration platform	\$875

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